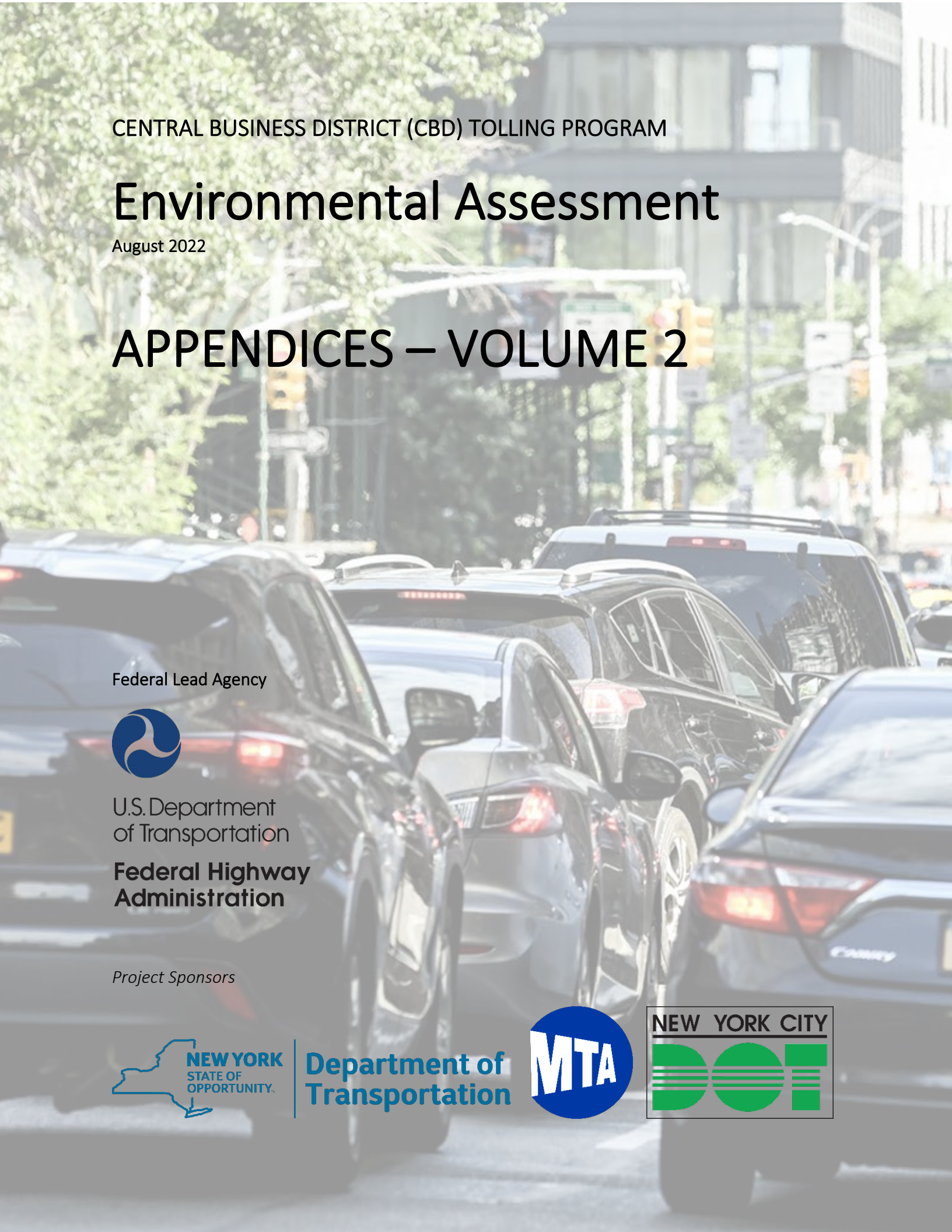
CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Environmental Assessment

August 2022

APPENDICES – VOLUME 2



Federal Lead Agency

U.S. Department of Transportation

Federal Highway Administration

Project Sponsors

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

MTA

NEW YORK CITY DOT

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 4C, Transportation: Supporting Documentation for Transit Analyses

August 2022

Contents

4C-1 OPERATOSECTR SERVICE MAPS 1
4C-2 DETAILS OF METHODOLOGY AND ASSUMPTIONS 5
4C-3 EXISTING VOLUMES ENTERING THE MANHATTAN CBD PER SECTOR (2019) 8
4C-4 SCREENING CRITERIA 11
4C-5 DETAILED ANALYSIS OF TRANSIT OPERATIONS 11
4C-6 ADVERSE EFFECT CRITERIA 12
4C-7 LEVEL OF SERVICE TABLES – NEW YORK CITY 13
4C-8 LEVEL OF SERVICE TABLES – NJ TRANSIT AND PATH STATIONS 164
4C-9 SUPPLEMENTAL ANALYSIS OF CANAL STREET (A/C/E) STATION 167

Tables

Table 4C-1. Transit Ridership by Routes Crossing into the Manhattan CBD at 60th Street (Existing AM Peak Period, Inbound) (2019) 9
Table 4C-2. Transit Ridership by Routes Crossing into the Manhattan CBD from Queens/Roosevelt Island (Existing AM Peak Period, Inbound) (2019) 9
Table 4C-3. Transit Ridership by Routes Crossing into the Manhattan CBD from Brooklyn (Existing AM Peak Period, Inbound) (2019) 10
Table 4C-4. Transit Ridership by Routes Crossing into the Manhattan CBD from Staten Island (Existing AM Peak Period, Inbound) (2019) 10
Table 4C-5. Transit Ridership by Routes Crossing into the Manhattan CBD from New Jersey/West of Hudson (Existing AM Peak Period, Inbound) (2019) 11
Table 4C-6. Level of Service Criteria for Subway Station Elements 11
Table 4C-7. Adverse Effect Guidance for Stairways 12
Table 4C-8. Existing Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (AM Peak Hour) 13
Table 4C-9. Existing Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (AM Peak Hour) 15
Table 4C-10. Existing Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (PM Peak Hour) 16
Table 4C-11. Existing Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (PM Peak Hour) 18
Table 4C-12. No Action Alternative Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines) – Stair Analysis (AM Peak Hour) 19
Table 4C-13. No Action Alternative Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (AM Peak Hour) 21
Table 4C-14. No Action Alternative Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (PM Peak Hour) 22
Table 4C-15. No Action Alternative Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (PM Peak Hour) 24
Table 4C-16. CBD Tolling Alternative: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (AM Peak Hour) 25
Table 4C-17. CBD Tolling Alternative: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (AM Peak Hour) 27
Table 4C-18. CBD Tolling Alternative: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (PM Peak Hour) 28
Table 4C-19. CBD Tolling Alternative: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (PM Peak Hour) 30
Table 4C-20. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (AM Peak Hour) 31
Table 4C-21. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (AM Peak Hour) 32
Table 4C-22. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (AM Peak Hour) 32
Table 4C-23. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (PM Peak Hour) 33
Table 4C-24. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (PM Peak Hour) 34
Table 4C-25. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (PM Peak Hour) 34
Table 4C-26. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (AM Peak Hour) 35
Table 4C-27. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (AM Peak Hour) 36
Table 4C-28. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (AM Peak Hour) 36
Table 4C-29. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (PM Peak Hour) 37
Table 4C-30. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (PM Peak Hour) 38
Table 4C-31. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (PM Peak Hour) 38
Table 4C-32. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (AM Peak Hour) 39
Table 4C-33. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (AM Peak Hour) 40
Table 4C-34. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (AM Peak Hour) 40

Table 4C-35. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (PM Peak Hour) 41
Table 4C-36. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (PM Peak Hour) 42
Table 4C-37. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (PM Peak Hour) 42
Table 4C-38. Existing Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (AM Peak Hour) 43
Table 4C-39. Existing Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour) 44
Table 4C-40. Existing Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (PM Peak Hour) 45
Table 4C-41. Existing Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour) 46
Table 4C-42. No Action Alternative Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (AM Peak Hour) 47
Table 4C-43. No Action Alternative Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour) 48
Table 4C-44. No Action Alternative Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (PM Peak Hour) 49
Table 4C-45. No Action Alternative Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour) 50
Table 4C-46. CBD Tolling Alternative: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (AM Peak Hour) 51
Table 4C-47. CBD Tolling Alternative: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour) 52
Table 4C-48. CBD Tolling Alternative: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (PM Peak Hour) 53
Table 4C-49. CBD Tolling Alternative: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour) 54
Table 4C-50. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (AM Peak Hour) 55
Table 4C-51. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (AM Peak Hour) 56
Table 4C-52. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (AM Peak Hour) 57
Table 4C-53. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (PM Peak Hour) 58
Table 4C-54. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (PM Peak Hour) 59
Table 4C-55. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (PM Peak Hour) 60
Table 4C-56. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (AM Peak Hour) 61
Table 4C-57. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (AM Peak Hour) 62
Table 4C-58. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (AM Peak Hour) 63
Table 4C-59. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (PM Peak Hour) 64
Table 4C-60. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (PM Peak Hour) 65
Table 4C-61. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (PM Peak Hour) 66
Table 4C-62. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (AM Peak Hour) 67
Table 4C-63. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (AM Peak Hour) 68
Table 4C-64. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (AM Peak Hour) 69
Table 4C-65. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (PM Peak Hour) 70
Table 4C-66. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (PM Peak Hour) 71
Table 4C-67. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (PM Peak Hour) 72
Table 4C-68. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (AM Peak Hour) 73
Table 4C-69. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (AM Peak Hour) 73
Table 4C-70. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (AM Peak Hour) 74
Table 4C-71. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (PM Peak Hour) 75
Table 4C-72. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (PM Peak Hour) 75
Table 4C-73. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (PM Peak Hour) 76
Table 4C-74. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (AM Peak Hour) 77
Table 4C-75. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (AM Peak Hour) 77
Table 4C-76. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (AM Peak Hour) 78
Table 4C-77. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (PM Peak Hour) 79
Table 4C-78. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (PM Peak Hour) 79

Table 4C-79. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (PM Peak Hour) 80
Table 4C-80. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (AM Peak Hour) 81
Table 4C-81. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (AM Peak Hour) 81
Table 4C-82. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (AM Peak Hour) 82
Table 4C-83. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (PM Peak Hour) 83
Table 4C-84. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (PM Peak Hour) 83
Table 4C-85. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) Fare Array Area Analysis (PM Peak Hour) 84
Table 4C-86. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (AM Peak Hour) 85
Table 4C-87. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (AM Peak Hour) 86
Table 4C-88. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (AM Peak Hour) 86
Table 4C-89. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (PM Peak Hour) 87
Table 4C-90. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (PM Peak Hour) 88
Table 4C-91. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (PM Peak Hour) 88
Table 4C-92. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (AM Peak Hour) 89
Table 4C-93. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (AM Peak Hour) 90
Table 4C-94. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (AM Peak Hour) 90
Table 4C-95. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (PM Peak Hour) 91
Table 4C-96. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (PM Peak Hour) 92
Table 4C-97. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (PM Peak Hour) 92
Table 4C-98. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (AM Peak Hour) 93
Table 4C-99. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (AM Peak Hour) 94
Table 4C-100. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (AM Peak Hour) 94
Table 4C-101. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (PM Peak Hour) 95
Table 4C-102. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (PM Peak Hour) 96
Table 4C-103. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (PM Peak Hour) 96
Table 4C-104. Existing Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (AM Peak Hour) 97
Table 4C-105. Existing Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (AM Peak Hour) 98
Table 4C-106. Existing Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (PM Peak Hour) 99
Table 4C-107. Existing Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (PM Peak Hour) 100
Table 4C-108. No Action Alternative Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (AM Peak Hour) 101
Table 4C-109. No Action Alternative Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (AM Peak Hour) 102
Table 4C-110. No Action Alternative Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (PM Peak Hour) 103
Table 4C-111. No Action Alternative Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (PM Peak Hour) 104
Table 4C-112. CBD Tolling Alternative: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (AM Peak Hour) 105
Table 4C-113. CBD Tolling Alternative: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (AM Peak Hour) 106
Table 4C-114. CBD Tolling Alternative: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (PM Peak Hour) 107
Table 4C-115. CBD Tolling Alternative: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (PM Peak Hour) 108
Table 4C-116. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (AM Peak Hour) 108
Table 4C-117. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (AM Peak Hour) 108
Table 4C-118. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (AM Peak Hour) 109
Table 4C-119. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (PM Peak Hour) 109
Table 4C-120. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (PM Peak Hour) 110
Table 4C-121. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (PM Peak Hour) 110
Table 4C-122. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (AM Peak Hour) 111

Table 4C-123. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (AM Peak Hour) 111
Table 4C-124. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (AM Peak Hour) 112
Table 4C-125. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (PM Peak Hour) 112
Table 4C-126. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (PM Peak Hour) 113
Table 4C-127. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (PM Peak Hour) 113
Table 4C-128. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (AM Peak Hour) 114
Table 4C-129. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (AM Peak Hour) 114
Table 4C-130. CBD Tolling Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (AM Peak Hour) 115
Table 4C-131. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (PM Peak Hour) 115
Table 4C-132. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (PM Peak Hour) 116
Table 4C-133. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (PM Peak Hour) 116
Table 4C-134. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (AM Peak Hour) 116
Table 4C-135. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (AM Peak Hour) 117
Table 4C-136. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) - Fare Array Area Analysis (AM Peak Hour) 117
Table 4C-137. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (PM Peak Hour) 117
Table 4C-138. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (PM Peak Hour) 117
Table 4C-139. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Fare Array Area Analysis (PM Peak Hour) 118
Table 4C-140. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (AM Peak Hour) 118
Table 4C-141. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (AM Peak Hour) 118
Table 4C-142. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) - Fare Array Area Analysis (AM Peak Hour) 118
Table 4C-143. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (PM Peak Hour) 119
Table 4C-144. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (PM Peak Hour) 119
Table 4C-145. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Fare Array Area Analysis (PM Peak Hour) 119
Table 4C-146. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (AM Peak Hour) 120
Table 4C-147. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (AM Peak Hour) 120
Table 4C-148. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) - Fare Array Area Analysis (AM Peak Hour) 120
Table 4C-149. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (PM Peak Hour) 121
Table 4C-150. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (PM Peak Hour) 121
Table 4C-151. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Fare Array Area Analysis (PM Peak Hour) 121
Table 4C-152. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (AM Peak Hour) 122
Table 4C-153. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (AM Peak Hour) 122
Table 4C-154. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (AM Peak Hour) 123
Table 4C-155. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (PM Peak Hour) 124
Table 4C-156. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (PM Peak Hour) 124
Table 4C-157. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (PM Peak Hour) 125
Table 4C-158. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (AM Peak Hour) 126
Table 4C-159. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (AM Peak Hour) 126
Table 4C-160. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (AM Peak Hour) 127
Table 4C-161. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (PM Peak Hour) 128
Table 4C-162. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (PM Peak Hour) 128
Table 4C-163. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (PM Peak Hour) 129
Table 4C-164. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (AM Peak Hour) 130
Table 4C-165. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (AM Peak Hour) 130
Table 4C-166. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (AM Peak Hour) 131

Table 4C-167. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (PM Peak Hour) 132
Table 4C-168. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (PM Peak Hour) 132
Table 4C-169. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (PM Peak Hour) 133
Table 4C-170. Existing Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (AM Peak Hour) 134
Table 4C-171. Existing Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (AM Peak Hour) 135
Table 4C-172. Existing Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (PM Peak Hour) 136
Table 4C-173. Existing Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (PM Peak Hour) 137
Table 4C-174. No Action Alternative Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (AM Peak Hour) 138
Table 4C-175. No Action Alternative Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (AM Peak Hour) 139
Table 4C-176. No Action Alternative Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (PM Peak Hour) 140
Table 4C-177. No Action Alternative Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (PM Peak Hour) 141
Table 4C-178. CBD Tolling Alternative: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (AM Peak Hour) 142
Table 4C-179. CBD Tolling Alternative: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (AM Peak Hour) 143
Table 4C-180. CBD Tolling Alternative: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (PM Peak Hour) 144
Table 4C-181. CBD Tolling Alternative: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (PM Peak Hour) 145
Table 4C-182. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (AM Peak Hour) 146
Table 4C-183. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (AM Peak Hour) 146
Table 4C-184. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour) 147
Table 4C-185. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (PM Peak Hour) 148
Table 4C-186. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (PM Peak Hour) 148
Table 4C-187. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour) 149
Table 4C-188. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (AM Peak Hour) 150
Table 4C-189. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (AM Peak Hour) 150
Table 4C-190. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour) 151
Table 4C-191. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (PM Peak Hour) 152
Table 4C-192. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (PM Peak Hour) 152
Table 4C-193. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour) 153
Table 4C-194. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (AM Peak Hour) 154
Table 4C-195. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (AM Peak Hour) 154
Table 4C-196. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour) 155
Table 4C-197. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (PM Peak Hour) 156
Table 4C-198. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (PM Peak Hour) 156
Table 4C-199. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour) 157
Table 4C-200. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Stair Analysis (AM Peak Hour) 157
Table 4C-201. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (AM Peak Hour) 158
Table 4C-202. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (AM Peak Hour) 158
Table 4C-203. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Stair Analysis (PM Peak Hour) 158
Table 4C-204. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (PM Peak Hour) 159
Table 4C-205. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (PM Peak Hour) 159
Table 4C-206. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Stair Analysis (AM Peak Hour) 159
Table 4C-207. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (AM Peak Hour) 160
Table 4C-208. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (AM Peak Hour) 160
Table 4C-209. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Stair Analysis (PM Peak Hour) 160
Table 4C-210. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (PM Peak Hour) 161

Table 4C-211. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (PM Peak Hour) 161
Table 4C-212. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Stair Analysis (AM Peak Hour) 161
Table 4C-213. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (AM Peak Hour) 162
Table 4C-214. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (AM Peak Hour) 162
Table 4C-215. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Stair Analysis (PM Peak Hour) 162
Table 4C-216. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (PM Peak Hour) 163
Table 4C-217. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (PM Peak Hour) 163
Table 4C-218. CBD Tolling Alternative: Level of Service Summary with and without Project Improvements (2023) 163
Table 4C-219. Existing Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (AM Peak Hour, 2019) 164
Table 4C-220. Existing Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis (AM Peak Hour, 2019) 164
Table 4C-221. Existing Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (PM Peak Hour, 2019) 164
Table 4C-222. Existing Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis (PM Peak Hour, 2019) 164
Table 4C-223. No-Action Alternative Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (AM Peak Hour, 2023) 165
Table 4C-224. No-Action Alternative Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis (AM Peak Hour, 2023) 165
Table 4C-225. No-Action Alternative Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (PM Peak Hour, 2023) 165
Table 4C-226. No-Action Alternative Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis (PM Peak Hour, 2023) 165
Table 4C-227. CBD Tolling Alternative Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (AM Peak Hour, 2023) 166
Table 4C-228. CBD Tolling Alternative Level of Service Summary: Various New Jersey Locations – Escalator Analysis Tolling Scenario E (AM Peak Hour, 2023) 166
Table 4C-229. CBD Tolling Alternative Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (PM Peak Hour, 2023) 166
Table 4C-230. CBD Tolling Alternative Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis Tolling Scenario E (PM Peak Hour, 2023) 166
Table 4C-231. Existing Level of Service Summary: Canal Street (A, C, E lines) – Stair Analysis (AM Peak Hour) 167
Table 4C-232. Existing Level of Service Summary: Canal Street (A, C, E lines) – Fare Array Area Analysis (AM Peak Hour) 168
Table 4C-233. Existing Level of Service Summary: Canal Street (A, C, E lines) – Stair Analysis (PM Peak Hour) 168
Table 4C-234. Existing Level of Service Summary: Canal Street (A, C, E lines) – Fare Array Area Analysis (PM Peak Hour) 169
Table 4C-235. No Action Alternative Level of Service Summary: Canal Street (A, C, E lines) – Stair Analysis (AM Peak Hour) 169
Table 4C-236. No Action Alternative Level of Service Summary: Canal Street (A, C, E lines) – Fare Array Area Analysis (AM Peak Hour) 170
Table 4C-237. No Action Alternative Level of Service Summary: Canal Street (A, C, E lines) – Stair Analysis (PM Peak Hour) 170
Table 4C-238. No Action Alternative Level of Service Summary: Canal Street (A, C, E lines) – Fare Array Area Analysis (PM Peak Hour) 171
Table 4C-239. CBD Tolling Alternative: Main Street: Canal Street (A, C, E lines) – Stair Analysis (AM Peak Hour) 171
Table 4C-240. CBD Tolling Alternative: Canal Street (A, C, E lines) – – Fare Array Area Analysis (AM Peak Hour) 172
Table 4C-241. CBD Tolling Alternative: Canal Street (A, C, E lines) – Stair Analysis (PM Peak Hour) 172
Table 4C-242. CBD Tolling Alternative: Canal Street (A, C, E lines) – Fare Array Area Analysis (PM Peak Hour) 173

4C.1 OPERATOR SERVICE MAPS

Figure 4C-1. New York City Subway Map (with Railroad and Airport Connections)



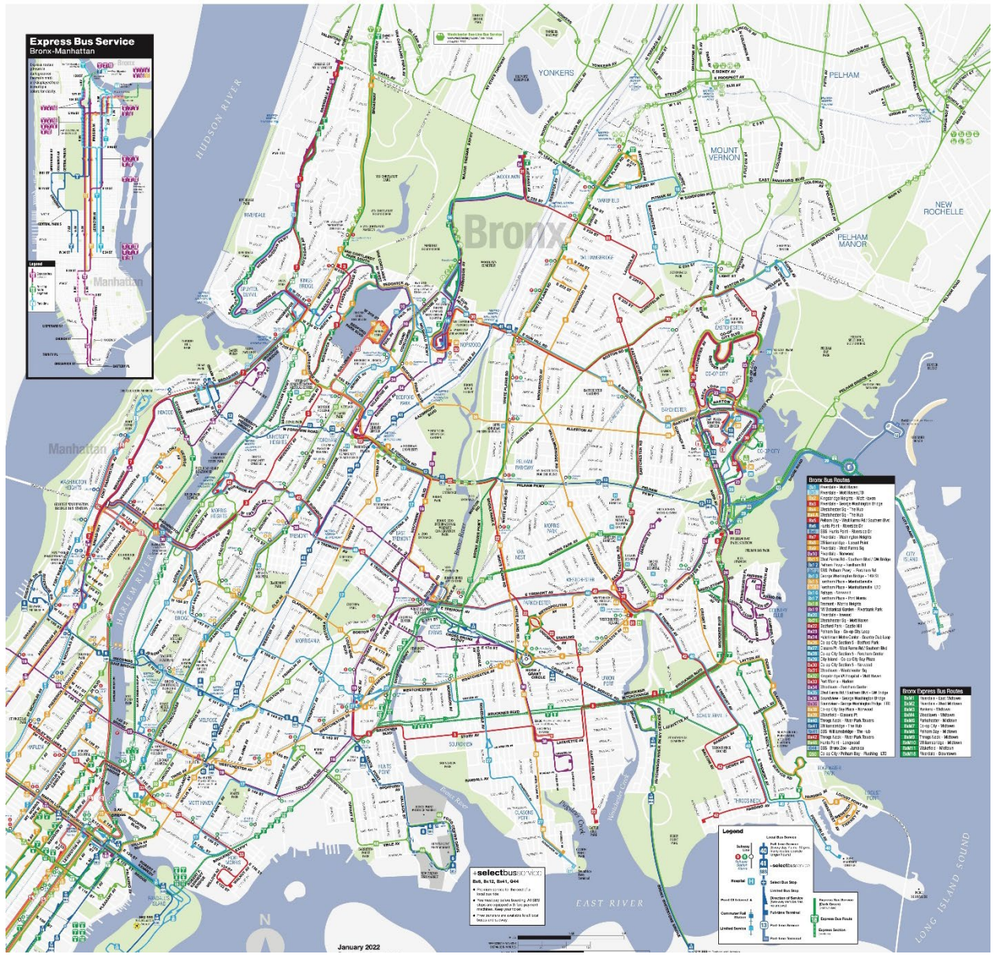
Source: MTA
Note: As of May 2022

Figure 4C-2. Manhattan Bus Map



Source: MTA, 2022 System Map

Figure 4C-3. Bronx Bus Map



Source: MTA, 2022 System Map

Figure 4C-4. Queens Bus Map



Source: MTA 2021 System Map

Figure 4C-5. Brooklyn Bus Map



Source: MTA 2022 System Map

Figure 4C-6. Staten Island Bus Map



Source: MTA, 2021 System Map

Figure 4C-7. Long Island Rail Road and Metro-North Railroad Commuter Rail Service Maps





Source: MTA

Figure 4C-8. PATH Service Map (Weekdays)



Source: PANYNJ

Figure 4C-9. NJ TRANSIT Rail Service Map (includes Light Rail, PATH, and PATCO Services)



Source: NJ TRANSIT
Note: PATCO (Port Authority Transit Corporation) runs between Philadelphia, Pennsylvania, and Camden County, New Jersey

4C.2 DETAILS OF METHODOLOGY AND ASSUMPTIONS

4C.2.1 Application of the New York City Environmental Quality Review for Assessment of Transit Effects

USE OF CITY ENVIRONMENTAL QUALITY REVIEW THRESHOLDS TO TARGET TRANSIT ANALYSES

Based on operating experience from various New York City agencies and the results of extensive numbers of impact assessments conducted on transit facilities, City Environmental Quality Review (CEQR) guidance establishes assessment thresholds whereby detailed analyses are recommended for locations or transit lines where incremental trip generation thresholds are exceeded; if the applicable threshold is not exceeded, no adverse effects are anticipated. The historical basis for the transit assessment as conducted in this subchapter dates to the first edition of the *CEQR Technical Manual* in 1993 and has been affirmed and refined by updates to the manual. Justifications for the use of these methodologies in this EA are provided below.

METHODOLOGY FOR SUBWAYS AND COMMUTER RAIL

The New York City subway system includes 25 train services, with 10 trunk lines and 3 shuttle services, and offers both express and local operations. Subway services operate regularly with headways between 3 and 10 minutes during peak periods. The subway operates 24 hours per day, 7 days a week, with subway cars accommodating guideline capacities of 110 to 175 passengers during peak periods. The 2020 *CEQR Technical Manual* stipulates that an increase in ridership on a single subway line that is fewer than 200 new passengers at the maximum load point in the peak hour in a single direction of travel does not have the potential to result in adverse effects (line-haul capacity analysis).

Because of the complexity of the New York City subway system and circulation within its stations, there is no single measure of station capacity. Instead, the projected ridership increases from a project are analyzed in relation to the level of capacity and existing passenger throughput at specific station elements, including stairs escalators, fare control

areas (FCA), and platforms.[1] To standardize this process, the *CEQR Technical Manual* establishes that an increase in ridership at a subway station or station complex that is fewer than 200 new passengers in the peak hour does not have the potential to result in adverse effects.

Port Authority Trans-Hudson (PATH) has been in operation since 1962 as a primary link between Manhattan and neighboring New Jersey urban communities and the commuter railroads. The system operates 24 hours a day, 7 days a week, with trains every 4 minutes to 7 minutes during peak periods. It operates with eight to ten cars per train and is designed for standing capacity. Due to operating characteristics similar to the subway and for consistency, capacity and stations were both evaluated using CEQR criteria.

Suburban commuter rail options in the greater New York City area are extensive. Metro-North and Long Island Rail Road (LIRR) have seated capacity of 100 passengers per car or more. These routes cover extensive geographies, with 13 commuter rail routes serving New York suburban counties and an additional 9 serving New Jersey. Train schedules operate at regular intervals, with most routes operating at least half-hour headways during peak periods (many routes operate more frequently). Increases in ridership due to the Project would be incremental and distributed across the region, such that noteworthy increases are not projected in any local geography. In coordination with Metro-North and LIRR, CEQR methodologies were used to assess ridership of commuter rail lines and stations. This analysis recognizes that five additional passengers within a train car in its most crowded point would be noticeable. Similarly, analyses of stations for the New Jersey Transit Corporation (NJ TRANSIT) and PATH were performed using CEQR guidelines for consistency and because NJ TRANSIT and the Port Authority of New York and New Jersey (PANYNJ) do not have an alternative guideline.

METHODOLOGY FOR BUSES

MTA monitors bus ridership and adjusts operating headways to accommodate increased or decreased demand as necessary to satisfy service guidelines. During daytime peak periods, MTA typically operates anywhere between 4 and 12 buses per route per hour (to achieve 5- to 15-minute headways), with each bus accommodating guideline capacities of 54 to 85 passengers, for standard and articulated buses, respectively.

Based on the system operating characteristics, the *CEQR Technical Manual* stipulates that an increase in bus ridership that is fewer than 50 passengers per hour in a single direction of travel for a bus route does not have the potential to result in adverse effects because such an increase would not be considered perceptible with the level of bus service provided (line-haul capacity analysis). (See Conclusions for Buses in **Section 4C.4.2.4** for more explanation.)

The NJ TRANSIT bus system similarly is regularly monitored and adjusted, with similar peak-period headways and guideline capacities. Therefore, the CEQR analysis guidelines were also evaluated for this system and other suburban buses that enter the Manhattan CBD.

4C.2.2 Analysis of Line-Haul Capacity

The analysis of the Project's potential effects on line-haul capacity considered the effects on inbound transit service toward the Manhattan CBD during the morning peak hour because the morning peak hour has more concentrated ridership than the evening peak hour. The AM peak hour for commuter rail operators is defined as follows.[2]

- LIRR: 7:45 a.m. to 8:45 a.m.
- Metro-North: 8:15 a.m. to 9:15 a.m.
- NJ TRANSIT: 8:00 a.m. to 9:00 a.m.

The first step in the CEQR tiered analysis is to determine whether a project could result in incremental passengers exceeding the following thresholds:

- For bus routes, a threshold of 50 new passengers at the maximum load point in the AM peak hour
- For subways and commuter rail, a threshold of 200 new riders at the maximum load point in the AM peak hour

Accordingly, a quantitative analysis of effects on line-haul capacity was performed for any transit services for which the Best Practice Model (BPM) results indicated that the CBD Tolling Alternative would add more new passengers than those thresholds.

The next step in the *CEQR Technical Manual* tiered approach for line-haul capacity analysis for subways or commuter rail lines is to evaluate the number of incremental passengers per train and per train car. If a line remains under its guideline capacity in the future with the CBD Tolling Alternative implemented, the corresponding CBD Tolling Alternative-induced ridership increases would not be considered an adverse effect. However, if a line is forecasted to operate above guideline capacity and the CBD Tolling Alternative is expected to yield five or more incremental passengers per car, then the ridership increase would constitute an adverse effect. Similarly, for bus routes, the analysis evaluated the number of incremental passengers per trip and the volume-to-capacity (v/c) ratio for that bus route. A v/c ratio under 1.00 would not be considered an adverse effect. For commuter rail, the number of transit service trips per hour was identified using 2019 ridership data and schedule information for the AM peak period, including from the 2015 Continuous Bus Survey conducted by the PANYNJ.

4C.2.3 Analysis of Transit Stations

For transit stations (subway, PATH, or commuter rail stations), the *CEQR Technical Manual* recommends an initial analysis to determine if detailed analyses of station elements are warranted. If a project would result in the addition of 200 or more new passengers at a station in the peak hour (excluding cross-platform transfers), then further analyses could be warranted to assess the potential for adverse effects on station elements such as stairs, escalators, fare collection areas, etc. If a station would experience an increase of fewer than 200 peak-hour passengers, further analysis is typically not warranted.

CONVERSION FACTORS

Since the BPM only provides forecast trip increments for the four-hour AM peak period, the incremental AM and PM peak-hour trips were estimated, in coordination with New York City Transit (NYCT), by applying reasonable factors to

[1] MTA does not maintain a list of the most crowded stations or station elements in all 472 subway stations.

[2] LIRR, Metro-North, and NJ TRANSIT were consulted to define peak-hour periods.

the BPM results.[3] The factors take into account relative baseline ridership levels between the AM and PM peak periods and auto commute patterns, which would be the most affected by the tolling program. For the PM peak period, the directionality patterns were assumed to be generally the reverse of the AM peak period, with respect to station entries/exits, circulation within stations, and transfers among lines.

QUALITATIVE ASSESSMENTS

For any station exceeding the 200-passenger increment threshold, an additional assessment of station characteristics was undertaken to determine if a qualitative assessment would suffice to conclude that the CBD Tolling Alternative would not have potential adverse effects or if more quantitative analyses were warranted. For example, certain stations have substantial upgrades to improve flow and circulation that have been recently completed or are in progress. In these instances, the purpose of these station upgrades includes meeting existing demand and accommodating future growth in ridership, which in most cases would be accommodating growth that is substantially higher than the incremental increases forecast for the Project. For some stations, the expansiveness and abundance of access and circulation space in relation to the forecasted incremental passenger increases would result in imperceptible incremental demand at individual station elements. Similarly, some stations are known to be uncongested and can readily accommodate the projected ridership increment increases. These factors were taken into consideration when selecting a subset of the stations to be assessed qualitatively that are anticipated to incur Project increments exceeding the *CEQR Technical Manual* analysis thresholds, but for one or more of these reasons are not expected to experience an adverse effect as a result. **Section 4C.4.2.5** provides the description of specific locations where the qualitative assessment was performed.

QUANTITATIVE STATION ANALYSES

For stations warranting further analysis based on the estimated increase in demand from the Project, trip assignments were developed, taking into account street-level access, baseline vertical circulation and control area volumes, and modeled results from the BPM. For stations in New York City, travel patterns were derived from the NYCT MetroCard model.[4] An analysis of existing AM and PM peak-hour service levels at selected station elements in New York, as determined in consultation with NYCT, was prepared to understand station operating conditions and identify elements within each station that are already operating near capacity or at congested levels.

Regarding the selected station elements for quantitative analysis, NYCT was consulted on the appropriate application of factors used for transit passenger analyses as passengers walk through a station (such as friction factors and surge factors) and on reasonable assignment of incremental pedestrian trips to station FCAs and vertical circulation elements (VCE). The pedestrian analyses were prepared in accordance with methodologies provided in the 2020 *CEQR Technical Manual*.

An assessment of station operations typically involves the analysis of its FCAs, which comprise regular turnstiles, high entry/exit turnstiles, and high exit turnstiles; and VCEs, which include stairs, escalators, and elevators. The operating capacities for each of these station elements, as determined by NYCT, account for design features, such as stairway effective widths, railings and other obstructions, and escalator speeds; and behavioral conditions, such as friction or counter-flow between upward and downward pedestrians and surges in flow from passengers alighting from arriving trains or traversing other station locations.

The measure of effectiveness from relating analysis volumes and specific element capacities is the v/c ratio, which corresponds to a level of service (LOS) scale ranging from A to F, whereby LOS A, B, and C are considered acceptable operations, and LOS D, E, and F are considered unacceptable operations. A forecasted change between the no action and with action conditions within LOS A, B, and C would not be deemed an adverse effect. For projected conditions at LOS D, E, and F, the determination of if there would be a potential for an adverse effect is based on the extent of the incremental changes. **Appendix 4C.5, "Transportation: Detailed Analysis of Transit Operations,"** provides further details on the v/c ratio pertaining to each LOS.

For escalators and control area elements, an adverse effect could result if a proposed project causes the v/c ratio to increase from below 1.00 (LOS C/D) to 1.00 or greater, provided that the increase is greater than 0.01, or if such an increase is projected to materialize when the no action condition v/c ratio is already 1.00 or greater. For stairs and passageways, potential adverse effects are determined in terms of the width incremental threshold, subject to a sliding scale that corresponds to "with action" v/c ratios, based on the minimum amount of additional capacity that would be required either to improve the "with action" LOS to the LOS under the no action levels, or to bring it to a v/c ratio of 1.00, whichever is greater. **Appendix 4C.6, "Adverse Effect Criteria,"** provides further details on the adverse effect guidance for stairways.

4C.2.4 Assumptions and Data Organization

SECTOR DELINEATION

The *Hub Bound Travel Data Report 2019* organizes data according to entry and exit points across a delineated "cordon line" that is approximate with the boundary of the Manhattan CBD as defined by the MTA Reform and Traffic Mobility Act. The boundary of the Manhattan CBD consists of 60th Street (including at the Franklin D. Roosevelt [FDR] Drive and West Side Highway/Route 9A), the East and Hudson Rivers, and New York Harbor. This boundary generally matches the boundaries defined for the Manhattan CBD, except that the Manhattan CBD does not include the FDR Drive and the West Side Highway/Route 9A. The *Hub Bound Travel Data Report 2019* organizes data according to five distinct geographic "sectors," or origin points of trips crossing the cordon line: trips crossing the cordon line from Manhattan at 60th Street, Queens (including Roosevelt Island[5]), Brooklyn, Staten Island, and New Jersey/west of Hudson. Express buses that originate in Staten Island and terminate in the Manhattan CBD were considered to be from the New Jersey or Brooklyn sectors, depending on their entrance point into the Manhattan CBD, based on categorization in the *Hub Bound Travel Data Report 2019*.

There are some specific items to note about the way that this EA handles the sector delineation. It is noted that while the Ed Koch Queensboro Bridge ramps were considered as within the 60th Street sector (for autos/trucks/taxi trips), bus trips over the bridge as analyzed in this subchapter were considered within the Queens sector. Similarly, the

[3] These considerations resulted in the application of a 26 percent peak-hour factor onto the AM peak-period increments to arrive at the AM peak-hour increments. For the PM peak hour, a 28 percent peak-hour factor was applied to arrive at the PM peak hour increments.

[4] NYCT provided data from the MetroCard model that provided insights about patterns of passenger movements, direction of travel, and transfer between lines.

[5] Though technically part of Manhattan, Roosevelt Island was classified as part of the Queens sector because it is not physically connected to Manhattan, so that travelers must travel by vehicle (via Queens) or by transit. This classification provided consistency for all modes because the vehicular access point from Roosevelt Island to the Manhattan CBD is through Queens.

F subway line entering from Roosevelt Island/Queens was categorized as coming from the Queens sector, although the subway tunnel actually crosses the 60th Street Manhattan CBD boundary. For assessment of the incremental change and line-haul analysis under future conditions, results in **Section 4C.4** do note specific Staten Island numbers to more accurately reflect the origin and destination of the trip.

BUS DATA

The New York Metropolitan Transportation Council's (NYMTC) *Hub Bound Travel Data Report 2019* describes transit according to the operator of the service. The report does not define individual operators of bus trips for New Jersey, which include NJ TRANSIT, MTA, and private operators.[6] (New Jersey bus schedules and occupancy counts were determined based on PANYNJ bus traffic counts and on the schedule and occupancy rates from PANYNJ 2015 Continuous Bus Survey.) In the BPM, bus trips are measured by ridership of buses as they leave the last stop before crossing into or out of the Manhattan CBD and are grouped according to their link to the Manhattan CBD. The BPM includes MTA/NYCT buses, NJ TRANSIT buses, and private carriers[7] in its trip assignment calculations. Buses are grouped by street, bridge, or tunnel because the BPM has been calibrated for regional trip patterns, rather than operational planning of individual routes. These BPM results provide an understanding of systemwide demand and line-haul capacity and are the basis for determining incremental change by sector. However, the *Hub Bound Travel Data Report 2019* and MTA-NYCT bus ridership data was used to best define ridership on a route-by-route basis, and this data is reflected in line-haul capacity analysis. Although there could be some variation in bus nomenclature (such as the previous names of bus routes) shown in BPM model outputs, variations in the exact routes of specific bus lines are unlikely to have an effect on regional assessment of the transportation system.

MONITORING AND BUS NETWORK REDESIGNS

MTA (the operating agency) in collaboration with New York City Department of Transportation (NYCDOT) have committed to redesigning each borough's bus network to better match service to population and employment centers and better serve customer needs. Staten Island's redesign of the express bus network was implemented in 2018, and in 2021 the MTA Board approved the Bronx Local Bus Network Redesign Final Plan. The draft of the Queens bus route redesign plan was just completed, and MTA-NYCT is currently conducting the outreach process necessary to finalize the proposed changes. Redesign efforts for Brooklyn and Manhattan are also either underway or planned for the near future. Additionally, Westchester County Bee-Line is conducting a network redesign.

These redesign efforts will better account for current and future ridership patterns because they are designed to provide better coverage across the boroughs and county and better access to employment destinations. Because the effects of these efforts could vary among boroughs/counties and specific neighborhoods, their likely benefits of better serving bus riders at-large were not assumed in the above assessment of potential adverse effects associated with the Project.

TRANSIT STATION DATA

For the transit station analysis, the incremental new passengers predicted in the BPM results were considered for groups of stations in most cases. Station "groupings" were used to summarize changes in boardings and alightings at "collections" of commuter rail and subway stations because the BPM results for corridors of transportation lines (at an aggregated larger geographic scale) are relatively more reliable than for results at specific individual stations with relatively smaller numbers.

For the subway, stations were grouped first by corridor (e.g., Flushing Line, Queens Boulevard Line) and then by New York City Community Boards, which are commonly used to define neighborhoods for planning purposes. For example, 9th Avenue, Fort Hamilton Parkway, 50th Street, and 55th Street Stations on the D line in Brooklyn were summarized together as the Brooklyn 3 Community Board – West End Line. For the purposes of this analysis, subway station complexes with more than 20,000 daily riders[8] and categorized as major stations were not included in any subway grouping.

For commuter rail, groups of stations were organized first by line and then into collections of stations generally within close proximity to group stations with similar travel choices available. For example, all the stations on the Danbury Branch of the New Haven Line were grouped together. In higher ridership or more geographically dispersed areas of the commuter rail system, station groups could include a smaller collection like the grouping of Baldwin, Freeport, and Rockville Centre Stations on the LIRR Babylon Branch. Major rail hubs like Penn Station New York, Grand Central Terminal, and Jamaica Station were considered major stations, and they were not included in any groupings of commuter rail stations. Grouping the stations in a corridor at a larger aggregated level provides more reliable and reasonable results from BPM than for individual commuter stations.

4C.3 EXISTING VOLUMES ENTERING THE MANHATTAN CBD PER SECTOR (2019)

4C.3.1 Manhattan – 60th Street

In total, 20 transit routes cross the 60th Street Manhattan CBD boundary. This sector is the busiest of all sector crossings, accounting for 742,262 person-trips (all modes) during the morning commute into and out of the Manhattan CBD every day, or approximately 33 percent of all entries and exits out of the Manhattan CBD.

SUBWAY

NYCT operates 11 subway routes that cross the 60th Street Manhattan CBD boundary:[9]

- Broadway/Seventh Avenue local and express (the Nos. 1/2/3 subway lines)
- Eighth Avenue local and express (the A/B/C/D subway lines)
- Lexington Avenue local and express (the Nos. 4/5/6 subway lines)
- Second Avenue (the Q subway line)

[6] The New Jersey trips in the *Hub Bound Travel Data Report 2019* could include short-distance/commuter trips on private carriers via the Continuous Bus Survey but not long-distance bus carriers such as Greyhound or BoltBus.

[7] Private jitneys, whose ridership is a small portion of West of Hudson transit trips, are not included in the BPM. Changes to jitney ridership are likely to be commensurate with geographically consistent NJ TRANSIT routes.

[8] This defines "stations not grouped" as generally any station that includes transfers or major destination hubs in Lower Manhattan or Midtown.

[9] The *NYMTC Hub Bound Travel Data Report* categorizes the F subway line within Queens trips, as noted in **Section 4C.3.4.**

In this sector, the subway accounts for approximately 314,000 person-trips (more than two-thirds of the total) into the Manhattan CBD in the AM peak period. The Broadway, Eighth Avenue, and Lexington Avenue subway lines each carry almost 100,000 passengers into the 60th Street tolling zone during the AM peak period. The Second Avenue subway line carries over 30,000 AM peak-period inbound passengers across the 60th Street Manhattan CBD boundary.[10] **Table 4C-1** provides a breakdown of inbound person-trips by transit during AM peak period.

Table 4C-1. Transit Ridership by Routes Crossing into the Manhattan CBD at 60th Street (Existing AM Peak Period, Inbound) (2019)

MODE	RIDERSHIP	PERCENTAGE OF TOTAL
Subway	**314,619**	**77.3%**
Lexington Avenue (Nos. 4/5/6)	99,992	24.6%
Eighth Avenue (A/B/C/D)	86,698	21.3%
Broadway/Seventh Avenue (Nos. 1/2/3)	97,641	24.0%
Second Avenue (Q)	30,288	7.4%
Commuter and Intercity Rail	**79,721**	**19.6%**
Metro-North Railroad	79,154	19.5%
Amtrak	567	0.1%
Buses	**12,510**	**3.1%**
MTA buses	12,350	3.0%
Westchester County Bee-Line	160	0.1%
Ferries	**0**	**0.0%**
TOTAL	**406,850**	**100%**

Source: NYMTC *Hub Bound Travel Data Report 2019*

COMMUTER AND INTERCITY RAIL

Passengers using Metro-North enter the Manhattan CBD at Grand Central Terminal, with 79,154 passengers during average morning peak period. The overwhelming majority of commuter and intercity rail trips across the cordon are made on Metro-North.[11] Reverse commuters via Metro-North (i.e., those commuting from Manhattan in the morning) comprise 6,428 passengers during the AM peak period, about 8 percent of the total Metro-North AM peak-period ridership.

Amtrak's Empire Line provides service between Penn Station New York and Albany, with service continuing to the north and west, and the line carries about 12 percent of total Amtrak trips to the Manhattan CBD in the AM peak period. With 567 inbound person-trips during the AM peak period, this represents less than 1 percent of all trips crossing the 60th Street cordon line.

BUSES

Weekday MTA buses crossing the cordon line serve 65,541 daily person-trips on almost 1,000 scheduled vehicle-trips via 16 routes. Bus trips are heaviest on Madison and Fifth Avenues, with smaller percentages also using Third Avenue, Lexington Avenue, Broadway, and other north–south avenues. Select Bus Service, NYCT's bus rapid transit service, operates on the East Side via Second Avenue (downtown service) and First Avenue (uptown service) with 2- to 4-minute headways during the peak period. During the AM peak period, 660 MTA buses cross the 60th Street cordon line carrying 12,350 person-trips. On Fifth Avenue—the crossing with the highest proportion of bus trips—scheduled buses cross the cordon line at a frequency of every 30 seconds. The Westchester County Bee-Line service accounts for less than 1 percent (160) of all trips crossing the cordon line at 60th Street, with slightly more inbound than outbound trips. Each day, 11 Westchester County Bee-Line buses use Fifth Avenue traveling inbound and Madison Avenue for outbound service.

4C.3.2 Queens/Roosevelt Island

SUBWAY

Several subway lines enter the Manhattan CBD from this sector, including the E/M, N/R/W, F, and No. 7 lines (**Table 4C-2**). The F subway line accounts for the lowest person-trips into the Manhattan CBD compared to other subway corridors from Queens (41,511 riders or 12.1 percent). Of all AM peak-period trips in this sector, 86 percent comprise inbound travel. Subway ridership represents a smaller share of the transit trips from this sector (71 percent), as compared to the other New York City sectors due to transit trips from eastern Queens and Long Island.

Table 4C-2. Transit Ridership by Routes Crossing into the Manhattan CBD from Queens/Roosevelt Island (Existing AM Peak Period, Inbound) (2019)

MODE	RIDERSHIP	PERCENTAGE OF TOTAL
Subway	**246,172**	**71.7%**
53rd Street Tunnel (E/M)	72,342	21.1%
60th Street Tunnel (N/R/W)	67,047	19.5%
63rd Street Tunnel (F)	41,511	12.1%
Steinway Street Tunnel (No. 7)	65,272	19.0%
Commuter and Intercity Rail	**85,218**	**24.8%**
LIRR	84,580	24.6%
Amtrak	638	0.2%
Buses	**9,377**	**2.7%**
Ferries/Tramway	**2,612**	**0.8%**
TOTAL	**343,379**	**100%**

Source: NYMTC *Hub Bound Travel Data Report 2019*

COMMUTER AND INTERCITY RAIL

According to the *Hub Bound Travel Data Report 2019*, LIRR accounts for 84,580 person-trips during the morning commute. Commuter patterns on LIRR are notably more concentrated in the morning as compared to the evening, with 33,350 person-trips from 8:00 a.m. to 9:00 a.m. In some neighborhoods of Queens, LIRR could be the fastest or closest transit service to provide access to the Manhattan CBD. The number of passengers who board LIRR trains in Queens is highest on the Port Washington, Hempstead, and Far Rockaway branches. In addition to LIRR, Amtrak trains on the Northeast Corridor to and from points north enter and exit the Manhattan CBD via Queens with 638 person-trips crossing the cordon line at this sector during the morning commute (only 0.2 percent of all transit trips from this sector). Roughly half of these are inbound trips.

[10] NYMTC *Hub Bound Travel Report 2019* data collection occurs in October of each year—in this case after Second Avenue Subway ridership had stabilized.

[11] After the Metro-North Penn Station Access Project is completed, some Metro-North volumes would enter the Manhattan CBD via Queens, which is consistent with BPM 2045 results.

BUSES

MTA operates 20 bus routes that cross the cordon line to and from Queens using either the Ed Koch Queensboro Bridge or the Queens-Midtown Tunnel and 9,377 passengers on these buses in the AM peak period constitute about 3 percent of the transit ridership from this sector. Most person-trips (8,600 daily) are via the Queens-Midtown Tunnel. The peak hour for bus trips is 7:00 a.m. to 8:00 a.m., when 3,894 passengers use buses; this hour is 150 percent busier than the busiest evening hour (5:00 p.m. to 6:00 p.m.).

FERRY AND TRAMWAY

About 5 percent (1,753) of daily person-trips made by ferry enter the Manhattan CBD from docks at Astoria, Long Island City, Roosevelt Island, and Hunters Point, which is double the number of trips from Brooklyn. The busiest hour of service is between 9:00 a.m. and 10:00 a.m., with 690 inbound person-trips and 119 outbound trips. The Roosevelt Island Tramway carries 1,087 people in and out of the Manhattan CBD during the AM peak period, representing only 0.2 percent of trips crossing the cordon line from this sector. The East River ferry line has been expanded since this data was collected, and ridership has increased. Ferry and tram inbound trips comprise 2,612 total riders during the AM peak period.

4C.3.3 Brooklyn

SUBWAY

Person-trips by subway account for a larger percentage of transit trips between the Manhattan CBD and Brooklyn, compared to other sectors. NYCT operates 16 subway routes that cross the cordon line from Brooklyn via six tunnels and two bridges (**Table 4C-3**). In total, 1,545,463 person-trips are made by subway between Brooklyn and the Manhattan CBD on an average weekday. During the AM peak period, 401,874 of the 488,437 (82 percent) total person-trips are made inbound to the Manhattan CBD by subway, with notably high numbers on routes using the Manhattan Bridge 14th Street Tunnel, and Cranberry Tunnel.

Table 4C-3. Transit Ridership by Routes Crossing into the Manhattan CBD from Brooklyn (Existing AM Peak Period, Inbound) (2019)

MODE	RIDERSHIP	PERCENTAGE OF TOTAL
Subway	**401,874**	**96.2%**
14th Street Tunnel (L)	66,760	16.0%
Clark Street Tunnel (Nos. 2/3)	38,148	9.1%
Cranberry Street Tunnel (A/C)	62,937	15.1%
Joralemon Street Tunnel (Nos. 4/5)	43,101	10.3%
Manhattan Bridge (B/D/N/Q)	109,958	26.3%
Montague Street Tunnel (R)	14,222	3.4%
Rutgers Street Tunnel (F)	26,748	6.4%
Williamsburg Bridge (J/M/Z)	40,000	9.6%
Commuter and Intercity Rail	**0**	**0.0%**
Buses	**14,774**	**3.6%**
Ferries	**741**	**0.2%**
TOTAL	**417,389**	**100%**

Source: NYMTC *Hub Bound Travel Data Report 2019*

BUSES

Person-trips made by bus constitute 3.6 percent (14,774 total trips) of the total person-trips from the Brooklyn sector into the Manhattan CBD in the AM peak period. These trips are made on 16 bus routes (with 482 buses), almost all of which cross the cordon line using the Hugh L. Carey Tunnel carrying an estimate of 5,031 bus riders into the Manhattan CBD between 7:00 a.m. and 8:00 a.m., the busiest hour of the day. This is over 1,000 more trips than cross the cordon line in the opposite direction during the busiest evening hour (5:00 p.m. to 6:00 p.m.). As noted previously, express buses with origins in Brooklyn and Staten Island are counted in this tally.

FERRY

As of 2019, 741 AM peak-period person-trips made by ferry into the Manhattan CBD originated from Brooklyn (via stops on the East River, Astoria, and South Brooklyn routes, the latter two of which launched in 2017 when data was first collected). Ferry service runs between 6:00 a.m. and 10:00 p.m., and the busiest hour of the day is 5:00 p.m. to 6:00 p.m. (including bi-directional trips). A high proportion of inbound ferry trips occur during midday hours, which could reflect recreational trips.

4C.3.4 Staten Island

BUSES

Many Staten Island commuters use express buses to travel to the Manhattan CBD, although these trips are not classified within this sector by the *Hub Bound Travel Data Report 2019*. Instead, the 17 bus routes that enter the Manhattan CBD via the Hugh L. Carey Tunnel are tallied within the Brooklyn sector and the 7 bus routes from Staten Island that enter the Manhattan CBD via New Jersey and the Lincoln Tunnel are tallied with the New Jersey sector.

FERRIES

The only direct access point from Staten Island to the Manhattan CBD is via the Staten Island Ferry (**Table 4C-4**), which runs regular service throughout the day, and serves 16,881 inbound passengers in the AM peak period. Of these trips, 6,216 occur during the busiest hour from 8:00 a.m. to 9:00 a.m.

Table 4C-4. Transit Ridership by Routes Crossing into the Manhattan CBD from Staten Island (Existing AM Peak Period, Inbound) (2019)

MODE	RIDERSHIP	PERCENTAGE OF TOTAL
Subway	0	0%
Commuter and Intercity Rail	0	0%
Buses	0	0%
Ferries	16,881	100%
TOTAL	**16,881**	**100%**

Source: NYMTC *Hub Bound Travel Data Report 2019*
Note: Person-trips on the Staten Island Ferry include bicyclists, because bicycles from Staten Island are also traveling to the Manhattan CBD via the ferry. Buses serving Staten Island that enter the Manhattan CBD via the Hugh L. Carey Tunnel or Lincoln Tunnel are captured within Brooklyn or New Jersey data as noted in **Section 4C.3.4**.

4C.3.5 New Jersey West of Hudson

SUBWAY

PATH routes carry 273,447 inbound and outbound person-trips over an average weekday. Trips made on PATH account for about 26 percent of the 383,467 AM peak-period inbound and outbound person-trips in this sector (30.4 percent of inbound transit trips; see **Table 4C-5**). Over half of all inbound AM peak-period PATH trips (45,470) are destined for Lower Manhattan. Most passengers cross the cordon line into the Manhattan CBD during the AM peak period and return to New Jersey during the PM peak period.

Table 4C-5. Transit Ridership by Routes Crossing into the Manhattan CBD from New Jersey/West of Hudson (Existing AM Peak Period, Inbound) (2019)

MODE	RIDERSHIP	PERCENTAGE OF TOTAL
Subway (PATH)	**84,317**	**30.4%**
Commuter and Intercity Rail	**62,451**	**22.6%**
NJ TRANSIT	60,295	21.8%
Amtrak	2,156	0.8%
Buses	**116,186**	**41.9%**
Holland Tunnel	6,431	2.3%
Lincoln Tunnel	109,755	39.6%
Ferries	**14,077**	**5.1%**
TOTAL	**277,031**	**100%**

Source: NYMTC *Hub Bound Travel Data Report 2019*

COMMUTER AND INTERCITY RAIL

Trips made by rail account for 62,451 (approximately 22.6 percent) of all person-trips crossing into the Manhattan CBD from New Jersey in the AM peak period, with NJ TRANSIT accounting for 60,295 (96 percent) of rail trips and Amtrak's Northeast Corridor accounting for the rest. Within this period, 45 percent of NJ TRANSIT trips occur between 8:00 a.m. and 9:00 a.m. (27,710). About one-third of all NJ TRANSIT trips are on the Morris & Essex and Montclair-Boonton Lines and the remainder are on the Northeast Corridor and North Jersey Coast Line. (Off peak, the Raritan Valley Line also provides direct service to Penn Station New York.) Some NJ TRANSIT passengers transfer to PATH service at Newark Penn Station or Hoboken Terminal and therefore are tallied as PATH passengers. Ridership on Metro-North west-of-Hudson routes are also included in these NJ TRANSIT ridership counts. Passengers traveling on Amtrak to and from stops south of New York City (including the metropolitan areas of Philadelphia, Wilmington, Baltimore, and Washington, D.C.) also travel through the New Jersey cordon, and represent only 1 percent of AM peak-period trips through the cordon.

BUSES

Of all person-trips entering the Manhattan CBD from New Jersey, 80 percent travel via transit, with most on buses (see **Table 4C-17**). Nearly 42 percent of all person-trips that cross the cordon from New Jersey in the AM peak period are made by bus. Moreover, the majority of person-trips made by bus into the Manhattan CBD are entering from New Jersey. The peak hour for bus ridership from New Jersey is between 8:00 a.m. and 9:00 a.m. Approximately 5,500 buses cross the cordon line from and to New Jersey every day on one of the 64 routes that enter the Manhattan CBD. All but one of NJ TRANSIT's bus routes serving the Manhattan CBD use the Lincoln Tunnel. In addition, MTA buses and private carriers also use this route to access the Manhattan CBD.

FERRY

Approximately 15,000 person-trips occur via ferry between the Manhattan CBD and New Jersey in the AM peak period, with the vast majority (93 percent) in the inbound direction. (This is comparable to the number of inbound AM peak person-trips on the Staten Island Ferry.) These New Jersey-to-Manhattan routes are all operated by private carriers, with service from multiple locations in northern and central New Jersey, including Hoboken Terminal. The busiest hour of the day is 8:00 a.m. to 9:00 a.m.

4C.4 SCREENING CRITERIA

The City of New York's 2020 *CEQR Technical Manual* recommends screening procedures to determine if quantified analyses of transit facilities are warranted. If a project would result in 200 or more peak hour transit trips (200 or more peak hour transit riders at any given subway station or 50 or more peak-hour bus trips on a particular route in one direction), a detailed trip assignment (Level 2 screening analysis) is undertaken. For the Level 2 screening analysis, project-generated trips would be assigned to specific transit routes and stations. If the results of this analysis show that the proposed project would generate 50 or more peak-hour bus riders on a bus route in a single direction or 200 or more peak-hour subway passengers at any given station, further quantified analyses may be warranted to evaluate the potential for adverse effects on transit.

4C.5 DETAILED ANALYSIS OF TRANSIT OPERATIONS

The methodology for assessing station circulation (stairs, escalators, and passageways) and fare control (regular turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles) elements compares the user volume with the analyzed element's design capacity, resulting in a v/c ratio. For stairs, the design capacity considers the effective width of a tread, which accounts for railings or other obstructions, the friction or counter-flow between upward and downward pedestrians (up to 10 percent capacity reduction is applied to account for counter-flow friction), surging of entering and exiting pedestrians (up to 25 percent capacity reduction is applied to account for surged flows off platforms and onto platforms), and the average area required for circulation. For passageways, similar considerations are made. For escalators and turnstiles, capacities are measured by the number and width of an element and the New York City Transit optimum capacity per element, and also account for the potential for surging of entering and exiting pedestrians. In the analysis for each of these elements, volumes and capacities are presented for 15-minute intervals. The estimated v/c ratio is compared with New York City Transit criteria to determine a level of service (LOS) for the operation of an element, as summarized in **Table 4C-6**.

Table 4C-6. Level of Service Criteria for Subway Station Elements

LEVEL OF SERVICE	VOLUME-TO-CAPACITY RATIO
A	0.00 to 0.45
B	0.45 to 0.70
C	0.70 to 1.00
D	1.00 to 1.33
E	1.33 to 1.67
F	Above 1.67

Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual.*

At LOS A ("free flow") and LOS B ("fluid flow"), there is sufficient area to allow pedestrians to freely select their walking speed and bypass slower pedestrians. When cross- and reverse-flow movement exists, only minor conflicts may occur. At LOS C ("fluid, somewhat restricted"), movement is fluid, although somewhat restricted. While there is sufficient room for standing without personal contact, circulation through queuing areas may require adjustments to walking speed. At LOS D ("crowded, walking speed restricted"), walking speed is restricted and reduced. Reverse and cross flow movement is severely restricted because of congestion and the difficult passage of slower moving pedestrians. At LOS E ("congested, some shuffling and queuing") and LOS F ("severely congested, queued"), walking speed is restricted. There is also insufficient area to bypass others, and opposing movement is difficult. Often, forward progress is achievable only through shuffling, with queues forming.

4C.6 ADVERSE EFFECT CRITERIA

The determination of adverse effects for station elements varies based on their type and use. For stairs and passageways, adverse effects are defined in terms of width increment threshold based on the minimum amount of additional capacity that would be required either to mitigate the location to its service conditions (LOS) under No Action Alternative condition levels, or to bring it to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Adverse effects are typically considered to occur once the width increment thresholds in **Table 4C-7** are reached or exceeded.

Table 4C-7. Adverse Effect Guidance for Stairways

WITH ACTION VOLUME-TO-CAPACITY RATIO	WIDTH INCREMENT THRESHOLD ADVERSE EFFECT (Stairways)
1.00 to 1.09	8.0
1.10 to 1.19	7.0
1.20 to 1.29	6.0
1.30 to 1.39	5.0
1.40 to 1.49	4.0
1.50 to 1.59	3.0
1.60 and up	2.0

Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

For escalators and control area elements, effects are adverse if a proposed project causes a v/c ratio to increase from below 1.00 to 1.00 or greater. Where a facility is already at or above its capacity (a v/c ratio of 1.00 or greater) in a No Action condition, a 0.01 increase in v/c ratio is also an adverse effect.

4C.7 LEVEL OF SERVICE TABLES – NEW YORK CITY

NOTE: Tables are arranged in alphabetical order by station.

Table 4C-8. Existing Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
N510 M16	Street stair at southeast corner of Sixth Avenue and West 16th Street	7.50	6.50	177	340	55	106	90%	100%	80%	0.21	A
N510 S9	Street stair at southeast corner of Sixth Avenue and West 16th Street	5.00	4.00	177	340	55	106	90%	100%	80%	0.35	A
N510 M18	Street stair at northeast corner of Sixth Avenue and West 16th Street	7.50	6.50	191	752	60	235	90%	100%	80%	0.40	A
N510 S11	Street stair at northeast corner of Sixth Avenue and West 16th Street	5.00	4.00	191	752	60	235	90%	100%	80%	0.66	B
N511 M15	Street stair at southwest corner of Sixth Avenue and West 16th Street	7.00	6.00	31	151	10	47	90%	100%	80%	0.08	A
N511 S8	Street stair at southwest corner of Sixth Avenue and West 16th Street	5.50	4.50	31	151	10	47	90%	100%	80%	0.11	A
N511 M17	Street stair at northwest corner of Sixth Avenue and West 16th Street	7.00	6.00	53	558	17	174	90%	100%	80%	0.29	A
N511 S10	Street stair at northwest corner of Sixth Avenue and West 16th Street	5.00	4.00	53	558	17	174	90%	100%	80%	0.43	A
N512 M11	Street stair at northwest corner of Sixth Avenue and West 14th Street	9.00	7.75	57	43	18	13	90%	100%	90%	0.03	A
N512 S5	Street stair at northwest corner of Sixth Avenue and West 14th Street	5.00	4.00	57	43	18	13	90%	100%	90%	0.06	A
N512 M13	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.50	5.50	120	433	38	135	90%	100%	90%	0.25	A
N512 S7	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.00	5.00	120	433	38	135	90%	100%	90%	0.28	A
N512 M9	Street stair at southwest corner of Sixth Avenue and West 14th Street	9.00	7.75	36	3	11	1	90%	100%	90%	0.01	A
N512 S4	Street stair at southwest corner of Sixth Avenue and West 14th Street	6.00	5.00	36	3	11	1	90%	100%	90%	0.02	A
W44-W45	Street stair at southwest corner of Sixth Avenue and West 14th Street	7.00	6.00	227	153	71	48	90%	100%	90%	0.15	A
N513 M3	Street stair at southeast corner of Sixth Avenue and West 14th Street	11.00	9.75	435	329	136	103	90%	100%	90%	0.19	A
N513 M6	Street stair at northeast corner of Sixth Avenue and West 14th Street	16.00	14.75	287	787	90	246	90%	100%	90%	0.18	A
N513 S1	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	144	394	45	123	90%	100%	90%	0.34	A
N513 S3	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	144	394	45	123	90%	100%	90%	0.34	A
R127/A M8	Street stair at northeast corner of Seventh Avenue and West 14th Street	12.50	11.25	427	325	133	102	90%	100%	80%	0.17	A
R127/A S8	Street stair at northeast corner of Seventh Avenue and West 14th Street	5.00	4.00	427	325	133	102	90%	100%	80%	0.48	B
R127/A M6	Street stair at southeast corner of Seventh Avenue and West 14th Street	12.00	10.75	156	327	49	102	90%	100%	80%	0.12	A
R127/A S6	Street stair at southeast corner of Seventh Avenue and West 14th Street	5.00	4.00	156	327	49	102	90%	100%	80%	0.33	A
R127/A M7	Street stair at northwest corner of Seventh Avenue and West 14th Street	12.50	11.25	268	261	84	82	90%	100%	80%	0.12	A
R127/A S7	Street stair at northwest corner of Seventh Avenue and West 14th Street	5.00	4.00	268	261	84	82	90%	100%	80%	0.35	A
R127/A M5	Street stair at southwest corner of Seventh Avenue and West 14th Street	12.00	10.75	191	498	60	156	90%	100%	80%	0.18	A
R127/A S5	Street stair at southwest corner of Seventh Avenue and West 14th Street	5.00	4.00	191	498	60	156	90%	100%	80%	0.47	B
R128A/B M3	Street stair at northwest corner of Seventh Avenue and West 12th Street	13.00	11.75	1	315	0	98	100%	100%	80%	0.07	A
R128A/B S3	Street stair at northwest corner of Seventh Avenue and West 12th Street	4.00	3.00	1	315	0	98	100%	100%	80%	0.27	A
R128A/B M4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	3	296	1	93	100%	100%	80%	0.20	A
R128A/B S4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	3	296	1	93	100%	100%	80%	0.20	A
R128 M2	Street stair at northeast corner of Seventh Avenue and West 12th Street	10.00	8.75	305	367	95	115	90%	100%	80%	0.20	A
R128 S2	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	305	367	95	115	90%	100%	80%	0.44	A
R128 M1	Street stair at northwest corner of Seventh Avenue and West 12th Street	10.00	8.75	545	267	170	83	90%	100%	80%	0.23	A
R128 S1	Street stair at northwest corner of Seventh Avenue and West 12th Street	5.00	4.00	545	267	170	83	90%	100%	80%	0.51	B
H003 ML1	Connecting stair between upper mezzanine and east platform	13.00	11.75	289	544	90	170	90%	80%	75%	0.21	A
H003 P4	Connecting stair between upper mezzanine and east platform	3.00	2.00	172	221	54	69	90%	80%	75%	0.59	B
H003 P5	Connecting stair between upper mezzanine and east platform	5.00	4.00	8	109	3	34	90%	80%	75%	0.09	A

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
H003 P6	Canarsie line Platform stair at Canarsie line under H003	5.00	4.00	137	225	43	70	90%	80%	75%	0.27	A
H003 P8	Platform stair at Canarsie line under N512	5.00	4.00	387	1466	121	458	90%	80%	75%	1.41	E
H003 P9	Platform stair at Canarsie line under N512	6.00	5.00	367	721	115	225	90%	80%	75%	0.66	B
H003 PL4	Connecting stair between West 14th Street Canarsie line and east platform	6.00	5.00	407	2391	127	747	90%	80%	75%	1.71	F
H003 PL6	Connecting stair between West 14th Street Canarsie line and east platform	8.00	7.00	407	2391	127	747	90%	80%	75%	1.22	D
N510 P13-P14	Connecting stair between upper mezzanine and east platform	8.00	7.00	248	640	78	200	90%	75%	75%	0.39	A
N510 P15-P16	Connecting stair between upper mezzanine and east platform	8.00	7.00	123	294	38	92	90%	75%	75%	0.18	A
N510 P8	Connecting stair between upper mezzanine and east platform	7.00	6.00	4	240	1	75	100%	75%	75%	0.11	A
N511 P11-P12	Connecting stair between upper mezzanine and west platform	8.00	7.00	48	180	15	56	90%	75%	75%	0.10	A
N511 P7	Connecting stair between upper mezzanine and west platform	8.00	7.00	4	129	1	40	100%	75%	75%	0.05	A
N511 P9-P10	Connecting stair between upper mezzanine and west platform	8.00	7.00	42	265	13	83	90%	75%	75%	0.14	A
N512 P1	Connecting stair between upper mezzanine and west platform	6.00	5.00	117	703	37	220	90%	75%	75%	0.51	B
N512 P3	Connecting stair between upper mezzanine and west platform	6.00	5.00	83	251	26	78	90%	75%	75%	0.21	A
N512 P5	Connecting stair between upper mezzanine and west platform	6.00	5.00	1	149	0	47	100%	75%	75%	0.08	A
N513 P2	Connecting stair between upper mezzanine and east platform	6.00	5.00	147	256	46	80	90%	75%	75%	0.25	A
N513 P4	Connecting stair between upper mezzanine and east platform	7.00	6.00	297	253	93	79	90%	75%	75%	0.28	A
N513 P6	Connecting stair between upper mezzanine and east platform	6.00	5.00	7	122	2	38	100%	75%	75%	0.07	A
R127/A P8	Connecting stair between Control Area R127 and east platform	8.50	7.25	1807	459	565	143	90%	75%	75%	0.96	C
R127/A P7	Connecting stair between Control Area R127 and west platform	8.50	7.25	1253	1866	392	583	90%	75%	75%	1.33	D
R128A/B P5	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	20	160	6	50	90%	75%	75%	0.09	A
R128A/B P3	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	15	350	5	109	100%	75%	75%	0.17	A
R128A/B P4	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	39	142	12	44	90%	75%	75%	0.09	A
R128A/B P6	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	57	79	18	25	90%	75%	75%	0.07	A
R128 (12 St) P1	Connecting stair between Control Area R128 and west platform	8.50	7.25	296	500	93	156	90%	75%	75%	0.34	A
R128 (12 St) P2	Connecting stair between Control Area R128 and east platform	8.50	7.25	675	186	211	58	90%	75%	75%	0.37	A

Table 4C-9. Existing Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and West 16th Street – east side (N510)											
Two-Way Turnstiles	3	1,260	1,935	262	592	82	185	90%	90%	0.19	A
HEET	2	510	1,080	106	330	33	103	90%	90%	0.19	A
High Exit Only Turnstile	1	0	555	0	170	0	53	100%	90%	0.11	A
Sixth Avenue and West 16th Street – west side (N511)											
Two-Way Turnstiles	3	1,260	1,935	70	453	22	141	90%	90%	0.11	A
HEET	1	255	540	14	126	4	39	90%	90%	0.11	A
High Exit Only Turnstile	1	0	555	0	130	0	41	100%	90%	0.08	A
Sixth Avenue and West 14th Street – northwest corner (N512)											
Two-Way Turnstiles	4	1,680	2,580	440	632	138	198	90%	90%	0.19	A
Sixth Avenue and West 14th Street – northeast corner (N513)											
Two-Way Turnstiles	3	1,260	1,935	1,173	1,747	367	546	90%	90%	0.67	B
Sixth Avenue and West 14th Street – east side (H003)											
Two-Way Turnstiles	3	1,260	1,935	968	2,109	303	659	90%	90%	0.69	B
HEET	2	510	1,080	392	1,177	122	368	90%	90%	0.69	B
Seventh Avenue and West 14th Street – south side (R127)											
Two-Way Turnstiles	7	2,940	4,515	3,775	3,007	1,180	940	90%	90%	0.70	C
HEET	1	255	540	327	360	102	112	90%	90%	0.70	C
High Exit Only Turnstile	1	0	555	0	370	0	116	100%	90%	0.23	A
Seventh Avenue and West 12th Street – north side (R128A/B)											
High Exit Only Turnstile	2	0	1,110	0	1,342	0	419	100%	90%	0.42	A
Seventh Avenue and West 12th Street – north side (R128)											
Two-Way Turnstiles	6	2,520	3,870	1,155	1,026	361	321	90%	90%	0.26	A
High Exit Only Turnstile	2	0	1,110	0	294	0	92	100%	90%	0.09	A

Table 4C-10. Existing Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
N510 M16	Street stair at southeast corner of Sixth Avenue and West 16th Street	7.50	6.50	153	163	48	51	90%	100%	80%	0.13	A
N510 S9	Street stair at southeast corner of Sixth Avenue and West 16th Street	5.00	4.00	153	163	48	51	90%	100%	80%	0.21	A
N510 M18	Street stair at northeast corner of Sixth Avenue and West 16th Street	7.50	6.50	452	213	141	67	90%	100%	80%	0.26	A
N510 S11	Street stair at northeast corner of Sixth Avenue and West 16th Street	5.00	4.00	452	213	141	67	90%	100%	80%	0.42	A
N511 M15	Street stair at southwest corner of Sixth Avenue and West 16th Street	7.00	6.00	158	208	49	65	90%	100%	80%	0.16	A
N511 S8	Street stair at southwest corner of Sixth Avenue and West 16th Street	5.50	4.50	158	208	49	65	90%	100%	80%	0.21	A
N511 M17	Street stair at northwest corner of Sixth Avenue and West 16th Street	7.00	6.00	753	301	235	94	90%	100%	80%	0.44	A
N511 S10	Street stair at northwest corner of Sixth Avenue and West 16th Street	5.00	4.00	753	301	235	94	90%	100%	80%	0.65	B
N512 M11	Street stair at northwest corner of Sixth Avenue and West 14th Street	9.00	7.75	189	101	59	32	90%	100%	90%	0.09	A
N512 S5	Street stair at northwest corner of Sixth Avenue and West 14th Street	5.00	4.00	189	101	59	32	90%	100%	90%	0.18	A
N512 M13	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.50	5.50	982	573	307	179	90%	100%	90%	0.68	B
N512 S7	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.00	5.00	982	573	307	179	90%	100%	90%	0.75	C
N512 M9	Street stair at southwest corner of Sixth Avenue and West 14th Street	9.00	7.75	113	13	35	4	90%	100%	90%	0.04	A
N512 S4	Street stair at southwest corner of Sixth Avenue and West 14th Street	6.00	5.00	113	13	35	4	90%	100%	90%	0.06	A
W44-W45	Street stair at southwest corner of Sixth Avenue and West 14th Street	7.00	6.00	849	83	265	26	90%	100%	90%	0.36	A
N513 M3	Street stair at southeast corner of Sixth Avenue and West 14th Street	11.00	9.75	762	122	238	38	90%	100%	90%	0.21	A
N513 M6	Street stair at northeast corner of Sixth Avenue and West 14th Street	16.00	14.75	478	402	149	126	90%	100%	90%	0.15	A
N513 S1	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	239	201	75	63	90%	100%	90%	0.27	A
N513 S3	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	239	201	75	63	90%	100%	90%	0.27	A
R127/A M8	Street stair at northeast corner of Seventh Avenue and West 14th Street	12.50	11.25	746	252	233	79	90%	100%	80%	0.22	A
R127/A S8	Street stair at northeast corner of Seventh Avenue and West 14th Street	5.00	4.00	746	252	233	79	90%	100%	80%	0.61	B
R127/A M6	Street stair at southeast corner of Seventh Avenue and West 14th Street	12.00	10.75	427	269	133	84	90%	100%	80%	0.16	A
R127/A S6	Street stair at southeast corner of Seventh Avenue and West 14th Street	5.00	4.00	427	269	133	84	90%	100%	80%	0.44	A
R127/A M7	Street stair at northwest corner of Seventh Avenue and West 14th Street	12.50	11.25	476	132	149	41	90%	100%	80%	0.13	A
R127/A S7	Street stair at northwest corner of Seventh Avenue and West 14th Street	5.00	4.00	476	132	149	41	90%	100%	80%	0.37	A
R127/A M5	Street stair at southwest corner of Seventh Avenue and West 14th Street	12.00	10.75	434	421	136	132	90%	100%	80%	0.21	A
R127/A S5	Street stair at southwest corner of Seventh Avenue and West 14th Street	5.00	4.00	434	421	136	132	90%	100%	80%	0.56	B
R128A/B M3	Street stair at northwest corner of Seventh Avenue and West 12th Street	13.00	11.75	1	353	0	110	100%	100%	80%	0.08	A
R128A/B S3	Street stair at northwest corner of Seventh Avenue and West 12th Street	4.00	3.00	1	353	0	110	100%	100%	80%	0.31	A
R128A/B M4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	2	373	1	117	100%	100%	80%	0.25	A
R128A/B S4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	2	373	1	117	100%	100%	80%	0.25	A
R128 M2	Street stair at northeast corner of Seventh Avenue and West 12th Street	10.00	8.75	417	387	130	121	90%	100%	80%	0.24	A
R128 S2	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	417	387	130	121	90%	100%	80%	0.52	B
R128 M1	Street stair at northwest corner of Seventh Avenue and West 12th Street	10.00	8.75	328	469	103	147	90%	100%	80%	0.24	A
R128 S1	Street stair at northwest corner of Seventh Avenue and West 12th Street	5.00	4.00	328	469	103	147	90%	100%	80%	0.53	B
H003 ML1	Connecting stair between upper mezzanine and east platform	13.00	11.75	791	155	247	48	90%	80%	75%	0.23	A
H003 P4	Connecting stair between upper mezzanine and east platform	3.00	2.00	527	87	165	27	90%	80%	75%	0.90	C
H003 P5	Connecting stair between upper mezzanine and east platform	5.00	4.00	6	50	2	16	90%	80%	75%	0.04	A
H003 P6	Platform stair at Canarsie line under H003	5.00	4.00	271	56	85	18	90%	80%	75%	0.24	A
H003 P8	Platform stair at Canarsie line under N512	5.00	4.00	760	692	238	216	90%	80%	75%	1.08	D
H003 P9	Platform stair at Canarsie line under N512	6.00	5.00	1157	415	362	130	90%	80%	75%	0.93	C
H003 PL4	Connecting stair between West 14th Street Canarsie line and east platform	6.00	5.00	805	755	252	236	90%	80%	75%	0.93	C

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
H003 PL6	Connecting stair between West 14th Street Canarsie line and east platform	8.00	7.00	805	755	252	236	90%	80%	75%	0.67	B
N510 P13-P14	Connecting stair between upper mezzanine and east platform	8.00	7.00	435	152	136	48	90%	75%	75%	0.26	A
N510 P15-P16	Connecting stair between upper mezzanine and east platform	8.00	7.00	186	185	58	58	90%	75%	75%	0.16	A
N510 P8	Connecting stair between upper mezzanine and east platform	7.00	6.00	11	86	3	27	90%	75%	75%	0.05	A
N511 P11-P12	Connecting stair between upper mezzanine and west platform	8.00	7.00	283	166	88	52	90%	75%	75%	0.20	A
N511 P7	Connecting stair between upper mezzanine and west platform	8.00	7.00	15	150	5	47	90%	75%	75%	0.07	A
N511 P9-P10	Connecting stair between upper mezzanine and west platform	8.00	7.00	499	259	156	81	90%	75%	75%	0.33	A
N512 P1	Connecting stair between upper mezzanine and west platform	6.00	5.00	500	407	156	127	90%	75%	75%	0.56	B
N512 P3	Connecting stair between upper mezzanine and west platform	6.00	5.00	304	235	95	73	90%	75%	75%	0.33	A
N512 P5	Connecting stair between upper mezzanine and west platform	6.00	5.00	10	287	3	90	100%	75%	75%	0.17	A
N513 P2	Connecting stair between upper mezzanine and east platform	6.00	5.00	245	156	77	49	90%	75%	75%	0.25	A
N513 P4	Connecting stair between upper mezzanine and east platform	7.00	6.00	303	130	95	41	90%	75%	75%	0.22	A
N513 P6	Connecting stair between upper mezzanine and east platform	6.00	5.00	6	90	2	28	90%	75%	75%	0.06	A
R127/A P8	Connecting stair between Control Area R127 and east platform	8.50	7.25	2035	1049	636	328	90%	75%	75%	1.31	D
R127/A P7	Connecting stair between Control Area R127 and west platform	8.50	7.25	825	1817	258	568	90%	75%	75%	1.13	D
R128A/B P5	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	50	252	16	79	90%	75%	75%	0.16	A
R128A/B P3	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	23	313	7	98	90%	75%	75%	0.17	A
R128A/B P4	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	33	251	10	78	90%	75%	75%	0.14	A
R128A/B P6	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	56	151	18	47	90%	75%	75%	0.11	A
R128 (12 St) P1	Connecting stair between Control Area R128 and west platform	8.50	7.25	208	617	65	193	90%	75%	75%	0.35	A
R128 (12 St) P2	Connecting stair between Control Area R128 and east platform	8.50	7.25	696	472	218	148	90%	75%	75%	0.50	B

Table 4C-11. Existing Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and West 16th Street – east side (N510)											
Two-Way Turnstiles	3	1,260	1,935	431	204	135	64	90%	90%	0.16	A
HEET	2	510	1,080	174	114	54	36	90%	90%	0.16	A
High Exit Only Turnstile	1	0	555	0	58	0	18	100%	90%	0.04	A
Sixth Avenue and West 16th Street – west side (N511)											
Two-Way Turnstiles	3	1,260	1,935	758	325	237	102	90%	90%	0.27	A
HEET	1	255	540	153	91	48	28	90%	90%	0.27	A
High Exit Only Turnstile	1	0	555	0	93	0	29	100%	90%	0.06	A
Sixth Avenue and West 14th Street – northwest corner (N512)											
Two-Way Turnstiles	4	1,680	2,580	2,133	770	667	241	90%	90%	0.56	B
Sixth Avenue and West 14th Street – northeast corner (N513)											
Two-Way Turnstiles	3	1,260	1,935	1,794	900	561	281	90%	90%	0.67	B
Sixth Avenue and West 14th Street – east side (H003)											
Two-Way Turnstiles	3	1,260	1,935	2,500	934	781	292	90%	90%	0.88	C
HEET	2	510	1,080	1,012	521	316	163	90%	90%	0.87	C
Seventh Avenue and West 14th Street – south side (R127)											
Two-Way Turnstiles	7	2,940	4,515	4,548	3,171	1,421	991	90%	90%	0.81	C
HEET	1	255	540	395	379	123	119	90%	90%	0.81	C
High Exit Only Turnstile	1	0	555	0	390	0	122	100%	90%	0.24	A
Seventh Avenue and West 12th Street – north side (R128A/B)											
High Exit Only Turnstile	2	0	1,110	0	1,693	0	529	100%	90%	0.53	B
Seventh Avenue and West 12th Street – north side (R128)											
Two-Way Turnstiles	6	2,520	3,870	1,162	1,511	363	472	90%	90%	0.31	A
High Exit Only Turnstile	2	0	1,110	0	434	0	135	100%	90%	0.14	A

Table 4C-12. No Action Alternative Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
N510 M16	Street stair at southeast corner of Sixth Avenue and West 16th Street	7.50	6.50	177	340	55	106	90%	100%	80%	0.21	A
N510 S9	Street stair at southeast corner of Sixth Avenue and West 16th Street	5.00	4.00	177	340	55	106	90%	100%	80%	0.35	A
N510 M18	Street stair at northeast corner of Sixth Avenue and West 16th Street	7.50	6.50	191	752	60	235	90%	100%	80%	0.40	A
N510 S11	Street stair at northeast corner of Sixth Avenue and West 16th Street	5.00	4.00	191	752	60	235	90%	100%	80%	0.66	B
N511 M15	Street stair at southwest corner of Sixth Avenue and West 16th Street	7.00	6.00	31	151	10	47	90%	100%	80%	0.08	A
N511 S8	Street stair at southwest corner of Sixth Avenue and West 16th Street	5.50	4.50	31	151	10	47	90%	100%	80%	0.11	A
N511 M17	Street stair at northwest corner of Sixth Avenue and West 16th Street	7.00	6.00	53	558	17	174	90%	100%	80%	0.29	A
N511 S10	Street stair at northwest corner of Sixth Avenue and West 16th Street	5.00	4.00	53	558	17	174	90%	100%	80%	0.43	A
N512 M11	Street stair at northwest corner of Sixth Avenue and West 14th Street	9.00	7.75	57	43	18	13	90%	100%	90%	0.03	A
N512 S5	Street stair at northwest corner of Sixth Avenue and West 14th Street	5.00	4.00	57	43	18	13	90%	100%	90%	0.06	A
N512 M13	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.50	5.50	120	433	38	135	90%	100%	90%	0.25	A
N512 S7	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.00	5.00	120	433	38	135	90%	100%	90%	0.28	A
N512 M9	Street stair at southwest corner of Sixth Avenue and West 14th Street	9.00	7.75	36	3	11	1	90%	100%	90%	0.01	A
N512 S4	Street stair at southwest corner of Sixth Avenue and West 14th Street	6.00	5.00	36	3	11	1	90%	100%	90%	0.02	A
W44-W45	Street stair at southwest corner of Sixth Avenue and West 14th Street	7.00	6.00	227	153	71	48	90%	100%	90%	0.15	A
N513 M3	Street stair at southeast corner of Sixth Avenue and West 14th Street	11.00	9.75	435	329	136	103	90%	100%	90%	0.19	A
N513 M6	Street stair at northeast corner of Sixth Avenue and West 14th Street	16.00	14.75	287	787	90	246	90%	100%	90%	0.18	A
N513 S1	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	144	394	45	123	90%	100%	90%	0.34	A
N513 S3	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	144	394	45	123	90%	100%	90%	0.34	A
R127/A M8	Street stair at northeast corner of Seventh Avenue and West 14th Street	12.50	11.25	427	325	133	102	90%	100%	80%	0.17	A
R127/A S8	Street stair at northeast corner of Seventh Avenue and West 14th Street	5.00	4.00	427	325	133	102	90%	100%	80%	0.48	B
R127/A M6	Street stair at southeast corner of Seventh Avenue and West 14th Street	12.00	10.75	156	327	49	102	90%	100%	80%	0.12	A
R127/A S6	Street stair at southeast corner of Seventh Avenue and West 14th Street	5.00	4.00	156	327	49	102	90%	100%	80%	0.33	A
R127/A M7	Street stair at northwest corner of Seventh Avenue and West 14th Street	12.50	11.25	268	261	84	82	90%	100%	80%	0.12	A
R127/A S7	Street stair at northwest corner of Seventh Avenue and West 14th Street	5.00	4.00	268	261	84	82	90%	100%	80%	0.35	A
R127/A M5	Street stair at southwest corner of Seventh Avenue and West 14th Street	12.00	10.75	191	498	60	156	90%	100%	80%	0.18	A
R127/A S5	Street stair at southwest corner of Seventh Avenue and West 14th Street	5.00	4.00	191	498	60	156	90%	100%	80%	0.47	B
R128A/B M3	Street stair at northwest corner of Seventh Avenue and West 12th Street	13.00	11.75	1	315	0	98	100%	100%	80%	0.07	A
R128A/B S3	Street stair at northwest corner of Seventh Avenue and West 12th Street	4.00	3.00	1	315	0	98	100%	100%	80%	0.27	A
R128A/B M4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	3	296	1	93	100%	100%	80%	0.20	A
R128A/B S4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	3	296	1	93	100%	100%	80%	0.20	A
R128 M2	Street stair at northeast corner of Seventh Avenue and West 12th Street	10.00	8.75	305	367	95	115	90%	100%	80%	0.20	A
R128 S2	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	305	367	95	115	90%	100%	80%	0.44	A
R128 M1	Street stair at northwest corner of Seventh Avenue and West 12th Street	10.00	8.75	545	267	170	83	90%	100%	80%	0.23	A
R128 S1	Street stair at northwest corner of Seventh Avenue and West 12th Street	5.00	4.00	545	267	170	83	90%	100%	80%	0.51	B
H003 ML1	Connecting stair between upper mezzanine and east platform	13.00	11.75	289	544	90	170	90%	80%	75%	0.21	A
H003 P4	Connecting stair between upper mezzanine and east platform	3.00	2.00	172	221	54	69	90%	80%	75%	0.59	B
H003 P5	Connecting stair between upper mezzanine and east platform	5.00	4.00	8	109	3	34	90%	80%	75%	0.09	A
H003 P6	Platform stair at Canarsie line under H003	5.00	4.00	137	225	43	70	90%	80%	75%	0.27	A
H003 P8	Platform stair at Canarsie line under N512	5.00	4.00	387	1466	121	458	90%	80%	75%	1.41	E
H003 P9	Platform stair at Canarsie line under N512	6.00	5.00	367	721	115	225	90%	80%	75%	0.66	B
H003 PL4	Connecting stair between West 14th Street Canarsie line and east platform	6.00	5.00	407	2391	127	747	90%	80%	75%	1.71	F

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
H003 PL6	Connecting stair between West 14th Street Canarsie line and east platform	8.00	7.00	407	2391	127	747	90%	80%	75%	1.22	D
N510 P13-P14	Connecting stair between upper mezzanine and east platform	8.00	7.00	248	640	78	200	90%	75%	75%	0.39	A
N510 P15-P16	Connecting stair between upper mezzanine and east platform	8.00	7.00	123	294	38	92	90%	75%	75%	0.18	A
N510 P8	Connecting stair between upper mezzanine and east platform	7.00	6.00	4	240	1	75	100%	75%	75%	0.11	A
N511 P11-P12	Connecting stair between upper mezzanine and west platform	8.00	7.00	48	180	15	56	90%	75%	75%	0.10	A
N511 P7	Connecting stair between upper mezzanine and west platform	8.00	7.00	4	129	1	40	100%	75%	75%	0.05	A
N511 P9-P10	Connecting stair between upper mezzanine and west platform	8.00	7.00	42	265	13	83	90%	75%	75%	0.14	A
N512 P1	Connecting stair between upper mezzanine and west platform	6.00	5.00	117	703	37	220	90%	75%	75%	0.51	B
N512 P3	Connecting stair between upper mezzanine and west platform	6.00	5.00	83	251	26	78	90%	75%	75%	0.21	A
N512 P5	Connecting stair between upper mezzanine and west platform	6.00	5.00	1	149	0	47	100%	75%	75%	0.08	A
N513 P2	Connecting stair between upper mezzanine and east platform	6.00	5.00	147	256	46	80	90%	75%	75%	0.25	A
N513 P4	Connecting stair between upper mezzanine and east platform	7.00	6.00	297	253	93	79	90%	75%	75%	0.28	A
N513 P6	Connecting stair between upper mezzanine and east platform	6.00	5.00	7	122	2	38	100%	75%	75%	0.07	A
R127/A P8	Connecting stair between Control Area R127 and east platform	8.50	7.25	1807	459	565	143	90%	75%	75%	0.96	C
R127/A P7	Connecting stair between Control Area R127 and west platform	8.50	7.25	1253	1866	392	583	90%	75%	75%	1.33	D
R128A/B P5	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	20	160	6	50	90%	75%	75%	0.09	A
R128A/B P3	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	15	350	5	109	100%	75%	75%	0.17	A
R128A/B P4	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	39	142	12	44	90%	75%	75%	0.09	A
R128A/B P6	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	57	79	18	25	90%	75%	75%	0.07	A
R128 (12 St) P1	Connecting stair between Control Area R128 and west platform	8.50	7.25	296	500	93	156	90%	75%	75%	0.34	A
R128 (12 St) P2	Connecting stair between Control Area R128 and east platform	8.50	7.25	675	186	211	58	90%	75%	75%	0.37	A

Table 4C-13. No Action Alternative Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and West 16th Street – east side (N510)											
Two-Way Turnstiles	3	1,260	1,935	262	592	82	185	90%	90%	0.19	A
HEET	2	510	1,080	106	330	33	103	90%	90%	0.19	A
High Exit Only Turnstile	1	0	555	0	170	0	53	100%	90%	0.11	A
Sixth Avenue and West 16th Street – west side (N511)											
Two-Way Turnstiles	3	1,260	1,935	70	453	22	141	90%	90%	0.11	A
HEET	1	255	540	14	126	4	39	90%	90%	0.11	A
High Exit Only Turnstile	1	0	555	0	130	0	41	100%	90%	0.08	A
Sixth Avenue and West 14th Street – northwest corner (N512)											
Two-Way Turnstiles	4	1,680	2,580	440	632	138	198	90%	90%	0.19	A
Sixth Avenue and West 14th Street – northeast corner (N513)											
Two-Way Turnstiles	3	1,260	1,935	1,173	1,747	367	546	90%	90%	0.67	B
Sixth Avenue and West 14th Street – east side (H003)											
Two-Way Turnstiles	3	1,260	1,935	968	2,109	303	659	90%	90%	0.69	B
HEET	2	510	1,080	392	1,177	122	368	90%	90%	0.69	B
Seventh Avenue and West 14th Street – south side (R127)											
Two-Way Turnstiles	7	2,940	4,515	3,775	3,007	1,180	940	90%	90%	0.70	C
HEET	1	255	540	327	360	102	112	90%	90%	0.70	C
High Exit Only Turnstile	1	0	555	0	370	0	116	100%	90%	0.23	A
Seventh Avenue and West 12th Street – north side (R128A/B)											
High Exit Only Turnstile	2	0	1,110	0	1,342	0	419	100%	90%	0.42	A
Seventh Avenue and West 12th Street – north side (R128)											
Two-Way Turnstiles	6	2,520	3,870	1,155	1,026	361	321	90%	90%	0.26	A
High Exit Only Turnstile	2	0	1,110	0	294	0	92	100%	90%	0.09	A

Table 4C-14. No Action Alternative Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
N510 M16	Street stair at southeast corner of Sixth Avenue and West 16th Street	7.50	6.50	153	163	48	51	90%	100%	80%	0.13	A
N510 S9	Street stair at southeast corner of Sixth Avenue and West 16th Street	5.00	4.00	153	163	48	51	90%	100%	80%	0.21	A
N510 M18	Street stair at northeast corner of Sixth Avenue and West 16th Street	7.50	6.50	452	213	141	67	90%	100%	80%	0.26	A
N510 S11	Street stair at northeast corner of Sixth Avenue and West 16th Street	5.00	4.00	452	213	141	67	90%	100%	80%	0.42	A
N511 M15	Street stair at southwest corner of Sixth Avenue and West 16th Street	7.00	6.00	158	208	49	65	90%	100%	80%	0.16	A
N511 S8	Street stair at southwest corner of Sixth Avenue and West 16th Street	5.50	4.50	158	208	49	65	90%	100%	80%	0.21	A
N511 M17	Street stair at northwest corner of Sixth Avenue and West 16th Street	7.00	6.00	753	301	235	94	90%	100%	80%	0.44	A
N511 S10	Street stair at northwest corner of Sixth Avenue and West 16th Street	5.00	4.00	753	301	235	94	90%	100%	80%	0.65	B
N512 M11	Street stair at northwest corner of Sixth Avenue and West 14th Street	9.00	7.75	189	101	59	32	90%	100%	90%	0.09	A
N512 S5	Street stair at northwest corner of Sixth Avenue and West 14th Street	5.00	4.00	189	101	59	32	90%	100%	90%	0.18	A
N512 M13	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.50	5.50	982	573	307	179	90%	100%	90%	0.68	B
N512 S7	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.00	5.00	982	573	307	179	90%	100%	90%	0.75	C
N512 M9	Street stair at southwest corner of Sixth Avenue and West 14th Street	9.00	7.75	113	13	35	4	90%	100%	90%	0.04	A
N512 S4	Street stair at southwest corner of Sixth Avenue and West 14th Street	6.00	5.00	113	13	35	4	90%	100%	90%	0.06	A
W44-W45	Street stair at southwest corner of Sixth Avenue and West 14th Street	7.00	6.00	849	83	265	26	90%	100%	90%	0.36	A
N513 M3	Street stair at southeast corner of Sixth Avenue and West 14th Street	11.00	9.75	762	122	238	38	90%	100%	90%	0.21	A
N513 M6	Street stair at northeast corner of Sixth Avenue and West 14th Street	16.00	14.75	478	402	149	126	90%	100%	90%	0.15	A
N513 S1	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	239	201	75	63	90%	100%	90%	0.27	A
N513 S3	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	239	201	75	63	90%	100%	90%	0.27	A
R127/A M8	Street stair at northeast corner of Seventh Avenue and West 14th Street	12.50	11.25	746	252	233	79	90%	100%	80%	0.22	A
R127/A S8	Street stair at northeast corner of Seventh Avenue and West 14th Street	5.00	4.00	746	252	233	79	90%	100%	80%	0.61	B
R127/A M6	Street stair at southeast corner of Seventh Avenue and West 14th Street	12.00	10.75	427	269	133	84	90%	100%	80%	0.16	A
R127/A S6	Street stair at southeast corner of Seventh Avenue and West 14th Street	5.00	4.00	427	269	133	84	90%	100%	80%	0.44	A
R127/A M7	Street stair at northwest corner of Seventh Avenue and West 14th Street	12.50	11.25	476	132	149	41	90%	100%	80%	0.13	A
R127/A S7	Street stair at northwest corner of Seventh Avenue and West 14th Street	5.00	4.00	476	132	149	41	90%	100%	80%	0.37	A
R127/A M5	Street stair at southwest corner of Seventh Avenue and West 14th Street	12.00	10.75	434	421	136	132	90%	100%	80%	0.21	A
R127/A S5	Street stair at southwest corner of Seventh Avenue and West 14th Street	5.00	4.00	434	421	136	132	90%	100%	80%	0.56	B
R128A/B M3	Street stair at northwest corner of Seventh Avenue and West 12th Street	13.00	11.75	1	353	0	110	100%	100%	80%	0.08	A
R128A/B S3	Street stair at northwest corner of Seventh Avenue and West 12th Street	4.00	3.00	1	353	0	110	100%	100%	80%	0.31	A
R128A/B M4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	2	373	1	117	100%	100%	80%	0.25	A
R128A/B S4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	2	373	1	117	100%	100%	80%	0.25	A
R128 M2	Street stair at northeast corner of Seventh Avenue and West 12th Street	10.00	8.75	417	387	130	121	90%	100%	80%	0.24	A
R128 S2	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	417	387	130	121	90%	100%	80%	0.52	B
R128 M1	Street stair at northwest corner of Seventh Avenue and West 12th Street	10.00	8.75	328	469	103	147	90%	100%	80%	0.24	A
R128 S1	Street stair at northwest corner of Seventh Avenue and West 12th Street	5.00	4.00	328	469	103	147	90%	100%	80%	0.53	B
H003 ML1	Connecting stair between upper mezzanine and east platform	13.00	11.75	791	155	247	48	90%	80%	75%	0.23	A
H003 P4	Connecting stair between upper mezzanine and east platform	3.00	2.00	527	87	165	27	90%	80%	75%	0.90	C
H003 P5	Connecting stair between upper mezzanine and east platform	5.00	4.00	6	50	2	16	90%	80%	75%	0.04	A
H003 P6	Platform stair at Canarsie line under H003	5.00	4.00	271	56	85	18	90%	80%	75%	0.24	A
H003 P8	Platform stair at Canarsie line under N512	5.00	4.00	760	692	238	216	90%	80%	75%	1.08	D
H003 PL5	Connecting stair between West 14th Street Canarsie line and west platform	6.00	5.00	1157	415	362	130	90%	80%	75%	0.93	C
H003 PL4	Connecting stair between West 14th Street Canarsie line and east platform	6.00	5.00	805	755	252	236	90%	80%	75%	0.93	C

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
H003 PL6	Connecting stair between West 14th Street Canarsie line and east platform	8.00	7.00	805	755	252	236	90%	80%	75%	0.67	B
N510 P13-P14	Connecting stair between upper mezzanine and east platform	8.00	7.00	435	152	136	48	90%	75%	75%	0.26	A
N510 P15-P16	Connecting stair between upper mezzanine and east platform	8.00	7.00	186	185	58	58	90%	75%	75%	0.16	A
N510 P8	Connecting stair between upper mezzanine and east platform	7.00	6.00	11	86	3	27	90%	75%	75%	0.05	A
N511 P11-P12	Connecting stair between upper mezzanine and west platform	8.00	7.00	283	166	88	52	90%	75%	75%	0.20	A
N511 P7	Connecting stair between upper mezzanine and west platform	8.00	7.00	15	150	5	47	90%	75%	75%	0.07	A
N511 P9-P10	Connecting stair between upper mezzanine and west platform	8.00	7.00	499	259	156	81	90%	75%	75%	0.33	A
N512 P1	Connecting stair between upper mezzanine and west platform	6.00	5.00	500	407	156	127	90%	75%	75%	0.56	B
N512 P3	Connecting stair between upper mezzanine and west platform	6.00	5.00	304	235	95	73	90%	75%	75%	0.33	A
N512 P5	Connecting stair between upper mezzanine and west platform	6.00	5.00	10	287	3	90	100%	75%	75%	0.17	A
N513 P2	Connecting stair between upper mezzanine and east platform	6.00	5.00	245	156	77	49	90%	75%	75%	0.25	A
N513 P4	Connecting stair between upper mezzanine and east platform	7.00	6.00	303	130	95	41	90%	75%	75%	0.22	A
N513 P6	Connecting stair between upper mezzanine and east platform	6.00	5.00	6	90	2	28	90%	75%	75%	0.06	A
R127/A P8	Connecting stair between Control Area R127 and east platform	8.50	7.25	2035	1049	636	328	90%	75%	75%	1.31	D
R127/A P7	Connecting stair between Control Area R127 and west platform	8.50	7.25	825	1817	258	568	90%	75%	75%	1.13	D
R128A/B P5	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	50	252	16	79	90%	75%	75%	0.16	A
R128A/B P3	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	23	313	7	98	90%	75%	75%	0.17	A
R128A/B P4	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	33	251	10	78	90%	75%	75%	0.14	A
R128A/B P6	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	56	151	18	47	90%	75%	75%	0.11	A
R128 (12 St) P1	Connecting stair between Control Area R128 and west platform	8.50	7.25	208	617	65	193	90%	75%	75%	0.35	A
R128 (12 St) P2	Connecting stair between Control Area R128 and east platform	8.50	7.25	696	472	218	148	90%	75%	75%	0.50	B

Table 4C-15. No Action Alternative Level of Service Summary: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and West 16th Street – east side (N510)											
Two-Way Turnstiles	3	1,260	1,935	431	204	135	64	90%	90%	0.16	A
HEET	2	510	1,080	174	114	54	36	90%	90%	0.16	A
High Exit Only Turnstile	1	0	555	0	58	0	18	100%	90%	0.04	A
Sixth Avenue and West 16th Street – west side (N511)											
Two-Way Turnstiles	3	1,260	1,935	758	325	237	102	90%	90%	0.27	A
HEET	1	255	540	153	91	48	28	90%	90%	0.27	A
High Exit Only Turnstile	1	0	555	0	93	0	29	100%	90%	0.06	A
Sixth Avenue and West 14th Street – northwest corner (N512)											
Two-Way Turnstiles	4	1,680	2,580	2,133	770	667	241	90%	90%	0.56	B
Sixth Avenue and West 14th Street – northeast corner (N513)											
Two-Way Turnstiles	3	1,260	1,935	1,794	900	561	281	90%	90%	0.67	B
Sixth Avenue and West 14th Street – east side (H003)											
Two-Way Turnstiles	3	1,260	1,935	2,500	934	781	292	90%	90%	0.88	C
HEET	2	510	1,080	1,012	521	316	163	90%	90%	0.87	C
Seventh Avenue and West 14th Street – south side (R127)											
Two-Way Turnstiles	7	2,940	4,515	4,548	3,171	1,421	991	90%	90%	0.81	C
HEET	1	255	540	395	379	123	119	90%	90%	0.81	C
High Exit Only Turnstile	1	0	555	0	390	0	122	100%	90%	0.24	A
Seventh Avenue and West 12th Street – north side (R128A/B)											
High Exit Only Turnstile	2	0	1,110	0	1,693	0	529	100%	90%	0.53	B
Seventh Avenue and West 12th Street – north side (R128)											
Two-Way Turnstiles	6	2,520	3,870	1,162	1,511	363	472	90%	90%	0.31	A
High Exit Only Turnstile	2	0	1,110	0	434	0	135	100%	90%	0.14	A

Table 4C-16. CBD Tolling Alternative: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
N510 M16	Street stair at southeast corner of Sixth Avenue and West 16th Street	7.50	6.50	180	347	56	108	90%	100%	80%	0.22	A
N510 S9	Street stair at southeast corner of Sixth Avenue and West 16th Street	5.00	4.00	180	347	56	108	90%	100%	80%	0.35	A
N510 M18	Street stair at northeast corner of Sixth Avenue and West 16th Street	7.50	6.50	194	768	61	240	90%	100%	80%	0.41	A
N510 S11	Street stair at northeast corner of Sixth Avenue and West 16th Street	5.00	4.00	194	768	61	240	90%	100%	80%	0.67	B
N511 M15	Street stair at southwest corner of Sixth Avenue and West 16th Street	7.00	6.00	31	154	10	48	90%	100%	80%	0.09	A
N511 S8	Street stair at southwest corner of Sixth Avenue and West 16th Street	5.50	4.50	31	154	10	48	90%	100%	80%	0.12	A
N511 M17	Street stair at northwest corner of Sixth Avenue and West 16th Street	7.00	6.00	54	570	17	178	90%	100%	80%	0.30	A
N511 S10	Street stair at northwest corner of Sixth Avenue and West 16th Street	5.00	4.00	54	570	17	178	90%	100%	80%	0.44	A
N512 M11	Street stair at northwest corner of Sixth Avenue and West 14th Street	9.00	7.75	58	44	18	14	90%	100%	90%	0.03	A
N512 S5	Street stair at northwest corner of Sixth Avenue and West 14th Street	5.00	4.00	58	44	18	14	90%	100%	90%	0.06	A
N512 M13	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.50	5.50	122	442	38	138	90%	100%	90%	0.26	A
N512 S7	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.00	5.00	122	442	38	138	90%	100%	90%	0.28	A
N512 M9	Street stair at southwest corner of Sixth Avenue and West 14th Street	9.00	7.75	37	3	12	1	90%	100%	90%	0.01	A
N512 S4	Street stair at southwest corner of Sixth Avenue and West 14th Street	6.00	5.00	37	3	12	1	90%	100%	90%	0.02	A
W44-W45	Street stair at southwest corner of Sixth Avenue and West 14th Street	7.00	6.00	231	156	72	49	90%	100%	90%	0.16	A
N513 M3	Street stair at southeast corner of Sixth Avenue and West 14th Street	11.00	9.75	442	336	138	105	90%	100%	90%	0.19	A
N513 M6	Street stair at northeast corner of Sixth Avenue and West 14th Street	16.00	14.75	292	804	91	251	90%	100%	90%	0.19	A
N513 S1	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	146	402	45	125	90%	100%	90%	0.34	A
N513 S3	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	146	402	45	125	90%	100%	90%	0.34	A
R127/A M8	Street stair at northeast corner of Seventh Avenue and West 14th Street	12.50	11.25	434	332	136	104	90%	100%	80%	0.18	A
R127/A S8	Street stair at northeast corner of Seventh Avenue and West 14th Street	5.00	4.00	434	332	136	104	90%	100%	80%	0.49	B
R127/A M6	Street stair at southeast corner of Seventh Avenue and West 14th Street	12.00	10.75	158	334	49	104	90%	100%	80%	0.12	A
R127/A S6	Street stair at southeast corner of Seventh Avenue and West 14th Street	5.00	4.00	158	334	49	104	90%	100%	80%	0.33	A
R127/A M7	Street stair at northwest corner of Seventh Avenue and West 14th Street	12.50	11.25	272	267	85	83	90%	100%	80%	0.12	A
R127/A S7	Street stair at northwest corner of Seventh Avenue and West 14th Street	5.00	4.00	272	267	85	83	90%	100%	80%	0.35	A
R127/A M5	Street stair at southwest corner of Seventh Avenue and West 14th Street	12.00	10.75	194	509	61	159	90%	100%	80%	0.18	A
R127/A S5	Street stair at southwest corner of Seventh Avenue and West 14th Street	5.00	4.00	194	509	61	159	90%	100%	80%	0.48	B
R128A/B M3	Street stair at northwest corner of Seventh Avenue and West 12th Street	13.00	11.75	1	322	0	101	100%	100%	80%	0.07	A
R128A/B S3	Street stair at northwest corner of Seventh Avenue and West 12th Street	4.00	3.00	1	322	0	101	100%	100%	80%	0.28	A
R128A/B M4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	3	302	1	94	100%	100%	80%	0.20	A
R128A/B S4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	3	302	1	94	100%	100%	80%	0.20	A
R128 M2	Street stair at northeast corner of Seventh Avenue and West 12th Street	10.00	8.75	310	375	97	117	90%	100%	80%	0.21	A
R128 S2	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	310	375	97	117	90%	100%	80%	0.45	B
R128 M1	Street stair at northwest corner of Seventh Avenue and West 12th Street	10.00	8.75	554	273	173	85	90%	100%	80%	0.24	A
R128 S1	Street stair at northwest corner of Seventh Avenue and West 12th Street	5.00	4.00	554	273	173	85	90%	100%	80%	0.52	B
H003 ML1	Connecting stair between upper mezzanine and east platform	13.00	11.75	293	552	92	173	90%	80%	75%	0.22	A
H003 P4	Connecting stair between upper mezzanine and east platform	3.00	2.00	173	224	54	70	90%	80%	75%	0.60	B
H003 P5	Connecting stair between upper mezzanine and east platform	5.00	4.00	8	111	3	35	90%	80%	75%	0.09	A
H003 P6	Platform stair at Canarsie line under H003	5.00	4.00	140	233	44	73	90%	80%	75%	0.28	A
H003 P8	Platform stair at Canarsie line under N512	5.00	4.00	406	1497	127	468	90%	80%	75%	1.45	E
H003 P9	Platform stair at Canarsie line under N512	6.00	5.00	377	725	118	227	90%	80%	75%	0.67	B
H003 PL4	Connecting stair between West 14th Street Canarsie line and east platform	6.00	5.00	416	2439	130	762	90%	80%	75%	1.75	F

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
H003 PL6	Connecting stair between West 14th Street Canarsie line and east platform	8.00	7.00	416	2438	130	762	90%	80%	75%	1.25	D
N510 P13-P14	Connecting stair between upper mezzanine and east platform	8.00	7.00	250	648	78	203	90%	75%	75%	0.40	A
N510 P15-P16	Connecting stair between upper mezzanine and east platform	8.00	7.00	125	298	39	93	90%	75%	75%	0.19	A
N510 P8	Connecting stair between upper mezzanine and east platform	7.00	6.00	4	244	1	76	100%	75%	75%	0.11	A
N511 P11-P12	Connecting stair between upper mezzanine and west platform	8.00	7.00	49	182	15	57	90%	75%	75%	0.10	A
N511 P7	Connecting stair between upper mezzanine and west platform	8.00	7.00	5	131	2	41	100%	75%	75%	0.05	A
N511 P9-P10	Connecting stair between upper mezzanine and west platform	8.00	7.00	43	269	13	84	90%	75%	75%	0.14	A
N512 P1	Connecting stair between upper mezzanine and west platform	6.00	5.00	118	708	37	221	90%	75%	75%	0.51	B
N512 P3	Connecting stair between upper mezzanine and west platform	6.00	5.00	84	253	26	79	90%	75%	75%	0.21	A
N512 P5	Connecting stair between upper mezzanine and west platform	6.00	5.00	2	151	1	47	100%	75%	75%	0.09	A
N513 P2	Connecting stair between upper mezzanine and east platform	6.00	5.00	153	263	48	82	90%	75%	75%	0.26	A
N513 P4	Connecting stair between upper mezzanine and east platform	7.00	6.00	299	260	93	81	90%	75%	75%	0.29	A
N513 P6	Connecting stair between upper mezzanine and east platform	6.00	5.00	7	126	2	39	100%	75%	75%	0.07	A
R127/A P8	Connecting stair between Control Area R127 and east platform	8.50	7.25	1828	471	571	147	90%	75%	75%	0.98	C
R127/A P7	Connecting stair between Control Area R127 and west platform	8.50	7.25	1273	1891	398	591	90%	75%	75%	1.35	E
R128A/B P5	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	20	160	6	50	90%	75%	75%	0.09	A
R128A/B P3	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	15	350	5	109	100%	75%	75%	0.17	A
R128A/B P4	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	39	144	12	45	90%	75%	75%	0.09	A
R128A/B P6	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	57	80	18	25	90%	75%	75%	0.07	A
R128 (12 St) P1	Connecting stair between Control Area R128 and west platform	8.50	7.25	302	510	94	159	90%	75%	75%	0.34	A
R128 (12 St) P2	Connecting stair between Control Area R128 and east platform	8.50	7.25	683	190	213	59	90%	75%	75%	0.37	A

Table 4C-17. CBD Tolling Alternative: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and West 16th Street – east side (N510)											
Two-Way Turnstiles	3	1,260	1,935	266	605	83	189	90%	90%	0.19	A
HEET	2	510	1,080	108	338	34	106	90%	90%	0.20	A
High Exit Only Turnstile	1	0	555	0	173	0	54	100%	90%	0.11	A
Sixth Avenue and West 16th Street – west side (N511)											
Two-Way Turnstiles	3	1,260	1,935	71	462	22	144	90%	90%	0.11	A
HEET	1	255	540	14	129	4	40	90%	90%	0.11	A
High Exit Only Turnstile	1	0	555	0	133	0	41	100%	90%	0.08	A
Sixth Avenue and West 14th Street – northwest corner (N512)											
Two-Way Turnstiles	4	1,680	2,580	447	646	140	202	90%	90%	0.19	A
Sixth Avenue and West 14th Street – northeast corner (N513)											
Two-Way Turnstiles	3	1,260	1,935	1,181	1,763	369	551	90%	90%	0.68	B
Sixth Avenue and West 14th Street – east side (H003)											
Two-Way Turnstiles	3	1,260	1,935	971	2,114	303	661	90%	90%	0.69	B
HEET	2	510	1,080	393	1,180	123	369	90%	90%	0.69	B
Seventh Avenue and West 14th Street – south side (R127)											
Two-Way Turnstiles	7	2,940	4,515	3,790	3,031	1,184	947	90%	90%	0.71	C
HEET	1	255	540	329	363	103	113	90%	90%	0.71	C
High Exit Only Turnstile	1	0	555	0	373	0	116	100%	90%	0.23	A
Seventh Avenue and West 12th Street – north side (R128A/B)											
High Exit Only Turnstile	2	0	1,110	0	1,355	0	423	100%	90%	0.42	A
Seventh Avenue and West 12th Street – north side (R128)											
Two-Way Turnstiles	6	2,520	3,870	1,169	1,037	365	324	90%	90%	0.26	A
High Exit Only Turnstile	2	0	1,110	0	297	0	93	100%	90%	0.09	A

Table 4C-18. CBD Tolling Alternative: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
N510 M16	Street stair at southeast corner of Sixth Avenue and West 16th Street	7.50	6.50	160	166	50	52	90%	100%	80%	0.13	A
N510 S9	Street stair at southeast corner of Sixth Avenue and West 16th Street	5.00	4.00	160	166	50	52	90%	100%	80%	0.21	A
N510 M18	Street stair at northeast corner of Sixth Avenue and West 16th Street	7.50	6.50	460	220	144	69	90%	100%	80%	0.26	A
N510 S11	Street stair at northeast corner of Sixth Avenue and West 16th Street	5.00	4.00	460	220	144	69	90%	100%	80%	0.43	A
N511 M15	Street stair at southwest corner of Sixth Avenue and West 16th Street	7.00	6.00	159	209	50	65	90%	100%	80%	0.16	A
N511 S8	Street stair at southwest corner of Sixth Avenue and West 16th Street	5.50	4.50	159	209	50	65	90%	100%	80%	0.22	A
N511 M17	Street stair at northwest corner of Sixth Avenue and West 16th Street	7.00	6.00	755	306	236	96	90%	100%	80%	0.44	A
N511 S10	Street stair at northwest corner of Sixth Avenue and West 16th Street	5.00	4.00	755	306	236	96	90%	100%	80%	0.66	B
N512 M11	Street stair at northwest corner of Sixth Avenue and West 14th Street	9.00	7.75	191	101	60	32	90%	100%	90%	0.09	A
N512 S5	Street stair at northwest corner of Sixth Avenue and West 14th Street	5.00	4.00	191	101	60	32	90%	100%	90%	0.18	A
N512 M13	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.50	5.50	987	577	308	180	90%	100%	90%	0.68	B
N512 S7	Street stair at northwest corner of Sixth Avenue and West 14th Street	6.00	5.00	987	577	308	180	90%	100%	90%	0.75	C
N512 M9	Street stair at southwest corner of Sixth Avenue and West 14th Street	9.00	7.75	114	13	36	4	90%	100%	90%	0.04	A
N512 S4	Street stair at southwest corner of Sixth Avenue and West 14th Street	6.00	5.00	114	13	36	4	90%	100%	90%	0.06	A
W44-W45	Street stair at southwest corner of Sixth Avenue and West 14th Street	7.00	6.00	858	84	268	26	90%	100%	90%	0.37	A
N513 M3	Street stair at southeast corner of Sixth Avenue and West 14th Street	11.00	9.75	780	125	244	39	90%	100%	90%	0.22	A
N513 M6	Street stair at northeast corner of Sixth Avenue and West 14th Street	16.00	14.75	490	410	153	128	90%	100%	90%	0.15	A
N513 S1	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	245	205	77	64	90%	100%	90%	0.27	A
N513 S3	Street stair at northeast corner of Sixth Avenue and West 14th Street	5.00	4.00	245	205	77	64	90%	100%	90%	0.27	A
R127/A M8	Street stair at northeast corner of Seventh Avenue and West 14th Street	12.50	11.25	764	255	239	80	90%	100%	80%	0.22	A
R127/A S8	Street stair at northeast corner of Seventh Avenue and West 14th Street	5.00	4.00	764	255	239	80	90%	100%	80%	0.63	B
R127/A M6	Street stair at southeast corner of Seventh Avenue and West 14th Street	12.00	10.75	433	272	135	85	90%	100%	80%	0.17	A
R127/A S6	Street stair at southeast corner of Seventh Avenue and West 14th Street	5.00	4.00	433	272	135	85	90%	100%	80%	0.45	A
R127/A M7	Street stair at northwest corner of Seventh Avenue and West 14th Street	12.50	11.25	487	135	152	42	90%	100%	80%	0.13	A
R127/A S7	Street stair at northwest corner of Seventh Avenue and West 14th Street	5.00	4.00	487	135	152	42	90%	100%	80%	0.38	A
R127/A M5	Street stair at southwest corner of Seventh Avenue and West 14th Street	12.00	10.75	442	426	138	133	90%	100%	80%	0.21	A
R127/A S5	Street stair at southwest corner of Seventh Avenue and West 14th Street	5.00	4.00	442	426	138	133	90%	100%	80%	0.56	B
R128A/B M3	Street stair at northwest corner of Seventh Avenue and West 12th Street	13.00	11.75	1	356	0	111	100%	100%	80%	0.08	A
R128A/B S3	Street stair at northwest corner of Seventh Avenue and West 12th Street	4.00	3.00	1	356	0	111	100%	100%	80%	0.31	A
R128A/B M4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	2	376	1	118	100%	100%	80%	0.25	A
R128A/B S4	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	2	376	1	118	100%	100%	80%	0.25	A
R128 M2	Street stair at northeast corner of Seventh Avenue and West 12th Street	10.00	8.75	430	391	134	122	90%	100%	80%	0.24	A
R128 S2	Street stair at northeast corner of Seventh Avenue and West 12th Street	5.00	4.00	430	391	134	122	90%	100%	80%	0.53	B
R128 M1	Street stair at northwest corner of Seventh Avenue and West 12th Street	10.00	8.75	350	472	109	148	90%	100%	80%	0.25	A
R128 S1	Street stair at northwest corner of Seventh Avenue and West 12th Street	5.00	4.00	350	472	109	148	90%	100%	80%	0.54	B
H003 ML1	Connecting stair between upper mezzanine and east platform	13.00	11.75	801	159	250	50	90%	80%	75%	0.24	A
H003 P4	Connecting stair between upper mezzanine and east platform	3.00	2.00	529	88	165	28	90%	80%	75%	0.90	C
H003 P5	Connecting stair between upper mezzanine and east platform	5.00	4.00	7	51	2	16	90%	80%	75%	0.04	A
H003 P6	Platform stair at Canarsie line under H003	5.00	4.00	278	59	87	18	90%	80%	75%	0.25	A
H003 P8	Platform stair at Canarsie line under N512	5.00	4.00	795	709	248	222	90%	80%	75%	1.12	D
H003 P9	Platform stair at Canarsie line under N512	6.00	5.00	1168	418	365	131	90%	80%	75%	0.93	C
H003 PL4	Connecting stair between West 14th Street Canarsie line and east platform	6.00	5.00	823	797	257	249	90%	80%	75%	0.97	C

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
H003 PL6	Connecting stair between West 14th Street Canarsie line and east platform	8.00	7.00	823	796	257	249	90%	80%	75%	0.69	B
N510 P13-P14	Connecting stair between upper mezzanine and east platform	8.00	7.00	440	156	138	49	90%	75%	75%	0.26	A
N510 P15-P16	Connecting stair between upper mezzanine and east platform	8.00	7.00	191	187	60	58	90%	75%	75%	0.17	A
N510 P8	Connecting stair between upper mezzanine and east platform	7.00	6.00	11	88	3	28	90%	75%	75%	0.05	A
N511 P11-P12	Connecting stair between upper mezzanine and west platform	8.00	7.00	285	167	89	52	90%	75%	75%	0.20	A
N511 P7	Connecting stair between upper mezzanine and west platform	8.00	7.00	17	151	5	47	90%	75%	75%	0.07	A
N511 P9-P10	Connecting stair between upper mezzanine and west platform	8.00	7.00	501	261	157	82	90%	75%	75%	0.34	A
N512 P1	Connecting stair between upper mezzanine and west platform	6.00	5.00	502	409	157	128	90%	75%	75%	0.56	B
N512 P3	Connecting stair between upper mezzanine and west platform	6.00	5.00	306	236	96	74	90%	75%	75%	0.34	A
N512 P5	Connecting stair between upper mezzanine and west platform	6.00	5.00	12	288	4	90	100%	75%	75%	0.17	A
N513 P2	Connecting stair between upper mezzanine and east platform	6.00	5.00	261	159	82	50	90%	75%	75%	0.26	A
N513 P4	Connecting stair between upper mezzanine and east platform	7.00	6.00	309	133	97	42	90%	75%	75%	0.23	A
N513 P6	Connecting stair between upper mezzanine and east platform	6.00	5.00	6	92	2	29	90%	75%	75%	0.06	A
R127/A P8	Connecting stair between Control Area R127 and east platform	8.50	7.25	2073	1056	648	330	90%	75%	75%	1.33	E
R127/A P7	Connecting stair between Control Area R127 and west platform	8.50	7.25	856	1831	268	572	90%	75%	75%	1.14	D
R128A/B P5	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	50	252	16	79	90%	75%	75%	0.16	A
R128A/B P3	Connecting stair between Control Area R128A/B and west platform	7.00	6.00	23	313	7	98	90%	75%	75%	0.17	A
R128A/B P4	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	33	252	10	79	90%	75%	75%	0.15	A
R128A/B P6	Connecting stair between Control Area R128A/B and east platform	7.00	6.00	56	152	18	48	90%	75%	75%	0.11	A
R128 (12 St) P1	Connecting stair between Control Area R128 and west platform	8.50	7.25	223	621	70	194	90%	75%	75%	0.36	A
R128 (12 St) P2	Connecting stair between Control Area R128 and east platform	8.50	7.25	716	475	224	148	90%	75%	75%	0.51	B

Table 4C-19. CBD Tolling Alternative: 14th Street Sixth/Seventh Avenue Station (Nos. 1, 2, 3, and F, M, L lines)– Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and West 16th Street – east side (N510)											
Two-Way Turnstiles	3	1,260	1,935	441	210	138	66	90%	90%	0.16	A
HEET	2	510	1,080	179	117	56	37	90%	90%	0.16	A
High Exit Only Turnstile	1	0	555	0	60	0	19	100%	90%	0.04	A
Sixth Avenue and West 16th Street – west side (N511)											
Two-Way Turnstiles	3	1,260	1,935	760	330	238	103	90%	90%	0.28	A
HEET	1	255	540	154	92	48	29	90%	90%	0.28	A
High Exit Only Turnstile	1	0	555	0	95	0	30	100%	90%	0.06	A
Sixth Avenue and West 14th Street – northwest corner (N512)											
Two-Way Turnstiles	4	1,680	2,580	2,151	776	672	243	90%	90%	0.56	B
Sixth Avenue and West 14th Street – northeast corner (N513)											
Two-Way Turnstiles	3	1,260	1,935	1,814	907	567	283	90%	90%	0.68	B
Sixth Avenue and West 14th Street – east side (H003)											
Two-Way Turnstiles	3	1,260	1,935	2,507	936	783	293	90%	90%	0.88	C
HEET	2	510	1,080	1,015	523	317	163	90%	90%	0.88	C
Seventh Avenue and West 14th Street – south side (R127)											
Two-Way Turnstiles	7	2,940	4,515	4,588	3,182	1,434	994	90%	90%	0.81	C
HEET	1	255	540	398	381	124	119	90%	90%	0.81	C
High Exit Only Turnstile	1	0	555	0	391	0	122	100%	90%	0.24	A
Seventh Avenue and West 12th Street – north side (R128A/B)											
High Exit Only Turnstile	2	0	1,110	0	1,699	0	531	100%	90%	0.53	B
Seventh Avenue and West 12th Street – north side (R128)											
Two-Way Turnstiles	6	2,520	3,870	1,197	1,516	374	474	90%	90%	0.32	A
High Exit Only Turnstile	2	0	1,110	0	435	0	136	100%	90%	0.14	A

Table 4C-20. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
BMT S3	Street stair at southeast corner of Union Square West and East 16th Street	10.00	8.75	192	1,367	60	427	90%	100%	95%	0.43	A
BMT S4	Street stair at northeast corner of Union Square West and East 16th Street	10.00	8.75	615	3,219	192	1,006	90%	100%	95%	1.06	D
M1/M4/S1	Street stair at northwest corner of Broadway and East 14th Street	5.00	4.00	187	568	58	178	90%	100%	95%	0.45	B
M2/M3/S2	Street stair at northeast corner of University Place and East 14th Street	5.00	4.00	321	762	100	238	90%	100%	95%	0.65	B
IRT O1/O2	Street stair at southeast corner of Union Square East and East 15th Street	10.00	8.75	1,054	1,604	329	501	90%	100%	95%	0.72	C
IRT O3/O4	Street stair at Northeast Corner of Fourth Ave and East 14th Street	7.00	5.75	543	233	170	73	90%	100%	95%	0.32	A
BMT S5	Street stair at northeast corner of Union Square West and East 14th Street	10.00	8.75	682	2,489	213	778	90%	100%	95%	0.87	C
BMT S6	Street stair at southwest corner of Union Square East and East 15th Street	19.00	17.25	278	794	87	248	90%	100%	95%	0.15	A
IRT S1	Street stair at northeast corner of Broadway and East 14th Street	5.00	4.00	144	668	45	209	90%	100%	80%	0.57	B
IRT S2	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	562	407	176	127	90%	100%	80%	0.55	B
IRT S3	Street stair at northwest corner of Fourth Avenue and East 14th Street	5.00	4.00	155	308	48	96	90%	100%	80%	0.31	A
IRT S4	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	642	289	201	90	90%	100%	80%	0.52	B
BMT P1	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	287	2,007	90	627	90%	90%	75%	0.84	C
BMT P2	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	958	758	299	237	90%	90%	75%	0.58	B
BMT P3	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	1,049	687	328	215	90%	90%	75%	0.58	B
BMT P4	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	2,633	832	823	260	90%	90%	75%	1.13	D
BMT P5	Connecting stair between A34 paid zone and downtown BMT platform	5.50	4.50	185	1,049	58	328	90%	90%	75%	0.83	C
BMT P6	Connecting stair between A34 paid zone and uptown BMT platform	5.50	4.50	366	1,212	114	379	90%	90%	75%	1.04	D
BMT P11	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	29	892	9	279	100%	90%	75%	0.29	A
BMT P12	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	106	1,011	33	316	90%	90%	75%	0.39	A
BMT P13	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	152	1,764	48	551	90%	90%	75%	0.67	B
BMT P14	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	505	965	158	302	90%	90%	75%	0.49	B
IRT ML2	Connecting stair at IRT mezzanine in A35 paid zone	13.50	12.00	1,545	2,522	483	788	90%	90%	75%	0.98	C
CAN ML4	Connecting stair between A37 paid zone and west landing	12.00	10.75	162	4,035	51	1,261	100%	90%	75%	1.08	D
CAN ML5	Connecting stair between R221A paid zone and lower east landing	17.50	15.00	1,251	3,356	391	1,049	90%	90%	75%	0.91	C
ML6	Connecting stair between R221A paid zone and lower east landing	12.50	11.00	1,251	3,356	391	1,049	90%	90%	75%	1.23	D
IRT P1	Connecting stair between R221 paid zone and uptown IRT platform	6.50	5.50	2,000	1,604	625	501	90%	90%	75%	1.83	F
IRT P5	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	641	509	200	159	90%	90%	75%	0.64	B
IRT P6	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	2,101	500	657	156	90%	90%	75%	1.54	E
IRT P8	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	1,769	1,479	553	462	90%	90%	75%	1.82	F
IRT P9	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	1,506	287	471	90	90%	90%	75%	1.06	D
IRT P10	Connecting stair between R221 paid zone and downtown IRT platform	5.00	4.00	50	1,131	16	353	100%	90%	75%	0.81	C
IRT P11	Connecting stair between A35 paid zone and uptown IRT platform	4.00	3.00	1,142	326	357	102	90%	90%	75%	1.32	D
IRT P12	Connecting stair between A35 paid zone and uptown IRT platform	5.50	4.50	3,931	345	1,228	108	90%	90%	75%	2.48	F
IRT P12ABC	Connecting stair between A35 paid zone and downtown IRT platform	12.00	10.50	1,536	1,453	480	454	90%	90%	75%	0.80	C
IRT P15	Connecting stair between A35 paid zone and downtown IRT platform	6.00	5.00	9	1,069	3	334	100%	90%	75%	0.60	B
CAN P2	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	314	2,236	98	699	90%	90%	75%	1.14	D
CAN P3	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	937	1,120	293	350	90%	90%	75%	0.87	C

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
CAN P5/P6	Connecting stair between uptown BMT platform and Canarsie line platform	5.00	4.00	1,054	2,754	329	861	90%	80%	75%	2.89	F
CAN P7/P8	Connecting stair between downtown BMT platform and Canarsie line platform	5.00	4.00	736	2,198	230	687	90%	80%	75%	2.23	F
CAN P11	Connecting stair between west landing and Canarsie line platform	4.50	3.50	54	2,066	17	646	100%	90%	75%	1.68	F
CAN P12	Connecting stair between west landing and Canarsie line platform	4.50	3.50	108	1,969	34	615	100%	90%	75%	1.63	E

Table 4C-21. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E257X	Street escalator connecting R221 free zone to street	1	40	95%	0	1,700	0	531	945	0.59	B
E219	Connecting escalator between R221A paid zone and Canarsie line platform	1	32	75%	0	2,496	0	780	825	1.26	D

Table 4C-22. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Union Square West and East 16th Street - southeast corner (A34-East)											
Two-Way Turnstiles	3	1,260	1,935	341	1,245	107	389	90%	90%	0.34	A
Union Square West and East 16th Street - southeast corner (A34-South)											
Two-Way Turnstiles	3	1,260	1,935	341	1,245	107	389	90%	90%	0.34	A
Union Square East and East 15th Street - southeast corner (A35)											
Two-Way Turnstiles	5	2,100	3,225	1,054	1,604	329	501	90%	90%	0.37	A
Union Square East and East 15th Street - southwest corner (A36)											
Two-Way Turnstiles	4	1,680	2,580	278	794	87	248	90%	90%	0.18	A
Broadway and East 14th Street - northwest corner (A37)											
Two-Way Turnstiles	4	1,680	2,580	299	803	93	251	90%	90%	0.18	A
High Exit Only Turnstile	1	0	555	0	173	0	54	100%	90%	0.11	A
Fourth Avenue and East 14th Street - northwest corner (R221A-North)											
Two-Way Turnstiles	3	1,260	1,935	150	488	47	153	90%	90%	0.14	A
Fourth Avenue and East 14th Street - northwest corner (R221A-East)											
Two-Way Turnstiles	2	840	1,290	150	488	47	153	90%	90%	0.21	A
Fourth Avenue and East 14th Street - northeast corner (R221)											
Two-Way Turnstiles	7	2,940	4,515	2,571	2,629	803	822	90%	90%	0.53	B
Union Square West and East 16th Street - southeast corner (A33)											
Two-Way Turnstiles	6	2,520	3,870	671	2,929	210	915	90%	90%	0.38	A
HEET	2	510	1,080	136	817	43	255	90%	90%	0.39	A
High Exit Only Turnstile	2	0	1,110	0	840	0	263	100%	90%	0.26	A

Table 4C-23. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
BMT S3	Street stair at southeast corner of Union Square West and East 16th Street	10.00	8.75	722	1,006	226	314	90%	100%	95%	0.47	B
BMT S4	Street stair at northeast corner of Union Square West and East 16th Street	10.00	8.75	3,425	1,777	1,070	555	90%	100%	95%	1.40	E
M1/M4/S1	Street stair at northwest corner of Broadway and East 14th Street	5.00	4.00	856	357	268	112	90%	100%	95%	0.71	C
M2/M3/S2	Street stair at northeast corner of University Place and East 14th Street	5.00	4.00	1,268	442	396	138	90%	100%	95%	1.00	D
IRT O1/O2	Street stair at southeast corner of Union Square East and East 15th Street	10.00	8.75	1,344	975	420	305	90%	100%	95%	0.63	B
IRT O3/O4	Street stair at Northeast Corner of Fourth Ave and East 14th Street	7.00	5.75	233	543	73	170	90%	100%	95%	0.32	A
BMT S5	Street stair at northeast corner of Union Square West and East 14th Street	10.00	8.75	2,580	2,265	806	708	90%	100%	95%	1.31	D
BMT S6	Street stair at southwest corner of Union Square East and East 15th Street	19.00	17.25	944	550	295	172	90%	100%	95%	0.20	A
IRT S1	Street stair at northeast corner of Broadway and East 14th Street	5.00	4.00	517	664	162	208	90%	100%	80%	0.78	C
IRT S2	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	494	708	154	221	90%	100%	80%	0.71	C
IRT S3	Street stair at northwest corner of Fourth Avenue and East 14th Street	5.00	4.00	361	434	113	136	90%	100%	80%	0.52	B
IRT S4	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	475	509	148	159	90%	100%	80%	0.57	B
BMT P1	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	1,698	856	531	268	90%	90%	75%	0.85	C
BMT P2	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	2,202	398	688	124	90%	90%	75%	0.83	C
BMT P3	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	2,010	521	628	163	90%	90%	75%	0.82	C
BMT P4	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	2,047	277	640	87	90%	90%	75%	0.74	C
BMT P5	Connecting stair between A34 paid zone and downtown BMT platform	5.50	4.50	643	1,292	201	404	90%	90%	75%	1.25	D
BMT P6	Connecting stair between A34 paid zone and uptown BMT platform	5.50	4.50	369	741	115	232	90%	90%	75%	0.72	C
BMT P11	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	190	698	59	218	90%	90%	75%	0.30	A
BMT P12	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	206	452	64	141	90%	90%	75%	0.22	A
BMT P13	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	1,754	1,790	548	559	90%	90%	75%	1.15	D
BMT P14	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	2,197	373	687	117	90%	90%	75%	0.78	C
IRT ML2	Connecting stair at IRT mezzanine in A35 paid zone	13.50	12.00	1,535	3,628	480	1,134	90%	90%	75%	1.26	D
CAN ML4	Connecting stair between A37 paid zone and west landing	12.00	10.75	1,166	1,548	364	484	90%	90%	75%	0.72	C
CAN ML5	Connecting stair between R221A paid zone and lower east landing	17.50	15.00	4,638	844	1,449	264	90%	90%	75%	0.97	C
ML6	Connecting stair between R221A paid zone and lower east landing	12.50	11.00	4,638	844	1,449	264	90%	90%	75%	1.32	D
IRT P1	Connecting stair between R221 paid zone and uptown IRT platform	6.50	5.50	1,224	2,276	383	711	90%	90%	75%	1.85	F
IRT P5	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	627	882	196	276	90%	90%	75%	0.87	C
IRT P6	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	743	668	232	209	90%	90%	75%	0.88	C
IRT P8	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	334	2,706	104	846	90%	90%	75%	1.84	F
IRT P9	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	844	326	264	102	90%	90%	75%	0.71	C
IRT P10	Connecting stair between R221 paid zone and downtown IRT platform	5.00	4.00	53	1,994	17	623	100%	90%	75%	1.42	E
IRT P11	Connecting stair between A35 paid zone and uptown IRT platform	4.00	3.00	517	242	162	76	90%	90%	75%	0.69	B
IRT P12	Connecting stair between A35 paid zone and uptown IRT platform	5.50	4.50	2,593	205	810	64	90%	90%	75%	1.62	E
IRT P12ABC	Connecting stair between A35 paid zone and downtown IRT platform	12.00	10.50	1,517	2,070	474	647	90%	90%	75%	0.98	C
IRT P15	Connecting stair between A35 paid zone and downtown IRT platform	6.00	5.00	18	1,558	6	487	100%	90%	75%	0.87	C
CAN P2	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	2,155	551	673	172	90%	90%	75%	1.07	D
CAN P3	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	2,483	294	776	92	90%	90%	75%	1.08	D

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
CAN P5/P6	Connecting stair between uptown BMT platform and Canarsie line platform	5.00	4.00	2,873	829	898	259	90%	80%	75%	2.72	F
CAN P7/P8	Connecting stair between downtown BMT platform and Canarsie line platform	5.00	4.00	2,977	733	930	229	90%	80%	75%	2.72	F
CAN P11	Connecting stair between west landing and Canarsie line platform	4.50	3.50	460	825	144	258	90%	90%	75%	1.07	D
CAN P12	Connecting stair between west landing and Canarsie line platform	4.50	3.50	706	723	221	226	90%	90%	75%	1.16	D

Table 4C-24. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E257X	Street escalator connecting R221 free zone to street	1	40	95%	0	1,118	0	349	945	0.39	A
E219	Connecting escalator between R221A paid zone and Canarsie line platform	1	32	75%	0	815	0	255	825	0.41	A

Table 4C-25. Existing Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Union Square West and East 16th Street - southeast corner (A34-East)											
Two-Way Turnstiles	3	1,260	1,935	1,290	1,133	403	354	90%	90%	0.58	B
Union Square West and East 16th Street - southeast corner (A34-South)											
Two-Way Turnstiles	3	1,260	1,935	1,290	1,132	403	354	90%	90%	0.58	B
Union Square East and East 15th Street - southeast corner (A35)											
Two-Way Turnstiles	5	2,100	3,225	1,344	975	420	305	90%	90%	0.34	A
Union Square East and East 15th Street - southwest corner (A36)											
Two-Way Turnstiles	4	1,680	2,580	944	550	295	172	90%	90%	0.28	A
Broadway and East 14th Street - northwest corner (A37)											
Two-Way Turnstiles	4	1,680	2,580	878	904	274	283	90%	90%	0.32	A
High Exit Only Turnstile	1	0	555	0	194	0	61	100%	90%	0.12	A
Fourth Avenue and East 14th Street - northwest corner (R221A-North)											
Two-Way Turnstiles	3	1,260	1,935	439	549	137	172	90%	90%	0.23	A
Fourth Avenue and East 14th Street - northwest corner (R221A-East)											
Two-Way Turnstiles	2	840	1,290	439	549	137	172	90%	90%	0.35	A
Fourth Avenue and East 14th Street - northeast corner (R221)											
Two-Way Turnstiles	7	2,940	4,515	1,202	2,878	376	899	90%	90%	0.39	A
Union Square West and East 16th Street - southeast corner (A33)											
Two-Way Turnstiles	6	2,520	3,870	3,449	1,777	1,078	555	90%	90%	0.65	B
HEET	2	510	1,080	698	496	218	155	90%	90%	0.65	B
High Exit Only Turnstile	2	0	1,110	0	510	0	159	100%	90%	0.16	A

Table 4C-26. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
BMT S3	Street stair at southeast corner of Union Square West and East 16th Street	10.00	8.75	192	1,367	60	427	90%	100%	95%	0.43	A
BMT S4	Street stair at northeast corner of Union Square West and East 16th Street	10.00	8.75	615	3,219	192	1,006	90%	100%	95%	1.06	D
M1/M4/S1	Street stair at northwest corner of Broadway and East 14th Street	5.00	4.00	187	568	58	178	90%	100%	95%	0.45	B
M2/M3/S2	Street stair at northeast corner of University Place and East 14th Street	5.00	4.00	321	762	100	238	90%	100%	95%	0.65	B
IRT O1/O2	Street stair at southeast corner of Union Square East and East 15th Street	10.00	8.75	1,054	1,604	329	501	90%	100%	95%	0.72	C
IRT O3/O4	Street stair at Northeast Corner of Fourth Ave and East 14th Street	7.00	5.75	543	233	170	73	90%	100%	95%	0.32	A
BMT S5	Street stair at northeast corner of Union Square West and East 14th Street	10.00	8.75	682	2,489	213	778	90%	100%	95%	0.87	C
BMT S6	Street stair at southwest corner of Union Square East and East 15th Street	19.00	17.25	278	794	87	248	90%	100%	95%	0.15	A
IRT S1	Street stair at northeast corner of Broadway and East 14th Street	5.00	4.00	144	668	45	209	90%	100%	80%	0.57	B
IRT S2	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	562	407	176	127	90%	100%	80%	0.55	B
IRT S3	Street stair at northwest corner of Fourth Avenue and East 14th Street	5.00	4.00	155	308	48	96	90%	100%	80%	0.31	A
IRT S4	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	642	289	201	90	90%	100%	80%	0.52	B
BMT P1	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	287	2,007	90	627	90%	90%	75%	0.84	C
BMT P2	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	958	758	299	237	90%	90%	75%	0.58	B
BMT P3	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	1,049	687	328	215	90%	90%	75%	0.58	B
BMT P4	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	2,633	832	823	260	90%	90%	75%	1.13	D
BMT P5	Connecting stair between A34 paid zone and downtown BMT platform	5.50	4.50	185	1,049	58	328	90%	90%	75%	0.83	C
BMT P6	Connecting stair between A34 paid zone and uptown BMT platform	5.50	4.50	366	1,212	114	379	90%	90%	75%	1.04	D
BMT P11	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	29	892	9	279	100%	90%	75%	0.29	A
BMT P12	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	106	1,011	33	316	90%	90%	75%	0.39	A
BMT P13	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	152	1,764	48	551	90%	90%	75%	0.67	B
BMT P14	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	505	965	158	302	90%	90%	75%	0.49	B
IRT ML2	Connecting stair at IRT mezzanine in A35 paid zone	13.50	12.00	1,545	2,522	483	788	90%	90%	75%	0.98	C
CAN ML4	Connecting stair between A37 paid zone and west landing	12.00	10.75	162	4,035	51	1,261	100%	90%	75%	1.08	D
CAN ML5	Connecting stair between R221A paid zone and lower east landing	17.50	15.00	1,251	3,356	391	1,049	90%	90%	75%	0.91	C
ML6	Connecting stair between R221A paid zone and lower east landing	12.50	11.00	1,251	3,356	391	1,049	90%	90%	75%	1.23	D
IRT P1	Connecting stair between R221 paid zone and uptown IRT platform	6.50	5.50	2,000	1,604	625	501	90%	90%	75%	1.83	F
IRT P5	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	641	509	200	159	90%	90%	75%	0.64	B
IRT P6	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	2,101	500	657	156	90%	90%	75%	1.54	E
IRT P8	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	1,769	1,479	553	462	90%	90%	75%	1.82	F
IRT P9	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	1,506	287	471	90	90%	90%	75%	1.06	D
IRT P10	Connecting stair between R221 paid zone and downtown IRT platform	5.00	4.00	50	1,131	16	353	100%	90%	75%	0.81	C
IRT P11	Connecting stair between A35 paid zone and uptown IRT platform	4.00	3.00	1,142	326	357	102	90%	90%	75%	1.32	D
IRT P12	Connecting stair between A35 paid zone and uptown IRT platform	5.50	4.50	3,931	345	1,228	108	90%	90%	75%	2.48	F
IRT P12ABC	Connecting stair between A35 paid zone and downtown IRT platform	12.00	10.50	1,536	1,453	480	454	90%	90%	75%	0.80	C
IRT P15	Connecting stair between A35 paid zone and downtown IRT platform	6.00	5.00	9	1,069	3	334	100%	90%	75%	0.60	B
CAN P2	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	314	2,236	98	699	90%	90%	75%	1.14	D
CAN P3	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	937	1,120	293	350	90%	90%	75%	0.87	C

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
CAN P5/P6	Connecting stair between uptown BMT platform and Canarsie line platform	5.00	4.00	1,054	2,754	329	861	90%	80%	75%	2.89	F
CAN P7/P8	Connecting stair between downtown BMT platform and Canarsie line platform	5.00	4.00	736	2,198	230	687	90%	80%	75%	2.23	F
CAN P11	Connecting stair between west landing and Canarsie line platform	4.50	3.50	54	2,066	17	646	100%	90%	75%	1.68	F
CAN P12	Connecting stair between west landing and Canarsie line platform	4.50	3.50	108	1,969	34	615	100%	90%	75%	1.63	E

Table 4C-27. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E257X	Street escalator connecting R221 free zone to street	1	40	95%	0	1,700	0	531	945	0.59	B
E219	Connecting escalator between R221A paid zone and Canarsie line platform	1	32	75%	0	2,496	0	780	825	1.26	D

Table 4C-28. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Union Square West and East 16th Street - southeast corner (A34-East)											
Two-Way Turnstiles	3	1,260	1,935	341	1,245	107	389	90%	90%	0.34	A
Union Square West and East 16th Street - southeast corner (A34-South)											
Two-Way Turnstiles	3	1,260	1,935	341	1,245	107	389	90%	90%	0.34	A
Union Square East and East 15th Street - southeast corner (A35)											
Two-Way Turnstiles	5	2,100	3,225	1,054	1,604	329	501	90%	90%	0.37	A
Union Square East and East 15th Street - southwest corner (A36)											
Two-Way Turnstiles	4	1,680	2,580	278	794	87	248	90%	90%	0.18	A
Broadway and East 14th Street - northwest corner (A37)											
Two-Way Turnstiles	4	1,680	2,580	299	803	93	251	90%	90%	0.18	A
High Exit Only Turnstile	1	0	555	0	173	0	54	100%	90%	0.11	A
Fourth Avenue and East 14th Street - northwest corner (R221A-North)											
Two-Way Turnstiles	3	1,260	1,935	150	488	47	153	90%	90%	0.14	A
Fourth Avenue and East 14th Street - northwest corner (R221A-East)											
Two-Way Turnstiles	2	840	1,290	150	488	47	153	90%	90%	0.21	A
Fourth Avenue and East 14th Street - northeast corner (R221)											
Two-Way Turnstiles	7	2,940	4,515	2,571	2,629	803	822	90%	90%	0.53	B
Union Square West and East 16th Street - southeast corner (A33)											
Two-Way Turnstiles	6	2,520	3,870	671	2,929	210	915	90%	90%	0.38	A
HEET	2	510	1,080	136	817	43	255	90%	90%	0.39	A
High Exit Only Turnstile	2	0	1,110	0	840	0	263	100%	90%	0.26	A

Table 4C-29. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
BMT S3	Street stair at southeast corner of Union Square West and East 16th Street	10.00	8.75	722	1,006	226	314	90%	100%	95%	0.47	B
BMT S4	Street stair at northeast corner of Union Square West and East 16th Street	10.00	8.75	3,425	1,777	1,070	555	90%	100%	95%	1.40	E
M1/M4/S1	Street stair at northwest corner of Broadway and East 14th Street	5.00	4.00	856	357	268	112	90%	100%	95%	0.71	C
M2/M3/S2	Street stair at northeast corner of University Place and East 14th Street	5.00	4.00	1,268	442	396	138	90%	100%	95%	1.00	D
IRT O1/O2	Street stair at southeast corner of Union Square East and East 15th Street	10.00	8.75	1,344	975	420	305	90%	100%	95%	0.63	B
IRT O3/O4	Street stair at Northeast Corner of Fourth Ave and East 14th Street	7.00	5.75	233	543	73	170	90%	100%	95%	0.32	A
BMT S5	Street stair at northeast corner of Union Square West and East 14th Street	10.00	8.75	2,580	2,265	806	708	90%	100%	95%	1.31	D
BMT S6	Street stair at southwest corner of Union Square East and East 15th Street	19.00	17.25	944	550	295	172	90%	100%	95%	0.20	A
IRT S1	Street stair at northeast corner of Broadway and East 14th Street	5.00	4.00	517	664	162	208	90%	100%	80%	0.78	C
IRT S2	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	494	708	154	221	90%	100%	80%	0.71	C
IRT S3	Street stair at northwest corner of Fourth Avenue and East 14th Street	5.00	4.00	361	434	113	136	90%	100%	80%	0.52	B
IRT S4	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	475	509	148	159	90%	100%	80%	0.57	B
BMT P1	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	1,698	856	531	268	90%	90%	75%	0.85	C
BMT P2	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	2,202	398	688	124	90%	90%	75%	0.83	C
BMT P3	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	2,010	521	628	163	90%	90%	75%	0.82	C
BMT P4	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	2,047	277	640	87	90%	90%	75%	0.74	C
BMT P5	Connecting stair between A34 paid zone and downtown BMT platform	5.50	4.50	643	1,292	201	404	90%	90%	75%	1.25	D
BMT P6	Connecting stair between A34 paid zone and uptown BMT platform	5.50	4.50	369	741	115	232	90%	90%	75%	0.72	C
BMT P11	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	190	698	59	218	90%	90%	75%	0.30	A
BMT P12	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	206	452	64	141	90%	90%	75%	0.22	A
BMT P13	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	1,754	1,790	548	559	90%	90%	75%	1.15	D
BMT P14	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	2,197	373	687	117	90%	90%	75%	0.78	C
IRT ML2	Connecting stair at IRT mezzanine in A35 paid zone	13.50	12.00	1,535	3,628	480	1,134	90%	90%	75%	1.26	D
CAN ML4	Connecting stair between A37 paid zone and west landing	12.00	10.75	1,166	1,548	364	484	90%	90%	75%	0.72	C
CAN ML5	Connecting stair between R221A paid zone and lower east landing	17.50	15.00	4,638	844	1,449	264	90%	90%	75%	0.97	C
ML6	Connecting stair between R221A paid zone and lower east landing	12.50	11.00	4,638	844	1,449	264	90%	90%	75%	1.32	D
IRT P1	Connecting stair between R221 paid zone and uptown IRT platform	6.50	5.50	1,224	2,276	383	711	90%	90%	75%	1.85	F
IRT P5	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	627	882	196	276	90%	90%	75%	0.87	C
IRT P6	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	743	668	232	209	90%	90%	75%	0.88	C
IRT P8	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	334	2,706	104	846	90%	90%	75%	1.84	F
IRT P9	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	844	326	264	102	90%	90%	75%	0.71	C
IRT P10	Connecting stair between R221 paid zone and downtown IRT platform	5.00	4.00	53	1,994	17	623	100%	90%	75%	1.42	E
IRT P11	Connecting stair between A35 paid zone and uptown IRT platform	4.00	3.00	517	242	162	76	90%	90%	75%	0.69	B
IRT P12	Connecting stair between A35 paid zone and uptown IRT platform	5.50	4.50	2,593	205	810	64	90%	90%	75%	1.62	E
IRT P12ABC	Connecting stair between A35 paid zone and downtown IRT platform	12.00	10.50	1,517	2,070	474	647	90%	90%	75%	0.98	C
IRT P15	Connecting stair between A35 paid zone and downtown IRT platform	6.00	5.00	18	1,558	6	487	100%	90%	75%	0.87	C
CAN P2	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	2,155	551	673	172	90%	90%	75%	1.07	D
CAN P3	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	2,483	294	776	92	90%	90%	75%	1.08	D

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
CAN P5/P6	Connecting stair between uptown BMT platform and Canarsie line platform	5.00	4.00	2,873	829	898	259	90%	80%	75%	2.72	F
CAN P7/P8	Connecting stair between downtown BMT platform and Canarsie line platform	5.00	4.00	2,977	733	930	229	90%	80%	75%	2.72	F
CAN P11	Connecting stair between west landing and Canarsie line platform	4.50	3.50	460	825	144	258	90%	90%	75%	1.07	D
CAN P12	Connecting stair between west landing and Canarsie line platform	4.50	3.50	706	723	221	226	90%	90%	75%	1.16	D

Table 4C-30. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E257X	Street escalator connecting R221 free zone to street	1	40	95%	0	1,118	0	349	945	0.39	A
E219	Connecting escalator between R221A paid zone and Canarsie line platform	1	32	75%	0	815	0	255	825	0.41	A

Table 4C-31. No Action Alternative Level of Service Summary: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Union Square West and East 16th Street - southeast corner (A34-East)											
Two-Way Turnstiles	3	1,260	1,935	1,290	1,133	403	354	90%	90%	0.58	B
Union Square West and East 16th Street - southeast corner (A34-South)											
Two-Way Turnstiles	3	1,260	1,935	1,290	1,132	403	354	90%	90%	0.58	B
Union Square East and East 15th Street - southeast corner (A35)											
Two-Way Turnstiles	5	2,100	3,225	1,344	975	420	305	90%	90%	0.34	A
Union Square East and East 15th Street - southwest corner (A36)											
Two-Way Turnstiles	4	1,680	2,580	944	550	295	172	90%	90%	0.28	A
Broadway and East 14th Street - northwest corner (A37)											
Two-Way Turnstiles	4	1,680	2,580	878	904	274	283	90%	90%	0.32	A
High Exit Only Turnstile	1	0	555	0	194	0	61	100%	90%	0.12	A
Fourth Avenue and East 14th Street - northwest corner (R221A-North)											
Two-Way Turnstiles	3	1,260	1,935	439	549	137	172	90%	90%	0.23	A
Fourth Avenue and East 14th Street - northwest corner (R221A-East)											
Two-Way Turnstiles	2	840	1,290	439	549	137	172	90%	90%	0.35	A
Fourth Avenue and East 14th Street - northeast corner (R221)											
Two-Way Turnstiles	7	2,940	4,515	1,202	2,878	376	899	90%	90%	0.39	A
Union Square West and East 16th Street - southeast corner (A33)											
Two-Way Turnstiles	6	2,520	3,870	3,449	1,777	1,078	555	90%	90%	0.65	B
HEET	2	510	1,080	698	496	218	155	90%	90%	0.65	B
High Exit Only Turnstile	2	0	1,110	0	510	0	159	100%	90%	0.16	A

Table 4C-32. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
BMT S3	Street stair at southeast corner of Union Square West and East 16th Street	10.00	8.75	195	1,386	61	433	90%	100%	95%	0.44	A
BMT S4	Street stair at northeast corner of Union Square West and East 16th Street	10.00	8.75	627	3,254	196	1,017	90%	100%	95%	1.07	D
M1/M4/S1	Street stair at northwest corner of Broadway and East 14th Street	5.00	4.00	190	581	59	182	90%	100%	95%	0.46	B
M2/M3/S2	Street stair at northeast corner of University Place and East 14th Street	5.00	4.00	341	834	107	261	90%	100%	95%	0.71	C
IRT O1/O2	Street stair at southeast corner of Union Square East and East 15th Street	10.00	8.75	1,071	1,661	335	519	90%	100%	95%	0.75	C
IRT O3/O4	Street stair at Northeast Corner of Fourth Ave and East 14th Street	7.00	5.75	544	233	170	73	90%	100%	95%	0.32	A
BMT S5	Street stair at northeast corner of Union Square West and East 14th Street	10.00	8.75	690	2,517	216	787	90%	100%	95%	0.88	C
BMT S6	Street stair at southwest corner of Union Square East and East 15th Street	19.00	17.25	281	800	88	250	90%	100%	95%	0.15	A
IRT S1	Street stair at northeast corner of Broadway and East 14th Street	5.00	4.00	148	681	46	213	90%	100%	80%	0.58	B
IRT S2	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	570	438	178	137	90%	100%	80%	0.57	B
IRT S3	Street stair at northwest corner of Fourth Avenue and East 14th Street	5.00	4.00	158	317	49	99	90%	100%	80%	0.32	A
IRT S4	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	649	314	203	98	90%	100%	80%	0.54	B
BMT P1	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	290	2,053	91	642	90%	90%	75%	0.86	C
BMT P2	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	971	794	303	248	90%	90%	75%	0.60	B
BMT P3	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	1,056	709	330	222	90%	90%	75%	0.59	B
BMT P4	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	2,648	861	828	269	90%	90%	75%	1.15	D
BMT P5	Connecting stair between A34 paid zone and downtown BMT platform	5.50	4.50	191	1,084	60	339	90%	90%	75%	0.85	C
BMT P6	Connecting stair between A34 paid zone and uptown BMT platform	5.50	4.50	375	1,256	117	393	90%	90%	75%	1.08	D
BMT P11	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	29	900	9	281	100%	90%	75%	0.29	A
BMT P12	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	107	1,020	33	319	90%	90%	75%	0.39	A
BMT P13	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	153	1,775	48	555	90%	90%	75%	0.67	B
BMT P14	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	510	972	159	304	90%	90%	75%	0.49	B
IRT ML2	Connecting stair at IRT mezzanine in A35 paid zone	13.50	12.00	1,575	2,586	492	808	90%	90%	75%	1.00	D
CAN ML4	Connecting stair between A37 paid zone and west landing	12.00	10.75	166	4,047	52	1,265	100%	90%	75%	1.08	D
CAN ML5	Connecting stair between R221A paid zone and lower east landing	17.50	15.00	1,274	3,388	398	1,059	90%	90%	75%	0.92	C
ML6	Connecting stair between R221A paid zone and lower east landing	12.50	11.00	1,274	3,388	398	1,059	90%	90%	75%	1.25	D
IRT P1	Connecting stair between R221 paid zone and uptown IRT platform	6.50	5.50	2,003	1,612	626	504	90%	90%	75%	1.84	F
IRT P5	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	650	521	203	163	90%	90%	75%	0.66	B
IRT P6	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	2,125	506	664	158	90%	90%	75%	1.56	E
IRT P8	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	1,781	1,497	557	468	90%	90%	75%	1.84	F
IRT P9	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	1,529	292	478	91	90%	90%	75%	1.07	D
IRT P10	Connecting stair between R221 paid zone and downtown IRT platform	5.00	4.00	51	1,140	16	356	100%	90%	75%	0.82	C
IRT P11	Connecting stair between A35 paid zone and uptown IRT platform	4.00	3.00	1,168	344	365	108	90%	90%	75%	1.36	E
IRT P12	Connecting stair between A35 paid zone and uptown IRT platform	5.50	4.50	3,968	364	1,240	114	90%	90%	75%	2.52	F
IRT P12ABC	Connecting stair between A35 paid zone and downtown IRT platform	12.00	10.50	1,559	1,490	487	466	90%	90%	75%	0.82	C
IRT P15	Connecting stair between A35 paid zone and downtown IRT platform	6.00	5.00	17	1,096	5	343	100%	90%	75%	0.62	B
CAN P2	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	320	2,257	100	705	90%	90%	75%	1.15	D
CAN P3	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	954	1,130	298	353	90%	90%	75%	0.88	C

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
CAN P5/P6	Connecting stair between uptown BMT platform and Canarsie line platform	5.00	4.00	1,069	2,771	334	866	90%	80%	75%	2.91	F
CAN P7/P8	Connecting stair between downtown BMT platform and Canarsie line platform	5.00	4.00	755	2,202	236	688	90%	80%	75%	2.25	F
CAN P11	Connecting stair between west landing and Canarsie line platform	4.50	3.50	55	2,072	17	648	100%	90%	75%	1.68	F
CAN P12	Connecting stair between west landing and Canarsie line platform	4.50	3.50	110	1,975	34	617	100%	90%	75%	1.64	E

Table 4C-33. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E257X	Street escalator connecting R221 free zone to street	1	40	95%	0	1,706	0	533	945	0.59	B
E219	Connecting escalator between R221A paid zone and Canarsie line platform	1	32	75%	0	2,519	0	787	825	1.27	D+

+ denotes a significant adverse effect

Table 4C-34. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Union Square West and East 16th Street - southeast corner (A34-East)											
Two-Way Turnstiles	3	1,260	1,935	345	1,259	108	393	90%	90%	0.35	A
Union Square West and East 16th Street - southeast corner (A34-South)											
Two-Way Turnstiles	3	1,260	1,935	345	1,258	108	393	90%	90%	0.35	A
Union Square East and East 15th Street - southeast corner (A35)											
Two-Way Turnstiles	5	2,100	3,225	1,071	1,661	335	519	90%	90%	0.38	A
Union Square East and East 15th Street - southwest corner (A36)											
Two-Way Turnstiles	4	1,680	2,580	281	800	88	250	90%	90%	0.18	A
Broadway and East 14th Street - northwest corner (A37)											
Two-Way Turnstiles	4	1,680	2,580	322	873	101	273	90%	90%	0.20	A
High Exit Only Turnstile	1	0	555	0	188	0	59	100%	90%	0.12	A
Fourth Avenue and East 14th Street - northwest corner (R221A-North)											
Two-Way Turnstiles	3	1,260	1,935	153	499	48	156	90%	90%	0.14	A
Fourth Avenue and East 14th Street - northwest corner (R221A-East)											
Two-Way Turnstiles	2	840	1,290	153	499	48	156	90%	90%	0.21	A
Fourth Avenue and East 14th Street - northeast corner (R221)											
Two-Way Turnstiles	7	2,940	4,515	2,588	2,692	809	841	90%	90%	0.54	B
Union Square West and East 16th Street - southeast corner (A33)											
Two-Way Turnstiles	6	2,520	3,870	684	2,963	214	926	90%	90%	0.39	A
Two-Way Turnstiles	2	510	1,080	138	827	43	258	90%	90%	0.39	A
Two-Way Turnstiles	2	0	1,110	0	850	0	266	100%	90%	0.27	A

Table 4C-35. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
BMT S3	Street stair at southeast corner of Union Square West and East 16th Street	10.00	8.75	732	1,012	229	316	90%	100%	95%	0.48	B
BMT S4	Street stair at northeast corner of Union Square West and East 16th Street	10.00	8.75	3,472	1,787	1,085	558	90%	100%	95%	1.42	E
M1/M4/S1	Street stair at northwest corner of Broadway and East 14th Street	5.00	4.00	866	361	271	113	90%	100%	95%	0.72	C
M2/M3/S2	Street stair at northeast corner of University Place and East 14th Street	5.00	4.00	1,346	464	421	145	90%	100%	95%	1.06	D
IRT O1/O2	Street stair at southeast corner of Union Square East and East 15th Street	10.00	8.75	1,408	992	440	310	90%	100%	95%	0.65	B
IRT O3/O4	Street stair at Northeast Corner of Fourth Ave and East 14th Street	7.00	5.75	236	543	74	170	90%	100%	95%	0.33	A
BMT S5	Street stair at northeast corner of Union Square West and East 14th Street	10.00	8.75	2,610	2,274	816	711	90%	100%	95%	1.32	D
BMT S6	Street stair at southwest corner of Union Square East and East 15th Street	19.00	17.25	954	552	298	173	90%	100%	95%	0.21	A
IRT S1	Street stair at northeast corner of Broadway and East 14th Street	5.00	4.00	531	668	166	209	90%	100%	80%	0.79	C
IRT S2	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	524	718	164	224	90%	100%	80%	0.73	C
IRT S3	Street stair at northwest corner of Fourth Avenue and East 14th Street	5.00	4.00	371	437	116	137	90%	100%	80%	0.53	B
IRT S4	Street stair at southeast corner of Fourth Avenue and East 14th Street	5.50	4.50	502	517	157	162	90%	100%	80%	0.59	B
BMT P1	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	1,727	864	540	270	90%	90%	75%	0.86	C
BMT P2	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	2,267	407	708	127	90%	90%	75%	0.86	C
BMT P3	Connecting stair between A34 paid zone and downtown BMT platform	9.50	8.25	2,047	529	640	165	90%	90%	75%	0.84	C
BMT P4	Connecting stair between A34 paid zone and uptown BMT platform	9.50	8.25	2,097	281	655	88	90%	90%	75%	0.76	C
BMT P5	Connecting stair between A34 paid zone and downtown BMT platform	5.50	4.50	668	1,307	209	408	90%	90%	75%	1.28	D
BMT P6	Connecting stair between A34 paid zone and uptown BMT platform	5.50	4.50	387	749	121	234	90%	90%	75%	0.73	C
BMT P11	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	192	700	60	219	90%	90%	75%	0.30	A
BMT P12	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	208	453	65	142	90%	90%	75%	0.22	A
BMT P13	Connecting stair between A33 paid zone and downtown BMT platform	10.00	8.75	1,766	1,794	552	561	90%	90%	75%	1.15	D
BMT P14	Connecting stair between A33 paid zone and uptown BMT platform	10.00	8.75	2,218	374	693	117	90%	90%	75%	0.78	C
IRT ML2	Connecting stair at IRT mezzanine in A35 paid zone	13.50	12.00	1,574	3,690	492	1,153	90%	90%	75%	1.29	D
CAN ML4	Connecting stair between A37 paid zone and west landing	12.00	10.75	1,166	1,548	364	484	90%	90%	75%	0.72	C
CAN ML5	Connecting stair between R221A paid zone and lower east landing	17.50	15.00	4,697	855	1,468	267	90%	90%	75%	0.98	C
ML6	Connecting stair between R221A paid zone and lower east landing	12.50	11.00	4,697	855	1,468	267	90%	90%	75%	1.34	E
IRT P1	Connecting stair between R221 paid zone and uptown IRT platform	6.50	5.50	1,232	2,280	385	713	90%	90%	75%	1.86	F
IRT P5	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	637	904	199	283	90%	90%	75%	0.89	C
IRT P6	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	759	679	237	212	90%	90%	75%	0.90	C
IRT P8	Connecting stair between R221 paid zone and downtown IRT platform	6.00	5.00	341	2,732	107	854	90%	90%	75%	1.86	F
IRT P9	Connecting stair between R221 paid zone and uptown IRT platform	5.50	4.50	860	337	269	105	90%	90%	75%	0.72	C
IRT P10	Connecting stair between R221 paid zone and downtown IRT platform	5.00	4.00	53	2,001	17	625	100%	90%	75%	1.42	E
IRT P11	Connecting stair between A35 paid zone and uptown IRT platform	4.00	3.00	536	259	168	81	90%	90%	75%	0.73	C
IRT P12	Connecting stair between A35 paid zone and uptown IRT platform	5.50	4.50	2,649	221	828	69	90%	90%	75%	1.67	E
IRT P12ABC	Connecting stair between A35 paid zone and downtown IRT platform	12.00	10.50	1,554	2,105	486	658	90%	90%	75%	1.00	C
IRT P15	Connecting stair between A35 paid zone and downtown IRT platform	6.00	5.00	21	1,586	7	496	100%	90%	75%	0.89	C
CAN P2	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	2,182	558	682	174	90%	90%	75%	1.09	D
CAN P3	Connecting stair between lower east landing and Canarsie line platform	8.00	6.75	2,514	298	786	93	90%	90%	75%	1.09	D
CAN P5/P6	Connecting stair between uptown BMT platform and Canarsie line platform	5.00	4.00	2,893	845	904	264	90%	80%	75%	2.74	F
CAN P7/P8	Connecting stair between downtown BMT platform and Canarsie line platform	5.00	4.00	3,021	744	944	233	90%	80%	75%	2.76	F
CAN P11	Connecting stair between west landing and Canarsie line platform	4.50	3.50	465	827	145	258	90%	90%	75%	1.07	D
CAN P12	Connecting stair between west landing and Canarsie line platform	4.50	3.50	714	725	223	227	90%	90%	75%	1.16	D

Table 4C-36. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E257X	Street escalator connecting R221 free zone to street	1	40	95%	0	1,120	0	350	945	0.39	A
E219	Connecting escalator between R221A paid zone and Canarsie line platform	1	32	75%	0	826	0	258	825	0.42	A

Table 4C-37. CBD Tolling Alternative: 14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Union Square West and East 16th Street - southeast corner (A34-East)											
Two-Way Turnstiles	3	1,260	1,935	1,305	1,137	408	355	90%	90%	0.59	B
Union Square West and East 16th Street - southeast corner (A34-South)											
Two-Way Turnstiles	3	1,260	1,935	1,305	1,136	408	355	90%	90%	0.59	B
Union Square East and East 15th Street - southeast corner (A35)											
Two-Way Turnstiles	5	2,100	3,225	1,408	992	440	310	90%	90%	0.35	A
Union Square East and East 15th Street - southwest corner (A36)											
Two-Way Turnstiles	4	1,680	2,580	954	552	298	173	90%	90%	0.28	A
Broadway and East 14th Street - northwest corner (A37)											
Two-Way Turnstiles	4	1,680	2,580	966	925	302	289	90%	90%	0.34	A
High Exit Only Turnstile	1	0	555	0	199	0	62	100%	90%	0.12	A
Fourth Avenue and East 14th Street - northwest corner (R221A-North)											
Two-Way Turnstiles	3	1,260	1,935	451	552	141	173	90%	90%	0.23	A
Fourth Avenue and East 14th Street - northwest corner (R221A-East)											
Two-Way Turnstiles	2	840	1,290	451	552	141	173	90%	90%	0.35	A
Fourth Avenue and East 14th Street - northeast corner (R221)											
Two-Way Turnstiles	7	2,940	4,515	1,266	2,897	396	905	90%	90%	0.40	A
Union Square West and East 16th Street - southeast corner (A33)											
Two-Way Turnstiles	6	2,520	3,870	3,496	1,787	1,093	558	90%	90%	0.66	B
HEET	2	510	1,080	708	499	221	156	90%	90%	0.66	B
High Exit Only Turnstile	2	0	1,110	0	513	0	160	100%	90%	0.16	A

Table 4C-38. Existing Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M18-M19-M20-SB11	N502: northeast corner of Sixth Avenue and West 42nd Street	10.00	8.75	88	2360	28	738	100%	100%	90%	0.65	B
O11-O13	N502: northwest corner of Sixth Avenue and West 42nd Street	7.00	6.00	74	551	23	172	90%	100%	90%	0.26	A
O12-O14	N502: west side of Sixth Ave north of West 42nd Street	7.00	6.00	38	624	12	195	90%	100%	90%	0.28	A
N503 M13-M12	N503: southeast corner of Sixth Avenue and West 42nd Street	5.00	4.00	153	2073	48	648	90%	100%	90%	1.42	E
N503 S8	N503: southeast corner of Sixth Avenue and West 42nd Street	3.00	2.00	153	2073	48	648	90%	100%	90%	2.84	F
O9-O10	N503: southwest corner of Sixth Avenue and West 42nd Street	8.50	7.25	88	930	28	291	90%	100%	90%	0.36	A
N504 M6	N504: southeast corner of Sixth Avenue and West 40th Street	8.00	7.00	231	1052	72	329	90%	100%	90%	0.46	B
N504 S5	N504: southeast corner of Sixth Avenue and West 40th Street	6.00	5.00	231	1052	72	329	90%	100%	90%	0.65	B
N504 M7-M8	N504: northeast corner of Sixth Avenue and West 40th Street	7.00	6.00	81	1154	25	361	90%	100%	90%	0.53	B
N504 S6	N504: northeast corner of Sixth Avenue and West 40th Street	5.00	4.00	81	1154	25	361	90%	100%	90%	0.79	C
N504 M9-M10	N504: northwest corner of Sixth Avenue and West 40th Street	6.00	5.00	86	1636	27	511	100%	100%	90%	0.79	C
N504 O7-O8	N504: northwest corner of Sixth Avenue and West 40th Street	7.00	6.00	86	1636	27	511	100%	100%	90%	0.66	B
O16-O17	N504: northwest corner of Sixth Avenue and West 39th Street	10.00	8.75	107	2306	33	721	100%	100%	90%	0.64	B
R500 S2	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	29	403	9	126	90%	100%	90%	0.28	A
R500 S3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	21	310	7	97	90%	100%	90%	0.21	A
R500 M3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	12.00	10.75	21	310	7	97	90%	100%	90%	0.08	A
R501 M2-M1-S1	R501: southwest corner of West 42nd St and Fifth Ave	5.00	4.00	123	2431	38	760	100%	100%	90%	1.47	E
P13	IND mezzanine west near N502 to southbound platform	9.00	7.75	135	1179	42	368	90%	90%	75%	0.51	B
P14	IND mezzanine east near N502 to northbound platform	9.00	7.75	96	2049	30	640	100%	90%	75%	0.76	C
P10	IND mezzanine east near N503 to northbound platform	5.50	4.50	365	1257	114	393	90%	90%	75%	1.07	D
P11	IND mezzanine west near N503 to southbound platform	5.50	4.50	346	702	108	219	90%	90%	75%	0.68	B
P12	IND mezzanine east near N503 to northbound platform	5.50	4.50	551	1051	172	328	90%	90%	75%	1.03	D
P7	IND mezzanine west near N503 to southbound platform	5.50	4.50	18	546	6	171	100%	90%	75%	0.35	A
P8	IND mezzanine east near N503 to northbound platform	5.50	4.50	7	814	2	254	100%	90%	75%	0.51	B
P9	IND mezzanine west near N503 to southbound platform	5.50	4.50	888	773	278	242	90%	90%	75%	1.04	D
P1	IND mezzanine west near N504 to southbound platform	5.50	4.50	51	799	16	250	90%	90%	75%	0.58	B
P2	IND mezzanine east near N504 to northbound platform	5.50	4.50	59	916	18	286	90%	90%	75%	0.66	B
P3	IND mezzanine west near N504 to southbound platform	5.50	4.50	77	989	24	309	90%	90%	75%	0.72	C
P4	IND mezzanine east near N504 to northbound platform	5.50	4.50	132	1523	41	476	90%	90%	75%	1.12	D
P5	IND mezzanine west near N504 to southbound platform	5.50	4.50	8	680	3	213	100%	90%	75%	0.43	A
P6	IND mezzanine east near N504 to northbound platform	5.50	4.50	13	658	4	206	100%	90%	75%	0.41	A
R500 P5	IRT mezzanine near R500 to IRT platform	9.00	7.75	35	490	11	153	90%	90%	75%	0.21	A
R500 P6	IRT mezzanine near R500 to IRT platform	9.00	7.75	78	1087	24	340	90%	90%	75%	0.46	B
R500 P7	IRT mezzanine near R500 to IRT platform	9.00	7.75	2721	1185	850	370	90%	90%	75%	1.37	E
R501 P1-P2	IRT mezzanine near R501 to IRT platform	9.00	7.75	32	1123	10	351	100%	90%	75%	0.41	A
R501 P3	IRT mezzanine near R501 to IRT platform	9.00	7.75	40	511	13	160	90%	90%	75%	0.22	A
R501 P4	IRT mezzanine near R501 to IRT platform	9.00	7.75	9	274	3	86	100%	90%	75%	0.10	A

Table 4C-39. Existing Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
North side of West 42nd Street at Sixth Avenue (N502)											
Two-Way Turnstiles	5	2,100	3,225	178	2,339	56	731	90%	80%	0.34	A
HEET	1	255	540	22	392	7	122	90%	80%	0.34	A
High Exit Only Turnstile	2	0	1,110	0	805	0	252	100%	80%	0.28	A
South side of West 42nd Street at Sixth Avenue (N503)											
Two-Way Turnstiles	6	2,520	3,870	241	3,003	75	938	90%	80%	0.37	A
North side of West 40th Street at Sixth Avenue (N504)											
Two-Way Turnstiles	6	2,520	3,870	210	3,592	66	1,123	90%	80%	0.43	A
HEET	3	765	1,620	64	1,504	20	470	100%	80%	0.39	A
South side of West 42nd Street between Fifth and Sixth Avenues (R500)											
HEET	2	510	1,080	50	471	16	147	90%	80%	0.22	A
High Exit Only Turnstile	1	0	555	0	242	0	76	100%	80%	0.17	A
South side of West 42nd Street at Fifth Avenue (R501)											
Two-Way Turnstiles	8	3,360	5,160	123	2,431	38	760	100%	80%	0.20	A

Table 4C-40. Existing Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M18-M19-M20-SB11	N502: northeast corner of Sixth Avenue and West 42nd Street	10.00	8.75	1528	337	478	105	90%	100%	90%	0.50	B
O11-O13	N502: northwest corner of Sixth Avenue and West 42nd Street	7.00	6.00	888	99	278	31	90%	100%	90%	0.39	A
O12-O14	N502: west side of Sixth Ave north of West 42nd Street	7.00	6.00	772	94	241	29	90%	100%	90%	0.34	A
N503 M13-M12	N503: southeast corner of Sixth Avenue and West 42nd Street	5.00	4.00	1071	946	335	296	90%	100%	90%	1.23	D
N503 S8	N503: southeast corner of Sixth Avenue and West 42nd Street	3.00	2.00	1071	946	335	296	90%	100%	90%	2.46	F
O9-O10	N503: southwest corner of Sixth Avenue and West 42nd Street	8.50	7.25	617	385	193	120	90%	100%	90%	0.33	A
N504 M6	N504: southeast corner of Sixth Avenue and West 40th Street	8.00	7.00	1052	231	329	72	90%	100%	90%	0.43	A
N504 S5	N504: southeast corner of Sixth Avenue and West 40th Street	6.00	5.00	1052	231	329	72	90%	100%	90%	0.61	B
N504 M7-M8	N504: northeast corner of Sixth Avenue and West 40th Street	7.00	6.00	1033	276	323	86	90%	100%	90%	0.52	B
N504 S6	N504: northeast corner of Sixth Avenue and West 40th Street	5.00	4.00	1033	276	323	86	90%	100%	90%	0.78	C
N504 M9-M10	N504: northwest corner of Sixth Avenue and West 40th Street	6.00	5.00	1067	355	333	111	90%	100%	90%	0.68	B
N504 O7-O8	N504: northwest corner of Sixth Avenue and West 40th Street	7.00	6.00	1067	355	333	111	90%	100%	90%	0.56	B
O16-O17	N504: northwest corner of Sixth Avenue and West 39th Street	10.00	8.75	1172	217	366	68	90%	100%	90%	0.37	A
R500 S2	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	301	173	94	54	90%	100%	90%	0.29	A
R500 S3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	250	73	78	23	90%	100%	90%	0.19	A
R500 M3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	12.00	10.75	250	73	78	23	90%	100%	90%	0.07	A
R501 M2-M1-S1	R501: southwest corner of West 42nd St and Fifth Ave	5.00	4.00	2494	750	779	234	90%	100%	90%	1.92	F
P13	IND mezzanine west near N502 to southbound platform	9.00	7.75	2273	255	710	80	90%	90%	75%	0.86	C
P14	IND mezzanine east near N502 to northbound platform	9.00	7.75	1151	348	360	109	90%	90%	75%	0.52	B
P10	IND mezzanine east near N503 to northbound platform	5.50	4.50	991	787	310	246	90%	90%	75%	1.11	D
P11	IND mezzanine west near N503 to southbound platform	5.50	4.50	809	585	253	183	90%	90%	75%	0.86	C
P12	IND mezzanine east near N503 to northbound platform	5.50	4.50	767	640	240	200	90%	90%	75%	0.88	C
P7	IND mezzanine west near N503 to southbound platform	5.50	4.50	38	367	12	115	90%	90%	75%	0.27	A
P8	IND mezzanine east near N503 to northbound platform	5.50	4.50	36	500	11	156	90%	90%	75%	0.36	A
P9	IND mezzanine west near N503 to southbound platform	5.50	4.50	1687	461	527	144	90%	90%	75%	1.28	D
P1	IND mezzanine west near N504 to southbound platform	5.50	4.50	913	345	285	108	90%	90%	75%	0.76	C
P2	IND mezzanine east near N504 to northbound platform	5.50	4.50	554	205	173	64	90%	90%	75%	0.46	B
P3	IND mezzanine west near N504 to southbound platform	5.50	4.50	1260	343	394	107	90%	90%	75%	0.96	C
P4	IND mezzanine east near N504 to northbound platform	5.50	4.50	1280	268	400	84	90%	90%	75%	0.92	C
P5	IND mezzanine west near N504 to southbound platform	5.50	4.50	36	276	11	86	90%	90%	75%	0.21	A
P6	IND mezzanine east near N504 to northbound platform	5.50	4.50	50	243	16	76	90%	90%	75%	0.20	A
R500 P5	IRT mezzanine near R500 to IRT platform	9.00	7.75	61	369	19	115	90%	90%	75%	0.17	A
R500 P6	IRT mezzanine near R500 to IRT platform	9.00	7.75	442	474	138	148	90%	90%	75%	0.34	A
R500 P7	IRT mezzanine near R500 to IRT platform	9.00	7.75	2634	571	823	178	90%	90%	75%	1.10	D
R501 P1-P2	IRT mezzanine near R501 to IRT platform	9.00	7.75	702	413	219	129	90%	90%	75%	0.40	A
R501 P3	IRT mezzanine near R501 to IRT platform	9.00	7.75	744	149	233	47	90%	90%	75%	0.31	A
R501 P4	IRT mezzanine near R501 to IRT platform	9.00	7.75	42	159	13	50	90%	90%	75%	0.08	A

Table 4C-41. Existing Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
North side of West 42nd Street at Sixth Avenue (N502)											
Two-Way Turnstiles	5	2,100	3,225	2,843	351	888	110	90%	80%	0.52	B
HEET	1	255	540	345	59	108	18	90%	80%	0.52	B
High Exit Only Turnstile	2	0	1,110	0	121	0	38	100%	80%	0.04	A
South side of West 42nd Street at Sixth Avenue (N503)											
Two-Way Turnstiles	6	2,520	3,870	1,688	1,331	528	416	90%	80%	0.38	A
North side of West 40th Street at Sixth Avenue (N504)											
Two-Way Turnstiles	6	2,520	3,870	3,317	761	1,037	238	90%	80%	0.54	B
HEET	3	765	1,620	1,007	318	315	99	90%	80%	0.54	B
South side of West 42nd Street between Fifth and Sixth Avenues (R500)											
HEET	2	510	1,080	551	162	172	51	90%	80%	0.44	A
High Exit Only Turnstile	1	0	555	0	84	0	26	100%	80%	0.06	A
South side of West 42nd Street at Fifth Avenue (R501)											
Two-Way Turnstiles	8	3,360	5,160	2,494	750	779	234	90%	80%	0.32	A

Table 4C-42. No Action Alternative Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M18-M19-M20-SB11	N502: northeast corner of Sixth Avenue and West 42nd Street	10.00	8.75	88	2360	28	738	100%	100%	90%	0.65	B
O11-O13	N502: northwest corner of Sixth Avenue and West 42nd Street	7.00	6.00	74	551	23	172	90%	100%	90%	0.26	A
O12-O14	N502: west side of Sixth Ave north of West 42nd Street	7.00	6.00	38	624	12	195	90%	100%	90%	0.28	A
N503 M13-M12	N503: southeast corner of Sixth Avenue and West 42nd Street	5.00	4.00	153	2073	48	648	90%	100%	90%	1.42	E
N503 S8	N503: southeast corner of Sixth Avenue and West 42nd Street	3.00	2.00	153	2073	48	648	90%	100%	90%	2.84	F
O9-O10	N503: southwest corner of Sixth Avenue and West 42nd Street	8.50	7.25	88	930	28	291	90%	100%	90%	0.36	A
N504 M6	N504: southeast corner of Sixth Avenue and West 40th Street	8.00	7.00	231	1052	72	329	90%	100%	90%	0.46	B
N504 S5	N504: southeast corner of Sixth Avenue and West 40th Street	6.00	5.00	231	1052	72	329	90%	100%	90%	0.65	B
N504 M7-M8	N504: northeast corner of Sixth Avenue and West 40th Street	7.00	6.00	81	1154	25	361	90%	100%	90%	0.53	B
N504 S6	N504: northeast corner of Sixth Avenue and West 40th Street	5.00	4.00	81	1154	25	361	90%	100%	90%	0.79	C
N504 M9-M10	N504: northwest corner of Sixth Avenue and West 40th Street	6.00	5.00	86	1636	27	511	100%	100%	90%	0.79	C
N504 O7-O8	N504: northwest corner of Sixth Avenue and West 40th Street	7.00	6.00	86	1636	27	511	100%	100%	90%	0.66	B
O16-O17	N504: northwest corner of Sixth Avenue and West 39th Street	10.00	8.75	107	2306	33	721	100%	100%	90%	0.64	B
R500 S2	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	29	403	9	126	90%	100%	90%	0.28	A
R500 S3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	21	310	7	97	90%	100%	90%	0.21	A
R500 M3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	12.00	10.75	21	310	7	97	90%	100%	90%	0.08	A
R501 M2-M1-S1	R501: southwest corner of West 42nd St and Fifth Ave	5.00	4.00	123	2431	38	760	100%	100%	90%	1.47	E
P13	IND mezzanine west near N502 to southbound platform	9.00	7.75	135	1179	42	368	90%	90%	75%	0.51	B
P14	IND mezzanine east near N502 to northbound platform	9.00	7.75	96	2049	30	640	100%	90%	75%	0.76	C
P10	IND mezzanine east near N503 to northbound platform	5.50	4.50	365	1257	114	393	90%	90%	75%	1.07	D
P11	IND mezzanine west near N503 to southbound platform	5.50	4.50	346	702	108	219	90%	90%	75%	0.68	B
P12	IND mezzanine east near N503 to northbound platform	5.50	4.50	551	1051	172	328	90%	90%	75%	1.03	D
P7	IND mezzanine west near N503 to southbound platform	5.50	4.50	18	546	6	171	100%	90%	75%	0.35	A
P8	IND mezzanine east near N503 to northbound platform	5.50	4.50	7	814	2	254	100%	90%	75%	0.51	B
P9	IND mezzanine west near N503 to southbound platform	5.50	4.50	888	773	278	242	90%	90%	75%	1.04	D
P1	IND mezzanine west near N504 to southbound platform	5.50	4.50	51	799	16	250	90%	90%	75%	0.58	B
P2	IND mezzanine east near N504 to northbound platform	5.50	4.50	59	916	18	286	90%	90%	75%	0.66	B
P3	IND mezzanine west near N504 to southbound platform	5.50	4.50	77	989	24	309	90%	90%	75%	0.72	C
P4	IND mezzanine east near N504 to northbound platform	5.50	4.50	132	1523	41	476	90%	90%	75%	1.12	D
P5	IND mezzanine west near N504 to southbound platform	5.50	4.50	8	680	3	213	100%	90%	75%	0.43	A
P6	IND mezzanine east near N504 to northbound platform	5.50	4.50	13	658	4	206	100%	90%	75%	0.41	A
R500 P5	IRT mezzanine near R500 to IRT platform	9.00	7.75	35	490	11	153	90%	90%	75%	0.21	A
R500 P6	IRT mezzanine near R500 to IRT platform	9.00	7.75	78	1087	24	340	90%	90%	75%	0.46	B
R500 P7	IRT mezzanine near R500 to IRT platform	9.00	7.75	2721	1185	850	370	90%	90%	75%	1.37	E
R501 P1-P2	IRT mezzanine near R501 to IRT platform	9.00	7.75	32	1123	10	351	100%	90%	75%	0.41	A
R501 P3	IRT mezzanine near R501 to IRT platform	9.00	7.75	40	511	13	160	90%	90%	75%	0.22	A
R501 P4	IRT mezzanine near R501 to IRT platform	9.00	7.75	9	274	3	86	100%	90%	75%	0.10	A

Table 4C-43. No Action Alternative Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
North side of West 42nd Street at Sixth Avenue (N502)											
Two-Way Turnstiles	5	2,100	3,225	178	2,339	56	731	90%	80%	0.34	A
HEET	1	255	540	22	392	7	122	90%	80%	0.34	A
High Exit Only Turnstile	2	0	1,110	0	805	0	252	100%	80%	0.28	A
South side of West 42nd Street at Sixth Avenue (N503)											
Two-Way Turnstiles	6	2,520	3,870	241	3,003	75	938	90%	80%	0.37	A
North side of West 40th Street at Sixth Avenue (N504)											
Two-Way Turnstiles	6	2,520	3,870	210	3,592	66	1,123	90%	80%	0.43	A
HEET	3	765	1,620	64	1,504	20	470	100%	80%	0.39	A
South side of West 42nd Street between Fifth and Sixth Avenues (R500)											
HEET	2	510	1,080	50	471	16	147	90%	80%	0.22	A
High Exit Only Turnstile	1	0	555	0	242	0	76	100%	80%	0.17	A
South side of West 42nd Street at Fifth Avenue (R501)											
Two-Way Turnstiles	8	3,360	5,160	123	2,431	38	760	100%	80%	0.20	A

Table 4C-44. No Action Alternative Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M18-M19-M20-SB11	N502: northeast corner of Sixth Avenue and West 42nd Street	10.00	8.75	1528	337	478	105	90%	100%	90%	0.50	B
O11-O13	N502: northwest corner of Sixth Avenue and West 42nd Street	7.00	6.00	888	99	278	31	90%	100%	90%	0.39	A
O12-O14	N502: west side of Sixth Ave north of West 42nd Street	7.00	6.00	772	94	241	29	90%	100%	90%	0.34	A
N503 M13-M12	N503: southeast corner of Sixth Avenue and West 42nd Street	5.00	4.00	1071	946	335	296	90%	100%	90%	1.23	D
N503 S8	N503: southeast corner of Sixth Avenue and West 42nd Street	3.00	2.00	1071	946	335	296	90%	100%	90%	2.46	F
O9-O10	N503: southwest corner of Sixth Avenue and West 42nd Street	8.50	7.25	617	385	193	120	90%	100%	90%	0.33	A
N504 M6	N504: southeast corner of Sixth Avenue and West 40th Street	8.00	7.00	1052	231	329	72	90%	100%	90%	0.43	A
N504 S5	N504: southeast corner of Sixth Avenue and West 40th Street	6.00	5.00	1052	231	329	72	90%	100%	90%	0.61	B
N504 M7-M8	N504: northeast corner of Sixth Avenue and West 40th Street	7.00	6.00	1033	276	323	86	90%	100%	90%	0.52	B
N504 S6	N504: northeast corner of Sixth Avenue and West 40th Street	5.00	4.00	1033	276	323	86	90%	100%	90%	0.78	C
N504 M9-M10	N504: northwest corner of Sixth Avenue and West 40th Street	6.00	5.00	1067	355	333	111	90%	100%	90%	0.68	B
N504 O7-O8	N504: northwest corner of Sixth Avenue and West 40th Street	7.00	6.00	1067	355	333	111	90%	100%	90%	0.56	B
O16-O17	N504: northwest corner of Sixth Avenue and West 39th Street	10.00	8.75	1172	217	366	68	90%	100%	90%	0.37	A
R500 S2	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	301	173	94	54	90%	100%	90%	0.29	A
R500 S3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	250	73	78	23	90%	100%	90%	0.19	A
R500 M3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	12.00	10.75	250	73	78	23	90%	100%	90%	0.07	A
R501 M2-M1-S1	R501: southwest corner of West 42nd St and Fifth Ave	5.00	4.00	2494	750	779	234	90%	100%	90%	1.92	F
P13	IND mezzanine west near N502 to southbound platform	9.00	7.75	2273	255	710	80	90%	90%	75%	0.86	C
P14	IND mezzanine east near N502 to northbound platform	9.00	7.75	1151	348	360	109	90%	90%	75%	0.52	B
P10	IND mezzanine east near N503 to northbound platform	5.50	4.50	991	787	310	246	90%	90%	75%	1.11	D
P11	IND mezzanine west near N503 to southbound platform	5.50	4.50	809	585	253	183	90%	90%	75%	0.86	C
P12	IND mezzanine east near N503 to northbound platform	5.50	4.50	767	640	240	200	90%	90%	75%	0.88	C
P7	IND mezzanine west near N503 to southbound platform	5.50	4.50	38	367	12	115	90%	90%	75%	0.27	A
P8	IND mezzanine east near N503 to northbound platform	5.50	4.50	36	500	11	156	90%	90%	75%	0.36	A
P9	IND mezzanine west near N503 to southbound platform	5.50	4.50	1687	461	527	144	90%	90%	75%	1.28	D
P1	IND mezzanine west near N504 to southbound platform	5.50	4.50	922	348	288	109	90%	90%	75%	0.77	C
P2	IND mezzanine east near N504 to northbound platform	5.50	4.50	554	205	173	64	90%	90%	75%	0.46	B
P3	IND mezzanine west near N504 to southbound platform	5.50	4.50	1260	343	394	107	90%	90%	75%	0.96	C
P4	IND mezzanine east near N504 to northbound platform	5.50	4.50	1293	271	404	85	90%	90%	75%	0.93	C
P5	IND mezzanine west near N504 to southbound platform	5.50	4.50	36	276	11	86	90%	90%	75%	0.21	A
P6	IND mezzanine east near N504 to northbound platform	5.50	4.50	50	243	16	76	90%	90%	75%	0.20	A
R500 P5	IRT mezzanine near R500 to IRT platform	9.00	7.75	61	369	19	115	90%	90%	75%	0.17	A
R500 P6	IRT mezzanine near R500 to IRT platform	9.00	7.75	442	474	138	148	90%	90%	75%	0.34	A
R500 P7	IRT mezzanine near R500 to IRT platform	9.00	7.75	2660	577	831	180	90%	90%	75%	1.11	D
R501 P1-P2	IRT mezzanine near R501 to IRT platform	9.00	7.75	702	413	219	129	90%	90%	75%	0.40	A
R501 P3	IRT mezzanine near R501 to IRT platform	9.00	7.75	744	149	233	47	90%	90%	75%	0.31	A
R501 P4	IRT mezzanine near R501 to IRT platform	9.00	7.75	42	159	13	50	90%	90%	75%	0.08	A

Table 4C-45. No Action Alternative Level of Service Summary: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
North side of West 42nd Street at Sixth Avenue (N502)											
Two-Way Turnstiles	5	2,100	3,225	2,843	351	888	110	90%	80%	0.52	B
HEET	1	255	540	345	59	108	18	90%	80%	0.52	B
High Exit Only Turnstile	2	0	1,110	0	121	0	38	100%	80%	0.04	A
South side of West 42nd Street at Sixth Avenue (N503)											
Two-Way Turnstiles	6	2,520	3,870	1,688	1,331	528	416	90%	80%	0.38	A
North side of West 40th Street at Sixth Avenue (N504)											
Two-Way Turnstiles	6	2,520	3,870	3,317	761	1,037	238	90%	80%	0.54	B
HEET	3	765	1,620	1,007	318	315	99	90%	80%	0.54	B
South side of West 42nd Street between Fifth and Sixth Avenues (R500)											
HEET	2	510	1,080	551	162	172	51	90%	80%	0.44	A
High Exit Only Turnstile	1	0	555	0	84	0	26	100%	80%	0.06	A
South side of West 42nd Street at Fifth Avenue (R501)											
Two-Way Turnstiles	8	3,360	5,160	2,494	750	779	234	90%	80%	0.32	A

Table 4C-46. CBD Tolling Alternative: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M18-M19-M20-SB11	N502: northeast corner of Sixth Avenue and West 42nd Street	10.00	8.75	91	2385	28	745	100%	100%	90%	0.65	B
O11-O13	N502: northwest corner of Sixth Avenue and West 42nd Street	7.00	6.00	76	557	24	174	90%	100%	90%	0.27	A
O12-O14	N502: west side of Sixth Ave north of West 42nd Street	7.00	6.00	39	631	12	197	90%	100%	90%	0.29	A
N503 M13-M12	N503: southeast corner of Sixth Avenue and West 42nd Street	5.00	4.00	158	2095	49	655	90%	100%	90%	1.44	E
N503 S8	N503: southeast corner of Sixth Avenue and West 42nd Street	3.00	2.00	158	2095	49	655	90%	100%	90%	2.88	F
O9-O10	N503: southwest corner of Sixth Avenue and West 42nd Street	8.50	7.25	91	940	28	294	90%	100%	90%	0.36	A
N504 M6	N504: southeast corner of Sixth Avenue and West 40th Street	8.00	7.00	238	1063	74	332	90%	100%	90%	0.47	B
N504 S5	N504: southeast corner of Sixth Avenue and West 40th Street	6.00	5.00	238	1063	74	332	90%	100%	90%	0.66	B
N504 M7-M8	N504: northeast corner of Sixth Avenue and West 40th Street	7.00	6.00	83	1166	26	364	90%	100%	90%	0.53	B
N504 S6	N504: northeast corner of Sixth Avenue and West 40th Street	5.00	4.00	83	1166	26	364	90%	100%	90%	0.80	C
N504 M9-M10	N504: northwest corner of Sixth Avenue and West 40th Street	6.00	5.00	89	1654	28	517	100%	100%	90%	0.80	C
N504 O7-O8	N504: northwest corner of Sixth Avenue and West 40th Street	7.00	6.00	89	1654	28	517	100%	100%	90%	0.67	B
O16-O17	N504: northwest corner of Sixth Avenue and West 39th Street	10.00	8.75	110	2331	34	728	100%	100%	90%	0.64	B
R500 S2	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	30	407	9	127	90%	100%	90%	0.28	A
R500 S3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	22	313	7	98	90%	100%	90%	0.21	A
R500 M3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	12.00	10.75	22	313	7	98	90%	100%	90%	0.08	A
R501 M2-M1-S1	R501: southwest corner of West 42nd St and Fifth Ave	5.00	4.00	127	2457	40	768	100%	100%	90%	1.49	E
P13	IND mezzanine west near N502 to southbound platform	9.00	7.75	138	1196	43	374	90%	90%	75%	0.52	B
P14	IND mezzanine east near N502 to northbound platform	9.00	7.75	98	2070	31	647	100%	90%	75%	0.77	C
P10	IND mezzanine east near N503 to northbound platform	5.50	4.50	379	1263	118	395	90%	90%	75%	1.08	D
P11	IND mezzanine west near N503 to southbound platform	5.50	4.50	373	708	117	221	90%	90%	75%	0.70	B
P12	IND mezzanine east near N503 to northbound platform	5.50	4.50	572	1059	179	331	90%	90%	75%	1.05	D
P7	IND mezzanine west near N503 to southbound platform	5.50	4.50	19	550	6	172	100%	90%	75%	0.35	A
P8	IND mezzanine east near N503 to northbound platform	5.50	4.50	7	819	2	256	100%	90%	75%	0.51	B
P9	IND mezzanine west near N503 to southbound platform	5.50	4.50	958	780	299	244	90%	90%	75%	1.08	D
P1	IND mezzanine west near N504 to southbound platform	5.50	4.50	56	807	18	252	90%	90%	75%	0.59	B
P2	IND mezzanine east near N504 to northbound platform	5.50	4.50	60	928	19	290	90%	90%	75%	0.67	B
P3	IND mezzanine west near N504 to southbound platform	5.50	4.50	82	999	26	312	90%	90%	75%	0.73	C
P4	IND mezzanine east near N504 to northbound platform	5.50	4.50	135	1542	42	482	90%	90%	75%	1.13	D
P5	IND mezzanine west near N504 to southbound platform	5.50	4.50	9	687	3	215	100%	90%	75%	0.43	A
P6	IND mezzanine east near N504 to northbound platform	5.50	4.50	13	666	4	208	100%	90%	75%	0.42	A
R500 P5	IRT mezzanine near R500 to IRT platform	9.00	7.75	35	517	11	162	90%	90%	75%	0.22	A
R500 P6	IRT mezzanine near R500 to IRT platform	9.00	7.75	79	1128	25	353	90%	90%	75%	0.48	B
R500 P7	IRT mezzanine near R500 to IRT platform	9.00	7.75	2753	1252	860	391	90%	90%	75%	1.41	E
R501 P1-P2	IRT mezzanine near R501 to IRT platform	9.00	7.75	45	1126	14	352	100%	90%	75%	0.42	A
R501 P3	IRT mezzanine near R501 to IRT platform	9.00	7.75	56	514	18	161	90%	90%	75%	0.22	A
R501 P4	IRT mezzanine near R501 to IRT platform	9.00	7.75	13	276	4	86	100%	90%	75%	0.10	A

Table 4C-47. CBD Tolling Alternative: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
North side of West 42nd Street at Sixth Avenue (N502)											
Two-Way Turnstiles	5	2,100	3,225	184	2,364	57	739	90%	80%	0.35	A
HEET	1	255	540	22	396	7	124	90%	80%	0.35	A
High Exit Only Turnstile	2	0	1,110	0	814	0	254	100%	80%	0.29	A
South side of West 42nd Street at Sixth Avenue (N503)											
Two-Way Turnstiles	6	2,520	3,870	248	3,035	78	948	90%	80%	0.37	A
North side of West 40th Street at Sixth Avenue (N504)											
Two-Way Turnstiles	6	2,520	3,870	222	3,639	69	1,137	90%	80%	0.44	A
HEET	3	765	1,620	67	1,523	21	476	100%	80%	0.39	A
South side of West 42nd Street between Fifth and Sixth Avenues (R500)											
HEET	2	510	1,080	51	476	16	149	90%	80%	0.23	A
High Exit Only Turnstile	1	0	555	0	245	0	76	100%	80%	0.17	A
South side of West 42nd Street at Fifth Avenue (R501)											
Two-Way Turnstiles	8	3,360	5,160	127	2,457	40	768	100%	80%	0.20	A

Table 4C-48. CBD Tolling Alternative: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M18-M19-M20-SB11	N502: northeast corner of Sixth Avenue and West 42nd Street	10.00	8.75	1,551	340	485	106	90%	100%	90%	0.51	B
O11-O13	N502: northwest corner of Sixth Avenue and West 42nd Street	7.00	6.00	901	100	282	31	90%	100%	90%	0.39	A
O12-O14	N502: west side of Sixth Ave north of West 42nd Street	7.00	6.00	784	95	245	30	90%	100%	90%	0.34	A
N503 M13-M12	N503: southeast corner of Sixth Avenue and West 42nd Street	5.00	4.00	1,087	955	340	298	90%	100%	90%	1.24	D
N503 S8	N503: southeast corner of Sixth Avenue and West 42nd Street	3.00	2.00	1,087	955	340	298	90%	100%	90%	2.49	F
O9-O10	N503: southwest corner of Sixth Avenue and West 42nd Street	8.50	7.25	626	389	196	122	90%	100%	90%	0.34	A
N504 M6	N504: southeast corner of Sixth Avenue and West 40th Street	8.00	7.00	1,068	233	334	73	90%	100%	90%	0.44	A
N504 S5	N504: southeast corner of Sixth Avenue and West 40th Street	6.00	5.00	1,068	233	334	73	90%	100%	90%	0.61	B
N504 M7-M8	N504: northeast corner of Sixth Avenue and West 40th Street	7.00	6.00	1,049	279	328	87	90%	100%	90%	0.52	B
N504 S6	N504: northeast corner of Sixth Avenue and West 40th Street	5.00	4.00	1,049	279	328	87	90%	100%	90%	0.79	C
N504 M9-M10	N504: northwest corner of Sixth Avenue and West 40th Street	6.00	5.00	1,083	358	338	112	90%	100%	90%	0.69	B
N504 O7-O8	N504: northwest corner of Sixth Avenue and West 40th Street	7.00	6.00	1,083	358	338	112	90%	100%	90%	0.57	B
O16-O17	N504: northwest corner of Sixth Avenue and West 39th Street	10.00	8.75	1,190	219	372	68	90%	100%	90%	0.38	A
R500 S2	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	306	175	96	55	90%	100%	90%	0.29	A
R500 S3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	5.00	4.00	254	74	79	23	90%	100%	90%	0.19	A
R500 M3	R500: south side of West 42nd Street between Fifth and Sixth Avenues	12.00	10.75	254	74	79	23	90%	100%	90%	0.07	A
R501 M2-M1-S1	R501: southwest corner of West 42nd St and Fifth Ave	5.00	4.00	2,531	757	791	237	90%	100%	90%	1.95	F
P13	IND mezzanine west near N502 to southbound platform	9.00	7.75	2,296	257	718	80	90%	90%	75%	0.86	C
P14	IND mezzanine east near N502 to northbound platform	9.00	7.75	1,176	351	368	110	90%	90%	75%	0.53	B
P10	IND mezzanine east near N503 to northbound platform	5.50	4.50	998	823	312	257	90%	90%	75%	1.13	D
P11	IND mezzanine west near N503 to southbound platform	5.50	4.50	824	600	258	188	90%	90%	75%	0.88	C
P12	IND mezzanine east near N503 to northbound platform	5.50	4.50	773	670	242	209	90%	90%	75%	0.90	C
P7	IND mezzanine west near N503 to southbound platform	5.50	4.50	38	376	12	118	90%	90%	75%	0.28	A
P8	IND mezzanine east near N503 to northbound platform	5.50	4.50	36	524	11	164	90%	90%	75%	0.38	A
P9	IND mezzanine west near N503 to southbound platform	5.50	4.50	1,718	474	537	148	90%	90%	75%	1.31	D
P1	IND mezzanine west near N504 to southbound platform	5.50	4.50	925	356	289	111	90%	90%	75%	0.77	C
P2	IND mezzanine east near N504 to northbound platform	5.50	4.50	561	214	175	67	90%	90%	75%	0.47	B
P3	IND mezzanine west near N504 to southbound platform	5.50	4.50	1,277	354	399	111	90%	90%	75%	0.97	C
P4	IND mezzanine east near N504 to northbound platform	5.50	4.50	1,296	280	405	88	90%	90%	75%	0.93	C
P5	IND mezzanine west near N504 to southbound platform	5.50	4.50	36	285	11	89	90%	90%	75%	0.22	A
P6	IND mezzanine east near N504 to northbound platform	5.50	4.50	51	253	16	79	90%	90%	75%	0.20	A
R500 P5	IRT mezzanine near R500 to IRT platform	9.00	7.75	62	375	19	117	90%	90%	75%	0.17	A
R500 P6	IRT mezzanine near R500 to IRT platform	9.00	7.75	449	481	140	150	90%	90%	75%	0.34	A
R500 P7	IRT mezzanine near R500 to IRT platform	9.00	7.75	2,679	580	837	181	90%	90%	75%	1.12	D
R501 P1-P2	IRT mezzanine near R501 to IRT platform	9.00	7.75	720	420	225	131	90%	90%	75%	0.41	A
R501 P3	IRT mezzanine near R501 to IRT platform	9.00	7.75	763	153	238	48	90%	90%	75%	0.31	A
R501 P4	IRT mezzanine near R501 to IRT platform	9.00	7.75	43	163	13	51	90%	90%	75%	0.08	A

Table 4C-49. CBD Tolling Alternative: 42nd Street Bryant Park Station (B, D, F, M, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
North side of West 42nd Street at Sixth Avenue (N502)											
Two-Way Turnstiles	5	2,100	3,225	2,886	354	902	111	90%	80%	0.53	B
HEET	1	255	540	350	59	109	19	90%	80%	0.52	B
High Exit Only Turnstile	2	0	1,110	0	122	0	38	100%	80%	0.04	A
South side of West 42nd Street at Sixth Avenue (N503)											
Two-Way Turnstiles	6	2,520	3,870	1,713	1,343	535	420	90%	80%	0.39	A
North side of West 40th Street at Sixth Avenue (N504)											
Two-Way Turnstiles	6	2,520	3,870	3,367	768	1,052	240	90%	80%	0.55	B
HEET	3	765	1,620	1,022	321	319	100	90%	80%	0.55	B
South side of West 42nd Street between Fifth and Sixth Avenues (R500)											
HEET	2	510	1,080	559	164	175	51	90%	80%	0.45	A
High Exit Only Turnstile	1	0	555	0	84	0	26	100%	80%	0.06	A
South side of West 42nd Street at Fifth Avenue (R501)											
Two-Way Turnstiles	8	3,360	5,160	2,531	757	791	237	90%	80%	0.33	A

Table 4C-50. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7/S14	R147 FCA: Street stair at southeast corner of Seventh Avenue and West 42nd Street	8.00	6.75	166	533	52	167	90%	100%	90%	0.26	A
M10/S11	R148 FCA: Street stair at southeast corner of Broadway and West 42nd Street	4.00	3.00	147	1,322	46	413	90%	100%	90%	1.25	D
O9/O10/O11	N62A FCA: Street stair at northeast corner of Eighth Avenue and West 42nd Street	10.00	8.75	113	145	35	45	90%	100%	90%	0.07	A
S2/M2	N63 FCA: Street stair at southeast corner of Eighth Avenue and West 40th Street	4.00	3.00	212	1,445	66	452	90%	100%	90%	1.40	E
S8/M9	N62B FCA: Street stair at northwest corner of Eighth Avenue and West 42nd Street	5.00	4.00	387	349	121	109	90%	100%	90%	0.45	A
S10/M11	N61 FCA: Street stair at southwest corner of Eighth Avenue and West 43rd Street	5.00	4.00	371	528	116	165	90%	100%	90%	0.55	B
O11/M12	N60 FCA: Street stair at southwest corner of Eighth Avenue and West 44th Street	7.50	6.25	123	351	38	110	90%	100%	90%	0.19	A
S13/M14	N60 FCA: Street stair at northwest corner of Eighth Avenue and West 44th Street	4.50	3.50	415	589	130	184	90%	100%	90%	0.71	C
S12/M13	N60 FCA: Street stair at southeast corner of Eighth Avenue and West 44th Street	3.50	2.50	77	448	24	140	90%	100%	90%	0.53	B
O3/O4	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	15.50	14.00	389	1,465	122	458	90%	100%	90%	0.33	A
M9	R151 FCA: Street stair at southwest corner of Seventh Avenue and West 42nd Street	13.00	11.75	805	709	252	222	90%	100%	90%	0.31	A
M11	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	14.50	13.00	389	1,465	122	458	90%	100%	90%	0.36	A
O1/O2	R143 FCA: Street stair at southwest corner of Seventh Avenue and West 40th Street	9.50	8.25	445	1,216	139	380	90%	100%	90%	0.50	B
M1/S2	R143 FCA: Street stair at southeast corner of Seventh Avenue and West 40th Street	4.00	3.00	152	1,960	48	613	90%	100%	90%	1.80	F
M2/S2	A21 FCA: Street stair at southwest corner of Broadway and West 40th Street	4.00	3.00	175	1,416	55	443	90%	100%	90%	1.35	E
M4/S4	A21 FCA: Street stair at northwest corner of Broadway and West 40th Street	4.00	3.00	429	758	134	237	90%	100%	90%	0.98	C
M1/S1	A21 FCA: Street stair at southeast corner of Broadway and West 40th Street	4.50	3.50	43	1,364	13	426	100%	100%	90%	0.93	C
M3/S3	A21 FCA: Street stair at northeast corner of Broadway and West 40th Street	4.00	3.00	28	802	9	251	100%	100%	90%	0.64	B
IND P1	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	762	725	238	227	90%	100%	75%	0.53	B
IND P2	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	1,589	626	497	196	90%	100%	75%	0.75	C
IND P3	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	194	787	61	246	90%	80%	75%	0.40	A
IND P4	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	407	376	127	118	90%	80%	75%	0.31	A
IND P5	Connecting stair between N62 paid zone and downtown A/C/E platform	8.50	7.50	153	338	48	106	90%	80%	75%	0.20	A
IND P6	Connecting stair between N62 paid zone and downtown A/C/E platform	9.00	7.75	619	651	193	203	90%	80%	75%	0.49	B
IND P7	Connecting stair between N62B paid zone and downtown A/C/E platform	7.50	6.50	575	449	180	140	90%	80%	75%	0.47	B
IND P8	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	1,169	512	365	160	90%	80%	75%	0.76	C
IND P9	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	1,496	975	468	305	90%	80%	75%	1.13	D
IND P10	Connecting stair between N61 paid zone and uptown A/C/E platform	7.50	6.50	33	282	10	88	90%	80%	75%	0.15	A
IND P11	Connecting stair between N61 paid zone and uptown A/C/E platform	6.00	5.00	448	384	140	120	90%	80%	75%	0.50	B
IND P12	Connecting stair between N60 paid zone and uptown A/C/E platform	5.00	4.00	8	312	3	98	100%	80%	75%	0.22	A
IND P13	Connecting stair between N60 paid zone and uptown A/C/E platform	7.50	6.50	139	445	43	139	90%	80%	75%	0.27	A
IND P14	Connecting stair between N62B paid zone and downtown A/C/E platform	6.00	4.75	396	731	124	228	90%	80%	75%	0.72	C
IND P15	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.25	2,745	520	858	163	90%	80%	75%	1.53	E
IND P16	Connecting stair between N60 paid zone and uptown A/C/E platform	8.00	6.75	61	227	19	71	90%	80%	75%	0.13	A
FLU PL1/PL2	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	2,378	672	743	210	90%	80%	75%	1.43	E
FLU PL3	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	733	675	229	211	90%	80%	75%	0.67	B
FLU PL5	Connecting stair between lower mezzanine and No. 7 platform	8.75	7.50	2,301	1,436	719	449	90%	80%	75%	1.48	E
FLU PL7	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	1,295	799	405	250	90%	80%	75%	0.92	C
FLU PL8	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	2,150	1,143	672	357	90%	80%	75%	1.44	E
IRT P1	Connecting stair between R143 paid zone and uptown 1/2/3 platform	11.50	10.00	284	1,388	89	434	90%	100%	75%	0.49	B
IRT P2	Connecting stair between R143 paid zone and downtown 1/2/3 platform	11.50	10.00	398	2,155	124	673	90%	100%	75%	0.76	C

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
IRT P3/P5	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	397	2,981	124	932	90%	80%	75%	1.66	E
IRT P4/P6	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	470	1,904	147	595	90%	80%	75%	1.16	D
IRT P7/P9	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	1,348	1,444	421	451	90%	80%	75%	1.34	E
IRT P8/P10	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	848	490	265	153	90%	80%	75%	0.63	B
IRT ML5	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.75	6.50	1,749	1,964	547	614	90%	80%	75%	1.71	F
IRT ML6	Connecting stair between lower mezzanine and uptown 1/2/3 platform	8.00	6.75	2,074	938	648	293	90%	80%	75%	1.32	D
IRT ML9	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.00	5.75	1,017	939	318	293	90%	80%	75%	1.02	D
IRT ML10	Connecting stair between lower mezzanine and uptown 1/2/3 platform	7.00	5.75	456	650	143	203	90%	80%	75%	0.58	B
IRT P11	Connecting stair between R151 paid zone and downtown 1/2/3 platform	15.00	13.50	3,127	3,096	977	968	90%	80%	75%	1.38	E
IRT P12	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.00	5.75	91	1,144	28	358	90%	80%	75%	0.66	B
IRT P16	Connecting stair between R151 paid zone and uptown 1/2/3 platform	15.00	13.50	2,094	2,755	654	861	90%	80%	75%	1.08	D
ML13/ML14/ML15/ML16	Connecting stair between lower and upper mezzanine	8.00	6.75	365	1,256	114	393	90%	80%	80%	0.70	B
ML20/ML21/ML22/ML23	Connecting stair between lower and upper mezzanine	6.50	5.25	269	64	84	20	90%	80%	80%	0.18	A
BMT P1	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	216	1,349	68	422	90%	100%	75%	0.93	C
BMT P2	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	123	1,286	38	402	90%	100%	75%	0.77	C
BMT P3	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	285	929	89	290	90%	100%	75%	0.70	C
BMT P4	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	256	828	80	259	90%	100%	75%	0.57	B
BMT P5/P7	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	7.50	6.25	1,372	1,999	429	625	90%	80%	75%	1.62	E
BMT P6/P8	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.50	6.25	152	1,383	48	432	90%	80%	75%	0.75	C
BMT P9	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	8.50	7.25	1,284	692	401	216	90%	80%	75%	0.81	C
BMT P10	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.75	6.50	1,405	780	439	244	90%	80%	75%	1.00	C
BMT P11	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	1,817	1,158	568	362	90%	80%	75%	1.96	F
BMT P13	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	1,548	793	484	248	90%	80%	75%	1.54	E
BMT P15/P17	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	8.00	6.75	3,365	1,951	1,052	610	90%	80%	75%	2.34	F

Table 4C-51. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E216	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	0	2,098	0	656	945	0.93	C
E217	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	486	0	152	0	945	0.21	A
E218	Connecting escalator between upper mezzanine and No. 7 platform	1	32	75%	0	1,088	0	340	750	0.60	B
E261	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	100%	227	0	71	0	945	0.08	A
E262	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	90%	0	539	0	168	945	0.20	A
E267	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	100%	453	0	142	0	945	0.15	A
E268	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	90%	0	1,468	0	459	945	0.54	B

Table 4C-52. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Eighth Avenue and West 44th Street - southwest corner (N60)											
Two-Way Turnstiles	8	3,360	5,160	615	1,388	192	434	90%	90%	0.17	A
Eighth Avenue and West 43rd Street - southwest corner (N61)											
HEET	2	510	1,080	371	528	116	165	90%	90%	0.44	A
Eighth Avenue and West 42nd Street - southeast corner (N62A)											
Two-Way Turnstiles	6	2,520	3,870	802	28	251	9	100%	90%	0.10	A
Eighth Avenue and West 41st Street - northwest corner (N62)											
Two-Way Turnstiles	8	3,360	5,160	3,148	909	984	284	90%	90%	0.39	A
High Exit Only Turnstile	1	0	555	0	98	0	31	100%	90%	0.06	A
Eighth Avenue and West 42nd Street - northwest corner (N62B)											
Two-Way Turnstiles	2	510	1,080	387	349	121	109	90%	90%	0.39	A
Eighth Avenue and West 40th Street - northwest corner (N63)											
Two-Way Turnstiles	7	2,940	4,515	2,117	1,180	662	369	90%	90%	0.35	A
HEET	2	510	1,080	367	282	115	88	90%	90%	0.35	A
High Exit Only Turnstile	1	0	555	0	145	0	45	100%	90%	0.09	A
Eighth Avenue and West 41st Street (N63A)											
Two-Way Turnstiles	10	4,200	6,450	6,111	2,486	1,910	777	90%	90%	0.65	B
Broadway and West 40th Street (A21)											
Two-Way Turnstiles	8	3,360	5,160	675	3,919	211	1,225	90%	90%	0.36	A
High Exit Only Turnstile	1	0	555	0	421	0	132	100%	90%	0.26	A
Seventh Avenue and West 40th Street (R143)											
Two-Way Turnstiles	8	3,360	5,160	597	3,176	187	993	90%	90%	0.30	A
Seventh Avenue and West 42nd Street - southeast corner (R147)											
Two-Way Turnstiles	7	2,940	4,515	619	2,001	193	625	90%	90%	0.24	A
Broadway and West 42nd Street - southeast corner (R148-West)											
Two-Way Turnstiles	2	840	1,290	74	661	23	207	90%	90%	0.23	A
Broadway and West 42nd Street - southeast corner (R148-East)											
Two-Way Turnstiles	3	1,260	1,935	74	661	23	207	90%	90%	0.15	A
Seventh Avenue and West 42nd Street - southwest corner (R151)											
Two-Way Turnstiles	9	3,780	5,805	1,194	2,174	373	679	90%	90%	0.25	A

Table 4C-53. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7/S14	R147 FCA: Street stair at southeast corner of Seventh Avenue and West 42nd Street	8.00	6.75	1557	139	487	43	90%	100%	90%	0.59	B
M10/S11	R148 FCA: Street stair at southeast corner of Broadway and West 42nd Street	4.00	3.00	1,656	370	518	116	90%	100%	90%	1.60	E
O9/O10/O11	N62A FCA: Street stair at northeast corner of Eighth Avenue and West 42nd Street	10.00	8.75	405	132	127	41	90%	100%	90%	0.15	A
S2/M2	N63 FCA: Street stair at southeast corner of Eighth Avenue and West 40th Street	4.00	3.00	1,249	241	390	75	90%	100%	90%	1.17	D
S8/M9	N62B FCA: Street stair at northwest corner of Eighth Avenue and West 42nd Street	5.00	4.00	423	710	132	222	90%	100%	90%	0.70	C
S10/M11	N61 FCA: Street stair at southwest corner of Eighth Avenue and West 43rd Street	5.00	4.00	502	498	157	156	90%	100%	90%	0.61	B
O11/M12	N60 FCA: Street stair at southwest corner of Eighth Avenue and West 44th Street	7.50	6.25	220	193	69	60	90%	100%	90%	0.16	A
S13/M14	N60 FCA: Street stair at northwest corner of Eighth Avenue and West 44th Street	4.50	3.50	712	658	223	206	90%	100%	90%	0.96	C
S12/M13	N60 FCA: Street stair at southeast corner of Eighth Avenue and West 44th Street	3.50	2.50	568	401	178	125	90%	100%	90%	0.94	C
O3/O4	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	15.50	14.00	1,749	1,065	547	333	90%	100%	90%	0.49	B
M9	R151 FCA: Street stair at southwest corner of Seventh Avenue and West 42nd Street	13.00	11.75	763	798	238	249	90%	100%	90%	0.32	A
M11	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	14.50	13.00	1,749	1,065	547	333	90%	100%	90%	0.52	B
O1/O2	R143 FCA: Street stair at southwest corner of Seventh Avenue and West 40th Street	9.50	8.25	954	645	298	202	90%	100%	90%	0.47	B
M1/S2	R143 FCA: Street stair at southeast corner of Seventh Avenue and West 40th Street	4.00	3.00	2,143	328	670	103	90%	100%	90%	1.94	F
M2/S2	A21 FCA: Street stair at southwest corner of Broadway and West 40th Street	4.00	3.00	1,536	471	480	147	90%	100%	90%	1.59	E
M4/S4	A21 FCA: Street stair at northwest corner of Broadway and West 40th Street	4.00	3.00	377	660	118	206	90%	100%	90%	0.86	C
M1/S1	A21 FCA: Street stair at southeast corner of Broadway and West 40th Street	4.50	3.50	1,157	289	362	90	90%	100%	90%	0.98	C
M3/S3	A21 FCA: Street stair at northeast corner of Broadway and West 40th Street	4.00	3.00	518	272	162	85	90%	100%	90%	0.63	B
IND P1	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	825	946	258	296	90%	100%	75%	0.64	B
IND P2	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	551	677	172	212	90%	100%	75%	0.45	A
IND P3	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	167	68	52	21	90%	80%	75%	0.09	A
IND P4	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	384	699	120	218	90%	80%	75%	0.44	A
IND P5	Connecting stair between N62 paid zone and downtown A/C/E platform	8.50	7.50	280	453	88	142	90%	80%	75%	0.30	A
IND P6	Connecting stair between N62 paid zone and downtown A/C/E platform	9.00	7.75	227	1,102	71	344	90%	80%	75%	0.52	B
IND P7	Connecting stair between N62B paid zone and downtown A/C/E platform	7.50	6.50	1,016	397	318	124	90%	80%	75%	0.64	B
IND P8	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	1,065	1,168	333	365	90%	80%	75%	1.03	D
IND P9	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	467	1,738	146	543	90%	80%	75%	1.03	D
IND P10	Connecting stair between N61 paid zone and uptown A/C/E platform	7.50	6.50	53	567	17	177	90%	80%	75%	0.29	A
IND P11	Connecting stair between N61 paid zone and uptown A/C/E platform	6.00	5.00	238	691	74	216	90%	80%	75%	0.56	B
IND P12	Connecting stair between N60 paid zone and uptown A/C/E platform	5.00	4.00	16	371	5	116	100%	80%	75%	0.27	A
IND P13	Connecting stair between N60 paid zone and uptown A/C/E platform	7.50	6.50	280	649	88	203	90%	80%	75%	0.43	A
IND P14	Connecting stair between N62B paid zone and downtown A/C/E platform	6.00	4.75	660	836	206	261	90%	80%	75%	0.94	C
IND P15	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.25	1,831	896	572	280	90%	80%	75%	1.29	D
IND P16	Connecting stair between N60 paid zone and uptown A/C/E platform	8.00	6.75	244	307	76	96	90%	80%	75%	0.24	A
FLU PL1/PL2	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	1,479	1,339	462	418	90%	80%	75%	1.34	E
FLU PL3	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	237	1,407	74	440	90%	80%	75%	0.80	C
FLU PL5	Connecting stair between lower mezzanine and No. 7 platform	8.75	7.50	1,731	846	541	264	90%	80%	75%	1.02	D
FLU PL7	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	2,818	870	881	272	90%	80%	75%	1.61	E
FLU PL8	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	2,270	914	709	286	90%	80%	75%	1.39	E
IRT P1	Connecting stair between R143 paid zone and uptown 1/2/3 platform	11.50	10.00	2,311	585	722	183	90%	100%	75%	0.72	C
IRT P2	Connecting stair between R143 paid zone and downtown 1/2/3 platform	11.50	10.00	1,129	601	353	188	90%	100%	75%	0.45	A

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
IRT P3/P5	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	690	1,690	216	528	90%	80%	75%	1.15	D
IRT P4/P6	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	1,055	1,370	330	428	90%	80%	75%	1.17	D
IRT P7/P9	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	1,027	727	321	227	90%	80%	75%	0.83	C
IRT P8/P10	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	1,162	453	363	142	90%	80%	75%	0.76	C
IRT ML5	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.75	6.50	1,624	1,533	508	479	90%	80%	75%	1.45	E
IRT ML6	Connecting stair between lower mezzanine and uptown 1/2/3 platform	8.00	6.75	1,286	2,394	402	748	90%	80%	75%	1.65	E
IRT ML9	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.00	5.75	968	435	303	136	90%	80%	75%	0.72	C
IRT ML10	Connecting stair between lower mezzanine and uptown 1/2/3 platform	7.00	5.75	961	549	300	172	90%	80%	75%	0.78	C
IRT P11	Connecting stair between R151 paid zone and downtown 1/2/3 platform	15.00	13.50	5,078	1,204	1,587	376	90%	80%	75%	1.36	E
IRT P12	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.00	5.75	441	784	138	245	90%	80%	75%	0.64	B
IRT P16	Connecting stair between R151 paid zone and uptown 1/2/3 platform	15.00	13.50	4,647	1,429	1,452	447	90%	80%	75%	1.32	D
ML13/ML14/ML15/ML16	Connecting stair between lower and upper mezzanine	8.00	6.75	1,551	887	485	277	90%	80%	80%	1.05	D
ML20/ML21/ML22/ML23	Connecting stair between lower and upper mezzanine	6.50	5.25	1,124	61	351	19	100%	80%	80%	0.59	B
BMT P1	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	1,019	510	318	159	90%	100%	75%	0.79	C
BMT P2	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	641	780	200	244	90%	100%	75%	0.71	C
BMT P3	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	1,076	224	336	70	90%	100%	75%	0.64	B
BMT P4	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	1,048	449	328	140	90%	100%	75%	0.69	B
BMT P5/P7	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	7.50	6.25	1,084	3,493	339	1,092	90%	80%	75%	2.23	F
BMT P6/P8	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.50	6.25	392	926	123	289	90%	80%	75%	0.64	B
BMT P9	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	8.50	7.25	2,155	507	673	158	90%	80%	75%	1.07	D
BMT P10	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.75	6.50	2,848	1,132	890	354	90%	80%	75%	1.81	F
BMT P11	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	954	1,075	298	336	90%	80%	75%	1.35	E
BMT P13	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	373	811	117	253	90%	80%	75%	0.80	C
BMT P15/P17	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	8.00	6.75	1,327	1,886	415	589	90%	80%	75%	1.43	E

Table 4C-54. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E216	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	0	1,530	0	478	945	0.67	B
E217	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	1,316	0	411	0	945	0.58	B
E218	Connecting escalator between upper mezzanine and No. 7 platform	1	32	75%	0	437	0	137	750	0.24	A
E261	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	100%	357	0	112	0	945	0.12	A
E262	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	90%	0	687	0	215	945	0.25	A
E267	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	100%	1,053	0	329	0	945	0.35	A
E268	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	90%	0	1,321	0	413	945	0.49	B

Table 4C-55. Existing Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Eighth Avenue and West 44th Street - southwest corner (N60)											
Two-Way Turnstiles	8	3,360	5,160	1,500	1,252	469	391	90%	90%	0.25	A
Eighth Avenue and West 43rd Street - southwest corner (N61)											
HEET	2	510	1,080	502	498	157	156	90%	90%	0.52	B
Eighth Avenue and West 42nd Street - southeast corner (N62A)											
Two-Way Turnstiles	6	2,520	3,870	649	341	203	107	90%	90%	0.12	A
Eighth Avenue and West 41st Street - northwest corner (N62)											
Two-Way Turnstiles	8	3,360	5,160	856	2,416	268	755	90%	90%	0.27	A
High Exit Only Turnstile	1	0	555	0	260	0	81	100%	90%	0.16	A
Eighth Avenue and West 42nd Street - northwest corner (N62B)											
Two-Way Turnstiles	2	510	1,080	423	710	132	222	90%	90%	0.54	B
Eighth Avenue and West 40th Street - northwest corner (N63)											
Two-Way Turnstiles	7	2,940	4,515	1,164	1,550	364	484	90%	90%	0.27	A
HEET	2	510	1,080	202	371	63	116	90%	90%	0.27	A
High Exit Only Turnstile	1	0	555	0	191	0	60	100%	90%	0.12	A
Eighth Avenue and West 41st Street (N63A)											
Two-Way Turnstiles	10	4,200	6,450	2,113	5,194	660	1,623	90%	90%	0.49	B
Broadway and West 40th Street (A21)											
Two-Way Turnstiles	8	3,360	5,160	3,588	1,528	1,121	478	90%	90%	0.49	B
High Exit Only Turnstile	1	0	555	0	164	0	51	100%	90%	0.10	A
Seventh Avenue and West 40th Street (R143)											
Two-Way Turnstiles	8	3,360	5,160	3,097	973	968	304	90%	90%	0.39	A
Seventh Avenue and West 42nd Street - southeast corner (R147)											
Two-Way Turnstiles	7	2,940	4,515	2,610	1,460	816	456	90%	90%	0.43	A
Broadway and West 42nd Street - southeast corner (R148-West)											
Two-Way Turnstiles	2	840	1,290	828	185	259	58	90%	90%	0.40	A
Broadway and West 42nd Street - southeast corner (R148-East)											
Two-Way Turnstiles	3	1,260	1,935	828	185	259	58	90%	90%	0.27	A
Seventh Avenue and West 42nd Street - southwest corner (R151)											
Two-Way Turnstiles	9	3,780	5,805	2,512	1,863	785	582	90%	90%	0.35	A

Table 4C-56. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7/S14	R147 FCA: Street stair at southeast corner of Seventh Avenue and West 42nd Street	8.00	6.75	166	533	52	167	90%	100%	90%	0.26	A
M10/S11	R148 FCA: Street stair at southeast corner of Broadway and West 42nd Street	4.00	3.00	147	1,322	46	413	90%	100%	90%	1.25	D
O9/O10/O11	N62A FCA: Street stair at northeast corner of Eighth Avenue and West 42nd Street	10.00	8.75	113	145	35	45	90%	100%	90%	0.07	A
S2/M2	N63 FCA: Street stair at southeast corner of Eighth Avenue and West 40th Street	4.00	3.00	212	1,445	66	452	90%	100%	90%	1.40	E
S8/M9	N62B FCA: Street stair at northwest corner of Eighth Avenue and West 42nd Street	5.00	4.00	387	349	121	109	90%	100%	90%	0.45	A
S10/M11	N61 FCA: Street stair at southwest corner of Eighth Avenue and West 43rd Street	5.00	4.00	371	528	116	165	90%	100%	90%	0.55	B
O11/M12	N60 FCA: Street stair at southwest corner of Eighth Avenue and West 44th Street	7.50	6.25	123	351	38	110	90%	100%	90%	0.19	A
S13/M14	N60 FCA: Street stair at northwest corner of Eighth Avenue and West 44th Street	4.50	3.50	415	589	130	184	90%	100%	90%	0.71	C
S12/M13	N60 FCA: Street stair at southeast corner of Eighth Avenue and West 44th Street	3.50	2.50	77	448	24	140	90%	100%	90%	0.53	B
O3/O4	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	15.50	14.00	389	1,465	122	458	90%	100%	90%	0.33	A
M9	R151 FCA: Street stair at southwest corner of Seventh Avenue and West 42nd Street	13.00	11.75	805	709	252	222	90%	100%	90%	0.31	A
M11	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	14.50	13.00	389	1,465	122	458	90%	100%	90%	0.36	A
O1/O2	R143 FCA: Street stair at southwest corner of Seventh Avenue and West 40th Street	9.50	8.25	445	1,216	139	380	90%	100%	90%	0.50	B
M1/S2	R143 FCA: Street stair at southeast corner of Seventh Avenue and West 40th Street	4.00	3.00	152	1,960	48	613	90%	100%	90%	1.80	F
M2/S2	A21 FCA: Street stair at southwest corner of Broadway and West 40th Street	4.00	3.00	175	1,416	55	443	90%	100%	90%	1.35	E
M4/S4	A21 FCA: Street stair at northwest corner of Broadway and West 40th Street	4.00	3.00	429	758	134	237	90%	100%	90%	0.98	C
M1/S1	A21 FCA: Street stair at southeast corner of Broadway and West 40th Street	4.50	3.50	43	1,364	13	426	100%	100%	90%	0.93	C
M3/S3	A21 FCA: Street stair at northeast corner of Broadway and West 40th Street	4.00	3.00	28	802	9	251	100%	100%	90%	0.64	B
IND P1	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	762	725	238	227	90%	100%	75%	0.53	B
IND P2	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	1,589	626	497	196	90%	100%	75%	0.75	C
IND P3	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	194	787	61	246	90%	80%	75%	0.40	A
IND P4	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	407	376	127	118	90%	80%	75%	0.31	A
IND P5	Connecting stair between N62 paid zone and downtown A/C/E platform	8.50	7.50	153	338	48	106	90%	80%	75%	0.20	A
IND P6	Connecting stair between N62 paid zone and downtown A/C/E platform	9.00	7.75	619	651	193	203	90%	80%	75%	0.49	B
IND P7	Connecting stair between N62B paid zone and downtown A/C/E platform	7.50	6.50	575	449	180	140	90%	80%	75%	0.47	B
IND P8	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	1,169	512	365	160	90%	80%	75%	0.76	C
IND P9	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	1,496	975	468	305	90%	80%	75%	1.13	D
IND P10	Connecting stair between N61 paid zone and uptown A/C/E platform	7.50	6.50	33	282	10	88	90%	80%	75%	0.15	A
IND P11	Connecting stair between N61 paid zone and uptown A/C/E platform	6.00	5.00	448	384	140	120	90%	80%	75%	0.50	B
IND P12	Connecting stair between N60 paid zone and uptown A/C/E platform	5.00	4.00	8	312	3	98	100%	80%	75%	0.22	A
IND P13	Connecting stair between N60 paid zone and uptown A/C/E platform	7.50	6.50	139	445	43	139	90%	80%	75%	0.27	A
IND P14	Connecting stair between N62B paid zone and downtown A/C/E platform	6.00	4.75	396	731	124	228	90%	80%	75%	0.72	C
IND P15	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.25	2,745	520	858	163	90%	80%	75%	1.53	E
IND P16	Connecting stair between N60 paid zone and uptown A/C/E platform	8.00	6.75	61	227	19	71	90%	80%	75%	0.13	A
FLU PL1/PL2	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	2,378	672	743	210	90%	80%	75%	1.43	E
FLU PL3	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	733	675	229	211	90%	80%	75%	0.67	B
FLU PL5	Connecting stair between lower mezzanine and No. 7 platform	8.75	7.50	2,301	1,436	719	449	90%	80%	75%	1.48	E
FLU PL7	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	1,295	799	405	250	90%	80%	75%	0.92	C
FLU PL8	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	2,150	1,143	672	357	90%	80%	75%	1.44	E
IRT P1	Connecting stair between R143 paid zone and uptown 1/2/3 platform	11.50	10.00	284	1,388	89	434	90%	100%	75%	0.49	B
IRT P2	Connecting stair between R143 paid zone and downtown 1/2/3 platform	11.50	10.00	398	2,155	124	673	90%	100%	75%	0.76	C

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
IRT P3/P5	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	397	2,981	124	932	90%	80%	75%	1.66	E
IRT P4/P6	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	470	1,904	147	595	90%	80%	75%	1.16	D
IRT P7/P9	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	1,348	1,444	421	451	90%	80%	75%	1.34	E
IRT P8/P10	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	848	490	265	153	90%	80%	75%	0.63	B
IRT ML5	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.75	6.50	1,749	1,964	547	614	90%	80%	75%	1.71	F
IRT ML6	Connecting stair between lower mezzanine and uptown 1/2/3 platform	8.00	6.75	2,074	938	648	293	90%	80%	75%	1.32	D
IRT ML9	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.00	5.75	1,017	939	318	293	90%	80%	75%	1.02	D
IRT ML10	Connecting stair between lower mezzanine and uptown 1/2/3 platform	7.00	5.75	456	650	143	203	90%	80%	75%	0.58	B
IRT P11	Connecting stair between R151 paid zone and downtown 1/2/3 platform	15.00	13.50	3,127	3,096	977	968	90%	80%	75%	1.38	E
IRT P12	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.00	5.75	91	1,144	28	358	90%	80%	75%	0.66	B
IRT P16	Connecting stair between R151 paid zone and uptown 1/2/3 platform	15.00	13.50	2,094	2,755	654	861	90%	80%	75%	1.08	D
ML13/ML14/ML15/ML16	Connecting stair between lower and upper mezzanine	8.00	6.75	365	1,256	114	393	90%	80%	80%	0.70	B
ML20/ML21/ML22/ML23	Connecting stair between lower and upper mezzanine	6.50	5.25	269	64	84	20	90%	80%	80%	0.18	A
BMT P1	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	216	1,349	68	422	90%	100%	75%	0.93	C
BMT P2	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	123	1,286	38	402	90%	100%	75%	0.77	C
BMT P3	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	285	929	89	290	90%	100%	75%	0.70	C
BMT P4	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	256	828	80	259	90%	100%	75%	0.57	B
BMT P5/P7	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	7.50	6.25	1,372	1,999	429	625	90%	80%	75%	1.62	E
BMT P6/P8	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.50	6.25	152	1,383	48	432	90%	80%	75%	0.75	C
BMT P9	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	8.50	7.25	1,284	692	401	216	90%	80%	75%	0.81	C
BMT P10	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.75	6.50	1,405	780	439	244	90%	80%	75%	1.00	C
BMT P11	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	1,817	1,158	568	362	90%	80%	75%	1.96	F
BMT P13	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	1,548	793	484	248	90%	80%	75%	1.54	E
BMT P15/P17	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	8.00	6.75	3,365	1,951	1,052	610	90%	80%	75%	2.34	F

Table 4C-57. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E216	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	0	2,098	0	656	945	0.93	C
E217	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	486	0	152	0	945	0.21	A
E218	Connecting escalator between upper mezzanine and No. 7 platform	1	32	75%	0	1,088	0	340	750	0.60	B
E261	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	100%	227	0	71	0	945	0.08	A
E262	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	90%	0	539	0	168	945	0.20	A
E267	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	100%	453	0	142	0	945	0.15	A
E268	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	90%	0	1,468	0	459	945	0.54	B

Table 4C-58. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Eighth Avenue and West 44th Street - southwest corner (N60)											
Two-Way Turnstiles	8	3,360	5,160	615	1,388	192	434	90%	90%	0.17	A
Eighth Avenue and West 43rd Street - southwest corner (N61)											
HEET	2	510	1,080	371	528	116	165	90%	90%	0.44	A
Eighth Avenue and West 42nd Street - southeast corner (N62A)											
Two-Way Turnstiles	6	2,520	3,870	802	28	251	9	100%	90%	0.10	A
Eighth Avenue and West 41st Street - northwest corner (N62)											
Two-Way Turnstiles	8	3,360	5,160	3,148	909	984	284	90%	90%	0.39	A
High Exit Only Turnstile	1	0	555	0	98	0	31	100%	90%	0.06	A
Eighth Avenue and West 42nd Street - northwest corner (N62B)											
Two-Way Turnstiles	2	510	1,080	387	349	121	109	90%	90%	0.39	A
Eighth Avenue and West 40th Street - northwest corner (N63)											
Two-Way Turnstiles	7	2,940	4,515	2,117	1,180	662	369	90%	90%	0.35	A
HEET	2	510	1,080	367	282	115	88	90%	90%	0.35	A
High Exit Only Turnstile	1	0	555	0	145	0	45	100%	90%	0.09	A
Eighth Avenue and West 41st Street (N63A)											
Two-Way Turnstiles	10	4,200	6,450	6,111	2,486	1,910	777	90%	90%	0.65	B
Broadway and West 40th Street (A21)											
Two-Way Turnstiles	8	3,360	5,160	675	3,919	211	1,225	90%	90%	0.36	A
High Exit Only Turnstile	1	0	555	0	421	0	132	100%	90%	0.26	A
Seventh Avenue and West 40th Street (R143)											
Two-Way Turnstiles	8	3,360	5,160	597	3,176	187	993	90%	90%	0.30	A
Seventh Avenue and West 42nd Street - southeast corner (R147)											
Two-Way Turnstiles	7	2,940	4,515	619	2,001	193	625	90%	90%	0.24	A
Broadway and West 42nd Street - southeast corner (R148)											
Two-Way Turnstiles	5	2,100	3,225	1,322	148	413	46	90%	90%	0.24	A
Seventh Avenue and West 42nd Street - southwest corner (R151)											
Two-Way Turnstiles	9	3,780	5,805	1,194	2,174	373	679	90%	90%	0.25	A

Table 4C-59. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7/S14	R147 FCA: Street stair at southeast corner of Seventh Ave and 42nd St	8.00	6.75	1,557	139	487	43	90%	100%	90%	0.59	B
M10/S11	R148 FCA: Street stair at southeast corner of Broadway and 42nd St	4.00	3.00	1,656	370	518	116	90%	100%	90%	1.60	E
O9/O10/O11	N62A FCA: Street stair at northeast corner of Eighth Ave and 42nd St	10.00	8.75	405	132	127	41	90%	100%	90%	0.15	A
S2/M2	N63 FCA: Street stair at southeast corner of Eighth Ave and 40th St	4.00	3.00	1,249	241	390	75	90%	100%	90%	1.17	D
S8/M9	N62B FCA: Street stair at northwest corner of Eighth Ave and 42nd St	5.00	4.00	423	710	132	222	90%	100%	90%	0.70	C
S10/M11	N61 FCA: Street stair at southwest corner of Eighth Ave and 43rd St	5.00	4.00	502	498	157	156	90%	100%	90%	0.61	B
O11/M12	N60 FCA: Street stair at southwest corner of Eighth Ave and 44th St	7.50	6.25	220	193	69	60	90%	100%	90%	0.16	A
S13/M14	N60 FCA: Street stair at northwest corner of Eighth Ave and 44th St	4.50	3.50	712	658	223	206	90%	100%	90%	0.96	C
S12/M13	N60 FCA: Street stair at southeast corner of Eighth Ave and 44th St	3.50	2.50	568	401	178	125	90%	100%	90%	0.94	C
O3/O4	R151 FCA: Street stair at northwest corner of Seventh Ave and 42nd St	15.50	14.00	1,749	1,065	547	333	90%	100%	90%	0.49	B
M9	R151 FCA: Street stair at southwest corner of Seventh Ave and 42nd St	13.00	11.75	763	798	238	249	90%	100%	90%	0.32	A
M11	R151 FCA: Street stair at northwest corner of Seventh Ave and 42nd St	14.50	13.00	1,749	1,065	547	333	90%	100%	90%	0.52	B
O1/O2	R143 FCA: Street stair at southwest corner of Seventh Ave and 40th St	9.50	8.25	954	645	298	202	90%	100%	90%	0.47	B
M1/S2	R143 FCA: Street stair at southeast corner of Seventh Ave and 40th St	4.00	3.00	2,143	328	670	103	90%	100%	90%	1.94	F
M2/S2	A21 FCA: Street stair at southwest corner of Broadway and 40th St	4.00	3.00	1,536	471	480	147	90%	100%	90%	1.59	E
M4/S4	A21 FCA: Street stair at northwest corner of Broadway and 40th St	4.00	3.00	377	660	118	206	90%	100%	90%	0.86	C
M1/S1	A21 FCA: Street stair at southeast corner of Broadway and 40th St	4.50	3.50	1,157	289	362	90	90%	100%	90%	0.98	C
M3/S3	A21 FCA: Street stair at northeast corner of Broadway and 40th St	4.00	3.00	518	272	162	85	90%	100%	90%	0.63	B
IND P1	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	825	946	258	296	90%	100%	75%	0.64	B
IND P2	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	551	677	172	212	90%	100%	75%	0.45	A
IND P3	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	167	68	52	21	90%	80%	75%	0.09	A
IND P4	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	384	699	120	218	90%	80%	75%	0.44	A
IND P5	Connecting stair between N62 paid zone and downtown A/C/E platform	8.50	7.50	280	453	88	142	90%	80%	75%	0.30	A
IND P6	Connecting stair between N62 paid zone and downtown A/C/E platform	9.00	7.75	227	1,102	71	344	90%	80%	75%	0.52	B
IND P7	Connecting stair between N62B paid zone and downtown A/C/E platform	7.50	6.50	1,016	397	318	124	90%	80%	75%	0.64	B
IND P8	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	1,065	1,168	333	365	90%	80%	75%	1.03	D
IND P9	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	467	1,738	146	543	90%	80%	75%	1.03	D
IND P10	Connecting stair between N61 paid zone and uptown A/C/E platform	7.50	6.50	53	567	17	177	90%	80%	75%	0.29	A
IND P11	Connecting stair between N61 paid zone and uptown A/C/E platform	6.00	5.00	238	691	74	216	90%	80%	75%	0.56	B
IND P12	Connecting stair between N60 paid zone and uptown A/C/E platform	5.00	4.00	16	371	5	116	100%	80%	75%	0.27	A
IND P13	Connecting stair between N60 paid zone and uptown A/C/E platform	7.50	6.50	280	649	88	203	90%	80%	75%	0.43	A
IND P14	Connecting stair between N62B paid zone and downtown A/C/E platform	6.00	4.75	660	836	206	261	90%	80%	75%	0.94	C
IND P15	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.25	1,831	896	572	280	90%	80%	75%	1.29	D
IND P16	Connecting stair between N60 paid zone and uptown A/C/E platform	8.00	6.75	244	307	76	96	90%	80%	75%	0.24	A
FLU PL1/PL2	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	1,479	1,339	462	418	90%	80%	75%	1.34	E
FLU PL3	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	237	1,407	74	440	90%	80%	75%	0.80	C
FLU PL5	Connecting stair between lower mezzanine and No. 7 platform	8.75	7.50	1,731	846	541	264	90%	80%	75%	1.02	D
FLU PL7	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	2,818	870	881	272	90%	80%	75%	1.61	E
FLU PL8	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	2,270	914	709	286	90%	80%	75%	1.39	E
IRT P1	Connecting stair between R143 paid zone and uptown 1/2/3 platform	11.50	10.00	2,311	585	722	183	90%	100%	75%	0.72	C
IRT P2	Connecting stair between R143 paid zone and downtown 1/2/3 platform	11.50	10.00	1,129	601	353	188	90%	100%	75%	0.45	A

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
IRT P3/P5	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	690	1,690	216	528	90%	80%	75%	1.15	D
IRT P4/P6	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	1,055	1,370	330	428	90%	80%	75%	1.17	D
IRT P7/P9	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	1,027	727	321	227	90%	80%	75%	0.83	C
IRT P8/P10	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	1,162	453	363	142	90%	80%	75%	0.76	C
IRT ML5	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.75	6.50	1,533	1,624	479	508	90%	80%	75%	1.45	E
IRT ML6	Connecting stair between lower mezzanine and uptown 1/2/3 platform	8.00	6.75	1,286	2,394	402	748	90%	80%	75%	1.65	E
IRT ML9	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.00	5.75	968	435	303	136	90%	80%	75%	0.72	C
IRT ML10	Connecting stair between lower mezzanine and uptown 1/2/3 platform	7.00	5.75	961	549	300	172	90%	80%	75%	0.78	C
IRT P11	Connecting stair between R151 paid zone and downtown 1/2/3 platform	15.00	13.50	5,078	1,204	1,587	376	90%	80%	75%	1.36	E
IRT P12	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.00	5.75	441	784	138	245	90%	80%	75%	0.64	B
IRT P16	Connecting stair between R151 paid zone and uptown 1/2/3 platform	15.00	13.50	4,647	1,429	1,452	447	90%	80%	75%	1.32	D
ML13/ML14/ML15/ML16	Connecting stair between lower and upper mezzanine	8.00	6.75	1,551	887	485	277	90%	80%	80%	1.05	D
ML20/ML21/ML22/ML23	Connecting stair between lower and upper mezzanine	6.50	5.25	1,124	61	351	19	100%	80%	80%	0.59	B
BMT P1	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	1,019	510	318	159	90%	100%	75%	0.79	C
BMT P2	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	641	780	200	244	90%	100%	75%	0.71	C
BMT P3	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	1,076	224	336	70	90%	100%	75%	0.64	B
BMT P4	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	1,048	449	328	140	90%	100%	75%	0.69	B
BMT P5/P7	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	7.50	6.25	1,084	3,493	339	1,092	90%	80%	75%	2.23	F
BMT P6/P8	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.50	6.25	392	926	123	289	90%	80%	75%	0.64	B
BMT P9	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	8.50	7.25	2,155	507	673	158	90%	80%	75%	1.07	D
BMT P10	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.75	6.50	2,848	1,132	890	354	90%	80%	75%	1.81	F
BMT P11	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	954	1,075	298	336	90%	80%	75%	1.35	E
BMT P13	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	373	811	117	253	90%	80%	75%	0.80	C
BMT P15/P17	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	8.00	6.75	1,327	1,886	415	589	90%	80%	75%	1.43	E

Table 4C-60. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E216	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	0	1,530	0	478	945	0.67	B
E217	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	1,316	0	411	0	945	0.58	B
E218	Connecting escalator between upper mezzanine and No. 7 platform	1	32	75%	0	437	0	137	750	0.24	A
E261	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	100%	357	0	112	0	945	0.12	A
E262	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	90%	0	687	0	215	945	0.25	A
E267	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	100%	1,053	0	329	0	945	0.35	A
E268	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	90%	0	1,321	0	413	945	0.49	B

Table 4C-61. No Action Alternative Level of Service Summary: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Eighth Avenue and West 44th Street - southwest corner (N60)											
Two-Way Turnstiles	8	3,360	5,160	1,500	1,252	469	391	90%	90%	0.25	A
Eighth Avenue and West 43rd Street - southwest corner (N61)											
HEET	2	510	1,080	502	498	157	156	90%	90%	0.52	B
Eighth Avenue and West 42nd Street - southeast corner (N62A)											
Two-Way Turnstiles	6	2,520	3,870	272	518	85	162	0.90	0.90	0.09	A
Eighth Avenue and West 41st Street - northwest corner (N62)											
Two-Way Turnstiles	8	3,360	5,160	856	2,416	268	755	90%	90%	0.27	A
High Exit Only Turnstile	1	0	555	0	260	0	81	100%	90%	0.16	A
Eighth Avenue and West 42nd Street - northwest corner (N62B)											
Two-Way Turnstiles	2	510	1,080	423	710	132	222	90%	90%	0.54	B
Eighth Avenue and West 40th Street - northwest corner (N63)											
Two-Way Turnstiles	7	2,940	4,515	1,164	1,550	364	484	90%	90%	0.27	A
HEET	2	510	1,080	202	371	63	116	90%	90%	0.27	A
High Exit Only Turnstile	1	0	555	0	191	0	60	100%	90%	0.12	A
Eighth Avenue and West 41st Street (N63A)											
Two-Way Turnstiles	10	4,200	6,450	2,113	5,194	660	1,623	90%	90%	0.49	B
Broadway and West 40th Street (A21)											
Two-Way Turnstiles	8	3,360	5,160	3,588	1,528	1,121	478	90%	90%	0.49	B
High Exit Only Turnstile	1	0	555	0	164	0	51	100%	90%	0.10	A
Seventh Avenue and West 40th Street (R143)											
Two-Way Turnstiles	8	3,360	5,160	3,097	973	968	304	90%	90%	0.39	A
Seventh Avenue and West 42nd Street - southeast corner (R147)											
Two-Way Turnstiles	7	2,940	4,515	2,610	1,460	816	456	90%	90%	0.43	A
Broadway and West 42nd Street - southeast corner (R148)											
Two-Way Turnstiles	5	2,100	3,225	370	1,656	116	518	90%	90%	0.26	A
Seventh Avenue and West 42nd Street - southwest corner (R151)											
Two-Way Turnstiles	9	3,780	5,805	2,512	1,863	785	582	90%	90%	0.35	A

Table 4C-62. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7/S14	R147 FCA: Street stair at southeast corner of Seventh Avenue and West 42nd Street	8.00	6.75	166	534	52	167	90%	100%	90%	0.26	A
M10/S11	R148 FCA: Street stair at southeast corner of Broadway and West 42nd Street	4.00	3.00	162	1,335	51	417	90%	100%	90%	1.27	D
O9/O10/O11	N62A FCA: Street stair at northeast corner of Eighth Avenue and West 42nd Street	10.00	8.75	115	145	36	45	90%	100%	90%	0.07	A
S2/M2	N63 FCA: Street stair at southeast corner of Eighth Avenue and West 40th Street	4.00	3.00	220	1,450	69	453	90%	100%	90%	1.41	E
S8/M9	N62B FCA: Street stair at northwest corner of Eighth Avenue and West 42nd Street	5.00	4.00	389	356	122	111	90%	100%	90%	0.45	B
S10/M11	N61 FCA: Street stair at southwest corner of Eighth Avenue and West 43rd Street	5.00	4.00	372	533	116	167	90%	100%	90%	0.56	B
O11/M12	N60 FCA: Street stair at southwest corner of Eighth Avenue and West 44th Street	7.50	6.25	124	363	39	113	90%	100%	90%	0.20	A
S13/M14	N60 FCA: Street stair at northwest corner of Eighth Avenue and West 44th Street	4.50	3.50	419	606	131	189	90%	100%	90%	0.72	C
S12/M13	N60 FCA: Street stair at southeast corner of Eighth Avenue and West 44th Street	3.50	2.50	80	460	25	144	90%	100%	90%	0.55	B
O3/O4	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	15.50	14.00	389	1,465	122	458	90%	100%	90%	0.33	A
M9	R151 FCA: Street stair at southwest corner of Seventh Avenue and West 42nd Street	13.00	11.75	805	709	252	222	90%	100%	90%	0.31	A
M11	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	14.50	13.00	395	1,487	123	465	90%	100%	90%	0.36	A
O1/O2	R143 FCA: Street stair at southwest corner of Seventh Avenue and West 40th Street	9.50	8.25	447	1,221	140	382	90%	100%	90%	0.51	B
M1/S2	R143 FCA: Street stair at southeast corner of Seventh Avenue and West 40th Street	4.00	3.00	153	1,965	48	614	90%	100%	90%	1.80	F
M2/S2	A21 FCA: Street stair at southwest corner of Broadway and West 40th Street	4.00	3.00	177	1,423	55	445	90%	100%	90%	1.36	E
M4/S4	A21 FCA: Street stair at northwest corner of Broadway and West 40th Street	4.00	3.00	429	758	134	237	90%	100%	90%	0.98	C
M1/S1	A21 FCA: Street stair at southeast corner of Broadway and West 40th Street	4.50	3.50	52	1,396	16	436	100%	100%	90%	0.95	C
M3/S3	A21 FCA: Street stair at northeast corner of Broadway and West 40th Street	4.00	3.00	29	826	9	258	100%	100%	90%	0.66	B
IND P1	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	763	735	238	230	90%	100%	75%	0.54	B
IND P2	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	1,592	635	498	198	90%	100%	75%	0.75	C
IND P3	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	196	790	61	247	90%	80%	75%	0.40	A
IND P4	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	412	377	129	118	90%	80%	75%	0.31	A
IND P5	Connecting stair between N62 paid zone and downtown A/C/E platform	8.50	7.50	155	338	48	106	90%	80%	75%	0.20	A
IND P6	Connecting stair between N62 paid zone and downtown A/C/E platform	9.00	7.75	626	655	196	205	90%	80%	75%	0.50	B
IND P7	Connecting stair between N62B paid zone and downtown A/C/E platform	7.50	6.50	583	458	182	143	90%	80%	75%	0.48	B
IND P8	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	1,170	515	366	161	90%	80%	75%	0.77	C
IND P9	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	1,498	980	468	306	90%	80%	75%	1.13	D
IND P10	Connecting stair between N61 paid zone and uptown A/C/E platform	7.50	6.50	33	283	10	88	90%	80%	75%	0.15	A
IND P11	Connecting stair between N61 paid zone and uptown A/C/E platform	6.00	5.00	448	385	140	120	90%	80%	75%	0.50	B
IND P12	Connecting stair between N60 paid zone and uptown A/C/E platform	5.00	4.00	8	317	3	99	100%	80%	75%	0.23	A
IND P13	Connecting stair between N60 paid zone and uptown A/C/E platform	7.50	6.50	141	452	44	141	90%	80%	75%	0.28	A
IND P14	Connecting stair between N62B paid zone and downtown A/C/E platform	6.00	4.75	400	732	125	229	90%	80%	75%	0.72	C
IND P15	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.25	2,748	523	859	163	90%	80%	75%	1.53	E
IND P16	Connecting stair between N60 paid zone and uptown A/C/E platform	8.00	6.75	62	231	19	72	90%	80%	75%	0.13	A
FLU PL1/PL2	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	2,377	688	743	215	90%	80%	75%	1.44	E
FLU PL3	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	733	691	229	216	90%	80%	75%	0.68	B
FLU PL5	Connecting stair between lower mezzanine and No. 7 platform	8.75	7.50	2,324	1,484	726	464	90%	80%	75%	1.51	E
FLU PL7	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	1,322	815	413	255	90%	80%	75%	0.94	C
FLU PL8	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	2,194	1,165	686	364	90%	80%	75%	1.47	E
IRT P1	Connecting stair between R143 paid zone and uptown 1/2/3 platform	11.50	10.00	285	1,392	89	435	90%	100%	75%	0.50	B
IRT P2	Connecting stair between R143 paid zone and downtown 1/2/3 platform	11.50	10.00	400	2,161	125	675	90%	100%	75%	0.76	C

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
IRT P3/P5	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	397	3,020	124	944	90%	80%	75%	1.68	F
IRT P4/P6	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	470	1,923	147	601	90%	80%	75%	1.17	D
IRT P7/P9	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	1,348	1,463	421	457	90%	80%	75%	1.35	E
IRT P8/P10	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	848	495	265	155	90%	80%	75%	0.64	B
IRT ML5	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.75	6.50	1,773	2,021	554	632	90%	80%	75%	1.75	F
IRT ML6	Connecting stair between lower mezzanine and uptown 1/2/3 platform	8.00	6.75	2,098	985	656	308	90%	80%	75%	1.35	E
IRT ML9	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.00	5.75	1,031	967	322	302	90%	80%	75%	1.04	D
IRT ML10	Connecting stair between lower mezzanine and uptown 1/2/3 platform	7.00	5.75	462	684	144	214	90%	80%	75%	0.60	B
IRT P11	Connecting stair between R151 paid zone and downtown 1/2/3 platform	15.00	13.50	3,145	3,168	983	990	90%	80%	75%	1.40	E
IRT P12	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.00	5.75	91	1,160	28	363	90%	80%	75%	0.67	B
IRT P16	Connecting stair between R151 paid zone and uptown 1/2/3 platform	15.00	13.50	2,102	2,755	657	861	90%	80%	75%	1.08	D
ML13/ML14/ML15/ML16	Connecting stair between lower and upper mezzanine	8.00	6.75	427	1,279	133	400	90%	80%	80%	0.73	C
ML20/ML21/ML22/ML23	Connecting stair between lower and upper mezzanine	6.50	5.25	269	64	84	20	90%	80%	80%	0.18	A
BMT P1	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	218	1,363	68	426	90%	100%	75%	0.94	C
BMT P2	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	125	1,299	39	406	90%	100%	75%	0.78	C
BMT P3	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	290	961	91	300	90%	100%	75%	0.73	C
BMT P4	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	259	837	81	262	90%	100%	75%	0.58	B
BMT P5/P7	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	7.50	6.25	1,412	2,037	441	637	90%	80%	75%	1.66	E
BMT P6/P8	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.50	6.25	155	1,407	48	440	90%	80%	75%	0.77	C
BMT P9	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	8.50	7.25	1,311	712	410	223	90%	80%	75%	0.83	C
BMT P10	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.75	6.50	1,444	804	451	251	90%	80%	75%	1.02	D
BMT P11	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	1,857	1,199	580	375	90%	80%	75%	2.02	F
BMT P13	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	1,582	821	494	257	90%	80%	75%	1.58	E
BMT P15/P17	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	8.00	6.75	3,440	2,007	1,075	627	90%	80%	75%	2.39	F

Table 4C-63. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E216	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	0	2,098	0	656	945	0.93	C
E217	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	486	0	152	0	945	0.21	A
E218	Connecting escalator between upper mezzanine and No. 7 platform	1	32	75%	0	1,101	0	344	750	0.61	B
E261	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	100%	227	0	71	0	945	0.08	A
E262	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	90%	0	539	0	168	945	0.20	A
E267	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	100%	454	0	142	0	945	0.15	A
E268	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	90%	0	1,477	0	462	945	0.54	B

Table 4C-64. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Eighth Avenue and West 44th Street - southwest corner (N60)											
Two-Way Turnstiles	8	3,360	5,160	623	1,429	195	447	90%	90%	0.17	A
Eighth Avenue and West 43rd Street - southwest corner (N61)											
HEET	2	510	1,080	372	533	116	167	90%	90%	0.44	A
Eighth Avenue and West 42nd Street - southeast corner (N62A)											
Two-Way Turnstiles	6	2,520	3,870	826	29	258	9	100%	90%	0.10	A
Eighth Avenue and West 41st Street - northwest corner (N62)											
Two-Way Turnstiles	8	3,360	5,160	3,152	926	985	290	90%	90%	0.40	A
High Exit Only Turnstile	1	0	555	0	100	0	31	100%	90%	0.06	A
Eighth Avenue and West 42nd Street - northwest corner (N62B)											
Two-Way Turnstiles	2	510	1,080	389	356	122	111	90%	90%	0.39	A
Eighth Avenue and West 40th Street - northwest corner (N63)											
Two-Way Turnstiles	7	2,940	4,515	2,120	1,194	663	373	90%	90%	0.35	A
HEET	2	510	1,080	368	286	115	89	90%	90%	0.35	A
High Exit Only Turnstile	1	0	555	0	147	0	46	100%	90%	0.09	A
Eighth Avenue and West 41st Street (N63A)											
Two-Way Turnstiles	10	4,200	6,450	6,122	2,516	1,913	786	90%	90%	0.66	B
Broadway and West 40th Street (A21)											
Two-Way Turnstiles	8	3,360	5,160	688	3,975	215	1,242	90%	90%	0.37	A
High Exit Only Turnstile	1	0	555	0	428	0	134	100%	90%	0.27	A
Seventh Avenue and West 40th Street (R143)											
Two-Way Turnstiles	8	3,360	5,160	601	3,186	188	996	90%	90%	0.30	A
Seventh Avenue and West 42nd Street - southeast corner (R147)											
Two-Way Turnstiles	7	2,940	4,515	620	2,013	194	629	90%	90%	0.25	A
Broadway and West 42nd Street - southeast corner (R148)											
Two-Way Turnstiles	5	2,100	3,225	1,336	162	418	51	90%	90%	0.24	A
Seventh Avenue and West 42nd Street - southwest corner (R151)											
Two-Way Turnstiles	9	3,780	5,805	1,200	2,196	375	686	90%	90%	0.26	A

Table 4C-65. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7/S14	R147 FCA: Street stair at southeast corner of Seventh Avenue and West 42nd Street	8.00	6.75	1560	139	488	43	90%	100%	90%	0.59	B
M10/S11	R148 FCA: Street stair at southeast corner of Broadway and West 42nd Street	4.00	3.00	1,661	420	519	131	90%	100%	90%	1.64	E
O9/O10/O11	N62A FCA: Street stair at northeast corner of Eighth Avenue and West 42nd Street	10.00	8.75	413	132	129	41	90%	100%	90%	0.15	A
S2/M2	N63 FCA: Street stair at southeast corner of Eighth Avenue and West 40th Street	4.00	3.00	1,280	243	400	76	90%	100%	90%	1.20	D
S8/M9	N62B FCA: Street stair at northwest corner of Eighth Avenue and West 42nd Street	5.00	4.00	431	712	135	223	90%	100%	90%	0.71	C
S10/M11	N61 FCA: Street stair at southwest corner of Eighth Avenue and West 43rd Street	5.00	4.00	507	500	158	156	90%	100%	90%	0.61	B
O11/M12	N60 FCA: Street stair at southwest corner of Eighth Avenue and West 44th Street	7.50	6.25	225	197	70	62	90%	100%	90%	0.16	A
S13/M14	N60 FCA: Street stair at northwest corner of Eighth Avenue and West 44th Street	4.50	3.50	728	663	228	207	90%	100%	90%	0.97	C
S12/M13	N60 FCA: Street stair at southeast corner of Eighth Avenue and West 44th Street	3.50	2.50	578	405	181	127	90%	100%	90%	0.95	C
O3/O4	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	15.50	14.00	1,749	1,065	547	333	90%	100%	90%	0.49	B
M9	R151 FCA: Street stair at southwest corner of Seventh Avenue and West 42nd Street	13.00	11.75	763	798	238	249	90%	100%	90%	0.32	A
M11	R151 FCA: Street stair at northwest corner of Seventh Avenue and West 42nd Street	14.50	13.00	1,773	1,072	554	335	90%	100%	90%	0.53	B
O1/O2	R143 FCA: Street stair at southwest corner of Seventh Avenue and West 40th Street	9.50	8.25	962	647	301	202	90%	100%	90%	0.47	B
M1/S2	R143 FCA: Street stair at southeast corner of Seventh Avenue and West 40th Street	4.00	3.00	2,148	330	671	103	90%	100%	90%	1.94	F
M2/S2	A21 FCA: Street stair at southwest corner of Broadway and West 40th Street	4.00	3.00	1,544	473	483	148	90%	100%	90%	1.60	E
M4/S4	A21 FCA: Street stair at northwest corner of Broadway and West 40th Street	4.00	3.00	377	660	118	206	90%	100%	90%	0.86	C
M1/S1	A21 FCA: Street stair at southeast corner of Broadway and West 40th Street	4.50	3.50	1,191	299	372	93	90%	100%	90%	1.01	D
M3/S3	A21 FCA: Street stair at northeast corner of Broadway and West 40th Street	4.00	3.00	523	280	163	88	90%	100%	90%	0.64	B
IND P1	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	832	948	260	296	90%	100%	75%	0.65	B
IND P2	Connecting stair between N63 paid zone and downtown A/C/E platform	8.50	7.50	566	679	177	212	90%	100%	75%	0.45	B
IND P3	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	170	68	53	21	90%	80%	75%	0.09	A
IND P4	Connecting stair between N63A paid zone and downtown A/C/E platform	8.50	7.50	390	699	122	218	90%	80%	75%	0.44	A
IND P5	Connecting stair between N62 paid zone and downtown A/C/E platform	8.50	7.50	281	453	88	142	90%	80%	75%	0.30	A
IND P6	Connecting stair between N62 paid zone and downtown A/C/E platform	9.00	7.75	233	1,103	73	345	90%	80%	75%	0.53	B
IND P7	Connecting stair between N62B paid zone and downtown A/C/E platform	7.50	6.50	1,028	398	321	124	90%	80%	75%	0.65	B
IND P8	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	1,071	1,168	335	365	90%	80%	75%	1.03	D
IND P9	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.50	474	1,738	148	543	90%	80%	75%	1.04	D
IND P10	Connecting stair between N61 paid zone and uptown A/C/E platform	7.50	6.50	53	567	17	177	90%	80%	75%	0.29	A
IND P11	Connecting stair between N61 paid zone and uptown A/C/E platform	6.00	5.00	240	691	75	216	90%	80%	75%	0.57	B
IND P12	Connecting stair between N60 paid zone and uptown A/C/E platform	5.00	4.00	17	372	5	116	100%	80%	75%	0.27	A
IND P13	Connecting stair between N60 paid zone and uptown A/C/E platform	7.50	6.50	291	651	91	203	90%	80%	75%	0.44	A
IND P14	Connecting stair between N62B paid zone and downtown A/C/E platform	6.00	4.75	663	835	207	261	90%	80%	75%	0.95	C
IND P15	Connecting stair between N62A paid zone and uptown A/C/E platform	7.50	6.25	1,845	896	577	280	90%	80%	75%	1.30	D
IND P16	Connecting stair between N60 paid zone and uptown A/C/E platform	8.00	6.75	249	308	78	96	90%	80%	75%	0.25	A
FLU PL1/PL2	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	1,479	1,353	462	423	90%	80%	75%	1.35	E
FLU PL3	Connecting stair between lower mezzanine and No. 7 platform	7.50	6.25	237	1,421	74	444	90%	80%	75%	0.81	C
FLU PL5	Connecting stair between lower mezzanine and No. 7 platform	8.75	7.50	1,760	871	550	272	90%	80%	75%	1.04	D
FLU PL7	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	2,847	889	890	278	90%	80%	75%	1.63	E
FLU PL8	Connecting stair between lower mezzanine and No. 7 platform	8.00	6.75	2,318	941	724	294	90%	80%	75%	1.42	E
IRT P1	Connecting stair between R143 paid zone and uptown 1/2/3 platform	11.50	10.00	2,319	587	725	183	90%	100%	75%	0.72	C
IRT P2	Connecting stair between R143 paid zone and downtown 1/2/3 platform	11.50	10.00	1,134	602	354	188	90%	100%	75%	0.45	A

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
IRT P3/P5	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	690	1,718	216	537	90%	80%	75%	1.17	D
IRT P4/P6	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	1,055	1,393	330	435	90%	80%	75%	1.18	D
IRT P7/P9	Connecting stair between R145 paid zone and downtown 1/2/3 platform	7.50	6.25	1,027	740	321	231	90%	80%	75%	0.84	C
IRT P8/P10	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.50	6.25	1,162	459	363	143	90%	80%	75%	0.76	C
IRT ML5	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.75	6.50	1,554	1,683	486	526	90%	80%	75%	1.49	E
IRT ML6	Connecting stair between lower mezzanine and uptown 1/2/3 platform	8.00	6.75	1,329	2,473	415	773	90%	80%	75%	1.70	F+
IRT ML9	Connecting stair between lower mezzanine and downtown 1/2/3 platform	7.00	5.75	980	464	306	145	90%	80%	75%	0.74	C
IRT ML10	Connecting stair between lower mezzanine and uptown 1/2/3 platform	7.00	5.75	970	604	303	189	90%	80%	75%	0.81	C
IRT P11	Connecting stair between R151 paid zone and downtown 1/2/3 platform	15.00	13.50	5,105	1,240	1,595	388	90%	80%	75%	1.38	E
IRT P12	Connecting stair between R145 paid zone and uptown 1/2/3 platform	7.00	5.75	441	801	138	250	90%	80%	75%	0.65	B
IRT P16	Connecting stair between R151 paid zone and uptown 1/2/3 platform	15.00	13.50	4,676	1,472	1,461	460	90%	80%	75%	1.34	E
ML13/ML14/ML15/ML16	Connecting stair between lower and upper mezzanine	8.00	6.75	1,587	902	496	282	90%	80%	80%	1.07	D
ML20/ML21/ML22/ML23	Connecting stair between lower and upper mezzanine	6.50	5.25	1,124	61	351	19	100%	80%	80%	0.59	B
BMT P1	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	1,028	513	321	160	90%	100%	75%	0.79	C
BMT P2	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	646	786	202	246	90%	100%	75%	0.71	C
BMT P3	Connecting stair between A21 mezzanine and downtown N/Q/R/W platform	6.00	5.00	1,099	232	343	73	90%	100%	75%	0.65	B
BMT P4	Connecting stair between A21 mezzanine and uptown N/Q/R/W platform	6.50	5.50	1,059	453	331	142	90%	100%	75%	0.70	C
BMT P5/P7	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	7.50	6.25	1,148	3,543	359	1,107	90%	80%	75%	2.28	F
BMT P6/P8	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.50	6.25	394	946	123	296	90%	80%	75%	0.65	B
BMT P9	Connecting stair between BMT mezzanine and downtown N/Q/R/W platform	8.50	7.25	2,184	525	683	164	90%	80%	75%	1.10	D
BMT P10	Connecting stair between BMT mezzanine and uptown N/Q/R/W platform	7.75	6.50	2,897	1,159	905	362	90%	80%	75%	1.84	F
BMT P11	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	1,001	1,098	313	343	90%	80%	75%	1.40	E
BMT P13	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	5.50	4.50	413	826	129	258	90%	80%	75%	0.83	C
BMT P15/P17	Connecting stair between upper mezzanine and downtown N/Q/R/W platform	8.00	6.75	1,415	1,923	442	601	90%	80%	75%	1.49	E
NOTE: + denotes a significant adverse effect												

Table 4C-66. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E216	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	0	1,530	0	478	945	0.67	B
E217	Connecting escalator between upper mezzanine and No. 7 platform	1	40	75%	1,317	0	412	0	945	0.58	B
E218	Connecting escalator between upper mezzanine and No. 7 platform	1	32	75%	0	470	0	147	750	0.26	A
E261	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	100%	357	0	112	0	945	0.12	A
E262	R151 FCA: Street escalator at southwest corner of Seventh Avenue and West 42nd Street	1	40	90%	0	687	0	215	945	0.25	A
E267	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	100%	1,055	0	330	0	945	0.35	A
E268	R147 FCA: Street escalator at southeast corner of Seventh Avenue and West 42nd Street	1	40	90%	0	1,324	0	414	945	0.49	B

Table 4C-67. CBD Tolling Alternative: 42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Eighth Avenue and West 44th Street - southwest corner (N60)											
Two-Way Turnstiles	8	3,360	5,160	1,531	1,265	478	395	90%	90%	0.25	A
Eighth Avenue and West 43rd Street - southwest corner (N61)											
HEET	2	510	1,080	507	500	158	156	90%	90%	0.52	B
Eighth Avenue and West 42nd Street - southeast corner (N62A)											
Two-Way Turnstiles	6	2,520	3,870	280	523	88	163	90%	90%	0.09	A
Eighth Avenue and West 41st Street - northwest corner (N62)											
Two-Way Turnstiles	8	3,360	5,160	869	2,421	272	757	90%	90%	0.27	A
High Exit Only Turnstile	1	0	555	0	260	0	81	100%	90%	0.16	A
Eighth Avenue and West 42nd Street - northwest corner (N62B)											
Two-Way Turnstiles	2	510	1,080	431	712	135	223	90%	90%	0.55	B
Eighth Avenue and West 40th Street - northwest corner (N63)											
Two-Way Turnstiles	7	2,940	4,515	1,184	1,553	370	485	90%	90%	0.27	A
HEET	2	510	1,080	205	371	64	116	90%	90%	0.27	A
High Exit Only Turnstile	1	0	555	0	191	0	60	100%	90%	0.12	A
Eighth Avenue and West 41st Street (N63A)											
Two-Way Turnstiles	10	4,200	6,450	2,148	5,205	671	1,627	90%	90%	0.49	B
Broadway and West 40th Street (A21)											
Two-Way Turnstiles	8	3,360	5,160	3,635	1,546	1,136	483	90%	90%	0.49	B
High Exit Only Turnstile	1	0	555	0	166	0	52	100%	90%	0.10	A
Seventh Avenue and West 40th Street (R143)											
Two-Way Turnstiles	8	3,360	5,160	3,110	976	972	305	90%	90%	0.39	A
Seventh Avenue and West 42nd Street - southeast corner (R147)											
Two-Way Turnstiles	7	2,940	4,515	2,615	1,464	817	458	90%	90%	0.43	A
Broadway and West 42nd Street - southeast corner (R148)											
Two-Way Turnstiles	5	2,100	3,225	374	1,706	117	533	90%	90%	0.27	A
Seventh Avenue and West 42nd Street - southwest corner (R151)											
Two-Way Turnstiles	9	3,780	5,805	2,536	1,870	793	584	90%	90%	0.36	A

Table 4C-68. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7	Connecting stair between O7/O8/O9/O10 stairs and Turnstyle Underground Market	11.50	10.00	322	736	101	230	90%	100%	80%	0.29	A
O5/O6	Street stair at southeast corner of West 57th Street and Eighth Avenue	7.00	5.75	111	1025	35	320	90%	100%	80%	0.56	B
O20/O21	Street stair at northwest corner of West 57th Street and Eighth Avenue	8.50	7.25	126	158	39	49	90%	100%	80%	0.10	A
S2	Street stair at northeast corner of West 57th Street and Eighth Avenue	4.50	3.50	41	238	13	74	90%	100%	80%	0.22	A
S4/M11	Street stair at northeast corner of West 58th Street and Eighth Avenue	3.50	2.50	106	427	33	133	90%	100%	80%	0.59	B
O1/O2/O3	Street stair by Time Warner Center	10.00	8.75	334	518	104	162	90%	100%	80%	0.26	A
S4	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	3.00	103	342	32	107	90%	100%	80%	0.41	A
S5	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	6.75	79	113	25	35	90%	100%	80%	0.08	A
O18/M14	Street stair by Trump Hotel	17.50	16.00	3618	633	1,131	198	90%	100%	80%	0.64	B
M7/S7	Street stair at northwest corner of West 60th Street and Broadway	7.00	5.75	166	59	52	18	90%	100%	80%	0.10	A
S2/P2	Street level stair at West 60th Street and Broadway median	6.00	5.00	45	418	14	131	90%	100%	80%	0.26	A
S3/P3	Street level stair at West 60th Street and Broadway median	6.00	5.00	324	533	101	167	90%	100%	80%	0.46	B
P1	Connecting stair between N051 paid zone and IND southbound platform	12.00	10.75	1533	872	479	273	90%	80%	75%	0.66	B
P3	Connecting stair between N051 paid zone and IND northbound platform	12.50	11.25	689	1449	215	453	90%	80%	75%	0.57	B
P4	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	215	367	67	115	90%	80%	75%	0.20	A
P5	Connecting stair between N051 paid zone and IRT southbound platform	23.50	21.50	166	59	52	18	90%	100%	75%	0.03	A
P6	Connecting stair between N051 paid zone and IND northbound platform	10.00	8.75	153	1419	48	443	90%	80%	75%	0.55	B
P8	Connecting stair between intermediate landing level and IND southbound platform	8.00	6.75	671	1058	210	331	90%	80%	75%	0.77	C
P10	Connecting stair between intermediate landing level and IND northbound platform	8.00	6.75	340	1994	106	623	90%	80%	75%	1.06	D
P11	Connecting stair between N049 paid zone and IND southbound platform	8.00	6.75	254	1577	79	493	90%	80%	75%	0.83	C
P13	Connecting stair between N049 paid zone and IND northbound platform	8.00	6.75	137	873	43	273	90%	80%	75%	0.46	B
P14/P15	Connecting stair between N049A paid zone and IND northbound platform	11.00	9.75	198	1262	62	394	90%	80%	75%	0.46	B
P16	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	93	1601	29	500	100%	80%	75%	0.54	B
PL1/PL3	Connecting stair between IRT northbound platform and IND southbound platform	10.00	8.75	2067	1102	646	344	90%	80%	75%	1.07	D
ML1	Connecting stair between N051 paid zone and IRT southbound platform	25.00	23.25	181	151	57	47	90%	80%	75%	0.04	A

Table 4C-69. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E250X	Street elevator by Time Warner Center	1	40	90%	0	2,382	0	744	945	0.87	C
E251X	Street elevator by Time Warner Center	1	40	100%	893	0	279	0	945	0.30	A

Table 4C-70. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Time Warner Center (N051)											
Two-Way Turnstiles	10	4,200	6,450	1,932	4,081	604	1,275	90%	80%	0.43	A
High Exit Only Turnstile	4	0	2,220	0	1,404	0	439	100%	80%	0.25	A
Trump Hotel (N049)											
Two-Way Turnstiles	10	4,200	6,450	3,618	633	1,131	198	90%	80%	0.34	A
Columbus Circle and Central Park South – southeast corner (R157)											
Two-Way Turnstiles	4	1,680	2,580	182	455	57	142	90%	80%	0.11	A
West 60th Street and Broadway Median – north side (R158 North)											
Two-Way Turnstiles	2	840	1,290	30	279	9	87	90%	80%	0.11	A
West 60th Street and Broadway Median - south side (R158 South)											
Two-Way Turnstiles	3	1,260	1,935	324	533	101	167	90%	80%	0.21	A
West 60th Street and Broadway – northwest corner (R158A)											
HEET	3	765	1,620	101	49	31	15	90%	80%	0.06	A

Table 4C-71. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7	Connecting stair between O7/O8/O9/O10 stairs and Turnstyle Underground Market	11.50	10.00	587	160	183	50	90%	100%	80%	0.18	A
O5/O6	Street stair at southeast corner of West 57th Street and Eighth Avenue	7.00	5.75	715	239	223	75	90%	100%	80%	0.41	A
O20/O21	Street stair at northwest corner of West 57th Street and Eighth Avenue	8.50	7.25	288	64	90	20	90%	100%	80%	0.12	A
S2	Street stair at northeast corner of West 57th Street and Eighth Avenue	4.50	3.50	308	52	96	16	90%	100%	80%	0.25	A
S4/M11	Street stair at northeast corner of West 58th Street and Eighth Avenue	3.50	2.50	483	137	151	43	90%	100%	80%	0.61	B
O1/O2/O3	Street stair by Time Warner Center	10.00	8.75	820	129	256	40	90%	100%	80%	0.26	A
S4	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	3.00	573	192	179	60	90%	100%	80%	0.63	B
S5	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	6.75	341	58	107	18	90%	100%	80%	0.14	A
O18/M14	Street stair by Trump Hotel	17.50	16.00	1,967	2,060	615	644	90%	100%	80%	0.66	B
M7/S7	Street stair at northwest corner of West 60th Street and Broadway	7.00	5.75	272	32	85	10	90%	100%	80%	0.13	A
S2/P2	Street level stair at West 60th Street and Broadway median	6.00	5.00	121	318	38	99	90%	100%	80%	0.24	A
S3/P3	Street level stair at West 60th Street and Broadway median	6.00	5.00	430	274	134	86	90%	100%	80%	0.36	A
P1	Connecting stair between N051 paid zone and IND southbound platform	12.00	10.75	2,407	212	752	66	90%	80%	75%	0.71	C
P3	Connecting stair between N051 paid zone and IND northbound platform	12.50	11.25	1,885	475	589	148	90%	80%	75%	0.61	B
P4	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	298	175	93	55	90%	80%	75%	0.16	A
P5	Connecting stair between N051 paid zone and IRT southbound platform	23.50	21.50	272	32	85	10	90%	100%	75%	0.03	A
P6	Connecting stair between N051 paid zone and IND northbound platform	10.00	8.75	636	986	199	308	90%	80%	75%	0.56	B
P8	Connecting stair between intermediate landing level and IND southbound platform	8.00	6.75	1,533	378	479	118	90%	80%	75%	0.83	C
P10	Connecting stair between intermediate landing level and IND northbound platform	8.00	6.75	997	1268	312	396	90%	80%	75%	1.01	D
P11	Connecting stair between N049 paid zone and IND southbound platform	8.00	6.75	408	538	128	168	90%	80%	75%	0.42	A
P13	Connecting stair between N049 paid zone and IND northbound platform	8.00	6.75	433	614	135	192	90%	80%	75%	0.47	B
P14/P15	Connecting stair between N049A paid zone and IND northbound platform	11.00	9.75	546	798	171	249	90%	80%	75%	0.41	A
P16	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	186	474	58	148	90%	80%	75%	0.23	A
PL1/PL3	Connecting stair between IRT northbound platform and IND southbound platform	10.00	8.75	1,626	381	508	119	90%	80%	75%	0.67	B
ML1	Connecting stair between N051 paid zone and IRT southbound platform	25.00	23.25	73	223	23	70	90%	80%	75%	0.04	A

Table 4C-72. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E250X	Street elevator by Time Warner Center	1	40	90%	0	1,396	0	436	945	0.51	B
E251X	Street elevator by Time Warner Center	1	40	100%	2,207	0	690	0	945	0.73	C

Table 4C-73. Existing Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Time Warner Center (N051)											
Two-Way Turnstiles	10	4,200	6,450	5,407	1,619	1,690	506	90%	80%	0.56	B
High Exit Only Turnstile	4	0	2,220	0	557	0	174	100%	80%	0.10	A
Trump Hotel (N049)											
Two-Way Turnstiles	10	4,200	6,450	1,967	2,060	615	644	90%	80%	0.30	A
Columbus Circle and Central Park South – southeast corner (R157)											
Two-Way Turnstiles	4	1,680	2,580	914	250	286	78	90%	80%	0.23	A
West 60th Street and Broadway Median – north side (R158 North)											
Two-Way Turnstiles	2	840	1,290	81	212	25	66	90%	80%	0.10	A
West 60th Street and Broadway Median - south side (R158 South)											
Two-Way Turnstiles	3	1,260	1,935	430	274	134	86	90%	80%	0.18	A
West 60th Street and Broadway – northwest corner (R158A)											
HEET	3	765	1,620	165	27	52	8	90%	80%	0.08	A

Table 4C-74. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7	Connecting stair between O7/O8/O9/O10 stairs and Turnstyle Underground Market	11.50	10.00	322	736	101	230	90%	100%	80%	0.29	A
O5/O6	Street stair at southeast corner of West 57th Street and Eighth Avenue	7.00	5.75	111	1025	35	320	90%	100%	80%	0.56	B
O20/O21	Street stair at northwest corner of West 57th Street and Eighth Avenue	8.50	7.25	126	158	39	49	90%	100%	80%	0.10	A
S2	Street stair at northeast corner of West 57th Street and Eighth Avenue	4.50	3.50	41	238	13	74	90%	100%	80%	0.22	A
S4/M11	Street stair at northeast corner of West 58th Street and Eighth Avenue	3.50	2.50	106	427	33	133	90%	100%	80%	0.59	B
O1/O2/O3	Street stair by Time Warner Center	10.00	8.75	334	518	104	162	90%	100%	80%	0.26	A
S4	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	3.00	103	342	32	107	90%	100%	80%	0.41	A
S5	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	6.75	79	113	25	35	90%	100%	80%	0.08	A
O18/M14	Street stair by Trump Hotel	17.50	16.00	3618	633	1,131	198	90%	100%	80%	0.64	B
M7/S7	Street stair at northwest corner of West 60th Street and Broadway	7.00	5.75	166	59	52	18	90%	100%	80%	0.10	A
S2/P2	Street level stair at West 60th Street and Broadway median	6.00	5.00	45	418	14	131	90%	100%	80%	0.26	A
S3/P3	Street level stair at West 60th Street and Broadway median	6.00	5.00	324	533	101	167	90%	100%	80%	0.46	B
P1	Connecting stair between N051 paid zone and IND southbound platform	12.00	10.75	1533	872	479	273	90%	80%	75%	0.66	B
P3	Connecting stair between N051 paid zone and IND northbound platform	12.50	11.25	689	1449	215	453	90%	80%	75%	0.57	B
P4	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	215	367	67	115	90%	80%	75%	0.20	A
P5	Connecting stair between N051 paid zone and IRT southbound platform	23.50	21.50	166	59	52	18	90%	100%	75%	0.03	A
P6	Connecting stair between N051 paid zone and IND northbound platform	10.00	8.75	153	1419	48	443	90%	80%	75%	0.55	B
P8	Connecting stair between intermediate landing level and IND southbound platform	8.00	6.75	671	1058	210	331	90%	80%	75%	0.77	C
P10	Connecting stair between intermediate landing level and IND northbound platform	8.00	6.75	340	1994	106	623	90%	80%	75%	1.06	D
P11	Connecting stair between N049 paid zone and IND southbound platform	8.00	6.75	254	1577	79	493	90%	80%	75%	0.83	C
P13	Connecting stair between N049 paid zone and IND northbound platform	8.00	6.75	137	873	43	273	90%	80%	75%	0.46	B
P14/P15	Connecting stair between N049A paid zone and IND northbound platform	11.00	9.75	198	1262	62	394	90%	80%	75%	0.46	B
P16	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	93	1601	29	500	100%	80%	75%	0.54	B
PL1/PL3	Connecting stair between IRT northbound platform and IND southbound platform	10.00	8.75	2067	1102	646	344	90%	80%	75%	1.07	D
ML1	Connecting stair between N051 paid zone and IRT southbound platform	25.00	23.25	181	151	57	47	90%	80%	75%	0.04	A

Table 4C-75. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E250X	Street elevator by Time Warner Center	1	40	90%	0	2,382	0	744	945	0.87	C
E251X	Street elevator by Time Warner Center	1	40	100%	893	0	279	0	945	0.30	A

Table 4C-76. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Time Warner Center (N051)											
Two-Way Turnstiles	10	4,200	6,450	1,932	4,081	604	1,275	90%	80%	0.43	A
High Exit Only Turnstile	4	0	2,220	0	1,404	0	439	100%	80%	0.25	A
Trump Hotel (N049)											
Two-Way Turnstiles	10	4,200	6,450	3,618	633	1,131	198	90%	80%	0.34	A
Columbus Circle and Central Park South – southeast corner (R157)											
Two-Way Turnstiles	4	1,680	2,580	182	455	57	142	90%	80%	0.11	A
West 60th Street and Broadway Median – north side (R158 North)											
Two-Way Turnstiles	2	840	1,290	30	279	9	87	90%	80%	0.11	A
West 60th Street and Broadway Median - south side (R158 South)											
Two-Way Turnstiles	3	1,260	1,935	324	533	101	167	90%	80%	0.21	A
West 60th Street and Broadway – northwest corner (R158A)											
HEET	3	765	1,620	101	49	31	15	90%	80%	0.06	A

Table 4C-77. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7	Connecting stair between O7/O8/O9/O10 stairs and Turnstyle Underground Market	11.50	10.00	587	160	183	50	90%	100%	80%	0.18	A
O5/O6	Street stair at southeast corner of West 57th Street and Eighth Avenue	7.00	5.75	715	239	223	75	90%	100%	80%	0.41	A
O20/O21	Street stair at northwest corner of West 57th Street and Eighth Avenue	8.50	7.25	288	64	90	20	90%	100%	80%	0.12	A
S2	Street stair at northeast corner of West 57th Street and Eighth Avenue	4.50	3.50	308	52	96	16	90%	100%	80%	0.25	A
S4/M11	Street stair at northeast corner of West 58th Street and Eighth Avenue	3.50	2.50	483	137	151	43	90%	100%	80%	0.61	B
O1/O2/O3	Street stair by Time Warner Center	10.00	8.75	820	129	256	40	90%	100%	80%	0.26	A
S4	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	3.00	573	192	179	60	90%	100%	80%	0.63	B
S5	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	6.75	341	58	107	18	90%	100%	80%	0.14	A
O18/M14	Street stair by Trump Hotel	17.50	16.00	1967	2060	615	644	90%	100%	80%	0.66	B
M7/S7	Street stair at northwest corner of West 60th Street and Broadway	7.00	5.75	272	32	85	10	90%	100%	80%	0.13	A
S2/P2	Street level stair at West 60th Street and Broadway median	6.00	5.00	121	318	38	99	90%	100%	80%	0.24	A
S3/P3	Street level stair at West 60th Street and Broadway median	6.00	5.00	430	274	134	86	90%	100%	80%	0.36	A
P1	Connecting stair between N051 paid zone and IND southbound platform	12.00	10.75	2407	212	752	66	90%	80%	75%	0.71	C
P3	Connecting stair between N051 paid zone and IND northbound platform	12.50	11.25	1885	475	589	148	90%	80%	75%	0.61	B
P4	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	298	175	93	55	90%	80%	75%	0.16	A
P5	Connecting stair between N051 paid zone and IRT southbound platform	23.50	21.50	272	32	85	10	90%	100%	75%	0.03	A
P6	Connecting stair between N051 paid zone and IND northbound platform	10.00	8.75	636	986	199	308	90%	80%	75%	0.56	B
P8	Connecting stair between intermediate landing level and IND southbound platform	8.00	6.75	1533	378	479	118	90%	80%	75%	0.83	C
P10	Connecting stair between intermediate landing level and IND northbound platform	8.00	6.75	997	1268	312	396	90%	80%	75%	1.01	D
P11	Connecting stair between N049 paid zone and IND southbound platform	8.00	6.75	408	538	128	168	90%	80%	75%	0.42	A
P13	Connecting stair between N049 paid zone and IND northbound platform	8.00	6.75	433	614	135	192	90%	80%	75%	0.47	B
P14/P15	Connecting stair between N049A paid zone and IND northbound platform	11.00	9.75	546	798	171	249	90%	80%	75%	0.41	A
P16	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	186	474	58	148	90%	80%	75%	0.23	A
PL1/PL3	Connecting stair between IRT northbound platform and IND southbound platform	10.00	8.75	1626	381	508	119	90%	80%	75%	0.67	B
ML1	Connecting stair between N051 paid zone and IRT southbound platform	25.00	23.25	73	223	23	70	90%	80%	75%	0.04	A

Table 4C-78. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E250X	Street elevator by Time Warner Center	1	40	90%	0	1,396	0	436	945	0.51	B
E251X	Street elevator by Time Warner Center	1	40	100%	2,207	0	690	0	945	0.73	C

Table 4C-79. No Action Alternative Level of Service Summary: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Time Warner Center (N051)											
Two-Way Turnstiles	10	4,200	6,450	5,407	1,619	1,690	506	90%	80%	0.56	B
High Exit Only Turnstile	4	0	2,220	0	557	0	174	100%	80%	0.10	A
Trump Hotel (N049)											
Two-Way Turnstiles	10	4,200	6,450	1,967	2,060	615	644	90%	80%	0.30	A
Columbus Circle and Central Park South – southeast corner (R157)											
Two-Way Turnstiles	4	1,680	2,580	914	250	286	78	90%	80%	0.23	A
West 60th Street and Broadway Median – north side (R158 North)											
Two-Way Turnstiles	2	840	1,290	81	212	25	66	90%	80%	0.10	A
West 60th Street and Broadway Median - south side (R158 South)											
Two-Way Turnstiles	3	1,260	1,935	430	274	134	86	90%	80%	0.18	A
West 60th Street and Broadway – northwest corner (R158A)											
HEET	3	765	1,620	165	27	52	8	90%	80%	0.08	A

Table 4C-80. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7	Connecting stair between O7/O8/O9/O10 stairs and Turnstyle Underground Market	11.50	10.00	325	762	102	238	90%	100%	80%	0.30	A
O5/O6	Street stair at southeast corner of West 57th Street and Eighth Avenue	7.00	5.75	114	1051	36	328	90%	100%	80%	0.57	B
O20/O21	Street stair at northwest corner of West 57th Street and Eighth Avenue	8.50	7.25	127	171	40	53	90%	100%	80%	0.11	A
S2	Street stair at northeast corner of West 57th Street and Eighth Avenue	4.50	3.50	42	251	13	78	90%	100%	80%	0.23	A
S4/M11	Street stair at northeast corner of West 58th Street and Eighth Avenue	3.50	2.50	107	440	33	138	90%	100%	80%	0.61	B
O1/O2/O3	Street stair by Time Warner Center	10.00	8.75	335	518	105	162	90%	100%	80%	0.26	A
S4	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	3.00	104	350	33	109	90%	100%	80%	0.42	A
S5	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	6.75	80	121	25	38	90%	100%	80%	0.08	A
O18/M14	Street stair by Trump Hotel	17.50	16.00	3625	641	1,133	200	90%	100%	80%	0.64	B
M7/S7	Street stair at northwest corner of West 60th Street and Broadway	7.00	5.75	171	67	53	21	90%	100%	80%	0.10	A
S2/P2	Street level stair at West 60th Street and Broadway median	6.00	5.00	46	418	14	131	90%	100%	80%	0.26	A
S3/P3	Street level stair at West 60th Street and Broadway median	6.00	5.00	325	533	102	167	90%	100%	80%	0.46	B
P1	Connecting stair between N051 paid zone and IND southbound platform	12.00	10.75	1535	895	480	280	90%	80%	75%	0.67	B
P3	Connecting stair between N051 paid zone and IND northbound platform	12.50	11.25	691	1522	216	476	90%	80%	75%	0.60	B
P4	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	216	367	68	115	90%	80%	75%	0.20	A
P5	Connecting stair between N051 paid zone and IRT southbound platform	23.50	21.50	174	64	54	20	90%	100%	75%	0.03	A
P6	Connecting stair between N051 paid zone and IND northbound platform	10.00	8.75	159	1420	50	444	90%	80%	75%	0.55	B
P8	Connecting stair between intermediate landing level and IND southbound platform	8.00	6.75	673	1059	210	331	90%	80%	75%	0.77	C
P10	Connecting stair between intermediate landing level and IND northbound platform	8.00	6.75	345	2010	108	628	90%	80%	75%	1.07	D
P11	Connecting stair between N049 paid zone and IND southbound platform	8.00	6.75	255	1578	80	493	90%	80%	75%	0.83	C
P13	Connecting stair between N049 paid zone and IND northbound platform	8.00	6.75	137	873	43	273	90%	80%	75%	0.46	B
P14/P15	Connecting stair between N049A paid zone and IND northbound platform	11.00	9.75	203	1277	63	399	90%	80%	75%	0.46	B
P16	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	95	1624	30	508	90%	80%	75%	0.61	B
PL1/PL3	Connecting stair between IRT northbound platform and IND southbound platform	10.00	8.75	2116	1137	661	355	90%	80%	75%	1.10	D
ML1	Connecting stair between N051 paid zone and IRT southbound platform	25.00	23.25	181	157	57	49	90%	80%	75%	0.04	A

Table 4C-81. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E250X	Street elevator by Time Warner Center	1	40	90%	0	2,421	0	757	945	0.89	C
E251X	Street elevator by Time Warner Center	1	40	100%	895	0	280	0	945	0.30	A

Table 4C-82. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Time Warner Center (N051)											
Two-Way Turnstiles	10	4,200	6,450	1,943	4,177	607	1,305	90%	80%	0.44	A
High Exit Only Turnstile	4	0	2,220	0	1,438	0	449	100%	80%	0.25	A
Trump Hotel (N049)											
Two-Way Turnstiles	10	4,200	6,450	3,625	641	1,133	200	90%	80%	0.34	A
Columbus Circle and Central Park South – southeast corner (R157)											
Two-Way Turnstiles	4	1,680	2,580	183	471	57	147	90%	80%	0.12	A
West 60th Street and Broadway Median – north side (R158 North)											
Two-Way Turnstiles	2	840	1,290	31	279	10	87	90%	80%	0.11	A
West 60th Street and Broadway Median - south side (R158 South)											
Two-Way Turnstiles	3	1,260	1,935	325	533	102	167	90%	80%	0.21	A
West 60th Street and Broadway – northwest corner (R158A)											
HEET	3	765	1,620	104	56	32	18	90%	80%	0.06	A

Table 4C-83. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M7	Connecting stair between O7/O8/O9/O10 stairs and Turnstyle Underground Market	11.50	10.00	622	162	194	51	90%	100%	80%	0.19	A
O5/O6	Street stair at southeast corner of West 57th Street and Eighth Avenue	7.00	5.75	750	241	234	75	90%	100%	80%	0.42	A
O20/O21	Street stair at northwest corner of West 57th Street and Eighth Avenue	8.50	7.25	295	65	92	20	90%	100%	80%	0.12	A
S2	Street stair at northeast corner of West 57th Street and Eighth Avenue	4.50	3.50	315	53	98	17	90%	100%	80%	0.25	A
S4/M11	Street stair at northeast corner of West 58th Street and Eighth Avenue	3.50	2.50	497	138	155	43	90%	100%	80%	0.62	B
O1/O2/O3	Street stair by Time Warner Center	10.00	8.75	831	129	260	40	90%	100%	80%	0.26	A
S4	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	3.00	582	193	182	60	90%	100%	80%	0.63	B
S5	Street stair at southeast corner of Columbus Circle and Central Park South	4.00	6.75	350	59	109	18	90%	100%	80%	0.14	A
O18/M14	Street stair by Trump Hotel	17.50	16.00	1976	2067	618	646	90%	100%	80%	0.66	B
M7/S7	Street stair at northwest corner of West 60th Street and Broadway	7.00	5.75	281	38	88	12	90%	100%	80%	0.13	A
S2/P2	Street level stair at West 60th Street and Broadway median	6.00	5.00	121	318	38	99	90%	100%	80%	0.24	A
S3/P3	Street level stair at West 60th Street and Broadway median	6.00	5.00	430	274	134	86	90%	100%	80%	0.36	A
P1	Connecting stair between N051 paid zone and IND southbound platform	12.00	10.75	2451	212	766	66	90%	80%	75%	0.72	C
P3	Connecting stair between N051 paid zone and IND northbound platform	12.50	11.25	1929	482	603	151	90%	80%	75%	0.63	B
P4	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	299	175	93	55	90%	80%	75%	0.16	A
P5	Connecting stair between N051 paid zone and IRT southbound platform	23.50	21.50	278	41	87	13	90%	100%	75%	0.04	A
P6	Connecting stair between N051 paid zone and IND northbound platform	10.00	8.75	640	987	200	308	90%	80%	75%	0.56	B
P8	Connecting stair between intermediate landing level and IND southbound platform	8.00	6.75	1536	378	480	118	90%	80%	75%	0.83	C
P10	Connecting stair between intermediate landing level and IND northbound platform	8.00	6.75	1013	1288	317	403	90%	80%	75%	1.02	D
P11	Connecting stair between N049 paid zone and IND southbound platform	8.00	6.75	410	538	128	168	90%	80%	75%	0.42	A
P13	Connecting stair between N049 paid zone and IND northbound platform	8.00	6.75	433	614	135	192	90%	80%	75%	0.47	B
P14/P15	Connecting stair between N049A paid zone and IND northbound platform	11.00	9.75	562	816	176	255	90%	80%	75%	0.43	A
P16	Connecting stair between N051 paid zone and IND southbound platform	10.00	8.75	230	474	72	148	90%	80%	75%	0.24	A
PL1/PL3	Connecting stair between IRT northbound platform and IND southbound platform	10.00	8.75	1661	412	519	129	90%	80%	75%	0.69	B
ML1	Connecting stair between N051 paid zone and IRT southbound platform	25.00	23.25	73	252	23	79	90%	80%	75%	0.04	A

Table 4C-84. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E250X	Street elevator by Time Warner Center	1	40	90%	0	1,399	0	437	945	0.51	B
E251X	Street elevator by Time Warner Center	1	40	100%	2,238	0	699	0	945	0.74	C

Table 4C-85. CBD Tolling Alternative: 59th Street – Columbus Circle Station (A, B, C, D, and No. 1 lines) Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Time Warner Center (N051)											
Two-Way Turnstiles	10	4,200	6,450	5,548	1,628	1,734	509	90%	80%	0.57	B
High Exit Only Turnstile	4	0	2,220	0	560	0	175	100%	80%	0.10	A
Trump Hotel (N049)											
Two-Way Turnstiles	10	4,200	6,450	1,976	2,067	618	646	90%	80%	0.30	A
Columbus Circle and Central Park South – southeast corner (R157)											
Two-Way Turnstiles	4	1,680	2,580	932	251	291	78	90%	80%	0.23	A
West 60th Street and Broadway Median – north side (R158 North)											
Two-Way Turnstiles	2	840	1,290	81	213	25	66	90%	80%	0.10	A
West 60th Street and Broadway Median - south side (R158 South)											
Two-Way Turnstiles	3	1,260	1,935	430	275	134	86	90%	80%	0.18	A
West 60th Street and Broadway – northwest corner (R158A)											
HEET	3	765	1,620	171	32	53	10	90%	80%	0.09	A

Table 4C-86. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M1/S1	A004 FCA: northwest corner of Lexington Avenue and East 60th Street	4.00	3.00	625	447	195	140	90%	100%	80%	0.91	C
O5/O6	R244 FCA: southwest corner of Lexington Avenue and East 60th Street	8.00	6.75	197	1637	62	512	90%	100%	80%	0.77	C
MB1/SB1	R244A FCA: southwest corner of Lexington Avenue and East 59th Street	8.00	6.75	281	1569	88	490	90%	100%	80%	0.77	C
O11/O12	R244A FCA: northwest corner of Lexington Avenue and East 59th Street	7.50	6.25	250	282	78	88	90%	100%	80%	0.22	A
O8/O9/O10	R245A FCA: southeast corner of Lexington Avenue and East 59th Street	9.50	8.25	223	2752	70	860	90%	100%	80%	1.03	D
S3/M3	R245 FCA: northeast corner of Lexington Avenue and East 60th Street	5.00	4.00	156	833	49	260	90%	100%	80%	0.69	B
O1/O2/O3	R245 FCA: southeast corner of Lexington Avenue and East 60th Street	10.00	8.75	43	592	13	185	90%	100%	80%	0.21	A
S2/S4	A002 FCA: southwest corner of Third Avenue and East 60th Street	6.00	5.00	73	483	23	151	90%	100%	80%	0.31	A
S5/S7	A002 FCA: northwest corner of Third Avenue and East 60th Street	6.00	5.00	94	61	29	19	90%	100%	80%	0.08	A
S6/S8	A002 FCA: southeast corner of Third Avenue and East 60th Street	6.00	5.00	389	717	122	224	90%	100%	80%	0.60	B
S9/S11	A002 FCA: northeast corner of Third Avenue and East 60th Street	6.00	5.00	544	865	170	270	90%	100%	80%	0.75	C
P8	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	1901	701	594	219	90%	80%	75%	1.39	E
P1	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	773	670	242	209	90%	80%	75%	0.78	C
P2	R244 FCA: Connecting stair to intermediate mezzanine - west	12.75	11.50	2674	1371	836	428	90%	80%	80%	1.02	D
PL1/PL3/PL5/PL7	Near R244A FCA: Connecting stair between downtown 6 platform and downtown 4/5 platform	3.00	2.00	709	21	222	7	100%	75%	75%	1.02	D
PL2/PL4/PL6/PL8	Near R245A FCA: Connecting stair between uptown 6 platform and uptown 4/5 platform	2.75	1.75	287	59	90	18	90%	75%	75%	0.61	B
P3	R245 FCA: Connecting stair to intermediate mezzanine - east	9.50	8.25	112	1128	35	353	90%	80%	80%	0.44	A
P5/P13	R245 FCA: Connecting stair to intermediate mezzanine - east	6.50	5.50	89	2041	28	638	100%	80%	80%	1.01	D
P6	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.00	6.75	97	2023	30	632	100%	80%	75%	0.87	C
P7	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.50	7.25	201	1531	63	478	90%	80%	75%	0.73	C
ML3/ML4	Connecting stair between BMT platform and lower intermediate mezzanine	4.50	3.50	1014	1052	317	329	90%	75%	80%	1.76	F
ML1/ML2	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	2289	579	715	181	90%	75%	80%	2.18	F
ML5/ML6	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	1686	1056	527	330	90%	75%	80%	2.07	F
PL9	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1748	2292	546	716	90%	80%	75%	2.43	F
PL10	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1164	756	364	236	90%	80%	75%	1.14	D
PL11	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1320	1038	413	324	90%	80%	75%	1.40	E
PL12	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	681	601	213	188	90%	80%	75%	0.77	C
P9/P10/P11/P12	Connecting stair A002 paid zone and BMT platform	3.50	2.50	2	114	1	36	100%	80%	75%	0.13	A

Table 4C-87. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E211	Near R245A FCA: Connecting escalator between uptown 6 platform and uptown 4/5 platform	1	40	75%	0	1,386	0	433	945	0.61	B
E212	Near R244A FCA: Connecting escalator between downtown 6 platform and downtown 4/5 platform	1	40	75%	0	1,595	0	498	945	0.70	C
E213	Near R245 FCA: Connecting escalator between uptown 6 platform and intermediate mezzanine	1	40	80%	0	1,280	0	400	945	0.53	B
E214	Near R244 FCA: Connecting escalator between downtown 6 platform and intermediate mezzanine	1	40	80%	0	872	0	273	945	0.36	A
E215	Near A004 FCA: Connecting escalator between A004 paid zone and BMT platform	1	40	75%	0	1,903	0	595	945	0.84	C
E248	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	75%	0	1,963	00	613	945	0.86	C
E249	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	100%	1,085	0	339	0	945	0.36	A

Table 4C-88. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lexington Avenue and East 60th Street – northeast corner (A004)											
Two-Way Turnstiles	3	1,260	1,935	625	447	195	140	90%	80%	0.27	A
Lexington Avenue and East 60th Street - southwest corner (R244)											
Two-Way Turnstiles	9	3,780	5,805	197	1,637	62	512	90%	80%	0.14	A
Lexington Avenue and East 59th Street – west side (R244A)											
Two-Way Turnstiles	5	2,100	3,225	427	1,387	134	433	90%	80%	0.26	A
HEET	2	510	1,080	104	464	32	145	90%	80%	0.26	A
Lexington Avenue and East 59th Street – southeast corner (R245A)											
Two-Way Turnstiles	3	1,260	1,935	159	1,766	50	552	90%	80%	0.44	A
HEET	2	510	1,080	64	986	20	308	90%	80%	0.44	A
Lexington Avenue and East 59th Street – west side (R245)											
Two-Way Turnstiles	8	3,360	5,160	159	848	50	265	90%	80%	0.09	A
High Exit Only Turnstile	1	0	555	0	91	0	29	100%	80%	0.07	A
Third Avenue and East 60th Street (A002)											
Two-Way Turnstiles	10	4,200	6,450	1,100	1,582	344	494	90%	80%	0.20	A
High Exit Only Turnstile	4	0	2,220	0	544	0	170	100%	80%	0.10	A

Table 4C-89. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M1/S1	A004 FCA: northwest corner of Lexington Avenue and East 60th Street	4.00	3.00	866	133	271	42	90%	100%	80%	0.80	C
O5/O6	R244 FCA: southwest corner of Lexington Avenue and East 60th Street	8.00	6.75	905	573	283	179	90%	100%	80%	0.56	B
MB1/SB1	R244A FCA: southwest corner of Lexington Avenue and East 59th Street	8.00	6.75	1843	343	576	107	90%	100%	80%	0.78	C
O11/O12	R244A FCA: northwest corner of Lexington Avenue and East 59th Street	7.50	6.25	930	131	291	41	90%	100%	80%	0.41	A
O8/O9/O10	R245A FCA: southeast corner of Lexington Avenue and East 59th Street	9.50	8.25	2237	1036	699	324	90%	100%	80%	0.99	C
S3/M3	R245 FCA: northeast corner of Lexington Avenue and East 60th Street	5.00	4.00	635	679	198	212	90%	100%	80%	0.86	C
O1/O2/O3	R245 FCA: southeast corner of Lexington Avenue and East 60th Street	10.00	8.75	285	376	89	118	90%	100%	80%	0.20	A
S2/S4	A002 FCA: southwest corner of Third Avenue and East 60th Street	6.00	5.00	653	76	204	24	90%	100%	80%	0.35	A
S5/S7	A002 FCA: northwest corner of Third Avenue and East 60th Street	6.00	5.00	129	20	40	6	90%	100%	80%	0.07	A
S6/S8	A002 FCA: southeast corner of Third Avenue and East 60th Street	6.00	5.00	610	253	191	79	90%	100%	80%	0.43	A
S9/S11	A002 FCA: northeast corner of Third Avenue and East 60th Street	6.00	5.00	809	257	253	80	90%	100%	80%	0.52	B
P8	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	3354	170	1,048	53	100%	80%	75%	1.67	F
P1	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	1463	144	457	45	90%	80%	75%	0.85	C
P2	R244 FCA: Connecting stair to intermediate mezzanine - west	12.75	11.50	4817	314	1,505	98	90%	80%	80%	1.29	D
PL1/PL3/PL5/PL7	Near R244A FCA: Connecting stair between downtown 6 platform and downtown 4/5 platform	3.00	2.00	1973	6	617	2	100%	75%	75%	2.75	F
PL2/PL4/PL6/PL8	Near R245A FCA: Connecting stair between uptown 6 platform and uptown 4/5 platform	2.75	1.75	1280	2	400	1	100%	75%	75%	2.04	F
P3	R245 FCA: Connecting stair to intermediate mezzanine - east	9.50	8.25	564	428	176	134	90%	80%	80%	0.35	A
P5/P13	R245 FCA: Connecting stair to intermediate mezzanine - east	6.50	5.50	1357	1268	424	396	90%	80%	80%	1.38	E
P6	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.00	6.75	770	919	241	287	90%	80%	75%	0.75	C
P7	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.50	7.25	1090	673	341	210	90%	80%	75%	0.72	C
ML3/ML4	Connecting stair between BMT platform and lower intermediate mezzanine	4.50	3.50	760	871	238	272	90%	75%	80%	1.39	E
ML1/ML2	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	1534	1079	479	337	90%	75%	80%	1.96	F
ML5/ML6	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	877	636	274	199	90%	75%	80%	1.14	D
PL9	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	477	1257	149	393	90%	80%	75%	1.05	D
PL10	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1322	894	413	279	90%	80%	75%	1.32	D
PL11	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	269	417	84	130	90%	80%	75%	0.41	A
PL12	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	904	674	283	211	90%	80%	75%	0.94	C
P9/P10/P11/P12	Connecting stair A002 paid zone and BMT platform	3.50	2.50	166	4	52	1	100%	80%	75%	0.18	A

Table 4C-90. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E211	Near R245A FCA: Connecting escalator between uptown 6 platform and uptown 4/5 platform	1	40	75%	0	666	0	208	945	0.29	A
E212	Near R244A FCA: Connecting escalator between downtown 6 platform and downtown 4/5 platform	1	40	75%	0	540	0	169	945	0.24	A
E213	Near R245 FCA: Connecting escalator between uptown 6 platform and intermediate mezzanine	1	40	80%	0	791	0	247	945	0.33	A
E214	Near R244 FCA: Connecting escalator between downtown 6 platform and intermediate mezzanine	1	40	80%	0	271	0	85	945	0.11	A
E215	Near A004 FCA: Connecting escalator between A004 paid zone and BMT platform	1	40	75%	0	481	0	150	945	0.21	A
E248	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	75%	0	593	0	185	945	0.26	A
E249	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	100%	2,041	0	638	0	945	0.68	B

Table 4C-91. Existing Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lexington Avenue and East 60th Street – northeast corner (A004)											
Two-Way Turnstiles	3	1,260	1,935	866	133	271	42	90%	80%	0.27	A
Lexington Avenue and East 60th Street - southwest corner (R244)											
Two-Way Turnstiles	9	3,780	5,805	905	573	283	179	90%	80%	0.13	A
Lexington Avenue and East 59th Street – west side (R244A)											
Two-Way Turnstiles	5	2,100	3,225	2,231	355	697	111	90%	80%	0.42	A
HEET	2	510	1,080	542	119	169	37	90%	80%	0.42	A
Lexington Avenue and East 59th Street – southeast corner (R245A)											
Two-Way Turnstiles	3	1,260	1,935	1,592	665	498	208	90%	80%	0.59	B
HEET	2	510	1,080	645	371	201	116	90%	80%	0.59	B
Lexington Avenue and East 59th Street – west side (R245)											
Two-Way Turnstiles	8	3,360	5,160	736	628	230	196	90%	80%	0.13	A
High Exit Only Turnstile	1	0	555	0	68	0	21	100%	80%	0.05	A
Third Avenue and East 60th Street (A002)											
Two-Way Turnstiles	10	4,200	6,450	2,201	451	688	141	90%	80%	0.21	A
High Exit Only Turnstile	4	0	2,220	0	155	0	48	100%	80%	0.03	A

Table 4C-92. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M1/S1	A004 FCA: northwest corner of Lexington Avenue and East 60th Street	4.00	3.00	625	447	195	140	90%	100%	80%	0.91	C
O5/O6	R244 FCA: southwest corner of Lexington Avenue and East 60th Street	8.00	6.75	197	1637	62	512	90%	100%	80%	0.77	C
MB1/SB1	R244A FCA: southwest corner of Lexington Avenue and East 59th Street	8.00	6.75	281	1569	88	490	90%	100%	80%	0.77	C
O11/O12	R244A FCA: northwest corner of Lexington Avenue and East 59th Street	7.50	6.25	250	282	78	88	90%	100%	80%	0.22	A
O8/O9/O10	R245A FCA: southeast corner of Lexington Avenue and East 59th Street	9.50	8.25	223	2752	70	860	90%	100%	80%	1.03	D
S3/M3	R245 FCA: northeast corner of Lexington Avenue and East 60th Street	5.00	4.00	156	833	49	260	90%	100%	80%	0.69	B
O1/O2/O3	R245 FCA: southeast corner of Lexington Avenue and East 60th Street	10.00	8.75	43	592	13	185	90%	100%	80%	0.21	A
S2/S4	A002 FCA: southwest corner of Third Avenue and East 60th Street	6.00	5.00	73	483	23	151	90%	100%	80%	0.31	A
S5/S7	A002 FCA: northwest corner of Third Avenue and East 60th Street	6.00	5.00	94	61	29	19	90%	100%	80%	0.08	A
S6/S8	A002 FCA: southeast corner of Third Avenue and East 60th Street	6.00	5.00	389	717	122	224	90%	100%	80%	0.60	B
S9/S11	A002 FCA: northeast corner of Third Avenue and East 60th Street	6.00	5.00	544	865	170	270	90%	100%	80%	0.75	C
P8	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	1901	701	594	219	90%	80%	75%	1.39	E
P1	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	773	670	242	209	90%	80%	75%	0.78	C
P2	R244 FCA: Connecting stair to intermediate mezzanine - west	12.75	11.50	2674	1371	836	428	90%	80%	80%	1.02	D
PL1/PL3/PL5/PL7	Near R244A FCA: Connecting stair between downtown 6 platform and downtown 4/5 platform	3.00	2.00	709	21	222	7	100%	75%	75%	1.02	D
PL2/PL4/PL6/PL8	Near R245A FCA: Connecting stair between uptown 6 platform and uptown 4/5 platform	2.75	1.75	287	59	90	18	90%	75%	75%	0.61	B
P3	R245 FCA: Connecting stair to intermediate mezzanine - east	9.50	8.25	112	1128	35	353	90%	80%	80%	0.44	A
P5/P13	R245 FCA: Connecting stair to intermediate mezzanine - east	6.50	5.50	89	2041	28	638	100%	80%	80%	1.01	D
P6	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.00	6.75	97	2023	30	632	100%	80%	75%	0.87	C
P7	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.50	7.25	201	1531	63	478	90%	80%	75%	0.73	C
ML3/ML4	Connecting stair between BMT platform and lower intermediate mezzanine	4.50	3.50	1014	1052	317	329	90%	75%	80%	1.76	F
ML1/ML2	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	2289	579	715	181	90%	75%	80%	2.18	F
ML5/ML6	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	1686	1056	527	330	90%	75%	80%	2.07	F
PL9	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1748	2292	546	716	90%	80%	75%	2.43	F
PL10	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1164	756	364	236	90%	80%	75%	1.14	D
PL11	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1320	1038	413	324	90%	80%	75%	1.40	E
PL12	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	681	601	213	188	90%	80%	75%	0.77	C
P9/P10/P11/P12	Connecting stair A002 paid zone and BMT platform	3.50	2.50	2	114	1	36	100%	80%	75%	0.13	A

Table 4C-93. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E211	Near R245A FCA: Connecting escalator between uptown 6 platform and uptown 4/5 platform	1	40	75%	0	1,386	0	433	945	0.61	B
E212	Near R244A FCA: Connecting escalator between downtown 6 platform and downtown 4/5 platform	1	40	75%	0	1,595	0	498	945	0.70	C
E213	Near R245 FCA: Connecting escalator between uptown 6 platform and intermediate mezzanine	1	40	80%	0	1,280	0	400	945	0.53	B
E214	Near R244 FCA: Connecting escalator between downtown 6 platform and intermediate mezzanine	1	40	80%	0	872	0	273	945	0.36	A
E215	Near A004 FCA: Connecting escalator between A004 paid zone and BMT platform	1	40	75%	0	1,903	0	595	945	0.84	C
E248	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	75%	0	1,963	0	613	945	0.86	C
E249	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	100%	1,085	0	339	0	945	0.36	A

Table 4C-94. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lexington Avenue and East 60th Street – northeast corner (A004)											
Two-Way Turnstiles	3	1,260	1,935	625	447	195	140	90%	80%	0.27	A
Lexington Avenue and East 60th Street - southwest corner (R244)											
Two-Way Turnstiles	9	3,780	5,805	197	1,637	62	512	90%	80%	0.14	A
Lexington Avenue and East 59th Street – west side (R244A)											
Two-Way Turnstiles	5	2,100	3,225	427	1,387	134	433	90%	80%	0.26	A
HEET	2	510	1,080	104	464	32	145	90%	80%	0.26	A
Lexington Avenue and East 59th Street – southeast corner (R245A)											
Two-Way Turnstiles	3	1,260	1,935	159	1,766	50	552	90%	80%	0.44	A
HEET	2	510	1,080	64	986	20	308	90%	80%	0.44	A
Lexington Avenue and East 59th Street – west side (R245)											
Two-Way Turnstiles	8	3,360	5,160	159	848	50	265	90%	80%	0.09	A
High Exit Only Turnstile	1	0	555	0	91	0	29	100%	80%	0.07	A
Third Avenue and East 60th Street (A002)											
Two-Way Turnstiles	10	4,200	6,450	1,100	1,582	344	494	90%	80%	0.20	A
High Exit Only Turnstile	4	0	2,220	0	544	0	170	100%	80%	0.10	A

Table 4C-95. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M1/S1	A004 FCA: northwest corner of Lexington Avenue and East 60th Street	4.00	3.00	866	133	271	42	90%	100%	80%	0.80	C
O5/O6	R244 FCA: southwest corner of Lexington Avenue and East 60th Street	8.00	6.75	905	573	283	179	90%	100%	80%	0.56	B
MB1/SB1	R244A FCA: southwest corner of Lexington Avenue and East 59th Street	8.00	6.75	1843	343	576	107	90%	100%	80%	0.78	C
O11/O12	R244A FCA: northwest corner of Lexington Avenue and East 59th Street	7.50	6.25	930	131	291	41	90%	100%	80%	0.41	A
O8/O9/O10	R245A FCA: southeast corner of Lexington Avenue and East 59th Street	9.50	8.25	2237	1036	699	324	90%	100%	80%	0.99	C
S3/M3	R245 FCA: northeast corner of Lexington Avenue and East 60th Street	5.00	4.00	635	679	198	212	90%	100%	80%	0.86	C
O1/O2/O3	R245 FCA: southeast corner of Lexington Avenue and East 60th Street	10.00	8.75	285	376	89	118	90%	100%	80%	0.20	A
S2/S4	A002 FCA: southwest corner of Third Avenue and East 60th Street	6.00	5.00	653	76	204	24	90%	100%	80%	0.35	A
S5/S7	A002 FCA: northwest corner of Third Avenue and East 60th Street	6.00	5.00	129	20	40	6	90%	100%	80%	0.07	A
S6/S8	A002 FCA: southeast corner of Third Avenue and East 60th Street	6.00	5.00	610	253	191	79	90%	100%	80%	0.43	A
S9/S11	A002 FCA: northeast corner of Third Avenue and East 60th Street	6.00	5.00	809	257	253	80	90%	100%	80%	0.52	B
P8	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	3354	170	1,048	53	100%	80%	75%	1.67	F
P1	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	1463	144	457	45	90%	80%	75%	0.85	C
P2	R244 FCA: Connecting stair to intermediate mezzanine - west	12.75	11.50	4817	314	1,505	98	90%	80%	80%	1.29	D
PL1/PL3/PL5/PL7	Near R244A FCA: Connecting stair between downtown 6 platform and downtown 4/5 platform	3.00	2.00	1973	6	617	2	100%	75%	75%	2.75	F
PL2/PL4/PL6/PL8	Near R245A FCA: Connecting stair between uptown 6 platform and uptown 4/5 platform	2.75	1.75	1280	2	400	1	100%	75%	75%	2.04	F
P3	R245 FCA: Connecting stair to intermediate mezzanine - east	9.50	8.25	564	428	176	134	90%	80%	80%	0.35	A
P5/P13	R245 FCA: Connecting stair to intermediate mezzanine - east	6.50	5.50	1357	1268	424	396	90%	80%	80%	1.38	E
P6	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.00	6.75	770	919	241	287	90%	80%	75%	0.75	C
P7	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.50	7.25	1090	673	341	210	90%	80%	75%	0.72	C
ML3/ML4	Connecting stair between BMT platform and lower intermediate mezzanine	4.50	3.50	760	871	238	272	90%	75%	80%	1.39	E
ML1/ML2	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	1534	1079	479	337	90%	75%	80%	1.96	F
ML5/ML6	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	877	636	274	199	90%	75%	80%	1.14	D
PL9	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	477	1257	149	393	90%	80%	75%	1.05	D
PL10	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1322	894	413	279	90%	80%	75%	1.32	D
PL11	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	269	417	84	130	90%	80%	75%	0.41	A
PL12	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	904	674	283	211	90%	80%	75%	0.94	C
P9/P10/P11/P12	Connecting stair A002 paid zone and BMT platform	3.50	2.50	166	4	52	1	100%	80%	75%	0.18	A

Table 4C-96. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E211	Near R245A FCA: Connecting escalator between uptown 6 platform and uptown 4/5 platform	1	40	75%	0	666	0	208	945	0.29	A
E212	Near R244A FCA: Connecting escalator between downtown 6 platform and downtown 4/5 platform	1	40	75%	0	540	0	169	945	0.24	A
E213	Near R245 FCA: Connecting escalator between uptown 6 platform and intermediate mezzanine	1	40	80%	0	791	0	247	945	0.33	A
E214	Near R244 FCA: Connecting escalator between downtown 6 platform and intermediate mezzanine	1	40	80%	0	271	0	85	945	0.11	A
E215	Near A004 FCA: Connecting escalator between A004 paid zone and BMT platform	1	40	75%	0	481	0	150	945	0.21	A
E248	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	75%	0	593	0	185	945	0.26	A
E249	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	100%	2,041	0	638	0	945	0.68	B

Table 4C-97. No Action Alternative Level of Service Summary: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lexington Avenue and East 60th Street – northeast corner (A004)											
Two-Way Turnstiles	3	1,260	1,935	866	133	271	42	90%	80%	0.27	A
Lexington Avenue and East 60th Street - southwest corner (R244)											
Two-Way Turnstiles	9	3,780	5,805	905	573	283	179	90%	80%	0.13	A
Lexington Avenue and East 59th Street – west side (R244A)											
Two-Way Turnstiles	5	2,100	3,225	2,231	355	697	111	90%	80%	0.42	A
HEET	2	510	1,080	542	119	169	37	90%	80%	0.42	A
Lexington Avenue and East 59th Street – southeast corner (R245A)											
Two-Way Turnstiles	3	1,260	1,935	1,592	665	498	208	90%	80%	0.59	B
HEET	2	510	1,080	645	371	201	116	90%	80%	0.59	B
Lexington Avenue and East 59th Street – west side (R245)											
Two-Way Turnstiles	8	3,360	5,160	736	628	230	196	90%	80%	0.13	A
High Exit Only Turnstile	1	0	555	0	68	0	21	100%	80%	0.05	A
Third Avenue and East 60th Street (A002)											
Two-Way Turnstiles	10	4,200	6,450	2,201	451	688	141	90%	80%	0.21	A
High Exit Only Turnstile	4	0	2,220	0	155	0	48	100%	80%	0.03	A

Table 4C-98. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M1/S1	A004 FCA: northwest corner of Lexington Avenue and East 60th Street	4.00	3.00	639	452	200	141	90%	100%	80%	0.93	C
O5/O6	R244 FCA: southwest corner of Lexington Avenue and East 60th Street	8.00	6.75	201	1657	63	518	90%	100%	80%	0.78	C
MB1/SB1	R244A FCA: southwest corner of Lexington Avenue and East 59th Street	8.00	6.75	287	1588	90	496	90%	100%	80%	0.78	C
O11/O12	R244A FCA: northwest corner of Lexington Avenue and East 59th Street	7.50	6.25	256	285	80	89	90%	100%	80%	0.23	A
O8/O9/O10	R245A FCA: southeast corner of Lexington Avenue and East 59th Street	9.50	8.25	228	2785	71	870	90%	100%	80%	1.04	D
S3/M3	R245 FCA: northeast corner of Lexington Avenue and East 60th Street	5.00	4.00	159	843	50	263	90%	100%	80%	0.70	C
O1/O2/O3	R245 FCA: southeast corner of Lexington Avenue and East 60th Street	10.00	8.75	44	599	14	187	90%	100%	80%	0.21	A
S2/S4	A002 FCA: southwest corner of Third Avenue and East 60th Street	6.00	5.00	75	489	23	153	90%	100%	80%	0.32	A
S5/S7	A002 FCA: northwest corner of Third Avenue and East 60th Street	6.00	5.00	96	62	30	19	90%	100%	80%	0.08	A
S6/S8	A002 FCA: southeast corner of Third Avenue and East 60th Street	6.00	5.00	398	726	124	227	90%	100%	80%	0.60	B
S9/S11	A002 FCA: northeast corner of Third Avenue and East 60th Street	6.00	5.00	556	875	174	273	90%	100%	80%	0.76	C
P8	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	1911	710	597	222	90%	80%	75%	1.40	E
P1	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	777	679	243	212	90%	80%	75%	0.79	C
P2	R244 FCA: Connecting stair to intermediate mezzanine - west	12.75	11.50	2687	1389	840	434	90%	80%	80%	1.03	D
PL1/PL3/PL5/PL7	Near R244A FCA: Connecting stair between downtown 6 platform and downtown 4/5 platform	3.00	2.00	716	21	224	7	100%	75%	75%	1.03	D
PL2/PL4/PL6/PL8	Near R245A FCA: Connecting stair between uptown 6 platform and uptown 4/5 platform	2.75	1.75	290	61	91	19	90%	75%	75%	0.62	B
P3	R245 FCA: Connecting stair to intermediate mezzanine - east	9.50	8.25	114	1135	36	355	90%	80%	80%	0.44	A
P5/P13	R245 FCA: Connecting stair to intermediate mezzanine - east	6.50	5.50	90	2054	28	642	100%	80%	80%	1.02	D
P6	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.00	6.75	98	2041	31	638	100%	80%	75%	0.88	C
P7	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.50	7.25	203	1540	63	481	90%	80%	75%	0.74	C
ML3/ML4	Connecting stair between BMT platform and lower intermediate mezzanine	4.50	3.50	1025	1111	320	347	90%	75%	80%	1.82	F
ML1/ML2	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	2319	611	725	191	90%	75%	80%	2.23	F
ML5/ML6	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	1704	1115	533	348	90%	75%	80%	2.12	F
PL9	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1765	2392	552	748	90%	80%	75%	2.50	F
PL10	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1181	759	369	237	90%	80%	75%	1.15	D
PL11	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1333	1083	417	338	90%	80%	75%	1.44	E
PL12	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	691	603	216	188	90%	80%	75%	0.77	C
P9/P10/P11/P12	Connecting stair A002 paid zone and BMT platform	3.50	2.50	2	115	1	36	100%	80%	75%	0.13	A

Table 4C-99. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E211	Near R245A FCA: Connecting escalator between uptown 6 platform and uptown 4/5 platform	1	40	75%	0	1,460	0	456	945	0.64	B
E212	Near R244A FCA: Connecting escalator between downtown 6 platform and downtown 4/5 platform	1	40	75%	0	1,626	0	508	945	0.72	C
E213	Near R245 FCA: Connecting escalator between uptown 6 platform and intermediate mezzanine	1	40	80%	0	1,285	0	402	945	0.53	B
E214	Near R244 FCA: Connecting escalator between downtown 6 platform and intermediate mezzanine	1	40	80%	0	873	0	273	945	0.36	A
E215	Near A004 FCA: Connecting escalator between A004 paid zone and BMT platform	1	40	75%	0	1,912	0	598	945	0.84	C
E248	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	75%	0	1,987	0	621	945	0.88	C
E249	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	100%	1,109	0	347	0	945	0.37	A

Table 4C-100. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lexington Avenue and East 60th Street – northeast corner (A004)											
Two-Way Turnstiles	3	1,260	1,935	639	452	200	141	90%	80%	0.28	A
Lexington Avenue and East 60th Street - southwest corner (R244)											
Two-Way Turnstiles	9	3,780	5,805	201	1,657	63	518	90%	80%	0.14	A
Lexington Avenue and East 59th Street – west side (R244A)											
Two-Way Turnstiles	5	2,100	3,225	437	1,403	137	438	90%	80%	0.26	A
HEET	2	510	1,080	106	470	33	147	90%	80%	0.26	A
Lexington Avenue and East 59th Street – southeast corner (R245A)											
Two-Way Turnstiles	3	1,260	1,935	162	1,787	51	559	90%	80%	0.45	A
HEET	2	510	1,080	66	998	21	312	90%	80%	0.45	A
Lexington Avenue and East 59th Street – west side (R245)											
Two-Way Turnstiles	8	3,360	5,160	162	858	51	268	90%	80%	0.09	A
High Exit Only Turnstile	1	0	555	0	92	0	29	100%	80%	0.07	A
Third Avenue and East 60th Street (A002)											
Two-Way Turnstiles	10	4,200	6,450	1,124	1,601	351	500	90%	80%	0.20	A
High Exit Only Turnstile	4	0	2,220	0	544	0	170	100%	80%	0.10	A

Table 4C-101. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M1/S1	A004 FCA: northwest corner of Lexington Avenue and East 60th Street	4.00	3.00	878	135	274	42	90%	100%	80%	0.81	C
O5/O6	R244 FCA: southwest corner of Lexington Avenue and East 60th Street	8.00	6.75	917	583	287	182	90%	100%	80%	0.56	B
MB1/SB1	R244A FCA: southwest corner of Lexington Avenue and East 59th Street	8.00	6.75	1868	349	584	109	90%	100%	80%	0.79	C
O11/O12	R244A FCA: northwest corner of Lexington Avenue and East 59th Street	7.50	6.25	943	133	295	42	90%	100%	80%	0.41	A
O8/O9/O10	R245A FCA: southeast corner of Lexington Avenue and East 59th Street	9.50	8.25	2267	1054	708	329	90%	100%	80%	1.00	D
S3/M3	R245 FCA: northeast corner of Lexington Avenue and East 60th Street	5.00	4.00	644	691	201	216	90%	100%	80%	0.87	C
O1/O2/O3	R245 FCA: southeast corner of Lexington Avenue and East 60th Street	10.00	8.75	289	383	90	120	90%	100%	80%	0.20	A
S2/S4	A002 FCA: southwest corner of Third Avenue and East 60th Street	6.00	5.00	662	77	207	24	90%	100%	80%	0.35	A
S5/S7	A002 FCA: northwest corner of Third Avenue and East 60th Street	6.00	5.00	131	20	41	6	90%	100%	80%	0.07	A
S6/S8	A002 FCA: southeast corner of Third Avenue and East 60th Street	6.00	5.00	618	258	193	81	90%	100%	80%	0.44	A
S9/S11	A002 FCA: northeast corner of Third Avenue and East 60th Street	6.00	5.00	820	262	256	82	90%	100%	80%	0.53	B
P8	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	3367	174	1,052	54	100%	80%	75%	1.68	F
P1	Near R244 FCA: Connecting stair between BMT platform and intermediate mezzanine - west	6.50	5.50	1469	147	459	46	90%	80%	75%	0.86	C
P2	R244 FCA: Connecting stair to intermediate mezzanine - west	12.75	11.50	4836	321	1,511	100	90%	80%	80%	1.30	D
PL1/PL3/PL5/PL7	Near R244A FCA: Connecting stair between downtown 6 platform and downtown 4/5 platform	3.00	2.00	2017	6	630	2	100%	75%	75%	2.81	F
PL2/PL4/PL6/PL8	Near R245A FCA: Connecting stair between uptown 6 platform and uptown 4/5 platform	2.75	1.75	1311	2	410	1	100%	75%	75%	2.09	F
P3	R245 FCA: Connecting stair to intermediate mezzanine - east	9.50	8.25	568	436	178	136	90%	80%	80%	0.35	A
P5/P13	R245 FCA: Connecting stair to intermediate mezzanine - east	6.50	5.50	1366	1292	427	404	90%	80%	80%	1.40	E
P6	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.00	6.75	775	938	242	293	90%	80%	75%	0.76	C
P7	Near R245 FCA: Connecting stair between BMT platform and intermediate mezzanine - east	8.50	7.25	1097	687	343	215	90%	80%	75%	0.73	C
ML3/ML4	Connecting stair between BMT platform and lower intermediate mezzanine	4.50	3.50	775	917	242	287	90%	75%	80%	1.44	E
ML1/ML2	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	1581	1136	494	355	90%	75%	80%	2.04	F
ML5/ML6	Connecting stair between BMT platform and lower intermediate mezzanine	5.00	4.00	895	670	280	209	90%	75%	80%	1.18	D
PL9	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	494	1341	154	419	90%	80%	75%	1.11	D
PL10	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	1354	909	423	284	90%	80%	75%	1.34	E
PL11	Connecting stair between downtown 4/5 platform and lower intermediate mezzanine	6.00	5.00	278	445	87	139	90%	80%	75%	0.44	A
PL12	Connecting stair between uptown 4/5 platform and lower intermediate mezzanine	6.00	5.00	926	685	289	214	90%	80%	75%	0.96	C
P9/P10/P11/P12	Connecting stair A002 paid zone and BMT platform	3.50	2.50	168	4	53	1	100%	80%	75%	0.18	A

Table 4C-102. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E211	Near R245A FCA: Connecting escalator between uptown 6 platform and uptown 4/5 platform	1	40	75%	0	734	0	229	945	0.32	A
E212	Near R244A FCA: Connecting escalator between downtown 6 platform and downtown 4/5 platform	1	40	75%	0	545	0	170	945	0.24	A
E213	Near R245 FCA: Connecting escalator between uptown 6 platform and intermediate mezzanine	1	40	80%	0	791	0	247	945	0.33	A
E214	Near R244 FCA: Connecting escalator between downtown 6 platform and intermediate mezzanine	1	40	80%	0	271	0	85	945	0.11	A
E215	Near A004 FCA: Connecting escalator between A004 paid zone and BMT platform	1	40	75%	0	488	0	153	945	0.22	A
E248	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	75%	0	604	0	189	945	0.27	A
E249	Near A002 FCA: Connecting escalator between A002 paid zone and BMT platform	1	40	100%	2,069	0	647	0	945	0.68	B

Table 4C-103. CBD Tolling Alternative: 59th Street Lexington Avenue Station (Nos. 4, 5, 6, and N, Q, R, W lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lexington Avenue and East 60th Street – northeast corner (A004)											
Two-Way Turnstiles	3	1,260	1,935	878	135	274	42	90%	80%	0.27	A
Lexington Avenue and East 60th Street - southwest corner (R244)											
Two-Way Turnstiles	9	3,780	5,805	917	583	287	182	90%	80%	0.13	A
Lexington Avenue and East 59th Street – west side (R244A)											
Two-Way Turnstiles	5	2,100	3,225	2,262	361	707	113	90%	80%	0.42	A
HEET	2	510	1,080	549	121	172	38	90%	80%	0.42	A
Lexington Avenue and East 59th Street – southeast corner (R245A)											
Two-Way Turnstiles	3	1,260	1,935	1,614	676	504	211	90%	80%	0.60	B
HEET	2	510	1,080	653	378	204	118	90%	80%	0.60	B
Lexington Avenue and East 59th Street – west side (R245)											
Two-Way Turnstiles	8	3,360	5,160	746	639	233	200	90%	80%	0.13	A
High Exit Only Turnstile	1	0	555	0	69	0	21	100%	80%	0.05	A
Third Avenue and East 60th Street (A002)											
Two-Way Turnstiles	10	4,200	6,450	2,231	459	697	143	90%	80%	0.22	A
High Exit Only Turnstile	4	0	2,220	0	158	0	49	100%	80%	0.03	A

Table 4C-104. Existing Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S1	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	313	740	98	231	90%	100%	80%	0.57	B
S3	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	298	1430	93	447	90%	100%	80%	0.97	C
M1	Connecting stair between S1/S3 and Control Area R182 free zone	12.00	10.75	611	2170	191	678	90%	100%	80%	0.72	C
M4	Connecting stair between S4 and Control Area N13 free zone	12.00	10.75	1361	1127	425	352	90%	100%	80%	0.60	B
S4	Street stair at southeast corner of St. Nicholas Avenue and West 168th Street	5.00	4.00	1361	1127	425	352	90%	100%	80%	1.60	E
S5	Street stair at northwest corner of Broadway and West 169th Street	3.00	2.00	64	62	20	19	90%	100%	80%	0.16	A
S6	Street stair at northwest corner of Broadway and West 169th Street	4.00	3.00	641	188	200	59	90%	100%	80%	0.68	B
M5	Connecting stair between S5/S6 and Control Area N12 free zone	11.00	9.75	705	250	220	78	90%	100%	80%	0.24	A
M6	Connecting stair between S5/S6 and Control Area N12 free zone	13.50	12.25	705	250	220	78	90%	100%	80%	0.19	A
S7	Street stair at northeast corner of Broadway and West 169th Street	4.50	3.50	96	94	30	29	90%	100%	80%	0.14	A
IND P3	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	40	54	13	17	90%	80%	75%	0.07	A
IND P5	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	573	67	179	21	90%	80%	75%	0.47	B
IND P7	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	549	81	172	25	90%	80%	75%	0.46	B
IND P9	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	505	104	158	33	90%	80%	75%	0.45	A
IND P11	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	8	29	3	9	90%	100%	75%	0.03	A
IND P13	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	763	46	238	14	90%	100%	75%	0.48	B
IND P4	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	3	477	1	149	100%	80%	75%	0.33	A
IND P6	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	36	783	11	245	100%	80%	75%	0.57	B
IND P8	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	49	438	15	137	90%	80%	75%	0.37	A
IND P10	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	34	556	11	174	90%	80%	75%	0.46	B
IND P12	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	3	185	1	58	100%	100%	75%	0.13	A
IND P14	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	25	261	8	82	90%	100%	75%	0.22	A
IRT P1	Connecting stair between south overpass and west platform	6.00	5.00	121	460	38	144	90%	75%	75%	0.36	A
IRT P3	Connecting stair between south overpass and west platform	6.00	5.00	57	133	18	42	90%	75%	75%	0.12	A
IRT U1/U2	Overpass stair above IRT platform	12.00	10.75	368	156	115	49	90%	75%	80%	0.15	A
IRT P5	Connecting stair between north overpass and west platform	6.00	5.00	176	200	55	63	90%	75%	75%	0.23	A
IRT P7	Connecting stair between north overpass and west platform	6.00	5.00	154	347	48	108	90%	75%	75%	0.31	A
IRT P2	Connecting stair between north overpass and east platform	6.00	5.00	111	249	35	78	90%	75%	75%	0.22	A
IRT P4	Connecting stair between north overpass and east platform	6.00	5.00	45	119	14	37	90%	75%	75%	0.10	A
IRT P6	Connecting stair between lower mezzanine and east platform	6.50	5.50	184	66	58	21	90%	75%	75%	0.14	A
IRT P8	Connecting stair between lower mezzanine and east platform	6.50	5.50	110	142	34	44	90%	75%	75%	0.14	A
IRT P9	Overpass stair above IRT platform	8.00	6.75	294	208	92	65	90%	75%	80%	0.22	A

Table 4C-105. Existing Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and West 168th Street – southwest corner (R182)											
Two-Way Turnstiles	7	2,940	4,515	2,170	611	678	191	90%	80%	0.31	A
St. Nicholas Avenue and West 168th Street – southeast corner (N013)											
Two-Way Turnstiles	5	2,100	3,225	1,361	1,127	425	352	90%	80%	0.38	A
Broadway and West 169th Street – northeast corner (N012)											
HEET	2	510	1,080	195	115	61	36	90%	80%	0.18	A
High Exit Only Turnstile	3	0	1,665	0	178	0	56	100%	80%	0.04	A

Table 4C-106. Existing Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S1	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	1100	241	344	75	90%	100%	80%	0.65	B
S3	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	1789	477	559	149	90%	100%	80%	1.10	D
M1	Connecting stair between S1/S3 and Control Area R182 free zone	12.00	10.75	2889	718	903	224	90%	100%	80%	0.82	C
M4	Connecting stair between S4 and Control Area N13 free zone	12.00	10.75	804	670	251	209	90%	100%	80%	0.35	A
S4	Street stair at southeast corner of St. Nicholas Avenue and West 168th Street	5.00	4.00	804	670	251	209	90%	100%	80%	0.95	C
S5	Street stair at northwest corner of Broadway and West 169th Street	3.00	2.00	66	36	21	11	90%	100%	80%	0.13	A
S6	Street stair at northwest corner of Broadway and West 169th Street	4.00	3.00	299	549	93	172	90%	100%	80%	0.76	C
M5	Connecting stair between S5/S6 and Control Area N12 free zone	11.00	9.75	365	585	114	183	90%	100%	80%	0.26	A
M6	Connecting stair between S5/S6 and Control Area N12 free zone	13.50	12.25	365	585	114	183	90%	100%	80%	0.21	A
S7	Street stair at northeast corner of Broadway and West 169th Street	4.50	3.50	99	53	31	17	90%	100%	80%	0.11	A
IND P3	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	47	24	15	8	90%	80%	75%	0.05	A
IND P5	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	940	26	294	8	100%	80%	75%	0.63	B
IND P7	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	1092	55	341	17	100%	80%	75%	0.75	C
IND P9	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	557	33	174	10	100%	80%	75%	0.38	A
IND P11	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	12	18	4	6	90%	100%	75%	0.02	A
IND P13	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	389	20	122	6	100%	100%	75%	0.22	A
IND P4	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	7	299	2	93	100%	80%	75%	0.21	A
IND P6	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	77	364	24	114	90%	80%	75%	0.34	A
IND P8	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	145	262	45	82	90%	80%	75%	0.31	A
IND P10	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	102	346	32	108	90%	80%	75%	0.34	A
IND P12	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	5	246	2	77	100%	100%	75%	0.17	A
IND P14	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	32	380	10	119	90%	100%	75%	0.31	A
IRT P1	Connecting stair between south overpass and west platform	6.00	5.00	371	234	116	73	90%	75%	75%	0.37	A
IRT P3	Connecting stair between south overpass and west platform	6.00	5.00	131	60	41	19	90%	75%	75%	0.12	A
IRT U1/U2	Overpass stair above IRT platform	12.00	10.75	133	564	42	176	90%	75%	80%	0.19	A
IRT P5	Connecting stair between north overpass and west platform	6.00	5.00	222	53	69	17	90%	75%	75%	0.17	A
IRT P7	Connecting stair between north overpass and west platform	6.00	5.00	185	127	58	40	90%	75%	75%	0.19	A
IRT P2	Connecting stair between north overpass and east platform	6.00	5.00	379	292	118	91	90%	75%	75%	0.41	A
IRT P4	Connecting stair between north overpass and east platform	6.00	5.00	205	125	64	39	90%	75%	75%	0.20	A
IRT P6	Connecting stair between lower mezzanine and east platform	6.50	5.50	189	54	59	17	90%	75%	75%	0.14	A
IRT P8	Connecting stair between lower mezzanine and east platform	6.50	5.50	255	136	80	43	90%	75%	75%	0.22	A
IRT P9	Overpass stair above IRT platform	8.00	6.75	444	190	139	59	90%	75%	80%	0.28	A

Table 4C-107. Existing Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and West 168th Street – southwest corner (R182)											
Two-Way Turnstiles	7	2,940	4,515	718	2,889	224	903	90%	80%	0.36	A
St. Nicholas Avenue and West 168th Street – southeast corner (N013)											
Two-Way Turnstiles	5	2,100	3,225	804	670	251	209	90%	80%	0.22	A
Broadway and West 169th Street – northeast corner (N012)											
HEET	2	510	1,080	113	214	35	67	90%	80%	0.16	A
High Exit Only Turnstile	3	0	1,665	0	329	0	103	100%	80%	0.08	A

Table 4C-108. No Action Alternative Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S1	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	313	740	98	231	90%	100%	80%	0.57	B
S3	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	298	1430	93	447	90%	100%	80%	0.97	C
M1	Connecting stair between S1/S3 and Control Area R182 free zone	12.00	10.75	611	2170	191	678	90%	100%	80%	0.72	C
M4	Connecting stair between S4 and Control Area N13 free zone	12.00	10.75	1361	1127	425	352	90%	100%	80%	0.60	B
S4	Street stair at southeast corner of St. Nicholas Avenue and West 168th Street	5.00	4.00	1361	1127	425	352	90%	100%	80%	1.60	E
S5	Street stair at northwest corner of Broadway and West 169th Street	3.00	2.00	64	62	20	19	90%	100%	80%	0.16	A
S6	Street stair at northwest corner of Broadway and West 169th Street	4.00	3.00	641	188	200	59	90%	100%	80%	0.68	B
M5	Connecting stair between S5/S6 and Control Area N12 free zone	11.00	9.75	705	250	220	78	90%	100%	80%	0.24	A
M6	Connecting stair between S5/S6 and Control Area N12 free zone	13.50	12.25	705	250	220	78	90%	100%	80%	0.19	A
S7	Street stair at northeast corner of Broadway and West 169th Street	4.50	3.50	96	94	30	29	90%	100%	80%	0.14	A
IND P3	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	40	54	13	17	90%	80%	75%	0.07	A
IND P5	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	573	67	179	21	90%	80%	75%	0.47	B
IND P7	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	549	81	172	25	90%	80%	75%	0.46	B
IND P9	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	505	104	158	33	90%	80%	75%	0.45	A
IND P11	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	8	29	3	9	90%	100%	75%	0.03	A
IND P13	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	763	46	238	14	90%	100%	75%	0.48	B
IND P4	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	3	477	1	149	100%	80%	75%	0.33	A
IND P6	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	36	783	11	245	100%	80%	75%	0.57	B
IND P8	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	49	438	15	137	90%	80%	75%	0.37	A
IND P10	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	34	556	11	174	90%	80%	75%	0.46	B
IND P12	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	3	185	1	58	100%	100%	75%	0.13	A
IND P14	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	25	261	8	82	90%	100%	75%	0.22	A
IRT P1	Connecting stair between south overpass and west platform	6.00	5.00	121	460	38	144	90%	75%	75%	0.36	A
IRT P3	Connecting stair between south overpass and west platform	6.00	5.00	57	133	18	42	90%	75%	75%	0.12	A
IRT U1/U2	Overpass stair above IRT platform	12.00	10.75	368	156	115	49	90%	75%	80%	0.15	A
IRT P5	Connecting stair between north overpass and west platform	6.00	5.00	176	200	55	63	90%	75%	75%	0.23	A
IRT P7	Connecting stair between north overpass and west platform	6.00	5.00	154	347	48	108	90%	75%	75%	0.31	A
IRT P2	Connecting stair between north overpass and east platform	6.00	5.00	111	249	35	78	90%	75%	75%	0.22	A
IRT P4	Connecting stair between north overpass and east platform	6.00	5.00	45	119	14	37	90%	75%	75%	0.10	A
IRT P6	Connecting stair between lower mezzanine and east platform	6.50	5.50	184	66	58	21	90%	75%	75%	0.14	A
IRT P8	Connecting stair between lower mezzanine and east platform	6.50	5.50	110	142	34	44	90%	75%	75%	0.14	A
IRT P9	Overpass stair above IRT platform	8.00	6.75	294	208	92	65	90%	75%	80%	0.22	A

Table 4C-109. No Action Alternative Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and West 168th Street – southwest corner (R182)											
Two-Way Turnstiles	7	2,940	4,515	2,170	611	678	191	90%	80%	0.31	A
St. Nicholas Avenue and West 168th Street – southeast corner (N013)											
Two-Way Turnstiles	5	2,100	3,225	1,361	1,127	425	352	90%	80%	0.38	A
Broadway and West 169th Street – northeast corner (N012)											
HEET	2	510	1,080	195	115	61	36	90%	80%	0.18	A
High Exit Only Turnstile	3	0	1,665	0	178	0	56	100%	80%	0.04	A

Table 4C-110. No Action Alternative Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S1	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	1100	241	344	75	90%	100%	80%	0.65	B
S3	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	1789	477	559	149	90%	100%	80%	1.10	D
M1	Connecting stair between S1/S3 and Control Area R182 free zone	12.00	10.75	2889	718	903	224	90%	100%	80%	0.82	C
M4	Connecting stair between S4 and Control Area N13 free zone	12.00	10.75	804	670	251	209	90%	100%	80%	0.35	A
S4	Street stair at southeast corner of St. Nicholas Avenue and West 168th Street	5.00	4.00	804	670	251	209	90%	100%	80%	0.95	C
S5	Street stair at northwest corner of Broadway and West 169th Street	3.00	2.00	66	36	21	11	90%	100%	80%	0.13	A
S6	Street stair at northwest corner of Broadway and West 169th Street	4.00	3.00	299	549	93	172	90%	100%	80%	0.76	C
M5	Connecting stair between S5/S6 and Control Area N12 free zone	11.00	9.75	365	585	114	183	90%	100%	80%	0.26	A
M6	Connecting stair between S5/S6 and Control Area N12 free zone	13.50	12.25	365	585	114	183	90%	100%	80%	0.21	A
S7	Street stair at northeast corner of Broadway and West 169th Street	4.50	3.50	99	53	31	17	90%	100%	80%	0.11	A
IND P3	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	47	24	15	8	90%	80%	75%	0.05	A
IND P5	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	940	26	294	8	100%	80%	75%	0.63	B
IND P7	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	1092	55	341	17	100%	80%	75%	0.75	C
IND P9	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	557	33	174	10	100%	80%	75%	0.38	A
IND P11	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	12	18	4	6	90%	100%	75%	0.02	A
IND P13	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	389	20	122	6	100%	100%	75%	0.22	A
IND P4	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	7	299	2	93	100%	80%	75%	0.21	A
IND P6	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	77	364	24	114	90%	80%	75%	0.34	A
IND P8	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	145	262	45	82	90%	80%	75%	0.31	A
IND P10	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	102	346	32	108	90%	80%	75%	0.34	A
IND P12	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	5	246	2	77	100%	100%	75%	0.17	A
IND P14	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	32	380	10	119	90%	100%	75%	0.31	A
IRT P1	Connecting stair between south overpass and west platform	6.00	5.00	371	234	116	73	90%	75%	75%	0.37	A
IRT P3	Connecting stair between south overpass and west platform	6.00	5.00	131	60	41	19	90%	75%	75%	0.12	A
IRT U1/U2	Overpass stair above IRT platform	12.00	10.75	133	564	42	176	90%	75%	80%	0.19	A
IRT P5	Connecting stair between north overpass and west platform	6.00	5.00	222	53	69	17	90%	75%	75%	0.17	A
IRT P7	Connecting stair between north overpass and west platform	6.00	5.00	185	127	58	40	90%	75%	75%	0.19	A
IRT P2	Connecting stair between north overpass and east platform	6.00	5.00	379	292	118	91	90%	75%	75%	0.41	A
IRT P4	Connecting stair between north overpass and east platform	6.00	5.00	205	125	64	39	90%	75%	75%	0.20	A
IRT P6	Connecting stair between lower mezzanine and east platform	6.50	5.50	189	54	59	17	90%	75%	75%	0.14	A
IRT P8	Connecting stair between lower mezzanine and east platform	6.50	5.50	255	136	80	43	90%	75%	75%	0.22	A
IRT P9	Overpass stair above IRT platform	8.00	6.75	444	190	139	59	90%	75%	80%	0.28	A

Table 4C-111. No Action Alternative Level of Service Summary: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and West 168th Street – southwest corner (R182)											
Two-Way Turnstiles	7	2,940	4,515	718	2,889	224	903	90%	80%	0.36	A
St. Nicholas Avenue and West 168th Street – southeast corner (N013)											
Two-Way Turnstiles	5	2,100	3,225	804	670	251	209	90%	80%	0.22	A
Broadway and West 169th Street – northeast corner (N012)											
HEET	2	510	1,080	113	214	35	67	90%	80%	0.16	A
High Exit Only Turnstile	3	0	1,665	0	329	0	103	100%	80%	0.08	A

Table 4C-112. CBD Tolling Alternative: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S1	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	319	757	100	237	90%	100%	80%	0.59	B
S3	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	303	1463	95	457	90%	100%	80%	0.99	C
M1	Connecting stair between S1/S3 and Control Area R182 free zone	12.00	10.75	622	2220	194	694	90%	100%	80%	0.73	C
M4	Connecting stair between S4 and Control Area N13 free zone	12.00	10.75	1386	1153	433	360	90%	100%	80%	0.61	B
S4	Street stair at southeast corner of St. Nicholas Avenue and West 168th Street	5.00	4.00	1386	1153	433	360	90%	100%	80%	1.64	E
S5	Street stair at northwest corner of Broadway and West 169th Street	3.00	2.00	65	63	20	20	90%	100%	80%	0.17	A
S6	Street stair at northwest corner of Broadway and West 169th Street	4.00	3.00	653	192	204	60	90%	100%	80%	0.69	B
M5	Connecting stair between S5/S6 and Control Area N12 free zone	11.00	9.75	718	256	224	80	90%	100%	80%	0.25	A
M6	Connecting stair between S5/S6 and Control Area N12 free zone	13.50	12.25	718	256	224	80	90%	100%	80%	0.20	A
S7	Street stair at northeast corner of Broadway and West 169th Street	4.50	3.50	98	96	31	30	90%	100%	80%	0.14	A
IND P3	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	42	56	13	18	90%	80%	75%	0.07	A
IND P5	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	590	69	184	22	90%	80%	75%	0.48	B
IND P7	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	565	84	177	26	90%	80%	75%	0.47	B
IND P9	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	520	108	163	34	90%	80%	75%	0.46	B
IND P11	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	8	29	3	9	90%	100%	75%	0.03	A
IND P13	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	777	47	243	15	90%	100%	75%	0.49	B
IND P4	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	3	493	1	154	100%	80%	75%	0.34	A
IND P6	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	38	809	12	253	100%	80%	75%	0.59	B
IND P8	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	52	453	16	142	90%	80%	75%	0.39	A
IND P10	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	36	575	11	180	90%	80%	75%	0.47	B
IND P12	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	3	188	1	59	100%	100%	75%	0.13	A
IND P14	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	25	265	8	83	90%	100%	75%	0.22	A
IRT P1	Connecting stair between south overpass and west platform	6.00	5.00	128	476	40	149	90%	75%	75%	0.37	A
IRT P3	Connecting stair between south overpass and west platform	6.00	5.00	60	138	19	43	90%	75%	75%	0.12	A
IRT U1/U2	Overpass stair above IRT platform	12.00	10.75	379	168	118	53	90%	75%	80%	0.15	A
IRT P5	Connecting stair between north overpass and west platform	6.00	5.00	186	207	58	65	90%	75%	75%	0.24	A
IRT P7	Connecting stair between north overpass and west platform	6.00	5.00	163	359	51	112	90%	75%	75%	0.32	A
IRT P2	Connecting stair between north overpass and east platform	6.00	5.00	125	253	39	79	90%	75%	75%	0.23	A
IRT P4	Connecting stair between north overpass and east platform	6.00	5.00	51	121	16	38	90%	75%	75%	0.11	A
IRT P6	Connecting stair between lower mezzanine and east platform	6.50	5.50	194	68	61	21	90%	75%	75%	0.15	A
IRT P8	Connecting stair between lower mezzanine and east platform	6.50	5.50	116	146	36	46	90%	75%	75%	0.15	A
IRT P9	Overpass stair above IRT platform	8.00	6.75	302	218	94	68	90%	75%	80%	0.23	A

Table 4C-113. CBD Tolling Alternative: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and West 168th Street – southwest corner (R182)											
Two-Way Turnstiles	7	2,940	4,515	2,181	661	682	207	90%	80%	0.32	A
St. Nicholas Avenue and West 168th Street – southeast corner (N013)											
Two-Way Turnstiles	5	2,100	3,225	1,386	1,153	433	360	90%	80%	0.38	A
Broadway and West 169th Street – northeast corner (N012)											
HEET	2	510	1,080	198	118	62	37	90%	80%	0.18	A
High Exit Only Turnstile	3	0	1,665	0	182	0	57	100%	80%	0.04	A

Table 4C-114. CBD Tolling Alternative: 168th Street Washington Heights Station (1, A, C lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S1	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	1124	248	351	78	90%	100%	80%	0.66	B
S3	Street stair at southwest corner of Broadway and West 168th Street	6.00	5.00	1828	490	571	153	90%	100%	80%	1.13	D
M1	Connecting stair between S1/S3 and Control Area R182 free zone	12.00	10.75	2952	737	923	230	90%	100%	80%	0.83	C
M4	Connecting stair between S4 and Control Area N13 free zone	12.00	10.75	821	688	257	215	90%	100%	80%	0.36	A
S4	Street stair at southeast corner of St. Nicholas Avenue and West 168th Street	5.00	4.00	821	688	257	215	90%	100%	80%	0.97	C
S5	Street stair at northwest corner of Broadway and West 169th Street	3.00	2.00	67	37	21	12	90%	100%	80%	0.13	A
S6	Street stair at northwest corner of Broadway and West 169th Street	4.00	3.00	305	564	95	176	90%	100%	80%	0.78	C
M5	Connecting stair between S5/S6 and Control Area N12 free zone	11.00	9.75	373	601	117	188	90%	100%	80%	0.27	A
M6	Connecting stair between S5/S6 and Control Area N12 free zone	13.50	12.25	373	601	117	188	90%	100%	80%	0.21	A
S7	Street stair at northeast corner of Broadway and West 169th Street	4.50	3.50	101	54	32	17	90%	100%	80%	0.11	A
IND P3	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	49	25	15	8	90%	80%	75%	0.05	A
IND P5	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	968	27	303	8	100%	80%	75%	0.65	B
IND P7	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	1125	57	352	18	100%	80%	75%	0.77	C
IND P9	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	574	34	179	11	90%	80%	75%	0.44	A
IND P11	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	13	18	4	6	90%	100%	75%	0.02	A
IND P13	Connecting stair between west platform and Control Area N13 paid zone	5.00	4.00	398	20	124	6	100%	100%	75%	0.22	A
IND P4	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	7	310	2	97	100%	80%	75%	0.22	A
IND P6	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	81	378	25	118	90%	80%	75%	0.35	A
IND P8	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	152	272	48	85	90%	80%	75%	0.32	A
IND P10	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	107	359	33	112	90%	80%	75%	0.35	A
IND P12	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	5	253	2	79	100%	100%	75%	0.18	A
IND P14	Connecting stair between east platform and Control Area N13 paid zone	5.00	4.00	33	391	10	122	90%	100%	75%	0.32	A
IRT P1	Connecting stair between south overpass and west platform	6.00	5.00	381	246	119	77	90%	75%	75%	0.39	A
IRT P3	Connecting stair between south overpass and west platform	6.00	5.00	135	63	42	20	90%	75%	75%	0.12	A
IRT U1/U2	Overpass stair above IRT platform	12.00	10.75	147	576	46	180	90%	75%	80%	0.20	A
IRT P5	Connecting stair between north overpass and west platform	6.00	5.00	228	56	71	18	90%	75%	75%	0.18	A
IRT P7	Connecting stair between north overpass and west platform	6.00	5.00	190	134	59	42	90%	75%	75%	0.20	A
IRT P2	Connecting stair between north overpass and east platform	6.00	5.00	392	306	123	96	90%	75%	75%	0.43	A
IRT P4	Connecting stair between north overpass and east platform	6.00	5.00	212	131	66	41	90%	75%	75%	0.21	A
IRT P6	Connecting stair between lower mezzanine and east platform	6.50	5.50	216	56	68	18	90%	75%	75%	0.15	A
IRT P8	Connecting stair between lower mezzanine and east platform	6.50	5.50	292	142	91	44	90%	75%	75%	0.24	A
IRT P9	Overpass stair above IRT platform	8.00	6.75	462	212	144	66	90%	75%	80%	0.30	A

Table 4C-115. CBD Tolling Alternative: 168th Street Washington Heights Station (1, A, C lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and West 168th Street – southwest corner (R182)											
Two-Way Turnstiles	7	2,940	4,515	781	2,908	244	909	90%	80%	0.37	A
St. Nicholas Avenue and West 168th Street – southeast corner (N013)											
Two-Way Turnstiles	5	2,100	3,225	821	688	257	215	90%	80%	0.23	A
Broadway and West 169th Street – northeast corner (N012)											
HEET	2	510	1,080	115	219	36	69	90%	80%	0.17	A
High Exit Only Turnstile	3	0	1,665	0	338	0	106	100%	80%	0.08	A

Table 4C-116. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
O7A/O7B/O7C/O7D/O7E	Barclays Center plaza	20.00	16.00	1,092	1,153	341	360	90%	100%	80%	0.37	A
M1/S1	Northwest corner of Fourth Avenue and Pacific Street	6.00	5.00	734	1,092	229	341	90%	100%	80%	0.97	C
M2/S2	Northeast corner of Fourth Avenue and Pacific Street	7.00	6.00	660	846	206	264	90%	100%	80%	0.66	B
South Side Hanson Place Street Stairs: West	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	904	359	283	112	90%	100%	80%	0.85	C
South Side Hanson Place Street Stairs: East	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	955	387	298	121	90%	100%	80%	0.91	C
O1	Northeast corner of Hanson Place and Ashland Place	5.83	4.83	508	649	159	203	90%	100%	80%	0.63	B
O7	LIRR tracks 1 and 2	3.50	2.50	473	68	148	21	90%	75%	90%	0.65	B
O6	LIRR tracks 1 and 2	4.00	3.00	185	148	58	46	90%	75%	90%	0.32	A
O4	LIRR tracks 3 and 4	6.00	5.00	476	144	149	45	90%	75%	90%	0.37	A
O2	LIRR tracks 5 and 6	5.50	4.50	397	47	124	15	90%	75%	90%	0.30	A
P6/P8	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	540	2,172	169	679	90%	80%	75%	1.65	E
P10/P12	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	516	586	161	183	90%	80%	75%	0.66	B
P14/P16	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	635	397	198	124	90%	80%	75%	0.61	B
P7/P9	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,351	354	422	111	90%	80%	75%	1.00	D
P9/P11	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	129	103	40	32	90%	80%	75%	0.14	A
P13/P15	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,118	111	349	35	90%	80%	75%	0.72	C

Table 4C-117. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E258	Street escalator to Barclays Center plaza	1	40	90%	0	327	0	102	945	0.12	A
E259	Street escalator to Barclays Center plaza	1	40	90%	0	327	0	102	945	0.12	A

Table 4C-118. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Fourth Avenue and Pacific Street (C009)											
Two-Way Turnstiles	8	3,360	5,160	1,566	1,484	489	464	90%	90%	0.27	A
LIRR concourse by Hanson Place and Ashland Place (R610)											
Two-Way Turnstiles	8	3,360	5,160	2,609	1,342	815	419	90%	90%	0.37	A
Hanson Place and Ashland Place (B001)											
HEET	2	510	1,080	436	306	136	96	90%	90%	0.41	A
LIRR tracks 1 and 2 (B002)											
HEET	2	510	1,080	473	68	148	21	90%	90%	0.35	A
LIRR tracks 1 and 2 (B002A)											
HEET	1	255	540	185	148	58	46	90%	90%	0.36	A
LIRR tracks 3 and 4 (B002B)											
Two-Way Turnstiles	3	1,260	1,935	476	144	149	45	90%	90%	0.16	A
LIRR tracks 3 and 4 (B002C)											
Two-Way Turnstiles	3	1,260	1,935	397	47	124	15	90%	90%	0.12	A
LIRR tracks 5 and 6 (R612)											
Two-Way Turnstiles	14	5,880	9,030	1,153	981	360	307	90%	90%	0.11	A

Table 4C-119. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
O7A/O7B/O7C/O7D/O7E	Barclays Center plaza	20.00	16.00	834	327	261	102	90%	100%	80%	0.18	A
M1/S1	Northwest corner of Fourth Avenue and Pacific Street	6.00	5.00	583	717	182	224	90%	100%	80%	0.68	B
M2/S2	Northeast corner of Fourth Avenue and Pacific Street	7.00	6.00	586	940	183	294	90%	100%	80%	0.68	B
South Side Hanson Place Street Stairs: West	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	491	1,024	153	320	90%	100%	80%	1.12	D
South Side Hanson Place Street Stairs: East	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	488	1,134	153	354	90%	100%	80%	1.20	D
O1	Northeast corner of Hanson Place and Ashland Place	5.83	4.83	342	294	107	92	90%	100%	80%	0.34	A
O7	LIRR tracks 1 and 2	3.50	2.50	58	402	18	126	90%	75%	90%	0.49	B
O6	LIRR tracks 1 and 2	4.00	3.00	126	157	39	49	90%	75%	90%	0.26	A
O4	LIRR tracks 3 and 4	6.00	5.00	122	405	38	126	90%	75%	90%	0.28	A
O2	LIRR tracks 5 and 6	5.50	4.50	40	337	13	105	90%	75%	90%	0.22	A
P6/P8	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	175	1,633	55	510	90%	80%	75%	1.11	D
P10/P12	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	209	312	65	98	90%	80%	75%	0.31	A
P14/P16	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	398	40	124	13	90%	80%	75%	0.26	A
P7/P9	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,395	1,015	436	317	90%	80%	75%	1.43	D
P9/P11	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	382	273	119	85	90%	80%	75%	0.39	A
P13/P15	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,824	401	570	125	90%	80%	75%	1.30	D

Table 4C-120. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E258	Street escalator to Barclays Center plaza	1	40	90%	0	327	0	102	945	0.12	A
E259	Street escalator to Barclays Center plaza	1	40	90%	0	327	0	102	945	0.12	A

Table 4C-121. Existing Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Fourth Avenue and Pacific Street (C009)											
Two-Way Turnstiles	8	3,360	5,160	307	655	96	205	90%	90%	0.08	A
LIRR concourse by Hanson Place and Ashland Place (R610)											
Two-Way Turnstiles	8	3,360	5,160	1,141	2,218	357	693	90%	90%	0.28	A
Hanson Place and Ashland Place (B001)											
HEET	2	510	1,080	260	371	81	116	90%	90%	0.31	A
LIRR tracks 1 and 2 (B002)											
HEET	2	510	1,080	58	402	18	126	90%	90%	0.18	A
LIRR tracks 1 and 2 (B002A)											
HEET	1	255	540	126	157	39	49	90%	90%	0.28	A
LIRR tracks 3 and 4 (B002B)											
Two-Way Turnstiles	3	1,260	1,935	122	405	38	126	90%	90%	0.11	A
LIRR tracks 3 and 4 (B002C)											
Two-Way Turnstiles	3	1,260	1,935	40	337	13	105	90%	90%	0.08	A
LIRR tracks 5 and 6 (R612)											
Two-Way Turnstiles	14	5,880	9,030	834	980	261	306	90%	90%	0.09	A

Table 4C-122. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
O7A/O7B/O7C/O7D/O7E	Barclays Center plaza	20.00	16.00	1,092	1,153	341	360	90%	100%	80%	0.37	A
M1/S1	Northwest corner of Fourth Avenue and Pacific Street	6.00	5.00	734	1,092	229	341	90%	100%	80%	0.97	C
M2/S2	Northeast corner of Fourth Avenue and Pacific Street	7.00	6.00	660	846	206	264	90%	100%	80%	0.66	B
South Side Hanson Place Street Stairs: West	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	904	359	283	112	90%	100%	80%	0.85	C
South Side Hanson Place Street Stairs: East	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	955	387	298	121	90%	100%	80%	0.91	C
O1	Northeast corner of Hanson Place and Ashland Place	5.83	4.83	508	649	159	203	90%	100%	80%	0.63	B
O7	LIRR tracks 1 and 2	3.50	2.50	473	68	148	21	90%	75%	90%	0.65	B
O6	LIRR tracks 1 and 2	4.00	3.00	185	148	58	46	90%	75%	90%	0.32	A
O4	LIRR tracks 3 and 4	6.00	5.00	476	144	149	45	90%	75%	90%	0.37	A
O2	LIRR tracks 5 and 6	5.50	4.50	397	47	124	15	90%	75%	90%	0.30	A
P6/P8	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	540	2,172	169	679	90%	80%	75%	1.65	E
P10/P12	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	516	586	161	183	90%	80%	75%	0.66	B
P14/P16	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	635	397	198	124	90%	80%	75%	0.61	B
P7/P9	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,351	354	422	111	90%	80%	75%	1.00	D
P9/P11	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	129	103	40	32	90%	80%	75%	0.14	A
P13/P15	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,118	111	349	35	90%	80%	75%	0.72	C

Table 4C-123. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E258	Street escalator to Barclays Center plaza	1	40	90%	0	327	0	102	945	0.12	A
E259	Street escalator to Barclays Center plaza	1	40	90%	0	327	0	102	945	0.12	A

Table 4C-124. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Fourth Avenue and Pacific Street (C009)											
Two-Way Turnstiles	8	3,360	5,160	1,566	1,484	489	464	90%	90%	0.27	A
LIRR concourse by Hanson Place and Ashland Place (R610)											
Two-Way Turnstiles	8	3,360	5,160	2,609	1,342	815	419	90%	90%	0.37	A
Hanson Place and Ashland Place (B001)											
HEET	2	510	1,080	436	306	136	96	90%	90%	0.41	A
LIRR tracks 1 and 2 (B002)											
HEET	2	510	1,080	473	68	148	21	90%	90%	0.35	A
LIRR tracks 1 and 2 (B002A)											
HEET	1	255	540	185	148	58	46	90%	90%	0.36	A
LIRR tracks 3 and 4 (B002B)											
Two-Way Turnstiles	3	1,260	1,935	476	144	149	45	90%	90%	0.16	A
LIRR tracks 3 and 4 (B002C)											
Two-Way Turnstiles	3	1,260	1,935	397	47	124	15	90%	90%	0.12	A
LIRR tracks 5 and 6 (R612)											
Two-Way Turnstiles	14	5,880	9,030	1,153	981	360	307	90%	90%	0.11	A

Table 4C-125. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
O7A/O7B/O7C/O7D/O7E	Barclays Center plaza	20.00	16.00	834	327	261	102	90%	100%	80%	0.18	A
M1/S1	Northwest corner of Fourth Avenue and Pacific Street	6.00	5.00	583	717	182	224	90%	100%	80%	0.68	B
M2/S2	Northeast corner of Fourth Avenue and Pacific Street	7.00	6.00	586	940	183	294	90%	100%	80%	0.68	B
South Side Hanson Place Street Stairs: West	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	491	1,024	153	320	90%	100%	80%	1.12	D
South Side Hanson Place Street Stairs: East	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	488	1,134	153	354	90%	100%	80%	1.20	D
O1	Northeast corner of Hanson Place and Ashland Place	5.83	4.83	342	294	107	92	90%	100%	80%	0.34	A
O7	LIRR tracks 1 and 2	3.50	2.50	58	402	18	126	90%	75%	90%	0.49	B
O6	LIRR tracks 1 and 2	4.00	3.00	126	157	39	49	90%	75%	90%	0.26	A
O4	LIRR tracks 3 and 4	6.00	5.00	122	405	38	126	90%	75%	90%	0.28	A
O2	LIRR tracks 5 and 6	5.50	4.50	40	337	13	105	90%	75%	90%	0.22	A
P6/P8	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	175	1,633	55	510	90%	80%	75%	1.11	D
P10/P12	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	209	312	65	98	90%	80%	75%	0.31	A
P14/P16	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	398	40	124	13	90%	80%	75%	0.26	A
P7/P9	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,395	1,015	436	317	90%	80%	75%	1.43	D
P9/P11	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	382	273	119	85	90%	80%	75%	0.39	A
P13/P15	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,824	401	570	125	90%	80%	75%	1.30	D

Table 4C-126. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E258	Street escalator to Barclays Center plaza	1	40	90%	0	327	0	102	945	0.12	A
E259	Street escalator to Barclays Center plaza	1	40	90%	0	327	0	102	945	0.12	A

Table 4C-127. No Action Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Fourth Avenue and Pacific Street (C009)											
Two-Way Turnstiles	8	3,360	5,160	307	655	96	205	90%	90%	0.08	A
LIRR concourse by Hanson Place and Ashland Place (R610)											
Two-Way Turnstiles	8	3,360	5,160	1,185	2,301	370	719	0.90	0.90	0.29	A
Hanson Place and Ashland Place (B001)											
HEET	2	510	1,080	260	371	81	116	90%	90%	0.31	A
LIRR tracks 1 and 2 (B002)											
HEET	2	510	1,080	58	402	18	126	90%	90%	0.18	A
LIRR tracks 1 and 2 (B002A)											
HEET	1	255	540	135	164	42	51	0.90	0.90	0.30	A
LIRR tracks 3 and 4 (B002B)											
Two-Way Turnstiles	3	1,260	1,935	131	422	41	132	0.90	0.90	0.12	A
LIRR tracks 3 and 4 (B002C)											
Two-Way Turnstiles	3	1,260	1,935	40	337	13	105	90%	90%	0.08	A
LIRR tracks 5 and 6 (R612)											
Two-Way Turnstiles	14	5,880	9,030	834	980	261	306	90%	90%	0.09	A

Table 4C-128. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
O7A/O7B/O7C/O7D/O7E	Barclays Center plaza	20.00	16.00	1,097	1,162	343	363	90%	100%	80%	0.37	A
M1/S1	Northwest corner of Fourth Avenue and Pacific Street	6.00	5.00	740	1,097	231	343	90%	100%	80%	0.98	C
M2/S2	Northeast corner of Fourth Avenue and Pacific Street	7.00	6.00	666	850	208	266	90%	100%	80%	0.67	B
South Side Hanson Place Street Stairs: West	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	913	363	285	113	90%	100%	80%	0.86	C
South Side Hanson Place Street Stairs: East	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	965	392	302	123	90%	100%	80%	0.92	C
O1	Northeast corner of Hanson Place and Ashland Place	5.83	4.83	511	651	160	203	90%	100%	80%	0.63	B
O7	LIRR tracks 1 and 2	3.50	2.50	485	72	152	23	90%	75%	90%	0.68	B
O6	LIRR tracks 1 and 2	4.00	3.00	190	156	59	49	90%	75%	90%	0.33	A
O4	LIRR tracks 3 and 4	6.00	5.00	488	151	153	47	90%	75%	90%	0.38	A
O2	LIRR tracks 5 and 6	5.50	4.50	407	49	127	15	90%	75%	90%	0.31	A
P6/P8	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	556	2,187	174	683	90%	80%	75%	1.67	F
P10/P12	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	536	593	168	185	90%	80%	75%	0.68	B
P14/P16	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	659	407	206	127	90%	80%	75%	0.63	B
P7/P9	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,360	357	425	112	90%	80%	75%	1.01	D
P9/P11	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	131	104	41	33	90%	80%	75%	0.14	A
P13/P15	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,138	113	356	35	90%	80%	75%	0.73	C

Table 4C-129. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E258	Street escalator to Barclays Center plaza	1	40	90%	0	329	0	103	945	0.12	A
E259	Street escalator to Barclays Center plaza	1	40	90%	0	329	0	103	945	0.12	A

Table 4C-130. CBD Tolling Alternative Level of Service Summary: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Fourth Avenue and Pacific Street (C009)											
Two-Way Turnstiles	8	3,360	5,160	1,578	1,494	493	467	90%	90%	0.27	A
LIRR concourse by Hanson Place and Ashland Place (R610)											
Two-Way Turnstiles	8	3,360	5,160	2,662	1,370	832	428	90%	90%	0.38	A
Hanson Place and Ashland Place (B001)											
HEET	2	510	1,080	439	308	137	96	90%	90%	0.41	A
LIRR tracks 1 and 2 (B002)											
HEET	2	510	1,080	485	72	152	23	90%	90%	0.36	A
LIRR tracks 1 and 2 (B002A)											
HEET	1	255	540	190	156	59	49	90%	90%	0.37	A
LIRR tracks 3 and 4 (B002B)											
Two-Way Turnstiles	3	1,260	1,935	488	151	153	47	90%	90%	0.16	A
LIRR tracks 3 and 4 (B002C)											
Two-Way Turnstiles	3	1,260	1,935	407	49	127	15	90%	90%	0.12	A
LIRR tracks 5 and 6 (R612)											
Two-Way Turnstiles	14	5,880	9,030	1,162	987	363	308	90%	90%	0.11	A

Table 4C-131. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
O7A/O7B/O7C/O7D/O7E	Barclays Center plaza	20.00	16.00	844	331	264	103	90%	100%	80%	0.18	A
M1/S1	Northwest corner of Fourth Avenue and Pacific Street	6.00	5.00	585	720	183	225	90%	100%	80%	0.69	B
M2/S2	Northeast corner of Fourth Avenue and Pacific Street	7.00	6.00	588	944	184	295	90%	100%	80%	0.68	B
South Side Hanson Place Street Stairs: West	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	498	1,035	156	323	90%	100%	80%	1.13	D
South Side Hanson Place Street Stairs: East	Southwest corner of Hanson Place and Ashland Place	4.67	3.67	494	1,147	154	358	90%	100%	80%	1.21	D
O1	Northeast corner of Hanson Place and Ashland Place	5.83	4.83	345	298	108	93	90%	100%	80%	0.34	A
O7	LIRR tracks 1 and 2	3.50	2.50	62	415	19	130	90%	75%	90%	0.50	B
O6	LIRR tracks 1 and 2	4.00	3.00	134	162	42	51	90%	75%	90%	0.28	A
O4	LIRR tracks 3 and 4	6.00	5.00	130	418	41	131	90%	75%	90%	0.30	A
O2	LIRR tracks 5 and 6	5.50	4.50	43	348	13	109	90%	75%	90%	0.23	A
P6/P8	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	176	1,635	55	511	90%	80%	75%	1.11	D
P10/P12	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	213	329	67	103	90%	80%	75%	0.33	A
P14/P16	C009 Fare Control Area: Stair to northbound D/N/R platform	6.00	5.00	406	43	127	13	90%	80%	75%	0.26	A
P7/P9	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,395	1,016	436	318	90%	80%	75%	1.44	D
P9/P11	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	389	282	122	88	90%	80%	75%	0.40	A
P13/P15	C009 Fare Control Area: Stair to southbound D/N/R platform	6.00	5.00	1,858	414	581	129	90%	80%	75%	1.33	D

Table 4C-132. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E258	Street escalator to Barclays Center plaza	1	40	90%	0	331	0	103	945	0.12	A
E259	Street escalator to Barclays Center plaza	1	40	90%	0	331	0	103	945	0.12	A

Table 4C-133. CBD Tolling Alternative: Atlantic Avenue Barclays Center Station (2, 3, 4, 5, B, D, N, Q, R lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Fourth Avenue and Pacific Street (C009)											
Two-Way Turnstiles	8	3,360	5,160	311	662	97	207	90%	90%	0.08	A
LIRR concourse by Hanson Place and Ashland Place (R610)											
Two-Way Turnstiles	8	3,360	5,160	1,185	2,301	370	719	90%	90%	0.29	A
Hanson Place and Ashland Place (B001)											
HEET	2	510	1,080	266	378	83	118	90%	90%	0.32	A
LIRR tracks 1 and 2 (B002)											
HEET	2	510	1,080	63	419	20	131	90%	90%	0.19	A
LIRR tracks 1 and 2 (B002A)											
HEET	1	255	540	135	164	42	51	90%	90%	0.30	A
LIRR tracks 3 and 4 (B002B)											
Two-Way Turnstiles	3	1,260	1,935	131	422	41	132	90%	90%	0.12	A
LIRR tracks 3 and 4 (B002C)											
Two-Way Turnstiles	3	1,260	1,935	43	348	13	109	90%	90%	0.08	A
LIRR tracks 5 and 6 (R612)											
Two-Way Turnstiles	14	5,880	9,030	844	991	264	310	90%	90%	0.09	A

Table 4C-134. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1/P2	Connecting stair between N124 paid zone and southbound IND platform	13.50	12.00	524	1263	164	395	90%	80%	75%	0.45	B
P3/P4	Connecting stair between N124 paid zone and northbound IND platform	13.50	12.00	3487	1238	1,090	387	90%	80%	75%	1.16	D
M1/M2/M3/M4	Connecting stair between N124 paid zone and BMT-Jamaica mezzanine	7.50	6.25	44	2244	14	701	100%	90%	90%	0.85	C
U1/U3	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	739	226	231	71	90%	80%	75%	0.71	C
U5/U7	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	284	258	89	81	90%	80%	75%	0.41	A
U9/U11	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	114	161	36	50	90%	80%	75%	0.21	A
U2/U4	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	934	1009	292	315	90%	80%	75%	1.45	E
U6/U8	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	1168	420	365	131	90%	80%	75%	1.17	D
U10/U12	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	234	252	73	79	90%	80%	75%	0.36	A
U9/U10	Connecting stair between JAM mezzanine and BMT-Canarsie line overpass	11.50	10.00	1814	2507	567	783	90%	90%	80%	1.19	D
U11/U13	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	766	1496	239	468	90%	80%	75%	1.01	D
U12/U14	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	1048	1011	327	316	90%	80%	75%	0.91	C

Table 4C-135. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E330	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	0	2,059	0	643	750	0.95	C
E331	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,333	0	417	0	750	0.62	B
E347	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,333	0	417	0	750	0.62	B

Table 4C-136. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) - Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Van Sinderen Avenue and Truxton Street - southwest corner (N124)											
Two-Way Turnstiles	7	2,940	4,515	1,005	503	314	157	90%	90%	0.16	A

Table 4C-137. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1/P2	Connecting stair between N124 paid zone and southbound IND platform	13.50	12.00	954	4003	298	1,251	90%	80%	75%	1.26	D
P3/P4	Connecting stair between N124 paid zone and northbound IND platform	13.50	12.00	1316	634	411	198	90%	80%	75%	0.48	B
M1/M2/M3/M4	Connecting stair between N124 paid zone and BMT-Jamaica mezzanine	7.50	6.25	334	913	105	285	90%	90%	90%	0.51	B
U1/U3	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	1315	367	411	115	90%	80%	75%	1.24	D
U5/U7	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	506	420	158	131	90%	80%	75%	0.69	B
U9/U11	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	202	262	63	82	90%	80%	75%	0.35	A
U2/U4	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	234	659	73	206	90%	80%	75%	0.68	B
U6/U8	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	293	275	91	86	90%	80%	75%	0.42	A
U10/U12	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	59	165	18	51	90%	80%	75%	0.17	A
U9/U10	Connecting stair between JAM mezzanine and BMT-Canarsie line overpass	11.50	10.00	887	801	277	250	90%	90%	80%	0.46	B
U11/U13	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	479	539	150	168	90%	80%	75%	0.45	B
U12/U14	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	409	262	128	82	90%	80%	75%	0.30	A

Table 4C-138. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E330	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	0	1,534	0	479	750	0.71	C
E331	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,574	0	492	0	750	0.73	C
E347	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,574	0	492	0	750	0.73	C

Table 4C-139. Existing Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Van Sinderen Avenue and Truxton Street - southwest corner (N124)											
Two-Way Turnstiles	7	2,940	4,515	480	1,075	150	336	90%	90%	0.15	A

Table 4C-140. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1/P2	Connecting stair between N124 paid zone and southbound IND platform	13.50	12.00	524	1263	164	395	90%	80%	75%	0.45	B
P3/P4	Connecting stair between N124 paid zone and northbound IND platform	13.50	12.00	3487	1238	1,090	387	90%	80%	75%	1.16	D
M1/M2/M3/M4	Connecting stair between N124 paid zone and BMT-Jamaica mezzanine	7.50	6.25	44	2244	14	701	100%	90%	90%	0.85	C
U1/U3	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	739	226	231	71	90%	80%	75%	0.71	C
U5/U7	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	284	258	89	81	90%	80%	75%	0.41	A
U9/U11	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	114	161	36	50	90%	80%	75%	0.21	A
U2/U4	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	934	1009	292	315	90%	80%	75%	1.45	E
U6/U8	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	1168	420	365	131	90%	80%	75%	1.17	D
U10/U12	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	234	252	73	79	90%	80%	75%	0.36	A
U9/U10	Connecting stair between JAM mezzanine and BMT-Canarsie line overpass	11.50	10.00	1814	2507	567	783	90%	90%	80%	1.19	D
U11/U13	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	766	1496	239	468	90%	80%	75%	1.01	D
U12/U14	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	1048	1011	327	316	90%	80%	75%	0.91	C

Table 4C-141. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E330	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	0	2,059	0	643	750	0.95	C
E331	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,333	0	417	0	750	0.62	B
E347	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,333	0	417	0	750	0.62	B

Table 4C-142. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) - Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Van Sinderen Avenue and Truxton Street - southwest corner (N124)											
Two-Way Turnstiles	7	2,940	4,515	1,005	503	314	157	90%	90%	0.16	A

Table 4C-143. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1/P2	Connecting stair between N124 paid zone and southbound IND platform	13.50	12.00	954	4003	298	1,251	90%	80%	75%	1.26	D
P3/P4	Connecting stair between N124 paid zone and northbound IND platform	13.50	12.00	1316	634	411	198	90%	80%	75%	0.48	B
M1/M2/M3/M4	Connecting stair between N124 paid zone and BMT-Jamaica mezzanine	7.50	6.25	334	913	105	285	90%	90%	90%	0.51	B
U1/U3	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	1315	367	411	115	90%	80%	75%	1.24	D
U5/U7	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	506	420	158	131	90%	80%	75%	0.69	B
U9/U11	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	202	262	63	82	90%	80%	75%	0.35	A
U2/U4	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	234	659	73	206	90%	80%	75%	0.68	B
U6/U8	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	293	275	91	86	90%	80%	75%	0.42	A
U10/U12	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	59	165	18	51	90%	80%	75%	0.17	A
U9/U10	Connecting stair between JAM mezzanine and BMT-Canarsie line overpass	11.50	10.00	887	801	277	250	90%	90%	80%	0.46	B
U11/U13	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	479	539	150	168	90%	80%	75%	0.45	B
U12/U14	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	409	262	128	82	90%	80%	75%	0.30	A

Table 4C-144. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E330	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	0	1,534	0	479	750	0.71	C
E331	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,574	0	492	0	750	0.73	C
E347	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,574	0	492	0	750	0.73	C

Table 4C-145. No Action Alternative Level of Service Summary: Broadway Junction Station (A, C, J, L, Z lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Van Sinderen Avenue and Truxton Street - southwest corner (N124)											
Two-Way Turnstiles	7	2,940	4,515	480	1,075	150	336	90%	90%	0.15	A

Table 4C-146. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1/P2	Connecting stair between N124 paid zone and southbound IND platform	13.50	12.00	536	1299	168	406	90%	80%	75%	0.46	B
P3/P4	Connecting stair between N124 paid zone and northbound IND platform	13.50	12.00	3571	1278	1,116	399	90%	80%	75%	1.19	D
M1/M2/M3/M4	Connecting stair between N124 paid zone and BMT-Jamaica mezzanine	7.50	6.25	45	2290	14	716	100%	90%	90%	0.87	C
U1/U3	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	753	229	235	71	90%	80%	75%	0.72	C
U5/U7	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	289	262	90	82	90%	80%	75%	0.41	A
U9/U11	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	116	163	36	51	90%	80%	75%	0.21	A
U2/U4	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	947	1036	296	324	90%	80%	75%	1.49	E
U6/U8	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	1185	431	370	135	90%	80%	75%	1.19	D
U10/U12	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	237	259	74	81	90%	80%	75%	0.37	A
U9/U10	Connecting stair between JAM mezzanine and BMT-Canarsie line overpass	11.50	10.00	1863	2563	582	801	90%	90%	80%	1.22	D
U11/U13	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	787	1530	246	478	90%	80%	75%	1.04	D
U12/U14	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	1076	1034	336	323	90%	80%	75%	0.93	C

Table 4C-147. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E330	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	0	2,101	0	656	750	0.97	C
E331	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,370	0	428	0	750	0.63	B
E347	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1,370	0	428	0	750	0.63	B

Table 4C-148. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) - Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Van Sinderen Avenue and Truxton Street - southwest corner (N124)											
Two-Way Turnstiles	7	2,940	4,515	1,033	524	323	164	90%	90%	0.17	A

Table 4C-149. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1/P2	Connecting stair between N124 paid zone and southbound IND platform	13.50	12.00	989	4076	309	1,274	90%	80%	75%	1.29	D
P3/P4	Connecting stair between N124 paid zone and northbound IND platform	13.50	12.00	1376	648	430	202	90%	80%	75%	0.50	B
M1/M2/M3/M4	Connecting stair between N124 paid zone and BMT-Jamaica mezzanine	7.50	6.25	343	947	107	296	90%	90%	90%	0.53	B
U1/U3	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	1343	376	420	118	90%	80%	75%	1.26	D
U5/U7	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	517	431	162	135	90%	80%	75%	0.71	C
U9/U11	Connecting stair to Jamaica-bound BMT-Jamaica platform	5.00	4.00	206	269	64	84	90%	80%	75%	0.36	A
U2/U4	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	240	679	75	212	90%	80%	75%	0.70	B
U6/U8	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	301	283	94	88	90%	80%	75%	0.43	A
U10/U12	Connecting stair to Manhattan-bound BMT-Jamaica platform	5.00	4.00	61	170	19	53	90%	80%	75%	0.17	A
U9/U10	Connecting stair between JAM mezzanine and BMT-Canarsie line overpass	11.50	10.00	919	839	287	262	90%	90%	80%	0.48	B
U11/U13	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	496	565	155	176	90%	80%	75%	0.47	B
U12/U14	Connecting stair to Manhattan-bound BMT-Canarsie platform	8.00	6.75	424	275	132	86	90%	80%	75%	0.31	A

Table 4C-150. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E330	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	0	1592	0	498	750	0.74	C
E331	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1614	0	504	0	750	0.75	C
E347	Connecting escalator between N124 paid zone and BMT-Jamaica mezzanine	1	32	90%	1614	0	504	0	750	0.75	C

Table 4C-151. CBD Tolling Alternative: Broadway Junction Station (A, C, J, L, Z lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Van Sinderen Avenue and Truxton Street - southwest corner (N124)											
Two-Way Turnstiles	7	2,940	4,515	503	1,105	157	345	90%	90%	0.15	A

Table 4C-152. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1-S1	Street level stair at southwest corner of Bleecker Street and Lafayette Street	5.00	4.00	51	424	16	133	90%	100%	80%	0.34	A
P3-S3	Street level stair at northwest corner of Bleecker Street and Lafayette Street	5.00	4.00	118	283	37	88	90%	100%	80%	0.27	A
M2-S2	Street level stair at northwest corner of Houston Street and Mulberry Street	8.00	6.75	398	270	124	84	90%	100%	80%	0.25	A
R217A ML1	Connecting stair between northbound IRT platform ad lower mezzanine near R217	12.00	11.00	549	439	172	137	90%	100%	80%	0.23	A
R217A S1	Street level stair at southwest corner of Houston Street and Mulberry Street	5.00	4.00	549	439	172	137	90%	100%	80%	0.64	B
R217A M1	Street level stair at southwest corner of Houston Street and Mulberry Street	9.50	8.25	549	439	172	137	90%	100%	80%	0.31	A
P4-S4	Street level stair at southeast of Bleecker Street and Mulberry Street	4.00	3.00	137	25	43	8	90%	100%	80%	0.13	A
P2-S2	Street level stair at southwest corner of Bleecker Street and Mulberry Street	4.00	3.00	142	47	44	15	90%	100%	80%	0.15	A
P6-S6	Street level stair at northeast corner of Bleecker Street and Mulberry Street	8.00	7.00	309	88	97	28	90%	100%	80%	0.14	A
N519 M6-M11	Street level stair at northwest corner of Broadway and Houston Street	9.00	7.75	237	2249	74	703	90%	100%	90%	0.82	C
N519 S9	Street level stair at northwest corner of Broadway and Houston Street	4.75	3.75	237	2249	74	703	90%	100%	90%	1.69	F
N519A M4	Street level stair at northeast corner of Crosby Street and Houston Street	8.00	7.00	118	502	37	157	90%	100%	80%	0.25	A
N519A S6	Street level stair at northeast corner of Crosby Street and Houston Street	5.00	4.00	118	502	37	157	90%	100%	80%	0.43	A
M3	Street level stair at southeast corner of Crosby Street and Houston Street	13.00	11.75	81	795	25	248	90%	100%	80%	0.21	A
N519B S4	Street level stair at southeast corner of Crosby Street and Houston Street	4.00	3.00	73	716	23	224	90%	100%	80%	0.75	C
N519B S5	Street level stair at southeast corner Crosby Street and Houston Street	4.00	3.00	65	636	20	199	90%	100%	80%	0.66	B
P1-ML13	Connecting stair between southbound IND platform and lower mezzanine below R217A	4.00	3.00	97	344	30	108	90%	90%	75%	0.44	A
P2	Connecting stair between northbound IND platform and lower mezzanine below R217A	5.00	4.00	662	545	207	170	90%	90%	75%	0.85	C
P5	Connecting stair between southbound IND platform and lower mezzanine below R519	6.00	5.00	164	279	51	87	90%	90%	75%	0.26	A
P8	Connecting stair between northbound IND platform and lower mezzanine below R519	6.00	5.00	41	500	13	156	90%	90%	75%	0.33	A
ML10-ML12-P10	Connecting stair between northbound IND platform to mezzanine levels near N519	9.50	8.25	143	1048	45	328	90%	90%	75%	0.44	A
ML3-ML5-P9	Connecting stair between southbound IND platform and lower mezzanine near N519	8.50	7.25	144	693	45	217	90%	90%	75%	0.35	A
ML8-ML6	Connecting stair between upper mezzanine and lower mezzanine near N519	20.00	18.50	60	791	19	247	90%	100%	90%	0.12	A
P7	Connecting stair between southbound IND platform and lower mezzanine near N519	6.00	5.00	356	324	111	101	90%	90%	75%	0.38	A
P6	Connecting stair between northbound IND platform and lower mezzanine near N519	6.00	5.00	46	352	14	110	90%	90%	75%	0.24	A
P4	Connecting stair between northbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	211	329	66	103	90%	90%	75%	0.31	A
P3	Connecting stair between southbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	553	495	173	155	90%	90%	75%	0.59	B
ML2-ML4	Connecting stair between lower mezzanine level and N519A paid zone	20.00	18.50	988	1153	309	360	90%	80%	80%	0.33	A

Table 4C-153. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
ESC01	Connecting escalator between IRT platform to IND platform near R217A	1	40	95%	0	2,760	0	863	945	0.96	C

Table 4C-154. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lafayette Street at Bleecker Street – west side (R218)											
HEET	2	510	1,080	169	349	53	109	90%	90%	0.24	A
High Exit Only Turnstile	2	0	1,110	0	358	0	112	100%	90%	0.11	A
East Houston Street and Mulberry Street – northwest corner (R217A North)											
Two-Way Turnstiles	3	1,260	1,935	398	210	124	66	90%	80%	0.16	A
High Exit Only Turnstile	1	0	555	0	60	0	19	100%	80%	0.04	A
East Houston Street and Mulberry Street – southwest corner (R217A South)											
Two-Way Turnstiles	3	1,260	1,935	439	427	137	133	90%	80%	0.22	A
High Exit Only Turnstile	1	0	555	0	122	0	38	100%	80%	0.09	A
Mulberry Street and Bleecker Street – east side (R217)											
Two-Way Turnstiles	3	1,260	1,935	588	160	184	50	90%	90%	0.19	A
Broadway and Houston Street – east side (N519)											
Two-Way Turnstiles	7	2,940	4,515	237	2,249	74	703	90%	90%	0.22	A
East Houston Street and Crosby Street – northeast corner (N519A)											
Two-Way Turnstiles	10	4,200	6,450	118	502	37	157	90%	80%	0.04	A
East Houston Street and Crosby Street – southeast corner (N519B)											
Two-Way Turnstiles	4	1,680	2,580	81	795	25	248	90%	80%	0.15	A

Table 4C-155. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1-S1	Street level stair at southwest corner of Bleecker Street and Lafayette Street	5.00	4.00	103	636	32	199	90%	100%	80%	0.52	B
P3-S3	Street level stair at northwest corner of Bleecker Street and Lafayette Street	5.00	4.00	224	378	70	118	90%	100%	80%	0.40	A
M2-S2	Street level stair at northwest corner of Houston Street and Mulberry Street	8.00	6.75	361	265	113	83	90%	100%	80%	0.24	A
R217A ML1	Connecting stair between northbound IRT platform ad lower mezzanine near R217	12.00	11.00	796	425	249	133	90%	100%	80%	0.28	A
R217A S1	Street level stair at southwest corner of Houston Street and Mulberry Street	5.00	4.00	796	425	249	133	90%	100%	80%	0.77	C
R217A M1	Street level stair at southwest corner of Houston Street and Mulberry Street	9.50	8.25	796	425	249	133	90%	100%	80%	0.37	A
P4-S4	Street level stair at southeast of Bleecker Street and Mulberry Street	4.00	3.00	167	48	52	15	90%	100%	80%	0.17	A
P2-S2	Street level stair at southwest corner of Bleecker Street and Mulberry Street	4.00	3.00	233	53	73	17	90%	100%	80%	0.23	A
P6-S6	Street level stair at northeast corner of Bleecker Street and Mulberry Street	8.00	7.00	305	84	95	26	90%	100%	80%	0.13	A
N519 M6-M11	Street level stair at northwest corner of Broadway and Houston Street	9.00	7.75	1957	1731	612	541	90%	100%	90%	1.16	D
N519 S9	Street level stair at northwest corner of Broadway and Houston Street	4.75	3.75	1957	1731	612	541	90%	100%	90%	2.40	F
N519A M4	Street level stair at northeast corner of Crosby Street and Houston Street	8.00	7.00	541	444	169	139	90%	100%	80%	0.36	A
N519A S6	Street level stair at northeast corner of Crosby Street and Houston Street	5.00	4.00	541	444	169	139	90%	100%	80%	0.63	B
M3	Street level stair at southeast corner of Crosby Street and Houston Street	13.00	11.75	649	806	203	252	90%	100%	80%	0.33	A
N519B S4	Street level stair at southeast corner of Crosby Street and Houston Street	4.00	3.00	584	725	183	227	90%	100%	80%	1.15	D
N519B S5	Street level stair at southeast corner Crosby Street and Houston Street	4.00	3.00	519	645	162	202	90%	100%	80%	1.02	D
P1-ML13	Connecting stair between southbound IND platform and lower mezzanine below R217A	4.00	3.00	406	579	127	181	90%	90%	75%	0.94	C
P2	Connecting stair between northbound IND platform and lower mezzanine below R217A	5.00	4.00	704	64	220	20	90%	90%	75%	0.50	B
P5	Connecting stair between southbound IND platform and lower mezzanine below R519	6.00	5.00	490	268	153	84	90%	90%	75%	0.42	A
P8	Connecting stair between northbound IND platform and lower mezzanine below R519	6.00	5.00	113	496	35	155	90%	90%	75%	0.36	A
ML10-ML12-P10	Connecting stair between northbound IND platform to mezzanine levels near N519	9.50	8.25	944	551	295	172	90%	90%	75%	0.50	B
ML3-ML5-P9	Connecting stair between southbound IND platform and lower mezzanine near N519	8.50	7.25	1110	825	347	258	90%	90%	75%	0.75	C
ML8-ML6	Connecting stair between upper mezzanine and lower mezzanine near N519	20.00	18.50	195	541	61	169	90%	100%	90%	0.10	A
P7	Connecting stair between southbound IND platform and lower mezzanine near N519	6.00	5.00	775	380	242	119	90%	90%	75%	0.63	B
P6	Connecting stair between northbound IND platform and lower mezzanine near N519	6.00	5.00	126	198	39	62	90%	90%	75%	0.19	A
P4	Connecting stair between northbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	794	171	248	53	90%	90%	75%	0.51	B
P3	Connecting stair between southbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	1705	362	533	113	90%	90%	75%	1.10	D
ML2-ML4	Connecting stair between lower mezzanine level and N519A paid zone	20.00	18.50	3311	722	1,035	226	90%	80%	80%	0.63	B

Table 4C-156. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
ESC01	Connecting escalator between IRT platform to IND platform near R217A	1	40	95%	0	1,219	0	381	945	0.42	A

Table 4C-157. Existing Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lafayette Street at Bleecker Street – west side (R218)											
HEET	2	510	1,080	327	500	102	156	90%	90%	0.40	A
High Exit Only Turnstile	2	0	1,110	0	514	0	161	100%	90%	0.16	A
East Houston Street and Mulberry Street – northwest corner (R217A North)											
Two-Way Turnstiles	3	1,260	1,935	1,157	536	362	168	90%	80%	0.44	A
High Exit Only Turnstile	1	0	555	0	154	0	48	100%	80%	0.11	A
East Houston Street and Mulberry Street – southwest corner (R217A South)											
Two-Way Turnstiles	3	1,260	1,935	425	619	133	193	90%	80%	0.26	A
High Exit Only Turnstile	1	0	555	0	177	0	55	100%	80%	0.12	A
Mulberry Street and Bleecker Street – east side (R217)											
Two-Way Turnstiles	3	1,260	1,935	705	185	220	58	90%	90%	0.23	A
Broadway and Houston Street – east side (N519)											
Two-Way Turnstiles	7	2,940	4,515	1,957	1,731	612	541	90%	90%	0.38	A
East Houston Street and Crosby Street – northeast corner (N519A)											
Two-Way Turnstiles	10	4,200	6,450	541	444	169	139	90%	80%	0.07	A
East Houston Street and Crosby Street – southeast corner (N519B)											
Two-Way Turnstiles	4	1,680	2,580	649	806	203	252	90%	80%	0.27	A

Table 4C-158. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1-S1	Street level stair at southwest corner of Bleecker Street and Lafayette Street	5.00	4.00	51	424	16	133	90%	100%	80%	0.34	A
P3-S3	Street level stair at northwest corner of Bleecker Street and Lafayette Street	5.00	4.00	118	283	37	88	90%	100%	80%	0.27	A
M2-S2	Street level stair at northwest corner of Houston Street and Mulberry Street	8.00	6.75	398	270	124	84	90%	100%	80%	0.25	A
R217A ML1	Connecting stair between northbound IRT platform ad lower mezzanine near R217	12.00	11.00	549	439	172	137	90%	100%	80%	0.23	A
R217A S1	Street level stair at southwest corner of Houston Street and Mulberry Street	5.00	4.00	549	439	172	137	90%	100%	80%	0.64	B
R217A M1	Street level stair at southwest corner of Houston Street and Mulberry Street	9.50	8.25	549	439	172	137	90%	100%	80%	0.31	A
P4-S4	Street level stair at southeast of Bleecker Street and Mulberry Street	4.00	3.00	137	25	43	8	90%	100%	80%	0.13	A
P2-S2	Street level stair at southwest corner of Bleecker Street and Mulberry Street	4.00	3.00	142	47	44	15	90%	100%	80%	0.15	A
P6-S6	Street level stair at northeast corner of Bleecker Street and Mulberry Street	8.00	7.00	309	88	97	28	90%	100%	80%	0.14	A
N519 M6-M11	Street level stair at northwest corner of Broadway and Houston Street	9.00	7.75	237	2249	74	703	90%	100%	90%	0.82	C
N519 S9	Street level stair at northwest corner of Broadway and Houston Street	4.75	3.75	237	2249	74	703	90%	100%	90%	1.69	F
N519A M4	Street level stair at northeast corner of Crosby Street and Houston Street	8.00	7.00	118	502	37	157	90%	100%	80%	0.25	A
N519A S6	Street level stair at northeast corner of Crosby Street and Houston Street	5.00	4.00	118	502	37	157	90%	100%	80%	0.43	A
M3	Street level stair at southeast corner of Crosby Street and Houston Street	13.00	11.75	81	795	25	248	90%	100%	80%	0.21	A
N519B S4	Street level stair at southeast corner of Crosby Street and Houston Street	4.00	3.00	73	716	23	224	90%	100%	80%	0.75	C
N519B S5	Street level stair at southeast corner Crosby Street and Houston Street	4.00	3.00	65	636	20	199	90%	100%	80%	0.66	B
P1-ML13	Connecting stair between southbound IND platform and lower mezzanine below R217A	4.00	3.00	97	344	30	108	90%	90%	75%	0.44	A
P2	Connecting stair between northbound IND platform and lower mezzanine below R217A	5.00	4.00	662	545	207	170	90%	90%	75%	0.85	C
P5	Connecting stair between southbound IND platform and lower mezzanine below R519	6.00	5.00	164	279	51	87	90%	90%	75%	0.26	A
P8	Connecting stair between northbound IND platform and lower mezzanine below R519	6.00	5.00	41	500	13	156	90%	90%	75%	0.33	A
ML10-ML12-P10	Connecting stair between northbound IND platform to mezzanine levels near N519	9.50	8.25	143	1048	45	328	90%	90%	75%	0.44	A
ML3-ML5-P9	Connecting stair between southbound IND platform and lower mezzanine near N519	8.50	7.25	144	693	45	217	90%	90%	75%	0.35	A
ML8-ML6	Connecting stair between upper mezzanine and lower mezzanine near N519	20.00	18.50	60	791	19	247	90%	100%	90%	0.12	A
P7	Connecting stair between southbound IND platform and lower mezzanine near N519	6.00	5.00	356	324	111	101	90%	90%	75%	0.38	A
P6	Connecting stair between northbound IND platform and lower mezzanine near N519	6.00	5.00	46	352	14	110	90%	90%	75%	0.24	A
P4	Connecting stair between northbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	211	329	66	103	90%	90%	75%	0.31	A
P3	Connecting stair between southbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	553	495	173	155	90%	90%	75%	0.59	B
ML2-ML4	Connecting stair between lower mezzanine level and N519A paid zone	20.00	18.50	988	1153	309	360	90%	80%	80%	0.33	A

Table 4C-159. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
ESC01	Connecting escalator between IRT platform to IND platform near R217A	1	40	95%	0	2,762	0	863	945	0.96	C

Table 4C-160. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lafayette Street at Bleecker Street – west side (R218)											
HEET	2	510	1,080	169	349	53	109	90%	90%	0.24	A
High Exit Only Turnstile	2	0	1,110	0	358	0	112	100%	90%	0.11	A
East Houston Street and Mulberry Street – northwest corner (R217A North)											
Two-Way Turnstiles	3	1,260	1,935	398	210	124	66	90%	80%	0.16	A
High Exit Only Turnstile	1	0	555	0	60	0	19	100%	80%	0.04	A
East Houston Street and Mulberry Street – southwest corner (R217A South)											
Two-Way Turnstiles	3	1,260	1,935	439	427	137	133	90%	80%	0.22	A
High Exit Only Turnstile	1	0	555	0	122	0	38	100%	80%	0.09	A
Mulberry Street and Bleecker Street – east side (R217)											
Two-Way Turnstiles	3	1,260	1,935	588	160	184	50	90%	90%	0.19	A
Broadway and Houston Street – east side (N519)											
Two-Way Turnstiles	7	2,940	4,515	237	2,249	74	703	90%	90%	0.22	A
East Houston Street and Crosby Street – northeast corner (N519A)											
Two-Way Turnstiles	10	4,200	6,450	118	502	37	157	90%	80%	0.04	A
East Houston Street and Crosby Street – southeast corner (N519B)											
Two-Way Turnstiles	4	1,680	2,580	81	795	25	248	90%	80%	0.15	A

Table 4C-161. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1-S1	Street level stair at southwest corner of Bleecker Street and Lafayette Street	5.00	4.00	103	636	32	199	90%	100%	80%	0.52	B
P3-S3	Street level stair at northwest corner of Bleecker Street and Lafayette Street	5.00	4.00	224	378	70	118	90%	100%	80%	0.40	A
M2-S2	Street level stair at northwest corner of Houston Street and Mulberry Street	8.00	6.75	361	265	113	83	90%	100%	80%	0.24	A
R217A ML1	Connecting stair between northbound IRT platform ad lower mezzanine near R217	12.00	11.00	796	425	249	133	90%	100%	80%	0.28	A
R217A S1	Street level stair at southwest corner of Houston Street and Mulberry Street	5.00	4.00	796	425	249	133	90%	100%	80%	0.77	C
R217A M1	Street level stair at southwest corner of Houston Street and Mulberry Street	9.50	8.25	796	425	249	133	90%	100%	80%	0.37	A
P4-S4	Street level stair at southeast of Bleecker Street and Mulberry Street	4.00	3.00	167	48	52	15	90%	100%	80%	0.17	A
P2-S2	Street level stair at southwest corner of Bleecker Street and Mulberry Street	4.00	3.00	233	53	73	17	90%	100%	80%	0.23	A
P6-S6	Street level stair at northeast corner of Bleecker Street and Mulberry Street	8.00	7.00	305	84	95	26	90%	100%	80%	0.13	A
N519 M6-M11	Street level stair at northwest corner of Broadway and Houston Street	9.00	7.75	1957	1731	612	541	90%	100%	90%	1.16	D
N519 S9	Street level stair at northwest corner of Broadway and Houston Street	4.75	3.75	1957	1731	612	541	90%	100%	90%	2.40	F
N519A M4	Street level stair at northeast corner of Crosby Street and Houston Street	8.00	7.00	541	444	169	139	90%	100%	80%	0.36	A
N519A S6	Street level stair at northeast corner of Crosby Street and Houston Street	5.00	4.00	541	444	169	139	90%	100%	80%	0.63	B
M3	Street level stair at southeast corner of Crosby Street and Houston Street	13.00	11.75	649	806	203	252	90%	100%	80%	0.33	A
N519B S4	Street level stair at southeast corner of Crosby Street and Houston Street	4.00	3.00	584	725	183	227	90%	100%	80%	1.15	D
N519B S5	Street level stair at southeast corner Crosby Street and Houston Street	4.00	3.00	519	645	162	202	90%	100%	80%	1.02	D
P1-ML13	Connecting stair between southbound IND platform and lower mezzanine below R217A	4.00	3.00	406	579	127	181	90%	90%	75%	0.94	C
P2	Connecting stair between northbound IND platform and lower mezzanine below R217A	5.00	4.00	704	64	220	20	90%	90%	75%	0.50	B
P5	Connecting stair between southbound IND platform and lower mezzanine below R519	6.00	5.00	490	268	153	84	90%	90%	75%	0.42	A
P8	Connecting stair between northbound IND platform and lower mezzanine below R519	6.00	5.00	113	496	35	155	90%	90%	75%	0.36	A
ML10-ML12-P10	Connecting stair between northbound IND platform to mezzanine levels near N519	9.50	8.25	944	551	295	172	90%	90%	75%	0.50	B
ML3-ML5-P9	Connecting stair between southbound IND platform and lower mezzanine near N519	8.50	7.25	1110	825	347	258	90%	90%	75%	0.75	C
ML8-ML6	Connecting stair between upper mezzanine and lower mezzanine near N519	20.00	18.50	195	541	61	169	90%	100%	90%	0.10	A
P7	Connecting stair between southbound IND platform and lower mezzanine near N519	6.00	5.00	775	380	242	119	90%	90%	75%	0.63	B
P6	Connecting stair between northbound IND platform and lower mezzanine near N519	6.00	5.00	126	198	39	62	90%	90%	75%	0.19	A
P4	Connecting stair between northbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	794	171	248	53	90%	90%	75%	0.51	B
P3	Connecting stair between southbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	1705	362	533	113	90%	90%	75%	1.10	D
ML2-ML4	Connecting stair between lower mezzanine level and N519A paid zone	20.00	18.50	3311	722	1,035	226	90%	80%	80%	0.63	B

Table 4C-162. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
ESC01	Connecting escalator between IRT platform to IND platform near R217A	1	40	95%	0	1,219	0	381	945	0.42	A

Table 4C-163. No Action Alternative Level of Service Summary: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lafayette Street at Bleecker Street – west side (R218)											
HEET	2	510	1,080	327	500	102	156	90%	90%	0.40	A
High Exit Only Turnstile	2	0	1,110	0	514	0	161	100%	90%	0.16	A
East Houston Street and Mulberry Street – northwest corner (R217A North)											
Two-Way Turnstiles	3	1,260	1,935	1,157	536	362	168	90%	80%	0.44	A
High Exit Only Turnstile	1	0	555	0	154	0	48	100%	80%	0.11	A
East Houston Street and Mulberry Street – southwest corner (R217A South)											
Two-Way Turnstiles	3	1,260	1,935	425	619	133	193	90%	80%	0.26	A
High Exit Only Turnstile	1	0	555	0	177	0	55	100%	80%	0.12	A
Mulberry Street and Bleecker Street – east side (R217)											
Two-Way Turnstiles	3	1,260	1,935	712	187	223	58	90%	90%	0.23	A
Broadway and Houston Street – east side (N519)											
Two-Way Turnstiles	7	2,940	4,515	1,977	1,748	618	546	90%	90%	0.38	A
East Houston Street and Crosby Street – northeast corner (N519A)											
Two-Way Turnstiles	10	4,200	6,450	541	444	169	139	0.90	0.80	0.07	A
East Houston Street and Crosby Street – southeast corner (N519B)											
Two-Way Turnstiles	4	1,680	2,580	656	814	205	254	90%	80%	0.27	A

Table 4C-164. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1-S1	Street level stair at southwest corner of Bleecker Street and Lafayette Street	5.00	4.00	52	446	16	139	90%	100%	80%	0.35	A
P3-S3	Street level stair at northwest corner of Bleecker Street and Lafayette Street	5.00	4.00	120	298	38	93	90%	100%	80%	0.29	A
M2-S2	Street level stair at northwest corner of Houston Street and Mulberry Street	8.00	6.75	412	281	129	88	90%	100%	80%	0.26	A
R217A ML1	Connecting stair between northbound IRT platform ad lower mezzanine near R217	12.00	11.00	549	439	172	137	90%	100%	80%	0.23	A
R217A S1	Street level stair at southwest corner of Houston Street and Mulberry Street	5.00	4.00	569	458	178	143	90%	100%	80%	0.66	B
R217A M1	Street level stair at southwest corner of Houston Street and Mulberry Street	9.50	8.25	569	458	178	143	90%	100%	80%	0.32	A
P4-S4	Street level stair at southeast of Bleecker Street and Mulberry Street	4.00	3.00	139	26	43	8	90%	100%	80%	0.13	A
P2-S2	Street level stair at southwest corner of Bleecker Street and Mulberry Street	4.00	3.00	144	49	45	15	90%	100%	80%	0.16	A
P6-S6	Street level stair at northeast corner of Bleecker Street and Mulberry Street	8.00	7.00	314	92	98	29	90%	100%	80%	0.14	A
N519 M6-M11	Street level stair at northwest corner of Broadway and Houston Street	9.00	7.75	246	2344	77	733	90%	100%	90%	0.85	C
N519 S9	Street level stair at northwest corner of Broadway and Houston Street	4.75	3.75	246	2344	77	733	90%	100%	90%	1.76	F
N519A M4	Street level stair at northeast corner of Crosby Street and Houston Street	8.00	7.00	123	524	38	164	90%	100%	80%	0.26	A
N519A S6	Street level stair at northeast corner of Crosby Street and Houston Street	5.00	4.00	123	524	38	164	90%	100%	80%	0.45	A
M3	Street level stair at southeast corner of Crosby Street and Houston Street	13.00	11.75	84	829	26	259	90%	100%	80%	0.22	A
N519B S4	Street level stair at southeast corner of Crosby Street and Houston Street	4.00	3.00	76	747	24	233	90%	100%	80%	0.78	C
N519B S5	Street level stair at southeast corner Crosby Street and Houston Street	4.00	3.00	67	664	21	208	90%	100%	80%	0.69	B
P1-ML13	Connecting stair between southbound IND platform and lower mezzanine below R217A	4.00	3.00	102	360	32	113	90%	90%	75%	0.46	B
P2	Connecting stair between northbound IND platform and lower mezzanine below R217A	5.00	4.00	670	568	209	178	90%	90%	75%	0.87	C
P5	Connecting stair between southbound IND platform and lower mezzanine below R519	6.00	5.00	167	299	52	93	90%	90%	75%	0.27	A
P8	Connecting stair between northbound IND platform and lower mezzanine below R519	6.00	5.00	42	532	13	166	90%	90%	75%	0.35	A
ML10-ML12-P10	Connecting stair between northbound IND platform to mezzanine levels near N519	9.50	8.25	152	1080	48	338	90%	90%	75%	0.45	B
ML3-ML5-P9	Connecting stair between southbound IND platform and lower mezzanine near N519	8.50	7.25	153	714	48	223	90%	90%	75%	0.36	A
ML8-ML6	Connecting stair between upper mezzanine and lower mezzanine near N519	20.00	18.50	64	815	20	255	90%	100%	90%	0.12	A
P7	Connecting stair between southbound IND platform and lower mezzanine near N519	6.00	5.00	361	347	113	108	90%	90%	75%	0.40	A
P6	Connecting stair between northbound IND platform and lower mezzanine near N519	6.00	5.00	47	374	15	117	90%	90%	75%	0.26	A
P4	Connecting stair between northbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	220	359	69	112	90%	90%	75%	0.33	A
P3	Connecting stair between southbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	561	509	175	159	90%	90%	75%	0.60	B
ML2-ML4	Connecting stair between lower mezzanine level and N519A paid zone	20.00	18.50	1048	1178	328	368	90%	80%	80%	0.35	A

Table 4C-165. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
ESC01	Connecting escalator between IRT platform to IND platform near R217A	1	40	95%	0	2,774	0	867	945	0.97	C

Table 4C-166. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lafayette Street at Bleecker Street – west side (R218)											
HEET	2	510	1,080	172	367	54	115	90%	90%	0.25	A
High Exit Only Turnstile	2	0	1,110	0	377	0	118	100%	90%	0.12	A
East Houston Street and Mulberry Street – northwest corner (R217A North)											
Two-Way Turnstiles	3	1,260	1,935	412	218	129	68	90%	80%	0.16	A
High Exit Only Turnstile	1	0	555	0	63	0	20	100%	80%	0.05	A
East Houston Street and Mulberry Street – southwest corner (R217A South)											
Two-Way Turnstiles	3	1,260	1,935	459	441	143	138	90%	80%	0.23	A
High Exit Only Turnstile	1	0	555	0	122	0	38	100%	80%	0.09	A
Mulberry Street and Bleecker Street – east side (R217)											
Two-Way Turnstiles	3	1,260	1,935	598	168	187	53	90%	90%	0.20	A
Broadway and Houston Street – east side (N519)											
Two-Way Turnstiles	7	2,940	4,515	246	2,344	77	733	90%	90%	0.23	A
East Houston Street and Crosby Street – northeast corner (N519A)											
Two-Way Turnstiles	10	4,200	6,450	123	524	38	164	90%	90%	0.05	A
East Houston Street and Crosby Street – southeast corner (N519B)											
Two-Way Turnstiles	4	1,680	2,580	84	829	26	259	90%	80%	0.16	A

Table 4C-167. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
P1-S1	Street level stair at southwest corner of Bleecker Street and Lafayette Street	5.00	4.00	108	643	34	201	90%	100%	80%	0.53	B
P3-S3	Street level stair at northwest corner of Bleecker Street and Lafayette Street	5.00	4.00	235	382	73	119	90%	100%	80%	0.41	A
M2-S2	Street level stair at northwest corner of Houston Street and Mulberry Street	8.00	6.75	377	269	118	84	90%	100%	80%	0.24	A
R217A ML1	Connecting stair between northbound IRT platform ad lower mezzanine near R217	12.00	11.00	796	425	249	133	90%	100%	80%	0.28	A
R217A S1	Street level stair at southwest corner of Houston Street and Mulberry Street	5.00	4.00	832	431	260	135	90%	100%	80%	0.79	C
R217A M1	Street level stair at southwest corner of Houston Street and Mulberry Street	9.50	8.25	805	446	252	139	90%	100%	80%	0.38	A
P4-S4	Street level stair at southeast of Bleecker Street and Mulberry Street	4.00	3.00	175	49	55	15	90%	100%	80%	0.18	A
P2-S2	Street level stair at southwest corner of Bleecker Street and Mulberry Street	4.00	3.00	244	54	76	17	90%	100%	80%	0.24	A
P6-S6	Street level stair at northeast corner of Bleecker Street and Mulberry Street	8.00	7.00	319	85	100	27	90%	100%	80%	0.14	A
N519 M6-M11	Street level stair at northwest corner of Broadway and Houston Street	9.00	7.75	2046	1757	639	549	90%	100%	90%	1.19	D
N519 S9	Street level stair at northwest corner of Broadway and Houston Street	4.75	3.75	1980	1817	619	568	90%	100%	90%	2.47	F
N519A M4	Street level stair at northeast corner of Crosby Street and Houston Street	8.00	7.00	565	450	177	141	90%	100%	80%	0.37	A
N519A S6	Street level stair at northeast corner of Crosby Street and Houston Street	5.00	4.00	547	465	171	145	90%	100%	80%	0.65	B
M3	Street level stair at southeast corner of Crosby Street and Houston Street	13.00	11.75	678	818	212	256	90%	100%	80%	0.34	A
N519B S4	Street level stair at southeast corner of Crosby Street and Houston Street	4.00	3.00	610	736	191	230	90%	100%	80%	1.18	D
N519B S5	Street level stair at southeast corner Crosby Street and Houston Street	4.00	3.00	542	655	169	205	90%	100%	80%	1.05	D
P1-ML13	Connecting stair between southbound IND platform and lower mezzanine below R217A	4.00	3.00	409	581	128	182	90%	90%	75%	0.95	C
P2	Connecting stair between northbound IND platform and lower mezzanine below R217A	5.00	4.00	709	68	222	21	90%	90%	75%	0.51	B
P5	Connecting stair between southbound IND platform and lower mezzanine below R519	6.00	5.00	492	269	154	84	90%	90%	75%	0.42	A
P8	Connecting stair between northbound IND platform and lower mezzanine below R519	6.00	5.00	114	513	36	160	90%	90%	75%	0.38	A
ML10-ML12-P10	Connecting stair between northbound IND platform to mezzanine levels near N519	9.50	8.25	944	551	295	172	90%	90%	75%	0.50	B
ML3-ML5-P9	Connecting stair between southbound IND platform and lower mezzanine near N519	8.50	7.25	1110	825	347	258	90%	90%	75%	0.75	C
ML8-ML6	Connecting stair between upper mezzanine and lower mezzanine near N519	20.00	18.50	195	541	61	169	90%	100%	90%	0.10	A
P7	Connecting stair between southbound IND platform and lower mezzanine near N519	6.00	5.00	777	385	243	120	90%	90%	75%	0.64	B
P6	Connecting stair between northbound IND platform and lower mezzanine near N519	6.00	5.00	127	205	40	64	90%	90%	75%	0.19	A
P4	Connecting stair between northbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	801	177	250	55	90%	90%	75%	0.52	B
P3	Connecting stair between southbound IND platform and lower mezzanine near N519A/N519B	6.00	5.00	1710	367	534	115	90%	90%	75%	1.11	D
ML2-ML4	Connecting stair between lower mezzanine level and N519A paid zone	20.00	18.50	3320	750	1,038	234	90%	80%	80%	0.64	B

Table 4C-168. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
ESC01	Connecting escalator between IRT platform to IND platform near R217A	1	40	95%	0	1209	0	378	945	0.42	A

Table 4C-169. CBD Tolling Alternative: Broadway–Lafayette Street/Bleecker Street Station (6, B, D, F, M lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Lafayette Street at Bleecker Street – west side (R218)											
HEET	2	510	1,080	342	505	107	158	90%	90%	0.41	A
High Exit Only Turnstile	2	0	1,110	0	520	0	162	100%	90%	0.16	A
East Houston Street and Mulberry Street – northwest corner (R217A North)											
Two-Way Turnstiles	3	1,260	1,935	1,173	539	367	169	90%	80%	0.44	A
High Exit Only Turnstile	1	0	555	0	155	0	48	100%	80%	0.11	A
East Houston Street and Mulberry Street – southwest corner (R217A South)											
Two-Way Turnstiles	3	1,260	1,935	461	623	144	195	90%	80%	0.27	A
High Exit Only Turnstile	1	0	555	0	179	0	56	100%	80%	0.13	A
Mulberry Street and Bleecker Street – east side (R217)											
Two-Way Turnstiles	3	1,260	1,935	745	189	233	59	90%	90%	0.24	A
Broadway and Houston Street – east side (N519)											
Two-Way Turnstiles	7	2,940	4,515	2,046	1,757	639	549	0.90	0.90	0.39	A
East Houston Street and Crosby Street – northeast corner (N519A)											
Two-Way Turnstiles	10	4,200	6,450	570	454	178	142	90%	80%	0.08	A
East Houston Street and Crosby Street – southeast corner (N519B)											
Two-Way Turnstiles	4	1,680	2,580	685	826	214	258	90%	80%	0.28	A

Table 4C-170. Existing Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M3-S12	Street stair at northeast corner of Canal Street and Broadway	15.00	13.50	106	1,182	33	369	90%	100%	90%	0.24	A
M2	Connecting stair between S6/S7 stairs and A043/A043A free zone	12.00	10.50	114	1,499	36	468	90%	100%	90%	0.39	A
A043 S6	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	103	1,349	32	422	90%	100%	90%	0.74	C
A043 S7	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	91	1,199	29	375	90%	100%	90%	0.66	B
A044 S10	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	29	257	9	80	90%	100%	90%	0.18	A
A044 S11	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	26	228	8	71	90%	100%	90%	0.16	A
A044 P14	Connecting stair between S10/S11 stairs and A044 free zone	10.00	8.75	32	285	10	89	90%	100%	90%	0.09	A
A044 P11	Connecting stair between S8 stairs and A044 free zone	6.00	5.00	34	190	11	59	90%	100%	90%	0.11	A
A044 S8	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	34	190	11	59	90%	100%	90%	0.14	A
P13-S9	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	14	92	4	29	90%	100%	90%	0.07	A
P5-S5	Street stair at northwest corner of Canal Street and Lafayette Street	4.00	3.00	39	1,000	12	313	100%	100%	90%	0.80	C
P1-S1	Street stair at southwest corner of Canal Street and Lafayette Street	4.00	3.00	36	1,344	11	420	100%	100%	90%	1.06	D
A046 P3-S3	Street stair at southeast corner of Canal Street and Lafayette Street	5.00	4.00	182	35	57	11	90%	100%	90%	0.13	A
P2-S2	Street stair at southeast corner of Canal Street and Lafayette Street	4.00	3.00	198	450	62	141	90%	100%	90%	0.54	B
P6-S6	Street stair at northeast corner of Canal Street and Lafayette Street	5.00	4.00	487	257	152	80	90%	100%	90%	0.45	A
A066 S3	Street stair at northwest corner of Walker Street and Centre Street	16.00	14.50	2210	303	691	95	90%	100%	90%	0.41	A
P4	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	65	337	20	105	90%	80%	80%	0.23	A
P5	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	287	1,918	90	599	90%	80%	80%	1.28	D
PL23	Connecting passageway near A043A paid zone to southbound BMT R, W platform	6.00	5.00	241	76	75	24	90%	90%	75%	0.17	A
PL22	Connecting passageway near A043A paid zone to southbound BMT R, W platform	8.00	7.00	421	84	132	26	90%	90%	75%	0.19	A
PL31-PL29	Connecting passageway near A043A paid zone to BMT Q, N northbound platform	8.00	7.00	158	1,287	49	402	90%	90%	75%	0.62	B
PL41	Connecting stair between BMT Q, N northbound platform and BMT J, M, Z platform	5.00	4.00	1063	881	332	275	90%	90%	75%	1.36	E
PL15	Connecting stair between BMT Q, N northbound platform and IRT 6 platform	7.00	6.00	213	1,331	67	416	90%	90%	75%	0.78	C
PL30-PL28	Connecting passageway to BMT Q, N southbound platform	8.00	7.00	62	988	19	309	90%	90%	75%	0.46	B
PL40	Connecting stair between BMT Q, N southbound platform and BMT J, M, Z platform	5.00	4.00	552	618	173	193	90%	90%	75%	0.83	C
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	13.00	11.75	2	538	1	168	100%	90%	75%	0.13	A
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	8.00	7.00	2	538	1	168	100%	90%	75%	0.21	A
ML1	Connecting stair between IRT 6 platform and BMT Q, N platform	16.00	14.75	148	985	46	308	90%	90%	75%	0.23	A
ML2	Connecting stair between IRT 6 platform and BMT Q, N platform	12.00	10.75	208	1,869	65	584	90%	90%	75%	0.59	B
P6 (P4+P5)	Connecting stair between P4 and P5 (J, M, Z platform) and A066 paid zone	12.00	11.00	352	2,255	110	705	90%	90%	75%	0.72	C
PL16-PL18	Connecting stair between southbound Q, N platform and downtown IRT 6 platform	8.00	7.00	35	483	11	151	90%	90%	75%	0.23	A
PL17-PL19	Connecting stair between northbound Q, N platform and downtown IRT 6 platform	8.00	7.00	113	502	35	157	90%	90%	75%	0.26	A
PL26-PL27	Connecting stair near A044 paid zone between southbound and northbound R, W platforms	6.00	5.00	241	76	75	24	90%	90%	75%	0.17	A

Table 4C-171. Existing Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and Canal Street – east side (A043)											
Two-Way Turnstiles	5	2,100	3,225	147	1,787	46	559	90%	90%	0.24	A
Broadway and Canal Street – east side (A043A)											
Two-Way Turnstiles	3	1,260	1,935	49	596	15	186	90%	90%	0.13	A
Broadway and Canal Street – west side (A044)											
HEET	3	765	1,620	80	336	25	105	90%	90%	0.12	A
High Exit Only Turnstile	2	0	1,110	0	231	0	72	100%	90%	0.07	A
Canal Street and Lafayette Street - northwest corner (R214A)											
HEET	3	765	1,620	39	1,000	12	313	100%	90%	0.23	A
Canal Street and Lafayette Street - southwest corner (R214)											
HEET	3	765	1,620	36	1,344	11	420	100%	90%	0.30	A
Canal Street and Lafayette Street - southeast corner (A046)											
Two-Way Turnstiles	6	2,520	3,870	380	688	119	215	90%	90%	0.12	A
Canal Street and Lafayette Street - northeast corner (A046A)											
HEET	5	1,275	2,700	257	487	80	152	90%	90%	0.14	A
Walker Street and Centre Street - southeast corner (A066)											
Two-Way Turnstiles	3	1,260	1,935	303	2,210	95	691	90%	90%	0.52	B

Table 4C-172. Existing Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M3-S12	Street stair at northeast corner of Canal Street and Broadway	15.00	13.50	1,145	453	358	142	90%	100%	90%	0.28	A
M2	Connecting stair between S6/S7 stairs and A043/A043A free zone	12.00	10.50	1,173	321	367	100	90%	100%	90%	0.34	A
A043 S6	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	1,056	289	330	90	90%	100%	90%	0.64	B
A043 S7	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	938	257	293	80	90%	100%	90%	0.57	B
A044 S10	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	244	302	76	95	90%	100%	90%	0.34	A
A044 S11	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	217	269	68	84	90%	100%	90%	0.30	A
A044 P14	Connecting stair between S10/S11 stairs and A044 free zone	10.00	8.75	271	336	85	105	90%	100%	90%	0.17	A
A044 P11	Connecting stair between S8 stairs and A044 free zone	6.00	5.00	317	172	99	54	90%	100%	90%	0.24	A
A044 S8	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	317	172	99	54	90%	100%	90%	0.29	A
P13-S9	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	114	106	36	33	90%	100%	90%	0.13	A
P5-S5	Street stair at northwest corner of Canal Street and Lafayette Street	4.00	3.00	319	643	100	201	90%	100%	90%	0.80	C
P1-S1	Street stair at southwest corner of Canal Street and Lafayette Street	4.00	3.00	392	795	123	248	90%	100%	90%	0.98	C
A046 P3-S3	Street stair at southeast corner of Canal Street and Lafayette Street	5.00	4.00	568	9	178	3	100%	100%	90%	0.30	A
P2-S2	Street stair at southeast corner of Canal Street and Lafayette Street	4.00	3.00	666	187	208	58	90%	100%	90%	0.67	B
P6-S6	Street stair at northeast corner of Canal Street and Lafayette Street	5.00	4.00	272	1,261	85	394	90%	100%	90%	0.97	C
A066 S3	Street stair at northwest corner of Walker Street and Centre Street	16.00	14.50	702	1,837	219	574	90%	100%	90%	0.44	A
P4	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	348	104	109	33	90%	80%	80%	0.26	A
P5	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	1,472	527	460	165	90%	80%	80%	1.16	D
PL23	Connecting passageway near A043A paid zone to southbound BMT R, W platform	6.00	5.00	256	637	80	199	90%	90%	75%	0.52	B
PL22	Connecting passageway near A043A paid zone to southbound BMT R, W platform	8.00	7.00	318	597	99	187	90%	90%	75%	0.38	A
PL31-PL29	Connecting passageway near A043A paid zone to BMT Q, N northbound platform	8.00	7.00	914	243	286	76	90%	90%	75%	0.44	A
PL41	Connecting stair between BMT Q, N northbound platform and BMT J, M, Z platform	5.00	4.00	536	508	168	159	90%	90%	75%	0.74	C
PL15	Connecting stair between BMT Q, N northbound platform and IRT 6 platform	7.00	6.00	547	278	171	87	90%	90%	75%	0.38	A
PL30-PL28	Connecting passageway to BMT Q, N southbound platform	8.00	7.00	1,029	467	322	146	90%	90%	75%	0.58	B
PL40	Connecting stair between BMT Q, N southbound platform and BMT J, M, Z platform	5.00	4.00	1,023	827	320	258	90%	90%	75%	1.30	D
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	13.00	11.75	470	280	147	88	90%	90%	75%	0.18	A
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	8.00	7.00	470	280	147	88	90%	90%	75%	0.30	A
ML1	Connecting stair between IRT 6 platform and BMT Q, N platform	16.00	14.75	866	378	271	118	90%	90%	75%	0.23	A
ML2	Connecting stair between IRT 6 platform and BMT Q, N platform	12.00	10.75	1,017	557	318	174	90%	90%	75%	0.40	A
P6 (P4+P5)	Connecting stair between P4 and P5 (J, M, Z platform) and A066 paid zone	12.00	11.00	1,820	631	569	197	90%	90%	75%	0.60	B
PL16-PL18	Connecting stair between southbound Q, N platform and downtown IRT 6 platform	8.00	7.00	374	308	117	96	90%	90%	75%	0.27	A
PL17-PL19	Connecting stair between northbound Q, N platform and downtown IRT 6 platform	8.00	7.00	492	70	154	22	90%	90%	75%	0.21	A
PL26-PL27	Connecting stair near A044 paid zone between southbound and northbound R, W platforms	6.00	5.00	256	637	80	199	90%	90%	75%	0.52	B

Table 4C-173. Existing Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and Canal Street – east side (A043)											
Two-Way Turnstiles	5	2,100	3,225	1,159	387	362	121	90%	90%	0.24	A
Broadway and Canal Street – east side (A043A)											
Two-Way Turnstiles	3	1,260	1,935	1,159	387	362	121	90%	90%	0.40	A
Broadway and Canal Street – west side (A044)											
HEET	3	765	1,620	702	364	219	114	90%	90%	0.40	A
High Exit Only Turnstile	2	0	1,110	0	250	0	78	100%	90%	0.08	A
Canal Street and Lafayette Street - northwest corner (R214A)											
HEET	3	765	1,620	319	643	100	201	90%	90%	0.30	A
Canal Street and Lafayette Street - southwest corner (R214)											
HEET	3	765	1,620	392	795	123	248	90%	90%	0.37	A
Canal Street and Lafayette Street - southeast corner (A046)											
Two-Way Turnstiles	6	2,520	3,870	1,234	278	386	87	90%	90%	0.20	A
Canal Street and Lafayette Street - northeast corner (A046A)											
HEET	5	1,275	2,700	1,261	272	394	85	90%	90%	0.38	A
Walker Street and Centre Street - southeast corner (A066)											
Two-Way Turnstiles	3	1,260	1,935	1,837	702	574	219	90%	90%	0.65	B

Table 4C-174. No Action Alternative Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M3-S12	Street stair at northeast corner of Canal Street and Broadway	15.00	13.50	106	1,182	33	369	90%	100%	90%	0.24	A
M2	Connecting stair between S6/S7 stairs and A043/A043A free zone	12.00	10.50	114	1,499	36	468	90%	100%	90%	0.39	A
A043 S6	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	103	1,349	32	422	90%	100%	90%	0.74	C
A043 S7	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	91	1,199	29	375	90%	100%	90%	0.66	B
A044 S10	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	29	257	9	80	90%	100%	90%	0.18	A
A044 S11	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	26	228	8	71	90%	100%	90%	0.16	A
A044 P14	Connecting stair between S10/S11 stairs and A044 free zone	10.00	8.75	32	285	10	89	90%	100%	90%	0.09	A
A044 P11	Connecting stair between S8 stairs and A044 free zone	6.00	5.00	34	190	11	59	90%	100%	90%	0.11	A
A044 S8	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	34	190	11	59	90%	100%	90%	0.14	A
P13-S9	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	14	92	4	29	90%	100%	90%	0.07	A
P5-S5	Street stair at northwest corner of Canal Street and Lafayette Street	4.00	3.00	39	1,000	12	313	100%	100%	90%	0.80	C
P1-S1	Street stair at southwest corner of Canal Street and Lafayette Street	4.00	3.00	36	1,344	11	420	100%	100%	90%	1.06	D
A046 P3-S3	Street stair at southeast corner of Canal Street and Lafayette Street	5.00	4.00	182	35	57	11	90%	100%	90%	0.13	A
P2-S2	Street stair at southeast corner of Canal Street and Lafayette Street	4.00	3.00	198	450	62	141	90%	100%	90%	0.54	B
P6-S6	Street stair at northeast corner of Canal Street and Lafayette Street	5.00	4.00	487	257	152	80	90%	100%	90%	0.45	A
A066 S3	Street stair at northwest corner of Walker Street and Centre Street	16.00	14.50	2,210	303	691	95	90%	100%	90%	0.41	A
P4	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	65	337	20	105	90%	80%	80%	0.23	A
P5	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	287	1,918	90	599	90%	80%	80%	1.28	D
PL23	Connecting passageway near A043A paid zone to southbound BMT R, W platform	6.00	5.00	241	76	75	24	90%	90%	75%	0.17	A
PL22	Connecting passageway near A043A paid zone to southbound BMT R, W platform	8.00	7.00	421	84	132	26	90%	90%	75%	0.19	A
PL31-PL29	Connecting passageway near A043A paid zone to BMT Q, N northbound platform	8.00	7.00	158	1,287	49	402	90%	90%	75%	0.62	B
PL41	Connecting stair between BMT Q, N northbound platform and BMT J, M, Z platform	5.00	4.00	1,063	881	332	275	90%	90%	75%	1.36	E
PL15	Connecting stair between BMT Q, N northbound platform and IRT 6 platform	7.00	6.00	213	1,331	67	416	90%	90%	75%	0.78	C
PL30-PL28	Connecting passageway to BMT Q, N southbound platform	8.00	7.00	62	988	19	309	90%	90%	75%	0.46	B
PL40	Connecting stair between BMT Q, N southbound platform and BMT J, M, Z platform	5.00	4.00	552	618	173	193	90%	90%	75%	0.83	C
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	13.00	11.75	2	538	1	168	100%	90%	75%	0.13	A
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	8.00	7.00	2	538	1	168	100%	90%	75%	0.21	A
ML1	Connecting stair between IRT 6 platform and BMT Q, N platform	16.00	14.75	148	985	46	308	90%	90%	75%	0.23	A
ML2	Connecting stair between IRT 6 platform and BMT Q, N platform	12.00	10.75	208	1,869	65	584	90%	90%	75%	0.59	B
P6 (P4+P5)	Connecting stair between P4 and P5 (J, M, Z platform) and A066 paid zone	12.00	11.00	352	2,255	110	705	90%	90%	75%	0.72	C
PL16-PL18	Connecting stair between southbound Q, N platform and downtown IRT 6 platform	8.00	7.00	35	483	11	151	90%	90%	75%	0.23	A
PL17-PL19	Connecting stair between northbound Q, N platform and downtown IRT 6 platform	8.00	7.00	113	502	35	157	90%	90%	75%	0.26	A
PL26-PL27	Connecting stair near A044 paid zone between southbound and northbound R, W platforms	6.00	5.00	241	76	75	24	90%	90%	75%	0.17	A

Table 4C-175. No Action Alternative Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and Canal Street – east side (A043)											
Two-Way Turnstiles	5	2,100	3,225	147	1,787	46	559	90%	90%	0.24	A
Broadway and Canal Street – east side (A043A)											
Two-Way Turnstiles	3	1,260	1,935	49	596	15	186	90%	90%	0.13	A
Broadway and Canal Street – west side (A044)											
HEET	3	765	1,620	80	336	25	105	90%	90%	0.12	A
High Exit Only Turnstile	2	0	1,110	0	231	0	72	100%	90%	0.07	A
Canal Street and Lafayette Street - northwest corner (R214A)											
HEET	3	765	1,620	39	1,000	12	313	100%	90%	0.23	A
Canal Street and Lafayette Street - southwest corner (R214)											
HEET	3	765	1,620	36	1,344	11	420	100%	90%	0.30	A
Canal Street and Lafayette Street - southeast corner (A046)											
Two-Way Turnstiles	6	2,520	3,870	380	688	119	215	90%	90%	0.12	A
Canal Street and Lafayette Street - northeast corner (A046A)											
HEET	5	1,275	2,700	257	487	80	152	90%	90%	0.14	A
Walker Street and Centre Street - southeast corner (A066)											
Two-Way Turnstiles	3	1,260	1,935	303	2,210	95	691	90%	90%	0.52	B

Table 4C-176. No Action Alternative Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M3-S12	Street stair at northeast corner of Canal Street and Broadway	15.00	13.50	1,145	453	358	142	90%	100%	90%	0.28	A
M2	Connecting stair between S6/S7 stairs and A043/A043A free zone	12.00	10.50	1,173	321	367	100	90%	100%	90%	0.34	A
A043 S6	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	1,056	289	330	90	90%	100%	90%	0.64	B
A043 S7	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	938	257	293	80	90%	100%	90%	0.57	B
A044 S10	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	244	302	76	95	90%	100%	90%	0.34	A
A044 S11	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	217	269	68	84	90%	100%	90%	0.30	A
A044 P14	Connecting stair between S10/S11 stairs and A044 free zone	10.00	8.75	271	336	85	105	90%	100%	90%	0.17	A
A044 P11	Connecting stair between S8 stairs and A044 free zone	6.00	5.00	317	172	99	54	90%	100%	90%	0.24	A
A044 S8	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	317	172	99	54	90%	100%	90%	0.29	A
P13-S9	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	114	106	36	33	90%	100%	90%	0.13	A
P5-S5	Street stair at northwest corner of Canal Street and Lafayette Street	4.00	3.00	319	643	100	201	90%	100%	90%	0.80	C
P1-S1	Street stair at southwest corner of Canal Street and Lafayette Street	4.00	3.00	392	795	123	248	90%	100%	90%	0.98	C
A046 P3-S3	Street stair at southeast corner of Canal Street and Lafayette Street	5.00	4.00	568	9	178	3	100%	100%	90%	0.30	A
P2-S2	Street stair at southeast corner of Canal Street and Lafayette Street	4.00	3.00	666	187	208	58	90%	100%	90%	0.67	B
P6-S6	Street stair at northeast corner of Canal Street and Lafayette Street	5.00	4.00	272	1,261	85	394	90%	100%	90%	0.97	C
A066 S3	Street stair at northwest corner of Walker Street and Centre Street	16.00	14.50	702	1,837	219	574	90%	100%	90%	0.44	A
P4	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	348	104	109	33	90%	80%	80%	0.26	A
P5	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	1,472	527	460	165	90%	80%	80%	1.16	D
PL23	Connecting passageway near A043A paid zone to southbound BMT R, W platform	6.00	5.00	256	637	80	199	90%	90%	75%	0.52	B
PL22	Connecting passageway near A043A paid zone to southbound BMT R, W platform	8.00	7.00	318	597	99	187	90%	90%	75%	0.38	A
PL31-PL29	Connecting passageway near A043A paid zone to BMT Q, N northbound platform	8.00	7.00	914	243	286	76	90%	90%	75%	0.44	A
PL41	Connecting stair between BMT Q, N northbound platform and BMT J, M, Z platform	5.00	4.00	536	508	168	159	90%	90%	75%	0.74	C
PL15	Connecting stair between BMT Q, N northbound platform and IRT 6 platform	7.00	6.00	547	278	171	87	90%	90%	75%	0.38	A
PL30-PL28	Connecting passageway to BMT Q, N southbound platform	8.00	7.00	1,029	467	322	146	90%	90%	75%	0.58	B
PL40	Connecting stair between BMT Q, N southbound platform and BMT J, M, Z platform	5.00	4.00	1,023	827	320	258	90%	90%	75%	1.30	D
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	13.00	11.75	470	280	147	88	90%	90%	75%	0.18	A
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	8.00	7.00	470	280	147	88	90%	90%	75%	0.30	A
ML1	Connecting stair between IRT 6 platform and BMT Q, N platform	16.00	14.75	866	378	271	118	90%	90%	75%	0.23	A
ML2	Connecting stair between IRT 6 platform and BMT Q, N platform	12.00	10.75	1,017	557	318	174	90%	90%	75%	0.40	A
P6 (P4+P5)	Connecting stair between P4 and P5 (J, M, Z platform) and A066 paid zone	12.00	11.00	1,820	631	569	197	90%	90%	75%	0.60	B
PL16-PL18	Connecting stair between southbound Q, N platform and downtown IRT 6 platform	8.00	7.00	374	308	117	96	90%	90%	75%	0.27	A
PL17-PL19	Connecting stair between northbound Q, N platform and downtown IRT 6 platform	8.00	7.00	492	70	154	22	90%	90%	75%	0.21	A
PL26-PL27	Connecting stair near A044 paid zone between southbound and northbound R, W platforms	6.00	5.00	256	637	80	199	90%	90%	75%	0.52	B

Table 4C-177. No Action Alternative Level of Service Summary: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and Canal Street – east side (A043)											
Two-Way Turnstiles	5	2,100	3,225	1,159	387	362	121	90%	90%	0.24	A
Broadway and Canal Street – east side (A043A)											
Two-Way Turnstiles	3	1,260	1,935	1,159	387	362	121	90%	90%	0.40	A
Broadway and Canal Street – west side (A044)											
HEET	3	765	1,620	702	364	219	114	90%	90%	0.40	A
High Exit Only Turnstile	2	0	1,110	0	250	0	78	100%	90%	0.08	A
Canal Street and Lafayette Street - northwest corner (R214A)											
HEET	3	765	1,620	319	643	100	201	90%	90%	0.30	A
Canal Street and Lafayette Street - southwest corner (R214)											
HEET	3	765	1,620	392	795	123	248	90%	90%	0.37	A
Canal Street and Lafayette Street - southeast corner (A046)											
Two-Way Turnstiles	6	2,520	3,870	1,234	278	386	87	90%	90%	0.20	A
Canal Street and Lafayette Street - northeast corner (A046A)											
HEET	5	1,275	2,700	1,261	272	394	85	90%	90%	0.38	A
Walker Street and Centre Street - southeast corner (A066)											
Two-Way Turnstiles	3	1,260	1,935	1,837	702	574	219	90%	90%	0.65	B

Table 4C-178. CBD Tolling Alternative: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M3-S12	Street stair at northeast corner of Canal Street and Broadway	15.00	13.50	108	1,210	34	378	90%	100%	90%	0.25	A
M2	Connecting stair between S6/S7 stairs and A043/A043A free zone	12.00	10.50	117	1,535	37	480	90%	100%	90%	0.40	A
A043 S6	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	105	1,381	33	432	90%	100%	90%	0.76	C
A043 S7	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	93	1,228	29	384	90%	100%	90%	0.68	B
A044 S10	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	30	265	9	83	90%	100%	90%	0.19	A
A044 S11	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	27	235	8	73	90%	100%	90%	0.17	A
A044 P14	Connecting stair between S10/S11 stairs and A044 free zone	10.00	8.75	33	294	10	92	90%	100%	90%	0.10	A
A044 P11	Connecting stair between S8 stairs and A044 free zone	6.00	5.00	35	196	11	61	90%	100%	90%	0.12	A
A044 S8	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	35	196	11	61	90%	100%	90%	0.15	A
P13-S9	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	14	95	4	30	90%	100%	90%	0.07	A
P5-S5	Street stair at northwest corner of Canal Street and Lafayette Street	4.00	3.00	39	1,016	12	318	100%	100%	90%	0.81	C
P1-S1	Street stair at southwest corner of Canal Street and Lafayette Street	4.00	3.00	36	1,366	11	427	100%	100%	90%	1.08	D
A046 P3-S3	Street stair at southeast corner of Canal Street and Lafayette Street	5.00	4.00	184	36	58	11	90%	100%	90%	0.13	A
P2-S2	Street stair at southeast corner of Canal Street and Lafayette Street	4.00	3.00	200	457	63	143	90%	100%	90%	0.55	B
P6-S6	Street stair at northeast corner of Canal Street and Lafayette Street	5.00	4.00	495	260	155	81	90%	100%	90%	0.45	B
A066 S3	Street stair at northwest corner of Walker Street and Centre Street	16.00	14.50	2246	306	702	96	90%	100%	90%	0.41	A
P4	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	65	339	20	106	90%	80%	80%	0.23	A
P5	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	290	1,949	91	609	90%	80%	80%	1.30	D
PL23	Connecting passageway near A043A paid zone to southbound BMT R, W platform	6.00	5.00	245	97	77	30	90%	90%	75%	0.19	A
PL22	Connecting passageway near A043A paid zone to southbound BMT R, W platform	8.00	7.00	440	130	138	41	90%	90%	75%	0.22	A
PL31-PL29	Connecting passageway near A043A paid zone to BMT Q, N northbound platform	8.00	7.00	168	1,327	53	415	90%	90%	75%	0.65	B
PL41	Connecting stair between BMT Q, N northbound platform and BMT J, M, Z platform	5.00	4.00	1068	895	334	280	90%	90%	75%	1.38	E
PL15	Connecting stair between BMT Q, N northbound platform and IRT 6 platform	7.00	6.00	218	1,342	68	419	90%	90%	75%	0.78	C
PL30-PL28	Connecting passageway to BMT Q, N southbound platform	8.00	7.00	66	1,018	21	318	90%	90%	75%	0.47	B
PL40	Connecting stair between BMT Q, N southbound platform and BMT J, M, Z platform	5.00	4.00	555	636	173	199	90%	90%	75%	0.85	C
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	13.00	11.75	4	547	1	171	100%	90%	75%	0.13	A
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	8.00	7.00	4	547	1	171	100%	90%	75%	0.22	A
ML1	Connecting stair between IRT 6 platform and BMT Q, N platform	16.00	14.75	154	1,018	48	318	90%	90%	75%	0.24	A
ML2	Connecting stair between IRT 6 platform and BMT Q, N platform	12.00	10.75	215	1,887	67	590	90%	90%	75%	0.59	B
P6 (P4+P5)	Connecting stair between P4 and P5 (J, M, Z platform) and A066 paid zone	12.00	11.00	355	2,291	111	716	90%	90%	75%	0.73	C
PL16-PL18	Connecting stair between southbound Q, N platform and downtown IRT 6 platform	8.00	7.00	35	483	11	151	90%	90%	75%	0.23	A
PL17-PL19	Connecting stair between northbound Q, N platform and downtown IRT 6 platform	8.00	7.00	113	502	35	157	90%	90%	75%	0.26	A
PL26-PL27	Connecting stair near A044 paid zone between southbound and northbound R, W platforms	6.00	5.00	249	94	78	29	90%	90%	75%	0.19	A

Table 4C-179. CBD Tolling Alternative: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and Canal Street – east side (A043)											
Two-Way Turnstiles	5	2,100	3,225	150	1,830	47	572	90%	90%	0.24	A
Broadway and Canal Street – east side (A043A)											
Two-Way Turnstiles	3	1,260	1,935	51	617	16	193	90%	90%	0.14	A
Broadway and Canal Street – west side (A044)											
HEET	3	765	1,620	83	347	26	108	90%	90%	0.12	A
High Exit Only Turnstile	2	0	1,110	0	238	0	74	100%	90%	0.07	A
Canal Street and Lafayette Street - northwest corner (R214A)											
HEET	3	765	1,620	39	1,016	12	318	100%	90%	0.23	A
Canal Street and Lafayette Street - southwest corner (R214)											
HEET	3	765	1,620	36	1,366	11	427	100%	90%	0.31	A
Canal Street and Lafayette Street - southeast corner (A046)											
Two-Way Turnstiles	6	2,520	3,870	384	699	120	218	90%	90%	0.12	A
Canal Street and Lafayette Street - northeast corner (A046A)											
HEET	5	1,275	2,700	260	495	81	155	90%	90%	0.14	A
Walker Street and Centre Street - southeast corner (A066)											
Two-Way Turnstiles	3	1,260	1,935	306	2,246	96	702	90%	90%	0.53	B

Table 4C-180. CBD Tolling Alternative: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
M3-S12	Street stair at northeast corner of Canal Street and Broadway	15.00	13.50	1,176	456	368	143	90%	100%	90%	0.29	A
M2	Connecting stair between S6/S7 stairs and A043/A043A free zone	12.00	10.50	1,205	323	377	101	90%	100%	90%	0.35	A
A043 S6	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	1,085	291	339	91	90%	100%	90%	0.65	B
A043 S7	Street stair at southeast corner of Canal Street and Broadway	6.00	5.00	963	258	301	81	90%	100%	90%	0.58	B
A044 S10	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	245	320	77	100	90%	100%	90%	0.35	A
A044 S11	Street stair at northwest corner of Canal Street and Broadway	5.00	4.00	218	285	68	89	90%	100%	90%	0.31	A
A044 P14	Connecting stair between S10/S11 stairs and A044 free zone	10.00	8.75	280	338	88	106	90%	100%	90%	0.17	A
A044 P11	Connecting stair between S8 stairs and A044 free zone	6.00	5.00	328	173	103	54	90%	100%	90%	0.24	A
A044 S8	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	328	173	103	54	90%	100%	90%	0.30	A
P13-S9	Street stair at southwest corner of Canal Street and Broadway	5.00	4.00	118	107	37	33	90%	100%	90%	0.14	A
P5-S5	Street stair at northwest corner of Canal Street and Lafayette Street	4.00	3.00	325	646	102	202	90%	100%	90%	0.81	C
P1-S1	Street stair at southwest corner of Canal Street and Lafayette Street	4.00	3.00	400	798	125	249	90%	100%	90%	0.99	C
A046 P3-S3	Street stair at southeast corner of Canal Street and Lafayette Street	5.00	4.00	579	9	181	3	100%	100%	90%	0.31	A
P2-S2	Street stair at southeast corner of Canal Street and Lafayette Street	4.00	3.00	679	188	212	59	90%	100%	90%	0.69	B
P6-S6	Street stair at northeast corner of Canal Street and Lafayette Street	5.00	4.00	273	1,285	85	402	90%	100%	90%	0.98	C
A066 S3	Street stair at northwest corner of Walker Street and Centre Street	16.00	14.50	705	1,873	220	585	90%	100%	90%	0.44	A
P4	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	354	105	111	33	90%	80%	80%	0.27	A
P5	Connecting stair between A066 paid zone and BMT J, M, Z platform	6.00	5.00	1,499	530	468	166	90%	80%	80%	1.17	D
PL23	Connecting passageway near A043A paid zone to southbound BMT R, W platform	6.00	5.00	296	641	93	200	90%	90%	75%	0.55	B
PL22	Connecting passageway near A043A paid zone to southbound BMT R, W platform	8.00	7.00	395	599	123	187	90%	90%	75%	0.41	A
PL31-PL29	Connecting passageway near A043A paid zone to BMT Q, N northbound platform	8.00	7.00	948	244	296	76	90%	90%	75%	0.46	B
PL41	Connecting stair between BMT Q, N northbound platform and BMT J, M, Z platform	5.00	4.00	540	509	169	159	90%	90%	75%	0.74	C
PL15	Connecting stair between BMT Q, N northbound platform and IRT 6 platform	7.00	6.00	570	281	178	88	90%	90%	75%	0.39	A
PL30-PL28	Connecting passageway to BMT Q, N southbound platform	8.00	7.00	1,080	473	338	148	90%	90%	75%	0.61	B
PL40	Connecting stair between BMT Q, N southbound platform and BMT J, M, Z platform	5.00	4.00	1,031	831	322	260	90%	90%	75%	1.30	D
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	13.00	11.75	485	289	152	90	90%	90%	75%	0.18	A
PL11-PL13	Connecting stair between BMT Q, N southbound platform and IRT 6 platform	8.00	7.00	485	289	152	90	90%	90%	75%	0.31	A
ML1	Connecting stair between IRT 6 platform and BMT Q, N platform	16.00	14.75	877	386	274	121	90%	90%	75%	0.23	A
ML2	Connecting stair between IRT 6 platform and BMT Q, N platform	12.00	10.75	1,060	569	331	178	90%	90%	75%	0.42	A
P6 (P4+P5)	Connecting stair between P4 and P5 (J, M, Z platform) and A066 paid zone	12.00	11.00	1,853	634	579	198	90%	90%	75%	0.61	B
PL16-PL18	Connecting stair between southbound Q, N platform and downtown IRT 6 platform	8.00	7.00	374	309	117	97	90%	90%	75%	0.27	A
PL17-PL19	Connecting stair between northbound Q, N platform and downtown IRT 6 platform	8.00	7.00	492	70	154	22	90%	90%	75%	0.21	A
PL26-PL27	Connecting stair near A044 paid zone between southbound and northbound R, W platforms	6.00	5.00	268	653	84	204	90%	90%	75%	0.54	B

Table 4C-181. CBD Tolling Alternative: Canal Street Station (6, N, Q, R, W, J, M, Z lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Broadway and Canal Street – east side (A043)											
Two-Way Turnstiles	5	2,100	3,225	1,201	390	375	122	90%	90%	0.25	A
Broadway and Canal Street – east side (A043A)											
Two-Way Turnstiles	3	1,260	1,935	1,180	388	369	121	90%	90%	0.40	A
Broadway and Canal Street – west side (A044)											
HEET	3	765	1,620	726	367	227	115	90%	90%	0.42	A
High Exit Only Turnstile	2	0	1,110	0	251	0	79	100%	90%	0.08	A
Canal Street and Lafayette Street - northwest corner (R214A)											
HEET	3	765	1,620	325	646	102	202	90%	90%	0.30	A
Canal Street and Lafayette Street - southwest corner (R214)											
HEET	3	765	1,620	400	798	125	249	90%	90%	0.37	A
Canal Street and Lafayette Street - southeast corner (A046)											
Two-Way Turnstiles	6	2,520	3,870	1,258	279	393	87	90%	90%	0.20	A
Canal Street and Lafayette Street - northeast corner (A046A)											
HEET	5	1,275	2,700	1,285	273	402	85	90%	90%	0.39	A
Walker Street and Centre Street - southeast corner (A066)											
Two-Way Turnstiles	3	1,260	1,935	1,873	705	585	220	90%	90%	0.66	B

Table 4C-182. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
QBL M3/S3	Street stair at southeast corner of 21st Street and 44th Drive	5.00	4.00	282	206	88	64	90%	90%	80%	0.33	A
QBL M4/S4	Street stair at northeast corner of 21st Street and 44th Drive	5.00	4.00	452	304	141	95	90%	90%	80%	0.51	B
QBL O6/O7	Street stair at southeast corner of 23rd Street and 44th Drive	10.00	8.50	508	310	159	97	90%	90%	80%	0.26	A
XTN M1/S1	Street stair at northeast corner of Jackson Avenue and Pearson Street	5.00	4.00	49	45	15	14	90%	90%	80%	0.06	A
XTN M3/S3	Street stair at southwest corner of Jackson Avenue and Court Square	5.50	4.50	227	533	71	167	90%	90%	80%	0.47	B
XTN O1/O2	Street stair at northeast corner of Jackson Avenue and 45th Avenue	9.00	7.75	212	292	66	91	90%	90%	80%	0.18	A
O3/O4	Stair in Citicorp Building/One Court Square	9.00	7.75	12	30	4	9	90%	90%	80%	0.02	A
FLU M1/S1	Street stair at southeast corner of Jackson Avenue and 23rd Street	8.00	6.75	152	109	48	34	90%	90%	80%	0.11	A
FLU M2/S2	Street stair at northwest corner of 23rd Street and 45th Road	5.00	4.00	209	150	65	47	90%	90%	80%	0.24	A
QBL P1	Connecting stair between N308 paid zone and Queens-bound E/M platform	14.00	12.75	647	1,290	202	403	90%	80%	75%	0.46	B
QBL P2	Connecting stair between N308 paid zone and Manhattan-bound E/M platform	14.00	12.75	4,255	1,580	1,330	494	90%	80%	75%	1.35	E
QBL P3	Connecting stair between N307 paid zone and Queens-bound E/M platform	11.00	9.75	56	245	18	77	90%	80%	75%	0.10	A
QBL P4	Connecting stair between N307 paid zone and Manhattan-bound E/M platform	11.00	9.75	695	260	217	81	90%	80%	75%	0.29	A
FLU P1/P3	Connecting stair between R508 paid zone and Queens-bound 7 platform	8.00	6.75	713	906	223	283	90%	80%	75%	0.72	C
FLU P2/P4	Connecting stair between R508 paid zone and Manhattan-bound 7 platform	7.50	6.25	1718	2107	537	658	90%	80%	75%	1.84	F
O3/O4/O5	Connecting stair between 7 train mezzanine and G train mezzanine	7.00	6.00	200	865	63	270	90%	80%	80%	0.51	B
XTN P1	Connecting stair between N400C paid zone and G train platform	8.75	7.50	1,390	324	434	101	90%	80%	75%	0.67	B
XTN P2	Connecting stair between N400 paid zone and G train platform	9.25	8.00	694	1,132	217	354	90%	80%	75%	0.69	B
XTN P3	Connecting stair between N400 paid zone and G train platform	9.25	8.00	613	1,221	192	382	90%	80%	75%	0.69	B
XTN P5	Connecting stair between N400B paid zone and G train platform	7.00	6.00	0	597	0	187	100%	80%	75%	0.28	A
XTN P6	Connecting stair between N400B paid zone and G train platform	9.25	8.00	56	934	18	292	90%	80%	75%	0.38	A
XTN P7	Connecting stair between N400C paid zone and G train platform	9.25	8.00	155	973	48	304	90%	80%	75%	0.43	A
QBL M1	Connecting stair between E/M platforms and N308 paid zone	13.00	11.75	4,255	1,580	1,330	494	90%	80%	80%	1.44	E

Table 4C-183. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E265	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	148	0	46	0	750	0.07	A
E266	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	0	321	0	100	750	0.15	A
E461X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	0	1,674	0	523	1,050	0.55	B
E462X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	2,170	0	678	0	1,050	0.72	C

Table 4C-184. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
21st Street and 44th Drive - northeast corner (N307)											
Two-Way Turnstiles	4	1,680	2,580	734	304	229	95	90%	80%	0.20	A
21st Street and 44th Drive – southeast corner (N307A)											
High Exit Only Turnstile	2	0	1,110	0	206	0	64	100%	80%	0.07	A
23rd Street and 44th Road – northeast corner (N308)											
Two-Way Turnstiles	4	1,680	2,580	508	310	159	97	90%	75%	0.16	A
Jackson Avenue and Pearson Street – northeast corner (N400C)											
HEET	2	510	1,080	49	45	15	14	90%	80%	0.05	A
Jackson Avenue and Court Square – southwest corner (N400)											
Two-Way Turnstiles	3	1,260	1,935	227	533	71	167	90%	80%	0.18	A
Jackson Avenue and 45th Avenue – northeast corner (N400B)											
Two-Way Turnstiles	3	1,260	1,935	212	292	66	91	90%	80%	0.12	A
Citicorp Building/One Court Square (N400A)											
Two-Way Turnstiles	7	2,940	4,515	160	351	50	110	90%	80%	0.05	A
Jackson Avenue and 23rd Street – southeast corner (R508)											
Two-Way Turnstiles	6	2,520	3,870	361	259	113	81	90%	80%	0.08	A

Table 4C-185. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
QBL M3/S3	Street stair at southeast corner of 21st Street and 44th Drive	5.00	4.00	181	364	57	114	90%	90%	80%	0.38	A
QBL M4/S4	Street stair at northeast corner of 21st Street and 44th Drive	5.00	4.00	439	163	137	51	90%	90%	80%	0.40	A
QBL O6/O7	Street stair at southeast corner of 23rd Street and 44th Drive	10.00	8.50	380	203	119	63	90%	90%	80%	0.18	A
XTN M1/S1	Street stair at northeast corner of Jackson Avenue and Pearson Street	5.00	4.00	52	37	16	12	90%	90%	80%	0.06	A
XTN M3/S3	Street stair at southwest corner of Jackson Avenue and Court Square	5.50	4.50	443	266	138	83	90%	90%	80%	0.42	A
XTN O1/O2	Street stair at northeast corner of Jackson Avenue and 45th Avenue	9.00	7.75	337	102	105	32	90%	90%	80%	0.15	A
O3/O4	Stair in Citicorp Building/One Court Square	9.00	7.75	95	259	30	81	90%	90%	80%	0.13	A
FLU M1/S1	Street stair at southeast corner of Jackson Avenue and 23rd Street	8.00	6.75	395	137	123	43	90%	90%	80%	0.21	A
FLU M2/S2	Street stair at northwest corner of 23rd Street and 45th Road	5.00	4.00	356	157	111	49	90%	90%	80%	0.34	A
QBL P1	Connecting stair between N308 paid zone and Queens-bound E/M platform	14.00	12.75	1,301	1,860	407	581	90%	80%	75%	0.75	C
QBL P2	Connecting stair between N308 paid zone and Manhattan-bound E/M platform	14.00	12.75	1,647	632	515	198	90%	80%	75%	0.53	B
QBL P3	Connecting stair between N307 paid zone and Queens-bound E/M platform	11.00	9.75	214	434	67	136	90%	80%	75%	0.20	A
QBL P4	Connecting stair between N307 paid zone and Manhattan-bound E/M platform	11.00	9.75	408	110	128	34	90%	80%	75%	0.16	A
FLU P1/P3	Connecting stair between R508 paid zone and Queens-bound 7 platform	8.00	6.75	1,847	1,128	577	353	90%	80%	75%	1.31	D
FLU P2/P4	Connecting stair between R508 paid zone and Manhattan-bound 7 platform	7.50	6.25	818	778	256	243	90%	80%	75%	0.76	C
O3/O4/O5	Connecting stair between 7 train mezzanine and G train mezzanine	7.00	6.00	104	444	33	139	90%	80%	80%	0.27	A
XTN P1	Connecting stair between N400C paid zone and G train platform	8.75	7.50	2,367	187	740	58	90%	80%	75%	0.99	C
XTN P2	Connecting stair between N400 paid zone and G train platform	9.25	8.00	1,183	652	370	204	90%	80%	75%	0.68	B
XTN P3	Connecting stair between N400 paid zone and G train platform	9.25	8.00	1,043	703	326	220	90%	80%	75%	0.65	B
XTN P5	Connecting stair between N400B paid zone and G train platform	7.00	6.00	0	343	0	107	100%	80%	75%	0.16	A
XTN P6	Connecting stair between N400B paid zone and G train platform	9.25	8.00	96	537	30	168	90%	80%	75%	0.24	A
XTN P7	Connecting stair between N400C paid zone and G train platform	9.25	8.00	263	560	82	175	90%	80%	75%	0.31	A
QBL M1	Connecting stair between E/M platforms and N308 paid zone	13.00	11.75	1,647	632	515	198	90%	80%	80%	0.56	B

Table 4C-186. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E265	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	237	0	74	0	750	0.11	A
E266	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	0	193	0	60	750	0.09	A
E461X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	0	1,794	0	561	1,050	0.59	B
E462X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	1,713	0	535	0	1,050	0.57	B

Table 4C-187. Existing Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
21st Street and 44th Drive - northeast corner (N307)											
Two-Way Turnstiles	4	1,680	2,580	620	163	194	51	90%	80%	0.16	A
21st Street and 44th Drive – southeast corner (N307A)											
High Exit Only Turnstile	2	0	1,110	0	364	0	114	100%	80%	0.13	A
23rd Street and 44th Road – northeast corner (N308)											
Two-Way Turnstiles	4	1,680	2,580	380	203	119	63	90%	75%	0.11	A
Jackson Avenue and Pearson Street – northeast corner (N400C)											
HEET	2	510	1,080	52	37	16	12	90%	80%	0.05	A
Jackson Avenue and Court Square – southwest corner (N400)											
Two-Way Turnstiles	3	1,260	1,935	443	266	138	83	90%	80%	0.18	A
Jackson Avenue and 45th Avenue – northeast corner (N400B)											
Two-Way Turnstiles	3	1,260	1,935	337	102	105	32	90%	80%	0.12	A
Citicorp Building/One Court Square (N400A)											
Two-Way Turnstiles	7	2,940	4,515	332	452	104	141	90%	80%	0.08	A
Jackson Avenue and 23rd Street – southeast corner (R508)											
Two-Way Turnstiles	6	2,520	3,870	751	294	235	92	90%	80%	0.14	A

Table 4C-188. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
QBL M3/S3	Street stair at southeast corner of 21st Street and 44th Drive	5.00	4.00	282	206	88	64	90%	90%	80%	0.33	A
QBL M4/S4	Street stair at northeast corner of 21st Street and 44th Drive	5.00	4.00	452	304	141	95	90%	90%	80%	0.51	B
QBL O6/O7	Street stair at southeast corner of 23rd Street and 44th Drive	10.00	8.50	508	310	159	97	90%	90%	80%	0.26	A
XTN M1/S1	Street stair at northeast corner of Jackson Avenue and Pearson Street	5.00	4.00	49	45	15	14	90%	90%	80%	0.06	A
XTN M3/S3	Street stair at southwest corner of Jackson Avenue and Court Square	5.50	4.50	227	533	71	167	90%	90%	80%	0.47	B
XTN O1/O2	Street stair at northeast corner of Jackson Avenue and 45th Avenue	9.00	7.75	212	292	66	91	90%	90%	80%	0.18	A
O3/O4	Stair in Citicorp Building/One Court Square	9.00	7.75	12	30	4	9	90%	90%	80%	0.02	A
FLU M1/S1	Street stair at southeast corner of Jackson Avenue and 23rd Street	8.00	6.75	152	109	48	34	90%	90%	80%	0.11	A
FLU M2/S2	Street stair at northwest corner of 23rd Street and 45th Road	5.00	4.00	209	150	65	47	90%	90%	80%	0.24	A
QBL P1	Connecting stair between N308 paid zone and Queens-bound E/M platform	14.00	12.75	647	1,290	202	403	90%	80%	75%	0.46	B
QBL P2	Connecting stair between N308 paid zone and Manhattan-bound E/M platform	14.00	12.75	4,255	1,580	1,330	494	90%	80%	75%	1.35	E
QBL P3	Connecting stair between N307 paid zone and Queens-bound E/M platform	11.00	9.75	56	245	18	77	90%	80%	75%	0.10	A
QBL P4	Connecting stair between N307 paid zone and Manhattan-bound E/M platform	11.00	9.75	695	260	217	81	90%	80%	75%	0.29	A
FLU P1/P3	Connecting stair between R508 paid zone and Queens-bound 7 platform	8.00	6.75	713	906	223	283	90%	80%	75%	0.72	C
FLU P2/P4	Connecting stair between R508 paid zone and Manhattan-bound 7 platform	7.50	6.25	1718	2107	537	658	90%	80%	75%	1.84	F
O3/O4/O5	Connecting stair between 7 train mezzanine and G train mezzanine	7.00	6.00	200	865	63	270	90%	80%	80%	0.51	B
XTN P1	Connecting stair between N400C paid zone and G train platform	8.75	7.50	1,390	324	434	101	90%	80%	75%	0.67	B
XTN P2	Connecting stair between N400 paid zone and G train platform	9.25	8.00	694	1,132	217	354	90%	80%	75%	0.69	B
XTN P3	Connecting stair between N400 paid zone and G train platform	9.25	8.00	642	1,888	201	590	90%	80%	75%	0.96	C
XTN P5	Connecting stair between N400B paid zone and G train platform	7.00	6.00	10	597	3	187	100%	80%	75%	0.28	A
XTN P6	Connecting stair between N400B paid zone and G train platform	9.25	8.00	56	934	18	292	90%	80%	75%	0.38	A
XTN P7	Connecting stair between N400C paid zone and G train platform	9.25	8.00	155	973	48	304	90%	80%	75%	0.43	A
QBL M1	Connecting stair between E/M platforms and N308 paid zone	13.00	11.75	4,255	1,580	1,330	494	90%	80%	80%	1.44	E

Table 4C-189. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E265	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	148	0	46	0	750	0.07	A
E266	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	0	321	0	100	750	0.15	A
E461X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	0	1,674	0	523	1,050	0.55	B
E462X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	2,170	0	678	0	1,050	0.72	C

Table 4C-190. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
21st Street and 44th Drive - northeast corner (N307)											
Two-Way Turnstiles	4	1,680	2,580	734	304	229	95	90%	80%	0.20	A
21st Street and 44th Drive – southeast corner (N307A)											
High Exit Only Turnstile	2	0	1,110	0	206	0	64	100%	80%	0.07	A
23rd Street and 44th Road – northeast corner (N308)											
Two-Way Turnstiles	4	1,680	2,580	508	310	159	97	90%	75%	0.16	A
Jackson Avenue and Pearson Street – northeast corner (N400C)											
HEET	2	510	1,080	49	45	15	14	90%	80%	0.05	A
Jackson Avenue and Court Square – southwest corner (N400)											
Two-Way Turnstiles	3	1,260	1,935	227	533	71	167	90%	80%	0.18	A
Jackson Avenue and 45th Avenue – northeast corner (N400B)											
Two-Way Turnstiles	3	1,260	1,935	212	292	66	91	90%	80%	0.12	A
Citicorp Building/One Court Square (N400A)											
Two-Way Turnstiles	7	2,940	4,515	160	351	50	110	90%	80%	0.05	A
Jackson Avenue and 23rd Street – southeast corner (R508)											
Two-Way Turnstiles	6	2,520	3,870	361	259	113	81	90%	80%	0.08	A

Table 4C-191. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
QBL M3/S3	Street stair at southeast corner of 21st Street and 44th Drive	5.00	4.00	181	364	57	114	90%	90%	80%	0.38	A
QBL M4/S4	Street stair at northeast corner of 21st Street and 44th Drive	5.00	4.00	439	163	137	51	90%	90%	80%	0.40	A
QBL O6/O7	Street stair at southeast corner of 23rd Street and 44th Drive	10.00	8.50	380	203	119	63	90%	90%	80%	0.18	A
XTN M1/S1	Street stair at northeast corner of Jackson Avenue and Pearson Street	5.00	4.00	52	37	16	12	90%	90%	80%	0.06	A
XTN M3/S3	Street stair at southwest corner of Jackson Avenue and Court Square	5.50	4.50	443	266	138	83	90%	90%	80%	0.42	A
XTN O1/O2	Street stair at northeast corner of Jackson Avenue and 45th Avenue	9.00	7.75	337	102	105	32	90%	90%	80%	0.15	A
O3/O4	Stair in Citicorp Building/One Court Square	9.00	7.75	95	259	30	81	90%	90%	80%	0.13	A
FLU M1/S1	Street stair at southeast corner of Jackson Avenue and 23rd Street	8.00	6.75	395	137	123	43	90%	90%	80%	0.21	A
FLU M2/S2	Street stair at northwest corner of 23rd Street and 45th Road	5.00	4.00	356	157	111	49	90%	90%	80%	0.34	A
QBL P1	Connecting stair between N308 paid zone and Queens-bound E/M platform	14.00	12.75	1,301	1,860	407	581	90%	80%	75%	0.75	C
QBL P2	Connecting stair between N308 paid zone and Manhattan-bound E/M platform	14.00	12.75	1,647	632	515	198	90%	80%	75%	0.53	B
QBL P3	Connecting stair between N307 paid zone and Queens-bound E/M platform	11.00	9.75	214	434	67	136	90%	80%	75%	0.20	A
QBL P4	Connecting stair between N307 paid zone and Manhattan-bound E/M platform	11.00	9.75	408	110	128	34	90%	80%	75%	0.16	A
FLU P1/P3	Connecting stair between R508 paid zone and Queens-bound 7 platform	8.00	6.75	1,847	1,128	577	353	90%	80%	75%	1.31	D
FLU P2/P4	Connecting stair between R508 paid zone and Manhattan-bound 7 platform	7.50	1.00	1.00	6.25	818	778	256	243	90%	80%	75%
O3/O4/O5	Connecting stair between 7 train mezzanine and G train mezzanine	7.00	6.00	104	444	33	139	90%	80%	80%	0.27	A
XTN P1	Connecting stair between N400C paid zone and G train platform	8.75	7.50	2,367	187	740	58	90%	80%	75%	0.99	C
XTN P2	Connecting stair between N400 paid zone and G train platform	9.25	8.00	1,183	652	370	204	90%	80%	75%	0.68	B
XTN P3	Connecting stair between N400 paid zone and G train platform	9.25	8.00	1,095	1,087	342	340	90%	80%	75%	0.82	C
XTN P5	Connecting stair between N400B paid zone and G train platform	7.00	6.00	17	343	5	107	100%	80%	75%	0.17	A
XTN P6	Connecting stair between N400B paid zone and G train platform	9.25	8.00	96	537	30	168	90%	80%	75%	0.24	A
XTN P7	Connecting stair between N400C paid zone and G train platform	9.25	8.00	263	560	82	175	90%	80%	75%	0.31	A
QBL M1	Connecting stair between E/M platforms and N308 paid zone	13.00	11.75	1,647	632	515	198	90%	80%	80%	0.56	B

Table 4C-192. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E265	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	237	0	74	0	750	0.11	A
E266	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	0	193	0	60	750	0.09	A
E461X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	0	1,794	0	561	1,050	0.59	B
E462X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	1,713	0	535	0	1,050	0.57	B

Table 4C-193. No Action Alternative Level of Service Summary: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
21st Street and 44th Drive - northeast corner (N307)											
Two-Way Turnstiles	4	1,680	2,580	620	163	194	51	90%	80%	0.16	A
21st Street and 44th Drive – southeast corner (N307A)											
High Exit Only Turnstile	2	0	1,110	0	364	0	114	100%	80%	0.13	A
23rd Street and 44th Road – northeast corner (N308)											
Two-Way Turnstiles	4	1,680	2,580	380	203	119	63	90%	75%	0.11	A
Jackson Avenue and Pearson Street – northeast corner (N400C)											
HEET	2	510	1,080	52	37	16	12	90%	80%	0.05	A
Jackson Avenue and Court Square – southwest corner (N400)											
Two-Way Turnstiles	3	1,260	1,935	443	266	138	83	90%	80%	0.18	A
Jackson Avenue and 45th Avenue – northeast corner (N400B)											
Two-Way Turnstiles	3	1,260	1,935	337	102	105	32	90%	80%	0.12	A
Citicorp Building/One Court Square (N400A)											
Two-Way Turnstiles	7	2,940	4,515	332	452	104	141	90%	80%	0.08	A
Jackson Avenue and 23rd Street – southeast corner (R508)											
Two-Way Turnstiles	6	2,520	3,870	751	294	235	92	90%	80%	0.14	A

Table 4C-194. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
QBL M3/S3	Street stair at southeast corner of 21st Street and 44th Drive	5.00	4.00	300	207	94	65	90%	90%	80%	0.34	A
QBL M4/S4	Street stair at northeast corner of 21st Street and 44th Drive	5.00	4.00	481	305	150	95	90%	90%	80%	0.53	B
QBL O6/O7	Street stair at southeast corner of 23rd Street and 44th Drive	10.00	8.50	540	313	169	98	90%	90%	80%	0.27	A
XTN M1/S1	Street stair at northeast corner of Jackson Avenue and Pearson Street	5.00	4.00	52	45	16	14	90%	90%	80%	0.07	A
XTN M3/S3	Street stair at southwest corner of Jackson Avenue and Court Square	5.50	4.50	241	537	75	168	90%	90%	80%	0.48	B
XTN O1/O2	Street stair at northeast corner of Jackson Avenue and 45th Avenue	9.00	7.75	225	294	70	92	90%	90%	80%	0.18	A
O3/O4	Stair in Citicorp Building/One Court Square	9.00	7.75	13	30	4	9	90%	90%	80%	0.02	A
FLU M1/S1	Street stair at southeast corner of Jackson Avenue and 23rd Street	8.00	6.75	162	110	51	34	90%	90%	80%	0.11	A
FLU M2/S2	Street stair at northwest corner of 23rd Street and 45th Road	5.00	4.00	222	151	69	47	90%	90%	80%	0.25	A
QBL P1	Connecting stair between N308 paid zone and Queens-bound E/M platform	14.00	12.75	668	1,288	209	403	90%	80%	75%	0.46	B
QBL P2	Connecting stair between N308 paid zone and Manhattan-bound E/M platform	14.00	12.75	4,343	1,597	1,357	499	90%	80%	75%	1.37	E
QBL P3	Connecting stair between N307 paid zone and Queens-bound E/M platform	11.00	9.75	60	245	19	77	90%	80%	75%	0.10	A
QBL P4	Connecting stair between N307 paid zone and Manhattan-bound E/M platform	11.00	9.75	738	264	231	83	90%	80%	75%	0.30	A
FLU P1/P3	Connecting stair between R508 paid zone and Queens-bound 7 platform	8.00	6.75	732	918	229	287	90%	80%	75%	0.73	C
FLU P2/P4	Connecting stair between R508 paid zone and Manhattan-bound 7 platform	7.50	6.25	1767	2188	552	684	90%	80%	75%	1.90	F+
O3/O4/O5	Connecting stair between 7 train mezzanine and G train mezzanine	7.00	6.00	208	880	65	275	90%	80%	80%	0.52	B
XTN P1	Connecting stair between N400C paid zone and G train platform	8.75	7.50	1,434	335	448	105	90%	80%	75%	0.69	B
XTN P2	Connecting stair between N400 paid zone and G train platform	9.25	8.00	710	1,145	222	358	90%	80%	75%	0.70	B
XTN P3	Connecting stair between N400 paid zone and G train platform	9.25	8.00	657	1,910	205	597	90%	80%	75%	0.97	C
XTN P5	Connecting stair between N400B paid zone and G train platform	7.00	6.00	10	604	3	189	100%	80%	75%	0.28	A
XTN P6	Connecting stair between N400B paid zone and G train platform	9.25	8.00	57	945	18	295	90%	80%	75%	0.39	A
XTN P7	Connecting stair between N400C paid zone and G train platform	9.25	8.00	160	1,006	50	314	90%	80%	75%	0.45	A
QBL M1	Connecting stair between E/M platforms and N308 paid zone	13.00	11.75	4,343	1,597	1,357	499	90%	80%	80%	1.46	E

NOTE: + denotes a significant adverse effect

Table 4C-195. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E265	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	157	0	49	0	750	0.07	A
E266	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	0	324	0	101	750	0.15	A
E461X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	0	1,703	0	532	1,050	0.56	B
E462X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	2,253	0	704	0	1,050	0.74	C

Table 4C-196. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
21st Street and 44th Drive - northeast corner (N307)											
Two-Way Turnstiles	4	1,680	2,580	781	307	244	96	90%	80%	0.21	A
21st Street and 44th Drive – southeast corner (N307A)											
High Exit Only Turnstile	2	0	1,110	0	208	0	65	100%	80%	0.07	A
23rd Street and 44th Road – northeast corner (N308)											
Two-Way Turnstiles	4	1,680	2,580	540	313	169	98	90%	75%	0.17	A
Jackson Avenue and Pearson Street – northeast corner (N400C)											
HEET	2	510	1,080	52	45	16	14	90%	80%	0.05	A
Jackson Avenue and Court Square – southwest corner (N400)											
Two-Way Turnstiles	3	1,260	1,935	241	537	75	168	90%	80%	0.19	A
Jackson Avenue and 45th Avenue – northeast corner (N400B)											
Two-Way Turnstiles	3	1,260	1,935	225	294	70	92	90%	80%	0.13	A
Citicorp Building/One Court Square (N400A)											
Two-Way Turnstiles	7	2,940	4,515	170	354	53	111	90%	80%	0.05	A
Jackson Avenue and 23rd Street – southeast corner (R508)											
Two-Way Turnstiles	6	2,520	3,870	384	261	120	82	90%	80%	0.08	A

Table 4C-197. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
QBL M3/S3	Street stair at southeast corner of 21st Street and 44th Drive	5.00	4.00	182	373	57	117	90%	90%	80%	0.39	A
QBL M4/S4	Street stair at northeast corner of 21st Street and 44th Drive	5.00	4.00	442	167	138	52	90%	90%	80%	0.40	A
QBL O6/O7	Street stair at southeast corner of 23rd Street and 44th Drive	10.00	8.50	383	220	120	69	90%	90%	80%	0.19	A
XTN M1/S1	Street stair at northeast corner of Jackson Avenue and Pearson Street	5.00	4.00	52	40	16	13	90%	90%	80%	0.06	A
XTN M3/S3	Street stair at southwest corner of Jackson Avenue and Court Square	5.50	4.50	446	266	139	83	90%	90%	80%	0.43	A
XTN O1/O2	Street stair at northeast corner of Jackson Avenue and 45th Avenue	9.00	7.75	339	110	106	34	90%	90%	80%	0.15	A
O3/O4	Stair in Citicorp Building/One Court Square	9.00	7.75	96	280	30	88	90%	90%	80%	0.14	A
FLU M1/S1	Street stair at southeast corner of Jackson Avenue and 23rd Street	8.00	6.75	398	148	124	46	90%	90%	80%	0.21	A
FLU M2/S2	Street stair at northwest corner of 23rd Street and 45th Road	5.00	4.00	358	170	112	53	90%	90%	80%	0.35	A
QBL P1	Connecting stair between N308 paid zone and Queens-bound E/M platform	14.00	12.75	1,357	1,826	424	571	90%	80%	75%	0.75	C
QBL P2	Connecting stair between N308 paid zone and Manhattan-bound E/M platform	14.00	12.75	1,811	639	566	200	90%	80%	75%	0.57	B
QBL P3	Connecting stair between N307 paid zone and Queens-bound E/M platform	11.00	9.75	215	434	67	136	90%	80%	75%	0.20	A
QBL P4	Connecting stair between N307 paid zone and Manhattan-bound E/M platform	11.00	9.75	414	144	129	45	90%	80%	75%	0.17	A
FLU P1/P3	Connecting stair between R508 paid zone and Queens-bound 7 platform	8.00	6.75	1,865	1,204	583	376	90%	80%	75%	1.35	E
FLU P2/P4	Connecting stair between R508 paid zone and Manhattan-bound 7 platform	7.50	6.25	848	948	265	296	90%	80%	75%	0.86	C
O3/O4/O5	Connecting stair between 7 train mezzanine and G train mezzanine	7.00	6.00	123	459	38	143	90%	80%	80%	0.28	A
XTN P1	Connecting stair between N400C paid zone and G train platform	8.75	7.50	2,415	199	755	62	90%	80%	75%	1.01	D
XTN P2	Connecting stair between N400 paid zone and G train platform	9.25	8.00	1,188	691	371	216	90%	80%	75%	0.70	B
XTN P3	Connecting stair between N400 paid zone and G train platform	9.25	8.00	1,100	1,152	344	360	90%	80%	75%	0.84	C
XTN P5	Connecting stair between N400B paid zone and G train platform	7.00	6.00	17	363	5	113	100%	80%	75%	0.17	A
XTN P6	Connecting stair between N400B paid zone and G train platform	9.25	8.00	96	569	30	178	90%	80%	75%	0.25	A
XTN P7	Connecting stair between N400C paid zone and G train platform	9.25	8.00	268	596	84	186	90%	80%	75%	0.33	A
QBL M1	Connecting stair between E/M platforms and N308 paid zone	13.00	11.75	1,811	639	566	200	90%	80%	80%	0.60	B

Table 4C-198. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E265	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	239	0	75	0	750	0.11	A
E266	Exiting Escalator below Citicorp Building/One Court Square	1	32	90%	0	209	0	65	750	0.10	A
E461X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	0	1,824	0	570	1,050	0.60	B
E462X	Connecting escalator between 7 train mezzanine and G train mezzanine	1	40	90%	1,922	0	601	0	1,050	0.64	B

Table 4C-199. CBD Tolling Alternative: Court Square-23rd Street Station (E, M, G, and No. 7 lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
21st Street and 44th Drive - northeast corner (N307)											
Two-Way Turnstiles	4	1,680	2,580	624	176	195	55	90%	80%	0.16	A
21st Street and 44th Drive – southeast corner (N307A)											
High Exit Only Turnstile	2	0	1,110	0	394	0	123	100%	80%	0.14	A
23rd Street and 44th Road – northeast corner (N308)											
Two-Way Turnstiles	4	1,680	2,580	383	220	120	69	90%	75%	0.12	A
Jackson Avenue and Pearson Street – northeast corner (N400C)											
HEET	2	510	1,080	52	40	16	13	90%	80%	0.05	A
Jackson Avenue and Court Square – southwest corner (N400)											
Two-Way Turnstiles	3	1,260	1,935	446	288	139	90	90%	80%	0.19	A
Jackson Avenue and 45th Avenue – northeast corner (N400B)											
Two-Way Turnstiles	3	1,260	1,935	339	110	106	34	90%	80%	0.12	A
Citicorp Building/One Court Square (N400A)											
Two-Way Turnstiles	7	2,940	4,515	334	489	104	153	90%	80%	0.09	A
Jackson Avenue and 23rd Street – southeast corner (R508)											
Two-Way Turnstiles	6	2,520	3,870	756	318	236	99	90%	80%	0.14	A

Table 4C-200. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S6/M6	Street stair at northwest corner of Roosevelt Avenue and Main Street	6.00	5.00	2,184	677	683	212	90%	90%	80%	1.52	E
S4/M4	Street stair at northeast corner of Roosevelt Avenue and Main Street	5.00	4.00	1,218	433	381	135	90%	100%	80%	1.02	D
S7/M7	Street stair at southwest corner of Roosevelt Avenue and Main Street	5.00	4.00	802	788	251	246	90%	80%	80%	1.15	D
S3	Street stair at southeast corner of Roosevelt Avenue and Main Street	5.00	4.00	140	86	44	27	90%	100%	80%	0.14	A
S5	Street stair at southeast corner of Roosevelt Avenue and Main Street	4.80	3.80	1,940	347	606	108	90%	80%	80%	1.74	F
M3/M5	Street stair at southeast corner of Roosevelt Avenue and Main Street	11.50	10.25	2,080	433	650	135	90%	90%	80%	0.64	B
M11	Street stair on south side of Roosevelt Avenue between Main Street and Union Street	10.00	8.75	552	8	173	3	100%	80%	75%	0.17	A
P11	Connecting stair between platform and R533 paid zone west	4.25	3.25	2,378	433	743	135	90%	80%	75%	2.53	F
P12	Connecting stair between platform and R533 paid zone west	4.25	3.25	522	258	163	81	90%	80%	75%	0.71	C
P15	Connecting stair between platform and R533 paid zone west	4.25	3.25	1,092	288	341	90	90%	80%	75%	1.25	D
P16	Connecting stair between platform and R533 paid zone west	4.25	3.25	80	187	25	58	90%	80%	75%	0.25	A
P3	Connecting stair between platform and R533 paid zone east	4.25	3.25	142	308	44	96	90%	80%	75%	0.42	A
P4	Connecting stair between platform and R533 paid zone east	4.25	3.25	23	190	7	59	90%	80%	75%	0.20	A
P5/P7	Connecting stair between platform and R533 paid zone east	4.25	3.25	1,846	415	577	130	90%	80%	75%	2.04	F
P6/P8	Connecting stair between platform and R533 paid zone east	4.25	3.25	201	251	63	78	90%	80%	75%	0.42	A

Table 4C-201. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E455	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	880	0	275	1,050	0.35	A
E456	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	2,984	0	933	0	1,050	1.18	D
E457	Street escalator at south side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	385	0	120	1,050	0.15	A

Table 4C-202. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Main Street and Roosevelt Avenue (R533-West)											
Two-Way Turnstiles	8	3,360	5,160	4,072	1,166	1,273	364	90%	80%	0.52	B
Main Street and Roosevelt Avenue (R533-East)											
Two-Way Turnstiles	8	3,360	5,160	2,212	1,164	691	364	90%	80%	0.33	A
Roosevelt Avenue between Main Street and Union Street (R534)											
Two-Way Turnstiles	9	3,780	5,805	3,536	1,273	1,105	398	90%	75%	0.43	A

Table 4C-203. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S6/M6	Street stair at northwest corner of Roosevelt Avenue and Main Street	6.00	5.00	801	1,473	250	460	90%	90%	80%	1.26	D
S4/M4	Street stair at northeast corner of Roosevelt Avenue and Main Street	5.00	4.00	600	871	188	272	90%	100%	80%	0.98	C
S7/M7	Street stair at southwest corner of Roosevelt Avenue and Main Street	5.00	4.00	485	1,461	152	457	90%	80%	80%	1.41	E
S3	Street stair at southeast corner of Roosevelt Avenue and Main Street	5.00	4.00	243	599	76	187	90%	100%	80%	0.57	B
S5	Street stair at southeast corner of Roosevelt Avenue and Main Street	4.80	3.80	578	1,244	181	389	90%	80%	80%	1.39	E
M3/M5	Street stair at southeast corner of Roosevelt Avenue and Main Street	11.50	10.25	821	1,843	257	576	90%	90%	80%	0.73	C
M11	Street stair on south side of Roosevelt Avenue between Main Street and Union Street	10.00	8.75	71	67	22	21	90%	80%	75%	0.05	A
P11	Connecting stair between platform and R533 paid zone west	4.25	3.25	465	605	145	189	90%	80%	75%	0.99	C
P12	Connecting stair between platform and R533 paid zone west	4.25	3.25	1,059	962	331	301	90%	80%	75%	1.86	F
P15	Connecting stair between platform and R533 paid zone west	4.25	3.25	38	665	12	208	100%	80%	75%	0.60	B
P16	Connecting stair between platform and R533 paid zone west	4.25	3.25	121	847	38	265	90%	80%	75%	0.91	C
P3	Connecting stair between platform and R533 paid zone east	4.25	3.25	34	513	11	160	90%	80%	75%	0.52	B
P4	Connecting stair between platform and R533 paid zone east	4.25	3.25	25	791	8	247	100%	80%	75%	0.70	B
P5/P7	Connecting stair between platform and R533 paid zone east	4.25	3.25	342	526	107	164	90%	80%	75%	0.80	C
P6/P8	Connecting stair between platform and R533 paid zone east	4.25	3.25	622	739	194	231	90%	80%	75%	1.25	D

Table 4C-204. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E455	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	1,331	0	416	1,050	0.53	B
E456	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	689	0	215	0	1,050	0.27	A
E457	Street escalator at south side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	1,527	0	477	1,050	0.61	B

Table 4C-205. Existing Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Main Street and Roosevelt Avenue (R533-West)											
Two-Way Turnstiles	8	3,360	5,160	1,683	3,079	526	962	90%	80%	0.43	A
Main Street and Roosevelt Avenue (R533-East)											
Two-Way Turnstiles	8	3,360	5,160	1,023	2,569	320	803	90%	80%	0.32	A
Roosevelt Avenue between Main Street and Union Street (R534)											
Two-Way Turnstiles	9	3,780	5,805	760	2,925	238	914	90%	75%	0.30	A

Table 4C-206. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S6/M6	Street stair at northwest corner of Roosevelt Avenue and Main Street	6.00	5.00	2184	677	683	212	90%	90%	80%	1.52	E
S4/M4	Street stair at northeast corner of Roosevelt Avenue and Main Street	5.00	4.00	1,218	433	381	135	90%	100%	80%	1.02	D
S7/M7	Street stair at southwest corner of Roosevelt Avenue and Main Street	5.00	4.00	802	788	251	246	90%	80%	80%	1.15	D
S3	Street stair at southeast corner of Roosevelt Avenue and Main Street	5.00	4.00	140	86	44	27	90%	100%	80%	0.14	A
S5	Street stair at southeast corner of Roosevelt Avenue and Main Street	4.80	3.80	1,940	347	606	108	90%	80%	80%	1.74	F
M3/M5	Street stair at southeast corner of Roosevelt Avenue and Main Street	11.50	10.25	2,080	433	650	135	90%	90%	80%	0.64	B
M11	Street stair on south side of Roosevelt Avenue between Main Street and Union Street	10.00	8.75	552	8	173	3	100%	80%	75%	0.17	A
P11	Connecting stair between platform and R533 paid zone west	4.25	3.25	2,378	433	743	135	90%	80%	75%	2.53	F
P12	Connecting stair between platform and R533 paid zone west	4.25	3.25	522	258	163	81	90%	80%	75%	0.71	C
P15	Connecting stair between platform and R533 paid zone west	4.25	3.25	1,092	288	341	90	90%	80%	75%	1.25	D
P16	Connecting stair between platform and R533 paid zone west	4.25	3.25	80	187	25	58	90%	80%	75%	0.25	A
P3	Connecting stair between platform and R533 paid zone east	4.25	3.25	142	308	44	96	90%	80%	75%	0.42	A
P4	Connecting stair between platform and R533 paid zone east	4.25	3.25	23	190	7	59	90%	80%	75%	0.20	A
P5/P7	Connecting stair between platform and R533 paid zone east	4.25	3.25	1,846	415	577	130	90%	80%	75%	2.04	F
P6/P8	Connecting stair between platform and R533 paid zone east	4.25	3.25	201	251	63	78	90%	80%	75%	0.42	A

Table 4C-207. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E455	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	880	0	275	1,050	0.35	A
E456	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	2,984	0	933	0	1,050	1.18	D
E457	Street escalator at south side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	385	0	120	1,050	0.15	A

Table 4C-208. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Main Street and Roosevelt Avenue (R533-West)											
Two-Way Turnstiles	8	3,360	5,160	4,072	1,166	1,273	364	90%	80%	0.52	B
Main Street and Roosevelt Avenue (R533-East)											
Two-Way Turnstiles	8	3,360	5,160	2,212	1,164	691	364	90%	80%	0.33	A
Roosevelt Avenue between Main Street and Union Street (R534)											
Two-Way Turnstiles	9	3,780	5,805	3,536	1,273	1,105	398	90%	75%	0.43	A

Table 4C-209. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S6/M6	Street stair at northwest corner of Roosevelt Avenue and Main Street	6.00	5.00	801	1,473	250	460	90%	90%	80%	1.26	D
S4/M4	Street stair at northeast corner of Roosevelt Avenue and Main Street	5.00	4.00	600	871	188	272	90%	100%	80%	0.98	C
S7/M7	Street stair at southwest corner of Roosevelt Avenue and Main Street	5.00	4.00	485	1,461	152	457	90%	80%	80%	1.41	E
S3	Street stair at southeast corner of Roosevelt Avenue and Main Street	5.00	4.00	243	599	76	187	90%	100%	80%	0.57	B
S5	Street stair at southeast corner of Roosevelt Avenue and Main Street	4.80	3.80	578	1,244	181	389	90%	80%	80%	1.39	E
M3/M5	Street stair at southeast corner of Roosevelt Avenue and Main Street	11.50	10.25	821	1,843	257	576	90%	90%	80%	0.73	C
M11	Street stair on south side of Roosevelt Avenue between Main Street and Union Street	10.00	8.75	71	67	22	21	90%	80%	75%	0.05	A
P11	Connecting stair between platform and R533 paid zone west	4.25	3.25	465	605	145	189	90%	80%	75%	0.99	C
P12	Connecting stair between platform and R533 paid zone west	4.25	3.25	1,059	962	331	301	90%	80%	75%	1.86	F
P15	Connecting stair between platform and R533 paid zone west	4.25	3.25	38	665	12	208	100%	80%	75%	0.60	B
P16	Connecting stair between platform and R533 paid zone west	4.25	3.25	121	847	38	265	90%	80%	75%	0.91	C
P3	Connecting stair between platform and R533 paid zone east	4.25	3.25	34	513	11	160	90%	80%	75%	0.52	B
P4	Connecting stair between platform and R533 paid zone east	4.25	3.25	25	791	8	247	100%	80%	75%	0.70	B
P5/P7	Connecting stair between platform and R533 paid zone east	4.25	3.25	342	526	107	164	90%	80%	75%	0.80	C
P6/P8	Connecting stair between platform and R533 paid zone east	4.25	3.25	622	739	194	231	90%	80%	75%	1.25	D

Table 4C-210. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E455	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	1,331	0	416	1,050	0.53	B
E456	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	689	0	215	0	1,050	0.27	A
E457	Street escalator at south side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	1,527	0	477	1,050	0.61	B

Table 4C-211. No Action Alternative Level of Service Summary: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Main Street and Roosevelt Avenue (R533-West)											
Two-Way Turnstiles	8	3,360	5,160	1,683	3,079	526	962	90%	80%	0.43	A
Main Street and Roosevelt Avenue (R533-East)											
Two-Way Turnstiles	8	3,360	5,160	1,023	2,569	320	803	90%	80%	0.32	A
Roosevelt Avenue between Main Street and Union Street (R534)											
Two-Way Turnstiles	9	3,780	5,805	760	2,925	238	914	90%	75%	0.30	A

Table 4C-212. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S6/M6	Street stair at northwest corner of Roosevelt Avenue and Main Street	6.00	5.00	2225	692	695	216	90%	90%	80%	1.54	E
S4/M4	Street stair at northeast corner of Roosevelt Avenue and Main Street	5.00	4.00	1,241	442	388	138	90%	100%	80%	1.04	D
S7/M7	Street stair at southwest corner of Roosevelt Avenue and Main Street	5.00	4.00	817	805	255	252	90%	80%	80%	1.17	D
S3	Street stair at southeast corner of Roosevelt Avenue and Main Street	5.00	4.00	143	88	45	28	90%	100%	80%	0.15	A
S5	Street stair at southeast corner of Roosevelt Avenue and Main Street	4.80	3.80	1,977	355	618	111	90%	80%	80%	1.78	F
M3/M5	Street stair at southeast corner of Roosevelt Avenue and Main Street	11.50	10.25	2,119	442	662	138	90%	90%	80%	0.66	B
M11	Street stair on south side of Roosevelt Avenue between Main Street and Union Street	10.00	8.75	562	8	176	3	100%	80%	75%	0.17	A
P11	Connecting stair between platform and R533 paid zone west	4.25	3.25	2,423	442	757	138	90%	80%	75%	2.58	F
P12	Connecting stair between platform and R533 paid zone west	4.25	3.25	532	264	166	83	90%	80%	75%	0.73	C
P15	Connecting stair between platform and R533 paid zone west	4.25	3.25	1,113	294	348	92	90%	80%	75%	1.27	D
P16	Connecting stair between platform and R533 paid zone west	4.25	3.25	82	191	26	60	90%	80%	75%	0.26	A
P3	Connecting stair between platform and R533 paid zone east	4.25	3.25	146	315	46	98	90%	80%	75%	0.43	A
P4	Connecting stair between platform and R533 paid zone east	4.25	3.25	24	194	8	61	90%	80%	75%	0.21	A
P5/P7	Connecting stair between platform and R533 paid zone east	4.25	3.25	1,902	424	594	133	90%	80%	75%	2.10	F
P6/P8	Connecting stair between platform and R533 paid zone east	4.25	3.25	207	256	65	80	90%	80%	75%	0.43	A

Table 4C-213. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E455	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	899	0	281	1,050	0.36	A
E456	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	3,040	0	950	0	1,050	1.21	D+
E457	Street escalator at south side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	393	0	123	1,050	0.16	A
NOTE: + denotes a significant adverse effect											

Table 4C-214. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Main Street and Roosevelt Avenue (R533-West)											
Two-Way Turnstiles	8	3,360	5,160	4,149	1,191	1,297	372	90%	80%	0.53	B
Main Street and Roosevelt Avenue (R533-East)											
Two-Way Turnstiles	8	3,360	5,160	2,254	1,189	704	372	90%	80%	0.33	A
Roosevelt Avenue between Main Street and Union Street (R534)											
Two-Way Turnstiles	9	3,780	5,805	3,603	1,301	1,126	407	90%	75%	0.43	A

Table 4C-215. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
S6/M6	Street stair at northwest corner of Roosevelt Avenue and Main Street	6.00	5.00	820	1,507	256	471	90%	90%	80%	1.29	D
S4/M4	Street stair at northeast corner of Roosevelt Avenue and Main Street	5.00	4.00	615	891	192	278	90%	100%	80%	1.00	C
S7/M7	Street stair at southwest corner of Roosevelt Avenue and Main Street	5.00	4.00	497	1,495	155	467	90%	80%	80%	1.44	E
S3	Street stair at southeast corner of Roosevelt Avenue and Main Street	5.00	4.00	249	613	78	192	90%	100%	80%	0.59	B
S5	Street stair at southeast corner of Roosevelt Avenue and Main Street	4.80	3.80	592	1,273	185	398	90%	80%	80%	1.42	E
M3/M5	Street stair at southeast corner of Roosevelt Avenue and Main Street	11.50	10.25	841	1,886	263	589	90%	90%	80%	0.74	C
M11	Street stair on south side of Roosevelt Avenue between Main Street and Union Street	10.00	8.75	73	69	23	22	90%	80%	75%	0.05	A
P11	Connecting stair between platform and R533 paid zone west	4.25	3.25	476	619	149	193	90%	80%	75%	1.01	D
P12	Connecting stair between platform and R533 paid zone west	4.25	3.25	1,085	984	339	308	90%	80%	75%	1.90	F
P15	Connecting stair between platform and R533 paid zone west	4.25	3.25	39	680	12	213	100%	80%	75%	0.61	B
P16	Connecting stair between platform and R533 paid zone west	4.25	3.25	124	867	39	271	90%	80%	75%	0.93	C
P3	Connecting stair between platform and R533 paid zone east	4.25	3.25	35	525	11	164	90%	80%	75%	0.53	B
P4	Connecting stair between platform and R533 paid zone east	4.25	3.25	25	809	8	253	100%	80%	75%	0.71	C
P5/P7	Connecting stair between platform and R533 paid zone east	4.25	3.25	348	538	109	168	90%	80%	75%	0.82	C
P6/P8	Connecting stair between platform and R533 paid zone east	4.25	3.25	633	756	198	236	90%	80%	75%	1.28	D

Table 4C-216. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Escalator Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
					In to Station	Out from Station	In to Station	Out from Station			
E455	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	1,362	0	426	1,050	0.54	B
E456	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	706	0	221	0	1,050	0.28	A
E457	Street escalator at south side of Roosevelt Avenue between Main Street and Union Street	1	40	75%	0	1,562	0	488	1,050	0.62	B

Table 4C-217. CBD Tolling Alternative: Main Street- Flushing Station (No. 7 line) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Main Street and Roosevelt Avenue (R533-West)											
Two-Way Turnstiles	8	3,360	5,160	1,724	3,150	539	984	90%	80%	0.44	A
Main Street and Roosevelt Avenue (R533-East)											
Two-Way Turnstiles	8	3,360	5,160	1,048	2,629	328	822	90%	80%	0.33	A
Roosevelt Avenue between Main Street and Union Street (R534)											
Two-Way Turnstiles	9	3,780	5,805	778	2,993	243	935	90%	75%	0.31	A

Table 4C-218. CBD Tolling Alternative: Level of Service Summary with and without Project Improvements (2023)

The four (4) vertical circulation elements in this table are modeled to meet CEQR thresholds for significant adverse effects under the tolling scenario with the highest incremental increases in ridership.

ELEMENT	LOCATION	STAIR EFFECTIVE WIDTH/ESCALATOR TREAD WIDTH	PROJECT IMPROVEMENT	AM PEAK HOUR			PM PEAK HOUR		
				No Action v/c (LOS)	With Action v/c (LOS)	With Action With Improvements v/c (LOS)	No Action v/c (LOS)	With Action v/c (LOS)	With Action With Improvements v/c (LOS)
14th Street Union Square Station (Nos. 4, 5, 6, and N, Q, R, W, L lines)									
E219	Connecting escalator between R221A paid zone and Canarsie line platform	32 inches	Raise escalator speed to 120 fpm	1.26 (D)	1.27 (D)	1.15 (D)	No Adverse Effects		
42nd Street Times Square Station (Nos. 1, 2, 3, 7, and A, C, E, N, Q, R, W, S lines)									
IRT ML6	Connecting stair between lower mezzanine and uptown Nos. 1/2/3 platform	6.75 feet	Remove intermediate handrail	No Adverse Effects			1.65 (E)	1.70 (F)	1.64 (E)
Court Square-23rd Street Station (E, M, G, and No. 7 lines)									
FLU P2/P4	Connecting stair between R508 paid zone and Manhattan-bound No. 7 line platform	6.25 feet	Add new 5-foot-wide platform stair on north end of Manhattan-bound No. 7 line platform	1.84 (F)	1.90 (F)	1.56 (E)	No Adverse Effects		
NEW FLU plat stair	New connecting stair between new FCA and Manhattan-bound No. 7 line platform	4 feet	New platform stair on north end of Manhattan-bound No. 7 line platform	N/A	N/A	0.53 (B)	N/A	N/A	0.44 (A)
Main Street Flushing Station (No. 7 line)									
E456	Street escalator at north side of Roosevelt Avenue between Main Street and Union Street	40 inches	Raise escalator speed to 120 fpm	1.18 (D)	1.21 (D)	1.08 (D)	No Adverse Effects		

4C.8 LEVEL OF SERVICE TABLES – NJ TRANSIT AND PATH STATIONS

Level of service at stations where CEQR threshold would be exceeded and analysis of specific circulation elements

Table 4C-219. Existing Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (AM Peak Hour, 2019)

LOCATION/ELEMENT	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
			Down	Up	Down	Up		Down	Up		
Hoboken Terminal, Stair 05, inside terminal platform 1/2 to PATH mezzanine	13.00	11.75	48	704	15	220	90%	80%	80%	0.19	A
Hoboken Terminal, Stair 01/02, NE corner of terminal to east end of PATH platforms	12.50	11.00	5174	230	1,617	72	100%	80%	80%	1.28	D
Secaucus Junction, Stair Center Corridor Track A/B	11.00	9.75	230	10	72	3	100%	80%	80%	0.06	A
Secaucus Junction, Stair Center Corridor Track 3	5.50	4.50	170	99	53	31	90%	90%	80%	0.16	A
Newark Penn Station, Ramp Platform H to Tracks 3/4	10.00	9.00	0	0	0	0	90%	N/A	N/A	N/A	N/A

Table 4C-220. Existing Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis (AM Peak Hour, 2019)

LOCATION/ELEMENT	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
				Down	Up	Down	Up			
Secaucus Junction Main Corridor Track A/B escalator closest to wall	1	40	75%		64		20	945	0.03	A
Secaucus Junction Main Corridor Track A/B escalator center	1	40	75%		67		21	945	0.03	A
Secaucus Junction Main Corridor Track A/B escalator furthest from wall	1	40	80%	1,501		469		945	0.62	B
Secaucus Junction, Center Corridor Track 3 escalator	1	40	80%		205		64	945	0.08	A
Secaucus Junction, Center Corridor Track A/B escalator	1	40	80%		42		13	945	0.02	A

Table 4C-221. Existing Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (PM Peak Hour, 2019)

LOCATION/ELEMENT	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
			Down	Up	Down	Up		Down	Up		
Hoboken Terminal, Stair 05, inside terminal platform 1/2 to PATH mezzanine	13.00	11.75	96	966	30	302	90%	80%	80%	0.26	A
Hoboken Terminal, Stair 01/02, NE corner of terminal to east end of PATH platforms	12.50	11.00	416	3,658	130	1,143	90%	80%	80%	1.07	D
Secaucus Junction, Stair Center Corridor Track A/B	11.00	9.75	29	48	9	15	90%	80%	80%	0.02	A
Secaucus Junction, Stair Center Corridor Track 2	5.50	4.50	512	35	160	11	90%	80%	80%	0.35	A
Newark Penn Station, Ramp Platform H to Tracks 3/4	10.00	9.00	1,856	80	580	25	100%	90%	80%	0.33	A

Table 4C-222. Existing Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis (PM Peak Hour, 2019)

LOCATION/ELEMENT	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
				Down	Up	Down	Up			
Secaucus Junction Main Corridor Track A/B escalator closest to wall	1	40	75%		589		184	945	0.26	A
Secaucus Junction Main Corridor Track A/B escalator center	1	40	75%		378		118	945	0.17	A
Secaucus Junction Main Corridor Track A/B escalator furthest from wall	1	40	80%	208		65		945	0.09	A
Secaucus Junction, Center Corridor Track 2 escalator	1	40	80%		192		60	945	0.08	A
Secaucus Junction, Center Corridor Track A/B escalator	1	40	80%		422		132	945	0.17	A

Table 4C-223. No-Action Alternative Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (AM Peak Hour, 2023)

LOCATION/ELEMENT	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
			Down	Up	Down	Up		Down	Up		
Hoboken Terminal, Stair 05, inside terminal platform 1/2 to PATH mezzanine	13.00	11.75	48	704	15	220	90%	80%	80%	0.19	A
Hoboken Terminal, Stair 01/02, NE corner of terminal to east end of PATH platforms	12.50	11.00	5,174	230	1,617	72	100%	80%	80%	1.28	D
Secaucus Junction, Stair Center Corridor Track A/B	11.00	9.75	230	10	72	3	100%	80%	80%	0.06	A
Secaucus Junction, Stair Center Corridor Track 3	5.50	4.50	170	99	53	31	90%	80%	80%	0.17	A
Newark Penn Station, Ramp Platform H to Tracks 3/4	10.00	9.00	0	0	0	0	90%	N/A	N/A	N/A	N/A

Table 4C-224. No-Action Alternative Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis (AM Peak Hour, 2023)

LOCATION/ELEMENT	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
				Down	Up	Down	Up			
Secaucus Junction Main Corridor Track A/B escalator closest to wall	1	40	75%		64		20	945	0.03	A
Secaucus Junction Main Corridor Track A/B escalator center	1	40	75%		67		21	945	0.03	A
Secaucus Junction Main Corridor Track A/B escalator furthest from wall	1	40	80%	1,501		469		945	0.62	B
Secaucus Junction, Center Corridor Track 3 escalator	1	40	80%		205		64	945	0.08	A
Secaucus Junction, Center Corridor Track A/B escalator	1	40	80%		42		13	945	0.02	A

Table 4C-225. No-Action Alternative Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (PM Peak Hour, 2023)

LOCATION/ELEMENT	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
			Down	Up	Down	Up		Down	Up		
Hoboken Terminal, Stair 05, inside terminal platform 1/2 to PATH mezzanine	13.00	11.75	96	966	30	302	90%	80%	80%	0.26	A
Hoboken Terminal, Stair 01/02NE corner of terminal to east end of PATH platforms	12.50	11.00	416	3,658	130	1,143	90%	80%	80%	1.07	D
Secaucus Junction, Stair Center Corridor Track A/B	11.00	9.75	29	48	9	15	90%	80%	80%	0.02	A
Secaucus Junction, Stair Center Corridor Track 2	5.50	4.50	512	35	160	11	90%	80%	80%	0.35	A
Newark Penn Station, Ramp Platform H to Tracks 3/4	10.00	9.00	1,856	80	580	25	100%	90%	80%	0.33	A

Table 4C-226. No-Action Alternative Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis (PM Peak Hour, 2023)

LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
				Down	Up	Down	Up			
Secaucus Junction Main Corridor Track A/B escalator closest to wall	1	40	75%		589		184	945	0.26	A
Secaucus Junction Main Corridor Track A/B escalator center	1	40	75%		378		118	945	0.17	A
Secaucus Junction Main Corridor Track A/B escalator furthest from wall	1	40	80%	208		65		945	0.09	A
Secaucus Junction, Center Corridor Track 2 escalator	1	40	80%		192		60	945	0.08	A
Secaucus Junction, Center Corridor Track A/B escalator	1	40	80%		422		132	945	0.17	A

Table 4C-227. CBD Tolling Alternative Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (AM Peak Hour, 2023)

LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	REPRESENTATIVE TOLLING SCENARIO	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				Down	Up	Down	Up		Down	Up		
Hoboken Terminal, Stair 05, inside terminal platform 1/2 to PATH mezzanine	13.00	11.75	E	51	704	16	220	90%	80%	80%	0.19	A
Hoboken Terminal, Stair 01/02, NE corner of terminal to east end of PATH platforms	12.50	11.00	E	5,413	231	1,691	72	100%	80%	80%	1.34	E
Secaucus Junction, Stair Center Corridor Track A/B	11.00	9.75	E	286	10	90	3	100%	80%	80%	0.08	A
Secaucus Junction, Stair Center Corridor Track 3	5.50	4.50	E	170	99	53	31	90%	80%	80%	0.17	A
Newark Penn Station, Ramp Platform H to Tracks 3/4	10.00	9.00	C	36	0	11	0	100%	90%	80%	0.01	A

Table 4C-228. CBD Tolling Alternative Level of Service Summary: Various New Jersey Locations – Escalator Analysis Tolling Scenario E (AM Peak Hour, 2023)

LOCATION	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
				Down	Up	Down	Up			
Secaucus Junction Main Corridor Track A/B escalator closest to wall	1	40	75%		64		20	945	0.03	A
Secaucus Junction Main Corridor Track A/B escalator center	1	40	75%		67		21	945	0.03	A
Secaucus Junction Main Corridor Track A/B escalator furthest from wall	1	40	80%	1,614		504	0	945	0.67	B
Secaucus Junction, Center Corridor Track 3 escalator	1	40	80%		205		64	945	0.08	A
Secaucus Junction, Center Corridor Track A/B escalator	1	40	80%		42		13	945	0.02	A

Table 4C-229. CBD Tolling Alternative Level of Service Summary: Various New Jersey Station Locations – Stair Analysis (PM Peak Hour, 2023)

LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	REPRESENTATIVE TOLLING SCENARIO	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				Down	Up	Down	Up		Down	Up		
Hoboken Terminal, Stair 05, inside terminal platform 1/2 to PATH mezzanine	13.00	11.75	E	96	1,032	30	322	90%	80%	80%	0.28	A
Hoboken Terminal, Stair 01/02, NE corner of terminal to east end of PATH platforms	12.50	11.00	E	418	3,864	131	1,208	90%	80%	80%	1.13	D
Secaucus Junction, Stair Center Corridor Track A/B	11.00	9.75	E	29	48	9	15	90%	80%	80%	0.02	A
Secaucus Junction, Stair Center Corridor Track 2	5.50	4.50	E	512	35	160	11	90%	80%	80%	0.35	A
Newark Penn Station, Ramp Platform H to Tracks 3/4	10.00	9.00	C	1,990	80	622	25	100%	90%	80%	0.36	A

Table 4C-230. CBD Tolling Alternative Level of Service Summary: Various New Jersey Station Locations – Escalator Analysis Tolling Scenario E (PM Peak Hour, 2023)

LOCATION/ELEMENT	QUANTITY	TREAD WIDTH (IN)	SURGE FACTOR	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		PEAK 15-MINUTE CAPACITY (WITHOUT SURGING FACTOR)	V/C RATIO	LOS
				Down	Up	Down	Up			
Secaucus Junction Main Corridor Track A/B escalator closest to wall	1	40	75%		674		211	945	0.30	A
Secaucus Junction Main Corridor Track A/B escalator center	1	40	75%		463		145	945	0.20	A
Secaucus Junction Main Corridor Track A/B escalator furthest from wall	1	40	80%	208		65	0	945	0.00	A
Secaucus Junction, Center Corridor Track 2 escalator	1	40	80%		192		60	945	0.08	A
Secaucus Junction, Center Corridor Track A/B escalator	1	40	80%		479		150	945	0.20	A

4C.9 SUPPLEMENTAL ANALYSIS OF CANAL STREET (A/C/E) STATION

Per discussion with the Metropolitan Transportation Authority and New York City Transit, a comparative assessment was conducted to evaluate the potential differences in environmental review findings for analyzed New York City subway stations associated with a future 2023 baseline that assumes the completion and operations of East Side Access. This assessment also included a new quantitative analysis of the Canal Street Station (A, C, and E lines), which was not one of the stations included for analysis in **Subchapter 4C, "Transportation: Transit,"** of the EA because the projected incremental trips at this station were below the *CEQR Technical Manual* threshold warranting a quantitative analysis. With the completion and operations of East Side Access considered, the projected incremental trips at this station would be greater than the CEQR analysis threshold of 200 or more subway riders during commuter peak hours. Hence, a quantitative analysis, involving the use of newly collected data and previously approved volumes, assignment of projected incremental trips, and analyses of station element for existing and future conditions was prepared. This undertaking concluded that the Project would not result in adverse effects at this station.

In coordination with New York City Transit and following the analysis procedures and methodologies detailed in **Subchapter 4C, "Transportation: Transit,"** and **Section 4C.2.3,** additional data were collected at the Canal Street Station (A, C, and E lines) and calibrated against other volume data provided by New York City Transit and projected volumes presented in the October 2021 *So-Ho/No-Ho Neighborhood Plan Final Environmental Impact Statement* (21DCP059M) to establish a representative baseline for analysis. As shown in **Table 4C-231 through Table 4C-234**, most station elements would operate at favorable levels (LOS A to LOS C) under existing conditions, with all fare arrays operating at LOS A and only 1 of the 19 stairs (S6) in the station operating at LOS D during both the AM and PM peak hours. Under the No Action Alternative (**Table 4C-235 through Table 4C-238**), the station's fare arrays would continue to operate at LOS A with only 1 of the 19 stairs (S6) operating at LOS D. Based on the station travel patterns exhibited from the existing conditions volume data, the projected incremental trips (with East Side Access) were assigned to the station's various FCAs and circulation elements. **Table 4C-239 through Table 4C-242** summarize the CBD Tolling Alternative analysis results. Like the existing and No Action Alternative conditions, all of the station's fare arrays would operate at LOS A with the implementation of the Project. During the AM peak hour, 2 of the station's 19 stairs (S1 and S6) would operate at LOS D, while S6 would continue to be the only station stair operating at LOS D during the PM peak hour.

For S1 and S6, width incremental threshold values were calculated and compared to the guidance presented in the *CEQR Technical Manual*. This assessment concluded that the changes in projected service conditions at neither of these stairs would constitute an adverse effect under CEQR. Therefore, the Proposed Project with East Side Access would not have the potential to result in adverse effects in the operations of the Canal Street Station (A, C, and E lines).

Table 4C-231. Existing Level of Service Summary: Canal Street (A, C, E lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
AT&T	Connecting Stair between Control Area N90 free zone and AT&T building lobby	4.50	3.50	6	314	2	98	100%	100%	80%	0.24	A
S1	Street Stair at northeast corner of Walker Street and Sixth Avenue	5.50	4.50	256	1289	80	403	90%	100%	80%	0.96	C
M1	Connecting Stair between Control Area N90 free zone and Street Level S1 stair	8.25	7.00	256	1289	80	403	90%	100%	80%	0.62	B
S3	Street Stair at southeast corner of West Broadway and Sixth Avenue/Lispenard Street	5.50	4.50	59	322	18	101	90%	100%	80%	0.24	A
M4	Connecting Stair between free zone and Street Level S1 stair	12.50	11.25	59	322	18	101	90%	100%	80%	0.09	A
S4-M5	Street Stair at southwest corner of West Broadway and York Street	4.50	3.50	115	507	36	158	90%	100%	80%	0.49	B
M6A/M6B	Connecting Stair between free zone and Street Level S4/M5 stair	11.42	10.17	115	507	36	158	90%	100%	80%	0.17	A
S5	Street Stair at southwest corner of Laight Street and Sixth Avenue	4.50	3.50	76	518	24	162	90%	100%	80%	0.48	B
M7	Connecting Stair between free zone and Street Level S5 Stair	9.50	8.25	76	518	24	162	90%	100%	80%	0.20	A
M8	Connecting Stair between free zone and Street Level S6 Stair	5.67	4.67	120	1304	38	408	90%	100%	75%	0.92	C
S6	Street Stair at northeast corner of Sixth Avenue and Canal Street/Thompson Street	4.67	3.67	120	1304	38	408	90%	100%	75%	1.17	D
P1	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	115	264	36	83	90%	100%	75%	0.20	A
P2	Connecting Stair between Control Area N90 paid zone and southbound platform	8.00	7.00	33	1076	10	336	100%	100%	75%	0.44	A
P3	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	115	264	36	83	90%	100%	75%	0.20	A
P4	Connecting Stair between Control Area N89A paid zone and southbound platform	5.00	4.00	36	653	11	204	100%	100%	75%	0.47	B
P5	Connecting Stair between Control Area N89 paid zone and northbound platform	6.50	5.50	113	180	35	56	90%	100%	75%	0.15	A
P6	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	37	973	12	304	100%	100%	75%	0.58	B
P7	Connecting Stair between Control Area N88 paid zone and northbound platform	6.58	5.58	161	657	50	205	90%	100%	75%	0.43	A
P8	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	23	732	7	229	100%	100%	75%	0.43	A

Table 4C-232. Existing Level of Service Summary: Canal Street (A, C, E lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and Canal Street – southeast corner (N88)											
Two-Way Turnstiles	3	1,260	1,935	134	514	42	161	0.90	0.75	0.16	A
HEET	1	255	540	27	143	8	45	0.90	0.75	0.16	A
Sixth Avenue and Canal Street – southwest corner (N88A)											
Two-Way Turnstiles	3	1,260	1,935	50	1,333	16	417	1.00	0.75	0.30	A
HEET	1	255	540	10	372	3	116	1.00	0.75	0.30	A
Sixth Avenue and West Broadway – northeast corner (N89)											
Two-Way Turnstiles	4	1,680	2,580	113	180	35	56	0.90	0.80	0.05	A
Sixth Avenue and York Street – northeast corner (N89A)											
Two-Way Turnstiles	4	1,680	2,580	36	653	11	204	0.90	0.80	0.12	A
Sixth Avenue and Walker Street – east side (N90)											
Two-Way Turnstiles	4	1,680	2,580	201	1,130	63	353	0.90	0.80	0.23	A
HEET	2	510	1,080	61	473	19	148	0.90	0.80	0.23	A

Table 4C-233. Existing Level of Service Summary: Canal Street (A, C, E lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
AT&T	Connecting Stair between Control Area N90 free zone and AT&T building lobby	4.50	3.50	206	5	64	2	100%	100%	80%	0.13	A
S1	Street Stair at northeast corner of Walker Street and Sixth Avenue	5.50	4.50	1352	273	423	85	90%	100%	80%	0.87	C
M1	Connecting Stair between Control Area N90 free zone and Street Level S1 stair	8.25	7.00	1352	273	423	85	90%	100%	80%	0.56	B
S3	Street Stair at southeast corner of West Broadway and Sixth Avenue/Lispenard Street	5.50	4.50	288	72	90	23	90%	100%	80%	0.20	A
M4	Connecting Stair between free zone and Street Level S1 stair	12.50	11.25	288	72	90	23	90%	100%	80%	0.08	A
S4-M5	Street Stair at southwest corner of West Broadway and York Street	4.50	3.50	562	113	176	35	90%	100%	80%	0.47	B
M6A/M6B	Connecting Stair between free zone and Street Level S4/M5 stair	11.42	10.17	562	113	176	35	90%	100%	80%	0.16	A
S5	Street Stair at southwest corner of Laight Street and Sixth Avenue	4.50	3.50	371	115	116	36	90%	100%	80%	0.34	A
M7	Connecting Stair between free zone and Street Level S5 Stair	9.50	8.25	371	115	116	36	90%	100%	80%	0.14	A
M8	Connecting Stair between free zone and Street Level S6 Stair	5.67	4.67	1378	197	431	62	90%	100%	75%	0.82	C
S6	Street Stair at northeast corner of Sixth Avenue and Canal Street/Thompson Street	4.67	3.67	1378	197	431	62	90%	100%	75%	1.04	D
P1	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	530	31	166	10	90%	100%	75%	0.24	A
P2	Connecting Stair between Control Area N90 paid zone and southbound platform	8.00	7.00	499	194	156	61	90%	100%	75%	0.25	A
P3	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	530	31	166	10	90%	100%	75%	0.24	A
P4	Connecting Stair between Control Area N89A paid zone and southbound platform	5.00	4.00	55	3	17	1	90%	100%	75%	0.03	A
P5	Connecting Stair between Control Area N89 paid zone and northbound platform	6.50	5.50	174	27	54	8	90%	100%	75%	0.09	A
P6	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	502	164	157	51	90%	100%	75%	0.35	A
P7	Connecting Stair between Control Area N88 paid zone and northbound platform	6.58	5.58	1385	119	433	37	90%	100%	75%	0.64	B
P8	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	483	98	151	31	90%	100%	75%	0.29	A

Table 4C-234. Existing Level of Service Summary: Canal Street (A, C, E lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and Canal Street – southeast corner (N88)											
Two-Way Turnstiles	3	1,260	1,935	1,152	93	360	29	0.90	0.75	0.34	A
HEET	1	255	540	233	26	73	8	0.90	0.75	0.34	A
Sixth Avenue and Canal Street – southwest corner (N88A)											
Two-Way Turnstiles	3	1,260	1,935	819	205	256	64	0.90	0.75	0.27	A
HEET	1	255	540	166	57	52	18	0.90	0.75	0.28	A
Sixth Avenue and West Broadway – northeast corner (N89)											
Two-Way Turnstiles	4	1,680	2,580	174	27	54	9	0.90	0.80	0.04	A
Sixth Avenue and York Street – northeast corner (N89A)											
Two-Way Turnstiles	4	1,680	2,580	55	3	17	1	0.90	0.80	0.01	A
Sixth Avenue and Walker Street – east side (N90)											
Two-Way Turnstiles	4	1,680	2,580	1,195	180	373	56	0.90	0.80	0.28	A
HEET	2	510	1,080	363	75	113	24	0.90	0.80	0.28	A

Table 4C-235. No Action Alternative Level of Service Summary: Canal Street (A, C, E lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
AT&T	Connecting Stair between Control Area N90 free zone and AT&T building lobby	4.50	3.50	6	314	2	98	100%	100%	80%	0.24	A
S1	Street Stair at northeast corner of Walker Street and Sixth Avenue	5.50	4.50	256	1289	80	403	90%	100%	80%	0.96	C
M1	Connecting Stair between Control Area N90 free zone and Street Level S1 stair	8.25	7.00	256	1289	80	403	90%	100%	80%	0.62	B
S3	Street Stair at southeast corner of West Broadway and Sixth Avenue/Lispenard Street	5.50	4.50	59	322	18	101	90%	100%	80%	0.24	A
M4	Connecting Stair between free zone and Street Level S1 stair	12.50	11.25	59	322	18	101	90%	100%	80%	0.09	A
S4-M5	Street Stair at southwest corner of West Broadway and York Street	4.50	3.50	115	507	36	158	90%	100%	80%	0.49	B
M6A/M6B	Connecting Stair between free zone and Street Level S4/M5 stair	11.42	10.17	115	507	36	158	90%	100%	80%	0.17	A
S5	Street Stair at southwest corner of Laight Street and Sixth Avenue	4.50	3.50	76	518	24	162	90%	100%	80%	0.48	B
M7	Connecting Stair between free zone and Street Level S5 Stair	9.50	8.25	76	518	24	162	90%	100%	80%	0.20	A
M8	Connecting Stair between free zone and Street Level S6 Stair	5.67	4.67	120	1304	38	408	90%	100%	75%	0.92	C
S6	Street Stair at northeast corner of Sixth Avenue and Canal Street/Thompson Street	4.67	3.67	120	1304	38	408	90%	100%	75%	1.17	D
P1	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	115	264	36	83	90%	100%	75%	0.20	A
P2	Connecting Stair between Control Area N90 paid zone and southbound platform	8.00	7.00	33	1076	10	336	100%	100%	75%	0.44	A
P3	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	115	264	36	83	90%	100%	75%	0.20	A
P4	Connecting Stair between Control Area N89A paid zone and southbound platform	5.00	4.00	36	653	11	204	100%	100%	75%	0.47	B
P5	Connecting Stair between Control Area N89 paid zone and northbound platform	6.50	5.50	113	180	35	56	90%	100%	75%	0.15	A
P6	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	37	973	12	304	100%	100%	75%	0.58	B
P7	Connecting Stair between Control Area N88 paid zone and northbound platform	6.58	5.58	161	657	50	205	90%	100%	75%	0.43	A
P8	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	23	732	7	229	100%	100%	75%	0.43	A

Table 4C-236. No Action Alternative Level of Service Summary: Canal Street (A, C, E lines) – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and Canal Street – southeast corner (N88)											
Two-Way Turnstiles	3	1,260	1,935	134	514	42	161	0.90	0.75	0.16	A
HEET	1	255	540	27	143	8	45	0.90	0.75	0.16	A
Sixth Avenue and Canal Street – southwest corner (N88A)											
Two-Way Turnstiles	3	1,260	1,935	50	1,333	16	417	1.00	0.75	0.30	A
HEET	1	255	540	10	372	3	116	1.00	0.75	0.30	A
Sixth Avenue and West Broadway – northeast corner (N89)											
Two-Way Turnstiles	4	1,680	2,580	113	180	35	56	0.90	0.80	0.05	A
Sixth Avenue and York Street – northeast corner (N89A)											
Two-Way Turnstiles	4	1,680	2,580	36	653	11	204	0.90	0.80	0.12	A
Sixth Avenue and Walker Street – east side (N90)											
Two-Way Turnstiles	4	1,680	2,580	201	1,130	63	353	0.90	0.80	0.23	A
HEET	2	510	1,080	61	473	19	148	0.90	0.80	0.23	A

Table 4C-237. No Action Alternative Level of Service Summary: Canal Street (A, C, E lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
AT&T	Connecting Stair between Control Area N90 free zone and AT&T building lobby	4.50	3.50	206	5	64	2	100%	100%	80%	0.13	A
S1	Street Stair at northeast corner of Walker Street and Sixth Avenue	5.50	4.50	1352	273	423	85	90%	100%	80%	0.87	C
M1	Connecting Stair between Control Area N90 free zone and Street Level S1 stair	8.25	7.00	1352	273	423	85	90%	100%	80%	0.56	B
S3	Street Stair at southeast corner of West Broadway and Sixth Avenue/Lispenard Street	5.50	4.50	288	72	90	23	90%	100%	80%	0.20	A
M4	Connecting Stair between free zone and Street Level S1 stair	12.50	11.25	288	72	90	23	90%	100%	80%	0.08	A
S4-M5	Street Stair at southwest corner of West Broadway and York Street	4.50	3.50	562	113	176	35	90%	100%	80%	0.47	B
M6A/M6B	Connecting Stair between free zone and Street Level S4/M5 stair	11.42	10.17	562	113	176	35	90%	100%	80%	0.16	A
S5	Street Stair at southwest corner of Laight Street and Sixth Avenue	4.50	3.50	371	115	116	36	90%	100%	80%	0.34	A
M7	Connecting Stair between free zone and Street Level S5 Stair	9.50	8.25	371	115	116	36	90%	100%	80%	0.14	A
M8	Connecting Stair between free zone and Street Level S6 Stair	5.67	4.67	1378	197	431	62	90%	100%	75%	0.82	C
S6	Street Stair at northeast corner of Sixth Avenue and Canal Street/Thompson Street	4.67	3.67	1378	197	431	62	90%	100%	75%	1.04	D
P1	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	530	31	166	10	90%	100%	75%	0.24	A
P2	Connecting Stair between Control Area N90 paid zone and southbound platform	8.00	7.00	499	194	156	61	90%	100%	75%	0.25	A
P3	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	530	31	166	10	90%	100%	75%	0.24	A
P4	Connecting Stair between Control Area N89A paid zone and southbound platform	5.00	4.00	55	3	17	1	90%	100%	75%	0.03	A
P5	Connecting Stair between Control Area N89 paid zone and northbound platform	6.50	5.50	174	27	54	8	90%	100%	75%	0.09	A
P6	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	502	164	157	51	90%	100%	75%	0.35	A
P7	Connecting Stair between Control Area N88 paid zone and northbound platform	6.58	5.58	1385	119	433	37	90%	100%	75%	0.64	B
P8	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	483	98	151	31	90%	100%	75%	0.29	A

Table 4C-238. No Action Alternative Level of Service Summary: Canal Street (A, C, E lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and Canal Street – southeast corner (N88)											
Two-Way Turnstiles	3	1,260	1,935	1,152	93	360	29	0.90	0.75	0.34	A
HEET	1	255	540	233	26	73	8	0.90	0.75	0.34	A
Sixth Avenue and Canal Street – southwest corner (N88A)											
Two-Way Turnstiles	3	1,260	1,935	819	205	256	64	0.90	0.75	0.27	A
HEET	1	255	540	166	57	52	18	0.90	0.75	0.28	A
Sixth Avenue and West Broadway – northeast corner (N89)											
Two-Way Turnstiles	4	1,680	2,580	174	27	54	9	0.90	0.80	0.04	A
Sixth Avenue and York Street – northeast corner (N89A)											
Two-Way Turnstiles	4	1,680	2,580	55	3	17	1	0.90	0.80	0.01	A
Sixth Avenue and Walker Street – east side (N90)											
Two-Way Turnstiles	4	1,680	2,580	1,195	180	373	56	0.90	0.80	0.28	A
HEET	2	510	1,080	363	75	113	24	0.90	0.80	0.28	A

Table 4C-239. CBD Tolling Alternative: Main Street: Canal Street (A, C, E lines) – Stair Analysis (AM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
AT&T	Connecting Stair between Control Area N90 free zone and AT&T building lobby	4.50	3.50	6	327	2	102	100%	100%	80%	0.25	A
S1	Street Stair at northeast corner of Walker Street and Sixth Avenue	5.50	4.50	270	1342	84	419	90%	100%	80%	1.00	D
M1	Connecting Stair between Control Area N90 free zone and Street Level S1 stair	8.25	7.00	270	1342	84	419	90%	100%	80%	0.64	B
S3	Street Stair at southeast corner of West Broadway and Sixth Avenue/Lispenard Street	5.50	4.50	62	335	19	105	90%	100%	80%	0.25	A
M4	Connecting Stair between free zone and Street Level S1 stair	12.50	11.25	62	335	19	105	90%	100%	80%	0.10	A
S4-M5	Street Stair at southwest corner of West Broadway and York Street	4.50	3.50	121	528	38	165	90%	100%	80%	0.52	B
M6A/M6B	Connecting Stair between free zone and Street Level S4/M5 stair	11.42	10.17	121	528	38	165	90%	100%	80%	0.18	A
S5	Street Stair at southwest corner of Laight Street and Sixth Avenue	4.50	3.50	80	539	25	168	90%	100%	80%	0.50	B
M7	Connecting Stair between free zone and Street Level S5 Stair	9.50	8.25	80	539	25	168	90%	100%	80%	0.21	A
M8	Connecting Stair between free zone and Street Level S6 Stair	5.67	4.67	127	1358	40	424	90%	100%	75%	0.96	C
S6	Street Stair at northeast corner of Sixth Avenue and Canal Street/Thompson Street	4.67	3.67	127	1358	40	424	90%	100%	75%	1.22	D
P1	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	122	279	38	87	90%	100%	75%	0.21	A
P2	Connecting Stair between Control Area N90 paid zone and southbound platform	8.00	7.00	34	1105	11	345	100%	100%	75%	0.45	A
P3	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	122	279	38	87	90%	100%	75%	0.21	A
P4	Connecting Stair between Control Area N89A paid zone and southbound platform	5.00	4.00	38	677	12	212	100%	100%	75%	0.49	B
P5	Connecting Stair between Control Area N89 paid zone and northbound platform	6.50	5.50	119	187	37	58	90%	100%	75%	0.15	A
P6	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	39	1009	12	315	100%	100%	75%	0.60	B
P7	Connecting Stair between Control Area N88 paid zone and northbound platform	6.58	5.58	170	681	53	213	90%	100%	75%	0.45	A
P8	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	24	759	8	237	100%	100%	75%	0.45	A

Table 4C-240. CBD Tolling Alternative: Canal Street (A, C, E lines) – – Fare Array Area Analysis (AM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and Canal Street – southeast corner (N88)											
Two-Way Turnstiles	3	1,260	1,935	141	532	44	166	0.90	0.75	0.17	A
HEET	1	255	540	29	149	9	46	0.90	0.75	0.17	A
Sixth Avenue and Canal Street – southwest corner (N88A)											
Two-Way Turnstiles	3	1,260	1,935	52	1,382	16	432	1.00	0.75	0.31	A
HEET	1	255	540	11	386	3	121	1.00	0.75	0.31	A
Sixth Avenue and West Broadway – northeast corner (N89)											
Two-Way Turnstiles	4	1,680	2,580	119	187	37	58	0.90	0.80	0.06	A
Sixth Avenue and York Street – northeast corner (N89A)											
Two-Way Turnstiles	4	1,680	2,580	38	677	12	212	0.90	0.80	0.12	A
Sixth Avenue and Walker Street – east side (N90)											
Two-Way Turnstiles	4	1,680	2,580	212	1,172	66	366	0.90	0.80	0.24	A
HEET	2	510	1,080	65	490	20	153	0.90	0.80	0.24	A

Table 4C-241. CBD Tolling Alternative: Canal Street (A, C, E lines) – Stair Analysis (PM Peak Hour)

SUBWAY STAIR	LOCATION	ACTUAL WIDTH (FT)	EFFECTIVE WIDTH (FT)	PEAK-HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR		V/C RATIO	LOS
				In to Station	Out from Station	In to Station	Out from Station		In to Station	Out from Station		
AT&T	Connecting Stair between Control Area N90 free zone and AT&T building lobby	4.50	3.50	215	5	67	2	100%	100%	80%	0.13	A
S1	Street Stair at northeast corner of Walker Street and Sixth Avenue	5.50	4.50	1414	286	442	89	90%	100%	80%	0.91	C
M1	Connecting Stair between Control Area N90 free zone and Street Level S1 stair	8.25	7.00	1414	286	442	89	90%	100%	80%	0.59	B
S3	Street Stair at southeast corner of West Broadway and Sixth Avenue/Lispenard Street	5.50	4.50	301	76	94	24	90%	100%	80%	0.20	A
M4	Connecting Stair between free zone and Street Level S1 stair	12.50	11.25	301	76	94	24	90%	100%	80%	0.08	A
S4-M5	Street Stair at southwest corner of West Broadway and York Street	4.50	3.50	588	119	184	37	90%	100%	80%	0.49	B
M6A/M6B	Connecting Stair between free zone and Street Level S4/M5 stair	11.42	10.17	588	119	184	37	90%	100%	80%	0.17	A
S5	Street Stair at southwest corner of Laight Street and Sixth Avenue	4.50	3.50	388	121	121	38	90%	100%	80%	0.36	A
M7	Connecting Stair between free zone and Street Level S5 Stair	9.50	8.25	388	121	121	38	90%	100%	80%	0.15	A
M8	Connecting Stair between free zone and Street Level S6 Stair	5.67	4.67	1441	207	450	65	90%	100%	75%	0.85	C
S6	Street Stair at northeast corner of Sixth Avenue and Canal Street/Thompson Street	4.67	3.67	1441	207	450	65	90%	100%	75%	1.08	D
P1	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	559	31	175	10	100%	100%	75%	0.23	A
P2	Connecting Stair between Control Area N90 paid zone and southbound platform	8.00	7.00	512	208	160	65	90%	100%	75%	0.26	A
P3	Connecting Stair between Control Area N90 paid zone and northbound platform	6.50	5.50	559	31	175	10	100%	100%	75%	0.23	A
P4	Connecting Stair between Control Area N89A paid zone and southbound platform	5.00	4.00	58	3	18	1	100%	100%	75%	0.03	A
P5	Connecting Stair between Control Area N89 paid zone and northbound platform	6.50	5.50	182	29	57	9	90%	100%	75%	0.09	A
P6	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	525	173	164	54	90%	100%	75%	0.36	A
P7	Connecting Stair between Control Area N88 paid zone and northbound platform	6.58	5.58	1448	126	453	39	90%	100%	75%	0.67	B
P8	Connecting Stair between Control Area N88A paid zone and southbound platform	5.83	4.83	505	104	158	33	90%	100%	75%	0.31	A

Table 4C-242. CBD Tolling Alternative: Canal Street (A, C, E lines) – Fare Array Area Analysis (PM Peak Hour)

FARE ARRAY ELEMENT	QUANTITY	CAPACITY		PEAK HOUR VOLUMES		PEAK 15-MINUTE VOLUMES		FRICTION FACTOR	SURGE FACTOR (OUT)	V/C RATIO	LOS
		In to Station	Out from Station	In to Station	Out from Station	In to Station	Out from Station				
Sixth Avenue and Canal Street – southeast corner (N88)											
Two-Way Turnstiles	3	1,260	1,935	1,204	99	376	31	0.90	0.75	0.36	A
HEET	1	255	540	244	27	76	9	0.90	0.75	0.36	A
Sixth Avenue and Canal Street – southwest corner (N88A)											
Two-Way Turnstiles	3	1,260	1,935	857	217	268	68	0.90	0.75	0.29	A
HEET	1	255	540	173	60	54	19	0.90	0.75	0.29	A
Sixth Avenue and West Broadway – northeast corner (N89)											
Two-Way Turnstiles	4	1,680	2,580	182	29	57	9	0.90	0.80	0.04	A
Sixth Avenue and York Street – northeast corner (N89A)											
Two-Way Turnstiles	4	1,680	2,580	58	3	18	1	1.00	0.80	0.01	A
Sixth Avenue and Walker Street – east side (N90)											
Two-Way Turnstiles	4	1,680	2,580	1,250	190	391	59	0.90	0.80	0.29	A
HEET	2	510	1,080	379	80	119	25	0.90	0.80	0.29	A

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 4D, Transportation: Parking Data for Commuter Rail Stations

August 2022

Contents

4D.1, Parking Utilization at Commuter Rail Stations in the Regional Study Area

4D.2, Parking Utilization at Commuter Rail Stations in the Regional Study Area including East Side Access

4D.1, Parking Utilization at Commuter Rail Stations in the Regional Study Area

Table 4D.1-1. Long Island Rail Road Parking Data for Stations with over 85% Utilization Rates

BRANCH	STATION	PARKING SUPPLY	AVAILABLE PARKING SPACES	PARKING UTILIZATION%
Port Washington Branch	Port Washington	1,048	21	98%
	Manhasset	648	19	97%
	Great Neck	364	0	100%
Oyster Bay Branch	Locust Valley	161	6	96%
	Glen Cove	151	5	97%
	Glen Street	130	10	92%
	Sea Cliff	154	0	100%
	Glen Head	184	13	93%
	Roslyn	308	3	99%
	Albertson	20	0	100%
	East Williston	186	26	86%
Hempstead Branch	Garden City	225	14	94%
	Bellerose	39	0	100%
	Floral Park	627	82	87%
Port Jefferson Branch	Stony Brook	479	5	99%
	St. James	241	27	89%
	Huntington	3,447	276	92%
	Cold Spring Harbor	1,058	0	100%
	Syosset	1,189	0	100%
	Hicksville	3,941	39	99%
	Westbury	895	9	99%
	Carle Place	13	0	100%
	Mineola	1,811	181	90%
	Merillon Avenue	163	0	100%
	New Hyde Park	576	29	95%
West Hempstead Branch	Lakeview	65	1	98%
Ronkonkoma Branch	Mattituck	116	17	85%
	Ronkonkoma	5,817	291	95%
	Central Islip	904	0	100%
	Deer Park	1,876	0	100%
	Farmingdale	529	26	95%
	Bethpage	857	34	96%
Babylon Branch	Babylon	1,989	159	92%
	Copiague	740	15	98%
	Massapequa Park	710	99	86%
	Massapequa	1,781	18	99%
	Seaford	1,219	12	99%
	Wantagh	1,427	29	98%
	Bellmore	1,894	0	100%
	Merrick	1,613	97	94%
	Baldwin	1,595	80	95%
Montauk Branch	Amagansett	35	2	94%
	Great River	102	9	91%
Long Beach Branch	Long Beach	529	79	85%
	Oceanside	604	12	98%
	Centre Avenue	121	18	85%
Far Rockaway Branch	Woodmere	249	10	96%
	Hewlett	789	39	95%
	Gibson	66	1	99%
	Valley Stream	1,461	205	86%

Note: Data reflects 2018 conditions.
Source: Metro-North Railroad

Table 4D.1-2. Metro-North Railroad Parking Data for Stations with over 85% Utilization Rates

BRANCH	STATION	PARKING SUPPLY	AVAILABLE PARKING SPACES	PARKING UTILIZATION%
Harlem Line	Mount Vernon West	221	11	95%
	Fleetwood	658	33	95%
	Bronxville	204	10	95%
	Tuckahoe	298	15	95%
	Crestwood	283	14	95%
	Scarsdale	824	16	98%
	Hartsdale	797	16	98%
	White Plains	1,931	290	85%
	Valhalla	319	16	95%
	Hawthorne	355	18	95%
	Pleasantville	261	13	95%
	Chappaqua	1,296	65	95%
	Mount Kisco	617	31	95%
	Bedford Hills	362	18	95%
	Katonah	731	15	98%
	Goldens Bridge	976	29	97%
	Purdy's	406	20	95%
	Croton Falls	319	32	90%
	Brewster	458	0	100%
	Southeast	1,010	91	91%
	Pawling	211	11	95%
	Wassaic	342	41	88%
	Tenmile River	68	9	87%
Hudson Line	Garrison	291	38	87%
	Ludlow	33	0	100%
	Poughkeepsie	1,123	45	96%
	New Hamburg	813	81	90%
	Beacon	1,680	0	100%
	Cold Spring	223	0	100%
	Peekskill	474	47	90%
	Ossining	906	9	99%
	Scarborough	442	0	100%
	Dobbs Ferry	573	11	98%
	Ardsley-on-Hudson	134	0	100%
	Irvington	304	3	99%
	Tarrytown	758	38	95%
	Philipse Manor	134	0	100%
	Hastings-on-Hudson	435	9	98%
	Greystone	250	0	100%
	Glenwood	106	0	100%
	Yonkers (Buena Vista Garage)	598	30	95%
New Haven Line	Port Chester	843	76	91%
	Rye	696	35	95%
	Harrison	739	0	100%
	Mamaroneck	627	19	97%
	Larchmont	1,036	0	100%
	New Rochelle	1,585	0	100%
	Pelham	391	8	98%
	Mount Vernon East	739	52	93%

Note: Data reflects 2018 conditions.
Source: Metro-North Railroad

Table 4D.1-3. NJ TRANSIT Station Parking Utilization by Line

	CAPACITY	USED	PERCENTAGE OCCUPIED
Atlantic City Line	4,415	2,849	65%
Bergen County Line	1,510	1,075	71%
Gladstone Branch	1,767	1,329	75%
Main Line	4,665	3,622	78%
Montclair-Boonton Line	5,629	3,940	70%
Morristown Line	6,998	5,532	79%
North Jersey Coast Line	7,759	4,968	64%
Northeast Corridor Line	25,254	20,184	80%
Pascack Valley Line	2,040	1,533	75%
Raritan Valley Line	4,682	3,484	74%
TOTAL	**64,719**	**48,516**	**76%**

Source: NJ TRANSIT
Note: Data reflects 2019 conditions.

4D.2, Parking Utilization at Commuter Rail Stations in the Regional Study Area including East Side Access

INTRODUCTION

As with **Subchapter 4D, "Transportation: Parking,"** this appendix describes the potential effects of implementing the Central Business District (CBD) Tolling Program (the Project) on parking with the East Side Access (ESA) Project included, using the same methodologies. The conclusions of the CBD Tolling Alternative with the ESA Project for parking effects are similar to the conclusions without the ESA Project: all tolling scenarios would result in a reduction in parking demand within the Manhattan CBD of a similar magnitude to the reduction in auto trips into the Manhattan CBD; and, with a shift from driving to transit, there would be an increased parking demand at subway and commuter rail stations and park-and-ride facilities outside the Manhattan CBD. The increase at any individual location would not be large enough to result in adverse effects related to parking demand and supply.

METHODOLOGY

The analysis of the potential effects of the Project with the ESA Project on parking conditions considered locations where transportation modeling predicts an increase in vehicle trips that would result from the Project. An abbreviated summary of the analysis steps from **Subchapter 4D, "Transportation: Parking"** is presented.

The methodology in **Subchapter 4D, "Transportation: Parking"** used a tiered approach to evaluate the Project's effects on parking demand and supply based on the vehicular trips generated by the Project in total, and then at individual intersections if warranted. The first step in the tiered analysis is to determine whether a project could result in 50 or more additional vehicle trips during the peak hour in total. If surpassed, the second step in the tiered analysis is to determine whether a project could result in 50 or more additional vehicle trips during the peak hour at any individual intersection. According to the **Subchapter 4D, "Transportation: Parking"** methodology, that level of new vehicle trips may be large enough to result in a corresponding increase in demand for parking spaces at facilities within a quarter-mile of a project, and detailed analysis of the projected increase in demand for parking relative to existing parking capacity and utilization at individual parking facilities is appropriate at such locations.

The analysis of the Project's potential effects on parking with the ESA Project began with a review of New York Metropolitan Transportation Council (NYMTC) Best Practice Manual (BPM) results for the Project to identify commuter rail stations and park-and-ride facilities where there would be 50 or more new vehicle trips in the peak hours resulting from the Project and, if warranted, additional analysis would be conducted.

AFFECTED ENVIRONMENT

Under the CBD Tolling Alternative with ESA, relevant parking assets within the regional study area (28 counties in the New York metropolitan area), New York City outside the Manhattan CBD, and the Manhattan CBD were considered. Further details on those affected environments can be found in **Subchapter 4D, "Transportation: Parking."**

ENVIRONMENTAL CONSEQUENCES

No Action Alternative

The No Action Alternative with the ESA Project would not implement a vehicular tolling program. The No Action Alternative would not substantially change demand for on-street and off-street parking in the regional study area, or within or outside the Manhattan CBD compared to existing conditions, but there could be a slight increase in demand coincident with increased traffic volumes from background growth by 2023. In the No Action Alternative, the demand for parking facilities and curbside spaces within and outside the Manhattan CBD would likely be comparable to current conditions, with limited available capacity, especially near heavily used transit stations. The ESA Project itself would not immediately change demand for commuter parking at Long Island Rail Road stations in the 2023 No Action Alternative conditions because it would initially divert a portion of existing ridership closer to employment destinations near Grand Central Terminal.

CBD Tolling Alternative

Regional Study Area

Results of the transportation modeling conducted for the Project with the ESA Project using the BPM show that all tolling scenarios evaluated would result in a decrease in the number of vehicle trips entering and leaving the Manhattan CBD and a corresponding increase in the number of trips made to the Manhattan CBD using public transit. Consequently, there would be a decrease in demand for parking within the Manhattan CBD and an increase in demand for parking at the region's transit stations and commuter park-and-ride locations. As discussed above, the ESA Project itself would not immediately change demand for parking at Long Island Rail Road stations in the 2023 No Action Alternative conditions since it would initially divert a portion of existing ridership closer to employment destinations near Grand Central Terminal.

Based on the BPM results with the ESA Project, the increase in commuters at individual stations or park-and-ride facilities outside the Manhattan CBD would be distributed throughout the region, and no locations would have increases in vehicle trips of 50 or more vehicles in the peak hour for any tolling scenario. Moreover, the new vehicle trips at stations would include some customers who would be dropped off without parking and therefore would not add to the demand for parking. Because other modes of public transit in the regional study area (e.g., subways, light rail) would incur even fewer additional vehicle trips as a result of the Project with ESA, those locations would also not exceed 50 more vehicles in the peak hour for any tolling scenario. Consequently, using the tiered methodology summarized above and described in greater detail in **Subchapter 4D, "Transportation: Parking,"** no adverse effect would occur to parking conditions at locations in the regional study area.

New York City Outside the Manhattan CBD

Based on the BPM results with the ESA Project, with the CBD Tolling Alternative, the number of commuters and visitors to the Manhattan CBD who would use transit for their journey would increase in all tolling scenarios. Although the BPM predicts it would be at far lower numbers than commuter rail and park-and-ride facilities described in the regional study area, some of these new transit users would drive to transit stations in New York City outside the Manhattan CBD to access transit to complete their journey. Consequently, the CBD Tolling Alternative with the ESA Project would increase the number of drivers who would seek parking near transit facilities in New York City outside the Manhattan CBD.

Based on the BPM results with the ESA Project, the increase in the number of travelers at individual transit facilities in New York City outside the Manhattan CBD would be distributed across the city, and no transit destinations would have increases of 50 or more vehicles in the peak hour. Moreover, the new vehicle trips at transit facilities would include some customers who would be dropped off without parking and therefore would not add to the demand for parking. Consequently, using the tiered methodology summarized above and described in more detail in Subchapter 4D, "Transportation: Parking," no adverse effect would occur to parking conditions at locations in New York City outside the Manhattan CBD.

Manhattan CBD

Based on the BPM results with the ESA Project, the CBD Tolling Alternative would reduce the number of daily vehicle trips to the Manhattan CBD in all tolling scenarios. This decrease in vehicle trips would also result in a decrease in parking demand in the Manhattan CBD. While the demand for parking spaces in the Manhattan CBD from residents within the Manhattan CBD would likely generally remain unchanged, the demand from those driving into the Manhattan CBD each day from other locations would decrease in comparison to the No Action Alternative. This reduction would be spread across the approximately 600 off-street parking facilities with nearly 90,000 parking spaces in the Manhattan CBD as well as the numerous on-street parking spaces in the Manhattan CBD. Therefore, the CBD Tolling Alternative with the ESA Project would not create or exacerbate a parking shortfall in the Manhattan CBD.

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 4E, Transportation: Supporting Documentation for Pedestrian Analyses

August 2022

Contents

4E.1, Methodologies and Adverse Effect Criteria

4E.2, Pedestrian Analysis LOS Tables

4E.3, Pedestrian Analysis Figures

4E.4, Vehicular and Pedestrian Safety Evaluation

4E.5, Pedestrian Analysis at Commuter Rail Stations in the Regional Study Area including the East Side Access Project

4E.1, Methodologies and Adverse Effect Criteria

SCREENING CRITERIA

The *City Environmental Quality Review (CEQR) Technical Manual* recommends a screening procedure to determine if quantified analyses of pedestrian facilities (corners, crosswalks, and sidewalks) are warranted. If a project would result in 200 or more peak-hour pedestrian trips, detailed trip assignments (a Level 2 screening assessment) should be conducted before undertaking a quantified pedestrian analysis. If the Level 2 assessment shows that 200 or more peak-hour pedestrian trips would traverse a specific pedestrian element, then quantified analysis of that element is warranted.

DETAILED ANALYSIS OF PEDESTRIAN OPERATIONS

For locations where the screening assessment indicates that detailed analysis is warranted, the *CEQR Technical Manual* calls for evaluation of the adequacy of the study area's sidewalk, crosswalk, and corner capacities in relation to the demand imposed on them using the methodologies presented in the 2010 *Highway Capacity Manual (HCM)*.

Using this methodology, the primary performance measure for sidewalks and walkways is pedestrian space, expressed as square feet per pedestrian (SFP), which is an indicator of the quality of pedestrian movement and comfort. The calculation of the sidewalk SFP is based on the pedestrian volumes by direction, the effective sidewalk or walkway width, and pedestrians' average walking speed. The SFP forms the basis for a sidewalk Level of Service (LOS) analysis. The determination of sidewalk LOS also reflects whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas platoon flow occurs when pedestrian volumes vary substantially with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Crosswalks and street corners are not easily measured in terms of free pedestrian flow, because they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The HCM methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians. The total "time-space" available for these activities, expressed in square feet per second, is calculated by multiplying the net area of the corner (in square feet) by the traffic signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time per space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of available SFP.

Crosswalk LOS is also a function of time and space. Similar to the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet per second. The

average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time per space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available SFP. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk.

Table 4E.1-1 summarizes the LOS standards for sidewalks, crosswalks, and corner reservoirs. The *CEQR Technical Manual* states that pedestrian facilities should operate at mid-LOS D or better (minimum of 31.5 SFP platoon flows for sidewalks; minimum of 19.5 SFP for crosswalks and corners) in CBD settings, which applies to all of the analysis locations for this assessment.

Table 4E.1-1. *CEQR Technical Manual* Level of Service Criteria for Pedestrian Elements

LOS	SIDEWALKS		CORNER RESERVOIRS AND CROSSWALKS
	Non-Platoon Flow	Platoon Flow	
A	> 60 SFP	> 530 SFP	> 60 SFP
B	> 40 and ≤ 60 SFP	> 90 and ≤ 530 SFP	> 40 and ≤ 60 SFP
C	> 24 and ≤ 40 SFP	> 40 and ≤ 90 SFP	> 24 and ≤ 40 SFP
D	> 15 and ≤ 24 SFP	> 23 and ≤ 40 SFP	> 15 and ≤ 24 SFP
E	> 8 and ≤ 15 SFP	> 11 and ≤ 23 SFP	> 8 and ≤ 15 SFP
F	≤ 8 SFP	≤ 11 SFP	≤ 8 SFP

Source: New York City Mayor's Office of Environmental Coordination, 2020 *CEQR Technical Manual*.
SFP = square feet per pedestrian.

ADVERSE EFFECT CRITERIA

Using the *CEQR Technical Manual* methodology, the determination of pedestrian effects considers the level of predicted change in pedestrian space between the No Action Alternative and CBD Tolling Alternative. For different pedestrian elements, flow conditions, and area types, the *CEQR Technical Manual* guidelines for effect determination correspond with various sliding-scale formulas:

- Sidewalks. Two sliding-scale formulas determine sidewalk effects—one for non-platoon flow and one for platoon flow. Since a decrease in pedestrian space within acceptable levels would not constitute an adverse effect, these criteria apply only if pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. Table 4E.1-2 summarizes the sliding-scale guidance provided by the *CEQR Technical Manual* for determining potential sidewalk effects.
- Corner Reservoirs and Crosswalks. The determination of corner and crosswalk effects is also based on a sliding-scale, summarized in Table 4E.1-3. Since a decrease in pedestrian space within acceptable levels would not constitute an adverse effect, this scale applies only if pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas.

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

An evaluation of vehicular and pedestrian safety was prepared for locations in the pedestrian study areas that were identified as high-crash locations, where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, accident trends were identified to determine whether projected vehicular and pedestrian traffic would further deteriorate safety. The determination of potential safety effects depends on the type of area, traffic volumes, accident types and severity, and other contributing factors.

Table 4E.1-2. *CEQR Technical Manual* Effect Guidance for Sidewalks

NON-PLATOON FLOW				PLATOON FLOW			
Sliding-Scale Formula: $Y \geq X/9.0 - 0.31$				Sliding-Scale Formula: $Y \geq X/(9.5 - 0.321)$			
NON-MANHATTAN CBD AREAS		MANHATTAN CBD AREAS		NON-MANHATTAN CBD AREAS		MANHATTAN CBD AREAS	
No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)	No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)	No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)	No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)
–	–	–	–	43.5 to 44.3	≥ 4.3	–	–
–	–	–	–	42.5 to 43.4	≥ 4.2	–	–
–	–	–	–	41.6 to 42.4	≥ 4.1	–	–
–	–	–	–	40.6 to 41.5	≥ 4.0	–	–
–	–	–	–	39.7 to 40.5	≥ 3.9	–	–
–	–	–	–	38.7 to 39.6	≥ 3.8	38.7 to 39.2	≥ 3.8
–	–	–	–	37.8 to 38.6	≥ 3.7	37.8 to 38.6	≥ 3.7
–	–	–	–	36.8 to 37.7	≥ 3.6	36.8 to 37.7	≥ 3.6
–	–	–	–	35.9 to 36.7	≥ 3.5	35.9 to 36.7	≥ 3.5
–	–	–	–	34.9 to 35.8	≥ 3.4	34.9 to 35.8	≥ 3.4
–	–	–	–	34.0 to 34.8	≥ 3.3	34.0 to 34.8	≥ 3.3
–	–	–	–	33.0 to 33.9	≥ 3.2	33.0 to 33.9	≥ 3.2
–	–	–	–	32.1 to 32.9	≥ 3.1	32.1 to 32.9	≥ 3.1
–	–	–	–	31.1 to 32.0	≥ 3.0	31.1 to 32.0	≥ 3.0
–	–	–	–	30.2 to 31.0	≥ 2.9	30.2 to 31.0	≥ 2.9
–	–	–	–	29.2 to 30.1	≥ 2.8	29.2 to 30.1	≥ 2.8
25.8 to 26.6	≥ 2.6	–	–	28.3 to 29.1	≥ 2.7	28.3 to 29.1	≥ 2.7
24.9 to 25.7	≥ 2.5	–	–	27.3 to 28.2	≥ 2.6	27.3 to 28.2	≥ 2.6
24.0 to 24.8	≥ 2.4	–	–	26.4 to 27.2	≥ 2.5	26.4 to 27.2	≥ 2.5
23.1 to 23.9	≥ 2.3	–	–	25.4 to 26.3	≥ 2.4	25.4 to 26.3	≥ 2.4
22.2 to 23.0	≥ 2.2	–	–	24.5 to 25.3	≥ 2.3	24.5 to 25.3	≥ 2.3
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1	23.5 to 24.4	≥ 2.2	23.5 to 24.4	≥ 2.2
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0	22.6 to 23.4	≥ 2.1	22.6 to 23.4	≥ 2.1
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9	21.6 to 22.5	≥ 2.0	21.6 to 22.5	≥ 2.0

Table 4E.1-2. *CEQR Technical Manual* Effect Guidance for Sidewalks (continued)

NON-PLATOON FLOW				PLATOON FLOW			
Sliding-Scale Formula: $Y \geq X/9.0 - 0.31$				Sliding-Scale Formula: $Y \geq X/(9.5 - 0.321)$			
NON-MANHATTAN CBD AREAS		MANHATTAN CBD AREAS		NON-MANHATTAN CBD AREAS		MANHATTAN CBD AREAS	
No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)	No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)	No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)	No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8	20.7 to 21.5	≥ 1.9	20.7 to 21.5	≥ 1.9
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7	19.7 to 20.6	≥ 1.8	19.7 to 20.6	≥ 1.8
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6	18.8 to 19.6	≥ 1.7	18.8 to 19.6	≥ 1.7
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5	17.8 to 18.7	≥ 1.6	17.8 to 18.7	≥ 1.6
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4	16.9 to 17.7	≥ 1.5	16.9 to 17.7	≥ 1.5
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3	15.9 to 16.8	≥ 1.4	15.9 to 16.8	≥ 1.4
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2	15.0 to 15.8	≥ 1.3	15.0 to 15.8	≥ 1.3
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1	14.0 to 14.9	≥ 1.2	14.0 to 14.9	≥ 1.2
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0	13.1 to 13.9	≥ 1.1	13.1 to 13.9	≥ 1.1
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9	12.1 to 13.0	≥ 1.0	12.1 to 13.0	≥ 1.0
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8	11.2 to 12.0	≥ 0.9	11.2 to 12.0	≥ 0.9
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7	10.2 to 11.1	≥ 0.8	10.2 to 11.1	≥ 0.8
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6	9.3 to 10.1	≥ 0.7	9.3 to 10.1	≥ 0.7
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5	8.3 to 9.2	≥ 0.6	8.3 to 9.2	≥ 0.6
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4	7.4 to 8.2	≥ 0.5	7.4 to 8.2	≥ 0.5
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3	6.4 to 7.3	≥ 0.4	6.4 to 7.3	≥ 0.4
< 5.1	≥ 0.2	< 5.1	≥ 0.2	< 6.4	≥ 0.3	< 6.4	≥ 0.3

Sources: New York City Mayor's Office of Environmental Coordination, 2020 CEQR Technical Manual.
SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP; - = not applicable.

Table 4E.1-3. Effect Guidance for Corners and Crosswalks

Sliding-Scale Formula: $Y \geq X/9.0 - 0.31$			
NON-MANHATTAN CBD AREAS		**MANHATTAN CBD AREAS**	
No Action Pedestrian Space (X, SFP)	**With Action Pedestrian Space Reduction (Y, SFP)**	**No Action Pedestrian Space (X, SFP)**	**With Action Pedestrian Space Reduction (Y, SFP)**
25.8 to 26.6	≥ 2.6	–	–
24.9 to 25.7	≥ 2.5	–	–
24.0 to 24.8	≥ 2.4	–	–
23.1 to 23.9	≥ 2.3	–	–
22.2 to 23.0	≥ 2.2	–	–
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3
< 5.1	≥ 0.2	< 5.1	≥ 0.2

Sources: New York City Mayor's Office of Environmental Coordination, 2020 *CEQR Technical Manual*.
SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SF, - = not applicable.

4E.2, Pedestrian Analysis LOS Tables

Table 4E.2-1. Herald Square/Penn Station Study Area – Existing Conditions: Sidewalk Analysis

INTERSECTION	LOCATION	SIDEWALK	EFFECTIVE WIDTH (feet)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour							
Eighth Avenue and 34th Street	34th Street between Eighth Avenue and Seventh Avenue	North	4.5*	878	0.80	64.1	C
	Eighth Avenue between 35th Street and 34th Street	West	5.0	2155	0.91	31.8	D
Seventh Avenue and 34th Street	34th Street between Seventh Avenue and Broadway	North	9.5	2582	0.94	53.8	C
Broadway and 34th Street	34th Street between Broadway and Seventh Avenue	North	11.0	2186	0.75	58.9	C
Sixth Avenue and 34th Street	34th Street between Sixth Avenue and Fifth Avenue	North	9.5*	1603	0.89	82.9	C
Seventh Avenue and 32nd Street	32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1824	0.91	42.2	C
Weekday PM Peak Hour							
Eighth Avenue and 34th Street	34th Street between Eighth Avenue and Seventh Avenue	North	4.5*	1054	0.94	62.7	C
	Eighth Avenue between 35th Street and 34th Street	West	5.0	2092	0.81	28.9	D
Seventh Avenue and 34th Street	34th Street between Seventh Avenue and Broadway	North	9.5	2462	0.87	52.2	C
Broadway and 34th Street	34th Street between Broadway and Seventh Avenue	North	11.0	1508	0.82	94.2	B
Sixth Avenue and 34th Street	34th Street between Sixth Avenue and Fifth Avenue	North	9.5*	1355	0.86	94.9	B
Seventh Avenue and 32nd Street	32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1503	0.93	52.9	C

Note: SFP = square feet per pedestrian
PHF = peak hour factor
* Denotes that the width is constrained by scaffolding

Table 4E.2-2. Herald Square/Penn Station Study Area –Existing Conditions: Corner Analysis

LOCATION	CORNER	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
		SFP	LOS	SFP	LOS
Eighth Avenue and 34th Street	Northwest	68.0	A	58.6	B
	Northeast	59.8	B	60.4	A
	Southwest	40.6	B	44.9	B
Sixth Avenue and 34th Street	Northeast	83.3	A	38.9	C
Seventh Avenue and 32nd Street	Northeast	64.4	A	34.8	C

Note: SFP = square foot per pedestrian

Table 4E.2-3. Herald Square/Penn Station Study Area – Existing Conditions: Crosswalk Analysis

LOCATION	CROSSWALK	CROSSWALK LENGTH (feet)	CROSSWALK WIDTH (feet)	TWO-WAY PEAK HOUR VOLUME	SFP	LOS
Weekday AM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	963	53.3	B
Sixth Avenue and 34th Street	North	56.5	20.0	1472	12.9	E
Seventh Avenue and 32nd Street	North	73.0	20.0	2168	12.9	E
Weekday PM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	1144	48.3	B
Sixth Avenue and 34th Street	North	56.5	20.0	2665	6.8	F
Seventh Avenue and 32nd Street	North	73.0	20.0	2352	12.6	E

Note: SFP = square feet per pedestrian

Table 4E.2-4. World Trade Center/Fulton Street Study Area– Existing Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (feet)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
Broadway Between Liberty Street and Cortlandt Street	**West**	14.0	1149	0.88	170.3	B
Weekday PM Peak Hour						
Broadway Between Liberty Street and Cortlandt Street	**West**	14.0	1312	0.92	155.4	B

Note: SFP = square feet per pedestrian
PHF = peak hour factor

Table 4E.2-5. World Trade Center/Fulton Street Study Area – Existing Conditions: Corner Analysis

LOCATION	CORNER	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
		SFP	LOS	SFP	LOS
Broadway and Liberty Street	Northwest	25.3	C	44.5	B

Note: SFP = square foot per pedestrian

Table 4E.2-6. Herald Square/Penn Station Study Area – No Action Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (feet)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	9.5	887	0.80	135.3	B
Eighth Avenue between 35th Street and 34th Street	West	5.0	2176	0.91	31.5	D
34th Street between Seventh Avenue and Broadway	North	9.5	2608	0.94	53.2	C
34th Street between Broadway and Seventh Avenue	North	11.0	2208	0.75	58.3	C
34th Street between Sixth Avenue and Fifth Avenue	North	14.5	1619	0.89	125.8	B
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1842	0.91	41.8	C
Weekday PM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	9.5	1065	0.94	132.4	B
Eighth Avenue between 35th Street and 34th Street	West	5.0	2113	0.81	28.6	D
34th Street between Seventh Avenue and Broadway	North	9.5	2487	0.87	51.6	C
34th Street between Broadway and Seventh Avenue	North	11.0	1523	0.82	93.2	B
34th Street between Sixth Avenue and Fifth Avenue	North	14.5	1369	0.86	143.9	B
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1518	0.93	52.4	C

Note: SFP = square feet per pedestrian
PHF = peak hour factor

Table 4E.2-7. Herald Square/Penn Station Study Area – No Action Conditions: Corner Analysis

LOCATION	CORNER	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
		SFP	LOS	SFP	LOS
Eighth Avenue and 34th Street	Northwest	67.2	A	57.9	B
	Northeast	59.1	B	59.7	B
	Southwest	40.1	B	44.3	B
Sixth Avenue and 34th Street	Northeast	82.4	A	38.3	C
Seventh Avenue and 32nd Street	Northeast	63.6	A	34.2	C

Note: SFP = square foot per pedestrian

Table 4E.2-8. Herald Square/Penn Station Study Area – No Action Conditions: Crosswalk Analysis

LOCATION	CROSSWALK	CROSSWALK LENGTH (feet)	CROSSWALK WIDTH (feet)	TWO-WAY PEAK HOUR VOLUME	SFP	LOS
Weekday AM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	973	52.7	B
Sixth Avenue and 34th Street	North	56.5	20.0	1487	12.8	E
Seventh Avenue and 32nd Street	North	73.0	20.0	2189	12.7	E
Weekday PM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	1155	47.8	B
Sixth Avenue and 34th Street	North	56.5	20.0	2692	6.8	F
Seventh Avenue and 32nd Street	North	73.0	20.0	2375	12.5	E

Note: SFP = square feet per pedestrian

Table 4E.2-9. World Trade Center/Fulton Street Study Area – No Action Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (feet)	1-HR TWO-WAY Volume	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
Broadway Between Liberty Street and Cortlandt Street	West	14.0	1161	0.88	168.5	B
Weekday PM Peak Hour						
Broadway Between Liberty Street and Cortlandt Street	West	14.0	1325	0.92	153.8	B

Note: SFP = square feet per pedestrian
PHF = peak hour factor

Table 4E.2-10. World Trade Center/Fulton Street Study Area – No Action Conditions: Corner Analysis

LOCATION	CORNER	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
		SFP	LOS	SFP	LOS
Broadway and Liberty Street	Northwest	24.9	C	44.0	B

Note: SFP = square foot per pedestrian

Table 4E.2-11. Pedestrian Level 2 Screening Analysis Results – WTC/Fulton Street Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	Midday	PM	
Church Street and Fulton Street				
East Sidewalk along Church Street between Fulton Street and Vesey Street	121	26	90	
North Sidewalk along Fulton Street between Broadway and Church Street	125	32	135	
Broadway and Fulton Street				
Northwest Corner	125	32	134	
Church Street and Liberty Street				
Southeast Corner	82	25	119	
Northwest Corner	108	20	55	
South Sidewalk along Liberty Street between Broadway and Church Street	83	24	119	
Broadway and Liberty Street				
West Crosswalk	128	36	168	
Northeast Corner	115	29	132	
Southwest Corner	128	36	168	
Northwest Corner	205	52	220	✓
East Sidewalk along Broadway Between Liberty Street and Cortland Street	160	42	183	
West Sidewalk along Broadway Between Liberty Street and Cortlandt Street	204	52	220	✓

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.2-12. Pedestrian Level 2 Screening Analysis Results – Union Square Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	Midday	PM	
Broadway and 14th Street				
South sidewalk along 14th Street between University Place and Broadway	108	28	114	

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.2-13. Pedestrian Level 2 Screening Analysis Results – Times Square/PABT Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	MIDDAY	PM	
Broadway and West 42nd Street				
East Crosswalk	32	16	104	

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.2-14. Pedestrian Level 2 Screening Analysis Results – Herald Square/Penn Station Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	Midday	PM	
Eighth Avenue and 34th Street				
North sidewalk along 34th Street between Eighth Avenue and Seventh Avenue	319	64	193	✓
South sidewalk along 34th Street between Eighth Avenue and Seventh Avenue	62	30	173	
West sidewalk along Eighth Avenue between 35th Street and 34th Street	221	53	204	✓
Northeast corner	319	65	193	✓
Southeast corner	62	30	173	
Southwest corner	64	44	284	✓
Northwest corner	261	63	242	✓
North crosswalk	259	49	131	✓
South crosswalk	62	30	173	
Eighth Avenue and 31st Street				
West sidewalk along Eighth Avenue between 32nd Street and 31st Street	192	46	179	
Southwest corner	172	42	159	
Northwest corner	200	48	188	
West crosswalk	160	38	146	
Seventh Avenue and 34th Street				
East sidewalk along Seventh Avenue between 35th Street and 34th Street	59	21	105	
North sidewalk along 34th Street between Seventh Avenue and Broadway	500	128	532	✓
Northeast corner	131	35	143	
Northwest corner	104	22	71	
Seventh Avenue and 32nd Street				
North sidewalk along 32nd Street between Seventh Avenue and Sixth Avenue	399	82	262	✓
West sidewalk along Seventh Avenue between 32nd Street and 31st Street	34	22	144	
Northeast corner	252	40	70	✓
North crosswalk	221	36	69	✓
Broadway and 34th Street				
North sidewalk along 34th Street between Seventh Avenue and Broadway	460	121	518	✓
Sixth Avenue and 34th Street				
East sidewalk along Sixth Avenue between 35th Street and 34th Street	131	31	118	
North sidewalk along 34th Street between Sixth Avenue and Fifth Avenue	241	57	220	✓
South sidewalk along 34th Street between Sixth Avenue and Fifth Avenue	100	18	43	
Northeast corner	313	72	268	✓
North crosswalk	265	65	259	✓

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.2-15. Pedestrian Level 2 Screening Analysis Results – Grand Central Terminal Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	Midday	PM	
Madison Avenue and East 44th Street				
Southwest Corner	50	22	129	
Vanderbilt Avenue and East 42nd Street				
East Crosswalk	126	26	87	
Northeast Corner*	163	40	169	
East sidewalk along Vanderbilt Avenue between East 42nd Street and East 43rd Street*	163	40	169	
South sidewalk along East 42nd Street between Madison Avenue and Park Avenue	126	26	87	
Park Avenue and East 42nd Street				
East Crosswalk	83	26	130	
Lexington Avenue and East 43rd Street				
West sidewalk along Lexington Avenue between East 43rd Street and East 42nd Street	117	31	132	
Madison Avenue and East 42nd Street				
Northwest Corner	39	20	128	
Southeast Corner	125	26	87	
Lexington Avenue and East 44th Street				
West sidewalk along Lexington Avenue between East 44th Street and East 45th Street	173	40	147	
Lexington Avenue and East 42nd Street				
Northeast Corner	116	31	133	
Northwest Corner	138	34	134	

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
* denotes the area will be converted to a pedestrian plaza under With Action conditions.
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.2-16. Herald Square/Penn Station Study Area – With Action Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (feet)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	9.5	1206	0.80	99.3	B
Eighth Avenue between 35th Street and 34th Street	West	5.0	2397	0.91	28.3	D
34th Street between Seventh Avenue and Broadway	North	9.5	3108	0.94	44.3	C
34th Street between Broadway and Seventh Avenue	North	11.0	2668	0.75	47.9	C
34th Street between Sixth Avenue and Fifth Avenue	North	14.5	1860	0.89	109.4	B
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	2241	0.91	33.8	D
Weekday PM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	9.5	1258	0.94	112.0	B
Eighth Avenue between 35th Street and 34th Street	West	5.0	2317	0.81	25.7	D
34th Street between Seventh Avenue and Broadway	North	9.5	3019	0.87	42.1	C
34th Street between Broadway and Seventh Avenue	North	11.0	2041	0.82	69.2	C
34th Street between Sixth Avenue and Fifth Avenue	North	14.5	1589	0.86	123.9	B
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1780	0.93	44.3	C

Note: SFP = square feet per pedestrian
PHF = peak hour factor

Table 4E.2-17. Herald Square/Penn Station Study Area – With Action Conditions: Corner Analysis

LOCATION	CORNER	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
		SFP	LOS	SFP	LOS
Eighth Avenue and 34th Street	Northwest	61.8	A	52.2	B
	Northeast	52.4	B	56.6	B
	Southwest	39.6	C	40.9	B
Sixth Avenue and 34th Street	Northeast	75.0	A	34.8	C
Seventh Avenue and 32nd Street	Northeast	58.7	B	33.2	C

Note: SFP = square foot per pedestrian

Table 4E.2-18. Herald Square/Penn Station Study Area – With Action Conditions: Crosswalk Analysis

LOCATION	CROSSWALK	CROSSWALK LENGTH (feet)	CROSSWALK WIDTH (feet)	TWO-WAY PEAK HOUR VOLUME	SFP	LOS
Weekday AM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	1232	41.2	B
Sixth Avenue and 34th Street	North	56.5	20.0	1752	10.6	E
Seventh Avenue and 32nd Street	North	73.0	20.0	2410	11.4	E
Weekday PM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	1286	42.6	B
Sixth Avenue and 34th Street	North	56.5	20.0	2951	6.0	F
Seventh Avenue and 32nd Street	North	73.0	20.0	2444	12.1	E

Note: SFP = square feet per pedestrian

Table 4E.2-19. World Trade Center/Fulton Street Study Area – With Action Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (feet)	1-HR TWO-WAY Volume	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
Broadway Between Liberty Street and Cortlandt Street	West	14.0	1365	0.88	143.2	B
Weekday PM Peak Hour						
Broadway Between Liberty Street and Cortlandt Street	West	14.0	1545	0.92	131.8	B

Note: SFP = square feet per pedestrian
PHF = Peak Hour Factor

Table 20. World Trade Center/Fulton Street Study Area – With Action Conditions: Corner Analysis

LOCATION	CORNER	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
		SFP	LOS	SFP	LOS
Broadway and Liberty Street	Northwest	23.0	D	40.6	B

Note: SFP = square foot per pedestrian

4E.3, Pedestrian Analysis Figures

Figure 4E.3-1. 2019 Existing Pedestrian Volumes - Herald Square/Penn Station Study Area: Weekday AM Peak Hour



Figure 4E.3-2. 2019 Existing Pedestrian Volumes - Herald Square/Penn Station Study Area: Weekday PM Peak Hour



Figure 4E.3-3. 2019 Existing Pedestrian Volumes - World Trade Center/Fulton Street Study Area: Weekday AM Peak Hour

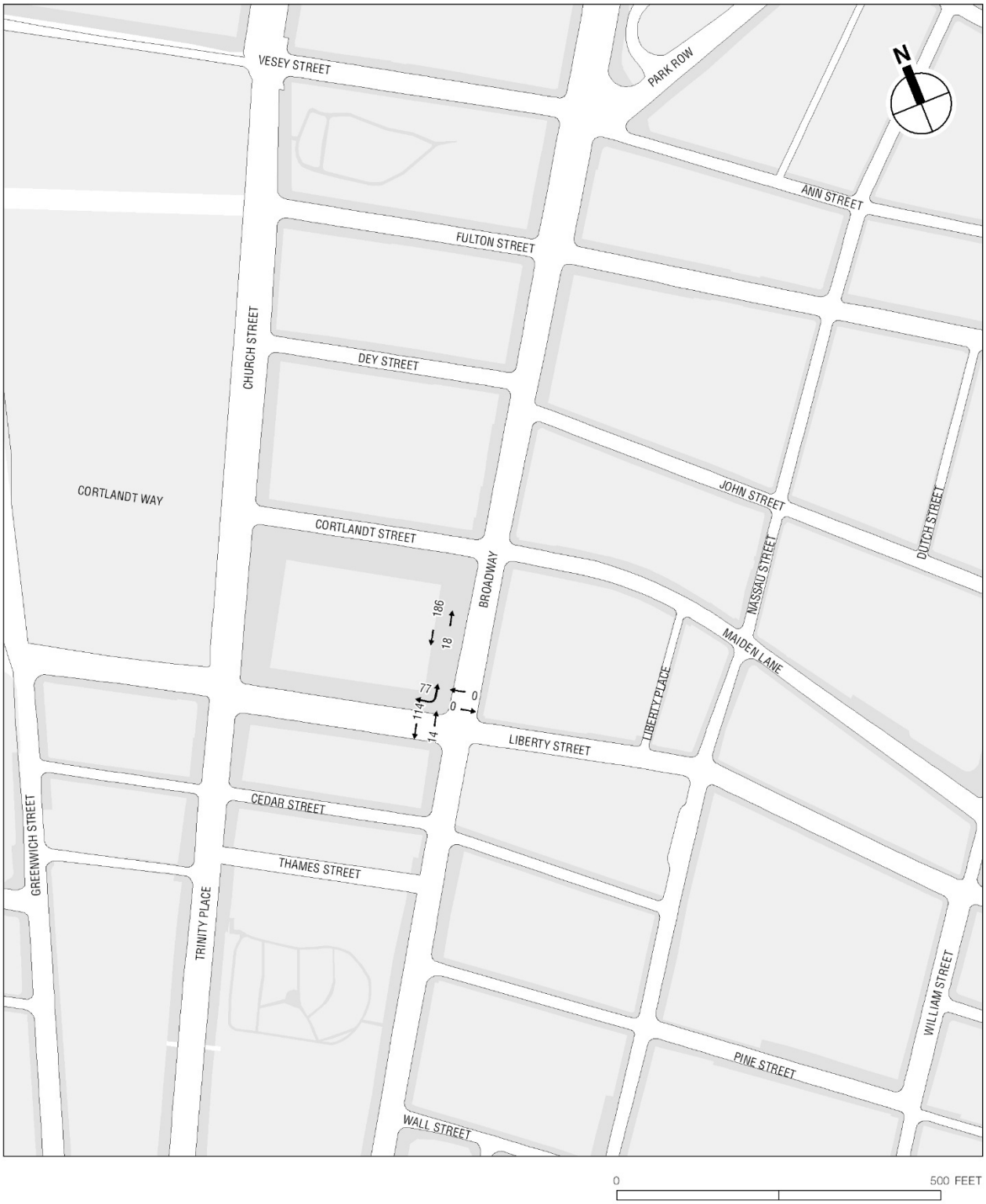


Figure 4E.3-4. 2019 Existing Pedestrian Volumes - World Trade Center/Fulton Street Study Area: Weekday PM Peak Hour

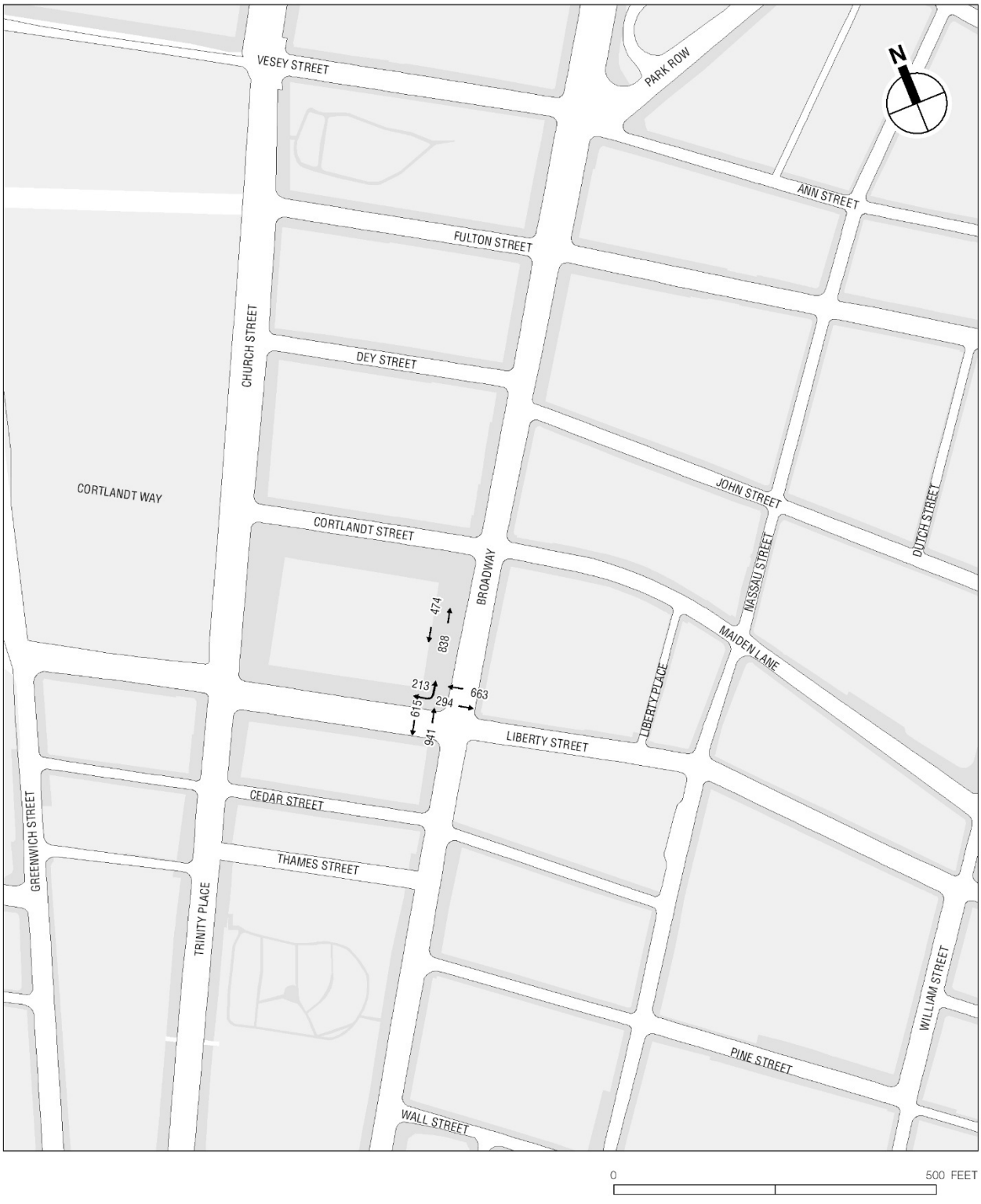


Figure 4E.3-5. No Action Pedestrian Volumes - Herald Square/Penn Station Study Area: Weekday AM Peak Hour



Figure 4E.3-6. No Action Pedestrian Volumes - Herald Square/Penn Station Study Area: Weekday PM Peak Hour

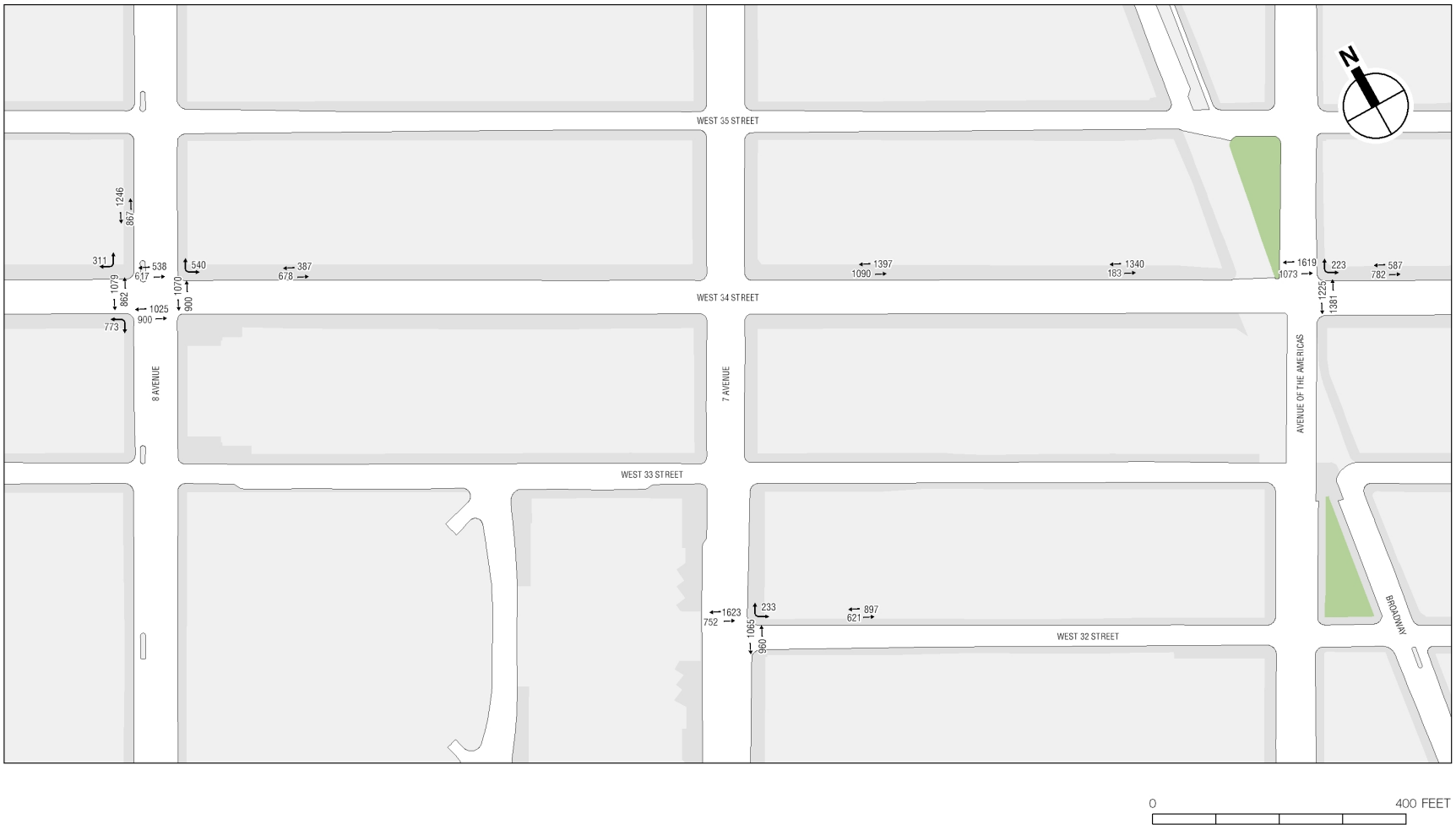


Figure 4E.3-7. No Action Pedestrian Volumes – World Trade Center/Fulton Street Study Area: Weekday AM Peak Hour

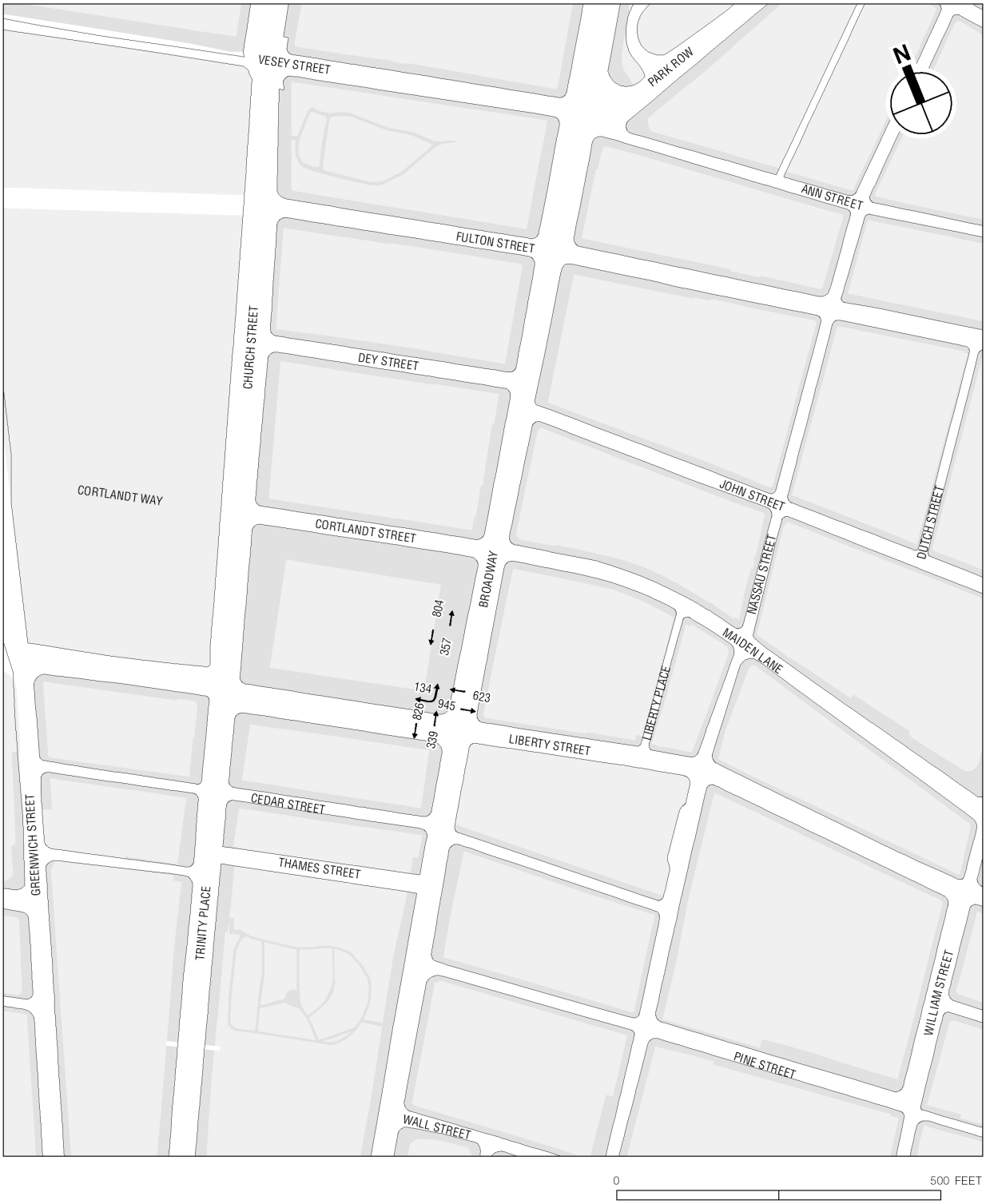


Figure 4E.3-8. No Action Pedestrian Volumes – World Trade Center/Fulton Street Study Area: Weekday PM Peak Hour



Figure 4E.3-9. Project Generated Pedestrian Trips – Herald Square/Penn Station Study Area: Weekday AM Peak Hour



Figure 4E.3-10. Project Generated Pedestrian Trips – Herald Square/Penn Station Study Area: Weekday PM Peak Hour

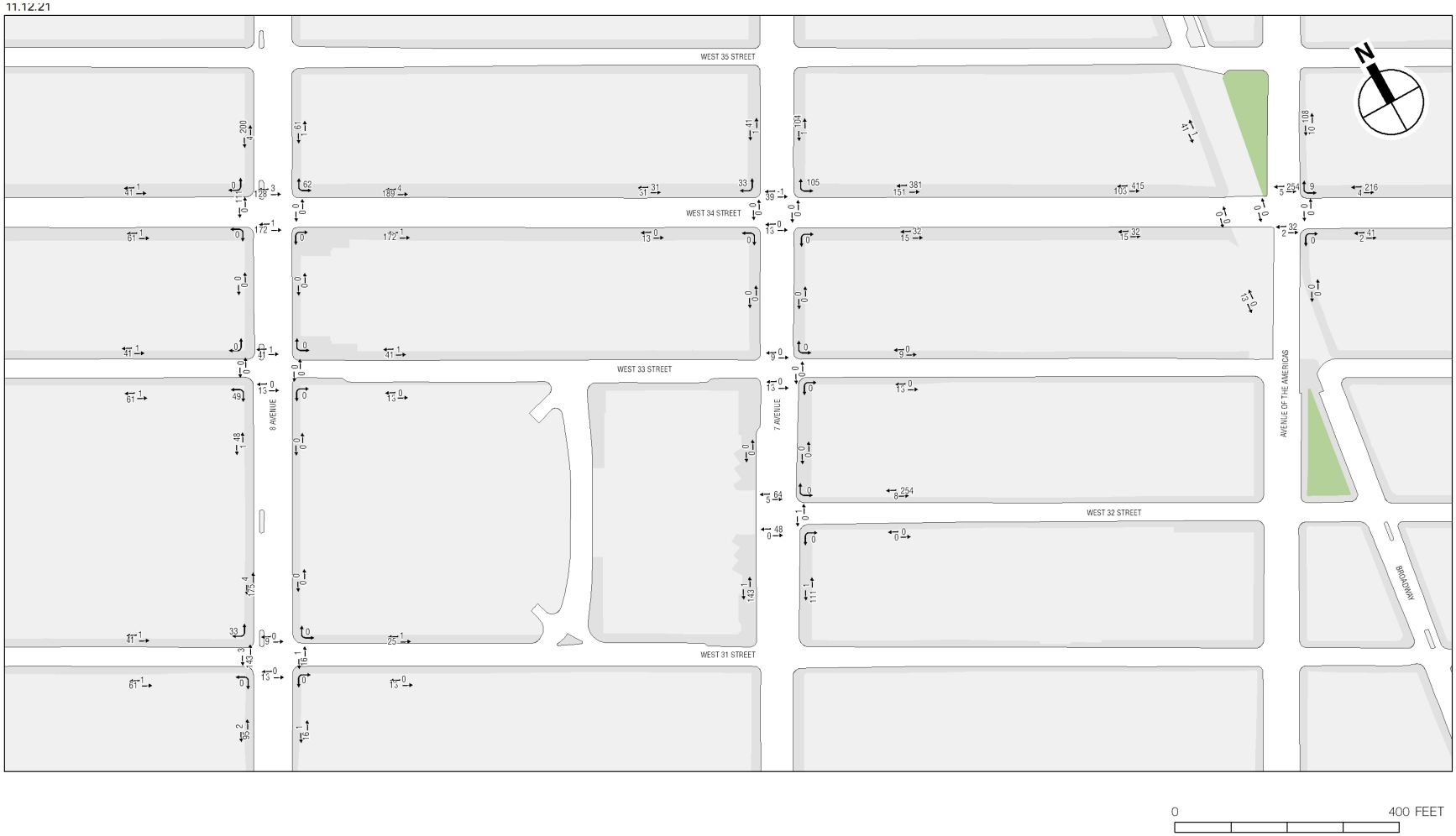


Figure 4E.3-11. Project Generated Pedestrian Trips – World Trade Center/Fulton Street Study Area: Weekday AM Peak Hour

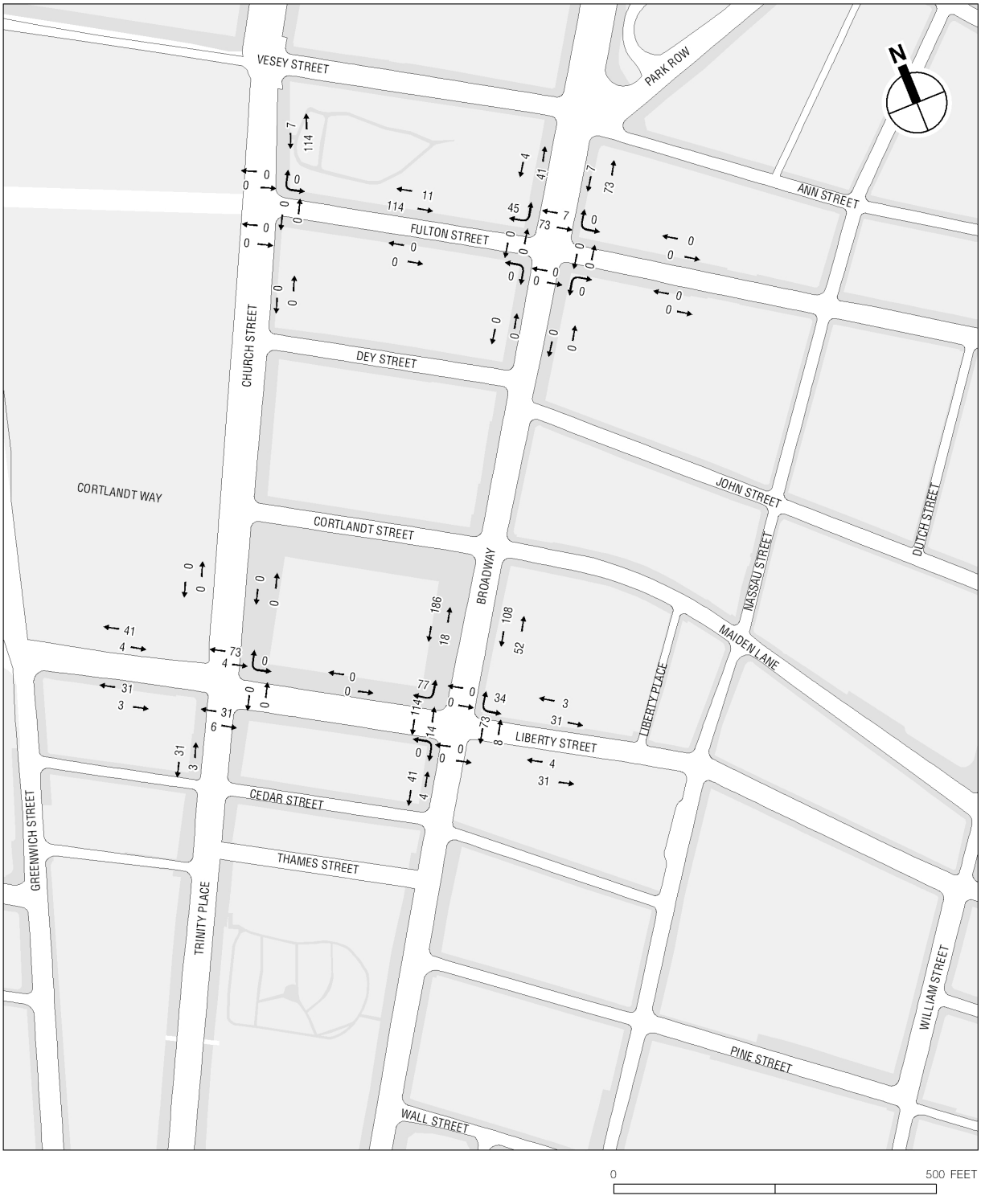


Figure 4E.3-12. Project Generated Pedestrian Trips – World Trade Center/Fulton Street Study Area: Weekday PM Peak Hour

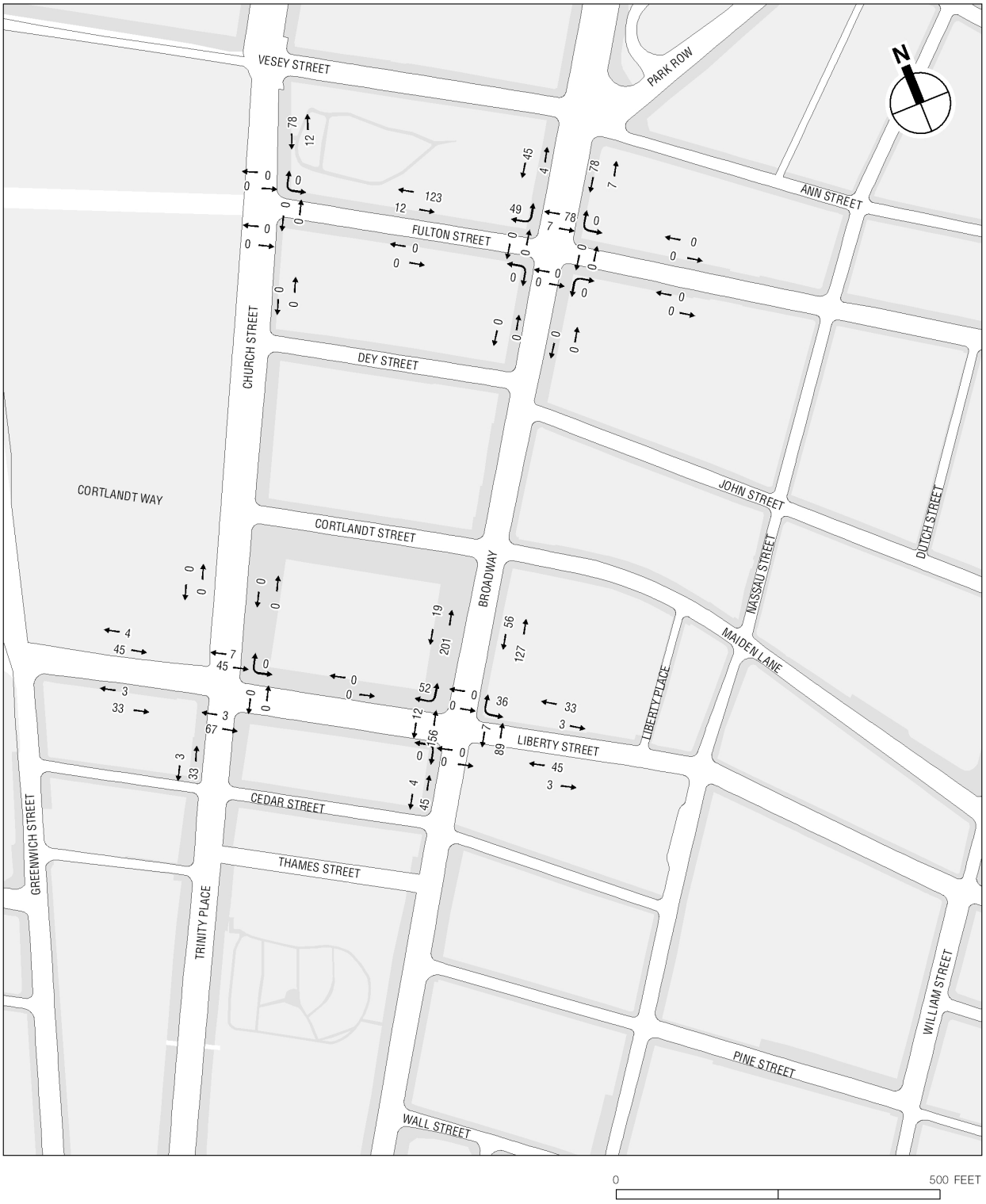


Figure 4E.3-13. With Action Pedestrian Volumes – Herald Square/Penn Station Study Area: Weekday AM Peak Hour

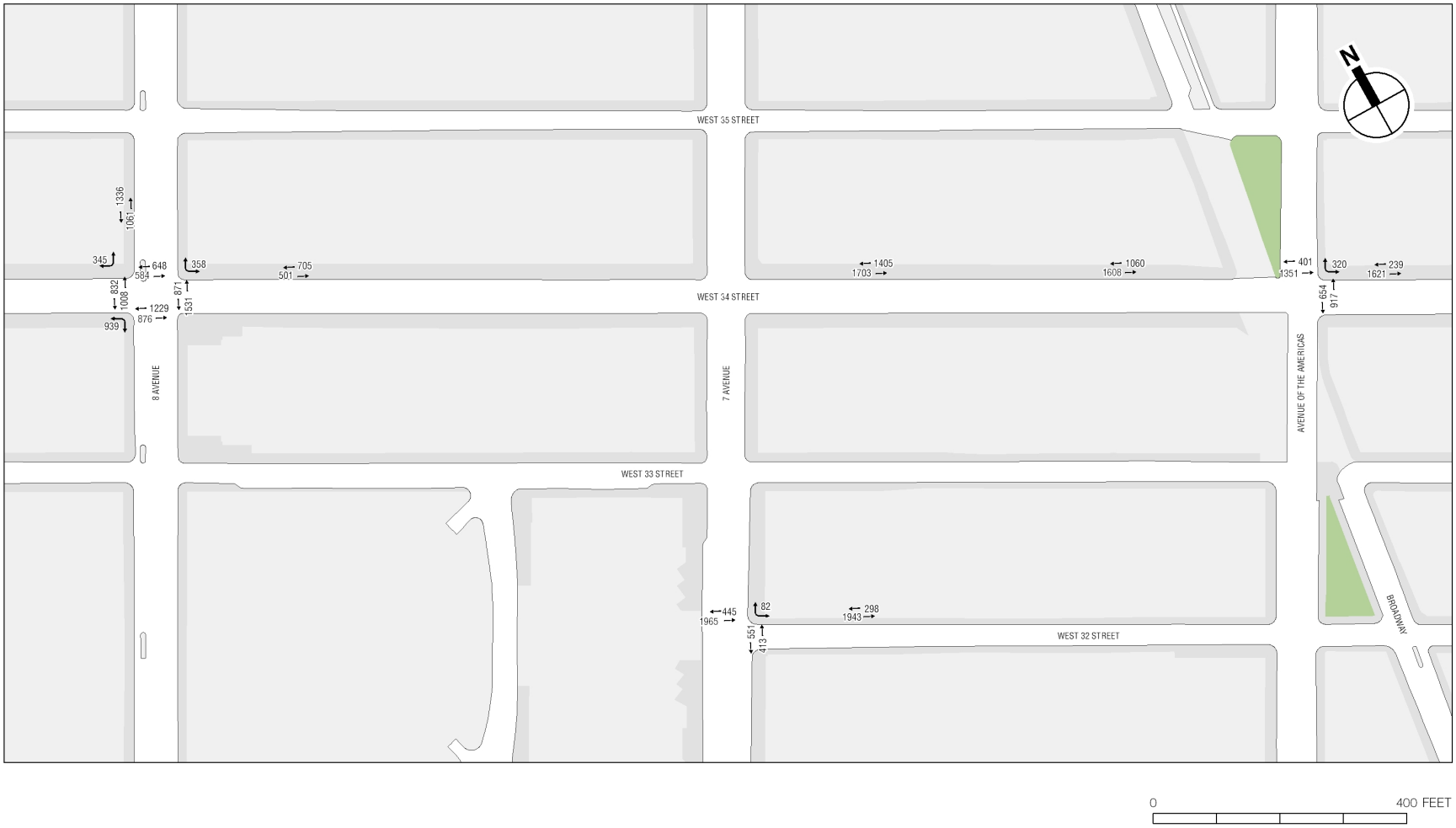


Figure 4E.3-14. With Action Pedestrian Volumes – Herald Square/Penn Station Study Area: Weekday PM Peak Hour

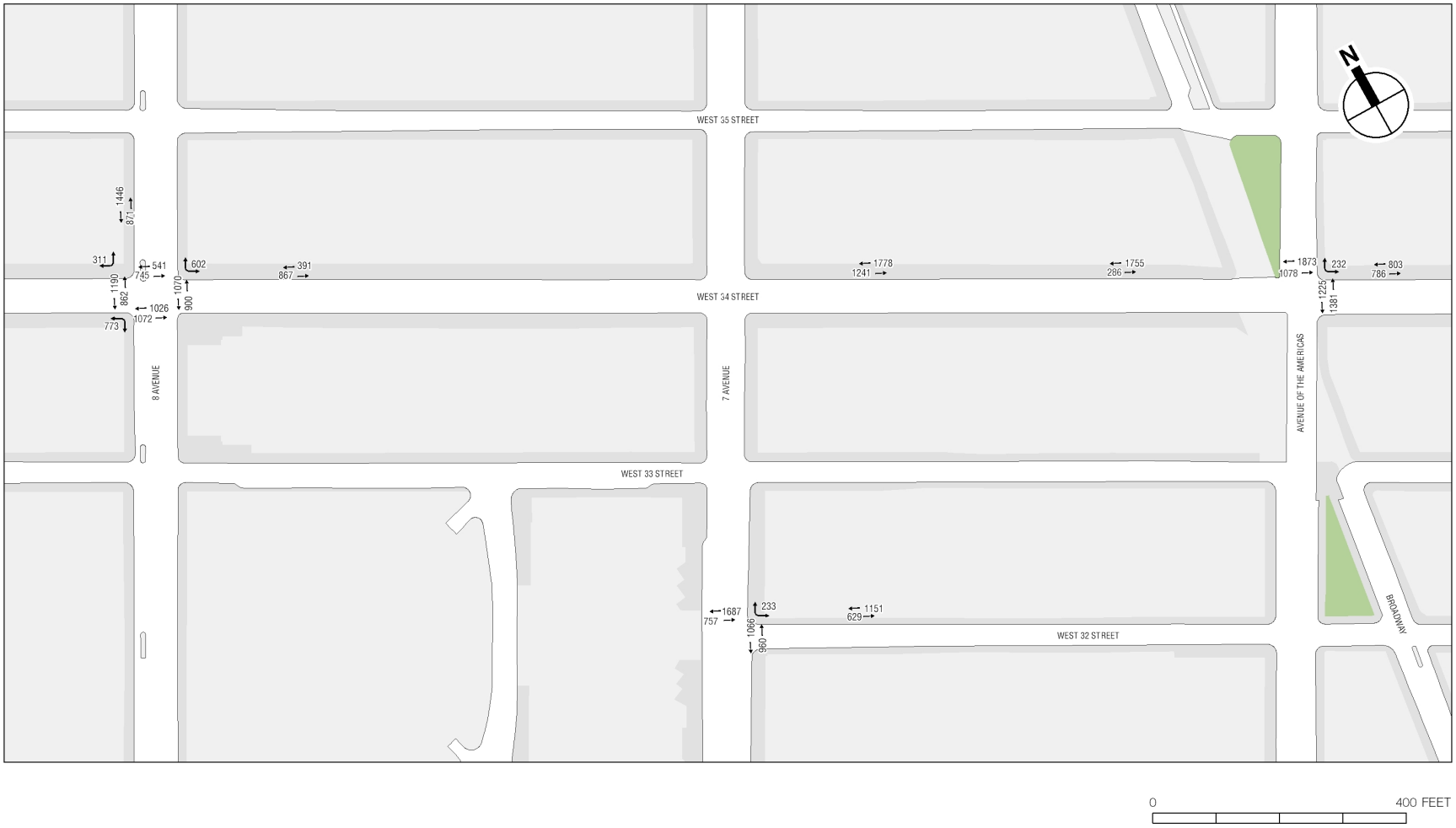


Figure 4E.3-15. With Action Pedestrian Volumes – World Trade Center/Fulton Street Station Study Area: Weekday AM Peak Hour



Figure 4E.3-16. With Action Pedestrian Volumes – World Trade Center/Fulton Street Station Study Area: Weekday PM Peak Hour



4E.4, Vehicular and Pedestrian Safety Evaluation

August 2022

METHODOLOGY

An evaluation of vehicular and pedestrian safety is necessary for locations within the pedestrian study areas that have been identified as high crash locations, where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent 3-year period for which data are available. NYCDOT crash data do not contain non-reportable crashes, which make up a negligible portion of intersection crashes, since nearly all involve property damage exceeding $1,000 or an injury or fatality. Therefore, only reportable crashes have been used to identify high-crash locations. For these locations, crash trends are identified to determine whether projected vehicular and pedestrian traffic would further adversely affect safety at these locations. The determination of potential effects depends on the type of area where the project site is located, traffic volumes, crash types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety are identified and coordinated with NYCDOT.

Additionally, the curb pedestrian ramps at the corners selected for detailed analysis were assessed based on the Americans with Disabilities Act (ADA) regulations. The direction, location, and type of the corner pedestrian ramps were evaluated to identify if the ramps meet minimum ADA compliance.

CRASH DATA

Crash data for the study area intersections were obtained from NYCDOT for the time period between January 1, 2015 and December 31, 2017. The data obtained quantify the total number of reportable crashes (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of vehicular crashes with pedestrians and bicycles at each location.

During the January 1, 2015 and December 31, 2017 three-year period, a total of 167 reportable crashes, consisting of one fatality, 116 injuries, and 63 pedestrian/bicyclist-related crashes occurred at the study area intersections. A rolling total of crash data identifies three high crash locations in the 2015 to 2017 period: 34th Street at Eighth Avenue, Seventh Avenue and Sixth Avenue/Broadway. **Table 4E.4-1** depicts total crash characteristics by intersection during the study period, as well as a breakdown of pedestrian and bicycle crashes by year and location.

Table 4E.4-2 shows a detailed description of each pedestrian/bicyclist-related crash at the high crash locations listed above during the three year period. As detailed below for each high crash location, most incidents were attributed to inattentiveness and failure to yield by motorists, as well as pedestrians and bicyclists. In recent years, the City's Vision Zero initiatives have led to the implementation of many safety interventions across the five boroughs and within the Manhattan CBD. These include separated bike lanes, high-visibility crosswalks, narrowed travel lanes, changes in signal timing to curb speeding, and addition of pedestrian signal countdown timers. Based on the review performed for each of the high-crash locations, additional safety measures were recommended where available to further enhance safety at these locations.

Table 4E.4-1. Crash Summary

INTERSECTION		STUDY PERIOD						CRASHES BY YEAR						
		All Crashes by Year			All Crashes Highest 12-Month Rolling	Total Fatalities	Total Injuries	Pedestrian			Bicycle			Ped + Bike 12 consecutive month maximum
North-South Roadway	East-West Roadway	2015	2016	2017				2015	2016	2017	2015	2016	2017	
Church Street	Fulton Street	2	2	2	3	0	4	1	0	0	0	0	0	1
Church Street	Liberty Street	0	0	4	4	0	4	0	0	1	0	0	0	1
Broadway	Fulton Street	2	0	4	4	0	7	0	0	2	1	0	0	2
Broadway	Liberty Street	2	0	3	3	0	11	1	0	2	1	0	0	2
Whitehall Street	State/Water Street	1	3	5	6	1	5	1	2	3	0	0	0	4
Eighth Avenue	31st Street	3	5	11	11	0	7	0	2	0	0	1	0	3
Eighth Avenue	33rd Street	4	13	4	13	0	10	1	1	0	0	0	0	1
Seventh Avenue	32nd Street	6	5	10	10	0	13	1	1	1	0	1	2	3
Eighth Avenue	**34th Street**	**5**	**15**	**6**	**15**	**0**	**21**	**3**	**8**	**2**	**0**	**1**	**0**	**9**
Seventh Avenue	**34th Street**	**7**	**7**	**11**	**11**	**0**	**20**	**2**	**4**	**3**	**2**	**0**	**2**	**5**
Seventh Avenue	33rd Street	2	3	1	3	0	3	0	1	0	1	0	0	1
Broadway/Sixth Ave	**34th Street**	**5**	**5**	**9**	**9**	**0**	**11**	**1**	**1**	**3**	**1**	**2**	**0**	**5**

Source: NYCDOT January 1, 2015, and December 31, 201,7 crash data.
Note: Bold intersections are high crash locations

Table 4E.4-2. Vehicle and Pedestrian Crash Details

INTERSECTION	YEAR	DATE	TIME	CRASH CLASS		ACTION OF VEHICLE	ACTION OF PEDESTRIAN	CAUSE OF CRASH			
				Injured	Killed			Left/Right Turns	Pedestrian Error/ Confusion	Driver Inattention	Other
Eighth Avenue and 34th Street	2015	3/11	18:31	X		Making left turn – northwest	Crossing with signal	X			Turning improper, Traffic control devices disregarded
		4/20	11:20	X		Making left turn – west	Crossing with signal	X			Failure to yield R.O.W.
		8/20	3:30	X		Going straight – north	Crossing, no signal, marked crosswalk		X		
	2016	1/12	12:00	X		Going straight – west	Not in roadway				Unknown
		1/13	12:45	X		Going straight – north	Crossing with signal				Unknown
		4/20	7:03	X		Slowed or stopping – northwest	Crossing with signal				Unknown
		8/19	13:35	X		Going straight – east	Crossing with signal				Cell phone (handheld)
		8/28	21:40	X		Going straight – west	Making right turn – west	X		X	
		8/29	20:05	X		Making left turn – west	Crossing against signal	X	X		
		9/16	17:05	X		Making right turn – east	Unknown	X	X		
		10/12	12:00	X		Going straight – east	Not in roadway				Oversized vehicle
		11/18	6:10	X		Making right turn – north	Crossing with signal	X			
	2017	5/3	12:04	X		Making right turn – north	Unknown	X			
		6/17	19:54	X		Going straight – west	Crossing against signal		X		

INTERSECTION	YEAR	DATE	TIME	CRASH CLASS		ACTION OF VEHICLE	ACTION OF PEDESTRIAN	CAUSE OF CRASH			
				Injured	Killed			Left/Right Turns	Pedestrian Error/ Confusion	Driver Inattention	Other
Seventh Avenue and 34th Street	2015	2/4	23:14	X		Making right turn-southeast	Crossing with signal	X			
		3/12	21:20	X		Starting from parking – south	Crossing, no signal or crosswalk			X	Driver inexperience
		8/25	12:03	X		Making U-turn – west	Along highway with traffic	X			Drugs (Illegal), Unsafe lane changing
		12/4	17:30	X		Going straight – west	Crossing with signal				Unsafe lane changing
	2016	4/10	18:40	X		Going straight – south	Emerge from behind parked vehicle				Unknown
		4/17	14:50	X		Going straight – south	Crossing with signal				Unknown
		4/27	17:30	X		Going straight – west	Crossing with signal				Unknown
		9/20	14:45	X		Going straight – west	Crossing, no signal or crosswalk		X	X	
	2017	6/2	9:25	X		Going straight – east	Crossing against signal		X		
		6/25	19:28	X		Going straight – east	Going straight – west				Alcohol involvement, Passing or lane change improperly
		7/12	21:45	X		Going straight – east	Crossing against signal		X		
		9/29	15:20	X		Unknown – south	Unknown				Unknown
		12/8	13:00	X		Starting in traffic – south	Going straight – south			X	
Broadway/ Sixth Avenue and 34th Street	2015	5/22	20:10	X		Going straight – east	Crossing, no signal or crosswalk			X	
		10/23	15:15	X		Going straight – north	Along highway with traffic				View obstructed/ limited
	2016	3/21	10:15	X		Going straight – east	Along highway with traffic				Unknown
		7/27	17:00	X		Going straight – west	Crossing against signal		X	X	Passenger distraction
		8/4	23:15	X		Going straight – west	Going straight – north				Failure to yield R.O.W., Traffic control devices disregarded
	2017	10/14	18:41	X		Going straight – west	Emerge from behind parked vehicle		X		Passing or lane usage improperly
		10/23	22:30	X		Going straight – west	Unknown				Unknown
		12/14	18:20	X		Going straight – west	Crossing with signal		X		

Source: NYCDOT January 1, 2015 and December 31, 2017 crash data

EIGHTH AVENUE AND WEST 34TH STREET

Based on the review of the crash history at the intersection of Eighth Avenue and West 34th Street, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded crashes. However, it is worth noting that half of the recorded pedestrian/bicycle crashes involve a left or right turning movement conflict. The intersection is signalized and provides four high visibility crosswalks. In addition, countdown timers are present on all four crosswalks. There is also a northbound protected bike lane on Eighth Avenue with a vehicular left turn bay and mixing zone to allow turning vehicles to cross over through bicyclists. North of the intersection, Eighth Avenue has a wide pedestrian island adjacent to the curbside bike lane to provide pedestrian refuge space. In terms of project-generated activity, this intersection would experience incremental peak hour volume increases of 260 or fewer pedestrian trips at any crosswalk during either of the two analysis peak hours. This level of increase represents a small percentage (five percent) of existing and future background pedestrian volumes at the intersection and would have imperceptible effects to the intersection's operations and safety conditions. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related crashes. Nonetheless, additional safety measures, such as the implementation of a leading pedestrian interval for the east and west crosswalks, or restriction of some or all turning movements conflicting with pedestrians and bicycles, can be considered to further improve pedestrian and bicycle safety at this intersection.

SEVENTH AVENUE AND WEST 34TH STREET

Based on the review of the crash history at the intersection of Seventh Avenue and West 34th Street, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded crashes. The intersection is signalized and provides four high visibility crosswalks. In addition, countdown timers are present on all four crosswalks. In terms of project-generated activity, this intersection would experience incremental peak hour volume increases of 70 or fewer pedestrian trips at any crosswalk during either of the two analysis peak hours. This level of increase represents a small percentage (one percent) of existing and future background pedestrian volumes at the intersection and would have imperceptible effects to the intersection's operations and safety conditions. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related crashes. Nonetheless, additional safety measures, such as the restriping of the south and west crosswalks, can be considered to further improve pedestrian and bicycle safety at this intersection.

SIXTH AVENUE/BROADWAY AND WEST 34TH STREET

Based on the review of the crash history at the intersection of Sixth Avenue/Broadway and West 34th Street, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded crashes. The intersection is signalized and provides four high visibility crosswalks. In addition, countdown timers are present on the north, east, and south crosswalks. A regular pedestrian timer serves the west crosswalk. There is also a northbound protected bike lane on Sixth Avenue and a southbound

protected bike lane within the Broadway pedestrian plaza. In terms of project-generated activity, this intersection would experience incremental peak hour volume increases of 265 or fewer pedestrian trips at any crosswalk during either of the two analysis peak hours. This level of increase represents a small percentage (three percent) of existing and future background pedestrian volumes at the intersection. The CBD Tolling Alternative would result in an adverse pedestrian effect at the north crosswalk of this intersection, which will be fully mitigated using standard measures. Therefore the proposed project would not exacerbate any of the current causes of pedestrian-related crashes at this location. Nonetheless, additional safety measures, such as the installation of countdown timers on the west crosswalk, and bicycle signal heads on the north and south crosswalk, can be considered to further improve pedestrian and bicycle safety at this intersection.

ADA COMPLIANCE ASSESSMENT

An assessment of corner ramps was conducted in December 2021 for locations selected for detailed pedestrian analysis using street view images captured in July and August 2021. As summarized in Table 4E.4-3, all the corners in the study area are equipped with one or more pedestrian ramps. Tactile warning strips are available where individual curb ramps for each crosswalk are installed; however, they are not provided in contrasting colors. Therefore, these corner ramps do not meet the minimum ADA compliance.

Table 4E.4-3. CBD Tolling Program Corner Pedestrian Ramp Analysis Locations: Minimum ADA Compliance Assessment

INTERSECTION	CORNER	INDIVIDUAL CURB RAMPS FOR EACH CROSSWALK	TACTILE WARNING STRIP WITHIN CURB RAMP THAT IS OF A CONTRASTING COLOR	MINIMUM ADA COMPLIANCE?
Eighth Avenue and West 34th Street	Northwest	Yes	No	No
	Northeast	No; only one Ramp facing the intersection center	No	No
	Southwest	No; only one Ramp facing the intersection center	Yes	No
Sixth Avenue and West 34th Street	Northeast	No; only one Ramp facing the intersection center	No	No
Seventh Avenue and West 32nd Street	Northeast	No; only one Ramp facing the intersection center	No	No
Broadway and Liberty Street	Northwest	Yes	No	No

4E.5, Pedestrian Analysis at Commuter Rail Stations in the Regional Study Area including the East Side Access Project

August 2022

INTRODUCTION

This appendix follows the format and methodologies of **Subchapter 4E, "Transportation: Pedestrians and Bicycles"** to describe the potential effects of the CBD Tolling Program (the Project) on pedestrian circulation; bicycle routes and bicycle infrastructure; and vehicular, pedestrian, and bicycle safety, assuming the completion and operation of the East Side Access (ESA) Project under 2023 No Action and With Action conditions. This appendix provides revised analysis results where they differ from those without the ESA Project to evaluate lesser or greater effects of the Project with the ESA Project. Additionally, this appendix includes comparisons of the potential effects of the Project with the ESA Project to those without the ESA Project. In general, the analysis results presented in **Subchapter 4E, "Transportation: Pedestrians and Bicycles"** without the ESA Project for pedestrian circulation are more conservative, since three pedestrian elements with the potential for adverse effects with the Project are identified, as compared to one pedestrian element with the potential for adverse effects with the Project with the ESA Project, as identified in this appendix. According to the analysis of bicycles and street user safety under the alternative with the ESA Project presented herein, there would not be adverse effects, which were the same conclusions presented in **Subchapter 4E, "Transportation: Pedestrians and Bicycles"** without the ESA Project.

PEDESTRIAN CIRCULATION

Methodology

The analysis of pedestrian circulation in this appendix was conducted using the same *CEQR Technical Manual* methodologies and effects criteria and analysis steps outlined in **Subchapter 4E, "Transportation: Pedestrians and Bicycles."** An abbreviated summary of the analysis steps is provided:

- Based on the New York Metropolitan Transportation Council (NYMTC) Best Practice Manual (BPM) results for the Project including ESA in No Action and With Action 2023 conditions, the analysis identified all transit stations where the CBD Tolling Alternative would result in 200 or more new pedestrian trips in the busiest hour for any tolling scenario.
- For transit stations where the CBD Tolling Alternative would result in 200 or more new pedestrian trips in the peak hour for any tolling scenario, the analysis identified any specific location—such as at a particular intersection—that would have an increase of 200 or more new pedestrian trips in the peak hour.
- For transit stations where the CBD Tolling Alternative would result in 200 or more new pedestrian trips at a specific location in the peak hour for any tolling scenario, the analysis involved assigning those trips along the most direct and logical routes to workplaces, residences, and other key destinations to identify individual pedestrian elements that would experience an increase in pedestrian activity in the peak hour. Pedestrian elements are defined as the street components used by people walking,

including sidewalks, crosswalks, and street corners (called "corner reservoirs"[1]). This quantified analysis used the methodologies presented in the 2010 *Highway Capacity Manual*. Using these methodologies, the primary performance measure for pedestrian circulation is pedestrian space, expressed as square feet per pedestrian (SFP), which indicates the quality of pedestrian movement and comfort. The calculation of SFP was based on the pedestrian volumes by direction, the effective sidewalk or walkway width, and pedestrians' average walking speeds. The SFP formed the basis for a sidewalk Level of Service (LOS) analysis.[2]

- At transit stations where the increase in pedestrians would be fewer than 200 people in the peak hour at any specific location, no adverse effect would occur to pedestrian conditions for any tolling scenario, based on the *CEQR Technical Manual* guidance.

Tolling Scenario Selected for this Pedestrian Analysis

Similar to **Subchapter 4E, "Transportation: Pedestrians and Bicycles"**, the tolling scenario that would result in the greatest increase in new pedestrian trips at transit stations within the Manhattan CBD, Tolling Scenario E, was used for quantified analysis of the 2023 With Action condition including ESA.

Locations for Pedestrian Analysis

The CBD Tolling Alternative without the ESA Project identified 16 transit stations—both within and outside the Manhattan CBD—that would result in more than 200 new peak-hour pedestrian trips (refer to **Figure 4E-1** and **Table 4E-1**). Fifteen of those transit stations would similarly result in more than 200 new peak-hour pedestrian trips with the ESA Project, with only the Secaucus NJ TRANSIT station being excluded. The CBD Tolling Alternative with the ESA Project would not result in any additional transit stations that would exceed more than 200 new peak-hour pedestrian trips. **Figure 4E.5-1 and Table 4E.5-1** shows the pedestrian analysis study area with the ESA Project.

Following the steps described in the discussion of methodology, three areas (**Table 4E.5-1 and Figure 4E.5-1**) would have more than 200 new pedestrians in the peak hour at an individual pedestrian element (i.e., crosswalk, sidewalk, or corner reservoir). Those areas are as follows:

- Herald Square/Penn Station New York
- Grand Central Terminal
- World Trade Center/Fulton Street

Two of these areas, Herald Square/Penn Station New York and World Trade Center/Fulton Street similarly exceeded 200 new pedestrians in the peak hour at one or more individual pedestrian elements without the ESA Project. Grand Central Terminal would also exceed 200 new pedestrians in the peak hour at one or

[1] As described in **Appendix 4E.1, "Transportation: Methodologies and Adverse Effect Criteria,"** corner reservoirs are the corner areas of sidewalks, serving both standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner).

[2] As described in **Appendix 4E.1**, LOS is a scale used to describe the operations of traffic, transit, or pedestrian facilities based on quantified information. LOS ranges from A (uncongested) to F (substantially congested/poor operation). The specific parameters used to define LOS vary by the type of analysis.

more individual pedestrian elements with the ESA Project. There would be imperceptible volume differences (fewer than 20 pedestrians per peak hour) at World Trade Center/Fulton Street with the ESA Project, such that the conclusions presented without the ESA Project (in **Subchapter 4E, "Transportation: Pedestrians and Bicycles"**) would not change and the CBD Tolling Alternative would similarly not result in any adverse pedestrian effects at pedestrian elements near World Trade Center/Fulton Street. Hence, revised analyses for the World Trade Center/Fulton Street area are not presented in this appendix. The pedestrian trips at Herald Square/Penn Station New York with the ESA Project would be approximately 18-percent lower than without the ESA Project. Since adverse effects and project improvement measures were previously disclosed at Herald Square/Penn Station New York, revised analyses are presented within this appendix. New analyses are presented for Grand Central Terminal within this appendix.

Affected Environment

The existing pedestrian circulation conditions are presented in this section to characterize the affected environment for the Project. For the two station areas where the CBD Tolling Alternative would result in 200 or more new pedestrians in the peak hour at any pedestrian element where revised quantified analyses were performed under the alternative with the ESA Project—Herald Square/Penn Station New York and Grand Central Terminal—the next step was to identify specific locations that would experience this level of new pedestrian trips because of the Project. Pedestrian trips generated by the Project were distributed among different station entrances to the street network, and pedestrian elements which would incur 200 or more trips in the peak hour were selected for detailed analysis, as presented following the existing conditions summary. At these locations, the analysis used detailed information on existing pedestrian volumes and physical layout of the intersection (e.g., sidewalk and crosswalk widths, the presence of street furniture) to evaluate conditions in the affected environment. There have been no major changes in the geometric layouts of the locations analyzed since 2019.

Figure 4E.5-1. Pedestrian Analysis Study Area



Sources: ArcGIS Online, https://www.arcgis.com/index.html.

Table 4E.5-1. Transit Station Pedestrian Trip Assessment with the ESA Project

TRANSIT STATIONS THAT WOULD HAVE MORE THAN 200 NEW PEDESTRIANS PER HOUR	INDIVIDUAL PEDESTRIAN ELEMENT THAT WOULD HAVE MORE THAN 200 NEW PEDESTRIANS PER HOUR
1. 14 Street–Union Square, Manhattan CBD (Nos. 4/5/6, and L/N/R/Q/W subway lines)	No
2. Herald Square/Penn Station New York, Manhattan CBD, includes the following: a. 34 Street–Herald Square subway station (B/D/F/ M/N/Q/R/W subway lines) b. 34 Street–Penn Station subway station (Nos. 1/2/3 subway lines) c. 34 Street–Penn Station subway station (A/C/E subway lines) d. 33rd Street Port Authority Trans-Hudson (PATH) Station e. New York Pennsylvania Station (Amtrak, Long Island Rail Road [LIRR], NJ TRANSIT)	Yes
3. 42 Street–Bryant Park, Manhattan CBD (B/D/F/M subway lines and connection to Fifth Avenue [No. 7 subway line])	No
4. 47-50 Streets-Rockefeller Center, Manhattan CBD (B/D/F/M subway lines)	No
5. Broadway–Lafayette Street, Manhattan CBD (B/D/F/M and No. 6 subway lines)	No
6. Canal Street, Manhattan CBD (J/N/Q/R/W/Z and No. 6 subway lines)	No
7. Canal Street, Manhattan CBD (A/C/E subway lines)	No
8. World Trade Center/Fulton Street, Manhattan CBD, includes the following: a. Fulton Street subway stations (Nos. 2/3/4/5 and A/C/J/Z subway lines) b. World Trade Center Station (PATH) c. Cortlandt Street Station (R/W subway lines)	Yes
9. Flushing Main Street, Queens County, New York (No. 7 subway line)	No
10. Atlantic Terminal, Kings County (Brooklyn), New York, includes the following: a. Atlantic Avenue-Barclays Center subway station (Nos. 2/3/4/5 and B/D/N/Q/R/W subway lines) b. Atlantic Terminal (LIRR)	No
11. Grand Central Terminal, Manhattan CBD, includes the following: a. 42 Street–Grand Central subway station (Nos. 4/5/6/7 and S subway lines) b. Grand Central Terminal (Metro-North Railroad)	Yes
12. Lexington Avenue/53 Street, Manhattan CBD (E/M subway lines and connection to 51 Street [No. 6 subway line])	No
13. Second Avenue, Manhattan CBD (F/M subway lines)	No
14. Wall Street, Manhattan CBD (Nos. 2/3 subway lines)	No
15. Hoboken Terminal, Hudson County, New Jersey (PATH and NJ TRANSIT)	No

Existing pedestrian and traffic data were collected in June and October 2019 at the analysis locations adjacent to Herald Square/Penn Station New York and Grand Central Terminal using the methodologies presented in Subchapter 4E, "Transportation: Pedestrians and Bicycles" to establish the peak hours of activity that would be affected by the Project. Using the methodology presented for pedestrian circulation, this section summarizes and Table 4E.5-2 presents the LOS analysis results for the study area pedestrian elements near the two transit station areas that were evaluated for differences under the alternative with the ESA Project (as previously stated, there would be no change in the analysis results or conclusions at the pedestrian elements analyzed at the World Trade Center/Fulton Street station area, and

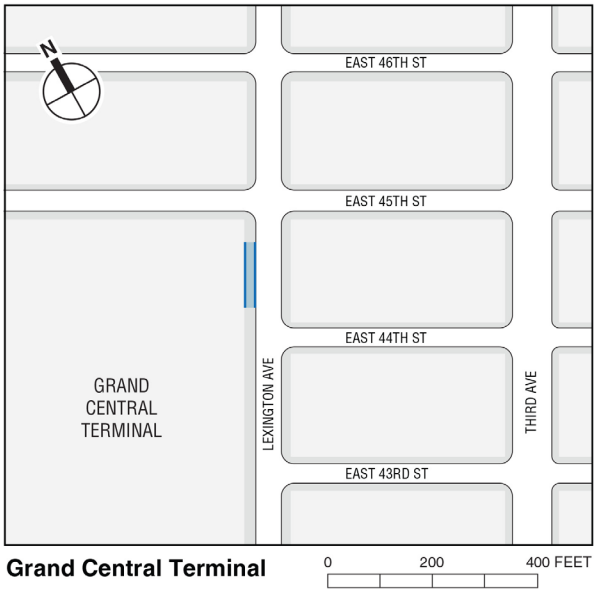
the analysis results for that station area are not repeated in this appendix). The locations of all pedestrian elements considered in the analysis of the alternative with the ESA Project (including World Trade Center/Fulton Street pedestrian elements) are presented in Figure 4E.5-2. Existing pedestrian LOS tables and peak-hour pedestrian volume figures are presented at the end of this appendix (Tables 4E.5-5 through 4E.5-8 and Figures 4E.5-3 through 4E.5-6.

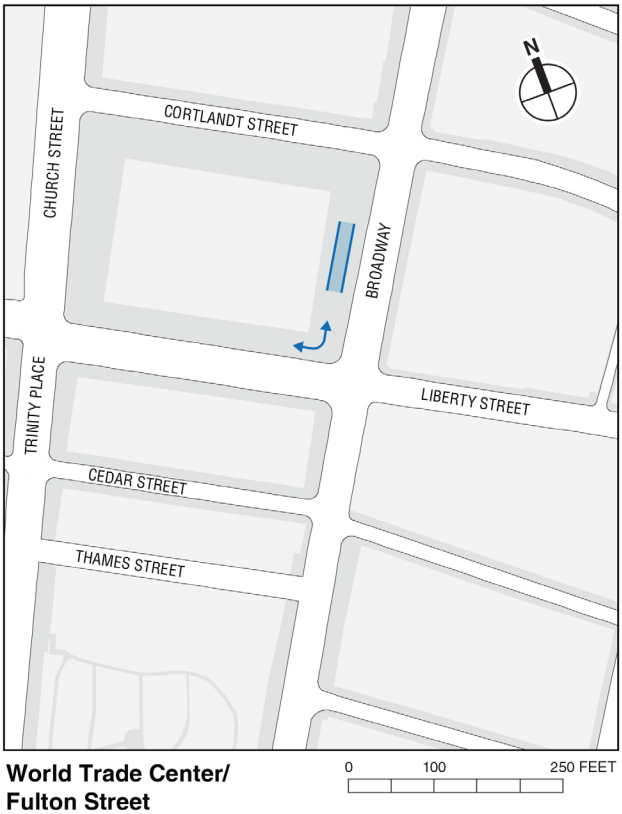
Table 4E.5-2. Existing Conditions Pedestrian Analysis Results with the ESA Project (2019)

TRANSIT STATION AREA	PEAK HOUR	PEDESTRIAN ELEMENT	NUMBER OF ANALYSIS LOCATIONS	NUMBER OF LOCATIONS THAT OPERATE AT			
				LOS C or Better	LOS D	LOS E	LOS F
Herald Square/Penn Station New York	AM	Sidewalks	4	4	0	0	0
		Corner Reservoirs	4	4	0	0	0
		Crosswalks	2	1	0	1	0
	PM	Sidewalks	4	4	0	0	0
		Corner Reservoirs	4	4	0	0	0
		Crosswalks	2	1	0	0	1
Grand Central Terminal	AM	Sidewalks	1	0	0	1	0
	PM	Sidewalks	1	0	0	1	0

Figure 4E.5-2. Pedestrian Analysis Locations and Adverse Effects







Corner
Crosswalk
Crosswalk (Adversely Effected Element)
Sidewalk

Sources: ArcGIS Online, https://www.arcgis.com/index.html.

The following two sections provide further detail on the pedestrian elements and results presented in the above table, and briefly describe the process by which the pedestrian elements were selected for detailed analysis using the previously presented methodology.

Herald Square/Penn Station New York

The detailed assignment of pedestrian trips near Herald Square/Penn Station New York resulted in a maximum of 1,695 new pedestrian trips in either peak hour with the ESA Project (2,051 without the ESA Project), which would result in 200 or more peak-hour pedestrian trips at the following 10 pedestrian elements:

- North sidewalk of West 34th Street between Seventh and Eighth Avenues
- North sidewalk of West 34th Street between Broadway and Seventh Avenue
- North sidewalk of West 34th Street between Seventh Avenue and Broadway
- North sidewalk of West 32nd Street between Sixth and Seventh Avenues
- Northwest corner of Eighth Avenue and West 34th Street
- Southwest corner of Eighth Avenue and West 34th Street
- Northeast corner of Eighth Avenue and West 34th Street
- Northeast corner of Sixth Avenue and West 34th Street
- North crosswalk of Eighth Avenue and West 34th Street
- North crosswalk of Sixth Avenue and West 34th Street

All of these 10 pedestrian elements were previously analyzed in Subchapter 4E, "Transportation: Pedestrians and Bicycles". Most of these pedestrian elements operate at LOS D (which is considered marginally acceptable) operations or better. The following location operates at congested LOS E or LOS F conditions:

The north crosswalk of Sixth Avenue and West 34th Street operates at LOS E in the AM peak hour and LOS F in the PM peak hour.

The following four pedestrian elements that were previously analyzed would no longer exceed the analysis threshold of 200 or more peak-hour pedestrian trips with the ESA Project:

- West sidewalk of Eighth Avenue between West 35th and West 34th Streets
- North sidewalk along West 34th Street between Sixth and Fifth Avenues
- Northeast corner of Seventh Avenue and West 32nd Street
- North crosswalk of Seventh Avenue and West 32nd Street

Furthermore, at two of these pedestrian elements (the west sidewalk of Eighth Avenue between 35th and West 34th Streets and the north crosswalk of Seventh Avenue and West 32nd Street), there would not be the potential for adverse pedestrian effects under the alternative with the ESA Project, and project improvements would not be necessary.

Grand Central Terminal

Based on the detailed assignment of pedestrian trips near Grand Central Terminal (1,407 new pedestrian trips in the peak hour with the ESA Project compared to 1,205 without the ESA Project), the CBD Tolling Alternative would result in 200 or more peak-hour pedestrian trips at the following pedestrian element:

- West sidewalk of Lexington Avenue between East 44th and East 45th Streets

This pedestrian element operates at LOS E during both peak hours.

Environmental Consequences

No Action Alternative

Under the No Action Alternative, the Project Sponsors would not implement a vehicular tolling program. Pedestrian volumes would be similar to pre-pandemic levels as described above. No Action Alternative pedestrian volumes for all analysis locations were increased by 0.5 percent to reflect potential growth from new development in the area. Additionally, for the Grand Central Terminal area, pedestrian trips from the One Vanderbilt project—which is a very large commercial office building that was completed after existing pedestrian counts were collected in 2019—were also included in the pedestrian volume projections for the No Action Alternative. According to the latest ESA Project passenger flow projections, the specific pedestrian element being analyzed for the CBD Tolling Alternative with the ESA Project in the Grand Central Terminal area (the west sidewalk of Lexington Avenue between East 45th and East 45th Streets) would not have additional pedestrian volumes from the ESA Project; therefore, only the background growth rate and any applicable One Vanderbilt project trips were added in the No Action. For the Herald Square/Penn Station New York station area, to be conservative, the benefits of the reduced activity from the ESA Project were not reflected in the No Action. In the No Action Alternative, all the analysis locations would continue to operate at the same LOS as existing conditions. No Action Alternative pedestrian LOS tables and peak-hour pedestrian volume figures are presented at the end of this appendix (Tables 4E.5-9 through 4E.5-12 and Figures 4E.5-7 through 4E.5-10).

CBD Tolling Alternative

This section describes the effects of the CBD Tolling Alternative on future pedestrian conditions at the Herald Square/Penn Station New York and Grand Central Terminal station areas. As previously stated, future pedestrian conditions would not change with the ESA Project at the World Trade Center/Fulton Street station area, and the results are not repeated in this appendix.

At the other transit stations presented in Table 4E.5-1 aside from the three identified as having one or more pedestrian elements with greater than 200 pedestrians per hour, the volume of pedestrian trips would be distributed among different station entrances and different locations around the station, and the CBD Tolling Alternative would not result in adverse effects on pedestrian conditions with the ESA Project. Additionally, because the additional volume of pedestrian trips generated by the Project adjacent to all other transit facilities in the regional study area would be even lower than at commuter rail and subway

stations presented in Table 4E.5-1, the CBD Tolling Alternative would not result in adverse effects on pedestrian conditions at other transit facilities.

For the Herald Square/Penn Station New York and Grand Central Terminal areas, the revised projected increments for Tolling Scenario E, based on the BPM results, were added to the No Action Alternative volumes to determine the CBD Tolling Alternative volumes (Table 4E.5-3). With Action pedestrian LOS tables and peak-hour pedestrian volume figures are presented at the end of this appendix (Tables 4E.5-13 through 4E.5-21 and Figures 4E.5-11 through 4E.5-18).

Table 4E.5-3. CBD Tolling Alternative Pedestrian Analysis Results with the ESA Project

TRANSIT STATION AREA	PEAK HOUR	PEDESTRIAN ELEMENT	NUMBER OF ANALYSIS LOCATIONS	NUMBER OF LOCATIONS THAT OPERATE AT			
				LOS C or Better	LOS D	LOS E	LOS F
Herald Square/Penn Station New York	AM	Sidewalks	4	3	1	0	0
		Corner Reservoirs	4	4	0	0	0
		Crosswalks	2	1	0	1	0
	PM	Sidewalks	4	4	0	0	0
		Corner Reservoirs	4	4	0	0	0
		Crosswalks	2	1	0	0	1
Grand Central Terminal	AM	Sidewalks	1	0	0	1	0
	PM	Sidewalks	1	0	0	1	0

Herald Square/Penn Station New York

As under existing and No Action Alternative conditions, with implementation of the CBD Tolling Alternative, all analysis locations near Herald Square/Penn Station New York would operate at marginally acceptable LOS D or better except for the following:

- The north crosswalk of Sixth Avenue and West 34th Street would operate at LOS E in the AM peak hour and LOS F in the PM peak hour.

Although there would be no change in the number of congested LOS E or LOS F pedestrian elements with or without the Project, there would be slight deteriorations in SFP values. Based on the *CEQR Technical Manual* adverse effects criteria presented in Appendix 4E.1, the CBD Tolling Alternative would result in adverse pedestrian effects near Herald Square/Penn Station New York, as follows:

- The Sixth Avenue and West 34th Street north crosswalk would operate at LOS E with a decrease of 1.8 SFP in the AM peak hour and at LOS F with a decrease of 0.6 SFP in the PM peak hour compared to the No Action Alternative.

The potential adverse effects at this location can be resolved through standard measures that will be implemented as part of the Project. This measure would not affect existing bicycle infrastructure in the street. Increased pedestrian space on the crosswalk can be achieved via physical widening. Table 4E.5-4 shows the recommended measure and predicted conditions with the implementation. This measure will

be developed in coordination with NYCDOT prior to its implementation. Table 4E.5-4 also notes the relative ease of implementation of the recommended measure.

Table 4E.5-4. No Action Alternative, CBD Tolling Alternative, and CBD Tolling Alternative with Improvement Measures with the ESA Project—Pedestrian Level of Service Analysis—Herald Square/Penn Station New York

LOCATION	PROJECT IMPROVEMENT MEASURES	NO ACTION		CBD TOLLING		CBD TOLLING (IMPROVED)	
		SFP	LOS	SFP	LOS	SFP	LOS
Weekday AM Peak Hour							
Sixth Avenue and West 34th Street: north crosswalk	Widen the crosswalk by 1.5 feet (easy to implement). Crosswalk widening of 2.0 feet needed without the ESA Project.	12.8	E	11.0	E	12.0	E
Weekday PM Peak Hour							
Sixth Avenue and West 34th Street: north crosswalk	Widen the crosswalk by 1.5 feet (easy to implement). Crosswalk widening of 2.0 feet needed without the ESA Project.	6.8	F	6.2	F	6.8	F

As discussed above, the adverse effects and project improvement measures presented in Subchapter 4E, "Transportation: Pedestrians and Bicycles" on the west sidewalk of Eighth Avenue between 35th and West 34th Streets and the north crosswalk of Seventh Avenue and West 32nd Street without the ESA Project would not occur with the ESA Project.

Grand Central Terminal

With implementation of the CBD Tolling Alternative, the west sidewalk of Lexington Avenue between East 44th and East 45th Streets during the AM and PM peak hours would continue to operate at LOS E, with decreases of 1.0 SFP in both peak hours compared to the No Action Alternative. Based on the expected LOS and the *CEQR Technical Manual* adverse effects criteria, the CBD Tolling Alternative would not result in any adverse pedestrian effects at this or any other pedestrian elements near Grand Central Terminal.

BICYCLES

Methodology

Similar to Subchapter 4E, "Transportation: Pedestrians and Bicycles", the expected increase in bicycle trips at Herald Square/Penn Station New York and Grand Central Terminal, was prepared for the alternative with the ESA Project. There would be imperceptible volume differences (fewer than 20 pedestrians per peak hour) at the World Trade Center/Fulton Street station area; therefore, an assessment of bicycles with the ESA Project is not repeated herein since there would be no change in conclusions as compared to the Project without the ESA Project. The qualitative assessment compares the inventory of existing and

proposed bicycle facilities surrounding station areas that would generate the highest volume of bicycle trips from the Project to the estimated volume of peak-hour bicycle trips generated by the Project to determine the potential for adverse effects. Conditions with the ESA Project, and in comparison to results without the ESA Project presented in **Subchapter 4E, "Transportation: Pedestrians and Bicycles"** are described below.

Affected Environment

An abbreviated summary of the Affected Environment presented in **Subchapter 4E, "Transportation: Pedestrians and Bicycles"** has been included to describe conditions with the ESA Project near the aforementioned station areas. In the Manhattan CBD, several north–south avenues and many cross-streets have bicycle lanes that provide delineated bicycle travel adjacent to or separated from vehicular traffic. The bicycle network also connects to dedicated bicycle paths on the bridges to Brooklyn, Queens, and the Bronx, via the Staten Island Ferry to Staten Island, and across the George Washington Bridge to New Jersey. Encircling much of Manhattan, dedicated bikeways or shared-use paths extend through the length of most of Hudson River Park and the West Side Highway/Route 9A from the southern tip of Manhattan to the island's northern boundary with few gaps. Dedicated bikeways or shared-use paths also extend along much of the East Side along the East River waterfront.[3] North–south avenues (First, Second, Sixth, Seventh, Eighth, and Ninth Avenues) have bicycle lanes, and crosstown (east–west) bicycle lanes through the Manhattan CBD generally run in pairs on adjacent one-way streets, with small intervals between pairs. A summary of recently completed and future plans by NYCDOT for expansion of bicycle facilities in the Manhattan CBD can be found in **Subchapter 4E, "Transportation: Pedestrians and Bicycles."**

New York City has the nation's largest bicycle-sharing program—Citi Bike. People can rent bicycles at a kiosk or use a mobile app to pick up and return bicycles at any Citi Bike station. Approximately 1,300 Citi Bike stations with 20,000 bicycles are in New York City and approximately 260 Citi Bike stations with 6,000 bicycles are in the Manhattan CBD.[4] NYCDOT and Lyft (the operator of Citi Bike) plan to expand the system to serve additional neighborhoods by 2024. Citi Bike's Phase 3 plan will double the size of the Citi Bike service area and triple the number of shared bicycles.

Environmental Consequences

No Action Alternative

In the No Action Alternative with the ESA Project, there would not be a vehicular tolling program, and any changes in bicycling would likely result from background growth, improvements in cycling infrastructure and Citi Bike service, or new development in an area.

CBD Tolling Alternative

As described above, the CBD Tolling Alternative with the ESA Project would result in increases in peak-hour pedestrian volumes high enough to warrant detailed pedestrian analysis near the Herald Square/Penn

[3] https://www1.nyc.gov/html/dot/downloads/pdf/nyc-bike-map-2021.pdf.
[4] Citibike, https://www.citibikenyc.com/.

Station New York, Grand Central Terminal, and World Trade Center/Fulton Street transit hubs. Because expected higher bicycle use would be concentrated at transit hubs with the highest projected increases in pedestrian trips, these areas have been assessed for bicycle effects. As previously stated, there would be imperceptible volume differences (fewer than 20 pedestrians per peak hour) at the World Trade Center/Fulton Street station area with the ESA Project. Therefore, the same conclusion from **Subchapter 4E, "Transportation: Pedestrians and Bicycles"** can be drawn, which was that bicycle trip increases with the Project would be negligible compared to the magnitude of existing bicycle use adjacent to that transit station complex. Next, a comparison of pedestrian trips at the two other transit hubs with and without the ESA Project is presented. With up to 1,695 and 1,407 pedestrian trips, 34 and 28 new hourly bicycle trips would be generated by the Project at Herald Square/Penn Station New York and Grand Central Terminal with the ESA Project, assuming a 2 percent bike share, respectively. This is in comparison to 2,051 and 1,205 new pedestrian trips predicted in the peak hours, where 41 and 24 new hourly bicycle trips would be generated by the Project at Herald Square/Penn Station New York and Grand Central Terminal without the ESA Project, assuming a 2 percent bike share, respectively. With or without the ESA Project, because there would be an average of fewer than one new bicycle trip per minute, these increases would be negligible compared to the magnitude of existing bicycle use adjacent to the two transit station complexes.

Outside the Manhattan CBD under the alternative with the ESA Project, the shift to bicycle use because of the CBD Tolling Alternative would not be substantial, based on the predicted numbers of commuters who would shift from automobiles to transit for their daily trips (as well as the inefficiencies of switching from auto to bicycle as distances increase). Although the BPM cannot predict such activity, a small proportion of commuters would shift from automobiles to bicycles for their daily trips, depending on distance, available bicycle facilities, comfort, and other factors. Therefore, the CBD Tolling Alternative would not result in any adverse effects on bicycle operations.

VEHICULAR AND PEDESTRIAN SAFETY

Methodology

Conditions with the ESA Project, and in comparison to results without the ESA Project presented in **Subchapter 4E, "Transportation: Pedestrians and Bicycles"** are described below. The same methodologies have been used to evaluate the vehicular, bicycle, and vehicular safety conditions with the ESA Project.

Affected Environment

Subchapter 4E, "Transportation: Pedestrians and Bicycles" identified high crash locations at pedestrian element analysis locations without the ESA Project. Three intersections were identified:

- West 34th Street at Eighth Avenue
- West 34th Street at Seventh Avenue
- West 34th Street at Sixth Avenue/Broadway

With ESA, one additional pedestrian element (the west sidewalk of Lexington Avenue between East 44th and East 45th Streets) has been added. The nearest intersection to that sidewalk, Lexington Avenue at East 44th Street is not a high crash location.

Without ESA, to assess minimum ADA compliance of curb pedestrian ramps in the affected environment, curb pedestrian ramp observations were conducted at analysis locations that included corner reservoir pedestrian elements. With ESA, no new corner reservoir pedestrian elements would be added to the study area.

Environmental Consequences

No Action Alternative

In the No Action Alternative with the ESA Project, there would not be a vehicular tolling program, and any changes in safety conditions at high-crash intersections or non-compliant ADA curb pedestrian ramps would likely result from changes in activity resulting from background growth or new development in an area.

CBD Tolling Alternative

The CBD Tolling Alternative with the ESA Project would not result in substantial increases in pedestrian volumes or exacerbate safety concerns at the three identified high-crash locations, which experience high pedestrian volumes throughout the day. The CBD Tolling Alternative with the ESA Project would also not result in substantial increases in pedestrian volumes or exacerbate safety concerns at other locations in the Manhattan CBD that do not already experience high pedestrian volumes throughout the day. The CBD Tolling Alternative with the ESA Project would not result in substantially modified geometric or operational traffic, pedestrian, or bicycle conditions, with or without recommended improvement measures, which would therefore not exacerbate safety concerns. Also, because of fewer vehicular trips entering and exiting the Manhattan CBD, the CBD Tolling Alternative with the ESA Project would result in reduced traffic volumes at these locations. This would help to reduce vehicle-vehicle and vehicle-pedestrian conflicts, leading to an overall benefit to safety. Therefore, the CBD Tolling Alternative with the ESA Project would not result in any adverse effects on vehicular, pedestrian, and bicycle safety.

Figure 4E.5-3. 2019 Existing Pedestrian Volumes – Grand Central Terminal Study Area: Weekday AM Peak Hour

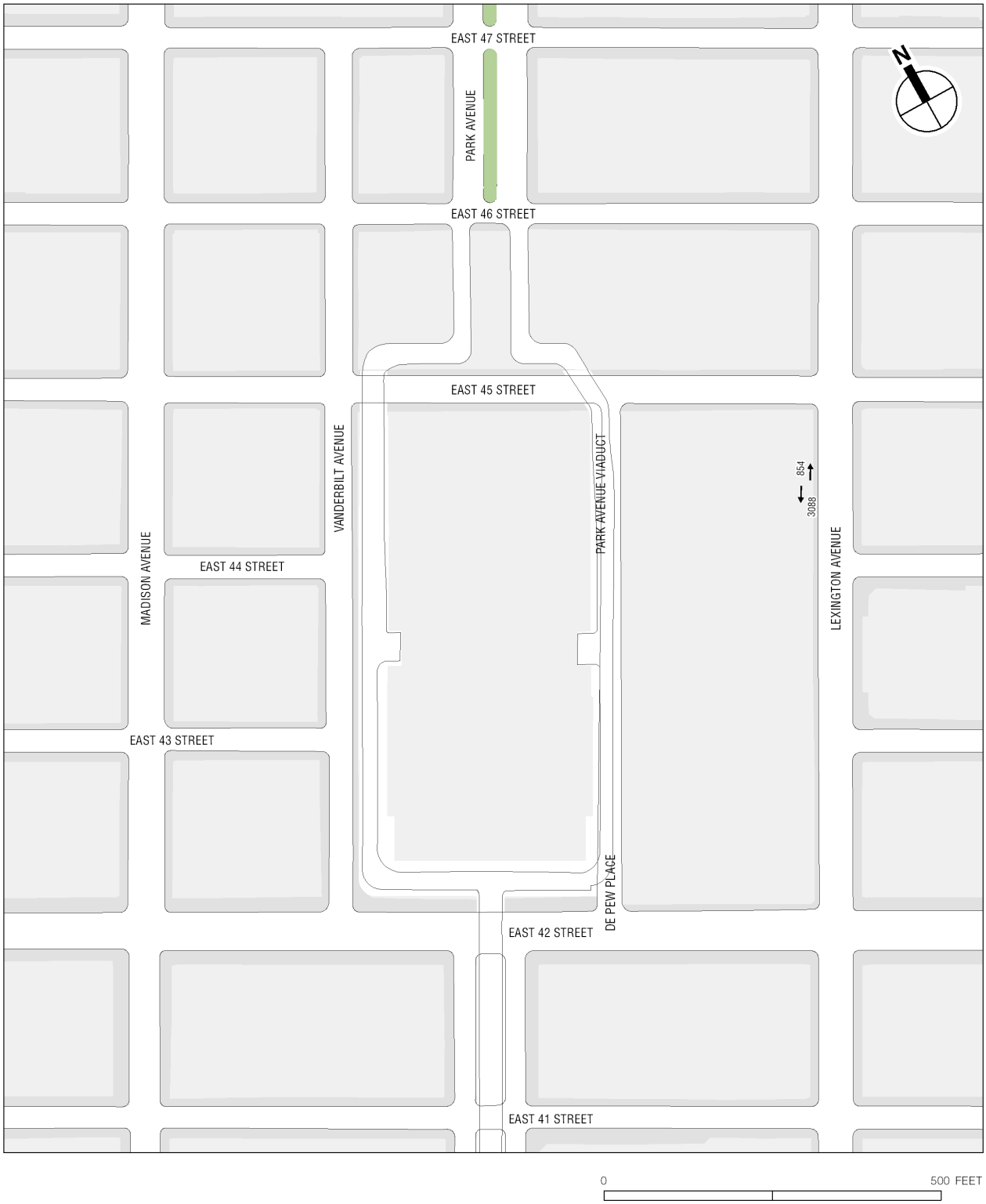


Figure 4E.5-4. 2019 Existing Pedestrian Volumes – Grand Central Terminal Study Area: Weekday PM Peak Hour

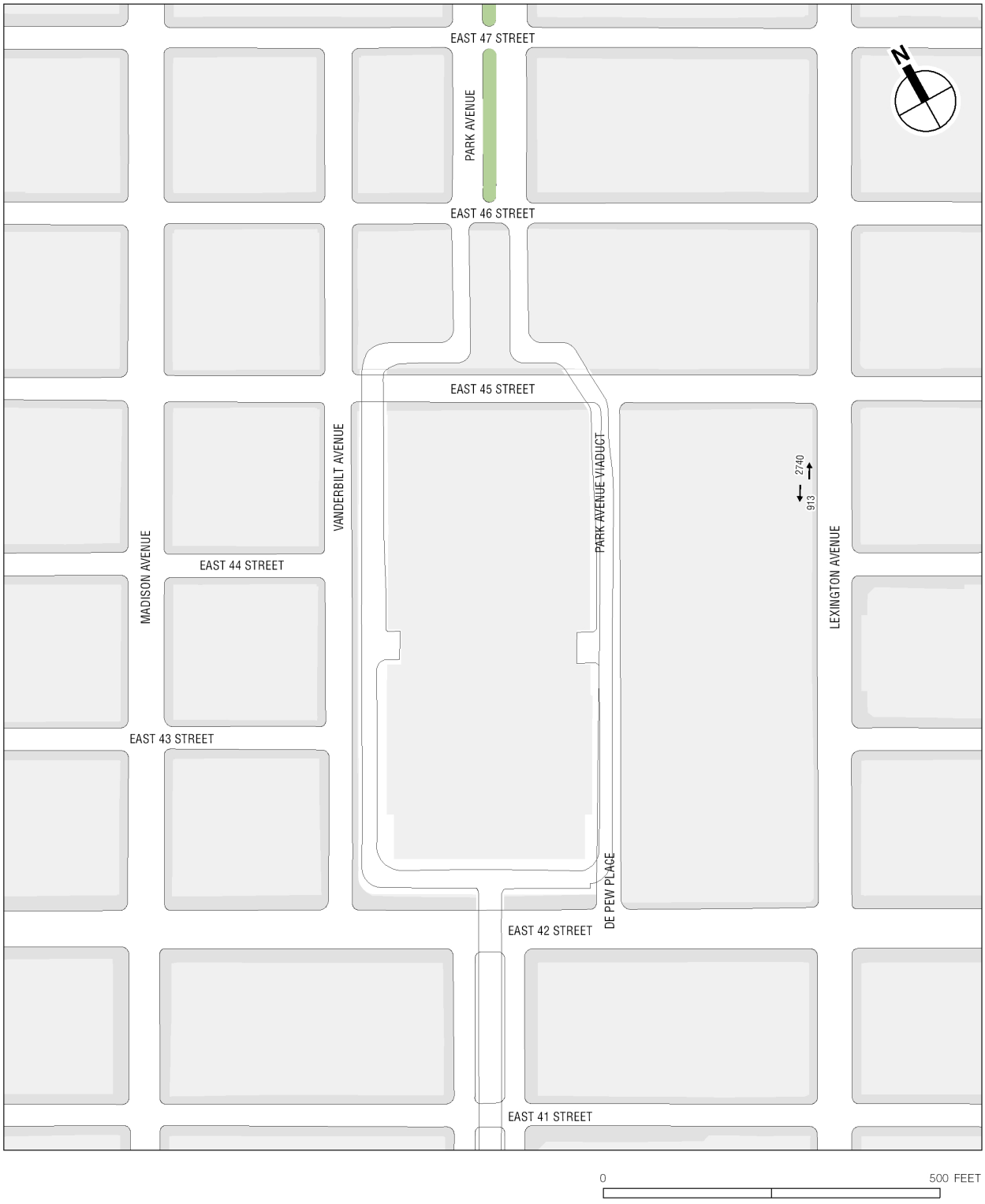


Figure 4E.5-5. 2019 Existing Pedestrian Volumes – Herald Square/Penn Station Study Area: Weekday AM Peak Hour

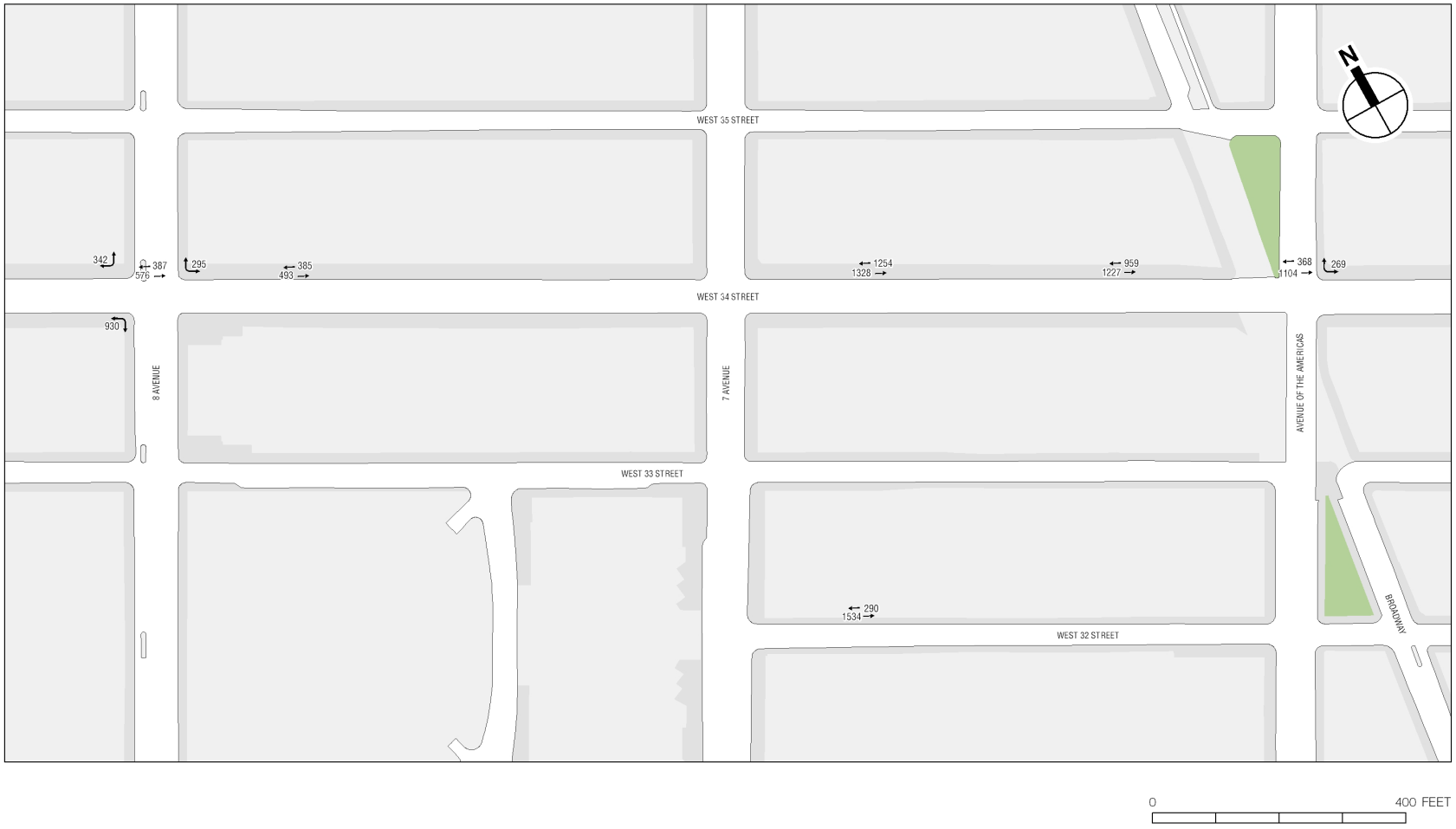


Figure 4E.5-6. 2019 Existing Pedestrian Volumes – Herald Square/Penn Station Study Area: Weekday PM Peak Hour

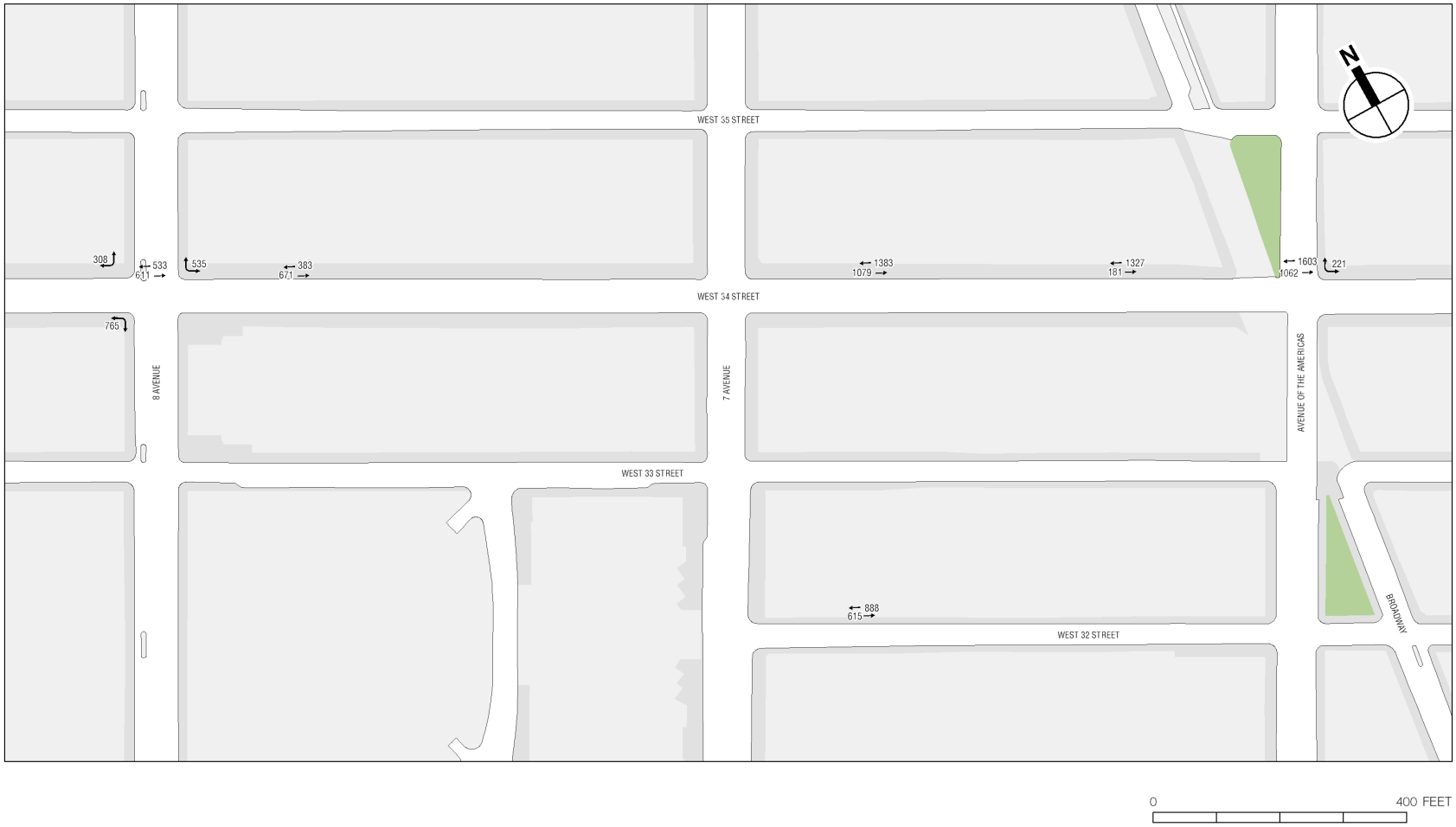


Figure 4E.5-7. No Action Alternative Pedestrian Volumes – Grand Central Terminal Study Area: Weekday AM Peak Hour

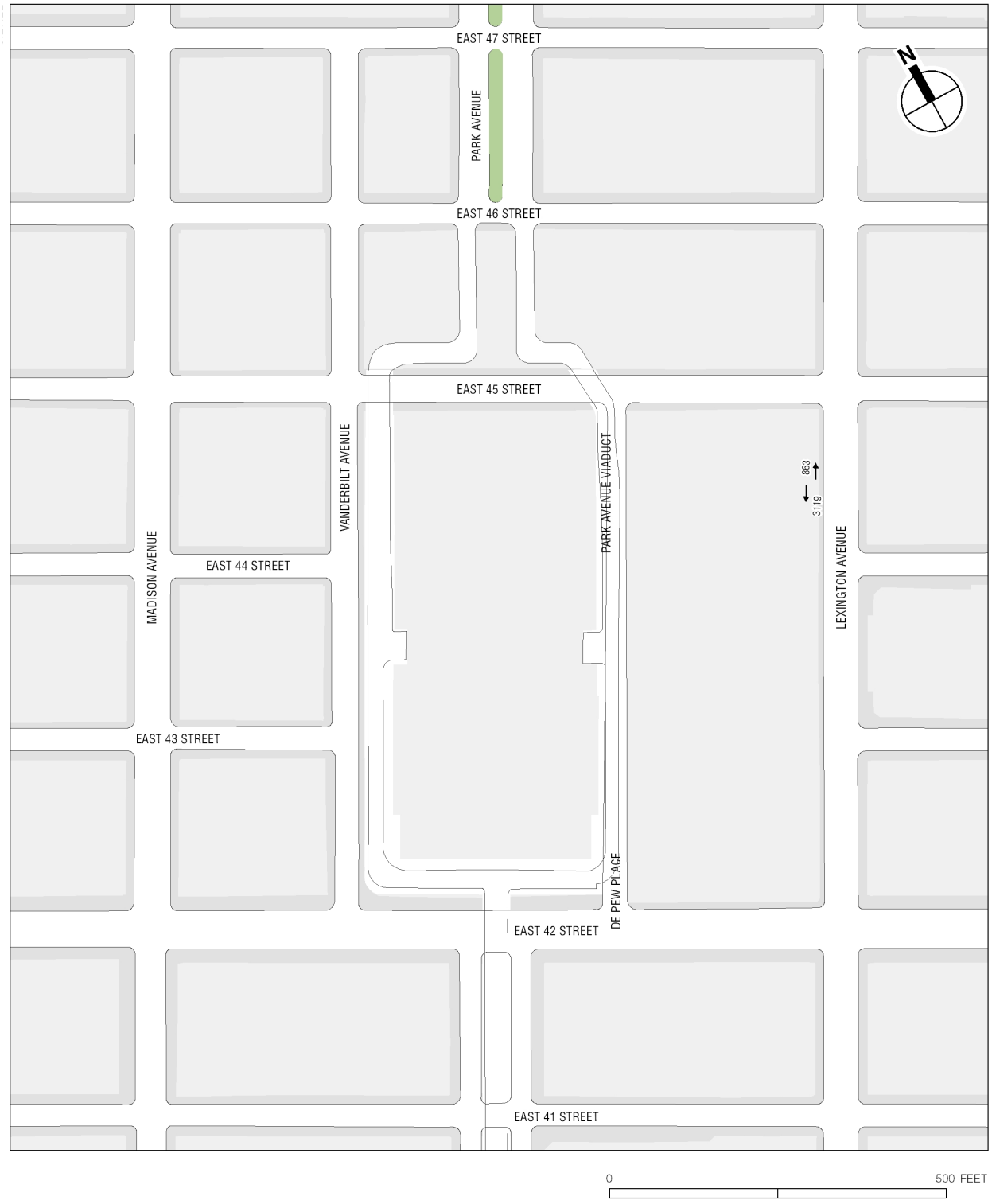


Figure 4E.5-8. No Action Alternative Pedestrian Volumes – Grand Central Terminal Study Area: Weekday PM Peak Hour

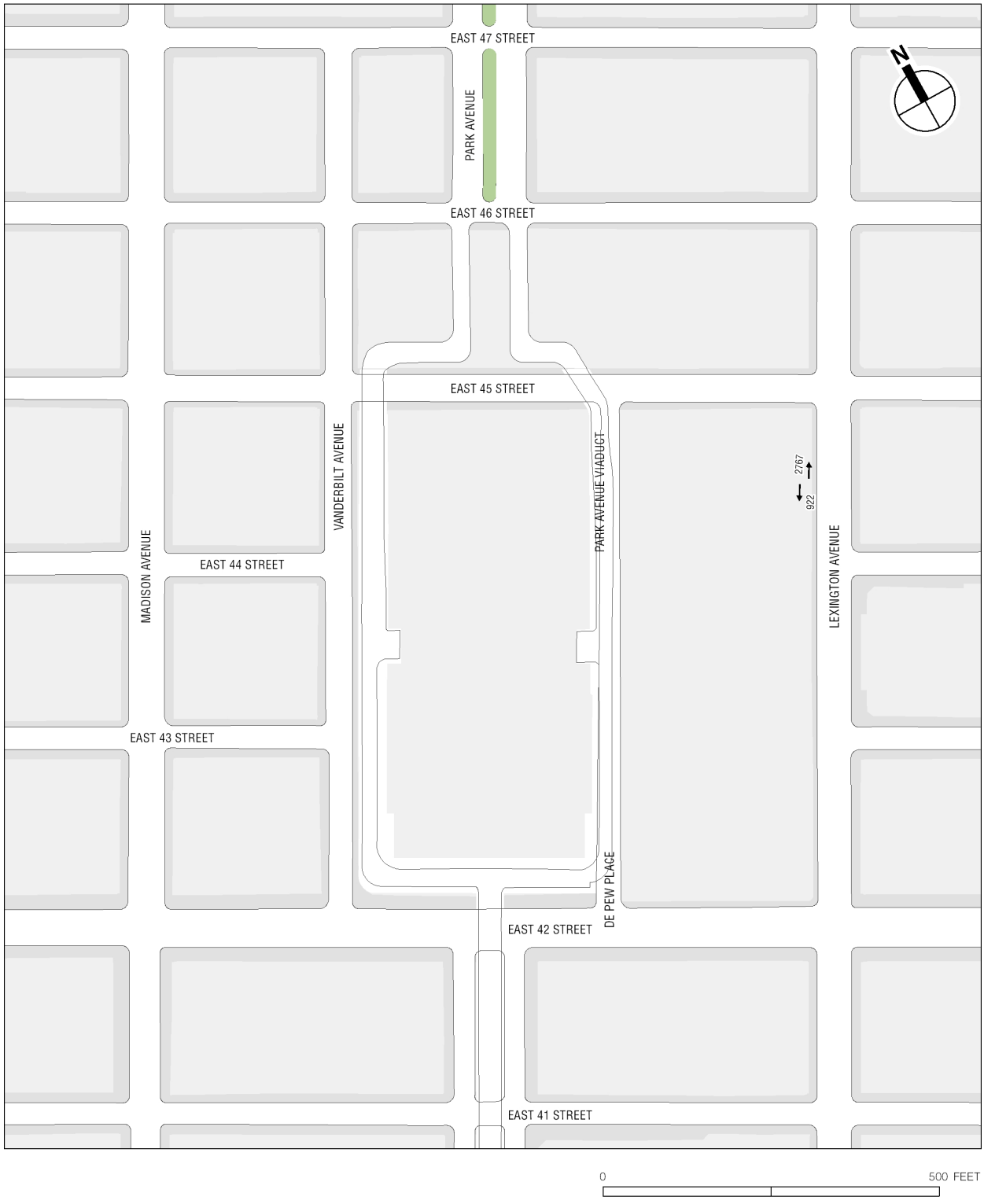


Figure 4E.5-9. No Action Alternative Pedestrian Volumes –Herald Square/Penn Station Study Area: Weekday AM Peak Hour

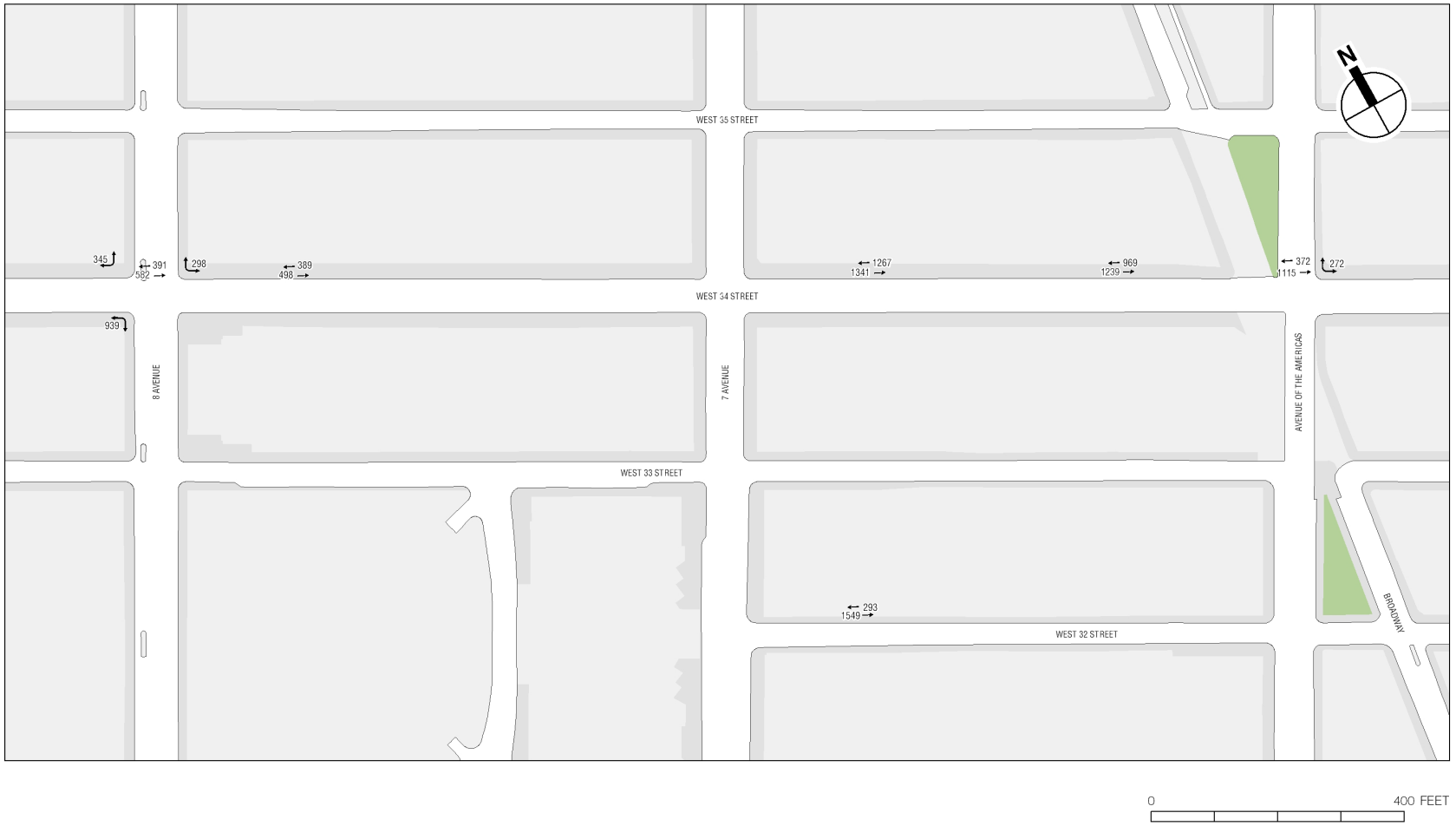


Figure 4E.5-10. No Action Alternative Pedestrian Volumes –Herald Square/Penn Station Study Area: Weekday PM Peak Hour

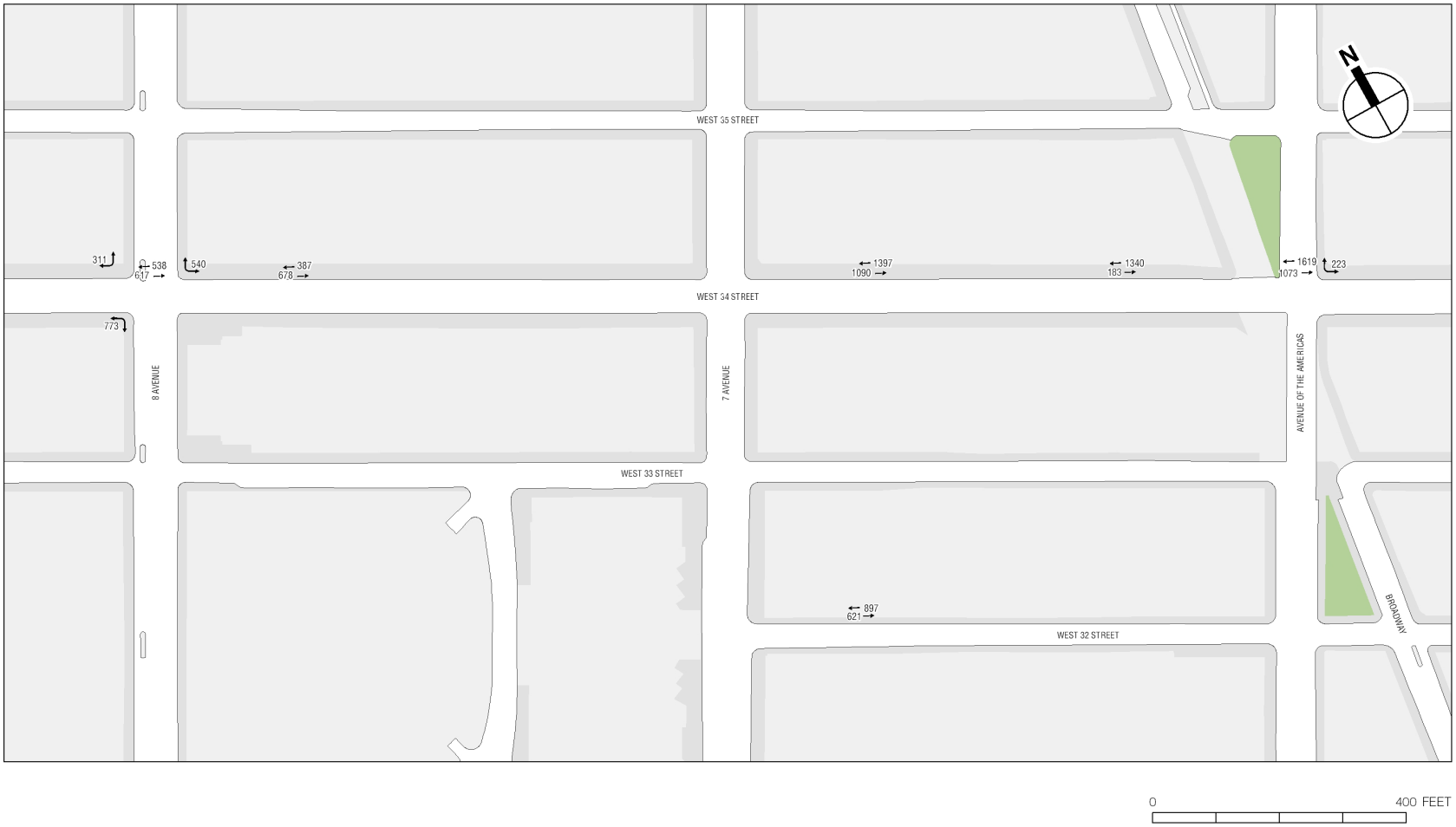


Figure 4E.5-11. Project-Generated Pedestrian Trips – Grand Central Terminal Study Area: Weekday AM Peak Hour

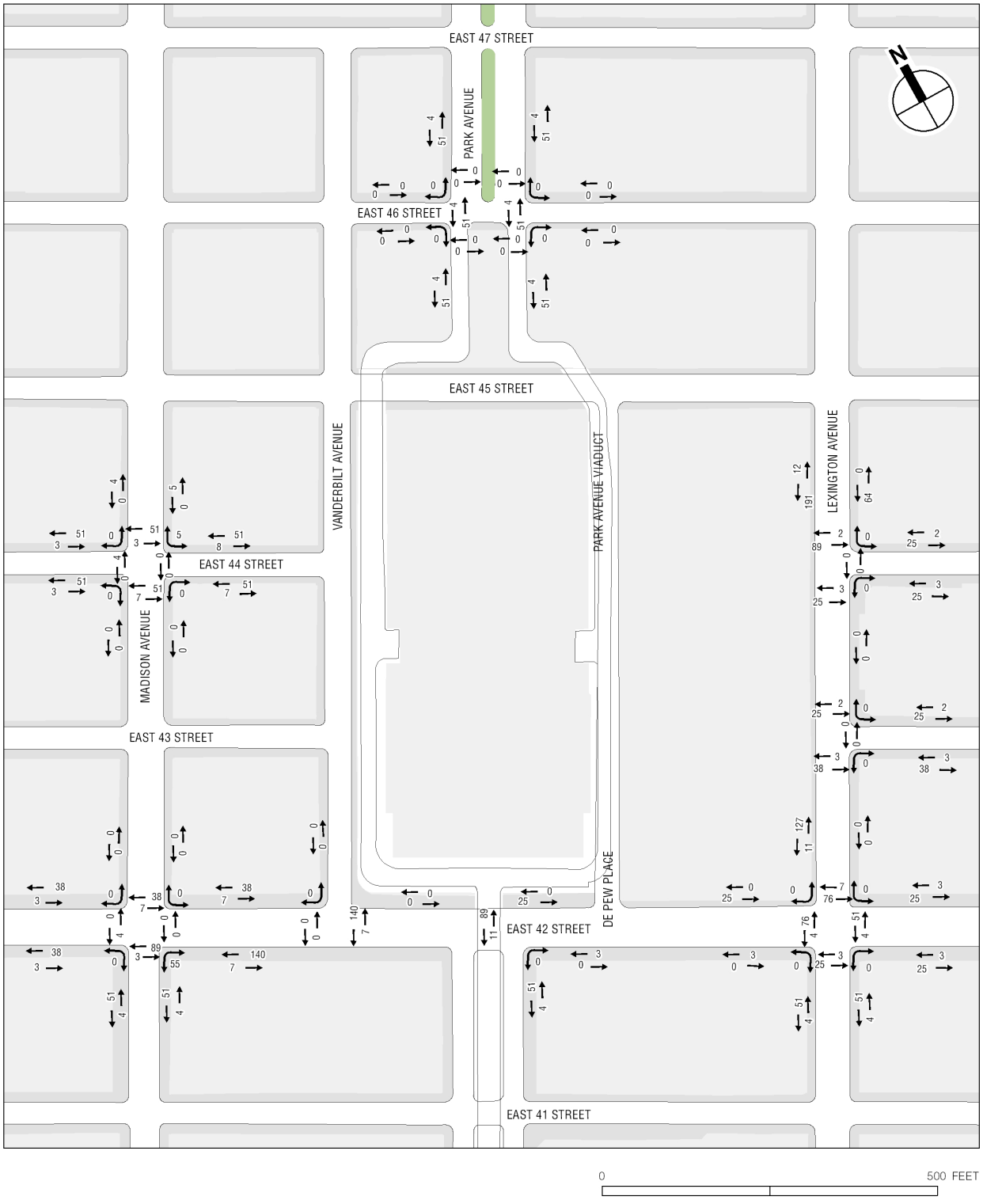


Figure 4E.5-12. Project-Generated Pedestrian Trips – Grand Central Terminal Study Area: Weekday PM Peak Hour

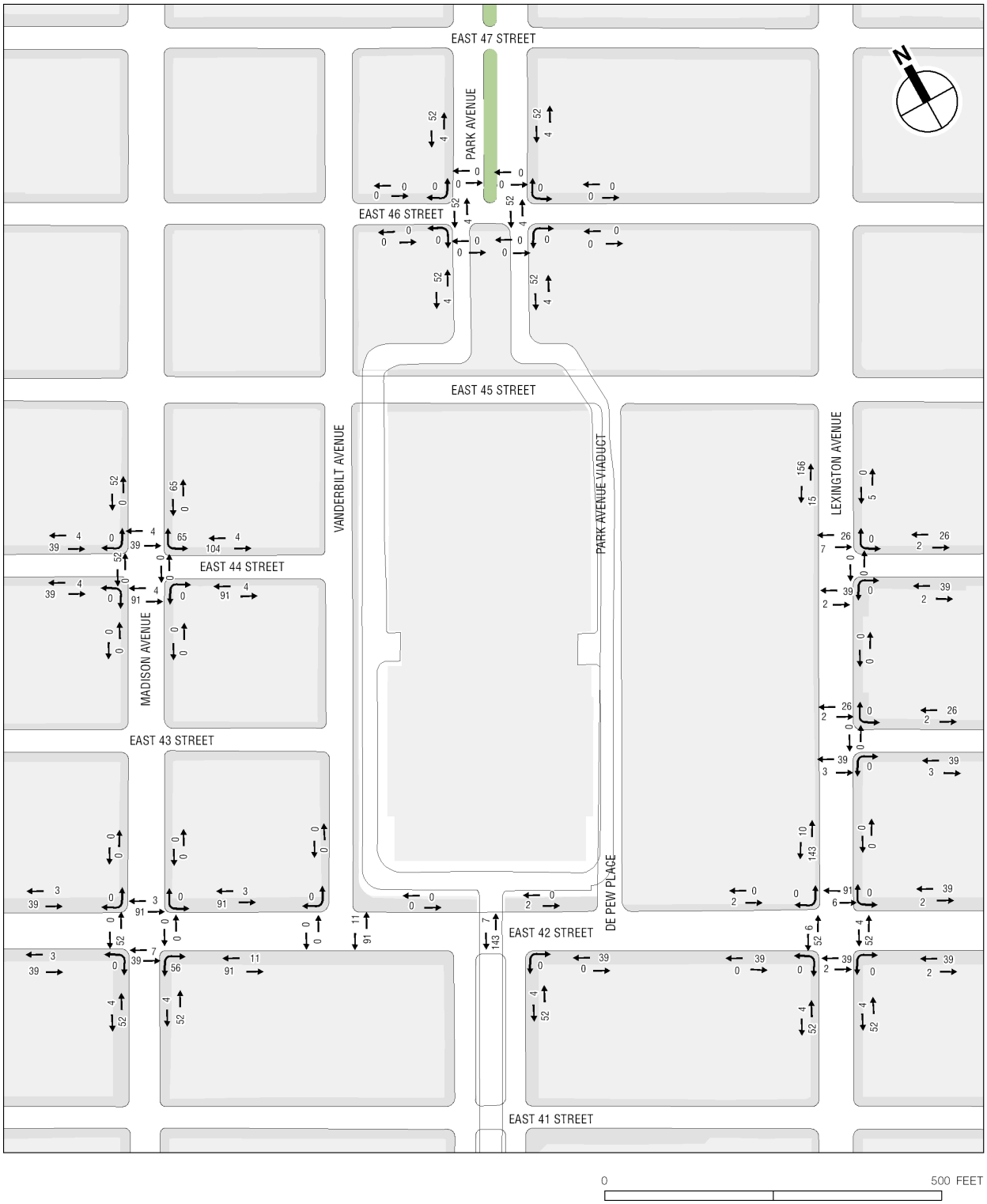


Figure 4E.5-13. Project-Generated Pedestrian Trips – Herald Square/Penn Station Study Area: Weekday AM Peak Hour



Figure 4E.5-14. Project-Generated Pedestrian Trips – Herald Square/Penn Station Study Area: Weekday PM Peak Hour



Figure 4E.5-15. CBD Tolling Alternative Pedestrian Volumes – Grand Central Terminal Study Area: Weekday AM Peak Hour

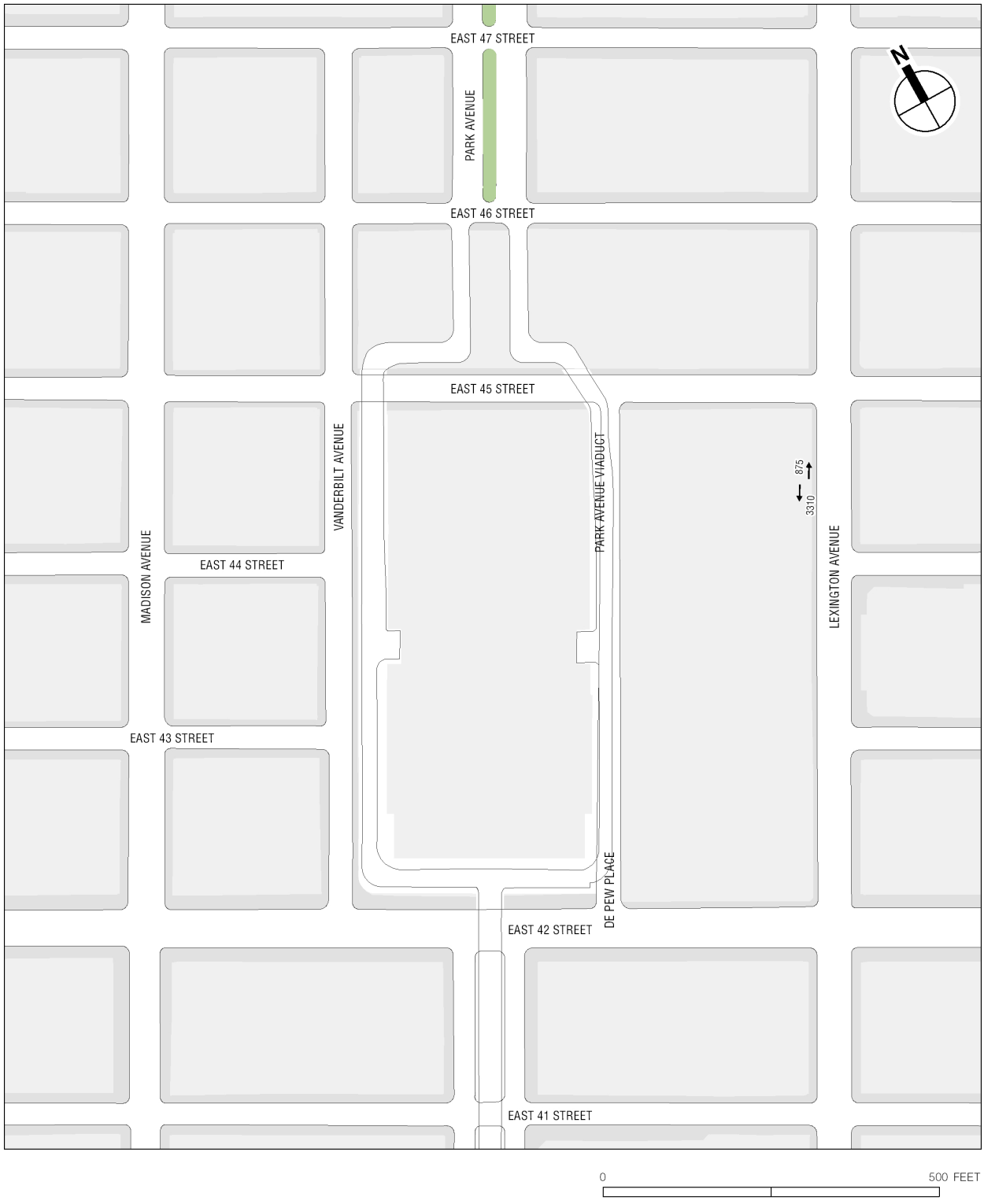


Figure 4E.5-16. CBD Tolling Alternative Pedestrian Volumes – Grand Central Terminal Study Area: Weekday PM Peak Hour

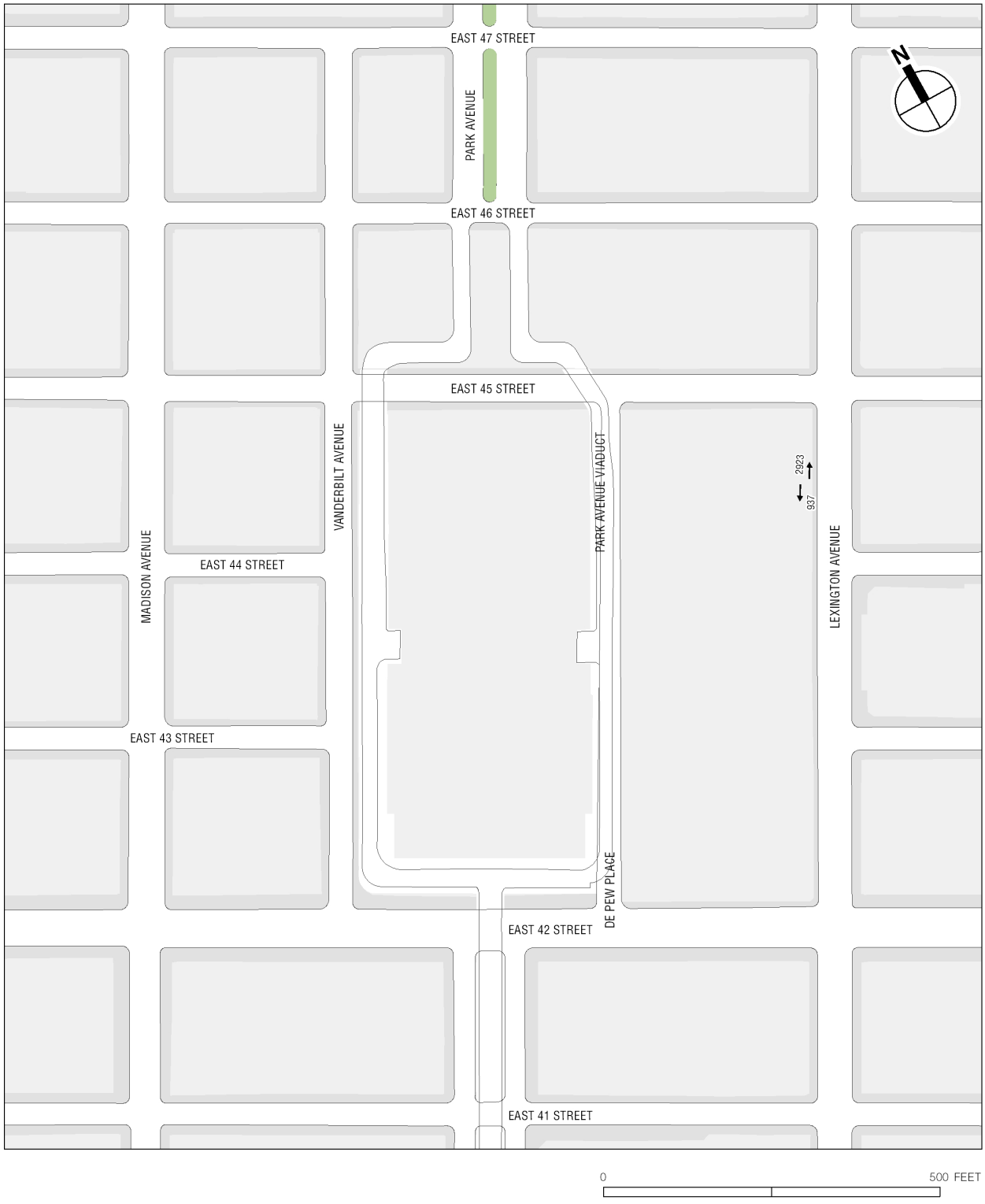


Figure 4E.5-17. CBD Tolling Alternative Pedestrian Volumes – Herald Square/Penn Station Study Area: Weekday AM Peak Hour



Figure 4E.5-18. CBD Tolling Alternative Pedestrian Volumes – Herald Square/Penn Station Study Area: Weekday PM Peak Hour

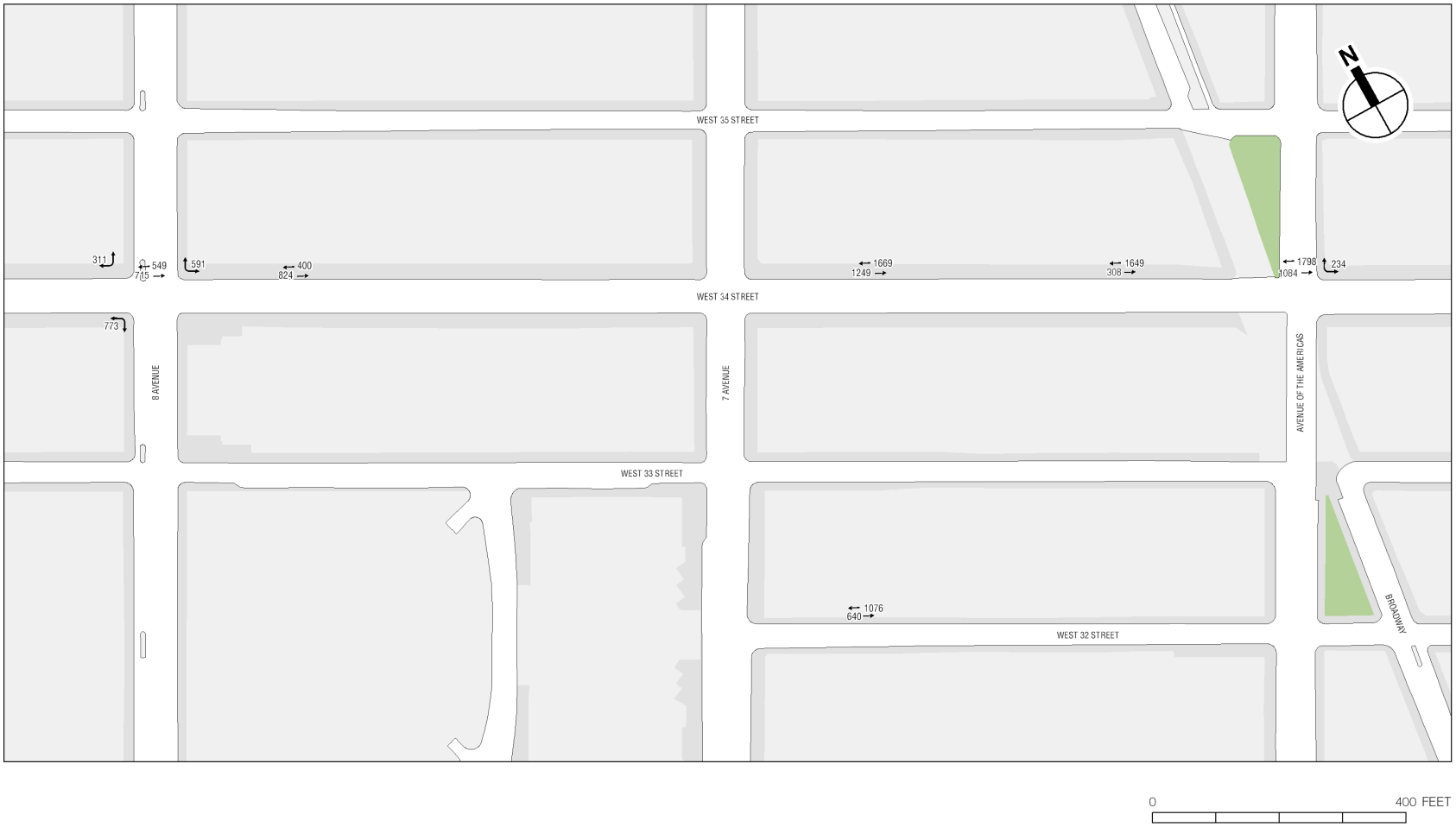


Table 4E.5-5. Herald Square/Penn Station Study Area – Existing Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (FEET)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	4.5*	878	0.80	64.1	C
34th Street between Seventh Avenue and Broadway	North	9.5	2582	0.94	53.8	C
34th Street between Broadway and Seventh Avenue	North	11.0	2186	0.75	58.9	C
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1824	0.91	42.2	C
Weekday PM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	4.5*	1054	0.94	62.7	C
34th Street between Seventh Avenue and Broadway	North	9.5	2462	0.87	52.2	C
34th Street between Broadway and Seventh Avenue	North	11.0	1508	0.82	94.2	B
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1503	0.93	52.9	C

Note: SFP = square feet per pedestrian
PHF = peak hour factor
* Denotes that the width is constrained by scaffolding

Table 4E.5-6. Herald Square/Penn Station Study Area – Existing Conditions: Corner Analysis

LOCATION	CORNER	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
		SFP	LOS	SFP	LOS
Eighth Avenue and 34th Street	Northwest	68.0	A	58.6	B
	Northeast	59.8	B	60.4	A
	Southwest	40.6	B	44.9	B
Sixth Avenue and 34th Street	Northeast	83.3	A	38.9	C

Note: SFP = square foot per pedestrian

Table 4E.5-7. Herald Square/Penn Station Study Area – Existing Conditions: Crosswalk Analysis

LOCATION	CROSSWALK	CROSSWALK LENGTH (FEET)	CROSSWALK WIDTH (FEET)	TWO-WAY PEAK HOUR VOLUME	SFP	LOS
Weekday AM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	963	53.3	B
Sixth Avenue and 34th Street	North	56.5	20.0	1472	12.9	E
Weekday PM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	1144	48.3	B
Sixth Avenue and 34th Street	North	56.5	20.0	2665	6.8	F

Note: SFP = square feet per pedestrian

Table 4E.5-8. Grand Central Terminal Study Area – Existing Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (FEET)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
Lexington Avenue between East 44th Street and East 45th Street	West	5.0	3942	0.88	14.6	E
Weekday PM Peak Hour						
Lexington Avenue between East 44th Street and East 45th Street	West	5.0	3653	0.85	15.5	E

Note: SFP = square feet per pedestrian
PHF = peak hour factor

Table 4E.5-9. Herald Square/Penn Station Study Area – No Action Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (FEET)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	9.5	887	0.80	135.3	B
34th Street between Seventh Avenue and Broadway	North	9.5	2608	0.94	53.2	C
34th Street between Broadway and Seventh Avenue	North	11.0	2208	0.75	58.3	C
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1842	0.91	41.8	C
Weekday PM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	9.5	1065	0.94	132.4	B
34th Street between Seventh Avenue and Broadway	North	9.5	2487	0.87	51.6	C
34th Street between Broadway and Seventh Avenue	North	11.0	1523	0.82	93.2	B
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1518	0.93	52.4	C

Note: SFP = square feet per pedestrian
PHF = peak hour factor

Table 4E.5-10. Herald Square/Penn Station Study Area – No Action Conditions: Corner Analysis

LOCATION	CORNER	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
		SFP	LOS	SFP	LOS
Eighth Avenue and 34th Street	Northwest	67.2	A	57.9	B
	Northeast	59.1	B	59.7	B
	Southwest	40.1	B	44.3	B
Sixth Avenue and 34th Street	Northeast	82.4	A	38.3	C

Note: SFP = square foot per pedestrian

Table 4E.5-11. Herald Square/Penn Station Study Area – No Action Conditions: Crosswalk Analysis

LOCATION	CROSSWALK	CROSSWALK LENGTH (FEET)	CROSSWALK WIDTH (FEET)	TWO-WAY PEAK HOUR VOLUME	SFP	LOS
Weekday AM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	973	52.7	B
Sixth Avenue and 34th Street	North	56.5	20.0	1487	12.8	E
Weekday PM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	1155	47.8	B
Sixth Avenue and 34th Street	North	56.5	20.0	2692	6.8	F

Note: SFP = square feet per pedestrian

Table 4E.5-12. Grand Central Terminal Study Area – No Action Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (FEET)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
Lexington Avenue between East 44th Street and East 45th Street	West	5.0	3982	0.88	14.4	E
Weekday PM Peak Hour						
Lexington Avenue between East 44th Street and East 45th Street	West	5.0	3689	0.85	15.3	E

Note: SFP = square feet per pedestrian
PHF = peak hour factor

Table 4E.5-13. Pedestrian Level 2 Screening Analysis Results—WTC/Fulton Street Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	MIDDAY	PM	
Church Street and Fulton Street				
East Sidewalk along Church Street between Fulton Street and Vesey Street	118	25	90	
North Sidewalk along Fulton Street between Broadway and Church Street	123	30	133	
Broadway and Fulton Street				
Northwest Corner	123	32	133	
Church Street and Liberty Street				
Southeast Corner	82	24	117	
Northwest Corner	105	20	56	
South Sidewalk along Liberty Street between Broadway and Church Street	82	24	117	
Broadway and Liberty Street				
West Crosswalk	127	35	165	
Northeast Corner	114	29	131	
Southwest Corner	127	35	165	
Northwest Corner	202	51	217	✓
East Sidewalk along Broadway Between Liberty Street and Cortland Street	158	41	180	
West Sidewalk along Broadway Between Liberty Street and Cortlandt Street	201	50	217	✓

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.5-14. Pedestrian Level 2 Screening Analysis Results—Union Square Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	MIDDAY	PM	
Broadway and 14th Street				
South sidewalk along 14th Street between University Place and Broadway	100	25	106	

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.5-15. Pedestrian Level 2 Screening Analysis Results—Times Square/PABT Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	MIDDAY	PM	
Broadway and West 42nd Street				
East Crosswalk	34	16	107	

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.5-16. Pedestrian Level 2 Screening Analysis Results—Herald Square/Penn Station Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	MIDDAY	PM	
Eighth Avenue and 34th Street				
North sidewalk along 34th Street between Eighth Avenue and Seventh Avenue	257	52	159	✓
South sidewalk along 34th Street between Eighth Avenue and Seventh Avenue	54	23	129	
West sidewalk along Eighth Avenue between 35th Street and 34th Street	181	41	153	
Northeast corner	257	51	160	✓
Southeast corner	54	23	129	
Southwest corner	59	33	207	✓
Northwest corner	213	49	187	✓
North crosswalk	208	39	109	✓
South crosswalk	54	23	129	
Eighth Avenue and 31st Street				
West sidewalk along Eighth Avenue between 32nd Street and 31st Street	141	34	132	
Southwest corner	132	32	124	
Northwest corner	150	36	143	
West crosswalk	118	28	109	
Seventh Avenue and 34th Street				
East sidewalk along Seventh Avenue between 35th Street and 34th Street	50	18	100	
North sidewalk along 34th Street between Seventh Avenue and Broadway	404	103	431	✓
Northeast corner	133	33	145	
Northwest corner	106	21	69	
Seventh Avenue and 32nd Street				
North sidewalk along 32nd Street between Seventh Avenue and Sixth Avenue	289	61	198	✓
West sidewalk along Seventh Avenue between 32nd Street and 31st Street	29	16	103	
Northeast corner	180	30	58	
North crosswalk	158	27	56	
Broadway and 34th Street				
North sidewalk along 34th Street between Seventh Avenue and Broadway	378	101	434	✓
Sixth Avenue and 34th Street				
East sidewalk along Sixth Avenue between 35th Street and 34th Street	132	29	116	
North sidewalk along 34th Street between Sixth Avenue and Fifth Avenue	198	45	166	
Northeast corner	260	57	201	✓
North crosswalk	205	49	190	✓

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.5-17. Pedestrian Level 2 Screening Analysis Results—Grand Central Terminal Study Area

PEDESTRIAN ELEMENTS	INCREMENTAL PEDESTRIAN TRIPS			SELECTED ANALYSIS LOCATION
	AM	MID DAY	PM	
Madison Avenue and East 44th Street				
Northeast Corner	59	21	108	
Southwest Corner	62	26	147	
North sidewalk along East 44th Street between Madison Avenue and Vanderbilt Avenue*	59	21	108	
Vanderbilt Avenue and East 42nd Street				
East Crosswalk	147	31	102	
Northeast Corner	192	48	196	
Southeast Corner	147	31	102	
East sidewalk along Vanderbilt Avenue between East 42nd Street and East 43rd Street	192	48	197	
South sidewalk along East 42nd Street between Madison Avenue and Park Avenue	147	31	102	
Park Avenue and East 42nd Street				
East Crosswalk	100	31	150	
Lexington Avenue and East 43rd Street				
West sidewalk along Lexington Avenue between East 43rd Street and East 42nd Street	138	36	153	
Madison Avenue and East 42nd Street				
Northwest Corner	49	24	146	
Southeast Corner	147	31	102	
Lexington Avenue and East 44th Street				
West sidewalk along Lexington Avenue between East 44th Street and East 45th Street	203	47	171	✓
Lexington Avenue and East 42nd Street				
Northeast Corner	138	36	153	
Northwest Corner	163	39	155	
Southwest Corner	108	25	99	

Notes: ✓ denotes pedestrian elements selected for detailed analysis (AM/PM only).
* denotes the area will be converted to a pedestrian plaza under With Action conditions.
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

Table 4E.5-18. Herald Square/Penn Station Study Area – With Action Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (FEET)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	9.5	1144	0.80	104.7	B
34th Street between Seventh Avenue and Broadway	North	9.5	3012	0.94	45.8	C
34th Street between Broadway and Seventh Avenue	North	11.0	2586	0.75	49.5	C
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	2131	0.91	35.7	D
Weekday PM Peak Hour						
34th Street between Eighth Avenue and Seventh Avenue	North	9.5	1224	0.94	115.1	B
34th Street between Seventh Avenue and Broadway	North	9.5	2918	0.87	43.7	C
34th Street between Broadway and Seventh Avenue	North	11.0	1957	0.82	72.3	C
32nd Street between Seventh Avenue and Sixth Avenue	North	5.5	1716	0.93	46.1	C

Note: SFP = square feet per pedestrian
PHF = peak hour factor

Table 4E.5-19. Herald Square/Penn Station Study Area – With Action Conditions: Corner Analysis

LOCATION	CORNER	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
		SFP	LOS	SFP	LOS
Eighth Avenue and 34th Street	Northwest	62.6	A	53.5	B
	Northeast	53.7	B	57.0	B
	Southwest	39.6	C	41.8	B
Sixth Avenue and 34th Street	Northeast	75.8	A	35.7	C

Note: SFP = square foot per pedestrian

Table 4E.5-20. Herald Square/Penn Station Study Area – With Action Conditions: Crosswalk Analysis

LOCATION	CROSSWALK	CROSSWALK LENGTH (FEET)	CROSSWALK WIDTH (FEET)	TWO-WAY PEAK HOUR VOLUME	SFP	LOS
Weekday AM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	1181	43.1	B
Sixth Avenue and 34th Street	North	56.5	20.0	1692	11.0	E
Weekday PM Peak Hour						
Eighth Avenue and 34th Street	North	70.5	22.0	1264	43.4	B
Sixth Avenue and 34th Street	North	56.5	20.0	2882	6.2	F

Note: SFP = square feet per pedestrian

Table 4E.5-21. Grand Central Terminal Study Area – With Action Conditions: Sidewalk Analysis

LOCATION	SIDEWALK	EFFECTIVE WIDTH (FEET)	1-HR TWO-WAY VOLUME	PHF	SFP	PLATOON LOS
Weekday AM Peak Hour						
Lexington Avenue between East 44th Street and East 45th Street	West	5.0	4185	0.88	13.4	E
Weekday PM Peak Hour						
Lexington Avenue between East 44th Street and East 45th Street	West	5.0	3860	0.85	14.3	E

Note: SFP = square feet per pedestrian
PHF = peak hour factor

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 5, Social Conditions

August 2022

Contents

5A, Community Impact Assessment Summary Matrix

5B, Supplemental Demographic Information for the Regional Study Area and Manhattan CBD

5C, New York State Smart Growth Public Infrastructure Policy Act Consistency Assessment

5A, Community Impact Assessment Summary Matrix

The following matrix provides a guide to the community impact assessment that the FHWA and the Project Sponsors conducted during preparation of the NEPA EA and the locations in the EA that present the components of the community impact assessment.

This matrix outlines the components of a community impact assessment based on the steps presented in FHWA's guidance document for conducting such assessments, *Community Impact Assessment: A Quick Reference for Transportation, 2018 Update* (the FHWA Guide), and describes how the CBD Tolling Program NEPA process and the EA document meet those steps. For each step of the community impact assessment, this matrix provides a brief explanation of how the step was met by the NEPA process, and where additional information on that component of the community impact assessment can be found in the EA.

FHWA ASSESSMENT STEP (FHWA GUIDE, SECTION 1, P. 9)*	FHWA ADDITIONAL EXPLANATION (FHWA GUIDE, SECTIONS 2 THROUGH 11)*	CBD TOLLING PROGRAM IMPLEMENTATION
Engage the Public: Public engagement is central to the community impact assessment process and is an integral element of all steps in the process. Engage the public to identify community goals, define the project purpose and need, and develop project alternatives. In addition, reach out to the public to help define community characteristics, identify and evaluate impacts, and identify acceptable ways to address impacts. Note that identifying and conducting outreach to disadvantaged or underserved communities is a priority.	The concerns of participants involved should be considered in the decision-making process. The decision makers actively seek out and facilitate the engagement of those potentially affected, including low-income populations and minority populations and those who may have challenges providing input, such as persons with disabilities, those with limited English proficiency, and older adults.	**Included in the CBD Tolling Program NEPA Process.** The CBD Tolling Program is conducting a robust public engagement program, including specific outreach targeted for environmental justice populations. All public outreach materials will include translations for those with limited English proficiency. The public engagement program is described in the EA in Chapter 18.

FHWA ASSESSMENT STEP (FHWA GUIDE, SECTION 1, P. 9)*	FHWA ADDITIONAL EXPLANATION (FHWA GUIDE, SECTIONS 2 THROUGH 11)*	CBD TOLLING PROGRAM IMPLEMENTATION
Develop Community Vision and Goals: Begin in planning. Use the vision and goals that are defined in the long-range planning process as a basis for identifying and understanding community priorities.	While this guide discusses community impact assessment largely in the context of project development, it is important to recognize that effective assessment begins in the long-range planning process before project decisions are made.	**Included in the CBD Tolling Program NEPA Process.** The New York Metropolitan Transportation Council's long-range planning process, which includes the CBD Tolling Program as one of the proposed initiatives, includes extensive public outreach and coordination. In addition, the EA describes the long-history of public policy initiatives and alternatives studies that were conducted prior to the current CBD Tolling Program proposal in Chapter 2. It also describes relevant public policies in the Project area in Chapter 5, Subchapter 5C.
Define the Need and Action: Define the purpose and need for an action. In coordination with planners, engineers, and environmental specialists, develop various project alternatives that satisfy the project purpose and need, and identify areas of potential impact.	**Defining the Desired Transportation Action** Building on public engagement in transportation planning, the community impact analyst should take a prominent role in defining the transportation action and alternative options in the early phases of project development. Although transportation planners and engineers traditionally have led this process, the community impact analyst should fully participate along with designers and other environmental specialists. The analyst should contribute to developing project alternatives, suggesting new options based on preliminary indications of likely community issues and special areas to avoid. **Study Area** The community impact study area typically includes communities within and immediately surrounding the project study area. In addition, the analyst should recognize that the project may have consequences to communities well beyond the immediate geographic area.	**Included in the CBD Tolling Program NEPA EA.** The EA includes information about each of the three components of this step: ▪ The EA includes a detailed discussion of the need for the proposed action in Chapter 1. ▪ The EA describes alternatives considered to satisfy the Project purpose, need, and objectives in Chapter 2. ▪ The EA identifies study areas for assessment of the potential impact in Chapter 3.

FHWA ASSESSMENT STEP (FHWA GUIDE, SECTION 1, P. 9)*	FHWA ADDITIONAL EXPLANATION (FHWA GUIDE, SECTIONS 2 THROUGH 11)*	CBD TOLLING PROGRAM IMPLEMENTATION
Identify Community Characteristics: Determine the characteristics of the affected area, such as neighborhood boundaries, locations of residences and businesses, demographic information, economic data, social history of communities, and land use plans. The documentation of community characteristics is supported by the information collected from a variety of data sources.	Community characteristics include an array of information reflecting the history, present conditions, and anticipated future of an area and its population. The analyst will develop a community characteristics summary that provides an overview or series of snapshots of the area and is used as a basis for identifying potential impacts of a proposed transportation action. Identifying and understanding community characteristics is important to describe the "affected environment" in NEPA documentation. Typically, the presentation includes the following: ▪ A visual map or maps that depict physical characteristics, such as neighborhood boundaries, land uses, public facilities, and commercial centers. ▪ Narrative text that describes community characteristics, such as population demographics, economic and social history of the communities, the importance of various facilities, and plans for the future. It may also include information about the community's past experience with the transportation agency or previous projects that have affected the community (such as indirect and cumulative impacts). ▪ Tables or graphics that summarize important data or conclusions, such as population demographics or employment trends. The following are examples of the types of data to collect and incorporate into a community characteristics summary. ▪ Population and demographic characteristics ▪ Economic and social history/characteristics ▪ Physical characteristics relating to community activities ▪ Travel patterns	**Included in the CBD Tolling Program NEPA EA.** The EA includes a description of the characteristics of the affected area (i.e., the study area), including the information noted in the guidance manual. Please see the following chapters: ▪ Chapter 4 (including Subchapters 4A, 4B, 4C, 4D, and 4E): Presents the travel characteristics of the affected population. ▪ Chapter 5 (including Subchapters 5A, 5B, and 5C): Presents land use, neighborhood character, and population demographics in text, tabular form, and maps. ▪ Chapter 6: Provides economic information, including employment, labor force, and commuting characteristics.

FHWA ASSESSMENT STEP (FHWA GUIDE, SECTION 1, P. 9)*	FHWA ADDITIONAL EXPLANATION (FHWA GUIDE, SECTIONS 2 THROUGH 11)*	CBD TOLLING PROGRAM IMPLEMENTATION
Analyze Impacts: Examine the impacts to the community of the proposed action versus no action. Identify and investigate the consequences of alternative options or actions. A number of analysis tools can be used to examine these relationships and estimate impacts.	After the transportation alternatives and a preliminary summary of community characteristics have been defined, the analyst examines the relationship between the proposed transportation action and community life. This task involves both the identification and investigation of impacts. Analysts examine the anticipated future with the transportation action – and various alternatives – in comparison to the anticipated future without the transportation action (a no-build alternative or baseline). Crosscutting all these issues is the concern for nondiscrimination. Analysts should identify who benefits and who is adversely affected by the project, noting impacts on specific subgroups. The NEPA process and this guide should be used to address environmental justice and limited English proficiency issues and prevent the potential for discrimination and disproportionately high and adverse effects on specific populations.	**Included in the CBD Tolling Program NEPA EA.** The EA evaluates the potential impacts to the community of the proposed action versus the no action for the full range of issues identified in the FHWA manual that are relevant to the CBD Tolling Program. This includes construction impacts (Chapter 15) and long-term (permanent) impacts, including the following: ▪ Changes in traffic patterns (Chapter 4, Subchapters 4A and 4B) ▪ Increase/decrease in traffic on local roadways (Chapter 4, Subchapter 4B) ▪ Effects on transit operations, such as crowding of stations or transit vehicles (Chapter 4, Subchapter 4C) ▪ Effects on travel patterns and commuter modes (Chapter 4, Subchapters 4A, 4B, and 4C) ▪ Effects on bicycle and pedestrian access (Chapter 4, Subchapter 4E) ▪ Community cohesion (Chapter 5, including Subchapters 5A and 5B) The EA also includes an analysis of environmental justice, with a robust presentation of baseline conditions and an evaluation of the potential for discrimination and disproportionately high and adverse effects on specific populations in Chapter 17.

FHWA ASSESSMENT STEP (FHWA GUIDE, SECTION 1, P. 9)*	FHWA ADDITIONAL EXPLANATION (FHWA GUIDE, SECTIONS 2 THROUGH 11)*	CBD TOLLING PROGRAM IMPLEMENTATION
Identify Solutions: Identify and recommend potential solutions to address adverse impacts. Techniques include avoidance, minimization, mitigation, and enhancement.	When potential adverse impacts are identified, analysts should identify methods to address them. This step in the community impact assessment process involves problem-solving and generating solutions. There are four primary methods for dealing with impacts, which should be considered in order: avoidance, minimization, mitigation, enhancement. Commitments should be included in Categorical Exclusion (CE), Finding of No Significant Impact (FONSI), or Record of Decision (ROD) documents, as well as a draft and final EIS, as applicable.	**Included in the CBD Tolling Program NEPA EA.** The EA describes measures to avoid, minimize, and mitigate adverse effects identified. The commitments made to address adverse effects of the Project will be part of FHWA's NEPA findings.
Document Findings: In addition to oral presentations, present the findings of the community impact assessment in written form for use by decision makers, to record findings, to disseminate to interested parties, and to support subsequent decisions.		**Included in the CBD Tolling Program NEPA EA.** The EA presents the findings of the community impact assessment in written form – taken as a whole, the EA document is the community impact assessment.
Implement and Monitor: Ensure that commitments are carried through to implementation. Monitor conditions to assess outcomes.		**Included in the CBD Tolling Program NEPA Process.** The commitments made to address adverse effects of the Project will be part of FHWA's NEPA findings, TBTA contract specifications, and other program requirements (e.g., recommendations of the Traffic Mobility Review Board).

* FHWA, Community Impact Assessment: A Quick Reference for Transportation, 2018 Update.

5B, Supplemental Demographic Information for the Regional Study Area and Manhattan CBD

August 2022

This appendix provides supplemental demographic information for the regional study area and Manhattan CBD in support of the analyses provided in **Subchapter 5A, "Population Characteristics and Community Cohesion,"** and **Subchapter 5B, "Population: Neighborhood Character."**

Supplemental Demographic Information for the Regional Study Area

This section provides information on the minority status and income characteristics of residents of the regional study area as reported in the 2015-2019 American Community Survey (ACS).

Minority Status

Approximately 52 percent of the population in the regional study area identifies as minority,[1] compared to 68 percent in New York City. As shown in **Figure 5B-1**, the minority population is concentrated in New York City, particularly the Bronx, Queens, and Brooklyn, and in the New Jersey counties that are close to the Manhattan CBD. Bronx County has the highest minority rate of any county in the regional study area, with an approximately 91 percent minority rate. The counties farthest from the Manhattan CBD generally have the lowest minority rates. **Chapter 17, "Environmental Justice,"** includes more details about the minority populations of the regional study area.

Income Characteristics

The median household income for the 28-county regional study area in 2015–2019 ACS was approximately $78,645, which represents a 2 percent increase since the year 2000 when adjusted for inflation. As shown in **Figure 5B-2**, several counties in the urban core—Brooklyn, Queens, and the Bronx in New York City, and Hudson, Essex, and Passaic Counties in New Jersey—had some of the lowest median incomes, ranging from approximately $40,100 to $71,200. Median household income in 13 of the suburban counties approached or surpassed $90,000:

- New Jersey: Bergen, Hunterdon, Middlesex, Monmouth, Morris, Somerset, and Sussex Counties
- New York: Nassau, Rockland, Putnam, Suffolk, and Westchester Counties
- Connecticut: Fairfield County

Median household incomes in Manhattan and Staten Island, and in Union County, New Jersey, were comparable to some suburban and exurban counties farthest from New York City, ranging from approximately $80,200 to $86,600.

[1] Minority population is defined by the U.S. Census Bureau as African Americans or Black persons, Latino persons, American Indians or Alaskan Natives, Asian and Pacific Islanders, and those of some other race or two or more races.

Figure 5B-1. Minority Rate by County

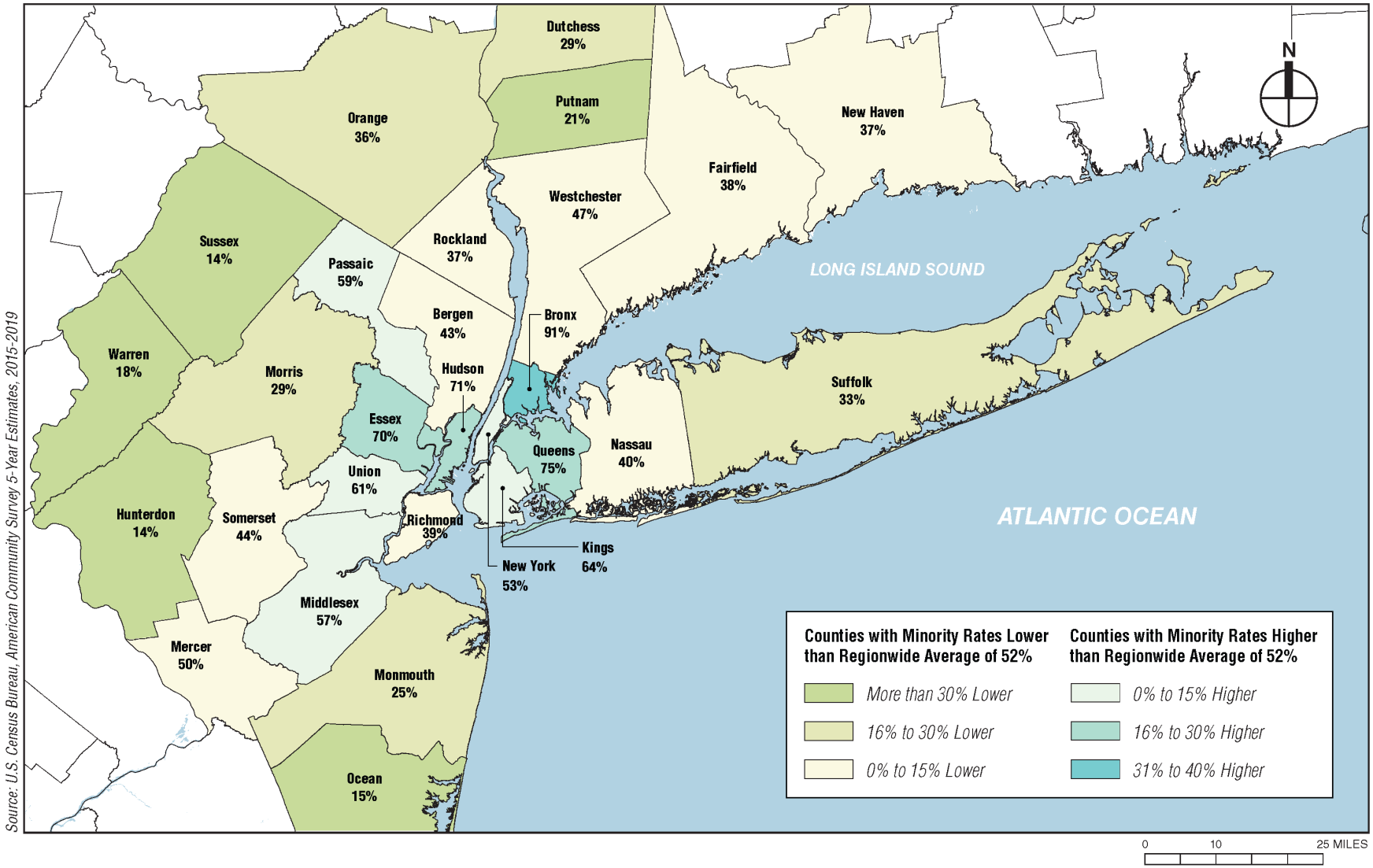
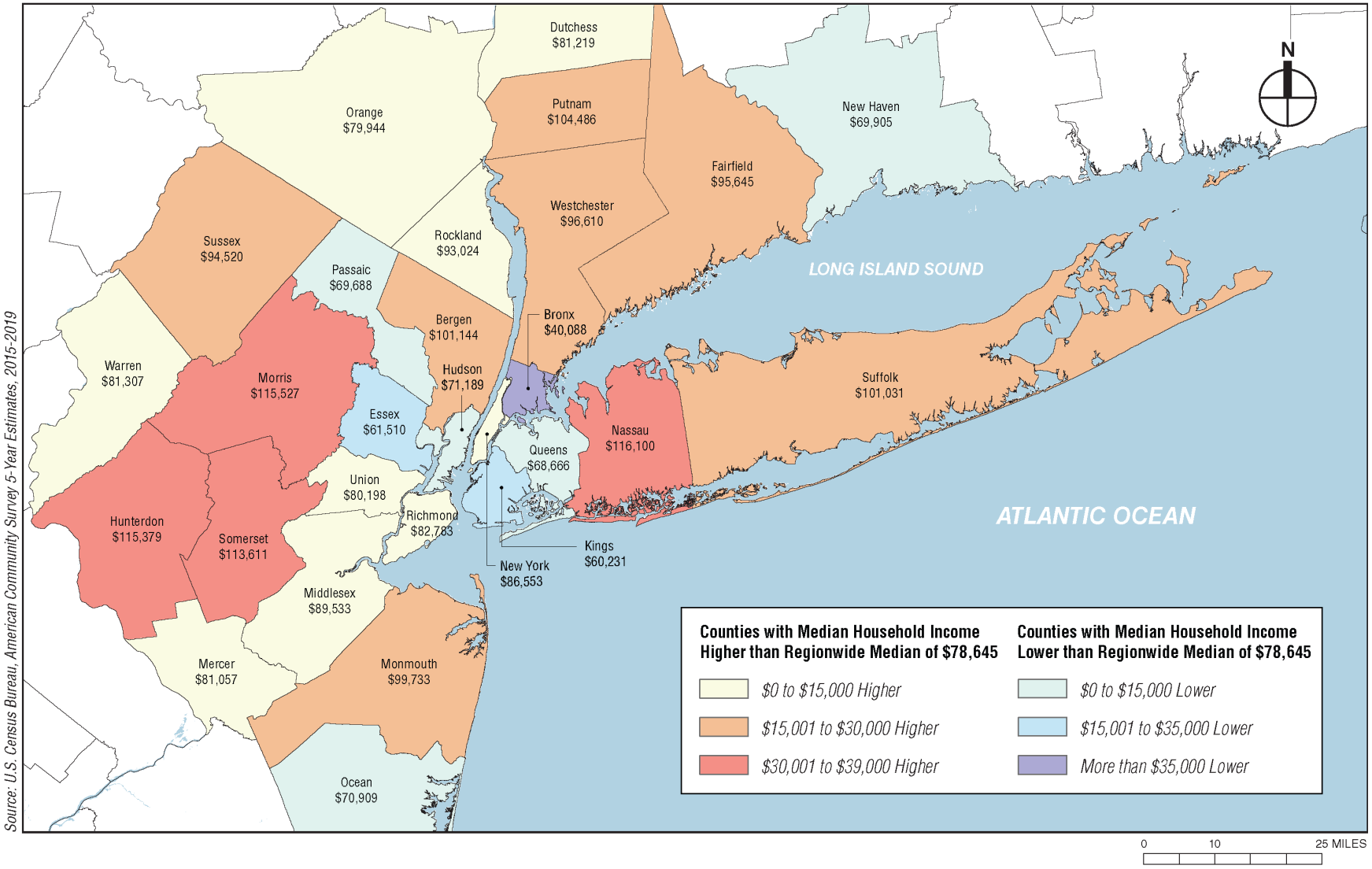


Figure 5B-2. Median Household Income by County



Median household income data provides a general illustration of income across the region and in each county. However, because income is distributed unevenly, median household income data can mask pockets of concentrated wealth or poverty. This is especially true in counties where both low-income and high-income people reside. Per capita personal income provides another measure of wealth. In Manhattan, as calculated by the U.S. Bureau of Economic Analysis, per capita personal income was more than $191,000 in 2020.[2] Manhattan, Westchester County, and Fairfield County were three of only 14 counties[3] in the United States with per capita personal income higher than $115,000. By contrast, per capita personal income in 2020 in the Bronx, Queens, and Brooklyn was approximately $43,900, $57,100, and $59,500, respectively. Approximately 41 percent of New York City households were estimated to have been living below the "near poverty" rate for New York City of $52,566 (for two adults and two children) in 2018, according to the New York City government's poverty measure.[4] **Chapter 17, "Environmental Justice,"** includes more details about the distribution and location of low-income populations in the regional study area.

From 2000 to 2019 median household income increased slightly in the regional study area when adjusted for inflation; notable increases to household income occurred in both Brooklyn and Manhattan (25 and 21 percent, respectively).The poverty rate, defined by the New York City Mayor's Office to capture the high cost of living in New York City, fell to 19 percent in 2018 from 20.2 percent in 2014, and the share of the population living at the "near poverty" rate fell to 41.3 percent from 46.2 percent.[5]

Supplemental Demographic Information for the Manhattan CBD

This section describes the population and housing characteristics of Manhattan Central Business District (CBD) residents reported in the 2010 one-year ACS and 2015–2019 ACS by Public Use Microdata Area (PUMA), a census geography that approximates Manhattan's community district boundaries.[6] The census divides the Manhattan CBD into four PUMAs (**Figure 5B-3**).

[2] Per capita personal income is personal income from all sources (work, owning a home or business, financial assets, and transfer receipts) divided by population. www.bea.gov.

[3] Per-capita income by county ranged from a low of $21,087 in Wheeler County, Georgia, to a high of $220,645 in Teton, Wyoming.

[4] *New York City Government Poverty Measure: An Annual Report from the Office of the Mayor.* 2020. https://www1.nyc.gov/assets/opportunity/pdf/20_poverty_measure_report. Near poverty is defined as 150 percent of the New York City poverty rate of $35,044, which accounts for the high cost of living, especially housing, in New York City.

[5] *New York City Government Poverty Measure: An Annual Report from the Office of the Mayor*. 2020. https://www1.nyc.gov/assets/opportunity/pdf/20_poverty_measure_report.

[6] New York City is divided into 59 community districts, a division of local governance. Each district is represented by a community board, a group of up to 50 unsalaried members selected by the area's elected officials. Community boards serve an advisory role to address land use and community concerns within their districts and as a liaison between the public and the local government.

Figure 5B-3. Manhattan CBD Study Area and Census Public Use Microdata Areas (PUMA) Geography



Population and Households Trends

As shown in Table 5B-1, the 2015–2019 ACS estimates a total population of 617,239 for the Manhattan CBD, a 6 percent increase since 2010. This population is evenly distributed among the four PUMAs that make up the Manhattan CBD, which represents a change from 2010, when the PUMA representing Community District 3 was substantially more populous and the PUMA representing Community Districts 4 and 5 was substantially less populous than the others. The two west side PUMAs (representing Community Districts 1, 2, 4, and 5) grew substantially between 2010 and 2019, while the two east side PUMAs (representing Community Districts 3 and 6), taken together, experienced a slight loss of population.

Table 5B-1. Manhattan CBD: General Population and Household Characteristics

PUMA (Community District)	TOTAL POPULATION			TOTAL HOUSEHOLDS			MEDIAN HOUSEHOLD INCOME		
	2010 ACS	2015–2019 ACS	% Change	2010 ACS	2015–2019 ACS	% Change	2010 ACS	2015–2019 ACS	% Change
CDs 4 & 5: Chelsea, Clinton & Midtown	134,471	158,185	18%	75,975	90,578	19%	$89,894	$110,357	23%
CD 6: Murray Hill, Gramercy & Stuyvesant Town	145,044	148,806	3%	77,488	79,855	3%	$105,223	$127,877	22%
CD 3: Chinatown & Lower East Side	159,009	154,554	-3%	70,395	72,024	2%	$48,864	$45,119	-8%
CD 1 & 2: Battery Park City, Greenwich Village & SoHo	144,944	155,694	7%	75,883	77,759	2%	$117,925	$148,377	26%
TOTAL MANHATTAN CBD	**583,468**	**617,239**	**6%**	**299,741**	**320,216**	**7%**	**$89,272**	**$105,717**	**18%**

Source: U.S. Census Bureau, 2010 one-year American Community Survey (ACS) and 2015–2019 ACS.
Note: Income is presented in 2019 dollars. Total Manhattan CBD median household income interpolated by AKRF.

As shown in Table 5B-1, the 2015–2019 ACS estimates 320,216 households in the Manhattan CBD, a 7 percent increase since 2010. The number of households grew faster than the population in two of the four PUMAs and in the Manhattan CBD overall, revealing a trend toward smaller household sizes. As with the total population, growth in the number of households was highest in the PUMA representing Community Districts 4 and 5.

The 2015–2019 ACS estimates a median household income of $105,717 for the Manhattan CBD overall, which is an 18 percent increase since 2010. After adjusting for inflation, median household income grew in three of the four PUMAs, with the greatest growth in the two west side PUMAs. The PUMA representing East Midtown (Community District 6) also experienced rapid growth, while the PUMA representing Chinatown and the Lower East Side (Community District 3) saw a decrease in household income when adjusted for inflation.

Table 5B-2 provides information on age distribution in the Manhattan CBD. Working-age individuals (18–64 years old) represent 74 percent of the Manhattan CBD population, elderly persons (65+ years old) represent 16 percent, and the youth population (up to 17 years old) accounts for 10 percent. In general,

Lower Manhattan PUMAs have younger populations than PUMAs in the northern portion of the Manhattan CBD.

Table 5B-2. Manhattan CBD: Age Characteristics of Population

PUMA (Community District)	YOUTH (0–17)		WORKING AGE (18–64)		ELDERLY (65+)	
	No.	% of Total	No.	% of Total	No.	% of Total
CDs 4 & 5: Chelsea, Clinton & Midtown	12,777	8%	124,190	79%	21,218	13%
CD 6: Murray Hill, Gramercy & Stuyvesant Town	13,569	9%	109,183	73%	26,054	18%
CD 3: Chinatown & Lower East Side	17,023	11%	108,182	70%	29,349	19%
CDs 1 & 2: Battery Park City, Greenwich Village & SoHo	20,030	13%	115,284	74%	20,380	13%
TOTAL MANHATTAN CBD	**63,399**	**10%**	**456,839**	**74%**	**97,001**	**16%**

Source: U.S. Census Bureau, 2015–2019 American Community Survey.

As shown in Table 5B-3, there are approximately 55,780 persons with disabilities in the Manhattan CBD, including 32,280 individuals who have ambulatory difficulty. Thus, 9 percent of the total population of the Manhattan CBD are persons with disabilities, with 5 percent of the total population of the Manhattan CBD having ambulatory difficulty.

Table 5B-3. Manhattan CBD: Persons with Disabilities, Including Population with Ambulatory Difficulty

PUMA (Community District)	DISABLED WITH AMBULATORY DIFFICULTY		TOTAL DISABLED	
	Population	% of Total Population	Population	% of Total Population
CDs 4 & 5: Chelsea, Clinton & Midtown	8,591	5%	15,497	10%
CD 6: Murray Hill, Gramercy & Stuyvesant Town	5,838	4%	10,664	7%
CD 3: Chinatown & Lower East Side	13,115	8%	20,540	13%
CDs 1 & 2: Battery Park City, Greenwich Village & SoHo	4,736	3%	9,079	6%
TOTAL MANHATTAN CBD	**32,280**	**5%**	**55,780**	**9%**

Source: U.S. Census Bureau, 2015–2019 American Community Survey.

Employment and Commuting

There are approximately 1.55 million jobs in the Manhattan CBD, compared to approximately 10.7 million jobs in the regional study area. There are 365,903 employed residents living in the Manhattan CBD of which 251,312 work within the Manhattan CBD and 114,591 work outside the Manhattan CBD (Table 5B-4). Most Manhattan CBD residents who commute to work outside the Manhattan CBD by automobile go to jobs in other parts of New York City or New Jersey.

Table 5B-4. Manhattan CBD Residents Employed Inside and Outside the Manhattan CBD and Mode of Transportation

EMPLOYED RESIDENTS	NUMBER	PERCENTAGE
CBD Residents Who Work within CBD	251,312	68.7%
Commute by Private Auto	5,048	2.0% (of CBD residents who work inside the CBD)
Commute by Taxi/For-Hire Vehicle	8,186	3.3% (of CBD residents who work inside the CBD)
Commute by Public Transportation and Other	238,078	94.7% (of CBD residents who work inside the CBD)
CBD Residents Who Work outside CBD	114,591	31.3%
Commute by Private Auto	16,663	14.5% (of CBD residents who work outside the CBD)
Commute by Taxi/For-Hire Vehicle	2,129	1.9% (of CBD residents who work outside the CBD)
Commute by Public Transportation and Other	95,799	83.6% (of CBD residents who work outside the CBD)
Total Employed Residents in CBD	**365,903**	**100.0%**

Source: U.S. Census Bureau, Census Transportation Planning Package data product based on 2012–2016 American Community Survey.

5C, New York State Smart Growth Public Infrastructure Policy Act Consistency Assessment

August 2022

Smart Growth Screening Tool

PIN **N/A**

Prepared By: New York State Department of Transportation

Smart Growth Screening Tool (STEP 1)

NYSDOT & Local Sponsors – Fill out the Smart Growth Screening Tool until the directions indicate to **STOP** for the project type under consideration. For all other projects, complete answering the questions. For any questions, refer to Smart Growth Guidance document.

Title of Proposed Project: Central Business District (CBD) Tolling Program

Location of Project: New York City, New York County

Brief Description: The Triborough Bridge and Tunnel Authority (TBTA), which is an affiliate of the Metropolitan Transportation Authority (MTA); the New York State Department of Transportation (NYSDOT); and the New York City Department of Transportation (NYCDOT) are proposing to implement the CBD Tolling Program, a vehicular tolling program to reduce traffic congestion in the Manhattan CBD. The Manhattan CBD consists of the geographic area of Manhattan south and inclusive of 60th Street, but not including Franklin D. Roosevelt (FDR) Drive, West Side Highway/Route 9A, the Battery Park underpass, and any surface roadway portion of the Hugh L. Carey Tunnel connecting to West Street (the West Side Highway/Route 9A).

With the CBD Tolling Alternative, TBTA would collect tolls from vehicles entering or remaining in the Manhattan CBD via a cashless tolling system. After covering TBTA's Project-related capital and operating expenses, the revenue collected would fund projects in the MTA 2020–2024 Capital Program and successor programs. The tolling program would be established consistent with the legislation that the New York State Legislature passed in April 2019 known as the MTA Reform and Traffic Mobility Act, which authorizes TBTA to collect variable tolls on vehicles entering or remaining in the Manhattan CBD and defines that geographic area.

A. Infrastructure:

Addresses SG Law criterion a. –
(To advance projects for the use, maintenance or improvement of existing infrastructure)

1. Does this project use, maintain, or improve existing infrastructure?

Yes ☒ **No** ☐ **N/A** ☐

Explain: (use this space to expand on your answers above – the form has no limitations on the length of your narrative)

Smart Growth Screening Tool

The CBD Tolling Alternative would reduce congestion on existing roadways in the Manhattan CBD, and would provide funding for the MTA 2020–2024 Capital Program and successor programs, much of which would be directed toward the maintenance and improvement of existing public transit infrastructure.

Maintenance Projects Only

a. Continue with screening tool for the four (4) types of maintenance projects listed below, as defined in **NYSDOT PDM Exhibit 7-1 and described in 7-4:** https://www.dot.ny.gov/divisions/engineering/design/dqab/pdm

- Shoulder rehabilitation and/or repair;
- Upgrade sign(s) and/or traffic signals;
- Park & ride lot rehabilitation;
- 1R projects that include single course surfacing (inlay or overlay), per Chapter 7 of the NYSDOT Highway Design Manual.

b. For all other maintenance projects, **STOP here.** Attach this document to the programmatic Smart Growth Impact Statement and signed Attestation for Maintenance projects.

For all other projects (other than maintenance), continue with screening tool.

B. Sustainability:

NYSDOT defines Sustainability as follows: A sustainable society manages resources in a way that fulfills the community/social, economic and environmental needs of the present without compromising the needs and opportunities of future generations. A transportation system that supports a sustainable society is one that:

- Allows individual and societal transportation needs to be met in a manner consistent with human and ecosystem health and with equity within and between generations.
- Is safe, affordable, and accessible, operates efficiently, offers choice of transport mode, and supports a vibrant economy.
- Protects and preserves the environment by limiting transportation emissions and wastes, minimizes the consumption of resources and enhances the existing environment as practicable.

For more information on the Department's Sustainability strategy, refer to Appendix 1 of the Smart Growth Guidance and the NYSDOT web site, www.dot.ny.gov/programs/greenlites/sustainability

(Addresses SG Law criterion j : to promote sustainability by strengthening existing and creating new communities which reduce greenhouse gas emissions and do not compromise the needs of future

Smart Growth Screening Tool

generations, by among other means encouraging broad based public involvement in developing and implementing a community plan and ensuring the governance structure is adequate to sustain and implement.)

1. Will this project promote sustainability by strengthening existing communities?

   Yes ☒ **No** ☐ **N/A** ☐

2. Will the project reduce greenhouse gas emissions?

   Yes ☒ **No** ☐ **N/A** ☐

Explain: (use this space to expand on your answers above)

The CBD Tolling Alternative would reduce traffic congestion in the Manhattan CBD, thereby strengthening this existing community that is one of the most densely populated and developed areas of New York City and the country.

The CBD Tolling Alternative would reduce congestion and VMT, which would also reduce greenhouse gas emissions. By providing a new dedicated funding source for the public transit investments included in the MTA 2020–2024 Capital Program and successor programs, the CBD Tolling Alternative would contribute to improved public transportation and would enhance the financial sustainability of public transit into the future, thereby strengthening existing communities that depend on the public transit network.

C. Smart Growth Location:

Plans and investments should preserve our communities by promoting its distinct identity through a local vision created by its citizens.

(Addresses SG Law criteria b and c: to advance projects located in municipal centers; to advance projects in developed areas or areas designated for concentrated infill development in a municipally approved comprehensive land use plan, local waterfront revitalization plan and/or brownfield opportunity area plan.)

1. Is this project located in a developed area?

   Yes ☒ **No** ☐ **N/A** ☐

2. Is the project located in a municipal center?

   Yes ☒ **No** ☐ **N/A** ☐

3. Will this project foster downtown revitalization?

   Yes ☐ **No** ☐ **N/A** ☒

4. Is this project located in an area designated for concentrated infill development in a municipally approved comprehensive land use plan, waterfront revitalization plan, or Brownfield Opportunity Area plan?

   Yes ☒ **No** ☐ **N/A** ☐

   Explain: (use this space to expand on your answers above)

Revised 2019 3 PIN N/A

Smart Growth Screening Tool

The CBD Tolling Alternative would reduce traffic congestion in the Manhattan CBD, one of the most densely populated and developed areas of New York City and the country. It would support the continued vitality of this densely developed downtown area. Enhanced investment in the public transit network through funding provided to the MTA 2020–2024 Capital Program and successor programs would support the existing mix of land uses and the compact nature of the Manhattan CBD.

The CBD Tolling Alternative would be in a dense urban area, and tolling infrastructure and tolling system equipment would be located within existing developed transportation rights-of-way.

D. Mixed Use Compact Development:

Future planning and development should assure the availability of a range of choices in housing and affordability, employment, education transportation and other essential services to encourage a jobs/housing balance and vibrant community-based workforce.

(Addresses SG Law criteria e and i: to foster mixed land uses and compact development, downtown revitalization, brownfield redevelopment, the enhancement of beauty in public spaces, the diversity and affordability of housing in proximity to places of employment, recreation and commercial development and the integration of all income groups; to ensure predictability in building and land use codes.)

1. Will this project foster mixed land uses?

   Yes ☐ **No** ☐ **N/A** ☒

2. Will the project foster brownfield redevelopment?

   Yes ☐ **No** ☐ **N/A** ☒

3. Will this project foster enhancement of beauty in public spaces?

   Yes ☐ **No** ☐ **N/A** ☒

4. Will the project foster a diversity of housing in proximity to places of employment and/or recreation?

   Yes ☐ **No** ☐ **N/A** ☒

5. Will the project foster a diversity of housing in proximity to places of commercial development and/or compact development?

   Yes ☐ **No** ☐ **N/A** ☒

6. Will this project foster integration of all income groups and/or age groups?

   Yes ☐ **No** ☐ **N/A** ☒

7. Will the project ensure predictability in land use codes?

Revised 2019 4 PIN N/A

Yes ☐ No ☐ N/A ☒

8. Will the project ensure predictability in building codes?

Yes ☐ No ☐ N/A ☒

Explain: (use this space to expand on your answers above)

The CBD Tolling Alternative would reduce congestion in the Manhattan CBD, which would support the continued vitality of this densely developed downtown area. Enhanced investment in the public transit network through funding provided to the MTA 2020–2024 Capital Program and successor programs would support the existing mix of land uses, diversity of housing options, and the compact nature of the Manhattan CBD. Tolling infrastructure and tolling system equipment would be visually consistent with existing infrastructure in the Manhattan CBD, thereby maintaining the aesthetic character of public spaces.

The CBD Tolling Alternative would not affect building and land use codes.

E. Transportation and Access:

NYSDOT recognizes that Smart Growth encourages communities to offer a wide range of transportation options, from walking and biking to transit and automobiles, which increase people's access to jobs, goods, services, and recreation.

(Addresses SG Law criterion f: to provide mobility through transportation choices including improved public transportation and reduced automobile dependency.)

1. Will this project provide public transit?

Yes ☒ No ☐ N/A ☐

2. Will this project enable reduced automobile dependency?

Yes ☒ No ☐ N/A ☐

3. Will this project improve bicycle and pedestrian facilities (such as shoulder widening to provide for on-road bike lanes, lane striping, crosswalks, new or expanded sidewalks or new/improved pedestrian signals)?

Yes ☐ No ☐ N/A ☒

(Note: Question 3 is an expansion on question 2. The recently passed Complete Streets legislation requires that consideration be given to complete street design features in the planning, design, construction, reconstruction and rehabilitation, but not including resurfacing, maintenance, or pavement recycling of such projects.)

Explain: (use this space to expand on your answers above)

Smart Growth Screening Tool

The CBD Tolling Alternative would reduce congestion and VMT, which would enhance mobility for those who would continue to rely on personal automobiles and taxis/for-hire vehicles for their transportation needs. At the same time, by providing a new dedicated funding source for the public transit investments included in the MTA 2020–2024 Capital Program and successor programs, the CBD Tolling Alternative would contribute to improved public transportation.

F. Coordinated, Community-Based Planning:

Past experience has shown that early and continuing input in the transportation planning process leads to better decisions and more effective use of limited resources. For information on community based planning efforts, the MPO may be a good resource if the project is located within the MPO planning area.

(Addresses SG Law criteria g and h: to coordinate between state and local government and inter-municipal and regional planning; to participate in community based planning and collaboration.)

1. Has there been participation in community-based planning and collaboration on the project?

   Yes ☒ **No** ☐ **N/A** ☐

2. Is the project consistent with local plans?

   Yes ☒ **No** ☐ **N/A** ☐

3. Is the project consistent with county, regional, and state plans?

   Yes ☒ **No** ☐ **N/A** ☐

4. Has there been coordination between inter-municipal/regional planning and state planning on the project?

   Yes ☒ **No** ☐ **N/A** ☐

Explain: (use this space to expand on your answers above)

The Project Sponsors are committed to an open, participatory environmental review process for the Project and will inform and solicit feedback from the public; encourage open discussion of Project details and issues; and provide opportunities for comments. Meaningful opportunities for public input will be provided during environmental review and construction for the Project and will include virtual public meetings; meetings with key stakeholder groups; an interactive Project website; a social media communications program; a Project email list through which Project updates will be disseminated directly to interested members of the public; and Project-related radio and television programming. Public outreach activities for the Project will be compliant with the Americans with Disabilities Act, and the Project Sponsors will seek to involve environmental justice populations in the Project's public involvement activities.

Smart Growth Screening Tool

The Project Sponsors will provide translations in Spanish, Chinese, Haitian Creole, Bengali, Korean, and Russian to aid Limited English Proficient populations in their engagement with the Project. Chapter 20, "Public Participation" provides a full discussion of the community-based planning and collaboration efforts associated with the CBD Tolling Alternative.

Development of the CBD Tolling Alternative has involved close coordination between agencies of the State and City of New York. Support for congestion pricing is included in local plans including OneNYC, as well as NYMTC's Regional Transportation Plan.

G. Stewardship of Natural and Cultural Resources:

Clean water, clean air and natural open land are essential elements of public health and quality of life for New York State residents, visitors, and future generations. Restoring and protecting natural assets, and open space, promoting energy efficiency, and green building, should be incorporated into all land use and infrastructure planning decisions.

(Addresses SG Law criterion d :To protect, preserve and enhance the State's resources, including agricultural land, forests surface and ground water, air quality, recreation and open space, scenic areas and significant historic and archeological resources.)

1. Will the project protect, preserve, and/or enhance agricultural land and/or forests?

   Yes ☐ **No** ☐ **N/A** ☒

2. Will the project protect, preserve, and/or enhance surface water and/or groundwater?

   Yes ☐ **No** ☐ **N/A** ☒

3. Will the project protect, preserve, and/or enhance air quality?

   Yes ☒ **No** ☐ **N/A** ☐

4. Will the project protect, preserve, and/or enhance recreation and/or open space?

   Yes ☐ **No** ☒ **N/A** ☐

5. Will the project protect, preserve, and/or enhance scenic areas?

   Yes ☐ **No** ☐ **N/A** ☒

6. Will the project protect, preserve, and/or enhance historic and/or archeological resources?

   Yes ☐ **No** ☒ **N/A** ☐

   Explain: (use this space to expand on your answers above)

Smart Growth Screening Tool

The CBD Tolling Alternative would reduce roadway congestion and vehicle-miles traveled, thereby improving air quality.

The CBD Tolling Alternative would not result in adverse effects to parks or open spaces. The CBD Tolling Alternative would place tolling infrastructure and tolling system equipment within Central Park. Equipment that is similar in appearance is already mounted on other poles in Central Park, and the tolling infrastructure and tolling system equipment would be visually consistent with the existing streetlight poles found throughout Central Park, including matching the existing color scheme. Because the tolling system equipment would be mounted on replacement poles in the same locations as existing poles, the amount of park space would not be reduced. Therefore, there would be no adverse effect on recreational uses of Central Park from the proposed tolling infrastructure and tolling system equipment.

The CBD Tolling Alternative would not result in adverse effects to historic or archaeological resources. The CBD Tolling Alternative would place tolling infrastructure and tolling system equipment within Central Park, but this would not result in changes that would alter the characteristics that qualify Central Park for listing in the National Register of Historic Places, nor would it diminish the integrity of Central Park's location, design, setting, materials, workmanship, feeling or association. Therefore, there would be no adverse effect on the historic integrity of Central Park.

There are no agricultural lands, forests, surface or groundwater resources, or scenic areas within the project area.

Smart Growth Screening Tool

Smart Growth Impact Statement (STEP 2)

NYSDOT: Complete a Smart Growth Impact Statement (SGIS) below using the information from the Screening Tool.

Local Sponsors: The local sponsors are **not** responsible for completing a Smart Growth Impact Statement. Proceed to **Step 3**.

Smart Growth Impact Statement

PIN: N/A

Project Name: Central Business District Tolling Program

Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act. This project has been determined to meet the relevant criteria, to the extent practicable, described in ECL Sec. 6-0107. Specifically, the project:

- Proposes to implement the CBD Tolling Program, a vehicle tolling program to reduce traffic congestion in the Manhattan CBD. The tolling program would be established consistent with legislation that the NYS Legislature passed in April 2019 known as the MTA Reform and Traffic Mobility Act.
- Would be located in a municipal center: Manhattan Central Business District (CBD).
- Would be located in developed areas and an area designated for concentrated infill development in a municipally approved local waterfront revitalization plan, the New York City Waterfront Revitalization Plan (NYC WRP).
- Would maintain and improve existing public transportation infrastructure by providing funding for the MTA 2020-2024 Capital Program and successor programs and by reducing congestion on existing roadways in the Manhattan CBD.
- Would contribute to improved public transit and enable reduced automobile dependency by providing a new, dedicated funding source for public transit investment in the MTA 2020-2024 Capital Program and successor programs.
- Would improve air quality and reduce greenhouse gas emissions in the Manhattan CBD by reducing roadway congestion and vehicle-miles-traveled (VMT).
- Would promote sustainability by strengthening existing communities by establishing a dedicated funding source for public transit, contributing to improved public transportation, and enhancing the financial sustainability of public transit for existing communities who depend on the public transit network.
- Would be consistent with and supportive of the objectives of OneNYC 2050, specifically Initiative 26, "Reduce congestion and emissions."

Smart Growth Screening Tool

- Would be consistent with and supportive of the objectives of the Regional Transportation Plans from MPOs across the 28-county New York City region, specifically, with the strategies detailed in NYMTC's Moving Forward: Your Region, Connected.
- Would be consistent with and supportive of the goals of the Climate Leadership and Community Protection Act, specifically by reducing emissions of greenhouse gases by reducing vehicle-miles traveled.
- Has included community-based planning and collaboration and has provided meaningful opportunities for public involvement to inform the public, encourage open discussion of Project details and issues, and provide opportunities for commenting.
- Has included coordination between inter-municipal/regional planning and state planning on the project.

This publically supported infrastructure project complies with the state policy of maximizing the social, economic and environmental benefits from public infrastructure development. The project will not contribute to the unnecessary costs of sprawl development, including environmental degradation, disinvestment in urban and suburban communities, or loss of open space induced by sprawl.

Revised 2019 10 PIN N/A

Smart Growth Screening Tool

Review & Attestation Instructions (STEP 3)

Local Sponsors: Once the Smart Growth Screening Tool is completed, the next step is to submit the project certification statement **(Section A)** to Responsible Local Official for signature. After signing the document, the completed Screening Tool and Certification statement should be sent to NYSDOT for review as noted below.

NYSDOT: For state-let projects, the Screening Tool and SGIS is forwarded to Regional Director/ RPPM/Main Office Program Director or designee for review, and upon approval, the attestation is signed **(Section B.2).** For locally administered projects, the sponsor's submission and certification statement is reviewed by NYSDOT staff, the appropriate box **(Section B.1)** is checked, and the attestation is signed (Section B.2).

A. CERTIFICATION (LOCAL PROJECT)

I HEREBY CERTIFY, to *the best of my knowledge, all of the above to be true and correct.*

Preparer of this document:

Signature	Date
Title	Printed Name

Responsible Local Official (for local projects):

Signature	Date
Title	Printed Name

Revised 2019 11 PIN N/A

Smart Growth Screening Tool

B. ATTESTATION (NYSDOT)

1. ***I HEREBY:***

☒ *Concur with the above certification, thereby attesting that this project is in compliance with the State Smart Growth Public Infrastructure Policy Act*

☐ *Concur with the above certification, with the following conditions (information requests, confirming studies, project modifications, etc.):*

(Attach additional sheets as needed)

☐ do not concur with the above certification, thereby deeming this project ineligible to be a recipient of State funding or a subrecipient of Federal funding in accordance with the State Smart Growth Public Infrastructure Policy Act.

2. ***NOW THEREFORE,*** pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act, to the extent practicable, as described in the attached Smart Growth Impact Statement.

NYSDOT Commissioner, Regional Director, MO Program Director,
Regional Planning & Programming Manager (or official designee):



Signature

July 22, 2022
Date

NYSDOT Chief Engineer
Title

Nicolas A. Choubah, P.E.
Printed Name

Revised 2019 12 PIN N/A

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 6, Economic Conditions

August 2022

Contents

6A, Information on Industry Sectors of Regional Labor Force and Employment

6B, Existing Truck Toll Rates

- Supporting Materials
  - MTA Bridges and Tunnels Toll Schedule
  - Port Authority of New York and New Jersey Toll Schedule
  - New York State Thruway Authority – Mario M. Cuomo Bridge Toll Schedule and New York State Thruway
  - New York Bridge Authority
  - Garden State Parkway – E-ZPass and Non E-ZPass
  - New Jersey Turnpike – Class 2 through 8 Vehicles

6A, Information on Industry Sectors of Regional Labor Force and Employment

Table 6A-1. Regional Study Area Employed Labor Force by Industry Sector (tabulated data associated with Figure 6-2 in Chapter 6, "Economic Conditions")

REGION	AGRICULTURE, FORESTRY, FISHING AND HUNTING, AND MINING		CONSTRUCTION		MANUFACTURING		WHOLESALE TRADE		RETAIL TRADE		TRANSPORTATION AND WAREHOUSING, AND UTILITIES		INFORMATION		FINANCE, INSURANCE, REAL ESTATE AND RENTAL AND LEASING		PROFESSIONAL, SCIENTIFIC, MANAGEMENT, ADMINISTRATIVE, AND WASTE MANAGEMENT SERVICES		EDUCATIONAL, HEALTH AND SOCIAL SERVICES		ARTS, ENTERTAINMENT, RECREATION, ACCOMMODATION AND FOOD SERVICES		OTHER SERVICES (EXCEPT PUBLIC ADMINISTRATION)		PUBLIC ADMINISTRATION		TOTAL, ALL INDUSTRIES	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
New York City	**4,206**	**17.9%**	**210,187**	**33.1%**	**131,265**	**20.4%**	**83,822**	**28.0%**	**371,804**	**33.8%**	**267,074**	**40.9%**	**156,529**	**44.9%**	**385,431**	**38.9%**	**566,489**	**38.1%**	**1,097,459**	**38.4%**	**438,697**	**45.3%**	**215,991**	**40.8%**	**154,261**	**35.4%**	**4,083,215**	**37.2%**
New York County (Manhattan)	571	2.4%	17,381	2.7%	26,719	4.2%	18,037	6.0%	62,802	5.7%	24,479	3.7%	56,020	16.1%	147,662	14.9%	185,245	12.5%	208,232	7.3%	96,935	10.0%	38,951	7.4%	22,441	5.2%	905,475	8.3%
Kings County (Brooklyn)	1,375	5.8%	62,088	9.8%	38,822	6.0%	26,902	9.0%	112,845	10.3%	82,056	12.6%	56,473	16.2%	91,338	9.2%	173,511	11.7%	348,257	12.2%	123,809	12.8%	62,932	11.9%	46,622	10.7%	1,227,030	11.2%
Queens County	1,326	5.6%	83,418	13.1%	40,675	6.3%	25,476	8.5%	109,853	10.0%	97,725	15.0%	29,329	8.4%	87,547	8.8%	128,806	8.7%	279,185	9.8%	131,187	13.5%	71,947	13.6%	48,403	11.1%	1,134,877	10.3%
Bronx County	665	2.8%	30,953	4.9%	19,796	3.1%	9,952	3.3%	65,494	6.0%	47,087	7.2%	9,752	2.8%	38,377	3.9%	54,086	3.6%	197,903	6.9%	71,765	7.4%	33,345	6.3%	22,166	5.1%	601,341	5.5%
Richmond County (Staten Island)	269	1.1%	16,347	2.6%	5,253	0.8%	3,455	1.2%	20,810	1.9%	15,727	2.4%	4,955	1.4%	20,507	2.1%	24,841	1.7%	63,882	2.2%	15,001	1.5%	8,816	1.7%	14,629	3.4%	214,492	2.0%
Long Island[1]	**4,000**	**17.0%**	**95,501**	**15.0%**	**80,717**	**12.6%**	**46,849**	**15.7%**	**151,791**	**13.8%**	**81,037**	**12.4%**	**39,709**	**11.4%**	**124,200**	**12.5%**	**177,662**	**11.9%**	**405,571**	**14.2%**	**102,121**	**10.5%**	**61,153**	**11.6%**	**69,603**	**16.0%**	**1,439,914**	**13.1%**
New York Counties North of New York City[2]	**4,527**	**19.2%**	**65,654**	**10.3%**	**50,554**	**7.9%**	**25,792**	**8.6%**	**103,163**	**9.4%**	**47,950**	**7.3%**	**27,343**	**7.8%**	**81,769**	**8.2%**	**124,627**	**8.4%**	**287,157**	**10.0%**	**86,228**	**8.9%**	**51,595**	**9.8%**	**47,342**	**10.9%**	**1,003,701**	**9.1%**
New Jersey Counties[3]	**8,698**	**36.9%**	**207,590**	**32.6%**	**296,333**	**46.1%**	**119,047**	**39.8%**	**377,712**	**34.3%**	**220,746**	**33.8%**	**103,547**	**29.7%**	**316,546**	**31.9%**	**501,810**	**33.7%**	**825,230**	**28.9%**	**269,510**	**27.8%**	**156,248**	**29.5%**	**136,745**	**31.4%**	**3,539,762**	**32.3%**
Connecticut Counties[3]	**2,127**	**9.0%**	**57,032**	**9.0%**	**83,534**	**13.0%**	**23,699**	**7.9%**	**95,424**	**8.7%**	**36,447**	**5.6%**	**21,224**	**6.1%**	**83,279**	**8.4%**	**117,281**	**7.9%**	**243,363**	**8.5%**	**72,109**	**7.4%**	**44,094**	**8.3%**	**27,622**	**6.3%**	**907,235**	**8.3%**
TOTAL	**23,558**	**100.0%**	**635,964**	**100.0%**	**642,403**	**100.0%**	**299,209**	**100.0%**	**1,099,894**	**100.0%**	**653,254**	**100.0%**	**348,352**	**100.0%**	**991,225**	**100.0%**	**1,487,869**	**100.0%**	**2,858,780**	**100.0%**	**968,665**	**100.0%**	**529,081**	**100.0%**	**435,573**	**100.0%**	**10,973,827**	**100.0%**

Source: U.S. Census Bureau, American Community Survey 2012–2016 5-Year Estimates. Special Tabulation: Census Transportation Planning Products Program

Notes: Regional totals are the sums of the first five rows; percentages may not sum to 100 percent due to rounding.

[1] Long Island counties include Nassau and Suffolk.

[2] New York counties north of New York City include Dutchess, Orange, Putnam, Rockland, and Westchester.

[3] New Jersey counties include Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren.

[4] Connecticut counties include Fairfield and New Haven.

Table 6A-2. Regional Study Area Jobs by NAICS Industry Categories (tabulated data associated with Figure 6-3 in Chapter 6, "Economic Conditions")

REGION	AGRICULTURE, FORESTRY, FISHING AND HUNTING, AND MINING		CONSTRUCTION		MANUFACTURING		WHOLESALE TRADE		RETAIL TRADE		TRANSPORTATION AND WAREHOUSING, AND UTILITIES		INFORMATION		FINANCE, INSURANCE, REAL ESTATE AND RENTAL AND LEASING		PROFESSIONAL, SCIENTIFIC, MANAGEMENT, ADMINISTRATIVE, AND WASTE MANAGEMENT SERVICES		EDUCATIONAL, HEALTH AND SOCIAL SERVICES		ARTS, ENTERTAINMENT, RECREATION, ACCOMMODATION AND FOOD SERVICES		OTHER SERVICES (EXCEPT PUBLIC ADMINISTRATION)		PUBLIC ADMINISTRATION		TOTAL, ALL INDUSTRIES	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
New York City	**4,610**	**19.7%**	**242,785**	**43.8%**	**154,365**	**22.9%**	**103,330**	**30.8%**	**406,400**	**39.2%**	**277,525**	**41.7%**	**196,285**	**52.7%**	**515,275**	**54.5%**	**654,630**	**47.9%**	**1,152,325**	**45.0%**	**447,925**	**40.4%**	**225,535**	**40.9%**	**198,080**	**45.2%**	**4,579,070**	**43.1%**
New York County (Manhattan)	1,915	8.2%	101,645	18.3%	77,445	11.5%	51,840	15.4%	197,905	19.1%	85,110	12.8%	153,225	41.1%	400,240	42.4%	486,115	35.6%	458,575	17.9%	279,445	25.2%	108,710	19.7%	93,185	21.3%	2,495,355	23.5%
Kings County (Brooklyn)	1,250	5.3%	57,740	10.4%	33,800	5.0%	22,475	6.7%	82,525	8.0%	64,595	9.7%	20,915	5.6%	48,310	5.1%	76,560	5.6%	289,815	11.3%	68,555	6.2%	48,160	8.7%	40,415	9.2%	855,115	8.0%
Queens County	1,080	4.6%	53,985	9.7%	29,830	4.4%	18,225	5.4%	72,480	7.0%	94,195	14.2%	13,495	3.6%	41,090	4.3%	57,650	4.2%	198,760	7.8%	61,985	5.6%	39,635	7.2%	39,365	9.0%	721,775	6.8%
Bronx County	235	1.0%	19,110	3.4%	10,560	1.6%	9,250	2.8%	37,400	3.6%	24,390	3.7%	6,250	1.7%	19,155	2.0%	23,020	1.7%	158,895	6.2%	27,305	2.5%	21,510	3.9%	19,375	4.4%	376,455	3.5%
Richmond County (Staten Island)	130	0.6%	10,305	1.9%	2,730	0.4%	1,540	0.5%	16,090	1.6%	9,235	1.4%	2,400	0.6%	6,480	0.7%	11,285	0.8%	46,280	1.8%	10,635	1.0%	7,520	1.4%	5,740	1.3%	130,370	1.2%
Long Island[1]	**4,360**	**18.7%**	**77,915**	**14.0%**	**83,165**	**12.4%**	**42,095**	**12.5%**	**153,545**	**14.8%**	**53,940**	**8.1%**	**29,790**	**8.0%**	**87,455**	**9.3%**	**142,220**	**10.4%**	**337,590**	**13.2%**	**97,850**	**8.8%**	**60,580**	**11.0%**	**39,545**	**9.0%**	**1,210,050**	**11.4%**
New York Counties North of New York City[2]	**4,155**	**17.8%**	**4,155**	**0.7%**	**52,125**	**7.7%**	**51,325**	**15.3%**	**22,075**	**2.1%**	**104,060**	**15.6%**	**40,030**	**10.7%**	**19,175**	**2.0%**	**53,715**	**3.9%**	**94,235**	**3.7%**	**245,425**	**22.1%**	**77,335**	**14.0%**	**49,855**	**11.4%**	**817,665**	**7.7%**
New Jersey Counties[3]	**8,070**	**34.5%**	**178,275**	**32.1%**	**297,620**	**44.2%**	**116,320**	**34.6%**	**360,450**	**34.8%**	**199,315**	**30.0%**	**84,810**	**22.8%**	**248,255**	**26.3%**	**408,145**	**29.9%**	**742,120**	**29.0%**	**246,915**	**22.3%**	**146,035**	**26.5%**	**126,575**	**28.9%**	**3,162,905**	**29.8%**
Connecticut Counties[3]	**2,170**	**9.3%**	**51,665**	**9.3%**	**85,350**	**12.7%**	**22,890**	**6.8%**	**94,220**	**9.1%**	**30,260**	**4.5%**	**21,480**	**5.8%**	**74,745**	**7.9%**	**108,370**	**7.9%**	**231,705**	**9.1%**	**70,425**	**6.4%**	**42,210**	**7.7%**	**24,185**	**5.5%**	**859,675**	**8.1%**
TOTAL	**23,365**	**100.0%**	**554,795**	**100.0%**	**672,625**	**100.0%**	**335,960**	**100.0%**	**1,036,690**	**100.0%**	**665,100**	**100.0%**	**372,395**	**100.0%**	**944,905**	**100.0%**	**1,367,080**	**100.0%**	**2,557,975**	**100.0%**	**1,108,540**	**100.0%**	**551,695**	**100.0%**	**438,240**	**100.0%**	**10,629,365**	**100.0%**

Source: U.S. Census Bureau, American Community Survey 2012–2016 5-Year Estimates. Special Tabulation: Census Transportation Planning Products Program

Notes: Regional totals are the sums of the first five rows; percentages may not sum to 100 percent due to rounding.

[1] Long Island counties include Nassau and Suffolk.

[2] New York counties north of New York City include Dutchess, Orange, Putnam, Rockland, and Westchester.

[3] New Jersey counties include Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren.

[4] Connecticut counties include Fairfield and New Haven.

6B, Existing Truck Toll Rates

Table 6.B-1. Three-Axle Truck Toll Rates in the Regional Study Area

TOLLED FACILITY	LOCATION	JURISDICTION	TOLL RATE (ALL TIMES)	TOLL RATE (PEAK PERIOD[1])	TOLL RATE (OFF-PEAK PERIOD[2])	TOLL RATE TOLL RATE (OVERNIGHT[2])
TUNNELS						
Queens-Midtown Tunnel	East River – Between Queens and Manhattan	TBTA	$19.40	NA	NA	NA
Hugh L. Carey Tunnel	New York Harbor – Between Brooklyn and Manhattan	TBTA	$19.40	NA	NA	NA
Holland Tunnel	Hudson River – Between New Jersey and Manhattan	PANYNJ	NA	$57.00	$54.00	$49.50
Lincoln Tunnel	Hudson River – Between New Jersey and Manhattan	PANYNJ	NA	$57.00	$54.00	$49.50
BRIDGES						
Robert F. Kennedy Bridge	Harlem River and East River – Between Bronx, Queens, and Manhattan	TBTA	$19.40	NA	NA	NA
Henry Hudson Bridge (Route 9A)	Harlem River – Between Bronx and Manhattan	TBTA	No Trucks Allowed	No Trucks Allowed	No Trucks Allowed	No Trucks Allowed
Bronx-Whitestone Bridge	East River – Between Bronx and Queens	TBTA	$19.40	NA	NA	NA
Throgs Neck Bridge	East River – Between Bronx and Queens	TBTA	$19.40	NA	NA	NA
Verrazzano-Narrows Bridge	New York Bay- Between Brooklyn and Staten Island	TBTA	$19.40	NA	NA	NA
Cross Bay Bridge	Jamaica Bay- Broad Channel and The Rockaway's	TBTA	$9.70	NA	NA	NA
Marine Parkway Bridge	Jamaica Bay- Brooklyn and Queens	TBTA	$9.70	NA	NA	NA
Bayonne Bridge	Kill Van Kull- Between Staten Island and Bayonne, NJ	PANYNJ	NA	$57.00	$54.00	$49.50
George Washington Bridge (I-95)	Hudson River – Between New Jersey and Manhattan	PANYNJ	NA	$57.00	$54.00	$49.50
Goethals Bridge	Arthur Kill- Between Staten Island and New Jersey	PANYNJ	NA	$57.00	$54.00	$49.50
Outerbridge Crossing	Arthur Kill- Between Staten Island and New Jersey	PANYNJ	NA	$57.00	$54.00	$49.50
Mario M. Cuomo Bridge (I-287)	Hudson River- Between Tarrytown and South Nyack	NYSTA	NA	$55.77	$27.89	$27.89
Newburgh-Beacon Bridge (I-84)	Hudson River- Between Newburgh and Beacon	NYSBA	$8.55	N/A	N/A	N/A
Bear Mountain Bridge	Hudson River- Between Bear Mountain and Cortland	NYSBA	$8.55	N/A	N/A	N/A
Mid-Hudson Bridge	Hudson River- Between Poughkeepsie and Highland	NYSBA	$8.55	N/A	N/A	N/A
Kingston-Rhinecliff Bridge	Hudson River- Between Kingston and Rhinebeck	NYSBA	$8.55	N/A	N/A	$N/A
ROADWAYS						
New Jersey Turnpike (I-95)	West of Manhattan through Several NJ Counties	NJTA	NA	$3.66-$45.48 Dependent on distance	$3.48-43.21 Dependent on distance	$3.48-43.21 Dependent on distance
Garden State Parkway south of Exit 105	West of Manhattan through Several NJ Counties	NJTA	NA	$2.01-$5.88 Dependent on distance	$1.91-$5.58 Dependent on distance	$1.91-$5.58 Dependent on distance
New York State Thruway (I-87)	Southern End at the Bronx/Yonkers City Line	NYSTA	NA	$0.06-$7.91 Dependent on distance	$0.06-$7.91 Dependent on distance	$0.06-$7.91 Dependent on distance

Note: Toll rates are for three-axle trucks, which represent a typical delivery vehicle to the Manhattan CBD. Facility operators have varied approaches to truck tolls, including variation by time of day and the number of axles. The detailed toll schedules for each tolling agency are provided on the following pages. Truck tolls vary by the number of axles, refer to the following tables for the full toll schedule by facility.

[1] Peak Hours on all tolled PANYNJ facilities are Weekdays 6-10am and 4-8pm, and Weekends from 11am-9pm; Peak Hours on the Mario Cuomo Bridge are weekdays 6-10am and 3pm-7pm; Peak Hours on all NJTA tolled facilities are 7am-9pm and 430pm-630pm Monday-Friday and all-day Saturday and Sunday

[2] Off Peak Hours on all tolled PANYNJ facilities are all 8pm-6am the following morning and 10am-4pm; Off Peak Hours on the Mario Cuomo Bridge are 7pm-6am the following morning and 10am-3pm; Off-Peak Hours on all NJTA facilities are 12am-7am, 9am-430pm, and 630pm-1159pm Monday -Friday

[3] On PANYNJ tolled facilities only, there is a special overnight toll rate for trucks- 10pm-6am on Sundays-Thursdays only

NYCDOT = New York City Department of Transportation
NYSDOT = New York State Department of Transportation
TBTA = Triborough Bridge and Tunnel Authority
NYSTA= New York State Thruway Authority
NYSBA= New York State Bridge Authority
NJTA= New jersey Turnpike Authority
PANYNJ = Port Authority of New York and New Jersey

Supporting Materials

(for Section 6B – Existing Truck Toll Rates)

1. MTA Bridges and Tunnels Toll Schedule
2. Port Authority of New York and New Jersey Toll Schedule
3. New York State Thruway Authority – Mario M. Cuomo Bridge Toll Schedule and New York State Thruway
4. New York Bridge Authority
5. Garden State Parkway – E-ZPass and Non E-ZPass
6. New Jersey Turnpike – Class 2 through 8 Vehicles

New Truck Toll Rates at MTA B&T Effective April 11, 2021

Updated Mar 31, 2021

New Commercial Vehicle/Truck Tolling Details

New toll schedule for Commercial Vehicles/Trucks at MTA Crossings, starting April 11, 2021. Be sure to properly mount your E-ZPass tag to receive the best toll rate.

Robert F. Kennedy, Bronx-Whitestone, Throgs Neck, and Verrazzano-Narrows Bridges and Queens Midtown and Hugh L. Carey Tunnels

One Way Trip

Axles	E-ZPass (NYCSC)	Mid-Tier (NYCSC)	Tolls by Mail / non-NYCSC E-ZPass
2 Axle (Class 4)	$11.84	$16.10	$20.35
3 Axle (Class 6)	$19.40	$26.46	$33.51
4 Axle (Class 7)	$24.80	$33.35	$41.89
5 Axle (Class 8)	$32.33	$43.69	$55.05
6 Axle (Class 12)	$37.72	$50.58	$63.43
7 Axle (Class 13)	$45.25	$62.12	$78.98
Extra Axle	$7.56	$9.77	$11.97

Cross Bay and Marine Parkway Bridges

One-Way Trip

Axles	E-ZPass (NYCSC)	Mid-Tier (NYCSC)	Tolls by Mail / non-NYCSC E-ZPass
2 Axle (Class 4)	$5.92	$8.05	$10.17
3 Axle (Class 6)	$9.70	$13.23	$16.76
4 Axle (Class 7)	$12.40	$16.67	$20.94
5 Axle (Class 8)	$16.17	$21.85	$27.53
6 Axle (Class 12)	$18.87	$25.29	$31.72
7 Axle (Class 13)	$22.63	$31.06	$39.49
Extra Axle	$3.78	$4.88	$5.99

Note: E-ZPass rates apply to New York Customer Service Center (NYCSC) E-ZPass customers only. NYCSC tags are issued by The Port Authority of New York & New Jersey, The New York State Thruway Authority and MTA Bridges and Tunnels and have tag numbers beginning with 004, 005, 008, 013 or 018. Non-NYCSC customers pay Tolls by Mail rates.

The Authority reserves the right to determine whether any vehicle is of unusual or unconventional design, weight or construction and therefore not within any of the listed categories. The Authority also reserves the right to determine the crossing charge for any such vehicle of unusual or unconventional design, weight or construction.

Only vehicles authorized to use parkways are authorized to use the Henry Hudson Bridge. An unauthorized vehicle using the Henry Hudson Bridge must pay the Marine Parkway-Gil Hodges Memorial Bridge rate.

E-ZPass crossing charges apply to New York E-ZPass Customer Service Center customers only and are available subject to terms, conditions and agreements established by the Authority.

Click Here to View Real-Time Alerts for Bridges & Tunnels

Business Center

Security

Tolls

Regional Transportation

Toll rates for all Port Authority bridges & tunnels.

NOTE: New bus toll rates effective January 2, 2022. Get more information about Bus toll rates.

Or, visit our FAQs page to learn more about all toll rates.

Toll Details

All rates apply to the Lincoln & Holland tunnels, the George Washington, Bayonne & Goethals bridges, and the Outerbridge Crossing. **Tolls are collected entering New York. No tolls are collected entering New Jersey. The Bayonne Bridge, Goethals Bridge, Outerbridge Crossing, Holland Tunnel, and George Washington Bridge are cashless and no longer accept cash toll payments. Learn more about cashless tolling.**

Peak Hours

Weekdays: 6-10 a.m., 4-8 p.m.

Sat. & Sun.: 11 a.m.-9 p.m.

Off-Peak Hours

All Other Times

Overnight Hours for Trucks

Sundays-Thursdays, 10 p.m. until 6 a.m. the following morning

2022 Toll Rates

CLASS	VEHICLE TYPE	# OF REAR WHEELS	# OF AXLES	E-ZPass OFF-PEAK HOURS	E-ZPass PEAK HOURS	E-ZPass TRUCKS WEEKDAY OVERNIGHT HOURS	CASH TOLL/ TOLLS BY MAIL ALL HOURS
1	**VEHICLES WITH TWO AXLES AND SINGLE REAR WHEELS** (INCLUDES TWO AXLE RECREATIONAL VEHICLES WITH SINGLE REAR WHEELS AND NO ADD'L AXLES IN TOW)		2	$11.75	$13.75	N/A	$16.00
2	**VEHICLES WITH TWO AXLES AND DUAL REAR WHEELS** (INCLUDES TWO AXLE RECREATIONAL VEHICLES WITH DUAL REAR WHEELS)		2	$36.00	$38.00	$33.00	$44.00
3	**VEHICLES WITH THREE AXLES** OR COMBINATIONS OF VEHICLES TOTALING THREE AXLES†		3	$54.00	$57.00	$49.50	$66.00
4	**VEHICLES WITH FOUR AXLES** OR COMBINATIONS OF VEHICLES TOTALING FOUR AXLES†		4	$72.00	$76.00	$66.00	$88.00
5	**VEHICLES WITH FIVE AXLES** OR COMBINATIONS OF VEHICLES TOTALING FIVE AXLES†		5	$90.00	$95.00	$82.50	$110.00
6	**VEHICLES WITH AT LEAST SIX AXLES** OR COMBINATIONS OF VEHICLES TOTALING AT LEAST SIX AXLES†		6 & Up	$108.00 Additional Axles $18.00 each	$114.00 Additional Axles $19.00 each	$99.00 Additional Axles $16.50 each	$132.00 Additional Axles $22.00 each
7	**CLASS 1 OR 11 (INCLUDING CLASS 1 RECREATIONAL VEHICLES) WITH TRAILER** (MINIMUM THREE SINGLE WHEEL AXLES)		3 & Up	$22.25 Additional Axles $10.50 each	$24.25 Additional Axles $10.50 each	N/A	$34.00 Additional Axles $18.00 each
8	**TWO AXLE BUSES AND MINI BUSES*** (SEATING CAP. = 10 OR MORE)		2	$14.50	$17.00	N/A	$27.00
9	**THREE AXLE BUSES AND MINI BUSES*** (SEATING CAP. = 10 OR MORE BUSINESS ACCOUNT ONLY)		3 & Up	$14.50	$17.00	N/A	$27.00
11	**MOTORCYCLE**		2	$10.75	$12.75	N/A	$16.00
DISCOUNT PLANS — ENROLLMENT REQUIRED	**GREEN PASS+** ELIGIBLE LOW-EMISSION CLASS 1 VEHICLES		2	$8.25 Additional Axles $10.50 each	$13.75 Additional Axles $10.50 each	N/A	N/A
	STATEN ISLAND BRIDGES PLAN+ CLASS 1,7 & 11 VEHICLES		2	$6.88 if 3+ trips taken; $11.75 if only 1 or 2 trips taken Additional Axles $10.50 each	$6.88 if 3+ trips taken; $13.75 if only 1 or 2 trips taken Additional Axles $10.50 each	N/A	N/A

†Where the rear most axle of the motorized unit has dual rear wheels or super-single tires.

*The Port Authority defines a bus as any vehicle with two or more axles designed with a seating capacity of ten or more persons, including the driver. This includes, but is not limited to: buses, mini buses, vans, and limos. **Get more information about Bus toll rates.**

+Visit our E-ZPass page for plan descriptions, eligibility, and enrollment information.

Please note all E-ZPass discounts apply to accounts at the E-ZPass New York and New Jersey Customer Service Centers only.

Note: The Carpool Plan is no longer available for use at the Bayonne Bridge, Goethals Bridge, Outerbridge Crossing, Holland Tunnel and George Washington Bridge.

Cash toll collection and discount programs that require in-person administration by toll attendants, such as the Carpool Discount Program, have been temporarily reinstated at the Lincoln Tunnel.

If you have unused Port Authority Scrip, click here for refund instructions.

E-ZPass

Get E-ZPass. It's fast, easy and convenient.

Learn More ›

Planned Weekly Construction

Find out about planned construction at Port Authority Bridges & Tunnels.

Learn More ›

Crossing Times

View real-time traffic conditions at all Port Authority Bridges & Tunnels.

Learn More ›

BRIDGES

TUNNELS

RESOURCES

ALERTS

E-ZPASS

PORT AUTHORITY

DIVERSITY & INCLUSION

SAFETY & SECURITY

BUSINESS CENTER

CONNECT WITH US

© 2001-2022 The Port Authority of New York and New Jersey. All Rights Reserved.

Website Disclaimer

Website Disclaimer

Privacy Statement

THRUWAY AUTHORITY REMINDS MOTORISTS TOLL ADJUSTMENT TAKES EFFECT ON GOV. MARIO M. CUOMO BRIDGE ON JAN. 1, 2022

Toll Changes are Second Phase of Previously Approved Plan

No Impact to 250,000+ Westchester and Rockland Residents in Bridge Discount Program

40 Percent Commuter Discount Program on the Gov. Mario M. Cuomo Bridge Continues for Qualified NY E-ZPass Customers

No Impact for Thruway Customers Throughout the Rest of the State

The New York State Thruway Authority is reminding motorists that the second phase of a toll adjustment on the Governor Mario M. Cuomo Bridge is set to take effect on Saturday, Jan. 1, 2022. Toll rates on the rest of the Thruway system remain the same as 2021. There is no impact to E-ZPass and Tolls by Mail customers outside of the Gov. Mario M. Cuomo Bridge.

"The Authority has been mindful of the need to keep tolls affordable for our motorists while ensuring that we have the necessary resources to invest in our network," **Thruway Authority Executive Director Matthew J. Driscoll said.** "This is the second phase of our toll adjustment, and it's worth noting the more than 250,000 Rockland and Westchester residents who were automatically enrolled in our Governor Mario M. Cuomo Bridge Resident Discount Plan will experience no change."

The New York State Thruway Authority Board of Directors in December 2020 unanimously approved the bridge toll adjustment and other tolling changes that support the statewide conversion to cashless tolling, which was substantially completed in November. The decision followed a lengthy public process that started in 2019 and featured statewide listening sessions held by the Toll Advisory Panel, three virtual public hearings, and consideration of more than 150 public comments and other feedback.

The first phase went into effect on Jan. 1, 2021 – marking the first time Thruway tolls had been adjusted since 2010.

Passenger Car Toll Adjustment on Gov. Mario M. Cuomo Bridge

The passenger car toll adjustment for the Gov. Mario M. Cuomo Bridge includes:

- Beginning Jan. 1, 2022, increase NY E-ZPass rate by 50 cents to $5.75;
- Beginning Jan. 1, 2022, increase Commuter E-ZPass rate by 30 cents to $3.45, which is 40 percent off the NY E-ZPass rate for passenger vehicles that opt into the program; and
- No increase for the more than 250,000 Westchester and Rockland residents in the resident E-ZPass plan. Their tolls will remain flat at $4.75 in 2022. The program is available for passenger vehicles with a NY E-ZPass and have a vehicle registered in one of these two counties.

PASSENGER VEHICLE TOLL SCHEDULE – GOV. MARIO M. CUOMO BRIDGE

	COMMUTER E-ZPASS	RESIDENT E-ZPASS*	STANDARD NY E-ZPASS	OUT-OF-STATE E-ZPASS	TOLLS BY MAIL
Current	$3.15	$4.75	$5.25	$6.04	$6.83

	COMMUTER E-ZPASS	RESIDENT E-ZPASS*	STANDARD NY E-ZPASS	OUT-OF-STATE E-ZPASS	TOLLS BY MAIL
2022	$3.45	$4.75	$5.75	$6.61	$7.48

**Westchester/Rockland Co. residents who have a vehicle registered in one of these two counties.*

Commercial Vehicle Toll Adjustment on Gov. Mario M. Cuomo Bridge

The NY E-ZPass rates for commercial vehicles on the Gov. Mario M. Cuomo bridge will increase by 30 percent in 2022, and more closely align with other major crossings in the New York metropolitan area. For example, the toll for a tractor trailer with 5 axles and a NY E-ZPass account will increase to $55.77 during peak hours in 2022, compared to $90 at the George Washington Bridge.

Even with the phased-in adjustment, the commercial toll rate on the Gov. Mario M. Cuomo Bridge in 2022 will still be 38 percent less than the toll rate on the George Washington Bridge.

COMMERCIAL VEHICLE TOLL SCHEDULE – GOV. MARIO M. CUOMO BRIDGE CLASS 5H

	NY E-ZPASS PEAK	NY E-ZPASS OFF-PEAK	OUT-OF-STATE E-ZPASS	TOLLS BY MAIL
Current	$42.90	$21.45	$49.34	$55.77
2022	$55.77	$27.89	$64.14	$72.51

New York State Thruway
Toll Schedule 2021
Class 2L New York E-ZPass

EFFECTIVE
01/01/2021

Class 2L

Vehicles are those with two axles and a height of less than 7'6"

No.	Interchange		15	16	17	18	19	20	21	21B	B1	B2	B3	22	23
17	Newburgh I-84		1.33	0.67	17										
18	New Paltz		2.04	1.38	0.71	18									
19	Kingston		2.72	2.06	1.40	0.69	19								
20	Saugerties		3.17	2.51	1.84	1.13	0.44	20							
21	Catskill		3.73	3.07	2.40	1.69	1.01	0.57	21						
21B	Coxsackie		4.21	3.55	2.88	2.17	1.48	1.04	0.48	21B					
	Berkshire spur														
B1	Hudson-Renss. I-90		5.53	4.87	4.20	3.49	2.80	2.36	1.80	1.32	B1				
B2	Taconic Parkway		5.91	5.25	4.58	3.87	3.18	2.74	2.18	1.70	0.38	B2			
B3	Canaan		6.32	5.66	4.99	4.28	3.59	3.15	2.59	2.11	0.79	0.41	B3		
22	Selkirk		4.67	4.01	3.34	2.63	1.95	1.51	0.94	0.46	0.97	1.35	1.76	22	
23	Albany (Downtown)		4.98	4.32	3.66	2.95	2.26	1.82	1.25	0.78	1.29	1.67	2.08	0.31	23
	GANTRY - Fixed toll	0.27													
24	Albany														
	GANTRY - Fixed toll	0.27													
25	Schenectady E.														
	GANTRY - Fixed toll	0.22													

0.00 If get on or off at 25A Toll credit will be applied.

0.00 If get on or off at 25A Toll credit will be applied.

25A	Schenectady I-88		25A*												
26	Schenectady W.		0.15	26											
27	Amsterdam		0.66	0.51	27										
28	Fultonville		1.04	0.89	0.38	28									
29	Canajoharie		1.58	1.43	0.92	0.53	29								
29A	Little Falls		2.31	2.16	1.66	1.27	0.74	29A							
30	Herkimer		2.72	2.57	2.06	1.68	1.14	0.41	30						
31	Utica		3.31	3.16	2.65	2.27	1.73	0.99	0.59	31					
32	Westmoreland-Rome		3.78	3.63	3.12	2.74	2.20	1.46	1.06	0.47	32				
33	Verona-Rome		4.19	4.04	3.54	3.15	2.62	1.88	1.48	0.89	0.42	33			
34	Canastota		4.59	4.44	3.93	3.55	3.01	2.27	1.87	1.28	0.81	0.39	34		
34A	Syracuse I-481		5.26	5.11	4.60	4.22	3.69	2.95	2.54	1.95	1.48	1.07	0.67	34A	
	GANTRY - Fixed toll	0.11													
35	Syracuse E.														
	GANTRY - Fixed toll	0.18													

36	Syracuse I-81		36												
37	Electronics Parkway		0.04	37											
38	Syracuse - Liverpool		0.13	0.10	38										
39	Syracuse W. I-690		0.30	0.26	0.16	39									
39	Syracuse W. I-690		39												
40	Weedsport		0.66	40											
41	Waterloo		1.38	0.73	41										
42	Geneva		1.68	1.02	0.30	42									
43	Manchester		2.26	1.61	0.88	0.58	43								
44	Canandaigua		2.57	1.92	1.19	0.90	0.31	44							
	GANTRY - Fixed toll	0.17													
45	Rochester E. I-490														
	GANTRY - Fixed toll	0.51													
46	Rochester I-390														
	GANTRY - Fixed toll	0.72													

47	Leroy I-490	47												
48	Batavia	0.52	48											
48A	Pembroke	1.04	0.52	48A										
49	Depew	1.73	1.21	0.70	49									
50	Buffalo I-290	1.87	1.35	0.83	0.14									

No.	Erie Section Interchanges	55	56	57	57A	58	59	60
56	Blasdell	0.13	56					
57	Hamburg	0.30	0.17	57				
57A	Eden-Angola	0.69	0.56	0.39	57A			
58	Silver Creek	1.17	1.03	0.86	0.48	58		
59	Dunkirk-Fredonia	1.71	1.58	1.41	1.02	0.55	59	
60	Westfield	2.48	2.35	2.18	1.79	1.32	0.77	60
61	Ripley	2.97	2.84	2.67	2.29	1.81	1.26	0.49

Note: The above tolls for B1, B2 and B3 include a $0.62 surcharge for any trip on the controlled system that includes crossing the Castleton-on-Hudson Bridge.
*** Toll will be credited $0.15 if entry or exit point is at 25A.**

New York State Thruway
Toll Schedule 2021
Class 3L New York E-ZPass

EFFECTIVE
01/01/2021

Class 3L

Vehicles are those with three axles and a height of less than 7'6"

No.	Interchange		15	16	17	18	19	20	21	21B	B1	B2	B3	22	23
17	Newburgh I-84		2.05	1.03	17										
18	New Paltz		3.15	2.13	1.10	18									
19	Kingston		4.22	3.19	2.16	1.06	19								
20	Saugerties		4.90	3.88	2.85	1.75	0.68	20							
21	Catskill		5.77	4.75	3.72	2.62	1.56	0.87	21						
21B	Coxsackie		6.51	5.49	4.46	3.36	2.29	1.61	0.74	21B					
	Berkshire spur														
B1	Hudson-Renss. I-90		8.45	7.43	6.40	5.30	4.24	3.55	2.68	1.94	B1				
B2	Taconic Parkway		9.04	8.02	6.99	5.89	4.83	4.14	3.27	2.53	0.59	B2			
B3	Canaan		9.68	8.66	7.63	6.53	5.46	4.78	3.90	3.17	1.22	0.64	B3		
22	Selkirk		7.23	6.21	5.18	4.08	3.01	2.33	1.46	0.72	1.41	2.00	2.63	22	
23	Albany (Downtown)		7.71	6.69	5.66	4.56	3.50	2.81	1.94	1.20	1.89	2.48	3.12	0.48	23
	GANTRY - Fixed toll	0.41													
24	Albany														
	GANTRY - Fixed toll	0.41													
25	Schenectady E.														
	GANTRY - Fixed toll	0.35													

0.00 If get on or off at 25A Toll credit will be applied.

0.00 If get on or off at 25A Toll credit will be applied.

25A	Schenectady I-88		25A*												
26	Schenectady W.		0.24	26											
27	Amsterdam		1.03	0.79	27										
28	Fultonville		1.62	1.38	0.59	28									
29	Canajoharie		2.45	2.21	1.42	0.83	29								
29A	Little Falls		3.59	3.35	2.56	1.97	1.14	29A							
30	Herkimer		4.22	3.98	3.19	2.60	1.77	0.63	30						
31	Utica		5.13	4.89	4.10	3.51	2.68	1.54	0.91	31					
32	Westmoreland-Rome		5.86	5.62	4.83	4.24	3.41	2.27	1.64	0.73	32				
33	Verona-Rome		6.50	6.26	5.48	4.88	4.06	2.91	2.28	1.37	0.65	33			
34	Canastota		7.11	6.87	6.08	5.49	4.66	3.52	2.89	1.98	1.25	0.61	34		
34A	Syracuse I-481		8.15	7.91	7.13	6.53	5.71	4.56	3.94	3.03	2.30	1.65	1.04	34A	
	GANTRY - Fixed toll	0.16													
35	Syracuse E.														
	GANTRY - Fixed toll	0.28													

36	Syracuse I-81		36												
37	Electronics Parkway		0.06	37											
38	Syracuse - Liverpool		0.21	0.15	38										
39	Syracuse W. I-690		0.46	0.40	0.25	39									
39	Syracuse W. I-690		39												
40	Weedsport		1.01	40											
41	Waterloo		2.14	1.12	41										
42	Geneva		2.60	1.59	0.46	42									
43	Manchester		3.50	2.49	1.37	0.90	43								
44	Canandaigua		3.99	2.97	1.85	1.39	0.48	44							
	GANTRY - Fixed toll	0.27													
45	Rochester E. I-490														
	GANTRY - Fixed toll	0.79													
46	Rochester I-390														
	GANTRY - Fixed toll	1.12													

47	Leroy I-490	47						
48	Batavia	0.80	48					
48A	Pembroke	1.60	0.80	48A				
49	Depew	2.68	1.88	1.08	49			
50	Buffalo I-290	2.89	2.09	1.29	0.21			

No.	Erie Section Interchanges	55	56	57	57A	58	59	60
56	Blasdell	0.21	56					
57	Hamburg	0.47	0.26	57				
57A	Eden-Angola	1.07	0.86	0.60	57A			
58	Silver Creek	1.80	1.60	1.34	0.74	58		
59	Dunkirk-Fredonia	2.65	2.44	2.18	1.58	0.84	59	
60	Westfield	3.84	3.64	3.38	2.78	2.04	1.19	60
61	Ripley	4.60	4.40	4.14	3.54	2.80	1.96	0.76

Note: The above tolls for B1, B2 and B3 include a $0.86 surcharge for any trip on the controlled system that includes crossing the Castleton-on-Hudson Bridge.
*** Toll will be credited $0.24 if entry or exit point is at 25A.**

New York State Thruway
Toll Schedule 2021
Class 4L New York E-ZPass

EFFECTIVE
01/01/2021

Class 4L

Vehicles are those with four axles and a height of less than 7'6"

No.	Interchange		15	16	17	18	19	20	21	21B	B1	B2	B3	22	23
17	Newburgh I-84		2.44	1.22	17										
18	New Paltz		3.74	2.53	1.31	18									
19	Kingston		5.00	3.79	2.57	1.26	19								
20	Saugerties		5.81	4.60	3.38	2.07	0.81	20							
21	Catskill		6.85	5.64	4.42	3.11	1.85	1.04	21						
21B	Coxsackie		7.72	6.51	5.29	3.98	2.72	1.91	0.87	21B					
	Berkshire spur														
B1	Hudson-Renss. I-90		10.01	8.80	7.57	6.27	5.01	4.20	3.16	2.28	B1				
B2	Taconic Parkway		10.71	9.50	8.27	6.97	5.71	4.89	3.86	2.98	0.70	B2			
B3	Canaan		11.46	10.25	9.03	7.72	6.46	5.65	4.61	3.74	1.45	0.75	B3		
22	Selkirk		8.58	7.37	6.14	4.84	3.58	2.77	1.73	0.85	1.65	2.35	3.10	22	
23	Albany (Downtown)		9.15	7.94	6.72	5.41	4.15	3.34	2.30	1.43	2.22	2.92	3.68	0.57	23
	GANTRY - Fixed toll	0.49													
24	Albany														
	GANTRY - Fixed toll	0.49													
25	Schenectady E.														
	GANTRY - Fixed toll	0.41													

0.00 If get on or off at 25A Toll credit will be applied.

0.00 If get on or off at 25A Toll credit will be applied.

25A	Schenectady I-88		25A*												
26	Schenectady W.		0.28	26											
27	Amsterdam		1.21	0.93	27										
28	Fultonville		1.92	1.64	0.70	28									
29	Canajoharie		2.90	2.62	1.68	0.98	29								
29A	Little Falls		4.25	3.97	3.04	2.34	1.36	29A							
30	Herkimer		5.00	4.72	3.79	3.08	2.10	0.75	30						
31	Utica		6.08	5.80	4.87	4.16	3.18	1.83	1.08	31					
32	Westmoreland-Rome		6.94	6.66	5.73	5.02	4.05	2.69	1.94	0.86	32				
33	Verona-Rome		7.71	7.43	6.50	5.79	4.81	3.46	2.71	1.63	0.77	33			
34	Canastota		8.43	8.15	7.22	6.51	5.53	4.18	3.43	2.35	1.49	0.72	34		
34A	Syracuse I-481		9.67	9.39	8.46	7.75	6.77	5.42	4.67	3.59	2.73	1.96	1.24	34A	
	GANTRY - Fixed toll	0.19													
35	Syracuse E.														
	GANTRY - Fixed toll	0.33													

36	Syracuse I-81		36												
37	Electronics Parkway		0.07	37											
38	Syracuse - Liverpool		0.25	0.18	38										
39	Syracuse W. I-690		0.54	0.47	0.29	39									

39	Syracuse W. I-690		39												
40	Weedsport		1.20	40											
41	Waterloo		2.54	1.33	41										
42	Geneva		3.08	1.88	0.55	42									
43	Manchester		4.16	2.95	1.62	1.07	43								
44	Canandaigua		4.73	3.53	2.19	1.64	0.57	44							
	GANTRY - Fixed toll	0.32													
45	Rochester E. I-490														
	GANTRY - Fixed toll	0.94													
46	Rochester I-390														
	GANTRY - Fixed toll	1.32													

47	Leroy I-490	47					
48	Batavia	0.95	48				
48A	Pembroke	1.90	0.95	48A			
49	Depew	3.18	2.23	1.28	49		
50	Buffalo I-290	3.43	2.48	1.53	0.25		

No.	Erie Section Interchanges	55	56	57	57A	58	59	60
56	Blasdell	0.24	56					
57	Hamburg	0.55	0.31	57				
57A	Eden-Angola	1.26	1.02	0.71	57A			
58	Silver Creek	2.14	1.90	1.59	0.88	58		
59	Dunkirk-Fredonia	3.14	2.90	2.59	1.88	1.00	59	
60	Westfield	4.56	4.31	4.00	3.29	2.42	1.42	60
61	Ripley	5.46	5.22	4.91	4.20	3.32	2.32	0.90

Note: The above tolls for B1, B2 and B3 include a $1.00 surcharge for any trip on the controlled system that includes crossing the Castleton-on-Hudson Bridge.
*** Toll will be credited $0.28 if entry or exit point is at 25A.**

New York State Thruway
Toll Schedule 2021
Class 2H New York E-ZPass

EFFECTIVE
01/01/2021

Class 2H

Vehicles are those with two axles and a height of more than 7'6"

No.	Interchange		15	16	17	18	19	20	21	21B	B1	B2	B3	22	23
17	Newburgh I-84		2.63	1.32	17										
18	New Paltz		4.04	2.73	1.41	18									
19	Kingston		5.40	4.09	2.77	1.36	19								
20	Saugerties		6.27	4.97	3.65	2.24	0.88	20							
21	Catskill		7.39	6.09	4.77	3.36	2.00	1.12	21						
21B	Coxsackie		8.34	7.03	5.71	4.30	2.94	2.06	0.94	21B					
	Berkshire spur														
B1	Hudson-Renss. I-90		10.77	9.47	8.15	6.74	5.37	4.50	3.38	2.44	B1				
B2	Taconic Parkway		11.53	10.22	8.90	7.49	6.13	5.25	4.13	3.19	0.75	B2			
B3	Canaan		12.34	11.03	9.71	8.30	6.94	6.07	4.95	4.00	1.57	0.81	B3		
22	Selkirk		9.26	7.95	6.63	5.22	3.86	2.98	1.86	0.92	1.75	2.50	3.32	22	
23	Albany (Downtown)		9.88	8.57	7.25	5.84	4.48	3.60	2.48	1.54	2.37	3.12	3.94	0.62	23
	GANTRY - Fixed toll	0.53													
24	Albany														
	GANTRY - Fixed toll	0.53													
25	Schenectady E.														
	GANTRY - Fixed toll	0.44													

0.00 If get on or off at 25A Toll credit will be applied.

0.00 If get on or off at 25A Toll credit will be applied.

25A	Schenectady I-88		25A*												
26	Schenectady W.		0.30	26											
27	Amsterdam		1.31	1.01	27										
28	Fultonville		2.07	1.77	0.76	28									
29	Canajoharie		3.12	2.82	1.82	1.06	29								
29A	Little Falls		4.59	4.29	3.28	2.52	1.46	29A							
30	Herkimer		5.39	5.09	4.09	3.33	2.27	0.80	30						
31	Utica		6.56	6.26	5.25	4.49	3.43	1.97	1.17	31					
32	Westmoreland-Rome		7.49	7.19	6.18	5.42	4.37	2.90	2.10	0.93	32				
33	Verona-Rome		8.32	8.02	7.01	6.25	5.19	3.73	2.92	1.76	0.83	33			
34	Canastota		9.10	8.80	7.79	7.03	5.97	4.51	3.70	2.54	1.61	0.78	34		
34A	Syracuse I-481		10.43	10.13	9.12	8.36	7.31	5.84	5.04	3.87	2.94	2.11	1.34	34A	
	GANTRY - Fixed toll	0.21													
35	Syracuse E.														
	GANTRY - Fixed toll	0.35													

36	Syracuse I-81		36			
37	Electronics Parkway		0.08	37		
38	Syracuse - Liverpool		0.27	0.19	38	
39	Syracuse W. I-690		0.58	0.51	0.32	39

39	Syracuse W. I-690		39					
40	Weedsport		1.30	40				
41	Waterloo		2.74	1.44	41			
42	Geneva		3.33	2.03	0.59	42		
43	Manchester		4.48	3.19	1.75	1.16	43	
44	Canandaigua		5.10	3.80	2.37	1.77	0.62	44
	GANTRY - Fixed toll	0.34						
45	Rochester E. I-490							
	GANTRY - Fixed toll	1.01						
46	Rochester I-390							
	GANTRY - Fixed toll	1.43						

47	Leroy I-490	47			
48	Batavia	1.03	48		
48A	Pembroke	2.05	1.03	48A	
49	Depew	3.43	2.40	1.38	49
50	Buffalo I-290	3.70	2.68	1.65	0.27

No.	Erie Section Interchanges	55	56	57	57A	58	59	60
56	Blasdell	0.26	56					
57	Hamburg	0.60	0.33	57				
57A	Eden-Angola	1.36	1.10	0.77	57A			
58	Silver Creek	2.31	2.05	1.71	0.95	58		
59	Dunkirk-Fredonia	3.39	3.13	2.79	2.03	1.08	59	
60	Westfield	4.92	4.66	4.32	3.56	2.61	1.53	60
61	Ripley	5.89	5.63	5.30	4.53	3.58	2.50	0.97

Note: The above tolls for B1, B2 and B3 include a $1.05 surcharge for any trip on the controlled system that includes crossing the Castleton-on-Hudson Bridge.
*** Toll will be credited $0.30 if entry or exit point is at 25A.**

New York State Thruway
Toll Schedule 2021
Class 3H New York E-ZPass

EFFECTIVE
01/01/2021

Class 3H

Vehicles are those with three axles and a height of more than 7'6"

No.	Interchange		15	16										
17	Newburgh I-84		4.52	2.27	17									
18	New Paltz		6.94	4.70	2.42	18								
19	Kingston		9.29	7.04	4.77	2.34	19							
20	Saugerties		10.79	8.54	6.27	3.85	1.51	20						
21	Catskill		12.72	10.47	8.20	5.77	3.43	1.93	21					
21B	Coxsackie		14.34	12.09	9.82	7.39	5.05	3.55	1.62	21B				
	Berkshire spur													
B1	Hudson-Renss. I-90		18.19	15.94	13.67	11.25	8.91	7.40	5.48	3.86	B1			
B2	Taconic Parkway		19.49	17.24	14.97	12.55	10.21	8.70	6.77	5.15	1.30	B2		
B3	Canaan		20.89	18.64	16.37	13.95	11.61	10.10	8.17	6.55	2.70	1.40	B3	
22	Selkirk		15.92	13.67	11.40	8.98	6.64	5.13	3.21	1.58	2.68	3.97	5.37	22
23	Albany (Downtown)		16.99	14.74	12.47	10.04	7.70	6.20	4.27	2.65	3.74	5.04	6.44	1.07

	GANTRY - Fixed toll	0.91		
24	Albany			
	GANTRY - Fixed toll	0.91	0.00	If get on or off at 25A Toll credit will be applied.
25	Schenectady E.			
	GANTRY - Fixed toll	0.76	0.00	If get on or off at 25A Toll credit will be applied.

25A	Schenectady I-88		25A*											
26	Schenectady W.		0.52	26										
27	Amsterdam		2.25	1.73	27									
28	Fultonville		3.56	3.04	1.31	28								
29	Canajoharie		5.38	4.86	3.13	1.82	29							
29A	Little Falls		7.90	7.38	5.64	4.34	2.52	29A						
30	Herkimer		9.28	8.76	7.03	5.72	3.90	1.38	30					
31	Utica		11.28	10.76	9.03	7.72	5.91	3.39	2.00	31				
32	Westmoreland-Rome		12.89	12.37	10.63	9.33	7.51	4.99	3.61	1.60	32			
33	Verona-Rome		14.31	13.79	12.06	10.75	8.93	6.41	5.03	3.03	1.42	33		
34	Canastota		15.65	15.13	13.40	12.09	10.27	7.75	6.37	4.37	2.76	1.34	34	
34A	Syracuse I-481		17.95	17.43	15.70	14.39	12.57	10.05	8.67	6.66	5.06	3.64	2.30	34A

	GANTRY - Fixed toll	0.36		
35	Syracuse E.			
	GANTRY - Fixed toll	0.61		

36	Syracuse I-81		36											
37	Electronics Parkway		0.13	37										
38	Syracuse - Liverpool		0.46	0.33	38									
39	Syracuse W. I-690		1.01	0.87	0.55	39								
39	Syracuse W. I-690		39											
40	Weedsport		2.23	40										
41	Waterloo		4.71	2.47	41									
42	Geneva		5.73	3.49	1.02	42								
43	Manchester		7.71	5.48	3.01	1.99	43							
44	Canandaigua		8.78	6.54	4.07	3.05	1.06	44						

	GANTRY - Fixed toll	0.59		
45	Rochester E. I-490			
	GANTRY - Fixed toll	1.74		
46	Rochester I-390			
	GANTRY - Fixed toll	2.46		

47	Leroy I-490		47			
48	Batavia		1.76	48		
48A	Pembroke		3.53	1.77	48A	
49	Depew		5.90	4.14	2.37	49
50	Buffalo I-290		6.37	4.60	2.84	0.47

No.	Erie Section Interchanges		55						
56	Blasdell		0.45	56					
57	Hamburg		1.03	0.57	57				
57A	Eden-Angola		2.35	1.89	1.32	57A			
58	Silver Creek		3.97	3.52	2.94	1.63	58		
59	Dunkirk-Fredonia		5.83	5.38	4.80	3.49	1.86	59	
60	Westfield		8.46	8.01	7.43	6.12	4.49	2.63	60
61	Ripley		10.14	9.69	9.11	7.79	6.17	4.31	1.68

Note: The above tolls for B1, B2 and B3 include a $1.47 surcharge for any trip on the controlled system that includes crossing the Castleton-on-Hudson Bridge.
*** Toll will be credited $0.52 if entry or exit point is at 25A.**

New York State Thruway
Toll Schedule 2021
Class 4H New York E-ZPass

EFFECTIVE
01/01/2021

Class 4H

Vehicles are those with four axles and a height of more than 7'6"

No.	Interchange		15	16	17	18	19	20	21	21B	B1	B2	B3	22	23
17	Newburgh I-84		4.98	2.50	17										
18	New Paltz		7.66	5.18	2.67	18									
19	Kingston		10.24	7.76	5.25	2.58	19								
20	Saugerties		11.90	9.42	6.91	4.24	1.66	20							
21	Catskill		14.02	11.54	9.04	6.36	3.78	2.12	21						
21B	Coxsackie		15.81	13.33	10.82	8.15	5.57	3.91	1.79	21B					
	Berkshire spur														
B1	Hudson-Renss. I-90		20.34	17.86	15.35	12.68	10.10	8.44	6.32	4.53	B1				
B2	Taconic Parkway		21.77	19.29	16.78	14.11	11.53	9.87	7.75	5.96	1.43	B2			
B3	Canaan		23.31	20.83	18.33	15.65	13.07	11.41	9.29	7.50	2.97	1.54	B3		
22	Selkirk		17.55	15.07	12.57	9.90	7.32	5.66	3.53	1.75	3.23	4.66	6.20	22	
23	Albany (Downtown)		18.73	16.25	13.75	11.07	8.49	6.83	4.71	2.92	4.40	5.83	7.38	1.17	23
	GANTRY - Fixed toll	1.00													
24	Albany														
	GANTRY - Fixed toll	1.00													
25	Schenectady E.														
	GANTRY - Fixed toll	0.84													

0.00 If get on or off at 25A Toll credit will be applied.

0.00 If get on or off at 25A Toll credit will be applied.

25A	Schenectady I-88		25A*												
26	Schenectady W.		0.57	26											
27	Amsterdam		2.48	1.91	27										
28	Fultonville		3.92	3.35	1.44	28									
29	Canajoharie		5.93	5.36	3.45	2.00	29								
29A	Little Falls		8.70	8.13	6.22	4.78	2.78	29A							
30	Herkimer		10.23	9.66	7.75	6.31	4.30	1.53	30						
31	Utica		12.44	11.87	9.96	8.51	6.51	3.73	2.21	31					
32	Westmoreland-Rome		14.20	13.63	11.72	10.28	8.28	5.50	3.98	1.77	32				
33	Verona-Rome		15.77	15.20	13.29	11.85	9.85	7.07	5.55	3.34	1.57	33			
34	Canastota		17.25	16.68	14.77	13.33	11.32	8.55	7.02	4.81	3.05	1.48	34		
34A	Syracuse I-481		19.78	19.21	17.30	15.86	13.86	11.08	9.56	7.35	5.58	4.01	2.53	34A	
	GANTRY - Fixed toll	0.39													
35	Syracuse E.														
	GANTRY - Fixed toll	0.67													
36	Syracuse I-81		36												
37	Electronics Parkway		0.14	37											
38	Syracuse - Liverpool		0.51	0.36	38										
39	Syracuse W. I-690		1.11	0.96	0.60	39									
39	Syracuse W. I-690		39												
40	Weedsport		2.46	40											
41	Waterloo		5.19	2.72	41										
42	Geneva		6.31	3.85	1.12	42									
43	Manchester		8.50	6.04	3.32	2.19	43								
44	Canandaigua		9.68	7.21	4.49	3.37	1.17	44							
	GANTRY - Fixed toll	0.65													
45	Rochester E. I-490														
	GANTRY - Fixed toll	1.92													
46	Rochester I-390														
	GANTRY - Fixed toll	2.71													
47	Leroy I-490		47												
48	Batavia		1.94	48											
48A	Pembroke		3.89	1.95	48A										
49	Depew		6.50	4.56	2.61	49									
50	Buffalo I-290		7.02	5.08	3.13	0.52									

No.	Erie Section Interchanges		55	56	57	57A	58	59	60
56	Blasdell		0.50	56					
57	Hamburg		1.13	0.63	57				
57A	Eden-Angola		2.59	2.09	1.45	57A			
58	Silver Creek		4.38	3.88	3.25	1.79	58		
59	Dunkirk-Fredonia		6.43	5.93	5.30	3.84	2.05	59	
60	Westfield		9.33	8.83	8.20	6.74	4.95	2.90	60
61	Ripley		11.18	10.68	10.04	8.59	6.80	4.75	1.85

Note: The above tolls for B1, B2 and B3 include a $1.90 surcharge for any trip on the controlled system that includes crossing the Castleton-on-Hudson Bridge.
*** Toll will be credited $0.57 if entry or exit point is at 25A.**

New York State Thruway
Toll Schedule 2021
Class 5H New York E-ZPass

EFFECTIVE
01/01/2021

Class 5H

Vehicles are those with five axles and a height of more than 7'6"

No.	Interchange		15	16										
17	Newburgh I-84		6.74	3.38	17									
18	New Paltz		10.35	7.00	3.61	18								
19	Kingston		13.84	10.49	7.10	3.49	19							
20	Saugerties		16.08	12.73	9.35	5.73	2.24	20						
21	Catskill		18.95	15.60	12.22	8.60	5.11	2.87	21					
21B	Coxsackie		21.37	18.02	14.63	11.02	7.53	5.29	2.42	21B				
	Berkshire spur													
B1	Hudson-Renss. I-90		27.49	24.14	20.76	17.14	13.65	11.41	8.54	6.12	B1			
B2	Taconic Parkway		29.42	26.07	22.69	19.08	15.59	13.34	10.47	8.06	1.93	B2		
B3	Canaan		31.51	28.16	24.78	21.16	17.67	15.43	12.56	10.14	4.02	2.09	B3	
22	Selkirk		23.73	20.38	16.99	13.38	9.89	7.65	4.78	2.36	4.37	6.30	8.39	22
23	Albany (Downtown)		25.32	21.97	18.58	14.97	11.48	9.24	6.37	3.95	5.95	7.89	9.97	1.59

	GANTRY - Fixed toll	1.35		
24	Albany			
	GANTRY - Fixed toll	1.35	0.00	If get on or off at 25A Toll credit will be applied.
25	Schenectady E.			
	GANTRY - Fixed toll	1.13	0.00	If get on or off at 25A Toll credit will be applied.

25A	Schenectady I-88		25A*											
26	Schenectady W.		0.77	26										
27	Amsterdam		3.35	2.58	27									
28	Fultonville		5.30	4.53	1.95	28								
29	Canajoharie		8.01	7.24	4.66	2.71	29							
29A	Little Falls		11.76	10.99	8.41	6.46	3.75	29A						
30	Herkimer		13.82	13.05	10.47	8.52	5.81	2.06	30					
31	Utica		16.81	16.04	13.46	11.51	8.80	5.05	2.99	31				
32	Westmoreland-Rome		19.20	18.43	15.85	13.90	11.19	7.44	5.38	2.39	32			
33	Verona-Rome		21.32	20.55	17.97	16.02	13.31	9.56	7.50	4.51	2.12	33		
34	Canastota		23.32	22.55	19.96	18.02	15.31	11.55	9.49	6.51	4.12	2.00	34	
34A	Syracuse I-481		26.74	25.97	23.39	21.44	18.73	14.98	12.92	9.93	7.54	5.42	3.42	34A

	GANTRY - Fixed toll	0.53
35	Syracuse E.	
	GANTRY - Fixed toll	0.91

36	Syracuse I-81		36			
37	Electronics Parkway		0.20	37		
38	Syracuse - Liverpool		0.69	0.49	38	
39	Syracuse W. I-690		1.50	1.30	0.81	39

39	Syracuse W. I-690		39					
40	Weedsport		3.33	40				
41	Waterloo		7.01	3.68	41			
42	Geneva		8.53	5.20	1.52	42		
43	Manchester		11.50	8.17	4.48	2.96	43	
44	Canandaigua		13.08	9.75	6.07	4.55	1.59	44

	GANTRY - Fixed toll	0.88		
45	Rochester E. I-490			
	GANTRY - Fixed toll	2.60		
46	Rochester I-390			
	GANTRY - Fixed toll	3.66		

47	Leroy I-490		47			
48	Batavia		2.63	48		
48A	Pembroke		5.26	2.63	48A	
49	Depew		8.79	6.16	3.53	49
50	Buffalo I-290		9.49	6.86	4.23	0.70

No.	Erie Section Interchanges							
			55					
56	Blasdell		0.68	56				
57	Hamburg		1.53	0.86	57			
57A	Eden-Angola		3.50	2.82	1.96	57A		
58	Silver Creek		5.92	5.24	4.39	2.42	58	
59	Dunkirk-Fredonia		8.69	8.01	7.16	5.19	2.77	59
60	Westfield		12.61	11.93	11.08	9.11	6.69	3.92
61	Ripley		15.11	14.43	13.58	11.61	9.19	6.42

Note: The above tolls for B1, B2 and B3 include a $2.57 surcharge for any trip on the controlled system that includes crossing the Castleton-on-Hudson Bridge.
*** Toll will be credited $0.77 if entry or exit point is at 25A.**

New York State Thruway
Toll Schedule 2021
Class 6H New York E-ZPass

EFFECTIVE
01/01/2021

Class 6H

Vehicles are those with six axles and a height of more than 7'6"

No.	Interchange		15	16	17	18	19	20	21	21B	B1	B2	B3	22	23
17	Newburgh I-84		8.35	4.19	17										
18	New Paltz		12.83	8.67	4.48	18									
19	Kingston		17.15	13.00	8.80	4.32	19								
20	Saugerties		19.93	15.78	11.58	7.11	2.78	20							
21	Catskill		23.49	19.34	15.14	10.66	6.34	3.56	21						
21B	Coxsackie		26.49	22.33	18.14	13.66	9.33	6.55	3.00	21B					
	Berkshire spur														
B1	Hudson-Renss. I-90		33.98	29.83	25.63	21.15	16.83	14.05	10.49	7.50	B1				
B2	Taconic Parkway		36.38	32.22	28.03	23.55	19.23	16.44	12.89	9.89	2.40	B2			
B3	Canaan		38.96	34.81	30.62	26.14	21.81	19.03	15.47	12.48	4.98	2.59	B3		
22	Selkirk		29.41	25.26	21.06	16.59	12.26	9.48	5.92	2.93	5.32	7.71	10.30	22	
23	Albany (Downtown)		31.38	27.23	23.03	18.55	14.23	11.45	7.89	4.90	7.28	9.68	12.27	1.97	23
	GANTRY - Fixed toll	1.67													
24	Albany														
	GANTRY - Fixed toll	1.68													
25	Schenectady E.														
	GANTRY - Fixed toll	1.40													

0.00 If get on or off at 25A Toll credit will be applied.

0.00 If get on or off at 25A Toll credit will be applied.

25A	Schenectady I-88		25A*												
26	Schenectady W.		0.96	26											
27	Amsterdam		4.16	3.20	27										
28	Fultonville		6.58	5.62	2.42	28									
29	Canajoharie		9.93	8.97	5.77	3.36	29								
29A	Little Falls		14.58	13.62	10.42	8.01	4.65	29A							
30	Herkimer		17.14	16.18	12.98	10.56	7.21	2.56	30						
31	Utica		20.84	19.88	16.68	14.27	10.91	6.26	3.70	31					
32	Westmoreland-Rome		23.80	22.84	19.64	17.23	13.87	9.22	6.66	2.96	32				
33	Verona-Rome		26.43	25.47	22.27	19.86	16.50	11.85	9.29	5.59	2.63	33			
34	Canastota		28.91	27.95	24.75	22.33	18.97	14.32	11.77	8.06	5.10	2.47	34		
34A	Syracuse I-481		33.15	32.19	28.99	26.58	23.22	18.57	16.01	12.31	9.35	6.72	4.25	34A	
	GANTRY - Fixed toll	0.66													
35	Syracuse E.														
	GANTRY - Fixed toll	1.13													

36	Syracuse I-81		36			
37	Electronics Parkway		0.24	37		
38	Syracuse - Liverpool		0.85	0.61	38	
39	Syracuse W. I-690		1.86	1.62	1.01	39

39	Syracuse W. I-690		39					
40	Weedsport		4.13	40				
41	Waterloo		8.69	4.57	41			
42	Geneva		10.58	6.45	1.88	42		
43	Manchester		14.25	10.12	5.56	3.67	43	
44	Canandaigua		16.21	12.09	7.52	5.64	1.96	44
	GANTRY - Fixed toll	1.09						
45	Rochester E. I-490							
	GANTRY - Fixed toll	3.22						
46	Rochester I-390							
	GANTRY - Fixed toll	4.54						

47	Leroy I-490	47			
48	Batavia	3.26	48		
48A	Pembroke	6.52	3.26	48A	
49	Depew	10.90	7.64	4.38	49
50	Buffalo I-290	11.76	8.50	5.24	0.86

No.	Erie Section Interchanges	55	56	57	57A	58	59	60
56	Blasdell	0.84	56					
57	Hamburg	1.90	1.06	57				
57A	Eden-Angola	4.34	3.50	2.43	57A			
58	Silver Creek	7.34	6.50	5.44	3.00	58		
59	Dunkirk-Fredonia	10.77	9.93	8.87	6.44	3.43	59	
60	Westfield	15.63	14.79	13.73	11.30	8.29	4.86	60
61	Ripley	18.73	17.89	16.83	14.39	11.39	7.96	3.10

Note: The above tolls for B1, B2 and B3 include a $3.09 surcharge for any trip on the controlled system that includes crossing the Castleton-on-Hudson Bridge.
*** Toll will be credited $0.96 if entry or exit point is at 25A.**

New York State Thruway
Toll Schedule 2021
Class 7H New York E-ZPass

EFFECTIVE
01/01/2021

Class 7H

Vehicles are those with seven axles and a height of more than 7'6"

No.	Interchange		15	16										
17	Newburgh I-84		9.96	5.00	17									
18	New Paltz		15.31	10.35	5.34	18								
19	Kingston		20.47	15.51	10.50	5.16	19							
20	Saugerties		23.79	18.83	13.82	8.48	3.32	20						
21	Catskill		28.03	23.07	18.07	12.72	7.56	4.25	21					
21B	Coxsackie		31.60	26.65	21.64	16.30	11.14	7.82	3.57	21B				
	Berkshire spur													
B1	Hudson-Renss. I-90		40.52	35.56	30.56	25.21	20.06	16.74	12.49	8.92	B1			
B2	Taconic Parkway		43.38	38.42	33.42	28.07	22.91	19.60	15.35	11.78	2.86	B2		
B3	Canaan		46.47	41.51	36.50	31.16	26.00	22.68	18.44	14.86	5.95	3.09	B3	
22	Selkirk		35.10	30.14	25.14	19.79	14.63	11.31	7.07	3.49	6.32	9.18	12.26	22
23	Albany (Downtown)		37.45	32.49	27.48	22.14	16.98	13.66	9.42	5.84	8.66	11.52	14.61	2.35

	GANTRY - Fixed toll	2.00		
24	Albany			
	GANTRY - Fixed toll	2.00	0.00	If get on or off at 25A Toll credit will be applied.
25	Schenectady E.			
	GANTRY - Fixed toll	1.68	0.00	If get on or off at 25A Toll credit will be applied.

25A	Schenectady I-88		25A*											
26	Schenectady W.		1.14	26										
27	Amsterdam		4.96	3.82	27									
28	Fultonville		7.84	6.70	2.88	28								
29	Canajoharie		11.85	10.71	6.89	4.01	29							
29A	Little Falls		17.40	16.26	12.44	9.56	5.55	29A						
30	Herkimer		20.45	19.31	15.49	12.61	8.60	3.05	30					
31	Utica		24.86	23.72	19.91	17.02	13.02	7.47	4.42	31				
32	Westmoreland-Rome		28.40	27.26	23.44	20.56	16.55	11.00	7.95	3.53	32			
33	Verona-Rome		31.54	30.40	26.58	23.69	19.69	14.14	11.09	6.67	3.14	33		
34	Canastota		34.49	33.35	29.53	26.65	22.64	17.09	14.04	9.62	6.09	2.95	34	
34A	Syracuse I-481		39.55	38.41	34.59	31.71	27.71	22.16	19.11	14.69	11.16	8.02	5.07	34A

	GANTRY - Fixed toll	0.79
35	Syracuse E.	
	GANTRY - Fixed toll	1.34

36	Syracuse I-81		36			
37	Electronics Parkway		0.29	37		
38	Syracuse - Liverpool		1.01	0.73	38	
39	Syracuse W. I-690		2.22	1.93	1.20	39

39	Syracuse W. I-690		39				
40	Weedsport		4.92	40			
41	Waterloo		10.37	5.45	41		
42	Geneva		12.62	7.70	2.25	42	
43	Manchester		17.00	12.08	6.63	4.38	43
44	Canandaigua		19.35	14.42	8.98	6.73	2.34

	GANTRY - Fixed toll	1.30					
45	Rochester E. I-490						
	GANTRY - Fixed toll	3.85					
46	Rochester I-390						
	GANTRY - Fixed toll	5.41					

47	Leroy I-490	47			
48	Batavia	3.89	48		
48A	Pembroke	7.78	3.89	48A	
49	Depew	13.00	9.12	5.22	49
50	Buffalo I-290	14.03	10.15	6.25	1.03

No.	Erie Section Interchanges	55						
56	Blasdell	1.00	56					
57	Hamburg	2.27	1.27	57				
57A	Eden-Angola	5.17	4.17	2.91	57A			
58	Silver Creek	8.76	7.76	6.49	3.58	58		
59	Dunkirk-Fredonia	12.85	11.85	10.59	7.68	4.10	59	
60	Westfield	18.65	17.65	16.39	13.48	9.90	5.80	60
61	Ripley	22.35	21.35	20.08	17.17	13.59	9.49	3.69

Note: The above tolls for B1, B2 and B3 include a $3.66 surcharge for any trip on the controlled system that includes crossing the Castleton-on-Hudson Bridge.
*** Toll will be credited $1.14 if entry or exit point is at 25A.**

Current Toll Schedule

Toll rates apply to all five spans operated by the New York State Bridge Authority:
The Bear Mountain, Newburgh-Beacon, Mid-Hudson, Kingston-Rhinecliff,
and Rip Van Winkle bridges.
Rates are in effect from May 1, 2022 through April 30, 2023.

As part of a four-year, phased-in toll revision that started in 2020, rates will be increasing for a final time on May 1, 2023. Click here to view upcoming rate changes.

Vehicle Description	E-ZPass	TOLLS BY MAIL
Class 1 (Cars, Pick-ups & Motorcycles) 2 axles, Less than 7 foot, 6 Inches (7' 6")	$1.55	$2.00
Commuter Plan (Passenger vehicles only, minimum of 17 trips each month) Plus you get a $0.25 discount off the regular E-ZPass rate!	$1.30	N/A

Class 2 2 axles, more than 7 foot, 6 Inches (7' 6")	$5.70	$7.00
Commercial Vehicles		
2 axles	$5.70	$7.00
3 axles	$8.55	$10.50
4 axles	$11.40	$14.00
5 axles	$14.25	$17.50
6 axles	$17.10	$21.00
Other		
Extra axle(w/class 1)	$1.20	$1.50
Extra axle(w/classes 2-6)	$2.85	$3.50

Explore Our Bridges

2022 Toll Rates - Garden State Parkway / E-Zpass

Peak periods are 7:00 am - 9:00 am, 4:30 pm - 6:30 pm Monday - Friday, all day Saturday and Sunday.

PLAZA / RAMP 11 Barriers 23 Ramps	Milepost	Class 1 Passenger Car, Motorcyle,Taxis	Class 2 2-Axle Dual Tire Vehicle	Class 3 3-Axle Vehicle or Vehicle/Trailer Combination	Class 4 4-Axle Vehicle or Vehicle/Trailer Combination	Class 5 5-Axle Vehicle or Vehicle/Trailer Combination	Class 6 6-Axle Vehicle or Vehicle/Trailer Combination	Bus Class B2 2-Axle Bus	Bus Class B3 3-Axle Bus
*Pascack Valley	166.1	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
*Paramus	164.6	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
*Bergen NB	160.5	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
*Saddle Brook NB	160.3	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
*Clifton	156.1	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
*Passaic	154.5	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
*Watchung	152.6	$0.98	$1.96	$2.94	$3.92	$4.90	$5.88	$1.18	$1.77
*Essex SB	150.7	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
*Bloomfield	148.9	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
*East Orange	147.1	$1.34	$2.79	$4.02	$5.46	$6.91	$8.55	$1.67	$2.42
*Irvington	146.1	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
*Union Ramp NB	142.8	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
*Union NB	142.7	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
*Raritan SB	125.4	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
Sayreville (EZP Only)	125.0	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
*Matawan	117.1	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
*Keyport	118.6	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
*Holmdel	113.6	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
*Red Bank	110.3	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
*Eatontown NB	106.5	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
* Heavy Trucks Registered 10,000 lbs or more (6 tires or 3-or-more-axles) prohibited north of Interchange 105.									
Asbury Park NB	104.0	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
Belmar/Wall	98.0	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
Brick	93.0	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
Lakewood	90.1	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
Toms River	84.7	$0.98	$1.96	$2.94	$3.92	$4.90	$5.88	$1.18	$1.77
Berkeley	77.9	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
Forked River	75.3	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21
Waretown	70.4	$0.98	$1.96	$2.94	$3.92	$4.90	$5.88	$1.18	$1.77
Barnegat SB	68.9	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
New Gretna NB	53.5	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
Somers Point SB	30.2	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
Great Egg SB	28.8	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
Cape May NB	19.4	$1.96	$3.92	$5.88	$7.83	$9.79	$11.75	$2.35	$3.53
Wildwood	3.8	$0.67	$1.40	$2.01	$2.73	$3.46	$4.28	$0.84	$1.21

*** E-Zpass Off Peak Discount available for Heavy Trucks Registered 10,000 lbs or more (6 tires or 3-or-more-axles) only.**

2022 Toll Rates Garden State Parkway
Truck Discount Off-Peak E-Zpass

Peak periods are 7:00 am - 9:00 am, 4:30 pm - 6:30 pm Monday - Friday, all day Saturday and Sunday.

PLAZA / RAMP 11 Barriers 23 Ramps	Milepost	Class 1 Passenger Car, Motorcyle,Taxis	Class 2 2-Axle Dual Tire Vehicle	Class 3 3-Axle Vehicle	Class 4 4-Axle Vehicle or Vehicle/Trailer Combination	Class 5 5-Axle Vehicle or Vehicle/Trailer Combination	Class 6 6-Axle Vehicle or Vehicle/Trailer Combination	Bus Class B2 2-Axle Bus	Bus Class B3 3-Axle Bus
*Pascack Valley	166.1	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
*Paramus	164.6	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
*Bergen NB	160.5	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
*Saddle Brook NB	160.3	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
*Clifton	156.1	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
*Passaic	154.5	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
*Watchung	152.6	$0.98	$1.86	$2.79	$3.72	$4.65	$5.58	$1.12	$1.68
*Essex SB	150.7	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
*Bloomfield	148.9	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
*East Orange	147.1	$1.34	$2.65	$3.82	$5.19	$6.56	$8.13	$1.59	$2.29
*Irvington	146.1	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
*Union Ramp NB	142.8	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
*Union NB	142.7	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
*Raritan SB	125.4	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
Sayreville (EZP Only)	125.0	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
*Matawan	117.1	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
*Keyport	118.6	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
*Holmdel	113.6	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
*Red Bank	110.3	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
*Eatontown NB	106.5	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
* Heavy Trucks Registered 10,000 lbs or more (6 tires or 3-or-more-axles) prohibited north of Interchange 105.									
Asbury Park NB	104.0	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
Belmar/Wall	98.0	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
Brick	93.0	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
Lakewood	90.1	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
Toms River	84.7	$0.98	$1.86	$2.79	$3.72	$4.65	$5.58	$1.12	$1.68
Berkeley	77.9	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
Forked River	75.3	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15
Waretown	70.4	$0.98	$1.86	$2.79	$3.72	$4.65	$5.58	$1.12	$1.68
Barnegat SB	68.9	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
New Gretna NB	53.5	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
Somers Point SB	30.2	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
Great Egg SB	28.8	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
Cape May NB	19.4	$1.96	$3.72	$5.58	$7.44	$9.30	$11.16	$2.24	$3.35
Wildwood	3.8	$0.67	$1.33	$1.91	$2.60	$3.28	$4.07	$0.80	$1.15

*** E-Zpass Off Peak Discount available for Heavy Trucks Registered 10,000 lbs or more (6 tires or 3-or-more-axles) only.**

2022 TOLL RATE SCHEDULE - CLASS 2 Trucks (2 Axles)

[E-Z = E-ZPass] PEAK HOURS: Mon-Fri - 7:00 a.m. - 9:00 a.m. & 4:30 p.m. - 6:30 p.m.; All Day Sat & Sun; (based on time of entry)

Entry	PAYMENT METHOD	1	2	3	4	5	6	6A	7	7A	8	8A	9	10	11	12	13	13A	14	14A	14B	14C	15E	15W	15X	16E	16W	17	18E	18W	19W
1	Cash		3.00	6.45	7.95	10.40	16.05		11.75	13.10	14.95	16.05	18.05	18.75	22.20	23.70	26.15	26.15	29.95	35.25	36.80	38.00	31.80	33.45	34.85	36.00	36.00		39.90	39.90	
	E-Zpass		2.68	6.03	7.42	9.48	14.73		10.87	11.90	13.60	14.73	16.54	17.15	20.24	21.79	23.90	23.90	27.09	32.30	33.63	34.61	28.95	30.49	31.78	32.91	32.91		36.42	36.42	
	NJ E-Zpass Off-Peak		2.55	5.73	7.05	9.01	14.00		10.33	11.31	12.92	14.00	15.71	16.30	19.23	20.70	22.71	22.71	25.74	30.68	31.95	32.88	27.50	28.97	30.19	31.27	31.27		34.59	34.59	
2	Cash	3.00		3.50	4.90	7.45	13.10		8.95	10.40	11.75	13.85	14.95	16.05	19.50	21.65	23.15	23.15	26.90	32.95	33.80	35.00	29.60	30.35	32.50	33.45	33.45		37.05	37.05	
	E-Zpass	2.68		3.09	4.49	6.65	11.90		8.14	9.48	10.87	12.67	13.60	14.73	17.93	19.63	21.02	21.02	24.47	30.13	30.75	31.93	26.89	27.76	29.36	30.49	30.49		34.10	34.10	
	NJ E-Zpass Off-Peak	2.55		2.94	4.26	6.32	11.31		7.74	9.01	10.33	12.04	12.92	14.00	17.03	18.65	19.97	19.97	23.24	28.63	29.21	30.34	25.54	26.38	27.89	28.97	28.97		32.39	32.39	
3	Cash	6.45	3.50		1.70	3.90	10.40		6.10	6.85	8.55	10.40	11.55	12.15	16.05	18.05	19.50	19.50	23.40	29.60	30.35	31.40	26.15	26.90	28.85	29.95	29.95		33.80	33.80	
	E-Zpass	6.03	3.09		1.70	3.66	9.02		5.67	6.29	7.83	9.48	10.51	11.28	14.73	16.54	17.93	17.93	21.43	26.89	27.76	28.64	23.90	24.47	26.27	27.09	27.09		30.75	30.75	
	NJ E-Zpass Off-Peak	5.73	2.94		1.62	3.48	8.57		5.39	5.97	7.44	9.01	9.99	10.72	14.00	15.71	17.03	17.03	20.36	25.54	26.38	27.21	22.71	23.24	24.96	25.74	25.74		29.21	29.21	
4	Cash	7.95	4.90	1.70		2.35	7.95		3.90	4.90	6.85	8.55	10.40	11.30	14.60	16.05	18.05	18.05	21.85	27.10	28.85	29.95	23.70	25.25	26.70	27.90	27.90		31.80	31.80	
	E-Zpass	7.42	4.49	1.70		2.01	7.42		3.66	4.49	6.29	7.83	9.02	10.15	13.39	14.73	16.54	16.54	19.99	24.72	26.27	27.09	21.79	23.13	24.67	25.65	25.65		28.95	28.95	
	NJ E-Zpass Off-Peak	7.05	4.26	1.62		1.91	7.05		3.48	4.26	5.97	7.44	8.57	9.64	12.73	14.00	15.71	15.71	18.99	23.49	24.96	25.74	20.70	21.97	23.44	24.37	24.37		27.50	27.50	
5	Cash	10.40	7.45	3.90	2.35		6.10		1.70	3.00	4.65	6.45	7.45	8.55	11.75	13.85	15.35	15.35	19.50	25.25	26.35	27.10	21.85	23.15	24.90	26.15	26.15		29.95	29.95	
	E-Zpass	9.48	6.65	3.66	2.01		5.67		1.70	2.68	4.23	6.03	6.65	7.83	10.87	12.67	13.96	13.96	17.93	23.13	24.11	24.72	19.99	21.02	22.82	23.90	23.90		27.09	27.09	
	NJ E-Zpass Off-Peak	9.01	6.32	3.48	1.91		5.39		1.62	2.55	4.02	5.73	6.32	7.44	10.33	12.04	13.26	13.26	17.03	21.97	22.90	23.49	18.99	19.97	21.68	22.71	22.71		25.74	25.74	
6	Cash	16.05	13.10	10.40	7.95	6.10			4.65	6.10	7.45	8.95	10.30	11.55	14.95	16.55	18.35	18.35	22.20	27.90	29.60	30.35	24.70	26.15	27.70	28.85	28.85		32.95	32.95	
	E-Zpass	14.73	11.90	9.02	7.42	5.67			4.23	5.67	6.65	8.14	9.48	10.51	13.60	14.99	16.79	16.79	20.24	25.65	26.89	27.76	22.41	23.90	25.24	26.27	26.27		30.13	30.13	
	NJ E-Zpass Off-Peak	14.00	11.31	8.57	7.05	5.39			4.02	5.39	6.32	7.74	9.01	9.99	12.92	14.24	15.95	15.95	19.23	24.37	25.54	26.38	21.29	22.71	23.98	24.96	24.96		28.63	28.63	
6A	Cash							7.65																							
	E-Zpass							6.85																							
	NJ E-Zpass Off-Peak							6.51																							
7	Cash	11.75	8.95	6.10	3.90	1.70	4.65			1.70	3.00	4.65	6.10	6.85	10.30	11.75	13.85	13.85	18.05	23.40	24.70	26.15	20.00	21.65	22.65	23.70	23.70		27.90	27.90	
	E-Zpass	10.87	8.14	5.67	3.66	1.70	4.23			1.70	2.68	4.23	5.67	6.29	9.48	10.87	12.67	12.67	16.54	21.43	22.41	23.90	18.13	19.63	20.66	21.79	21.79		25.65	25.65	
	NJ E-Zpass Off-Peak	10.33	7.74	5.39	3.48	1.62	4.02			1.62	2.55	4.02	5.39	5.97	9.01	10.33	12.04	12.04	15.71	20.36	21.29	22.71	17.23	18.65	19.62	20.70	20.70		24.37	24.37	
7A	Cash	13.10	10.40	6.85	4.90	3.00	6.10		1.70		1.70	3.50	4.65	6.10	8.95	11.30	12.15	12.15	16.55	22.20	23.40	24.70	18.75	20.00	21.85	23.15	23.15		26.90	26.90	
	E-Zpass	11.90	9.48	6.29	4.49	2.68	5.67		1.70		1.70	3.09	4.23	5.67	8.14	10.15	11.28	11.28	14.99	20.24	21.43	22.41	17.15	18.13	19.99	21.02	21.02		24.47	24.47	
	NJ E-Zpass Off-Peak	11.31	9.01	5.97	4.26	2.55	5.39		1.62		1.62	2.94	4.02	5.39	7.74	9.64	10.72	10.72	14.24	19.23	20.36	21.29	16.30	17.23	18.99	19.97	19.97		23.24	23.24	
8	Cash	14.95	11.75	8.55	6.85	4.65	7.45		3.00	1.70		1.70	3.00	3.90	7.45	8.95	11.30	11.30	14.95	20.40	21.85	23.15	17.30	18.35	20.40	21.65	21.65		25.25	25.25	
	E-Zpass	13.60	10.87	7.83	6.29	4.23	6.65		2.68	1.70		1.70	2.68	3.66	6.65	8.14	10.15	10.15	13.60	18.44	19.99	21.02	15.76	16.79	18.65	19.63	19.63		23.13	23.13	
	NJ E-Zpass Off-Peak	12.92	10.33	7.44	5.97	4.02	6.32		2.55	1.62		1.62	2.55	3.48	6.32	7.74	9.64	9.64	12.92	17.52	18.99	19.97	14.98	15.95	17.72	18.65	18.65		21.97	21.97	
8A	Cash	16.05	13.85	10.40	8.55	6.45	8.95		4.65	3.50	1.70		1.70	3.00	6.45	7.95	10.40	10.40	13.85	19.50	20.40	21.85	16.05	17.30	18.85	20.00	20.00		23.70	23.70	
	E-Zpass	14.73	12.67	9.48	7.83	6.03	8.14		4.23	3.09	1.70		1.70	2.68	6.03	7.42	9.02	9.02	12.67	17.93	18.44	19.99	14.73	15.76	17.26	18.13	18.13		21.79	21.79	
	NJ E-Zpass Off-Peak	14.00	12.04	9.01	7.44	5.73	7.74		4.02	2.94	1.62		1.62	2.55	5.73	7.05	8.57	8.57	12.04	17.03	17.52	18.99	14.00	14.98	16.39	17.23	17.23		20.70	20.70	
9	Cash	18.05	14.95	11.55	10.40	7.45	10.30		6.10	4.65	3.00	1.70		1.70	4.65	6.45	7.95	7.95	11.75	18.05	18.75	20.00	14.60	15.35	17.30	18.35	18.35		22.20	22.20	
	E-Zpass	16.54	13.60	10.51	9.02	6.65	9.48		5.67	4.23	2.68	1.70		1.70	4.23	6.03	7.42	7.42	10.87	16.54	17.15	18.13	13.39	13.96	15.82	16.79	16.79		20.24	20.24	
	NJ E-Zpass Off-Peak	15.71	12.92	9.99	8.57	6.32	9.01		5.39	4.02	2.55	1.62		1.62	4.02	5.73	7.05	7.05	10.33	15.71	16.30	17.23	12.73	13.26	15.02	15.95	15.95		19.23	19.23	
10	Cash	18.75	16.05	12.15	11.30	8.55	11.55		6.85	6.10	3.90	3.00	1.70		3.50	4.90	6.85	6.85	11.30	16.55	18.05	18.75	13.10	14.60	16.05	17.30	17.30		21.65	21.65	
	E-Zpass	17.15	14.73	11.28	10.15	7.83	10.51		6.29	5.67	3.66	2.68	1.70		3.09	4.49	6.29	6.29	10.15	14.99	16.54	17.15	11.90	13.39	14.73	15.76	15.76		19.63	19.63	
	NJ E-Zpass Off-Peak	16.30	14.00	10.72	9.64	7.44	9.99		5.97	5.39	3.48	2.55	1.62		2.94	4.26	5.97	5.97	9.64	14.24	15.71	16.30	11.31	12.73	14.00	14.98	14.98		18.65	18.65	
11	Cash	22.20	19.50	16.05	14.60	11.75	14.95		10.30	8.95	7.45	6.45	4.65	3.50		1.70	3.50	3.50	7.45	13.10	14.60	15.35	10.40	11.30	12.80	13.85	13.85		18.05	18.05	
	E-Zpass	20.24	17.93	14.73	13.39	10.87	13.60		9.48	8.14	6.65	6.03	4.23	3.09		1.70	3.09	3.09	6.65	11.90	13.39	13.96	9.02	10.15	11.54	12.67	12.67		16.54	16.54	
	NJ E-Zpass Off-Peak	19.23	17.03	14.00	12.73	10.33	12.92		9.01	7.74	6.32	5.73	4.02	2.94		1.62	2.94	2.94	6.32	11.31	12.73	13.26	8.57	9.64	10.96	12.04	12.04		15.71	15.71	
12	Cash	23.70	21.65	18.05	16.05	13.85	16.55		11.75	11.30	8.95	7.95	6.45	4.90	1.70		1.70	1.70	6.10	11.55	12.15	13.85	7.95	8.95	10.90	11.75	11.75		16.05	16.05	
	E-Zpass	21.79	19.63	16.54	14.73	12.67	14.99		10.87	10.15	8.14	7.42	6.03	4.49	1.70		1.70	1.70	5.67	10.51	11.28	12.67	7.42	8.14	9.89	10.87	10.87		14.73	14.73	
	NJ E-Zpass Off-Peak	20.70	18.65	15.71	14.00	12.04	14.24		10.33	9.64	7.74	7.05	5.73	4.26	1.62		1.62	1.62	5.39	9.99	10.72	12.04	7.05	7.74	9.40	10.33	10.33		14.00	14.00	
13	Cash	26.15	23.15	19.50	18.05	15.35	18.35		13.85	12.15	11.30	10.40	7.95	6.85	3.50	1.70		1.70	3.90	10.40	11.30	11.75	6.45	7.45	9.35	10.30	10.30		14.60	14.60	
	E-Zpass	23.90	21.02	17.93	16.54	13.96	16.79		12.67	11.28	10.15	9.02	7.42	6.29	3.09	1.70		1.70	3.66	9.02	10.15	10.87	6.03	6.65	8.55	9.48	9.48		13.39	13.39	
	NJ E-Zpass Off-Peak	22.71	19.97	17.03	15.71	13.26	15.95		12.04	10.72	9.64	8.57	7.05	5.97	2.94	1.62		1.62	3.48	8.57	9.64	10.33	5.73	6.32	8.13	9.01	9.01		12.73	12.73	
13A	Cash	26.15	23.15	19.50	18.05	15.35	18.35		13.85	12.15	11.30	10.40	7.95	6.85	3.50	1.70	1.70		2.50	10.40	11.30	11.75	6.45	7.45	9.35	10.30	10.30		14.60	14.60	
	E-Zpass	23.90	21.02	17.93	16.54	13.96	16.79		12.67	11.28	10.15	9.02	7.42	6.29	3.09	1.70	1.70		2.27	9.02	10.15	10.87	6.03	6.65	8.55	9.48	9.48		13.39	13.39	
	NJ E-Zpass Off-Peak	22.71	19.97	17.03	15.71	13.26	15.95		12.04	10.72	9.64	8.57	7.05	5.97	2.94	1.62	1.62		2.16	8.57	9.64	10.33	5.73	6.32	8.13	9.01	9.01		12.73	12.73	
14	Cash	29.95	26.90	23.40	21.85	19.50	22.20		18.05	16.55	14.95	13.85	11.75	11.30	7.45	6.10	3.90	2.50		6.10	6.85	7.95	2.35	3.50	5.30	6.45	6.45		10.30	10.30	
	E-Zpass	27.09	24.47	21.43	19.99	17.93	20.24		16.54	14.99	13.60	12.67	10.87	10.15	6.65	5.67	3.66	2.27		5.67	6.29	7.42	2.01	3.09	4.90	6.03	6.03		9.48	9.48	
	NJ E-Zpass Off-Peak	25.74	23.24	20.36	18.99	17.03	19.23		15.71	14.24	12.92	12.04	10.33	9.64	6.32	5.39	3.48	2.16		5.39	5.97	7.05	1.91	2.94	4.65	5.73	5.73		9.01	9.01	
14A	Cash	35.25	32.95	29.60	27.10	25.25	27.90		23.40	22.20	20.40	19.50	18.05	16.55	13.10	11.55	10.40	10.40	6.10		2.35	3.50	7.95	8.95	10.90	11.75	11.75		16.05	16.05	
	E-Zpass	32.30	30.13	26.89	24.72	23.13	25.65		21.43	20.24	18.44	17.93	16.54	14.99	11.90	10.51	9.02	9.02	5.67		2.01	3.09	7.42	8.14	9.89	10.87	10.87		14.73	14.73	
	NJ E-Zpass Off-Peak	30.68	28.63	25.54	23.49	21.97	24.37		20.36	19.23	17.52	17.03	15.71	14.24	11.31	9.99	8.57	8.57	5.39		1.91	2.94	7.05	7.74	9.40	10.33	10.33		14.00	14.00	
14B	Cash	36.80	33.80	30.35	28.85	26.35	29.60		24.70	23.40	21.85	20.40	18.75	18.05	14.60	12.15	11.30	11.30	6.85	2.35		1.70	8.95	10.30	11.75	13.10	13.10		17.30	17.30	
	E-Zpass	33.63	30.75	27.76	26.27	24.11	26.89		22.41	21.43	19.99	18.44	17.15	16.54	13.39	11.28	10.15	10.15	6.29	2.01		1.70	8.14	9.48	10.87	11.90	11.90		15.76	15.76	
	NJ E-Zpass Off-Peak	31.95	29.21	26.38	24.96	22.90	25.54		21.29	20.36	18.99	17.52	16.30	15.71	12.73	10.72	9.64	9.64	5.97	1.91		1.62	7.74	9.01	10.33	11.31	11.31		14.98	14.98	
14C	Cash	38.00	35.00	31.40	29.95	27.10	30.35		26.15	24.70	23.15	21.85	20.00	18.75	15.35	13.85	11.75	11.75	7.95	3.50	1.70		10.30	11.55	13.40	14.60	14.60		18.35	18.35	
	E-Zpass	34.61	31.93	28.64	27.09	24.72	27.76		23.90	22.41	21.02	19.99	18.13	17.15	13.96	12.67	10.87	10.87	7.42	3.09	1.70		9.48	10.51	12.31	13.39	13.39		16.79	16.79	
	NJ E-Zpass Off-Peak	32.88	30.34	27.21	25.74	23.49	26.38		22.71	21.29	19.97	18.99	17.23	16.30	13.26	12.04	10.33	10.33	7.05	2.94	1.62		9.01	9.99	11.70	12.73	12.73		15.95	15.95	
15E	Cash	31.80	29.60	26.15	23.70	21.85	24.70		20.00	18.75	17.30	16.05	14.60	13.10	10.40	7.95	6.45	6.45	2.35	7.95	8.95	10.30		3.00	2.80	3.90	3.90		7.95	7.95	
	E-Zpass	28.95	26.89	23.90	21.79	19.99	22.41		18.13	17.15	15.76	14.73	13.39	11.90	9.02	7.42	6.03	6.03	2.01	7.42	8.14	9.48		2.68	2.48	3.66	3.66		7.42	7.42	
	NJ E-Zpass Off-Peak	27.50	25.54	22.71	20.70	18.99	21.29		17.23	16.30	14.98	14.00	12.73	11.31	8.57	7.05	5.73	5.73	1.91	7.05	7.74	9.01		2.55	2.35	3.48	3.48		7.05	7.05	
15W	Cash	33.45	30.35	26.90	25.25	23.15	26.15		21.65	20.00	18.35	17.30	15.35	14.60	11.30	8.95	7.45	7.45	3.50	8.95	10.30	11.55	3.00		3.00	3.00	3.00		6.85	6.85	
	E-Zpass	30.49	27.76	24.47	23.13	21.02	23.90		19.63	18.13	16.79	15.76	13.96	13.39	10.15	8.14	6.65	6.65	3.09	8.14	9.48	10.51	2.68		2.68	2.68	2.68		6.29	6.29	
	NJ E-Zpass Off-Peak	28.97	26.38	23.24	21.97	19.97	22.71		18.65	17.23	15.95	14.98	13.26	12.73	9.64	7.74	6.32	6.32	2.94	7.74	9.01	9.99	2.55		2.55	2.55	2.55		5.97	5.97	
15X	Cash	34.85	32.50	28.85	26.70	24.90	27.70		22.65	21.85	20.40	18.85	17.30	16.05	12.80	10.90	9.35	9.35	5.30	10.90	11.75	13.40	2.80	3.00		0.95			2.30			
	E-Zpass	31.78	29.36	26.27	24.67	22.82	25.24		20.66	19.99	18.65	17.26	15.82	14.73	11.54	9.89	8.55	8.55	4.90	9.89	10.87	12.31	2.48	2.68		0.93			2.01			
	NJ E-Zpass Off-Peak	30.19	27.89	24.96	23.44	21.68	23.98		19.62	18.99	17.72	16.39	15.02	14.00	10.96	9.40	8.13	8.13	4.65	9.40	10.33	11.70	2.35	2.55		0.89			1.91			
16E	Cash	36.00	33.45	29.95	27.90	26.15	28.85		23.70	23.15	21.65	20.00	18.35	17.30	13.85	11.75	10.30	10.30	6.45	11.75	13.10	14.60	3.90	3.00	0.95							
	E-Zpass	32.91	30.49	27.09	25.65	23.90	26.27		21.79	21.02	19.63	18.13	16.79	15.76	12.67	10.87	9.48	9.48	6.03	10.87	11.90	13.39	3.66	2.68	0.93							
	NJ E-Zpass Off-Peak	31.27	28.97	25.74	24.37	22.71	24.96		20.70	19.97	18.65	17.23	15.95	14.98	12.04	10.33	9.01	9.01	5.73	10.33	11.31	12.73	3.48	2.55	0.89							
16W	Cash	36.00	33.45	29.95	27.90	26.15	28.85		23.70	23.15	21.65	20.00	18.35	17.30	13.85	11.75	10.30	10.30	6.45	11.75	13.10	14.60	3.90	3.00						3.50		
	E-Zpass	32.91	30.49	27.09	25.65	23.90	26.27		21.79	21.02	19.63	18.13	16.79	15.76	12.67	10.87	9.48	9.48	6.03	10.87	11.90	13.39	3.66	2.68						3.09		
	NJ E-Zpass Off-Peak	31.27	28.97	25.74	24.37	22.71	24.96		20.70	19.97	18.65	17.23	15.95	14.98	12.04	10.33	9.01	9.01	5.73	10.33	11.31	12.73	3.48	2.55						2.94		
17	Cash																											7.85			
	E-Zpass																											7.21			
	NJ E-Zpass Off-Peak																											6.85			
18E	Cash	39.90	37.05	33.80	31.80	29.95	32.95		27.90	26.90	25.25	23.70	22.20	21.65	18.05	16.05	14.60	14.60	10.30	16.05	17.30	18.35	7.95	6.85	2.30							
	E-Zpass	36.42	34.10	30.75	28.95	27.09	30.13		25.65	24.47	23.13	21.79	20.24	19.63	16.54	14.73	13.39	13.39	9.48	14.73	15.76	16.79	7.42	6.29	2.01							
	NJ E-Zpass Off-Peak	34.59	32.39	29.21	27.50	25.74	28.63		24.37	23.24	21.97	20.70	19.23	18.65	15.71	14.00	12.73	12.73	9.01	14.00	14.98	15.95	7.05	5.97	1.91							
18W	Cash	39.90	37.05	33.80	31.80	29.95	32.95		27.90	26.90	25.25	23.70	22.20	21.65	18.05	16.05	14.60	14.60	10.30	16.05	17.30	18.35	7.95	6.85			3.50					
	E-Zpass	36.42	34.10	30.75	28.95	27.09	30.13		25.65	24.47	23.13	21.79	20.24	19.63	16.54	14.73	13.39	13.39	9.48	14.73	15.76	16.79	7.42	6.29			3.09					
	NJ E-Zpass Off-Peak	34.59	32.39	29.21	27.50	25.74	28.63		24.37	23.24	21.97	20.70	19.23	18.65	15.71	14.00	12.73	12.73	9.01	14.00	14.98	15.95	7.05	5.97			2.94					
19W	Cash																														
	E-Zpass																														3.09
	NJ E-Zpass Off-Peak																														2.94

Interchange 19W is E-ZPass Only

If a U-Turn is made, the ticket is lost, or is presented beyond 20 hours of issuance, then the highest toll for the class will be charged upon exiting the roadway (N.J.A.C.19:1.19(H))

Senior and Green Vehicle Discount is 10% off the NJ E-ZPass Off-Peak fare, rounded to the nearest $0.01 (Penny)

2022 TOLL RATE SCHEDULE - Class 3 Trucks

[E-Z = E-ZPass] PEAK HOURS: Mon-Fri - 7:00 a.m. - 9:00 a.m. & 4:30 p.m. - 6:30 p.m.; All Day Sat & Sun; (based on time of entry)

Entry	PAYMENT METHOD	1	2	3	4	5	6	6A	7	7A	8	8A	9	10	11	12	13	13A	14	14A	14B	14C	15E	15W	15X	16E	16W	17	18E	18W	19W
1	Cash		3.90	7.95	11.30	13.85	21.85		16.55	18.05	20.40	22.20	24.70	26.35	29.95	32.95	35.25	35.25	41.45	48.35	49.85	49.85	44.35	46.15	48.15	49.55	49.55		49.85	49.85	
	E-Zpass		3.66	7.42	10.15	12.67	19.99		14.99	16.54	18.44	20.24	22.41	24.11	27.09	30.13	32.30	32.30	37.81	44.14	45.48	45.48	40.64	42.29	43.93	45.12	45.12		45.48	45.48	
	NJ E-Zpass Off-Peak		3.48	7.05	9.64	12.04	18.99		14.24	15.71	17.52	19.23	21.29	22.90	25.74	28.63	30.68	30.68	35.92	41.93	43.21	43.21	38.61	40.17	41.74	42.86	42.86		43.21	43.21	
2	Cash	3.90		3.90	6.85	10.10	18.05		12.15	13.85	16.55	18.75	20.40	22.20	26.15	28.85	31.40	31.40	37.05	44.35	45.90	46.90	40.25	42.10	43.95	45.35	45.35		49.85	49.85	
	E-Zpass	3.66		3.66	6.29	9.02	16.54		11.28	12.67	14.99	17.15	18.44	20.24	23.90	26.27	28.64	28.64	34.10	40.64	42.03	42.75	36.78	38.58	40.07	41.26	41.26		45.48	45.48	
	NJ E-Zpass Off-Peak	3.48		3.48	5.97	8.57	15.71		10.72	12.04	14.24	16.30	17.52	19.23	22.71	24.96	27.21	27.21	32.39	38.61	39.93	40.61	34.94	36.65	38.07	39.19	39.19		43.21	43.21	
3	Cash	7.95	3.90		3.00	6.10	13.85		7.95	10.10	12.15	14.95	16.55	18.35	21.85	24.70	27.10	27.10	33.45	40.25	41.70	42.85	36.00	38.30	39.90	41.45	41.45		46.15	46.15	
	E-Zpass	7.42	3.66		2.68	5.67	12.67		7.42	9.02	11.28	13.60	14.99	16.79	19.99	22.41	24.72	24.72	30.49	36.78	38.17	39.09	32.91	34.97	36.42	37.81	37.81		42.29	42.29	
	NJ E-Zpass Off-Peak	7.05	3.48		2.55	5.39	12.04		7.05	8.57	10.72	12.92	14.24	15.95	18.99	21.29	23.49	23.49	28.97	34.94	36.26	37.14	31.27	33.23	34.59	35.92	35.92		40.17	40.17	
4	Cash	11.30	6.85	3.00		3.00	11.30		6.10	6.85	10.10	11.75	13.85	15.35	18.75	21.85	24.70	24.70	30.35	37.05	38.70	40.25	33.45	35.25	36.85	38.30	38.30		43.25	43.25	
	E-Zpass	10.15	6.29	2.68		2.68	10.15		5.67	6.29	9.02	10.87	12.67	13.96	17.15	19.99	22.41	22.41	27.76	34.10	35.23	36.78	30.49	32.30	33.79	34.97	34.97		39.66	39.66	
	NJ E-Zpass Off-Peak	9.64	5.97	2.55		2.55	9.64		5.39	5.97	8.57	10.33	12.04	13.26	16.30	18.99	21.29	21.29	26.38	32.39	33.47	34.94	28.97	30.68	32.10	33.23	33.23		37.68	37.68	
5	Cash	13.85	10.10	6.10	3.00		7.95		3.00	3.90	6.85	8.95	11.30	12.15	16.05	18.75	21.85	21.85	27.10	34.45	36.00	37.05	30.35	32.95	33.85	35.25	35.25		40.90	40.90	
	E-Zpass	12.67	9.02	5.67	2.68		7.42		2.68	3.66	6.29	8.14	10.15	11.28	14.73	17.15	19.99	19.99	24.72	31.52	32.91	34.10	27.76	30.13	31.11	32.30	32.30		37.39	37.39	
	NJ E-Zpass Off-Peak	12.04	8.57	5.39	2.55		7.05		2.55	3.48	5.97	7.74	9.64	10.72	14.00	16.30	18.99	18.99	23.49	29.95	31.27	32.39	26.38	28.63	29.56	30.68	30.68		35.52	35.52	
6	Cash	21.85	18.05	13.85	11.30	7.95			6.45	7.45	10.40	12.15	14.60	16.05	19.50	22.20	25.25	25.25	31.15	38.00	39.45	40.90	33.80	36.00	37.40	38.70	38.70		44.35	44.35	
	E-Zpass	19.99	16.54	12.67	10.15	7.42			6.03	6.65	9.48	11.28	13.39	14.73	17.93	20.24	23.13	23.13	28.38	34.61	36.00	37.39	30.75	32.91	34.10	35.23	35.23		40.64	40.64	
	NJ E-Zpass Off-Peak	18.99	15.71	12.04	9.64	7.05			5.73	6.32	9.01	10.72	12.73	14.00	17.03	19.23	21.97	21.97	26.96	32.88	34.20	35.52	29.21	31.27	32.39	33.47	33.47		38.61	38.61	
6A	Cash							7.65																							
	E-Zpass							6.85																							
	NJ E-Zpass Off-Peak							6.51																							
7	Cash	16.55	12.15	7.95	6.10	3.00	6.45			3.00	3.90	6.45	7.95	10.10	13.10	16.05	18.75	18.75	24.70	31.40	33.45	34.45	27.10	29.95	31.20	32.95	32.95		38.00	38.00	
	E-Zpass	14.99	11.28	7.42	5.67	2.68	6.03			2.68	3.66	6.03	7.42	9.02	11.90	14.73	17.15	17.15	22.41	28.64	30.49	31.52	24.72	27.09	28.64	30.13	30.13		34.61	34.61	
	NJ E-Zpass Off-Peak	14.24	10.72	7.05	5.39	2.55	5.73			2.55	3.48	5.73	7.05	8.57	11.31	14.00	16.30	16.30	21.29	27.21	28.97	29.95	23.49	25.74	27.21	28.63	28.63		32.88	32.88	
7A	Cash	18.05	13.85	10.10	6.85	3.90	7.45		3.00		3.00	4.90	6.85	8.55	11.75	14.95	18.05	18.05	23.40	30.35	31.80	33.45	26.35	28.85	30.00	31.40	31.40		36.80	36.80	
	E-Zpass	16.54	12.67	9.02	6.29	3.66	6.65		2.68		2.68	4.49	6.29	7.83	10.87	13.60	16.54	16.54	21.43	27.76	28.95	30.49	24.11	26.27	27.45	28.64	28.64		33.63	33.63	
	NJ E-Zpass Off-Peak	15.71	12.04	8.57	5.97	3.48	6.32		2.55		2.55	4.26	5.97	7.44	10.33	12.92	15.71	15.71	20.36	26.38	27.50	28.97	22.90	24.96	26.08	27.21	27.21		31.95	31.95	
8	Cash	20.40	16.55	12.15	10.10	6.85	10.40		3.90	3.00		2.35	3.90	6.10	8.95	11.75	14.95	14.95	20.40	27.10	29.60	30.35	23.40	26.15	27.30	28.85	28.85		33.80	33.80	
	E-Zpass	18.44	14.99	11.28	9.02	6.29	9.48		3.66	2.68		2.01	3.66	5.67	8.14	10.87	13.60	13.60	18.44	24.72	26.89	27.76	21.43	23.90	24.88	26.27	26.27		30.75	30.75	
	NJ E-Zpass Off-Peak	17.52	14.24	10.72	8.57	5.97	9.01		3.48	2.55		1.91	3.48	5.39	7.74	10.33	12.92	12.92	17.52	23.49	25.54	26.38	20.36	22.71	23.64	24.96	24.96		29.21	29.21	
8A	Cash	22.20	18.75	14.95	11.75	8.95	12.15		6.45	4.90	2.35		2.35	3.90	7.45	10.40	13.10	13.10	18.75	26.15	27.10	28.85	21.85	23.70	25.50	26.90	26.90		31.80	31.80	
	E-Zpass	20.24	17.15	13.60	10.87	8.14	11.28		6.03	4.49	2.01		2.01	3.66	6.65	9.48	11.90	11.90	17.15	23.90	24.72	26.27	19.99	21.79	23.28	24.47	24.47		28.95	28.95	
	NJ E-Zpass Off-Peak	19.23	16.30	12.92	10.33	7.74	10.72		5.73	4.26	1.91		1.91	3.48	6.32	9.01	11.31	11.31	16.30	22.71	23.49	24.96	18.99	20.70	22.12	23.24	23.24		27.50	27.50	
9	Cash	24.70	20.40	16.55	13.85	11.30	14.60		7.95	6.85	3.90	2.35		2.35	4.90	7.95	11.30	11.30	16.55	23.40	25.25	26.35	19.50	21.85	23.30	24.70	24.70		29.95	29.95	
	E-Zpass	22.41	18.44	14.99	12.67	10.15	13.39		7.42	6.29	3.66	2.01		2.01	4.49	7.42	10.15	10.15	14.99	21.43	23.13	24.11	17.93	19.99	21.07	22.41	22.41		27.09	27.09	
	NJ E-Zpass Off-Peak	21.29	17.52	14.24	12.04	9.64	12.73		7.05	5.97	3.48	1.91		1.91	4.26	7.05	9.64	9.64	14.24	20.36	21.97	22.90	17.03	18.99	20.02	21.29	21.29		25.74	25.74	
10	Cash	26.35	22.20	18.35	15.35	12.15	16.05		10.10	8.55	6.10	3.90	2.35		3.50	6.45	8.95	8.95	14.95	21.85	23.40	24.70	18.05	20.00	21.80	23.15	23.15		27.90	27.90	
	E-Zpass	24.11	20.24	16.79	13.96	11.28	14.73		9.02	7.83	5.67	3.66	2.01		3.09	6.03	8.14	8.14	13.60	19.99	21.43	22.41	16.54	18.13	19.83	21.02	21.02		25.65	25.65	
	NJ E-Zpass Off-Peak	22.90	19.23	15.95	13.26	10.72	14.00		8.57	7.44	5.39	3.48	1.91		2.94	5.73	7.74	7.74	12.92	18.99	20.36	21.29	15.71	17.23	18.84	19.97	19.97		24.37	24.37	
11	Cash	29.95	26.15	21.85	18.75	16.05	19.50		13.10	11.75	8.95	7.45	4.90	3.50		3.00	6.10	6.10	11.55	18.35	20.00	21.65	14.60	16.55	18.15	19.50	19.50		24.70	24.70	
	E-Zpass	27.09	23.90	19.99	17.15	14.73	17.93		11.90	10.87	8.14	6.65	4.49	3.09		2.68	5.67	5.67	10.51	16.79	18.13	19.63	13.39	14.99	16.59	17.93	17.93		22.41	22.41	
	NJ E-Zpass Off-Peak	25.74	22.71	18.99	16.30	14.00	17.03		11.31	10.33	7.74	6.32	4.26	2.94		2.55	5.39	5.39	9.99	15.95	17.23	18.65	12.73	14.24	15.76	17.03	17.03		21.29	21.29	
12	Cash	32.95	28.85	24.70	21.85	18.75	22.20		16.05	14.95	11.75	10.40	7.95	6.45	3.00		3.00	3.00	8.55	15.35	17.30	18.35	11.55	13.85	15.15	16.55	16.55		21.85	21.85	
	E-Zpass	30.13	26.27	22.41	19.99	17.15	20.24		14.73	13.60	10.87	9.48	7.42	6.03	2.68		2.68	2.68	7.83	13.96	15.76	16.79	10.51	12.67	13.81	14.99	14.99		19.99	19.99	
	NJ E-Zpass Off-Peak	28.63	24.96	21.29	18.99	16.30	19.23		14.00	12.92	10.33	9.01	7.05	5.73	2.55		2.55	2.55	7.44	13.26	14.98	15.95	9.99	12.04	13.12	14.24	14.24		18.99	18.99	
13	Cash	35.25	31.40	27.10	24.70	21.85	25.25		18.75	18.05	14.95	13.10	11.30	8.95	6.10	3.00		2.35	6.10	12.15	14.60	15.35	8.55	11.30	12.35	13.85	13.85		18.75	18.75	
	E-Zpass	32.30	28.64	24.72	22.41	19.99	23.13		17.15	16.54	13.60	11.90	10.15	8.14	5.67	2.68		2.01	5.67	11.28	13.39	13.96	7.83	10.15	11.28	12.67	12.67		17.15	17.15	
	NJ E-Zpass Off-Peak	30.68	27.21	23.49	21.29	18.99	21.97		16.30	15.71	12.92	11.31	9.64	7.74	5.39	2.55		1.91	5.39	10.72	12.73	13.26	7.44	9.64	10.72	12.04	12.04		16.30	16.30	
13A	Cash	35.25	31.40	27.10	24.70	21.85	25.25		18.75	18.05	14.95	13.10	11.30	8.95	6.10	3.00	2.35		3.90	12.15	14.60	15.35	8.55	11.30	12.35	13.85	13.85		18.75	18.75	
	E-Zpass	32.30	28.64	24.72	22.41	19.99	23.13		17.15	16.54	13.60	11.90	10.15	8.14	5.67	2.68	2.01		3.66	11.28	13.39	13.96	7.83	10.15	11.28	12.67	12.67		17.15	17.15	
	NJ E-Zpass Off-Peak	30.68	27.21	23.49	21.29	18.99	21.97		16.30	15.71	12.92	11.31	9.64	7.74	5.39	2.55	1.91		3.48	10.72	12.73	13.26	7.44	9.64	10.72	12.04	12.04		16.30	16.30	
14	Cash	41.45	37.05	33.45	30.35	27.10	31.15		24.70	23.40	20.40	18.75	16.55	14.95	11.55	8.55	6.10	3.90		6.85	8.55	10.10	3.00	4.90	6.65	7.95	7.95		13.10	13.10	
	E-Zpass	37.81	34.10	30.49	27.76	24.72	28.38		22.41	21.43	18.44	17.15	14.99	13.60	10.51	7.83	5.67	3.66		6.29	7.83	9.02	2.68	4.49	6.03	7.42	7.42		11.90	11.90	
	NJ E-Zpass Off-Peak	35.92	32.39	28.97	26.38	23.49	26.96		21.29	20.36	17.52	16.30	14.24	12.92	9.99	7.44	5.39	3.48		5.97	7.44	8.57	2.55	4.26	5.73	7.05	7.05		11.31	11.31	
14A	Cash	48.35	44.35	40.25	37.05	34.45	38.00		31.40	30.35	27.10	26.15	23.40	21.85	18.35	15.35	12.15	12.15	6.85		3.00	3.90	10.10	11.75	13.50	14.95	14.95		20.00	20.00	
	E-Zpass	44.14	40.64	36.78	34.10	31.52	34.61		28.64	27.76	24.72	23.90	21.43	19.99	16.79	13.96	11.28	11.28	6.29		2.68	3.66	9.02	10.87	12.31	13.60	13.60		18.13	18.13	
	NJ E-Zpass Off-Peak	41.93	38.61	34.94	32.39	29.95	32.88		27.21	26.38	23.49	22.71	20.36	18.99	15.95	13.26	10.72	10.72	5.97		2.55	3.48	8.57	10.33	11.70	12.92	12.92		17.23	17.23	
14B	Cash	49.85	45.90	41.70	38.70	36.00	39.45		33.45	31.80	29.60	27.10	25.25	23.40	20.00	17.30	14.60	14.60	8.55	3.00		3.00	11.55	13.85	15.15	16.55	16.55		21.85	21.85	
	E-Zpass	45.48	42.03	38.17	35.23	32.91	36.00		30.49	28.95	26.89	24.72	23.13	21.43	18.13	15.76	13.39	13.39	7.83	2.68		2.68	10.51	12.67	13.81	14.99	14.99		19.99	19.99	
	NJ E-Zpass Off-Peak	43.21	39.93	36.26	33.47	31.27	34.20		28.97	27.50	25.54	23.49	21.97	20.36	17.23	14.98	12.73	12.73	7.44	2.55		2.55	9.99	12.04	13.12	14.24	14.24		18.99	18.99	
14C	Cash	49.85	46.90	42.85	40.25	37.05	40.90		34.45	33.45	30.35	28.85	26.35	24.70	21.65	18.35	15.35	15.35	10.10	3.90	3.00		12.15	14.95	16.40	18.05	18.05		23.15	23.15	
	E-Zpass	45.48	42.75	39.09	36.78	34.10	37.39		31.52	30.49	27.76	26.27	24.11	22.41	19.63	16.79	13.96	13.96	9.02	3.66	2.68		11.28	13.60	14.99	16.54	16.54		21.02	21.02	
	NJ E-Zpass Off-Peak	43.21	40.61	37.14	34.94	32.39	35.52		29.95	28.97	26.38	24.96	22.90	21.29	18.65	15.95	13.26	13.26	8.57	3.48	2.55		10.72	12.92	14.24	15.71	15.71		19.97	19.97	
15E	Cash	44.35	40.25	36.00	33.45	30.35	33.80		27.10	26.35	23.40	21.85	19.50	18.05	14.60	11.55	8.55	8.55	3.00	10.10	11.55	12.15		3.00	3.70	4.90	4.90		10.40	10.40	
	E-Zpass	40.64	36.78	32.91	30.49	27.76	30.75		24.72	24.11	21.43	19.99	17.93	16.54	13.39	10.51	7.83	7.83	2.68	9.02	10.51	11.28		2.68	3.30	4.49	4.49		9.48	9.48	
	NJ E-Zpass Off-Peak	38.61	34.94	31.27	28.97	26.38	29.21		23.49	22.90	20.36	18.99	17.03	15.71	12.73	9.99	7.44	7.44	2.55	8.57	9.99	10.72		2.55	3.14	4.26	4.26		9.01	9.01	
15W	Cash	46.15	42.10	38.30	35.25	32.95	36.00		29.95	28.85	26.15	23.70	21.85	20.00	16.55	13.85	11.30	11.30	4.90	11.75	13.85	14.95	3.00		3.25	3.50	3.50		7.95	7.95	
	E-Zpass	42.29	38.58	34.97	32.30	30.13	32.91		27.09	26.27	23.90	21.79	19.99	18.13	14.99	12.67	10.15	10.15	4.49	10.87	12.67	13.60	2.68		2.99	3.09	3.09		7.42	7.42	
	NJ E-Zpass Off-Peak	40.17	36.65	33.23	30.68	28.63	31.27		25.74	24.96	22.71	20.70	18.99	17.23	14.24	12.04	9.64	9.64	4.26	10.33	12.04	12.92	2.55		2.84	2.94	2.94		7.05	7.05	
15X	Cash	48.15	43.95	39.90	36.85	33.85	37.40		31.20	30.00	27.30	25.50	23.30	21.80	18.15	15.15	12.35	12.35	6.65	13.50	15.15	16.40	3.70	3.25		1.25			2.80			
	E-Zpass	43.93	40.07	36.42	33.79	31.11	34.10		28.64	27.45	24.88	23.28	21.07	19.83	16.59	13.81	11.28	11.28	6.03	12.31	13.81	14.99	3.30	2.99		1.14			2.68			
	NJ E-Zpass Off-Peak	41.74	38.07	34.59	32.10	29.56	32.39		27.21	26.08	23.64	22.12	20.02	18.84	15.76	13.12	10.72	10.72	5.73	11.70	13.12	14.24	3.14	2.84		1.08			2.55			
16E	Cash	49.55	45.35	41.45	38.30	35.25	38.70		32.95	31.40	28.85	26.90	24.70	23.15	19.50	16.55	13.85	13.85	7.95	14.95	16.55	18.05	4.90	3.50	1.25							
	E-Zpass	45.12	41.26	37.81	34.97	32.30	35.23		30.13	28.64	26.27	24.47	22.41	21.02	17.93	14.99	12.67	12.67	7.42	13.60	14.99	16.54	4.49	3.09	1.14							
	NJ E-Zpass Off-Peak	42.86	39.19	35.92	33.23	30.68	33.47		28.63	27.21	24.96	23.24	21.29	19.97	17.03	14.24	12.04	12.04	7.05	12.92	14.24	15.71	4.26	2.94	1.08							
16W	Cash	49.55	45.35	41.45	38.30	35.25	38.70		32.95	31.40	28.85	26.90	24.70	23.15	19.50	16.55	13.85	13.85	7.95	14.95	16.55	18.05	4.90	3.50						4.65		
	E-Zpass	45.12	41.26	37.81	34.97	32.30	35.23		30.13	28.64	26.27	24.47	22.41	21.02	17.93	14.99	12.67	12.67	7.42	13.60	14.99	16.54	4.49	3.09						4.23		
	NJ E-Zpass Off-Peak	42.86	39.19	35.92	33.23	30.68	33.47		28.63	27.21	24.96	23.24	21.29	19.97	17.03	14.24	12.04	12.04	7.05	12.92	14.24	15.71	4.26	2.94						4.02		
17	Cash																											7.85			
	E-Zpass																											7.21			
	NJ E-Zpass Off-Peak																											6.85			
18E	Cash	49.85	49.85	46.15	43.25	40.90	44.35		38.00	36.80	33.80	31.80	29.95	27.90	24.70	21.85	18.75	18.75	13.10	20.00	21.85	23.15	10.40	7.95	2.80							
	E-Zpass	45.48	45.48	42.29	39.66	37.39	40.64		34.61	33.63	30.75	28.95	27.09	25.65	22.41	19.99	17.15	17.15	11.90	18.13	19.99	21.02	9.48	7.42	2.68							
	NJ E-Zpass Off-Peak	43.21	43.21	40.17	37.68	35.52	38.61		32.88	31.95	29.21	27.50	25.74	24.37	21.29	18.99	16.30	16.30	11.31	17.23	18.99	19.97	9.01	7.05	2.55							
18W	Cash	49.85	49.85	46.15	43.25	40.90	44.35		38.00	36.80	33.80	31.80	29.95	27.90	24.70	21.85	18.75	18.75	13.10	20.00	21.85	23.15	10.40	7.95			4.65					
	E-Zpass	45.48	45.48	42.29	39.66	37.39	40.64		34.61	33.63	30.75	28.95	27.09	25.65	22.41	19.99	17.15	17.15	11.90	18.13	19.99	21.02	9.48	7.42			4.23					
	NJ E-Zpass Off-Peak	43.21	43.21	40.17	37.68	35.52	38.61		32.88	31.95	29.21	27.50	25.74	24.37	21.29	18.99	16.30	16.30	11.31	17.23	18.99	19.97	9.01	7.05			4.02					
19W	Cash																														
	E-Zpass																														4.23
	NJ E-Zpass Off-Peak																														4.02

Interchange 19W is E-ZPass Only

If a U-Turn is made, the ticket is lost, or is presented beyond 20 hours of issuance, then the highest toll for the class will be charged upon exiting the roadway (N.J.A.C.19:1.19(H))

Senior and Green Vehicle Discount is 10% off the NJ E-ZPass Off-Peak fare, rounded to the nearest $0.01 (Penny)

2022 TOLL RATE SCHEDULE - Class 4 Trucks

[E-Z = E-ZPass] PEAK HOURS: Mon-Fri - 7:00 a.m. - 9:00 a.m. & 4:30 p.m. - 6:30 p.m.; All Day Sat & Sun; (based on time of entry)

Entry	PAYMENT METHOD	1	2	3	4	5	6	6A	7	7A	8	8A	9	10	11	12	13	13A	14	14A	14B	14C	15E	15W	15X	16E	16W	17	18E	18W	19W
1	Cash		4.65	8.95	12.15	16.05	25.25		19.50	21.65	23.70	26.35	28.85	31.15	34.45	38.00	41.45	41.45	47.15	56.00	57.10	58.65	51.00	53.30	55.55	57.10	57.10		59.90	59.90	
	E-Zpass		4.23	8.14	11.28	14.73	23.13		17.93	19.63	21.79	24.11	26.27	28.38	31.52	34.61	37.81	37.81	43.06	50.99	52.17	53.36	46.51	48.67	50.58	52.17	52.17		54.65	54.65	
	NJ E-Zpass Off-Peak		4.02	7.74	10.72	14.00	21.97		17.03	18.65	20.70	22.90	24.96	26.96	29.95	32.88	35.92	35.92	40.91	48.44	49.57	50.69	44.18	46.24	48.05	49.57	49.57		51.91	51.91	
2	Cash	4.65		4.65	7.95	11.55	20.40		14.95	16.55	19.50	21.85	23.70	26.35	29.95	33.45	36.80	36.80	42.85	51.00	52.95	54.45	46.15	48.70	51.00	52.95	52.95		58.45	58.45	
	E-Zpass	4.23		4.23	7.42	10.51	18.44		13.60	14.99	17.93	19.99	21.79	24.11	27.09	30.49	33.63	33.63	39.09	46.51	48.31	49.81	42.29	44.35	46.66	48.31	48.31		53.15	53.15	
	NJ E-Zpass Off-Peak	4.02		4.02	7.05	9.99	17.52		12.92	14.24	17.03	18.99	20.70	22.90	25.74	28.97	31.95	31.95	37.14	44.18	45.90	47.32	40.17	42.13	44.33	45.90	45.90		50.50	50.50	
3	Cash	8.95	4.65		3.50	6.85	16.05		10.40	11.75	14.95	17.30	19.50	21.85	25.25	28.85	31.80	31.80	38.30	46.15	48.35	49.85	41.70	44.35	46.55	48.35	48.35		53.60	53.60	
	E-Zpass	8.14	4.23		3.09	6.29	14.73		9.48	10.87	13.60	15.76	17.93	19.99	23.13	26.27	28.95	28.95	34.97	42.29	44.14	45.48	38.17	40.64	42.44	44.14	44.14		48.88	48.88	
	NJ E-Zpass Off-Peak	7.74	4.02		2.94	5.97	14.00		9.01	10.33	12.92	14.98	17.03	18.99	21.97	24.96	27.50	27.50	33.23	40.17	41.93	43.21	36.26	38.61	40.32	41.93	41.93		46.43	46.43	
4	Cash	12.15	7.95	3.50		3.50	12.15		6.85	8.55	11.55	13.85	16.05	18.35	21.85	25.25	28.85	28.85	35.00	42.85	44.75	46.15	38.30	40.90	42.85	44.75	44.75		50.20	50.20	
	E-Zpass	11.28	7.42	3.09		3.09	11.28		6.29	7.83	10.51	12.67	14.73	16.79	19.99	23.13	26.27	26.27	31.93	39.09	40.90	42.29	34.97	37.39	39.35	40.90	40.90		45.89	45.89	
	NJ E-Zpass Off-Peak	10.72	7.05	2.94		2.94	10.72		5.97	7.44	9.99	12.04	14.00	15.95	18.99	21.97	24.96	24.96	30.34	37.14	38.85	40.17	33.23	35.52	37.38	38.85	38.85		43.60	43.60	
5	Cash	16.05	11.55	6.85	3.50		8.95		3.50	4.90	7.95	10.40	12.15	14.95	18.35	21.85	25.25	25.25	31.40	39.45	41.45	42.85	35.00	37.05	39.70	41.45	41.45		46.90	46.90	
	E-Zpass	14.73	10.51	6.29	3.09		8.14		3.09	4.49	7.42	9.48	11.28	13.60	16.79	19.99	23.13	23.13	28.64	36.00	37.81	39.09	31.93	34.10	36.16	37.81	37.81		42.75	42.75	
	NJ E-Zpass Off-Peak	14.00	9.99	5.97	2.94		7.74		2.94	4.26	7.05	9.01	10.72	12.92	15.95	18.99	21.97	21.97	27.21	34.20	35.92	37.14	30.34	32.39	34.35	35.92	35.92		40.61	40.61	
6	Cash	25.25	20.40	16.05	12.15	8.95			7.45	8.95	11.75	14.60	16.55	18.75	22.20	26.15	29.60	29.60	35.25	43.25	45.35	46.90	38.70	41.45	43.55	45.35	45.35		51.00	51.00	
	E-Zpass	23.13	18.44	14.73	11.28	8.14			6.65	8.14	10.87	13.39	14.99	17.15	20.24	23.90	26.89	26.89	32.30	39.66	41.26	42.75	35.23	37.81	39.66	41.26	41.26		46.51	46.51	
	NJ E-Zpass Off-Peak	21.97	17.52	14.00	10.72	7.74			6.32	7.74	10.33	12.73	14.24	16.30	19.23	22.71	25.54	25.54	30.68	37.68	39.19	40.61	33.47	35.92	37.68	39.19	39.19		44.18	44.18	
6A	Cash							7.65																							
	E-Zpass							6.85																							
	NJ E-Zpass Off-Peak							6.51																							
7	Cash	19.50	14.95	10.40	6.85	3.50	7.45			3.00	4.65	6.85	8.95	11.55	14.95	18.35	21.85	21.85	27.90	36.00	38.00	39.45	31.40	33.80	36.20	38.00	38.00		43.25	43.25	
	E-Zpass	17.93	13.60	9.48	6.29	3.09	6.65			2.68	4.23	6.29	8.14	10.51	13.60	16.79	19.99	19.99	25.65	32.91	34.61	36.00	28.64	30.75	33.02	34.61	34.61		39.66	39.66	
	NJ E-Zpass Off-Peak	17.03	12.92	9.01	5.97	2.94	6.32			2.55	4.02	5.97	7.74	9.99	12.92	15.95	18.99	18.99	24.37	31.27	32.88	34.20	27.21	29.21	31.37	32.88	32.88		37.68	37.68	
7A	Cash	21.65	16.55	11.75	8.55	4.90	8.95		3.00		3.00	6.10	7.45	10.10	13.10	16.55	20.00	20.00	26.35	34.45	36.00	38.00	29.95	31.80	34.45	36.00	36.00		41.70	41.70	
	E-Zpass	19.63	14.99	10.87	7.83	4.49	8.14		2.68		2.68	5.67	6.65	9.02	11.90	14.99	18.13	18.13	24.11	31.52	32.91	34.61	27.09	28.95	31.16	32.91	32.91		38.17	38.17	
	NJ E-Zpass Off-Peak	18.65	14.24	10.33	7.44	4.26	7.74		2.55		2.55	5.39	6.32	8.57	11.31	14.24	17.23	17.23	22.90	29.95	31.27	32.88	25.74	27.50	29.60	31.27	31.27		36.26	36.26	
8	Cash	23.70	19.50	14.95	11.55	7.95	11.75		4.65	3.00		3.00	4.65	6.85	10.40	13.85	17.30	17.30	23.40	31.40	33.45	35.00	26.90	29.60	31.60	33.45	33.45		38.70	38.70	
	E-Zpass	21.79	17.93	13.60	10.51	7.42	10.87		4.23	2.68		2.68	4.23	6.29	9.48	12.67	15.76	15.76	21.43	28.64	30.49	31.93	24.47	26.89	28.84	30.49	30.49		35.23	35.23	
	NJ E-Zpass Off-Peak	20.70	17.03	12.92	9.99	7.05	10.33		4.02	2.55		2.55	4.02	5.97	9.01	12.04	14.98	14.98	20.36	27.21	28.97	30.34	23.24	25.54	27.40	28.97	28.97		33.47	33.47	
8A	Cash	26.35	21.85	17.30	13.85	10.40	14.60		6.85	6.10	3.00		3.00	4.65	7.95	11.55	14.95	14.95	21.65	29.60	31.15	32.95	24.70	26.90	29.30	31.15	31.15		36.80	36.80	
	E-Zpass	24.11	19.99	15.76	12.67	9.48	13.39		6.29	5.67	2.68		2.68	4.23	7.42	10.51	13.60	13.60	19.63	26.89	28.38	30.13	22.41	24.47	26.68	28.38	28.38		33.63	33.63	
	NJ E-Zpass Off-Peak	22.90	18.99	14.98	12.04	9.01	12.73		5.97	5.39	2.55		2.55	4.02	7.05	9.99	12.92	12.92	18.65	25.54	26.96	28.63	21.29	23.24	25.35	26.96	26.96		31.95	31.95	
9	Cash	28.85	23.70	19.50	16.05	12.15	16.55		8.95	7.45	4.65	3.00		3.00	6.10	8.95	12.15	12.15	18.75	26.90	28.85	30.35	22.20	24.70	27.05	28.85	28.85		34.45	34.45	
	E-Zpass	26.27	21.79	17.93	14.73	11.28	14.99		8.14	6.65	4.23	2.68		2.68	5.67	8.14	11.28	11.28	17.15	24.47	26.27	27.76	20.24	22.41	24.67	26.27	26.27		31.52	31.52	
	NJ E-Zpass Off-Peak	24.96	20.70	17.03	14.00	10.72	14.24		7.74	6.32	4.02	2.55		2.55	5.39	7.74	10.72	10.72	16.30	23.24	24.96	26.38	19.23	21.29	23.44	24.96	24.96		29.95	29.95	
10	Cash	31.15	26.35	21.85	18.35	14.95	18.75		11.55	10.10	6.85	4.65	3.00		3.90	6.85	10.40	10.40	16.55	24.70	26.35	27.90	20.00	22.20	24.70	26.35	26.35		31.80	31.80	
	E-Zpass	28.38	24.11	19.99	16.79	13.60	17.15		10.51	9.02	6.29	4.23	2.68		3.66	6.29	9.48	9.48	14.99	22.41	24.11	25.65	18.13	20.24	22.51	24.11	24.11		28.95	28.95	
	NJ E-Zpass Off-Peak	26.96	22.90	18.99	15.95	12.92	16.30		9.99	8.57	5.97	4.02	2.55		3.48	5.97	9.01	9.01	14.24	21.29	22.90	24.37	17.23	19.23	21.39	22.90	22.90		27.50	27.50	
11	Cash	34.45	29.95	25.25	21.85	18.35	22.20		14.95	13.10	10.40	7.95	6.10	3.90		3.50	6.85	6.85	13.10	21.65	23.15	24.70	16.55	18.75	21.30	23.15	23.15		28.85	28.85	
	E-Zpass	31.52	27.09	23.13	19.99	16.79	20.24		13.60	11.90	9.48	7.42	5.67	3.66		3.09	6.29	6.29	11.90	19.63	21.02	22.41	14.99	17.15	19.42	21.02	21.02		26.27	26.27	
	NJ E-Zpass Off-Peak	29.95	25.74	21.97	18.99	15.95	19.23		12.92	11.31	9.01	7.05	5.39	3.48		2.94	5.97	5.97	11.31	18.65	19.97	21.29	14.24	16.30	18.45	19.97	19.97		24.96	24.96	
12	Cash	38.00	33.45	28.85	25.25	21.85	26.15		18.35	16.55	13.85	11.55	8.95	6.85	3.50		3.50	3.50	10.10	18.05	19.50	21.65	13.10	15.35	17.70	19.50	19.50		25.25	25.25	
	E-Zpass	34.61	30.49	26.27	23.13	19.99	23.90		16.79	14.99	12.67	10.51	8.14	6.29	3.09		3.09	3.09	9.02	16.54	17.93	19.63	11.90	13.96	16.18	17.93	17.93		23.13	23.13	
	NJ E-Zpass Off-Peak	32.88	28.97	24.96	21.97	18.99	22.71		15.95	14.24	12.04	9.99	7.74	5.97	2.94		2.94	2.94	8.57	15.71	17.03	18.65	11.31	13.26	15.37	17.03	17.03		21.97	21.97	
13	Cash	41.45	36.80	31.80	28.85	25.25	29.60		21.85	20.00	17.30	14.95	12.15	10.40	6.85	3.50		3.00	6.45	14.60	16.05	18.05	10.10	11.75	14.40	16.05	16.05		21.85	21.85	
	E-Zpass	37.81	33.63	28.95	26.27	23.13	26.89		19.99	18.13	15.76	13.60	11.28	9.48	6.29	3.09		2.68	6.03	13.39	14.73	16.54	9.02	10.87	13.09	14.73	14.73		19.99	19.99	
	NJ E-Zpass Off-Peak	35.92	31.95	27.50	24.96	21.97	25.54		18.99	17.23	14.98	12.92	10.72	9.01	5.97	2.94		2.55	5.73	12.73	14.00	15.71	8.57	10.33	12.43	14.00	14.00		18.99	18.99	
13A	Cash	41.45	36.80	31.80	28.85	25.25	29.60		21.85	20.00	17.30	14.95	12.15	10.40	6.85	3.50	3.00		4.25	14.60	16.05	18.05	10.10	11.75	14.40	16.05	16.05		21.85	21.85	
	E-Zpass	37.81	33.63	28.95	26.27	23.13	26.89		19.99	18.13	15.76	13.60	11.28	9.48	6.29	3.09	2.68		3.87	13.39	14.73	16.54	9.02	10.87	13.09	14.73	14.73		19.99	19.99	
	NJ E-Zpass Off-Peak	35.92	31.95	27.50	24.96	21.97	25.54		18.99	17.23	14.98	12.92	10.72	9.01	5.97	2.94	2.55		3.67	12.73	14.00	15.71	8.57	10.33	12.43	14.00	14.00		18.99	18.99	
14	Cash	47.15	42.85	38.30	35.00	31.40	35.25		27.90	26.35	23.40	21.65	18.75	16.55	13.10	10.10	6.45	4.25		7.95	10.10	11.55	3.50	6.10	8.25	10.10	10.10		15.35	15.35	
	E-Zpass	43.06	39.09	34.97	31.93	28.64	32.30		25.65	24.11	21.43	19.63	17.15	14.99	11.90	9.02	6.03	3.87		7.42	9.02	10.51	3.09	5.67	7.42	9.02	9.02		13.96	13.96	
	NJ E-Zpass Off-Peak	40.91	37.14	33.23	30.34	27.21	30.68		24.37	22.90	20.36	18.65	16.30	14.24	11.31	8.57	5.73	3.67		7.05	8.57	9.99	2.94	5.39	7.05	8.57	8.57		13.26	13.26	
14A	Cash	56.00	51.00	46.15	42.85	39.45	43.25		36.00	34.45	31.40	29.60	26.90	24.70	21.65	18.05	14.60	14.60	7.95		3.50	4.90	11.55	14.60	16.20	18.05	18.05		23.40	23.40	
	E-Zpass	50.99	46.51	42.29	39.09	36.00	39.66		32.91	31.52	28.64	26.89	24.47	22.41	19.63	16.54	13.39	13.39	7.42		3.09	4.49	10.51	13.39	14.94	16.54	16.54		21.43	21.43	
	NJ E-Zpass Off-Peak	48.44	44.18	40.17	37.14	34.20	37.68		31.27	29.95	27.21	25.54	23.24	21.29	18.65	15.71	12.73	12.73	7.05		2.94	4.26	9.99	12.73	14.19	15.71	15.71		20.36	20.36	
14B	Cash	57.10	52.95	48.35	44.75	41.45	45.35		38.00	36.00	33.45	31.15	28.85	26.35	23.15	19.50	16.05	16.05	10.10	3.50		3.50	13.10	16.05	17.70	19.50	19.50		25.25	25.25	
	E-Zpass	52.17	48.31	44.14	40.90	37.81	41.26		34.61	32.91	30.49	28.38	26.27	24.11	21.02	17.93	14.73	14.73	9.02	3.09		3.09	11.90	14.73	16.18	17.93	17.93		23.13	23.13	
	NJ E-Zpass Off-Peak	49.57	45.90	41.93	38.85	35.92	39.19		32.88	31.27	28.97	26.96	24.96	22.90	19.97	17.03	14.00	14.00	8.57	2.94		2.94	11.31	14.00	15.37	17.03	17.03		21.97	21.97	
14C	Cash	58.65	54.45	49.85	46.15	42.85	46.90		39.45	38.00	35.00	32.95	30.35	27.90	24.70	21.65	18.05	18.05	11.55	4.90	3.50		14.95	18.05	19.65	21.65	21.65		26.90	26.90	
	E-Zpass	53.36	49.81	45.48	42.29	39.09	42.75		36.00	34.61	31.93	30.13	27.76	25.65	22.41	19.63	16.54	16.54	10.51	4.49	3.09		13.60	16.54	18.03	19.63	19.63		24.47	24.47	
	NJ E-Zpass Off-Peak	50.69	47.32	43.21	40.17	37.14	40.61		34.20	32.88	30.34	28.63	26.38	24.37	21.29	18.65	15.71	15.71	9.99	4.26	2.94		12.92	15.71	17.13	18.65	18.65		23.24	23.24	
15E	Cash	51.00	46.15	41.70	38.30	35.00	38.70		31.40	29.95	26.90	24.70	22.20	20.00	16.55	13.10	10.10	10.10	3.50	11.55	13.10	14.95		3.50	4.65	6.45	6.45		11.75	11.75	
	E-Zpass	46.51	42.29	38.17	34.97	31.93	35.23		28.64	27.09	24.47	22.41	20.24	18.13	14.99	11.90	9.02	9.02	3.09	10.51	11.90	13.60		3.09	4.28	6.03	6.03		10.87	10.87	
	NJ E-Zpass Off-Peak	44.18	40.17	36.26	33.23	30.34	33.47		27.21	25.74	23.24	21.29	19.23	17.23	14.24	11.31	8.57	8.57	2.94	9.99	11.31	12.92		2.94	4.07	5.73	5.73		10.33	10.33	
15W	Cash	53.30	48.70	44.35	40.90	37.05	41.45		33.80	31.80	29.60	26.90	24.70	22.20	18.75	15.35	11.75	11.75	6.10	14.60	16.05	18.05	3.50		3.75	3.90	3.90		10.10	10.10	
	E-Zpass	48.67	44.35	40.64	37.39	34.10	37.81		30.75	28.95	26.89	24.47	22.41	20.24	17.15	13.96	10.87	10.87	5.67	13.39	14.73	16.54	3.09		3.46	3.66	3.66		9.02	9.02	
	NJ E-Zpass Off-Peak	46.24	42.13	38.61	35.52	32.39	35.92		29.21	27.50	25.54	23.24	21.29	19.23	16.30	13.26	10.33	10.33	5.39	12.73	14.00	15.71	2.94		3.28	3.48	3.48		8.57	8.57	
15X	Cash	55.55	51.00	46.55	42.85	39.70	43.55		36.20	34.45	31.60	29.30	27.05	24.70	21.30	17.70	14.40	14.40	8.25	16.20	17.70	19.65	4.65	3.75		1.70			3.25			
	E-Zpass	50.58	46.66	42.44	39.35	36.16	39.66		33.02	31.16	28.84	26.68	24.67	22.51	19.42	16.18	13.09	13.09	7.42	14.94	16.18	18.03	4.28	3.46		1.60			2.99			
	NJ E-Zpass Off-Peak	48.05	44.33	40.32	37.38	34.35	37.68		31.37	29.60	27.40	25.35	23.44	21.39	18.45	15.37	12.43	12.43	7.05	14.19	15.37	17.13	4.07	3.28		1.52			2.84			
16E	Cash	57.10	52.95	48.35	44.75	41.45	45.35		38.00	36.00	33.45	31.15	28.85	26.35	23.15	19.50	16.05	16.05	10.10	18.05	19.50	21.65	6.45	3.90	1.70							
	E-Zpass	52.17	48.31	44.14	40.90	37.81	41.26		34.61	32.91	30.49	28.38	26.27	24.11	21.02	17.93	14.73	14.73	9.02	16.54	17.93	19.63	6.03	3.66	1.60							
	NJ E-Zpass Off-Peak	49.57	45.90	41.93	38.85	35.92	39.19		32.88	31.27	28.97	26.96	24.96	22.90	19.97	17.03	14.00	14.00	8.57	15.71	17.03	18.65	5.73	3.48	1.52							
16W	Cash	57.10	52.95	48.35	44.75	41.45	45.35		38.00	36.00	33.45	31.15	28.85	26.35	23.15	19.50	16.05	16.05	10.10	18.05	19.50	21.65	6.45	3.90						5.35		
	E-Zpass	52.17	48.31	44.14	40.90	37.81	41.26		34.61	32.91	30.49	28.38	26.27	24.11	21.02	17.93	14.73	14.73	9.02	16.54	17.93	19.63	6.03	3.66						4.85		
	NJ E-Zpass Off-Peak	49.57	45.90	41.93	38.85	35.92	39.19		32.88	31.27	28.97	26.96	24.96	22.90	19.97	17.03	14.00	14.00	8.57	15.71	17.03	18.65	5.73	3.48						4.60		
17	Cash																											7.85			
	E-Zpass																											7.21			
	NJ E-Zpass Off-Peak																											6.85			
18E	Cash	59.90	58.45	53.60	50.20	46.90	51.00		43.25	41.70	38.70	36.80	34.45	31.80	28.85	25.25	21.85	21.85	15.35	23.40	25.25	26.90	11.75	10.10	3.25							
	E-Zpass	54.65	53.15	48.88	45.89	42.75	46.51		39.66	38.17	35.23	33.63	31.52	28.95	26.27	23.13	19.99	19.99	13.96	21.43	23.13	24.47	10.87	9.02	2.99							
	NJ E-Zpass Off-Peak	51.91	50.50	46.43	43.60	40.61	44.18		37.68	36.26	33.47	31.95	29.95	27.50	24.96	21.97	18.99	18.99	13.26	20.36	21.97	23.24	10.33	8.57	2.84							
18W	Cash	59.90	58.45	53.60	50.20	46.90	51.00		43.25	41.70	38.70	36.80	34.45	31.80	28.85	25.25	21.85	21.85	15.35	23.40	25.25	26.90	11.75	10.10						5.35		
	E-Zpass	54.65	53.15	48.88	45.89	42.75	46.51		39.66	38.17	35.23	33.63	31.52	28.95	26.27	23.13	19.99	19.99	13.96	21.43	23.13	24.47	10.87	9.02						4.85		
	NJ E-Zpass Off-Peak	51.91	50.50	46.43	43.60	40.61	44.18		37.68	36.26	33.47	31.95	29.95	27.50	24.96	21.97	18.99	18.99	13.26	20.36	21.97	23.24	10.33	8.57						4.60		
19W	Cash																														
	E-Zpass																														4.85
	NJ E-Zpass Off-Peak																														4.60

Interchange 19W is E-ZPass Only

If a U-Turn is made, the ticket is lost, or is presented beyond 20 hours of issuance, then the highest toll for the class will be charged upon exiting the roadway (N.J.A.C.19:1.19(H))

Senior and Green Vehicle Discount is 10% off the NJ E-ZPass Off-Peak fare, rounded to the nearest $0.01 (Penny)

2022 TOLL RATE SCHEDULE - Class 5 Trucks

[E-Z = E-ZPass] PEAK HOURS: Mon-Fri - 7:00 a.m.-9:00 a.m. & 4:30 p.m.-6:30 p.m.; All Day Sat & Sun; (based on time of entry)

Entry	PAYMENT METHOD	1	2	3	4	5	6	6A	7	7A	8	8A	9	10	11	12	13	13A	14	14A	14B	14C	15E	15W	15X	16E	16W	17	18E	18W	19W
1	Cash		5.35	11.30	14.95	18.75	30.35		23.40	26.15	28.85	31.80	35.00	36.80	41.45	45.35	49.85	49.85	56.60	66.70	68.75	69.70	60.90	63.70	66.70	68.75	68.75		69.70	69.70	
	E-Zpass		4.85	10.15	13.60	17.15	27.76		21.43	23.90	26.27	28.95	31.93	33.63	37.81	41.26	45.48	45.48	51.92	60.88	62.68	63.66	55.52	58.20	60.77	62.68	62.68		63.66	63.66	
	NJ E-Zpass Off-Peak		4.60	9.64	12.92	16.30	26.38		20.36	22.71	24.96	27.50	30.34	31.95	35.92	39.19	43.21	43.21	49.32	57.83	59.55	60.48	52.75	55.29	57.74	59.55	59.55		60.48	60.48	
2	Cash	5.35		5.35	9.70	13.85	24.70		18.05	20.00	23.40	26.35	28.85	31.80	36.00	39.90	44.35	44.35	51.35	60.90	63.10	65.15	56.00	58.65	61.25	63.10	63.10		69.70	69.70	
	E-Zpass	4.85		4.85	8.71	12.67	22.41		16.54	18.13	21.43	24.11	26.27	28.95	32.91	36.42	40.64	40.64	46.87	55.52	57.63	59.38	50.99	53.36	55.83	57.63	57.63		63.66	63.66	
	NJ E-Zpass Off-Peak	4.60		4.60	8.27	12.04	21.29		15.71	17.23	20.36	22.90	24.96	27.50	31.27	34.59	38.61	38.61	44.53	52.75	54.75	56.42	48.44	50.69	53.04	54.75	54.75		60.48	60.48	
3	Cash	11.30	5.35		3.90	8.55	18.75		12.15	14.60	18.05	21.05	23.40	26.35	30.35	35.00	38.30	38.30	45.90	56.00	57.80	59.90	50.20	53.30	55.65	57.80	57.80		64.85	64.85	
	E-Zpass	10.15	4.85		3.66	7.83	17.15		11.28	13.39	16.54	19.42	21.43	24.11	27.76	31.93	34.97	34.97	42.03	50.99	52.79	54.65	45.89	48.67	50.94	52.79	52.79		59.18	59.18	
	NJ E-Zpass Off-Peak	9.64	4.60		3.48	7.44	16.30		10.72	12.73	15.71	18.45	20.36	22.90	26.38	30.34	33.23	33.23	39.93	48.44	50.15	51.91	43.60	46.24	48.39	50.15	50.15		56.22	56.22	
4	Cash	14.95	9.70	3.90		3.90	14.95		8.55	10.10	13.85	16.80	18.75	21.85	26.35	30.35	35.00	35.00	41.70	51.35	53.60	56.00	45.90	48.70	51.40	53.60	53.60		60.15	60.15	
	E-Zpass	13.60	8.71	3.66		3.66	13.60		7.83	9.02	12.67	15.40	17.15	19.99	24.11	27.76	31.93	31.93	38.17	46.87	48.88	50.99	42.03	44.35	46.92	48.88	48.88		54.85	54.85	
	NJ E-Zpass Off-Peak	12.92	8.27	3.48		3.48	12.92		7.44	8.57	12.04	14.63	16.30	18.99	22.90	26.38	30.34	30.34	36.26	44.53	46.43	48.44	39.93	42.13	44.58	46.43	46.43		52.11	52.11	
5	Cash	18.75	13.85	8.55	3.90		11.30		3.90	6.10	9.70	12.15	14.95	18.05	21.85	26.35	30.35	30.35	38.00	47.15	49.85	51.35	41.70	44.75	47.55	49.85	49.85		56.25	56.25	
	E-Zpass	17.15	12.67	7.83	3.66		10.15		3.66	5.67	8.71	11.28	13.60	16.54	19.99	24.11	27.76	27.76	34.61	43.06	45.48	46.87	38.17	40.90	43.42	45.48	45.48		51.40	51.40	
	NJ E-Zpass Off-Peak	16.30	12.04	7.44	3.48		9.64		3.48	5.39	8.27	10.72	12.92	15.71	18.99	22.90	26.38	26.38	32.88	40.91	43.21	44.53	36.26	38.85	41.25	43.21	43.21		48.83	48.83	
6	Cash	30.35	24.70	18.75	14.95	11.30			8.95	11.30	14.60	17.30	20.00	23.15	26.90	31.15	35.25	35.25	42.10	51.80	54.45	56.25	46.90	49.85	52.40	54.45	54.45		60.90	60.90	
	E-Zpass	27.76	22.41	17.15	13.60	10.15			8.14	10.15	13.39	15.76	18.13	21.02	24.47	28.38	32.30	32.30	38.58	47.28	49.81	51.40	42.75	45.48	47.90	49.81	49.81		55.52	55.52	
	NJ E-Zpass Off-Peak	26.38	21.29	16.30	12.92	9.64			7.74	9.64	12.73	14.98	17.23	19.97	23.24	26.96	30.68	30.68	36.65	44.92	47.32	48.83	40.61	43.21	45.51	47.32	47.32		52.75	52.75	
6A	Cash							7.65																							
	E-Zpass							6.85																							
	NJ E-Zpass Off-Peak							6.51																							
7	Cash	23.40	18.05	12.15	8.55	3.90	8.95			3.90	5.35	8.55	11.30	13.85	18.05	21.85	26.35	26.35	33.45	42.85	45.35	47.15	38.00	40.90	43.25	45.35	45.35		51.80	51.80	
	E-Zpass	21.43	16.54	11.28	7.83	3.66	8.14			3.66	4.85	7.83	10.15	12.67	16.54	19.99	24.11	24.11	30.49	39.09	41.26	43.06	34.61	37.39	39.45	41.26	41.26		47.28	47.28	
	NJ E-Zpass Off-Peak	20.36	15.71	10.72	7.44	3.48	7.74			3.48	4.60	7.44	9.64	12.04	15.71	18.99	22.90	22.90	28.97	37.14	39.19	40.91	32.88	35.52	37.48	39.19	39.19		44.92	44.92	
7A	Cash	26.15	20.00	14.60	10.10	6.10	11.30		3.90		3.50	6.85	8.95	11.75	15.35	20.00	23.70	23.70	31.80	41.45	42.85	45.35	36.00	38.30	40.90	42.85	42.85		50.20	50.20	
	E-Zpass	23.90	18.13	13.39	9.02	5.67	10.15		3.66		3.09	6.29	8.14	10.87	13.96	18.13	21.79	21.79	28.95	37.81	39.09	41.26	32.91	34.97	37.39	39.09	39.09		45.89	45.89	
	NJ E-Zpass Off-Peak	22.71	17.23	12.73	8.57	5.39	9.64		3.48		2.94	5.97	7.74	10.33	13.26	17.23	20.70	20.70	27.50	35.92	37.14	39.19	31.27	33.23	35.52	37.14	37.14		43.60	43.60	
8	Cash	28.85	23.40	18.05	13.85	9.70	14.60		5.35	3.50		3.50	5.35	8.55	12.15	16.80	21.05	21.05	27.90	38.00	39.90	41.70	32.30	35.25	37.85	39.90	39.90		46.90	46.90	
	E-Zpass	26.27	21.43	16.54	12.67	8.71	13.39		4.85	3.09		3.09	4.85	7.83	11.28	15.40	19.42	19.42	25.65	34.61	36.42	38.17	29.26	32.30	34.51	36.42	36.42		42.75	42.75	
	NJ E-Zpass Off-Peak	24.96	20.36	15.71	12.04	8.27	12.73		4.60	2.94		2.94	4.60	7.44	10.72	14.63	18.45	18.45	24.37	32.88	34.59	36.26	27.79	30.68	32.78	34.59	34.59		40.61	40.61	
8A	Cash	31.80	26.35	21.05	16.80	12.15	17.30		8.55	6.85	3.50		3.50	5.35	9.70	13.85	18.05	18.05	26.15	35.25	36.80	39.45	29.60	32.30	34.85	36.80	36.80		44.35	44.35	
	E-Zpass	28.95	24.11	19.42	15.40	11.28	15.76		7.83	6.29	3.09		3.09	4.85	8.71	12.67	16.54	16.54	23.90	32.30	33.63	36.00	26.89	29.26	31.57	33.63	33.63		40.64	40.64	
	NJ E-Zpass Off-Peak	27.50	22.90	18.45	14.63	10.72	14.98		7.44	5.97	2.94		2.94	4.60	8.27	12.04	15.71	15.71	22.71	30.68	31.95	34.20	25.54	27.79	30.00	31.95	31.95		38.61	38.61	
9	Cash	35.00	28.85	23.40	18.75	14.95	20.00		11.30	8.95	5.35	3.50		3.50	6.85	11.30	14.95	14.95	23.15	32.30	35.00	36.45	26.90	29.60	32.75	35.00	35.00		41.45	41.45	
	E-Zpass	31.93	26.27	21.43	17.15	13.60	18.13		10.15	8.14	4.85	3.09		3.09	6.29	10.15	13.60	13.60	21.02	29.26	31.93	33.12	24.47	26.89	29.93	31.93	31.93		37.81	37.81	
	NJ E-Zpass Off-Peak	30.34	24.96	20.36	16.30	12.92	17.23		9.64	7.74	4.60	2.94		2.94	5.97	9.64	12.92	12.92	19.97	27.79	30.34	31.46	23.24	25.54	28.43	30.34	30.34		35.92	35.92	
10	Cash	36.80	31.80	26.35	21.85	18.05	23.15		13.85	11.75	8.55	5.35	3.50		4.90	8.55	12.15	12.15	20.00	29.60	31.80	33.45	23.70	26.90	29.60	31.80	31.80		38.30	38.30	
	E-Zpass	33.63	28.95	24.11	19.99	16.54	21.02		12.67	10.87	7.83	4.85	3.09		4.49	7.83	11.28	11.28	18.13	26.89	28.95	30.49	21.79	24.47	27.04	28.95	28.95		34.97	34.97	
	NJ E-Zpass Off-Peak	31.95	27.50	22.90	18.99	15.71	19.97		12.04	10.33	7.44	4.60	2.94		4.26	7.44	10.72	10.72	17.23	25.54	27.50	28.97	20.70	23.24	25.69	27.50	27.50		33.23	33.23	
11	Cash	41.45	36.00	30.35	26.35	21.85	26.90		18.05	15.35	12.15	9.70	6.85	4.90		3.90	8.55	8.55	15.35	26.15	27.10	29.60	20.00	23.15	25.25	27.10	27.10		35.00	35.00	
	E-Zpass	37.81	32.91	27.76	24.11	19.99	24.47		16.54	13.96	11.28	8.71	6.29	4.49		3.66	7.83	7.83	13.96	23.90	24.72	26.89	18.13	21.02	22.92	24.72	24.72		31.93	31.93	
	NJ E-Zpass Off-Peak	35.92	31.27	26.38	22.90	18.99	23.24		15.71	13.26	10.72	8.27	5.97	4.26		3.48	7.44	7.44	13.26	22.71	23.49	25.54	17.23	19.97	21.78	23.49	23.49		30.34	30.34	
12	Cash	45.35	39.90	35.00	30.35	26.35	31.15		21.85	20.00	16.80	13.85	11.30	8.55	3.90		3.90	3.90	11.75	21.65	23.40	26.15	15.35	18.35	21.10	23.40	23.40		30.35	30.35	
	E-Zpass	41.26	36.42	31.93	27.76	24.11	28.38		19.99	18.13	15.40	12.67	10.15	7.83	3.66		3.66	3.66	10.87	19.63	21.43	23.90	13.96	16.79	19.42	21.43	21.43		27.76	27.76	
	NJ E-Zpass Off-Peak	39.19	34.59	30.34	26.38	22.90	26.96		18.99	17.23	14.63	12.04	9.64	7.44	3.48		3.48	3.48	10.33	18.65	20.36	22.71	13.26	15.95	18.45	20.36	20.36		26.38	26.38	
13	Cash	49.85	44.35	38.30	35.00	30.35	35.25		26.35	23.70	21.05	18.05	14.95	12.15	8.55	3.90		3.50	7.95	17.30	18.75	21.65	11.75	14.60	16.80	18.75	18.75		26.35	26.35	
	E-Zpass	45.48	40.64	34.97	31.93	27.76	32.30		24.11	21.79	19.42	16.54	13.60	11.28	7.83	3.66		3.09	7.42	15.76	17.15	19.63	10.87	13.39	15.35	17.15	17.15		24.11	24.11	
	NJ E-Zpass Off-Peak	43.21	38.61	33.23	30.34	26.38	30.68		22.90	20.70	18.45	15.71	12.92	10.72	7.44	3.48		2.94	7.05	14.98	16.30	18.65	10.33	12.73	14.58	16.30	16.30		22.90	22.90	
13A	Cash	49.85	44.35	38.30	35.00	30.35	35.25		26.35	23.70	21.05	18.05	14.95	12.15	8.55	3.90	3.50		5.30	17.30	18.75	21.65	11.75	14.60	16.80	18.75	18.75		26.35	26.35	
	E-Zpass	45.48	40.64	34.97	31.93	27.76	32.30		24.11	21.79	19.42	16.54	13.60	11.28	7.83	3.66	3.09		4.64	15.76	17.15	19.63	10.87	13.39	15.35	17.15	17.15		24.11	24.11	
	NJ E-Zpass Off-Peak	43.21	38.61	33.23	30.34	26.38	30.68		22.90	20.70	18.45	15.71	12.92	10.72	7.44	3.48	2.94		4.41	14.98	16.30	18.65	10.33	12.73	14.58	16.30	16.30		22.90	22.90	
14	Cash	56.60	51.35	45.90	41.70	38.00	42.10		33.45	31.80	27.90	26.15	23.15	20.00	15.35	11.75	7.95	5.30		9.70	11.75	13.85	3.90	6.85	9.70	11.75	11.75		18.35	18.35	
	E-Zpass	51.92	46.87	42.03	38.17	34.61	38.58		30.49	28.95	25.65	23.90	21.02	18.13	13.96	10.87	7.42	4.64		8.71	10.87	12.67	3.66	6.29	8.91	10.87	10.87		16.79	16.79	
	NJ E-Zpass Off-Peak	49.32	44.53	39.93	36.26	32.88	36.65		28.97	27.50	24.37	22.71	19.97	17.23	13.26	10.33	7.05	4.41		8.27	10.33	12.04	3.48	5.97	8.47	10.33	10.33		15.95	15.95	
14A	Cash	66.70	60.90	56.00	51.35	47.15	51.80		42.85	41.45	38.00	35.25	32.30	29.60	26.15	21.65	17.30	17.30	9.70		3.90	6.10	13.85	17.30	19.50	21.65	21.65		27.90	27.90	
	E-Zpass	60.88	55.52	50.99	46.87	43.06	47.28		39.09	37.81	34.61	32.30	29.26	26.89	23.90	19.63	15.76	15.76	8.71		3.66	5.67	12.67	15.76	17.67	19.63	19.63		25.65	25.65	
	NJ E-Zpass Off-Peak	57.83	52.75	48.44	44.53	40.91	44.92		37.14	35.92	32.88	30.68	27.79	25.54	22.71	18.65	14.98	14.98	8.27		3.48	5.39	12.04	14.98	16.79	18.65	18.65		24.37	24.37	
14B	Cash	68.75	63.10	57.80	53.60	49.85	54.45		45.35	42.85	39.90	36.80	35.00	31.80	27.10	23.40	18.75	18.75	11.75	3.90		3.90	15.35	18.75	21.10	23.40	23.40		30.35	30.35	
	E-Zpass	62.68	57.63	52.79	48.88	45.48	49.81		41.26	39.09	36.42	33.63	31.93	28.95	24.72	21.43	17.15	17.15	10.87	3.66		3.66	13.96	17.15	19.42	21.43	21.43		27.76	27.76	
	NJ E-Zpass Off-Peak	59.55	54.75	50.15	46.43	43.21	47.32		39.19	37.14	34.59	31.95	30.34	27.50	23.49	20.36	16.30	16.30	10.33	3.48		3.48	13.26	16.30	18.45	20.36	20.36		26.38	26.38	
14C	Cash	69.70	65.15	59.90	56.00	51.35	56.25		47.15	45.35	41.70	39.45	36.45	33.45	29.60	26.15	21.65	21.65	13.85	6.10	3.90		18.05	21.65	23.90	26.15	26.15		32.30	32.30	
	E-Zpass	63.66	59.38	54.65	50.99	46.87	51.40		43.06	41.26	38.17	36.00	33.12	30.49	26.89	23.90	19.63	19.63	12.67	5.67	3.66		16.54	19.63	21.79	23.90	23.90		29.26	29.26	
	NJ E-Zpass Off-Peak	60.48	56.42	51.91	48.44	44.53	48.83		40.91	39.19	36.26	34.20	31.46	28.97	25.54	22.71	18.65	18.65	12.04	5.39	3.48		15.71	18.65	20.70	22.71	22.71		27.79	27.79	
15E	Cash	60.90	56.00	50.20	45.90	41.70	46.90		38.00	36.00	32.30	29.60	26.90	23.70	20.00	15.35	11.75	11.75	3.90	13.85	15.35	18.05		3.90	5.70	7.95	7.95		14.60	14.60	
	E-Zpass	55.52	50.99	45.89	42.03	38.17	42.75		34.61	32.91	29.26	26.89	24.47	21.79	18.13	13.96	10.87	10.87	3.66	12.67	13.96	16.54		3.66	5.26	7.42	7.42		13.39	13.39	
	NJ E-Zpass Off-Peak	52.75	48.44	43.60	39.93	36.26	40.61		32.88	31.27	27.79	25.54	23.24	20.70	17.23	13.26	10.33	10.33	3.48	12.04	13.26	15.71		3.48	5.00	7.05	7.05		12.73	12.73	
15W	Cash	63.70	58.65	53.30	48.70	44.75	49.85		40.90	38.30	35.25	32.30	29.60	26.90	23.15	18.35	14.60	14.60	6.85	17.30	18.75	21.65	3.90		4.65	4.90	4.90		11.75	11.75	
	E-Zpass	58.20	53.36	48.67	44.35	40.90	45.48		37.39	34.97	32.30	29.26	26.89	24.47	21.02	16.79	13.39	13.39	6.29	15.76	17.15	19.63	3.66		4.23	4.49	4.49		10.87	10.87	
	NJ E-Zpass Off-Peak	55.29	50.69	46.24	42.13	38.85	43.21		35.52	33.23	30.68	27.79	25.54	23.24	19.97	15.95	12.73	12.73	5.97	14.98	16.30	18.65	3.48		4.02	4.26	4.26		10.33	10.33	
15X	Cash	66.70	61.25	55.65	51.40	47.55	52.40		43.25	40.90	37.85	34.85	32.75	29.60	25.25	21.10	16.80	16.80	9.70	19.50	21.10	23.90	5.70	4.65		2.30			3.95		
	E-Zpass	60.77	55.83	50.94	46.92	43.42	47.90		39.45	37.39	34.51	31.57	29.93	27.04	22.92	19.42	15.35	15.35	8.91	17.67	19.42	21.79	5.26	4.23		2.01			3.71		
	NJ E-Zpass Off-Peak	57.74	53.04	48.39	44.58	41.25	45.51		37.48	35.52	32.78	30.00	28.43	25.69	21.78	18.45	14.58	14.58	8.47	16.79	18.45	20.70	5.00	4.02		1.91			3.53		
16E	Cash	68.75	63.10	57.80	53.60	49.85	54.45		45.35	42.85	39.90	36.80	35.00	31.80	27.10	23.40	18.75	18.75	11.75	21.65	23.40	26.15	7.95	4.90	2.30						
	E-Zpass	62.68	57.63	52.79	48.88	45.48	49.81		41.26	39.09	36.42	33.63	31.93	28.95	24.72	21.43	17.15	17.15	10.87	19.63	21.43	23.90	7.42	4.49	2.01						
	NJ E-Zpass Off-Peak	59.55	54.75	50.15	46.43	43.21	47.32		39.19	37.14	34.59	31.95	30.34	27.50	23.49	20.36	16.30	16.30	10.33	18.65	20.36	22.71	7.05	4.26	1.91						
16W	Cash	68.75	63.10	57.80	53.60	49.85	54.45		45.35	42.85	39.90	36.80	35.00	31.80	27.10	23.40	18.75	18.75	11.75	21.65	23.40	26.15	7.95	4.90						6.45	
	E-Zpass	62.68	57.63	52.79	48.88	45.48	49.81		41.26	39.09	36.42	33.63	31.93	28.95	24.72	21.43	17.15	17.15	10.87	19.63	21.43	23.90	7.42	4.49						6.03	
	NJ E-Zpass Off-Peak	59.55	54.75	50.15	46.43	43.21	47.32		39.19	37.14	34.59	31.95	30.34	27.50	23.49	20.36	16.30	16.30	10.33	18.65	20.36	22.71	7.05	4.26						5.73	
17	Cash																											7.85			
	E-Zpass																											7.21			
	NJ E-Zpass Off-Peak																											6.85			
18E	Cash	69.70	69.70	64.85	60.15	56.25	60.90		51.80	50.20	46.90	44.35	41.45	38.30	35.00	30.35	26.35	26.35	18.35	27.90	30.35	32.30	14.60	11.75	3.95						
	E-Zpass	63.66	63.66	59.18	54.85	51.40	55.52		47.28	45.89	42.75	40.64	37.81	34.97	31.93	27.76	24.11	24.11	16.79	25.65	27.76	29.26	13.39	10.87	3.71						
	NJ E-Zpass Off-Peak	60.48	60.48	56.22	52.11	48.83	52.75		44.92	43.60	40.61	38.61	35.92	33.23	30.34	26.38	22.90	22.90	15.95	24.37	26.38	27.79	12.73	10.33	3.53						
18W	Cash	69.70	69.70	64.85	60.15	56.25	60.90		51.80	50.20	46.90	44.35	41.45	38.30	35.00	30.35	26.35	26.35	18.35	27.90	30.35	32.30	14.60	11.75			6.45				
	E-Zpass	63.66	63.66	59.18	54.85	51.40	55.52		47.28	45.89	42.75	40.64	37.81	34.97	31.93	27.76	24.11	24.11	16.79	25.65	27.76	29.26	13.39	10.87			6.03				
	NJ E-Zpass Off-Peak	60.48	60.48	56.22	52.11	48.83	52.75		44.92	43.60	40.61	38.61	35.92	33.23	30.34	26.38	22.90	22.90	15.95	24.37	26.38	27.79	12.73	10.33			5.73				
19W	Cash																														
	E-Zpass																														6.03
	NJ E-Zpass Off-Peak																														5.73

Interchange 19W is E-ZPass Only

If a U-Turn is made, the ticket is lost, or is presented beyond 20 hours of issuance, then the highest toll for the class will be charged upon exiting the roadway (N.J.A.C.19:1.19(H))

Senior and Green Vehicle Discount is 10% off the NJ E-ZPass Off-Peak fare, rounded to the nearest $0.01 (Penny)

2022 TOLL RATE SCHEDULE - Class 6 Trucks

[E-Z = E-ZPass] PEAK HOURS: Mon-Fri - 7:00 a.m. - 9:00 a.m. & 4:30 p.m. - 6:30 p.m.; All Day Sat & Sun; (based on time of entry)

Entry	PAYMENT METHOD	1	2	3	4	5	6	6A	7	7A	8	8A	9	10	11	12	13	13A	14	14A	14B	14C	15E	15W	15X	16E	16W	17	18E	18W	19W
1	Cash		6.45	13.10	17.30	21.85	35.25		27.10	29.95	33.45	36.80	40.25	42.85	48.00	52.95	57.80	57.80	66.00	77.00	79.65	79.65	70.85	73.55	77.25	79.65	79.65		79.65	79.65	
	E-Zpass		6.03	11.90	15.76	19.99	32.30		24.72	27.09	30.49	33.63	36.78	39.09	43.83	48.31	52.79	52.79	60.31	70.41	72.77	72.77	64.84	67.16	70.56	72.77	72.77		72.77	72.77	
	NJ E-Zpass Off-Peak		5.73	11.31	14.98	18.99	30.68		23.49	25.74	28.97	31.95	34.94	37.14	41.64	45.90	50.15	50.15	57.30	66.89	69.14	69.14	61.60	63.80	67.03	69.14	69.14		69.14	69.14	
2	Cash	6.45		6.45	11.30	16.05	28.40		21.05	23.15	27.10	30.35	33.45	36.80	41.70	46.15	51.35	51.35	59.40	70.85	73.20	75.85	64.85	68.15	70.85	73.20	73.20		79.65	79.65	
	E-Zpass	6.03		6.03	10.15	14.73	25.91		19.42	21.02	24.72	27.76	30.49	33.63	38.17	42.29	46.87	46.87	54.34	64.84	66.90	69.32	59.18	62.27	64.84	66.90	66.90		72.77	72.77	
	NJ E-Zpass Off-Peak	5.73		5.73	9.64	14.00	24.61		18.45	19.97	23.49	26.38	28.97	31.95	36.26	40.17	44.53	44.53	51.62	61.60	63.56	65.86	56.22	59.16	61.60	63.56	63.56		69.14	69.14	
3	Cash	13.10	6.45		4.65	10.10	21.85		14.60	16.80	21.05	24.70	27.10	30.35	35.25	40.25	44.35	44.35	53.30	64.85	67.15	69.35	58.45	61.65	64.65	67.15	67.15		75.15	75.15	
	E-Zpass	11.90	6.03		4.23	9.02	19.99		13.39	15.40	19.42	22.41	24.72	27.76	32.30	36.78	40.64	40.64	48.67	59.18	61.24	63.30	53.15	56.40	58.97	61.24	61.24		68.55	68.55	
	NJ E-Zpass Off-Peak	11.31	5.73		4.02	8.57	18.99		12.73	14.63	18.45	21.29	23.49	26.38	30.68	34.94	38.61	38.61	46.24	56.22	58.18	60.13	50.50	53.58	56.02	58.18	58.18		65.12	65.12	
4	Cash	17.30	11.30	4.65		4.65	17.30		10.10	11.55	16.05	19.50	21.85	25.25	30.35	35.25	40.25	40.25	48.35	59.40	62.15	64.85	53.30	56.60	59.70	62.15	62.15		69.70	69.70	
	E-Zpass	15.76	10.15	4.23		4.23	15.76		9.02	10.51	14.73	17.93	19.99	23.13	27.76	32.30	36.78	36.78	44.14	54.34	56.65	59.18	48.67	51.92	54.44	56.65	56.65		63.66	63.66	
	NJ E-Zpass Off-Peak	14.98	9.64	4.02		4.02	14.98		8.57	9.99	14.00	17.03	18.99	21.97	26.38	30.68	34.94	34.94	41.93	51.62	53.82	56.22	46.24	49.32	51.72	53.82	53.82		60.48	60.48	
5	Cash	21.85	16.05	10.10	4.65		13.10		4.65	6.85	11.30	14.60	17.30	21.05	25.25	30.35	35.25	35.25	43.85	54.80	57.80	59.40	48.35	51.80	55.10	57.80	57.80		65.15	65.15	
	E-Zpass	19.99	14.73	9.02	4.23		11.90		4.23	6.29	10.15	13.39	15.76	19.42	23.13	27.76	32.30	32.30	39.87	50.17	52.79	54.34	44.14	47.28	50.37	52.79	52.79		59.38	59.38	
	NJ E-Zpass Off-Peak	18.99	14.00	8.57	4.02		11.31		4.02	5.97	9.64	12.73	14.98	18.45	21.97	26.38	30.68	30.68	37.87	47.66	50.15	51.62	41.93	44.92	47.85	50.15	50.15		56.42	56.42	
6	Cash	35.25	28.40	21.85	17.30	13.10			10.40	13.10	16.80	20.40	23.15	26.35	31.40	36.00	40.90	40.90	49.55	60.15	62.90	65.15	54.45	57.80	60.50	62.90	62.90		70.85	70.85	
	E-Zpass	32.30	25.91	19.99	15.76	11.90			9.48	11.90	15.40	18.44	21.02	24.11	28.64	32.91	37.39	37.39	45.12	54.85	57.38	59.38	49.81	52.79	55.21	57.38	57.38		64.84	64.84	
	NJ E-Zpass Off-Peak	30.68	24.61	18.99	14.98	11.31			9.01	11.31	14.63	17.52	19.97	22.90	27.21	31.27	35.52	35.52	42.86	52.11	54.51	56.42	47.32	50.15	52.45	54.51	54.51		61.60	61.60	
6A	Cash							7.65																							
	E-Zpass							6.85																							
	NJ E-Zpass Off-Peak							6.51																							
7	Cash	27.10	21.05	14.60	10.10	4.65	10.40			4.65	6.45	10.10	13.10	16.05	21.05	25.25	30.35	30.35	38.70	49.85	52.95	54.80	43.85	47.15	50.40	52.95	52.95		60.15	60.15	
	E-Zpass	24.72	19.42	13.39	9.02	4.23	9.48			4.23	6.03	9.02	11.90	14.73	19.42	23.13	27.76	27.76	35.23	45.48	48.31	50.17	39.87	43.06	45.89	48.31	48.31		54.85	54.85	
	NJ E-Zpass Off-Peak	23.49	18.45	12.73	8.57	4.02	9.01			4.02	5.73	8.57	11.31	14.00	18.45	21.97	26.38	26.38	33.47	43.21	45.90	47.66	37.87	40.91	43.60	45.90	45.90		52.11	52.11	
7A	Cash	29.95	23.15	16.80	11.55	6.85	13.10		4.65		3.90	7.95	10.40	13.85	18.05	23.15	27.90	27.90	36.80	48.00	49.85	52.95	41.70	44.35	47.55	49.85	49.85		58.45	58.45	
	E-Zpass	27.09	21.02	15.40	10.51	6.29	11.90		4.23		3.66	7.42	9.48	12.67	16.54	21.02	25.65	25.65	33.63	43.83	45.48	48.31	38.17	40.64	43.42	45.48	45.48		53.15	53.15	
	NJ E-Zpass Off-Peak	25.74	19.97	14.63	9.99	5.97	11.31		4.02		3.48	7.05	9.01	12.04	15.71	19.97	24.37	24.37	31.95	41.64	43.21	45.90	36.26	38.61	41.25	43.21	43.21		50.50	50.50	
8	Cash	33.45	27.10	21.05	16.05	11.30	16.80		6.45	3.90		3.90	6.45	10.10	14.60	19.50	24.70	24.70	32.30	43.85	46.15	48.35	37.05	40.90	43.65	46.15	46.15		54.45	54.45	
	E-Zpass	30.49	24.72	19.42	14.73	10.15	15.40		6.03	3.66		3.66	6.03	9.02	13.39	17.93	22.41	22.41	29.26	39.87	42.29	44.14	34.10	37.39	40.07	42.29	42.29		49.81	49.81	
	NJ E-Zpass Off-Peak	28.97	23.49	18.45	14.00	9.64	14.63		5.73	3.48		3.48	5.73	8.57	12.73	17.03	21.29	21.29	27.79	37.87	40.17	41.93	32.39	35.52	38.07	40.17	40.17		47.32	47.32	
8A	Cash	36.80	30.35	24.70	19.50	14.60	20.40		10.10	7.95	3.90		3.90	6.45	11.30	16.05	21.05	21.05	29.95	40.90	42.85	45.90	33.80	37.05	40.45	42.85	42.85		51.35	51.35	
	E-Zpass	33.63	27.76	22.41	17.93	13.39	18.44		9.02	7.42	3.66		3.66	6.03	10.15	14.73	19.42	19.42	27.09	37.39	39.09	42.03	30.75	34.10	36.78	39.09	39.09		46.87	46.87	
	NJ E-Zpass Off-Peak	31.95	26.38	21.29	17.03	12.73	17.52		8.57	7.05	3.48		3.48	5.73	9.64	14.00	18.45	18.45	25.74	35.52	37.14	39.93	29.21	32.39	34.94	37.14	37.14		44.53	44.53	
9	Cash	40.25	33.45	27.10	21.85	17.30	23.15		13.10	10.40	6.45	3.90		3.90	7.95	13.10	17.30	17.30	26.35	37.05	40.25	42.10	31.40	33.80	37.85	40.25	40.25		48.00	48.00	
	E-Zpass	36.78	30.49	24.72	19.99	15.76	21.02		11.90	9.48	6.03	3.66		3.66	7.42	11.90	15.76	15.76	24.11	34.10	36.78	38.58	28.64	30.75	34.51	36.78	36.78		43.83	43.83	
	NJ E-Zpass Off-Peak	34.94	28.97	23.49	18.99	14.98	19.97		11.31	9.01	5.73	3.48		3.48	7.05	11.31	14.98	14.98	22.90	32.39	34.94	36.65	27.21	29.21	32.78	34.94	34.94		41.64	41.64	
10	Cash	42.85	36.80	30.35	25.25	21.05	26.35		16.05	13.85	10.10	6.45	3.90		6.10	10.10	14.60	14.60	23.15	33.80	36.80	38.70	27.90	31.40	34.45	36.80	36.80		44.35	44.35	
	E-Zpass	39.09	33.63	27.76	23.13	19.42	24.11		14.73	12.67	9.02	6.03	3.66		5.67	9.02	13.39	13.39	21.02	30.75	33.63	35.23	25.65	28.64	31.37	33.63	33.63		40.64	40.64	
	NJ E-Zpass Off-Peak	37.14	31.95	26.38	21.97	18.45	22.90		14.00	12.04	8.57	5.73	3.48		5.39	8.57	12.73	12.73	19.97	29.21	31.95	33.47	24.37	27.21	29.80	31.95	31.95		38.61	38.61	
11	Cash	48.00	41.70	35.25	30.35	25.25	31.40		21.05	18.05	14.60	11.30	7.95	6.10		4.65	10.10	10.10	18.05	29.95	31.80	33.80	23.15	26.35	29.40	31.80	31.80		40.25	40.25	
	E-Zpass	43.83	38.17	32.30	27.76	23.13	28.64		19.42	16.54	13.39	10.15	7.42	5.67		4.23	9.02	9.02	16.54	27.09	28.95	30.75	21.02	24.11	26.68	28.95	28.95		36.78	36.78	
	NJ E-Zpass Off-Peak	41.64	36.26	30.68	26.38	21.97	27.21		18.45	15.71	12.73	9.64	7.05	5.39		4.02	8.57	8.57	15.71	25.74	27.50	29.21	19.97	22.90	25.35	27.50	27.50		34.94	34.94	
12	Cash	52.95	46.15	40.25	35.25	30.35	36.00		25.25	23.15	19.50	16.05	13.10	10.10	4.65		4.65	4.65	13.85	24.90	27.10	29.95	18.05	21.65	24.70	27.10	27.10		35.25	35.25	
	E-Zpass	48.31	42.29	36.78	32.30	27.76	32.91		23.13	21.02	17.93	14.73	11.90	9.02	4.23		4.23	4.23	12.67	22.61	24.72	27.09	16.54	19.63	22.51	24.72	24.72		32.30	32.30	
	NJ E-Zpass Off-Peak	45.90	40.17	34.94	30.68	26.38	31.27		21.97	19.97	17.03	14.00	11.31	8.57	4.02		4.02	4.02	12.04	21.48	23.49	25.74	15.71	18.65	21.39	23.49	23.49		30.68	30.68	
13	Cash	57.80	51.35	44.35	40.25	35.25	40.90		30.35	27.90	24.70	21.05	17.30	14.60	10.10	4.65		3.90	9.70	20.40	21.85	24.90	13.85	16.80	19.65	21.85	21.85		30.35	30.35	
	E-Zpass	52.79	46.87	40.64	36.78	32.30	37.39		27.76	25.65	22.41	19.42	15.76	13.39	9.02	4.23		3.66	8.71	18.44	19.99	22.61	12.67	15.40	17.93	19.99	19.99		27.76	27.76	
	NJ E-Zpass Off-Peak	50.15	44.53	38.61	34.94	30.68	35.52		26.38	24.37	21.29	18.45	14.98	12.73	8.57	4.02		3.48	8.27	17.52	18.99	21.48	12.04	14.63	17.03	18.99	18.99		26.38	26.38	
13A	Cash	57.80	51.35	44.35	40.25	35.25	40.90		30.35	27.90	24.70	21.05	17.30	14.60	10.10	4.65	3.90		6.10	20.40	21.85	24.90	13.85	16.80	19.65	21.85	21.85		30.35	30.35	
	E-Zpass	52.79	46.87	40.64	36.78	32.30	37.39		27.76	25.65	22.41	19.42	15.76	13.39	9.02	4.23	3.66		5.67	18.44	19.99	22.61	12.67	15.40	17.93	19.99	19.99		27.76	27.76	
	NJ E-Zpass Off-Peak	50.15	44.53	38.61	34.94	30.68	35.52		26.38	24.37	21.29	18.45	14.98	12.73	8.57	4.02	3.48		5.39	17.52	18.99	21.48	12.04	14.63	17.03	18.99	18.99		26.38	26.38	
14	Cash	66.00	59.40	53.30	48.35	43.85	49.55		38.70	36.80	32.30	29.95	26.35	23.15	18.05	13.85	9.70	6.10		11.30	13.85	16.05	4.65	7.95	11.30	13.85	13.85		21.65	21.65	
	E-Zpass	60.31	54.34	48.67	44.14	39.87	45.12		35.23	33.63	29.26	27.09	24.11	21.02	16.54	12.67	8.71	5.67		10.15	12.67	14.73	4.23	7.42	10.15	12.67	12.67		19.63	19.63	
	NJ E-Zpass Off-Peak	57.30	51.62	46.24	41.93	37.87	42.86		33.47	31.95	27.79	25.74	22.90	19.97	15.71	12.04	8.27	5.39		9.64	12.04	14.00	4.02	7.05	9.64	12.04	12.04		18.65	18.65	
14A	Cash	77.00	70.85	64.85	59.40	54.80	60.15		49.85	48.00	43.85	40.90	37.05	33.80	29.95	24.90	20.40	20.40	11.30		4.65	6.85	16.05	20.40	22.55	24.90	24.90		32.30	32.30	
	E-Zpass	70.41	64.84	59.18	54.34	50.17	54.85		45.48	43.83	39.87	37.39	34.10	30.75	27.09	22.61	18.44	18.44	10.15		4.23	6.29	14.73	18.44	20.40	22.61	22.61		29.26	29.26	
	NJ E-Zpass Off-Peak	66.89	61.60	56.22	51.62	47.66	52.11		43.21	41.64	37.87	35.52	32.39	29.21	25.74	21.48	17.52	17.52	9.64		4.02	5.97	14.00	17.52	19.38	21.48	21.48		27.79	27.79	
14B	Cash	79.65	73.20	67.15	62.15	57.80	62.90		52.95	49.85	46.15	42.85	40.25	36.80	31.80	27.10	21.85	21.85	13.85	4.65		4.65	18.05	21.85	24.70	27.10	27.10		35.25	35.25	
	E-Zpass	72.77	66.90	61.24	56.65	52.79	57.38		48.31	45.48	42.29	39.09	36.78	33.63	28.95	24.72	19.99	19.99	12.67	4.23		4.23	16.54	19.99	22.51	24.72	24.72		32.30	32.30	
	NJ E-Zpass Off-Peak	69.14	63.56	58.18	53.82	50.15	54.51		45.90	43.21	40.17	37.14	34.94	31.95	27.50	23.49	18.99	18.99	12.04	4.02		4.02	15.71	18.99	21.39	23.49	23.49		30.68	30.68	
14C	Cash	79.65	75.85	69.35	64.85	59.40	65.15		54.80	52.95	48.35	45.90	42.10	38.70	33.80	29.95	24.90	24.90	16.05	6.85	4.65		21.05	24.90	27.45	29.95	29.95		37.05	37.05	
	E-Zpass	72.77	69.32	63.30	59.18	54.34	59.38		50.17	48.31	44.14	42.03	38.58	35.23	30.75	27.09	22.61	22.61	14.73	6.29	4.23		19.42	22.61	25.09	27.09	27.09		34.10	34.10	
	NJ E-Zpass Off-Peak	69.14	65.86	60.13	56.22	51.62	56.42		47.66	45.90	41.93	39.93	36.65	33.47	29.21	25.74	21.48	21.48	14.00	5.97	4.02		18.45	21.48	23.83	25.74	25.74		32.39	32.39	
15E	Cash	70.85	64.85	58.45	53.30	48.35	54.45		43.85	41.70	37.05	33.80	31.40	27.90	23.15	18.05	13.85	13.85	4.65	16.05	18.05	21.05		4.65	6.85	9.70	9.70		16.80	16.80	
	E-Zpass	64.84	59.18	53.15	48.67	44.14	49.81		39.87	38.17	34.10	30.75	28.64	25.65	21.02	16.54	12.67	12.67	4.23	14.73	16.54	19.42		4.23	6.29	8.71	8.71		15.40	15.40	
	NJ E-Zpass Off-Peak	61.60	56.22	50.50	46.24	41.93	47.32		37.87	36.26	32.39	29.21	27.21	24.37	19.97	15.71	12.04	12.04	4.02	14.00	15.71	18.45		4.02	5.97	8.27	8.27		14.63	14.63	
15W	Cash	73.55	68.15	61.65	56.60	51.80	57.80		47.15	44.35	40.90	37.05	33.80	31.40	26.35	21.65	16.80	16.80	7.95	20.40	21.85	24.90	4.65		5.70	6.10	6.10		13.85	13.85	
	E-Zpass	67.16	62.27	56.40	51.92	47.28	52.79		43.06	40.64	37.39	34.10	30.75	28.64	24.11	19.63	15.40	15.40	7.42	18.44	19.99	22.61	4.23		5.26	5.67	5.67		12.67	12.67	
	NJ E-Zpass Off-Peak	63.80	59.16	53.58	49.32	44.92	50.15		40.91	38.61	35.52	32.39	29.21	27.21	22.90	18.65	14.63	14.63	7.05	17.52	18.99	21.48	4.02		5.00	5.39	5.39		12.04	12.04	
15X	Cash	77.25	70.85	64.65	59.70	55.10	60.50		50.40	47.55	43.65	40.45	37.85	34.45	29.40	24.70	19.65	19.65	11.30	22.55	24.70	27.45	6.85	5.70		2.70			4.65		
	E-Zpass	70.56	64.84	58.97	54.44	50.37	55.21		45.89	43.42	40.07	36.78	34.51	31.37	26.68	22.51	17.93	17.93	10.15	20.40	22.51	25.09	6.29	5.26		2.32			4.28		
	NJ E-Zpass Off-Peak	67.03	61.60	56.02	51.72	47.85	52.45		43.60	41.25	38.07	34.94	32.78	29.80	25.35	21.39	17.03	17.03	9.64	19.38	21.39	23.83	5.97	5.00		2.21			4.07		
16E	Cash	79.65	73.20	67.15	62.15	57.80	62.90		52.95	49.85	46.15	42.85	40.25	36.80	31.80	27.10	21.85	21.85	13.85	24.90	27.10	29.95	9.70	6.10	2.70						
	E-Zpass	72.77	66.90	61.24	56.65	52.79	57.38		48.31	45.48	42.29	39.09	36.78	33.63	28.95	24.72	19.99	19.99	12.67	22.61	24.72	27.09	8.71	5.67	2.32						
	NJ E-Zpass Off-Peak	69.14	63.56	58.18	53.82	50.15	54.51		45.90	43.21	40.17	37.14	34.94	31.95	27.50	23.49	18.99	18.99	12.04	21.48	23.49	25.74	8.27	5.39	2.21						
16W	Cash	79.65	73.20	67.15	62.15	57.80	62.90		52.95	49.85	46.15	42.85	40.25	36.80	31.80	27.10	21.85	21.85	13.85	24.90	27.10	29.95	9.70	6.10					7.45		
	E-Zpass	72.77	66.90	61.24	56.65	52.79	57.38		48.31	45.48	42.29	39.09	36.78	33.63	28.95	24.72	19.99	19.99	12.67	22.61	24.72	27.09	8.71	5.67					6.65		
	NJ E-Zpass Off-Peak	69.14	63.56	58.18	53.82	50.15	54.51		45.90	43.21	40.17	37.14	34.94	31.95	27.50	23.49	18.99	18.99	12.04	21.48	23.49	25.74	8.27	5.39					6.32		
17	Cash																											7.85			
	E-Zpass																											7.21			
	NJ E-Zpass Off-Peak																											6.85			
18E	Cash	79.65	79.65	75.15	69.70	65.15	70.85		60.15	58.45	54.45	51.35	48.00	44.35	40.25	35.25	30.35	30.35	21.65	32.30	35.25	37.05	16.80	13.85	4.65						
	E-Zpass	72.77	72.77	68.55	63.66	59.38	64.84		54.85	53.15	49.81	46.87	43.83	40.64	36.78	32.30	27.76	27.76	19.63	29.26	32.30	34.10	15.40	12.67	4.28						
	NJ E-Zpass Off-Peak	69.14	69.14	65.12	60.48	56.42	61.60		52.11	50.50	47.32	44.53	41.64	38.61	34.94	30.68	26.38	26.38	18.65	27.79	30.68	32.39	14.63	12.04	4.07						
18W	Cash	79.65	79.65	75.15	69.70	65.15	70.85		60.15	58.45	54.45	51.35	48.00	44.35	40.25	35.25	30.35	30.35	21.65	32.30	35.25	37.05	16.80	13.85		7.45					
	E-Zpass	72.77	72.77	68.55	63.66	59.38	64.84		54.85	53.15	49.81	46.87	43.83	40.64	36.78	32.30	27.76	27.76	19.63	29.26	32.30	34.10	15.40	12.67		6.65					
	NJ E-Zpass Off-Peak	69.14	69.14	65.12	60.48	56.42	61.60		52.11	50.50	47.32	44.53	41.64	38.61	34.94	30.68	26.38	26.38	18.65	27.79	30.68	32.39	14.63	12.04		6.32					
19W	Cash																														
	E-Zpass																														6.65
	NJ E-Zpass Off-Peak																														6.32

Interchange 19W is E-ZPass Only

If a U-Turn is made, the ticket is lost, or is presented beyond 20 hours of issuance, then the highest toll for the class will be charged upon exiting the roadway (N.J.A.C.19:1.19(H))

Senior and Green Vehicle Discount is 10% off the NJ E-ZPass Off-Peak fare, rounded to the nearest $0.01 (Penny)

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 7, Parks and Recreational Resources: Documentation Related to Section 6(f) of the Land and Water Conservation Fund Act

August 2022

April 23, 2020

Diana Carter
Director of Planning
Alternate State Liaison Officer
New York State Office of Parks, Recreation and Historic Preservation
625 Broadway
Albany, NY 12207

RE: **Section 6(f) of the Land and Water Conservation Fund (LWCF) Act**
Manhattan Central Business District (CBD) Tolling Program
New York County, New York
Central Park LWCF Grants: 36-00427 (Wollman Ice Rink Improvement); 36-00830 (Central Park Pond Rehabilitation); 36-01015 (Rehabilitation of Rumsey Playground)

Dear Ms. Carter:

The Triborough Bridge and Tunnel Authority (TBTA), an affiliate of the Metropolitan Transportation Authority (MTA), together with the New York State Department of Transportation (NYSDOT) and the New York City Department of Transportation (NYCDOT) (collectively the Project Sponsors), are progressing a program of variable tolls for vehicles entering or remaining in the Manhattan Central Business District (CBD) in New York, New York, known as the CBD Tolling Program (the Project). The Project purpose is to implement a vehicular tolling program to reduce traffic congestion in the Manhattan CBD.

In April 2019, the New York State Legislature passed the MTA Reform and Traffic Mobility Act to implement the CBD Tolling Program. As established in the legislation, the Project would allow TBTA to toll vehicles that enter or remain in the Manhattan CBD, which the legislation generally defines as the area of Manhattan south and inclusive of 60th Street and exclusive of the West Side Highway/Route 9A and Franklin D. Roosevelt (FDR) Drive. After covering TBTA's Project-related capital and operating expenses, the revenue collected would fund projects in the MTA 2020–2024 Capital Program.

Central Park is at the northern boundary of the Manhattan CBD where the Project would be implemented. The City of New York has received funding through the Land and Water Conservation Fund Act (LWCFA) for Central Park; thus, the park is a Section 6(f) resource.

Enclosed is documentation describing the proposed activities in Central Park that would be implemented under the Project. As stated, small pole-mounted tolling system equipment is proposed at three locations just inside Central Park near 59th Street and at two locations on the sidewalks abutting the park. Based on the information provided, the Project Sponsors recommend that the proposed infrastructure and equipment, as well as associated construction activities within Central Park would not result in a conversion of parkland. We respectfully request concurrence by the New York State Office of Parks, Recreation and Historic Preservation that the proposed work within Central Park does not constitute a Section 6(f) conversion.

Thank you for your assistance. Please contact Catherine Leslie at 518-485-9449 if you have any questions or need additional information.

Sincerely,

Angelo Trichilo

Angelo Trichilo, PE 4-23-2020
Deputy Chief Engineer
Acting Director, Office of Environment

AT/cl/bb
Encl: CBD Tolling Program Section 6(f) Project Information

cc: R. Epstein, NYSDOT
W. Albert, NYSDOT
A. de Cerreño, TBTA
I. Benjamin, NYSOPRHP
W. Carry, NYCDOT

May 6, 2020

VIA EMAIL AND REGULAR MAIL
New York State Department of Transportation
c/o Angelo Trichilo, PE, Acting Director, Office of Environment
50 Wolf Road
Albany, NY 12232

Re: Manhattan Central Business District (CBD) Tolling Program
New York County, New York
Central Park LWCF Grants: 36-00427 (Wollman Ice Rink Improvement); 36-00830 (Central Park Pond Rehabilitation); 36-01015 (Rehabilitation of Rumsey Playground)

Dear Angelo Trichilo,

The NYS Office of Parks, Recreation, and Historic Preservation is in receipt of the April 23rd, 2020 letter from the NYS Department of Transportation (NYS DOT) requesting review of the Manhattan Central Business District Tolling Program for compliance with the provisions of the Land and Water Conservation Fund Act under 54 U.S.C. 200305 (*formerly* Section 6(f) of the LWCF Act of 1965).

OPRHP is the State agency designated by the Governor as liaison to the National Park Service (NPS), within the Department of the Interior (DOI), for purposes of administration and compliance with the LWCF Act, as amended. This Act provides that lands developed with LWCF assistance shall be maintained in public outdoor recreation use in perpetuity, and shall not be converted to other than public outdoor recreation use (known as an "LWCF conversion"), except with approval of the Secretary of the Interior, delegated to the Director of the NPS.

The City of New York received the above-referenced LWCF grants for development of recreation facilities at Central Park in Manhattan. As such, the boundaries of Central Park as defined at the time of original grant constitute an LWCF recreation area, subject to the compliance requirements of that Act.

It is the understanding of this office that CBD Tolling Project activities within Central Park are intended to prevent the vehicles using the park from entering the Manhattan CBD without paying the CBD toll. Our office has reviewed the activities proposed in the documentation dated April 23rd and has provided determinations concerning the below:

- installation of pole-mounted tolling system equipment at three locations inside Central Park and at two locations on sidewalks abutting the Park;
- utility and communications connections to poles via conduits laid in trenches dug to the nearest utility access point; and,
- potential impacts to access by the public to outdoor recreation facilities within Central Park.

It is the opinion of this office that the pole-mounted equipment would not remove any part of the LWCF recreation area from outdoor recreation use or impede recreational activities and, therefore, does not constitute an LWCF conversion as defined in LWCF State Assistance Program Federal Financial Assistance Manual, Volume 69 ("LWCF Manual") Chapter 8-E, pursuant to 36 CFR 59.3.

It is the opinion of this office that the construction activities for the trenching and laying of conduits are permissable under LWCF Manual Chapter 8-E(2)(a). So long as these activities are completed within six months, and the lands impacted are returned to original surface condition, they will not trigger a conversion pursuant to LWCF Manual Chapter 8-E.

Lastly, it is the opinion of this office that the implementation of the CBD Tolling Program is intended to collect tolls from vehicles exiting the park and entering the tolling district that lies south of Central Park. Tolls will not be collected from vehicles entering Central Park from the tolling district and will not impede access by the public to the outdoor recreation facilities offered within the LWCF protected area.

Therefore, this office concludes that the project as presented and reviewed will not adversely affect LWCF protected lands within New York City's Central Park.

Sincerely,

Diana Carter

Diana Carter

LWCF Alternate State Liaison Officer
Division of Environmental Stewardship and Planning

cc:

W. Albert, NYS DOT
I. Benjamin, NYS OPRHP
W. Carry, NYC DOT
A. de Cerreño, TBTA
R. Epstein, NYS DOT
C. Leslie, NYS DOT
J. Schneider, TBTA
L. Wright, NYS OPRHP

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 8, Historic and Cultural Resources: Section 106 Finding Documentation

August 2022

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Bldg.
Suite 719
Albany, NY 12207
518-431-4127
518-431-4121 (fax)
NewYork.fhwa@dot.gov

June 21,2022

In Reply Refer To:
HPD-NY

Ms. Catherine Leslie
Director, Environmental Impact Statements
& Special Projects Bureau
NYSDOT Office of Environment POD 4-1
Albany, NY 12232

Re: Section 106 Consultation- FHWA Effects Determination
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Ms. Leslie,

Please reference your letter dated June 21, 2022, requesting our review and concurrence that the requirements of CFR 36 Part 800 and 23 CFR 774 have been met for the subject project. The Triborough Bridge and Tunnel Authority (TBTA), an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT), collectively, are proposing to undertake the Central Business District (CBD) Tolling Program (THE CBD Tolling Program or the Project). As a project requiring Federal Highway Administration (FHWA) approval, the Project is an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations, CFR 36 Part 800.

The Federal Highway Administration (FHWA) has reviewed the Draft (Proposed Final) Section 106 Finding Documentation, which was also provided to the SHPO, Tribal Nations, and other Consulting Parties for review and comment.
The Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have No Adverse Effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New York City Department of Parks and Recreation (NYC Parks) and the National Park Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. The comments provided and subsequent revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage which was not included in the April 2022 Draft (Proposed Final) Section 106 *Finding Document,* an additional opportunity for review and comment was provided to the SHPO, Tribal Nations, and other Consulting Parties based on the new information related to the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding* Documentation was also updated to include the renderings and a description of the signage and revisions based on comments received from Consulting Parties. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation continues to recommend a No Adverse Effect determination for the CBDTP.

Based on the Federal Highway Administration review of the provided documentation and consultation with the Tribal Nations, the SHPO, and other Consulting Parties, the FHWA concurs and determines that the proposed project will have No Adverse Effects on Historic Properties.

If you have any questions, please contact me at (518) 431-8880.

Sincerely,

ROBERT M DAVIES

Digitally signed by ROBERT M DAVIES
Date: 2022.06.21 15:28:26 -04'00'

Robert Davies
Project Delivery Engineer, Team Leader

cc: R. Davies, FHWA, HPD-NY
M. Pavlik, FHWA
T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
T. Smith, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Chief Engineer

June 21, 2022

Via email
Monica Pavlik
FHWA Major Project Oversight Manager
12300 W. Dakota Avenue, Suite 180
Lakewood, CO 80228

RE: ***Section 106 Effect Determination***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Pavlik:

The Triborough Bridge and Tunnel Authority (TBTA), an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT), collectively, are proposing to undertake the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project). As a project requiring Federal Highway Administration (FHWA) approval, the Project is an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800: *Protection of Historic Properties*.

A Draft (Proposed Final) *Section 106 Finding Documentation* was prepared for the Project. The Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have No Adverse Effect on historic properties in accordance with 36 CFR §800.4(d)(1).

On April 12, 2022, the Draft (Proposed Final) *Section 106 Finding Documentation* was provided to the New York State Historic Preservation Office (SHPO) via the Cultural Resource Information System (CRIS) and to Consulting Parties via email. On April 13, 2022, the document was provided to the Tribal Nations by FHWA.

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of No Adverse Effect as noted in a letter dated April 18, 2022 (attached).

Comments were received from two of the Consulting Parties: the New York City Department of Parks and Recreation (NYC Parks) and the National Park Service (NPS). No comments were received from the Tribal Nations or the remaining Consulting Parties.

Subsequently, additional information regarding proposed signage in Central Park was provided to the Tribal Nations on June 1, 2022, and to SHPO and the other Consulting Parties on June 3, 2022. The Stockbridge-Munsee Community Historic Preservation Office concurred with the finding of No Adverse Effect in an email dated June 1, 2022. In an email response on June 10, 2022, the NYC Parks acknowledged the need for the signs in Central Park and requested that the back of the signs be painted the same color as the poles and equipment. The Project Sponsors committed to painting the back of the signs as requested. The SHPO, NPS, and New York City Landmarks Preservation Commission concurred with the recommended finding in correspondence dated June 16 and 17, 2022 (see attached).

Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from the Consulting Parties. Responses to comments made by the Consulting Parties with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding. With those revisions, the Finding Documentation is considered final (see attached) and will be distributed to the SHPO, Tribal Nations, and other Consulting Parties for their records.

Based on the enclosed documentation and consultation with the SHPO, Tribal Nations, and Consulting Parties, the NYSDOT respectfully requests that the FHWA issue a finding of ***No Adverse Effect*** and a determination that the requirements of 36 CFR Part 800 have been met for this undertaking.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/bb
Encl: Manhattan Central Business District (CBD) Tolling Program Project, April 18, 2022 letter from SHPO to NYSDOT

FHWA to Tribal Nations Stockbridge-Munsee signs_5 31 22, email from Stockbridge Munsee to FHWA

Central Business District (CBD) Tolling Program, June 16, 2022 letter from SHPO to NYSDOT

CBDTP - Section 106 Consultation - Proposed Signage in Central Park, June 17, 2022 email from NPS to NYSDOT

Central Business District Tolling, June 17, 2022 memo from NYC LPC to NYSDOT

Section 106 Consulting Parties Comment/Response Matrix

Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (June 2022)

cc: R. Davies, FHWA (w/ encl.)
A. Price, FHWA (w/ encl.)
K. Kramer, FHWA (w/ encl.)
O. Brazee, SHPO (w/out encl.)
T. Smith, NYSDOT (w/out encl.)
A. de Cerreño, MTA (w/out encl.)
N. Angel, MTA (w/out encl.)
W. Carry, NYCDOT (w/out encl.)

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Section 106 Finding Documentation

SHPO Project Review No: 21PR06430

June 2022

Contents

1. Project Description 1
1.1 PROJECT OVERVIEW 1
1.2 PROJECT ALTERNATIVES 3
1.2.1 No Action Alternative 3
1.2.2 CBD Tolling Alternative 3
1.3 AREA OF POTENTIAL EFFECTS 11
2. Steps Taken to Identify Historic Properties 11
2.1 ARCHAEOLOGICAL RESOURCES 11
2.2 ARCHITECTURAL RESOURCES 12
3. Evaluation of Project Impact on Identified Historic Properties 13
3.1 TOLLING INFRASTRUCTURE AND TOLLING SYSTEM EQUIPMENT AT HISTORIC BRIDGES AND TUNNELS 28
3.1.1 Ed Koch Queensboro Bridge 28
3.1.2 Manhattan Bridge 29
3.1.3 Lincoln Tunnel 30
3.1.4 High Line 31
3.2 TOLLING INFRASTRUCTURE AND TOLLING SYSTEM EQUIPMENT ON CITY STREETS 32
3.2.1 South Street Seaport Historic District and Extension 32
3.2.2 Tribeca North Historic District 33
3.2.3 Paddy's Market Historic District 34
3.2.4 Central Park 35
3.2.5 Upper East Side Historic District and Boundary Increase 39
3.2.6 Gansevoort Market Historic District 40
3.3 OTHER INDIVIDUAL HISTORIC ARCHITECTURAL PROPERTIES 42
4. Basis for Recommended Project Finding 44
5. Consulting Party and Public Involvement 45
6. Attachments 48

Tables

Table 1. Historic Properties and Summary of Changes 14

Figures

Figure 1a. Manhattan Central Business District 2
Figure 1b. Typical Tolling Infrastructure and Tolling System Equipment 5
Figure 1c. Typical Tolling Infrastructure and Tolling System Equipment 6
Figure 1d. Typical Tolling Infrastructure and Tolling System Equipment 7
Figure 1e. Typical Tolling Infrastructure and Tolling System Equipment 8
Figure 2. Overview of Area of Potential Effects (APE) 21
Figure 3. Historic Architectural Resources: Ed Koch Queensboro Bridge and Manhattan Bridge Portions of the APE 22
Figure 4. Historic Architectural Resources: Brooklyn Bridge and Holland Tunnel Portions of the APE 23
Figure 5. Historic Architectural Resources: Battery Park Underpass and Hugh L. Carey Tunnel Portions of the APE 24
Figure 6. Historic Architectural Resources: Lincoln Tunnel Portion of the APE 25
Figure 7. Historic Architectural Resources: 60th Street and Central Park Portions of the APE 26
Figure 8. Historic Architectural Resources: FDR Drive/East 25th Street and West Side Highway/Gansevoort Street Portions of the APE 27

Attachments

Attachment 1: Detection Point Locations

Attachment 2: Detection Point Visual Simulations

Attachment 3: Detection Point Location Plans

Attachment 4: Correspondence

Acronyms

APE ..... Area of Potential Effects
CBD ..... Central Business District
CRIS ..... Cultural Resources Inventory System
EA ..... Environmental Assessment
FDR Drive ..... Franklin D. Roosevelt Drive
FHWA ..... Federal Highway Administration
LPC ..... New York City Landmarks Preservation Commission
MTA ..... Metropolitan Transportation Authority
NEPA ..... National Environmental Policy Act
NHL ..... National Historic Landmark
NR ..... National Register of Historic Places
NYCDOT ..... New York City Department of Transportation
NYCHD ..... New York City Historic District
NYCL ..... New York City Landmarks and Scenic Landmark
NYC Parks ..... New York City Department of Parks and Recreation
NYSDOT ..... New York State Department of Transportation
OPRHP ..... New York State Office of Parks, Recreation and Historic Preservation
PANYNJ ..... Port Authority of New York and New Jersey
SHPO ..... State Historic Preservation Office
TBTA ..... Triborough Bridge and Tunnel Authority
VPPP ..... Value Pricing Pilot Program

1. Project Description

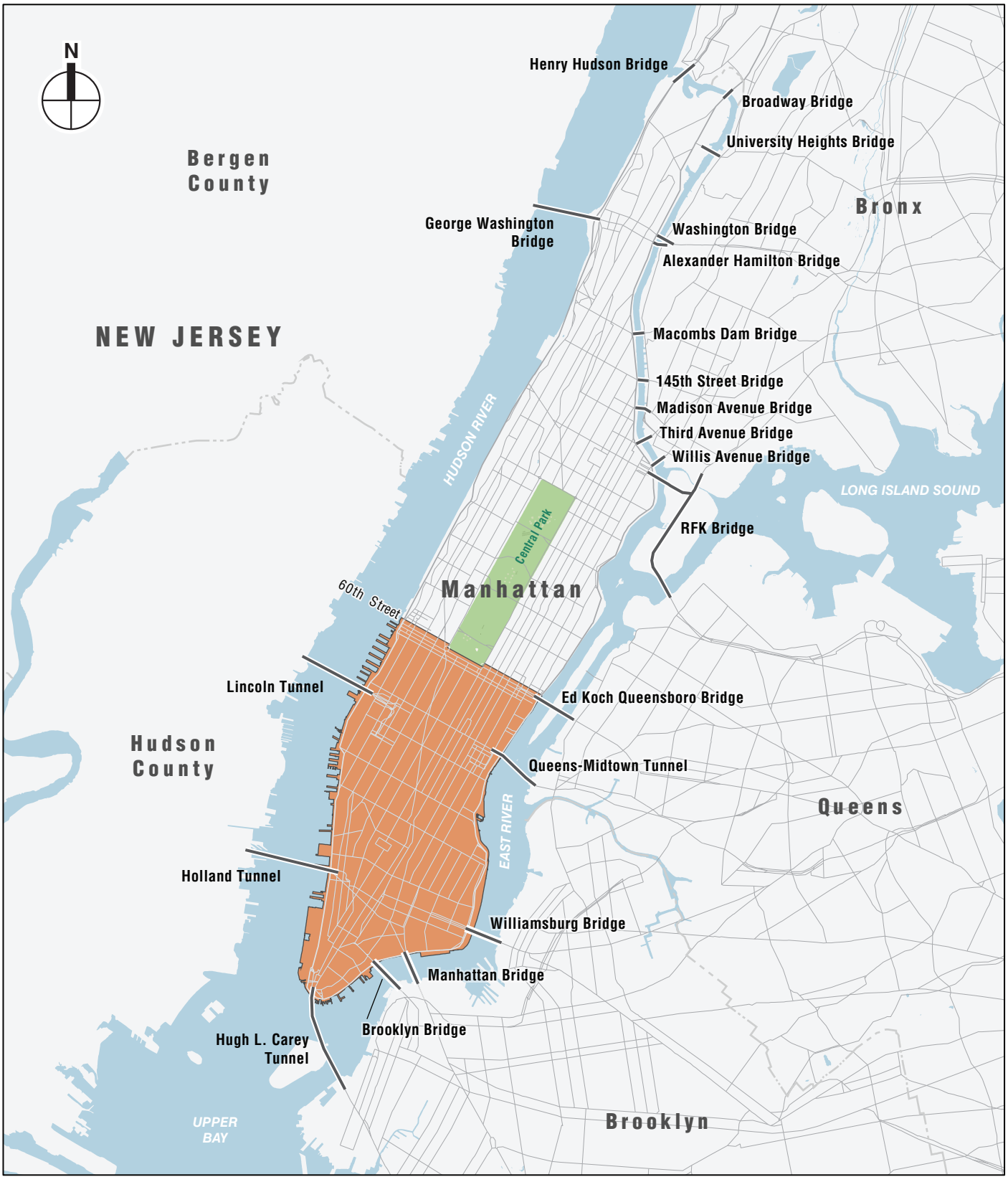
The Triborough Bridge and Tunnel Authority (TBTA)—an affiliate of the Metropolitan Transportation Authority (MTA)—the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT) are the Project Sponsors for the Manhattan Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project), in New York County, New York. In cooperation with the Federal Highway Administration (FHWA) as the lead Federal agency, the Project Sponsors are preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA).[1] The EA will analyze the potential effects of implementing a program to reduce congestion in the Manhattan CBD.

The Project Sponsors are seeking approval for the Project from FHWA under its Value Pricing Pilot Program (VPPP), which is a Federal action subject to Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* FHWA will comply with Section 106 concurrent with its NEPA review. This document summarizes the assessment of effects on historic properties, as identified through the Section 106 process, in consultation with the New York State Historic Preservation Office (SHPO).

1.1 PROJECT OVERVIEW

The purpose of the Project is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into the FHWA's VPPP. As defined for this Project, the Manhattan CBD, which encompasses all of Lower Manhattan and Midtown Manhattan (Figure 1a), consists of the geographic area of Manhattan south and inclusive of 60th Street to the extent practicable, but not including the Franklin D. Roosevelt (FDR) Drive and West Side Highway/Route 9A, including the Battery Park underpass and any surface roadway portion of the Hugh L. Carey Tunnel connecting to West Street (the West Side Highway/Route 9A). This area is characterized by traffic congestion and delays that slow travel and jeopardize the vitality of the Manhattan CBD and surrounding region.

[1] In April 2019, the New York State Legislature passed legislation to implement a congestion reduction program in the Manhattan CBD, known as the MTA Reform and Traffic Mobility Act (the Traffic Mobility Act). This Act exempts the Project from the requirements of the New York State Environmental Quality Review Act, New York City Environmental Quality Review, the New York City Uniform Land Use Review Procedure, and any other local law of the City of New York of like or similar effect.



General Location of Manhattan Central Business District (CBD)

Note: The MTA Reform and Traffic Mobility Act defines the Manhattan CBD as the area south of and inclusive of 60th Street but excluding the West Side Highway/Route 9A and the FDR Drive

Manhattan Central Business District

CBD TOLLING PROGRAM

Figure 1a

1.2 PROJECT ALTERNATIVES

The EA will evaluate two alternatives: the No Action Alternative (in which the CBD Tolling Program is not implemented) and a build alternative, the CBD Tolling Alternative (in which a congestion pricing program, the CBD Tolling Program, is implemented). This assessment is based on the activities and scope of work proposed for the Project's build (CBD Tolling) alternative. The No Action Alternative would not result in any physical changes to the environment.

1.2.1 No Action Alternative

The No Action Alternative would not implement a vehicular tolling program to reduce traffic congestion in the Manhattan CBD. The No Action Alternative would not involve the installation of tolling infrastructure and tolling system equipment in and near the Manhattan CBD and no subsurface disturbance would occur.

1.2.2 CBD Tolling Alternative

1.2.2.1 Overview

The CBD Tolling Alternative would implement a vehicular tolling program to reduce traffic congestion in the Manhattan CBD. After covering Project-related capital and operating expenses, the revenue collected would fund projects in the MTA 2020–2024 Capital Program and successor programs.

With the CBD Tolling Alternative, TBTA would toll vehicles entering or remaining in the Manhattan CBD via a cashless tolling system. At this time, the Project Sponsors consider vehicles that remain in the Manhattan CBD to be those that were not detected entering but must have been remaining in the Manhattan CBD since they were detected leaving. The CBD Tolling Alternative would include tolling infrastructure and tolling system equipment to detect vehicles. This would include poles and mast arms, akin to those used for streetlights and traffic lights today; tolling system equipment housed in enclosures; and signage similar in size and character to signs already present throughout Manhattan. Tolling system equipment would include reader and meter cabinets and cameras. The following sections describe proposed locations for the tolling infrastructure and tolling system equipment and the types of infrastructure and equipment.

1.2.2.2 Location of Tolling Infrastructure and Tolling System Equipment

The new tolling system would include detection points that would identify all vehicles entering or leaving the Manhattan CBD as well as verification points at certain locations along the West Side Highway/Route 9A and the FDR Drive.[2] **Attachment 1** provides a listing of the detection point locations. The poles for the CBD Tolling Alternative would be within the existing transportation right-of-way and would typically be at locations where standard poles are currently installed or would replace existing poles with new poles that are up to about 20 feet from the current location. In some locations, new poles would be installed where no poles currently exist. Where appropriate, tolling system equipment would be mounted on existing

[2] Tolls would be charged for entering or remaining in the Manhattan CBD; detection points at exit locations would aid in identifying vehicles that have remained in the Manhattan CBD. Verification points along the West Side Highway/Route 9A and FDR Drive would be used to ensure that vehicles that remain on these roadways without entering the Manhattan CBD do not pay a toll.

infrastructure (e.g., under pedestrian walkways and existing overhead sign infrastructure). At the Hugh L. Carey Tunnel and Queens-Midtown Tunnel, the existing tolling equipment would be used.

Based on preliminary design, tolling infrastructure and tolling system equipment would be installed at the following locations:

- Near the 60th Street boundary to the Manhattan CBD, generally between 60th and 61st Streets. These detection points would be on all southbound and northbound roadways. This would include four new poles at three detection point locations close to 59th Street on the three access roads in Central Park that connect to or are near 59th Street (Central Park South).
- At the exits from and entrances to all East River bridges (Brooklyn Bridge, Manhattan Bridge, Williamsburg Bridge, Ed Koch Queensboro Bridge, other than the ramp to 62nd Street) and tunnels under the jurisdiction of the Port Authority of New York and New Jersey (PANYNJ; the Holland and Lincoln Tunnels) that connect to the Manhattan CBD. This would include detection points on the ramps leading to and from the bridges and tunnels as well as detection points on the East River bridge structures over land. At the TBTA tunnels that connect to the Manhattan CBD (Hugh L. Carey Tunnel and Queens-Midtown Tunnel), existing open-road tolling infrastructure would be used.
- Along the FDR Drive and the West Side Highway/Route 9A to identify vehicles that travel along those routes without entering the Manhattan CBD. These highway detection points would also aid in identifying vehicles that travel to locations on the east side of the FDR Drive (e.g., the Waterside apartment complex) and on the west side of the West Side Highway/Route 9A (e.g., Battery Park City or Hudson River Park) so that those vehicles are tolled.

1.2.2.3 Types of Tolling Infrastructure and Tolling System Equipment

At each detection point, cameras and E-ZPass readers would be installed on tolling infrastructure in an arrangement that would allow capture of vehicle information from all traffic lanes. The proposed tolling system equipment would be clustered into single enclosures to reduce its visual impact. These enclosures would house the license plate reader cameras, illuminators, and antenna in a single unit comparable in size and mass to traffic control devices currently used throughout the area of visual effect. The cameras included in the array of tolling system equipment would use infrared illumination at night to allow images of license plates to be collected without visible light.

Different tolling infrastructure would be used, depending on location, to minimize the Project footprint and reflect the existing setting (see Figure 1b through Figure 1e). Attachment 2 provides visual simulations that depict the existing (No Action) conditions compared to the build (CBD Tolling) alternative. The visual simulations depict the types of tolling infrastructure and tolling system equipment that would be mounted on new poles, and directly on bridge and tunnel structures. Based on preliminary design, the tolling infrastructure and tolling system equipment would include the following:

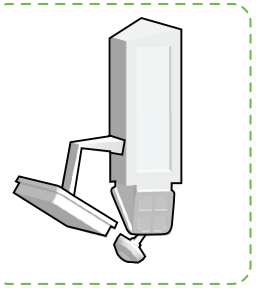
POLE, CLUSTERS, AND MAST ARM
The diagram below isolates the separate components within each typical tolling checkpoint.

DIAGRAM LEGEND

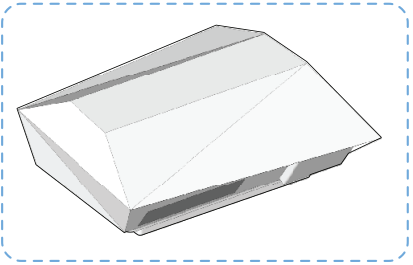
- Pole and pole attachments are to be color matched to existing pole or surrounding context
- Equipment attached directly to the poles are to be color matched to the pole
- Side-Fire Clusters are to be color matched to the pole
- Overhead equipment to be specified color, independent of the mast arm

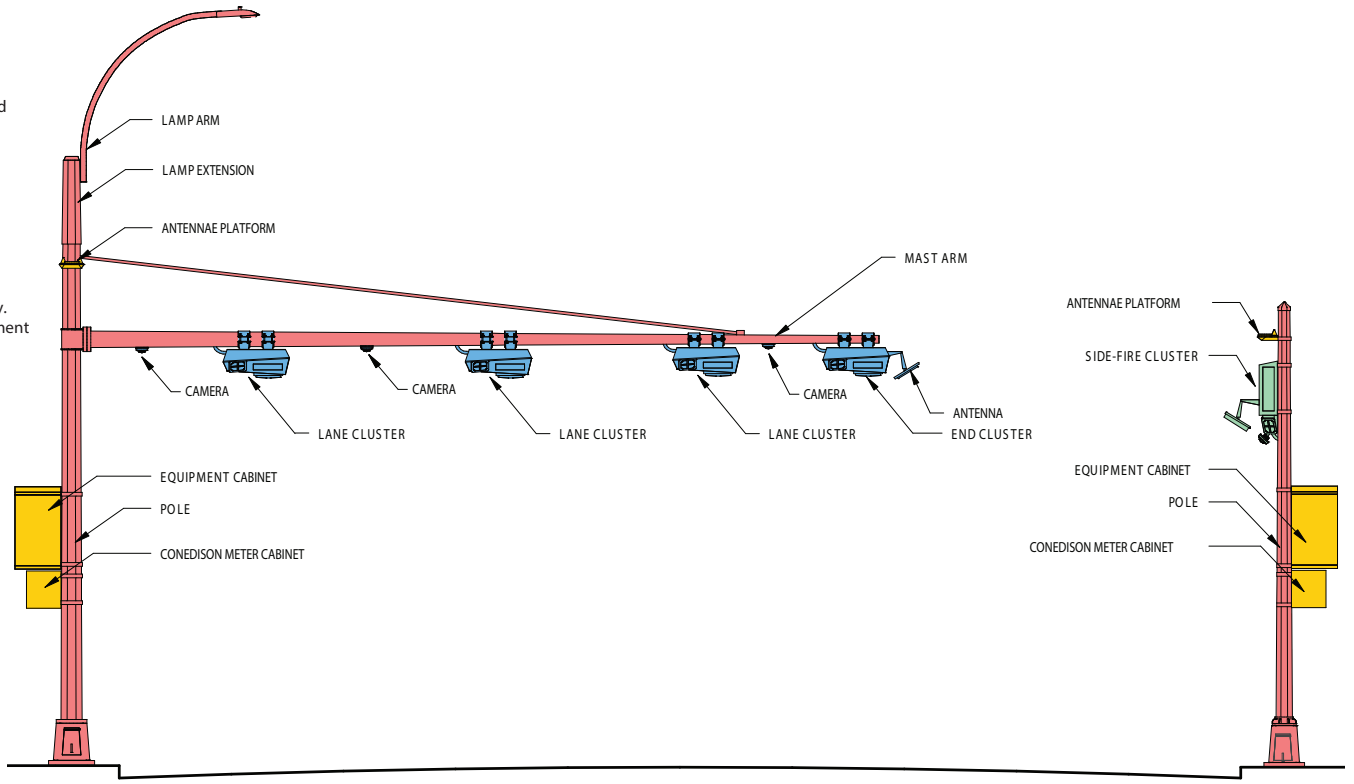
Note: Colors on diagram are for illustrative purposes only. All tolling infrastructure and tolling system equipment would be color-matched to correspond to the surrounding context.

SIDE-FIRE CLUSTER



LANE CLUSTER



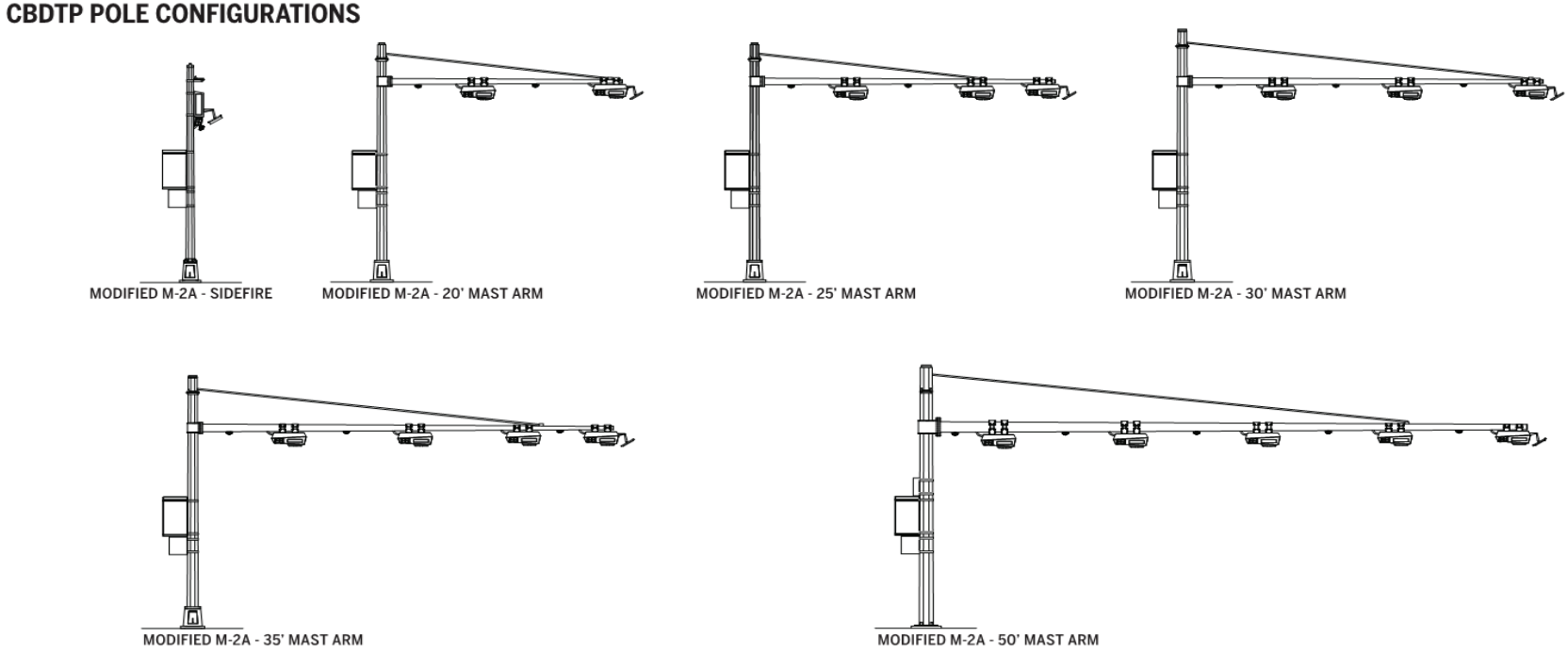


NOTE: Detection equipment shown here is for illustration purposes only. Cluster and camera numbers and placement are determined by number of lanes in the road, roadwidth, and location.

TRANSCORE PARSONS Dattner Architects

Typical Tolling Infrastructure and Tolling System Equipment

Pole Configurations

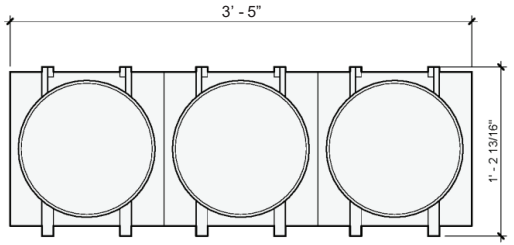


Typical Tolling Infrastructure and
Tolling System Equipment

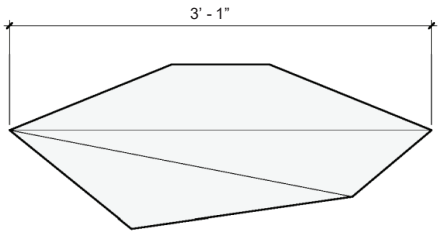
Overhead Lane Cluster



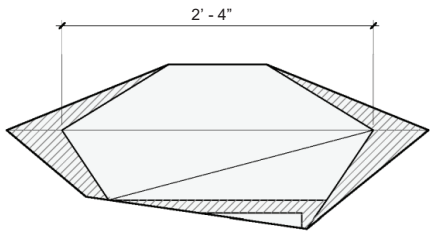
Actual image of CBDT overhead lane cluster



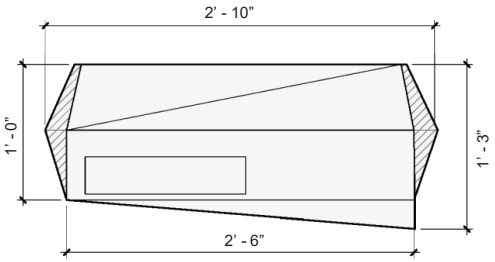
TRAFFIC LIGHT FRONT



RIGHT



LEFT



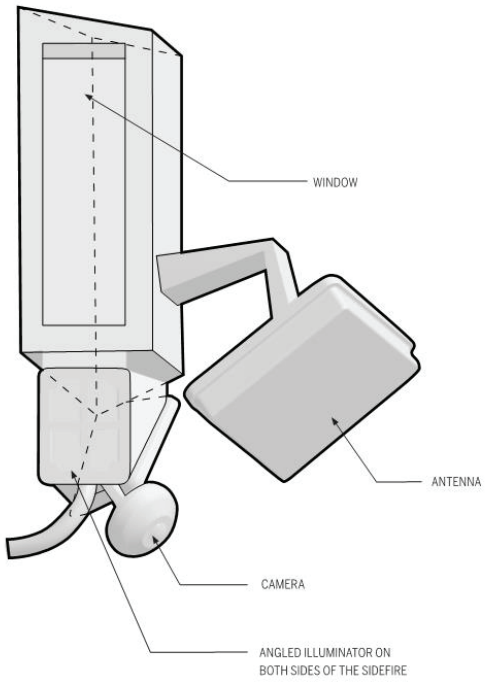
FRONT

Typical Tolling Infrastructure and Tolling System Equipment

Side-Fire Cluster



Actual image of CBDTP side-fire cluster



Typical Tolling Infrastructure and
Tolling System Equipment

- **Modified NYCDOT M-2A poles at the curbside.** NYCDOT uses octagonal poles ("M-2A" poles) throughout New York City for traffic signals and streetlights. The CBD Tolling Alternative would install new poles that are similar in appearance to standard M-2A poles but would be larger in diameter (potentially up to 14 inches in diameter rather than 8.5 inches) to meet the critical structural performance requirements for mast-arm configurations. The modified M-2A poles would have larger foundations than a standard M-2A pole. The CBD Tolling Alternative would install modified M-2A poles at locations where standard poles are currently installed, replace existing poles with new poles that are up to about 20 feet from the current location, and install new poles at locations where no poles are currently installed. From these poles, a new mast arm (similar to the mast arms that support traffic signals throughout New York City) would extend 20 to 50 feet over the roadway with tolling system equipment mounted on it. If an existing pole also supports a streetlight, then a streetlight would be provided on the replacement pole as well. The tolling system equipment mounted on mast arms would collect vehicle information from multiple lanes beneath the mast arm.
- **"Side fires" at the curbside.** In certain locations, tolling system equipment would be mounted on a standard M2-A pole without a mast arm, referred to as a "side fire." The side fire equipment would collect vehicle information from a single lane. Typically, this would occur at locations where a mast arm would be on one side of the street and a side fire on the other side of the street to allow full coverage of all lanes of the street. The CBD Tolling Alternative would install new poles in certain locations and use existing poles in others.
- **Equipment mounted on overhead sign structures and pedestrian bridges.** Along the West Side Highway/Route 9A and the FDR Drive, detection points would be mounted on existing overhead sign structures and pedestrian bridges. Some overhead structures would be strengthened to carry the additional load.
- **Equipment mounted on existing bridge and tunnel structures.** On the Brooklyn Bridge, Manhattan Bridge, Williamsburg Bridge, Ed Koch Queensboro Bridge, and potentially at the Lincoln and Holland Tunnels, tolling system equipment would be mounted to existing overhead sign structures and/or existing structural elements (e.g., girders, walls) of the structures. In addition, on the Manhattan Bridge, a new overhead steel girder supporting tolling system equipment would be installed above the westbound inner roadway, supported on the existing steel framing that once supported an upper-deck roadway (removed in the mid-20th century) between the westbound inner roadway and the outer roadways. Poles with mast arms that would be mounted on the new girder would capture traffic on the outer roadways. Tolling infrastructure and tolling system equipment would also be mounted directly on the structural elements of the Ed Koch Queensboro Bridge and the High Line and could also be mounted on structural elements at the Lincoln Tunnel. At the Brooklyn Bridge, Williamsburg Bridge, and Holland Tunnel, no new tolling infrastructure and tolling system equipment would be mounted directly on these historic structures.
- **Existing open-road tolling equipment at TBTA tunnels.** At the TBTA tunnels that connect to the Manhattan CBD (Hugh L. Carey Tunnel and Queens-Midtown Tunnel), existing open-road tolling infrastructure would be used.

The tolling infrastructure and tolling system equipment would use existing or new underground connections to utility and communications networks, to receive power and system connectivity. At locations where tolling infrastructure and tolling system equipment are installed within any components of the street, additional trenching up to depths of approximately 2 feet below grade could be required for utility and communications connections. At those locations where new connections are needed, trenches would be dug from each pole to the nearest utility access point and conduits would be laid in the trenches. Once the new connections are installed, the trenches would be covered and returned to their original condition. All pavement and surface materials would be replaced in kind and any new curbs and/or new or reconstructed median surfaces would involve in-kind replacements. Some Project components would be constructed on at-grade slabs or require minimal (less than 2 feet) excavation or other in-kind replacement, including but not limited to: equipment cabinets, new utility connections, splice boxes, pull boxes, electrical line boxes, landscaping, etc.

The Project Sponsors are coordinating with PANYNJ regarding potential use of property controlled by PANYNJ associated with the Lincoln and Holland Tunnels for tolling infrastructure and tolling system equipment. This would allow the Project Sponsors to eliminate several detection points on local streets near the Lincoln and Holland Tunnels. As described above, tolling infrastructure and tolling system equipment could be mounted on structural elements at the Lincoln Tunnel, but no new tolling infrastructure and tolling system equipment would be mounted directly on structural elements of the Holland Tunnel. This document conservatively evaluates detector point locations on local streets near the Lincoln and Holland Tunnels as well as on PANYNJ property.

The tolling infrastructure and tolling system equipment have been designed to minimize their visual impact, by using existing infrastructure as much as possible and coordinating the appearance of new infrastructure and equipment with the existing street furniture palette. The color of poles, cabinets, and tolling system equipment would be consistent and would match existing light pole colors. Supports, fasteners, and other hardware would also be designed to be minimally visible. In all cases, the Project Sponsors would avoid the removal of street trees for pole placement to the maximum extent feasible and practicable.

Figure 1b through Figure 1e illustrate the proposed tolling infrastructure and tolling system equipment. In general, tolling system equipment that would be mounted directly to poles, to mast arms extending from poles, or directly on existing bridges and tunnels would be of a small size. Overhead lane clusters with camera and EZ Pass readers would typically measure approximately 2’-6” in length by 1 foot in height x approximately 2-3 feet in depth (see Figure 1d). Sidefires that would be mounted on poles typically measure 10” x 14” x 39” (as depicted in Figure 1e). Associated meter cabinets and toll equipment cabinets would have approximate dimensions of 18” x 30” x 18” and 44” x 29” x 25” respectively. Attachment 2 provides visual simulations of the proposed tolling infrastructure and tolling system equipment in the study area. Attachment 3 contains a plan for each location.

1.3 AREA OF POTENTIAL EFFECTS

On October 28, 2021 the NYSDOT Office of Environment submitted the Cultural Resources Screening Report prepared for the Project, which describes the proposed Area of Potential Effects (APE). In accordance with 36 CFR Section 800.4(a)(1), an APE was defined for the Project based on proposed work activities associated with the CBD Tolling Alternative and the potential to affect historic properties, including potential direct and indirect effects caused by the construction and operation of the Project. The APE for the Project was based on a proposed scope of work that includes:

- Installation of new poles with tolling infrastructure and tolling system equipment on city streets and other at-grade roadways, including poles in new locations and replacement poles in the same locations
- Mounting of new poles and tolling infrastructure and tolling system equipment directly on bridge and tunnel structures

On November 22, 2021, the SHPO concurred with the APE (see **Attachment 4, "Correspondence"**). The APE consists of noncontiguous areas representing the areas of potential direct and indirect effects associated with the installation of new tolling infrastructure and tolling system equipment (**Figures 2 through 8**).

2. Steps Taken to Identify Historic Properties

Historic properties include any district, site, building, structure or object listed in or eligible for listing in the National Register of Historic Places (NRHP) (36 CFR § 800.16(l)(1).

2.1 ARCHAEOLOGICAL RESOURCES

The October 2021 Cultural Resources Screening Report included an archaeological assessment conducted to assess the potential presence of archaeological resources that could be affected by the CBD Tolling Program. Although ground disturbance associated with proposed pole installations is limited within each of the areas, for potential locations of tolling infrastructure and tolling system equipment in city streets, the archaeological assessment defined an Archaeological Study Area that conservatively included the entire block and streetbed where potential tolling equipment and related infrastructure could be installed, including lanes designated for automobile, bicycle, bus, or pedestrian use; sidewalks; and, where applicable, center medians. The Archaeological Study Area also included locations near bridges and tunnels and within Central Park in areas where new poles and/or other tolling infrastructure would be placed at depths greater than 2 feet.

The archaeological assessment documented previous disturbance; identified ground-disturbing activities associated with the Project; assessed archaeological sensitivity based on the results of previous archaeological investigations in the area; reviewed previously reported archaeological sites as identified in the New York State Cultural Resource Information System (CRIS); assessed the presence of historic period cemeteries; and reviewed historical maps to determine the presence of map-documented structures.

The analysis of archaeological potential conducted for the Archaeological Study Area identified extensive prior disturbance associated with historic landscape modification and construction of existing transportation facilities and existing utilities. The archaeological analysis concluded that all of the streets included within the Archaeological Study Area (including roadbeds, sidewalks, and, where applicable, center medians) have been disturbed in association with road construction (including grading) and maintenance; the construction and demolition of buildings (including those with excavated basements) and structures such as bridges and tunnels; the installation of utility lines (including sewer, water, electric, gas, and telecommunications lines, among others), hydrants, manholes, vaults, connections, and other infrastructure; or other development-related disturbance. Those locations where map-documented structures (i.e., buildings observed on historical maps) were observed within streetbeds were also determined to be heavily disturbed and therefore unlikely to contain archaeological resources at a depth of 2 to 8 feet (or up to 12 feet in limited locations) that would be disturbed for the Project.

The assessment concluded that the extent of this prior disturbance has reduced the archaeological potential such that the presence of intact archaeological deposits is highly unlikely within the Archaeological Study Area. Therefore, there are no archaeological concerns for the Project due to the low potential for the presence of intact archaeological resources and no archaeological survey was recommended. In correspondence dated November 22, 2021, the SHPO concurred with this recommendation (Attachment 4). In comments dated January 13, 2022, the New York City Landmarks Preservation Commission (LPC) concurred with the finding and indicated that there are no further archaeological concerns (Attachment 4). The October 2021 Cultural Resources Screening Report was provided to the four Federally-recognized Native American tribes on October 28, 2021. The Stockbridge-Munsee Mohican Tribal Historic Preservation Extension Office indicated on October 13, 2021 that they had no concerns with the Project (Attachment 4).

2.2 ARCHITECTURAL RESOURCES

The October 2021 Cultural Resources Screening Report identified known historic properties within the APE. No architectural survey was recommended. In correspondence dated November 22, 2021, the SHPO concurred with this recommendation (Attachment 4).

Information on resources listed in or determined eligible for listing in the National Register of Historic Places (NR) was collected from the New York State Office of Parks, Recreation and Historic Preservation's (OPRHP) Cultural Resource Information System (CRIS). The National Park Service's list of National Historic Landmarks (NHLs) was also reviewed. In addition, properties LPC has designated (or considered eligible for such designation) as individual New York City Landmarks and Scenic Landmarks (NYCLs) or New York City Historic Districts (NYCHDs) were identified.

An updated review of CRIS identified 45 historic properties within the APE (Table 1). The properties consist of architectural resources, including buildings, structures and districts.

3. Evaluation of Project Impact on Identified Historic Properties

A description of the historic architectural properties in the APE and discussion of the Project's effects on those properties are provided below. Table 1 lists the historic properties in the APE and indicates changes that would occur as part of the Project. Figures 2 through 8 map these resources. Historic properties in the Direct Effects portion of the APE are also further described in this section.

Table 1. Historic Properties and Summary of Changes

REF. NO.[1]	ADDRESS/NAME	DESCRIPTION	STATUS & SIGNIFICANCE CRITERIA[2, 3]	CHANGES
1	Ed Koch Queensboro Bridge	Constructed in 1901-1908, the Ed Koch Queensboro Bridge is a two-span, through cantilever truss bridge spanning the East River from Manhattan to Queens.	NR-Listed, C NYCL	Minor changes – installation of tolling equipment on bridge structure (Attachment 3, p. 63) No adverse effect
2	Manhattan Bridge[4]	This steel suspension bridge spanning the East River from the Lower East Side of Manhattan to Brooklyn opened in 1909; it is supported by two steel towers and includes a stone colonnade at the Manhattan approach.	NR-Listed, C NYCL	Minor changes – installation of steel girder with tolling equipment (Attachment 3, p. 64) No adverse effect
3	South Street Seaport Historic District and Extension	The South Street Seaport Historic District and Extension contains the largest concentration of early 19th century commercial buildings in New York City.	NR-Listed, A & C NYCHD	Minor changes – installation of a pole with equipment cabinet in a parking lot. Minor change in setting (Attachment 3, p.60) No adverse effect
4	Holland Tunnel	Opened in 1927, the Holland Tunnel is the first subaqueous tunnel in the world; its two tubes carry traffic to and from Manhattan and New Jersey below the Hudson River.	NR-Listed, C NHL	No physical changes to tunnel structure. Minor change in setting (Attachment 3, p. 44) No effect
5	Tribeca North Historic District (NR)	This district is defined by many large warehouse buildings constructed mostly between 1880 and 1910.	NR-Eligible, A & C	Minor changes - installation of one new pole with mast arm with tolling equipment in location of existing sidewalk light pole. Minor change to setting (Attachment 3, p. 44) No adverse effect
6	Tribeca North Historic District (NYCHD)		NYCHD	
7	Tribeca West Historic District	This district is defined by commercial buildings constructed between 1860 and the 1920s, row houses from the early 19th century, as well as office, garages, institutional, and civic buildings constructed from after the Civil War to 1931.	NR-Eligible, A & C NYCHD	No physical changes or changes to immediate setting No effect
8	American Thread Building	This 11-story, Renaissance Revival-style commercial building faced in brown brick was constructed from 1894 to 1896 and designed by architect, William B. Tubby.	NR-Listed, A & C	No physical changes or changes to immediate setting No effect
9	Whitehall Building	This 20-story, Beaux Arts-style building was designed by architect Henry Hardenbergh and completed in 1904. The 31-story addition was designed by the architectural firm Clinton and Russell and built in 1908. The building has a stone base with brick cladding above.	NR-Eligible, C NYCL	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk (Attachment 3, p. 47) No effect

Table 1. Historic Properties and Summary of Changes (Cont'd)

REF. NO.[1]	ADDRESS/NAME	DESCRIPTION	NR STATUS & SIGNIFICANCE CRITERIA[2, 3]	CHANGES
10	Downtown Athletic Club Building	Constructed in 1930 as a skyscraper clubhouse, the Downtown Athletic Club was designed by Starrett & Van Vleck. The Art Deco-style building features irregular massing and mottled orange brick cladding.	NYCL	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block (Attachment 3, p. 47) No effect
11	21 West Street	A 32-story, Art Deco-style skyscraper designed by Starrett & Van Vleck and constructed from 1929 to 1931, the building is faced with tan and dark-brown brick.	NR-Listed, A & C NYCL	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block (Attachment 3, p. 47) No effect
12	U.S. Post Office – Morgan General Mail Facility[5]	Constructed in 1933, the Morgan General Mail Facility is a 6- to 10-story building built in the Art Deco style. The building's exterior is faced in limestone block on the lower levels with brick above.	NR-Eligible, A & C NYCL-Eligible	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalks (Attachment 3, pp. 39, 43) No effect
13	406-426 West 31st Street[3]	Constructed in 1914, the 16-story building is symmetrically fenestrated and faced in brick.	NR-Eligible	No physical changes. No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on adjacent sidewalk (Attachment 3, p. 37) No effect
14	U.S. General Post Office	The 6- and 10-story, Art Deco-style building was built in 1933 under the design of architect James A. Wetmore. The building is faced in granite ashlar.	NR-Listed, A & C NYCL	No physical changes or changes to immediate setting No effect
15	Pennsylvania Railroad North River Tunnel (used by Amtrak and NJ TRANSIT)	Built between 1904 and 1908, the North River Tunnel carries train traffic in two tubes beneath the Hudson River between Penn Station New York and New Jersey.	NR-Eligible, A & C	No physical changes or changes to immediate setting No effect
16	St. Michael's Roman Catholic Church Complex[3, 5]	Completed in 1907, the complex includes a Romanesque-style church, school, convent, and rectory. The complex was designed by Napoleon LeBrun & Sons.	NR-Eligible NYCL-Eligible	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk (Attachment 3, p. 35) No effect

Table 1. Historic Properties and Summary of Changes (Cont'd)

REF. NO.[1]	ADDRESS/NAME	DESCRIPTION	NR STATUS & SIGNIFICANCE CRITERIA[2, 3]	CHANGES
17	Master Printers Building[3]	Completed in 1927, the 19-story building was designed by architects Parker & Shaffer and clad in tan brick.	NR-Eligible	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block (Attachment 3, p. 36) No effect
18	Webster Apartments[3]	The C-shaped building was constructed in 1923. The Neo-Classical style building rises 13 stories and is clad in red brick.	NR-Eligible	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk (Attachment 3, p. 35) No effect
19	Harding Building/ Garment Center Historic District[6]	Designed by architect Chester J. Storm and constructed from 1926 to 1927, the 17-story building contributes to the Garment Center Historic District, which includes industrial, residential, religious, and government buildings dating from 1858 to 1958.	NR-Listed, A & C	No physical changes or changes to immediate setting No effect
20	Paddy's Market Historic District	Ninth Avenue between West 38th and West 42nd Streets was the location of one of the best known pushcart markets, located beneath the former rail viaduct. The buildings in this potential historic district are primarily late 19th century tenements with many retaining intact storefronts that reflect the history of the market.	NR-Eligible, A & C	Minor changes - installation of two new poles with mast arms with tolling equipment on sidewalk. Minor change to setting (Attachment 3, pp. 27-29) No adverse effect
21	Former Pinehill Crystal Water Company[3]	The 6-story building, constructed in 1911, is faced in tan brick with stone detailing.	NR-Eligible	No physical changes or changes to immediate setting No effect
22	Hill Building[3]	Constructed in 1914, the 14-story building is designed in the Neo-Classical style. The building is clad in terra-cotta and brick.	NR-Eligible	No physical changes or changes to immediate setting No effect
23	500 West 37th Street[3]	The 6-story building was constructed in 1890. Symmetrically fenestrated, the building is faced in red brick with a stone façade on the ground floor along Tenth Avenue.	NR-Eligible	No physical changes or changes to immediate setting No effect
24	Underhill Building[3]	Designed by Hill & Stout, the 13-story building was constructed in 1915. The building is clad in red brick with decorative glazed terra-cotta.	NR-Eligible	No physical changes or changes to immediate setting No effect

Table 1. Historic Properties and Summary of Changes (Cont'd)

REF. NO.[1]	ADDRESS/NAME	DESCRIPTION	NR STATUS & SIGNIFICANCE CRITERIA[2, 3]	CHANGES
25	408 West 39th Street[3]	The 5-story tenement building comprises details from the Neo-Grec and Romanesque Revival styles. The ground floor is faced with brownstone with an intact cornice.	NR-Eligible	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk (Attachment 3, p. 29) No effect
26	523-539 Ninth Avenue[3]	The nine tenement buildings along Ninth Avenue are 4 stories and faced in brick. The buildings' cornices are intact with stone lintels and window sills.	NR-Eligible	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on same block (Attachment 3, p. 27) No effect
27	Lincoln Tunnel	Completed after the Holland Tunnel, the Lincoln Tunnel has three tubes for vehicles to travel below the Hudson River between Manhattan and New Jersey. The north tube was completed in 1945, the center tube in 1937, and the south tube in 1957.	NR-Eligible, A & C	Minor changes – installation of tolling equipment at the three portal structures (Attachment 3, pp. 66, 67) No adverse effect
28	St. Raphael Roman Catholic Church and Rectory[3]	The church and rectory are designed in the Gothic Revival style with stone and red brick.	NR-Eligible	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block (Attachment 3, p. 22) No effect
29	500-506 West 42nd Street[3]	Two 6-story tenement buildings are clad in tan brick. A metal balcony runs just below the 6th floor windows.	NR-Eligible	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk (Attachment 3, p. 19) No effect
30	McGraw-Hill Publishing Company Building	Designed by architect Raymond Hood, the 33-story building was constructed in 1930. The building is faced in panels that are painted a deep blue-green and includes horizontal bands of windows.	NR-Listed, A & C NHL NYCL	No physical changes or changes to immediate setting No effect
31	The High Line	The 1.45-mile-long elevated steel and concrete viaduct structure was built by the New York Central Railroad to replace its on-grade Tenth Avenue tracks. It runs roughly parallel to Tenth Avenue between West 34th and Gansevoort Streets.	NR-Eligible, A	Minor changes – installation of tolling equipment on underside of viaduct structure (Attachment 3, p. 42) No adverse effect

Table 1. Historic Properties and Summary of Changes (Cont'd)

REF. NO.[1]	ADDRESS/NAME	DESCRIPTION	NR STATUS & SIGNIFICANCE CRITERIA[2, 3]	CHANGES
32	Former French Hospital[3]	The 13-story building was built in 1927-1928 by the French Benevolent Society as the New York City French Hospital. The building is clad in brick with a 2-story stone base.	NR-Eligible	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block (Attachment 3, p. 40) No effect
33	Lithuanian Alliance of America	The 4-story Neo-Grec style building was built ca. 1876 as a single family residence by architect and real estate developer Edward E. Ashley. The building was purchased by the Lithuanian Alliance of America in 1910.	NR-Eligible, A	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block (Attachment 3, p. 40) No effect
34	Hotel Irwin	The 11-story Hotel Irwin opened in 1925 as an apartment building for unmarried women. The building was originally planned in 1914 for use as a hotel for women by Ms. Richard Irwin, but construction was delayed by World War I. The Classical-Revival style brick building was designed by Jackson, Rosencranz, and Waterbury.	NR-Eligible, A	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block (Attachment 3, p. 40) No effect
35	Engine Co. 34 Firehouse	The 2-story brick firehouse was designed by Hubert J. Treacy and built in 1937. The firehouse is a representative example of the two-company/two-vehicular entrance type the New York City Fire Department began using at the turn of the 20th century.	NR-Eligible, A & C	No physical changes or changes to immediate setting No effect
36	P.S. 191 Hudson Honors School	The 5-story building was built in 1955 and designed by William Gehron. The building has an L-shaped plan and minimized ornamentation.	NR-Eligible, C	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk (Attachment 3, p. 4) No effect
37	Cova Building	The 12-story office building, built between 1922 and 1924 by Alexander Cohen, has terra-cotta ornament and decorative metal panels.	NR-Eligible, C	No physical changes. Minor change to setting – 2 new poles with mast arm with tolling equipment on sidewalks on same block (Attachment 3, p. 6) No effect
38	59th Street-Columbus Circle Subway Station	Completed in 1904, the station is one of the first original Interborough Rapid Transit subway stations to be completed. The station has Beaux Arts painting and decoration.	NR-Listed, A & C NYCL Interior Landmark	No physical changes or changes to setting No effect

Table 1. Historic Properties and Summary of Changes (Cont'd)

REF. NO.[1]	ADDRESS/NAME	DESCRIPTION	NR STATUS & SIGNIFICANCE CRITERIA[2, 3]	CHANGES
39	Central Park[7]	Central Park is the first large-scale public park in the nation. Created from 1857 to 1866, the park was designed by Frederick Law Olmsted and Calvert Vaux.	NR-Listed, C NHL NYC Scenic Landmark	Minor changes -replace existing poles with 4 new poles with tolling equipment at 3 access point locations on the interior park roads; replace existing light pole with new pole with tolling equipment on Fifth Avenue sidewalk; install a new pole with mast arm on Central Park West sidewalk. Minor changes to setting (Attachment 3, pp. 7-11) No adverse effect
40	Upper East Side Historic District (NR)	This district is defined by mansions, apartment houses, and row houses in a range of architectural styles, dating from 1862 to 1938.	NR-Listed, A & C	Minor changes – installation of one new pole with mast arm with tolling equipment on sidewalk. Minor changes to setting (Attachment 3, p. 11) No adverse effect
41	Upper East Side Historic District (NYCHD)		NYCHD	
42	Upper East Side Historic District Boundary Increase and Additional Documentation	The expansion of the original Upper East Side Historic District includes multiple domestic, religious, commercial, and government buildings with similar historic development and period integrity. The period of significance is from 1862 to 1956.	NR-Listed, A & C	Minor changes – installation of one new pole with mast arm with tolling equipment on sidewalk. Minor changes to setting (Attachment 3, p. 13) No adverse effect
43	Grand Army Plaza	Grand Army Plaza was laid out to the designs of Carrère & Hastings in 1913-1916. The plaza includes decorative paving and landscaped areas and is divided by 59th Street; the plaza to the south includes the Pulitzer Fountain and the plaza to the north the General Sherman Monument.	NYC Scenic Landmark	No physical changes or changes to immediate setting No effect
44	Public Baths	The Public Baths were built by the City of New York in 1904-1906, and designed by Arnold W. Brunner and William M. Aiken. The Public Baths are a one-story brick building with a limestone base.	NR-Listed, A & C NYCL	No physical changes. Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk (Attachment 3, p. 53) No effect

Table 1. Historic Properties and Summary of Changes (Cont'd)

REF. NO.[1]	ADDRESS/NAME	DESCRIPTION	NR STATUS & SIGNIFICANCE CRITERIA[2, 3]	CHANGES
45	Gansevoort Market Historic District	This district is defined by a mix of buildings typically constructed between the 1840s and 1940s linked to the city's working waterfront and includes a contributing historic street grid.	NR-Listed, A & C NYCHD	Minor changes - installation of one new pole with equipment cabinet on sidewalk. Minor change to setting (Attachment 3, p. 50) No adverse effect

Source: Cultural Resource Information System (CRIS) at https://cris.parks.ny.gov; NYC Landmarks Preservation Commission "Discover NYC Landmarks" at https://www1.nyc.gov/site/lpc/index.page

Notes:

1 Corresponds to **Figures 3 through 8**.

2 NR Significance Criteria A-D

3 For certain properties, the SHPO's CRIS does not provide information regarding the NR criteria under which the properties were determined eligible, and, therefore, information is not provided in this table for those properties.

4 The Arch and Colonnade is a NYCL. The bridge structure/deck is not a NYCL or NYCL-Eligible per LPC comment letter dated January 13, 2022.

5 LPC determined the property appears NYCL-Eligible in a comment letter dated January 13, 2022.

6 The Harding Building is the only building in the Garment Center Historic District (NR-Listed) that is in the APE.

7 The NR and NYCL boundaries differ for Central Park at the location of the corner of the park at Central Park South (59th Street) and Fifth Avenue; this corner is included as part of the Grand Army Plaza Scenic Landmark (Resource No. 43) but excluded from the New York City Scenic Landmark boundaries (Resource No. 39a on **Figure 7**). Grand Army Plaza is included within the Central Park NR and NHL boundaries (Resource No. 39b on **Figure 7**).

LPC: New York City Landmarks Preservation Commission
NR: National Register of Historic Places
NYCL: New York City Landmark and New York City Scenic Landmark
NYCHD: New York City Historic District
NHL: National Historic Landmark

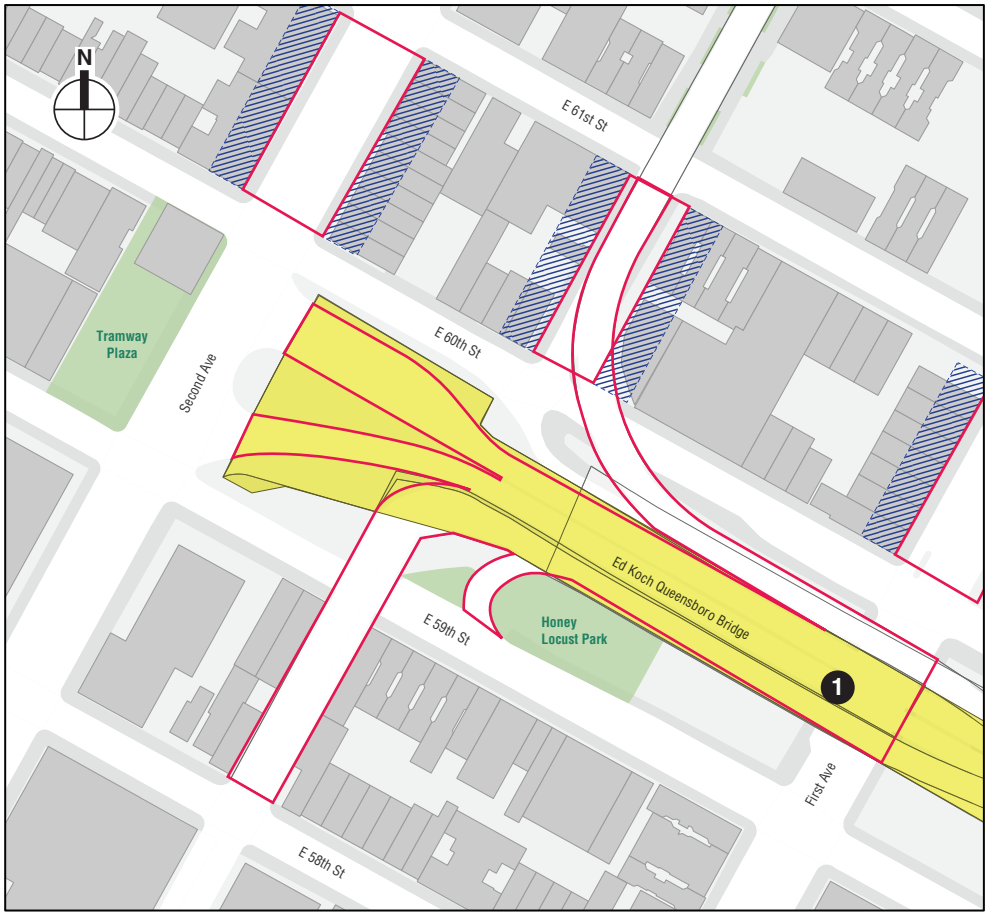


Overview of Area of Potential Effects (APE)

CBD TOLLING PROGRAM

Figure 2

10.20.21



Ed Koch Queensboro Bridge



Manhattan Bridge

Area of Potential Effects (APE)

Direct Effects Portion of the APE

Indirect Effects Portion of the APE

1 *Historic Resource (corresponds to Table 2)*

NR-listed/NR-eligible Tunnel and Bridge Boundaries (approximate)

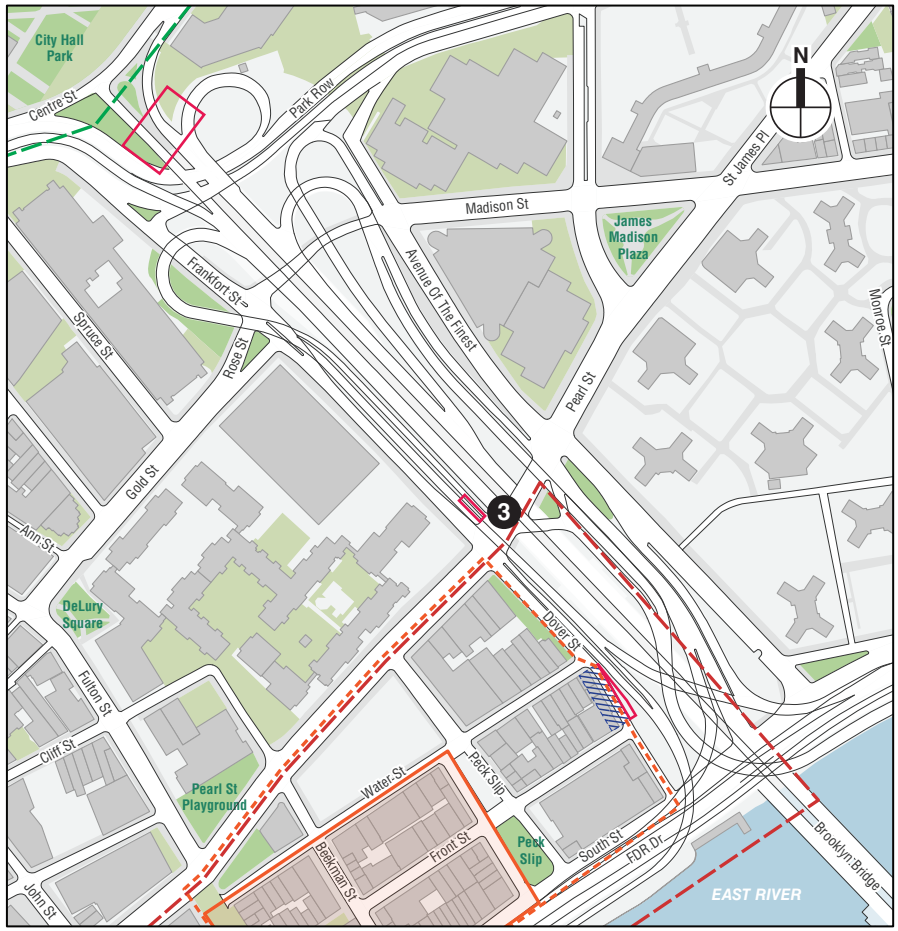
Note: NYCL Boundary for the Ed Koch Queensboro Bridge Includes Queensboro Bridge Plaza as shown

Historic Architectural Resources: Ed Koch Queensboro Bridge and Manhattan Bridge Portions of the APE

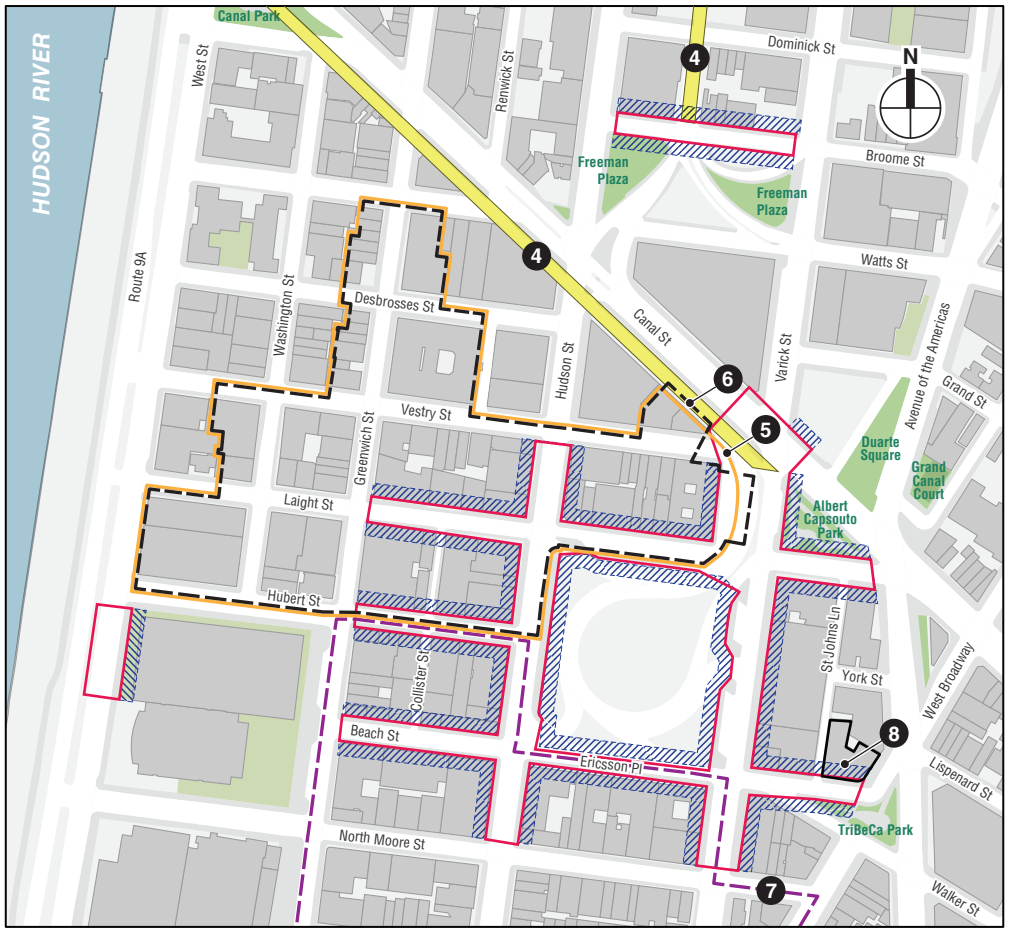
CBD TOLLING PROGRAM

Figure 3

10.20.21



Brooklyn Bridge



Holland Tunnel

Area of Potential Effects (APE)

- *Direct Effects Portion of the APE*
- *Indirect Effects Portion of the APE*
- 3 *Historic Resource (corresponds to Table 2)*
- *Historic Resource Tax Lot (as applicable)*
- *NR-listed/NR-eligible Tunnel and Bridge Boundaries (approximate)*

Historic Districts

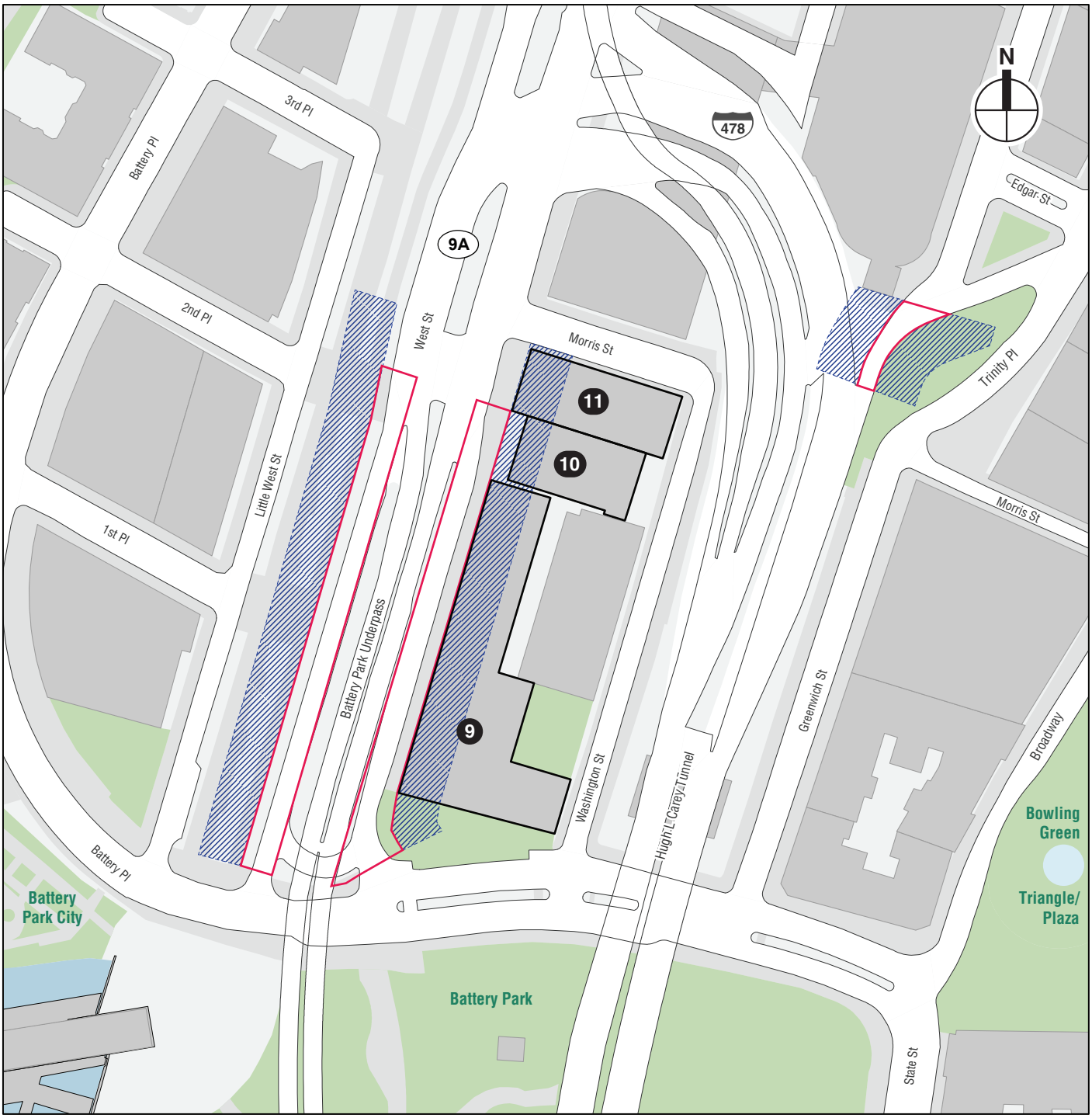
- *South Street Seaport Historic District (NR-listed)*
- *South Street Seaport Historic District Extention (NR-listed)*
- *South Street Seaport Historic District and Extention (NYHD)*
- *Tribeca North Historic District (NR-eligible)*
- *Tribeca North Historic Distrct (NYCHD)*
- *Tribeca West Historic District (NYCHD, NR-eligible)*

Historic Architectural Resources: Brooklyn Bridge and Holland Tunnel Portions of the APE

CBD TOLLING PROGRAM

Figure 4

11.29.21



Battery Park Underpass **Hugh L. Carey Tunnel**

Area of Potential Effects (APE)

Direct Effects Portion of the APE

Indirect Effects Portion of the APE

9 *Historic Resource (corresponds to Table 1)*

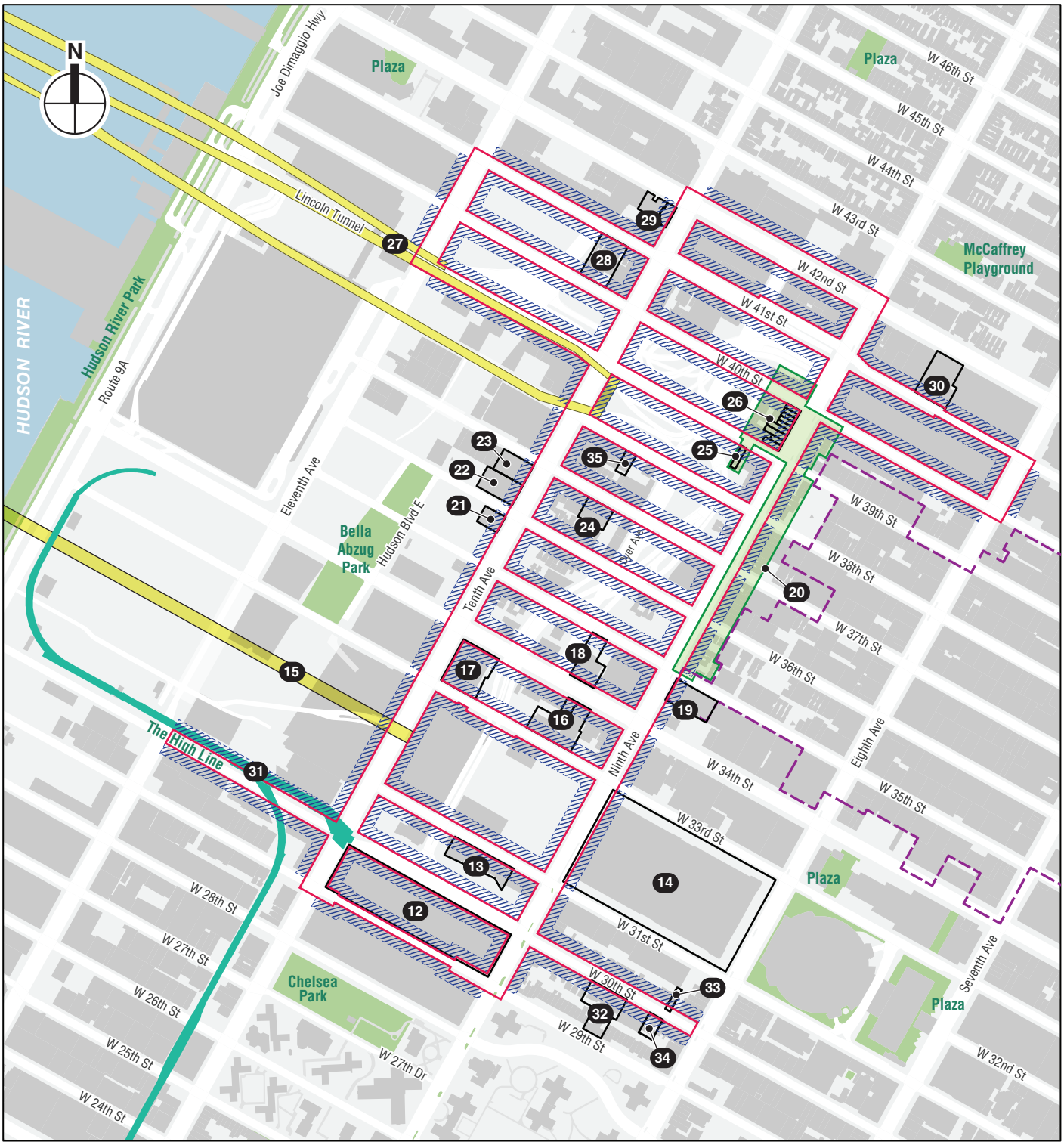
Historic Resource Tax Lot (as applicable)

Historic Architectural Resources: Battery Park Underpass and Hugh L. Carey Tunnel Potions of the APE

CBD TOLLING PROGRAM

Figure 5

11.29.21



0 800 FEET

Area of Potential Effects (APE)

Direct Effects Portion of the APE

Indirect Effects Portion of the APE

Historic Districts

Garment Center Historic District

Paddy's Market Historic District

12 *Historic Resource (corresponds to Table 1)*

Historic Resource Tax Lot (as applicable)

NR-listed/NR-eligible Tunnel and Bridge Boundaries (approximate)

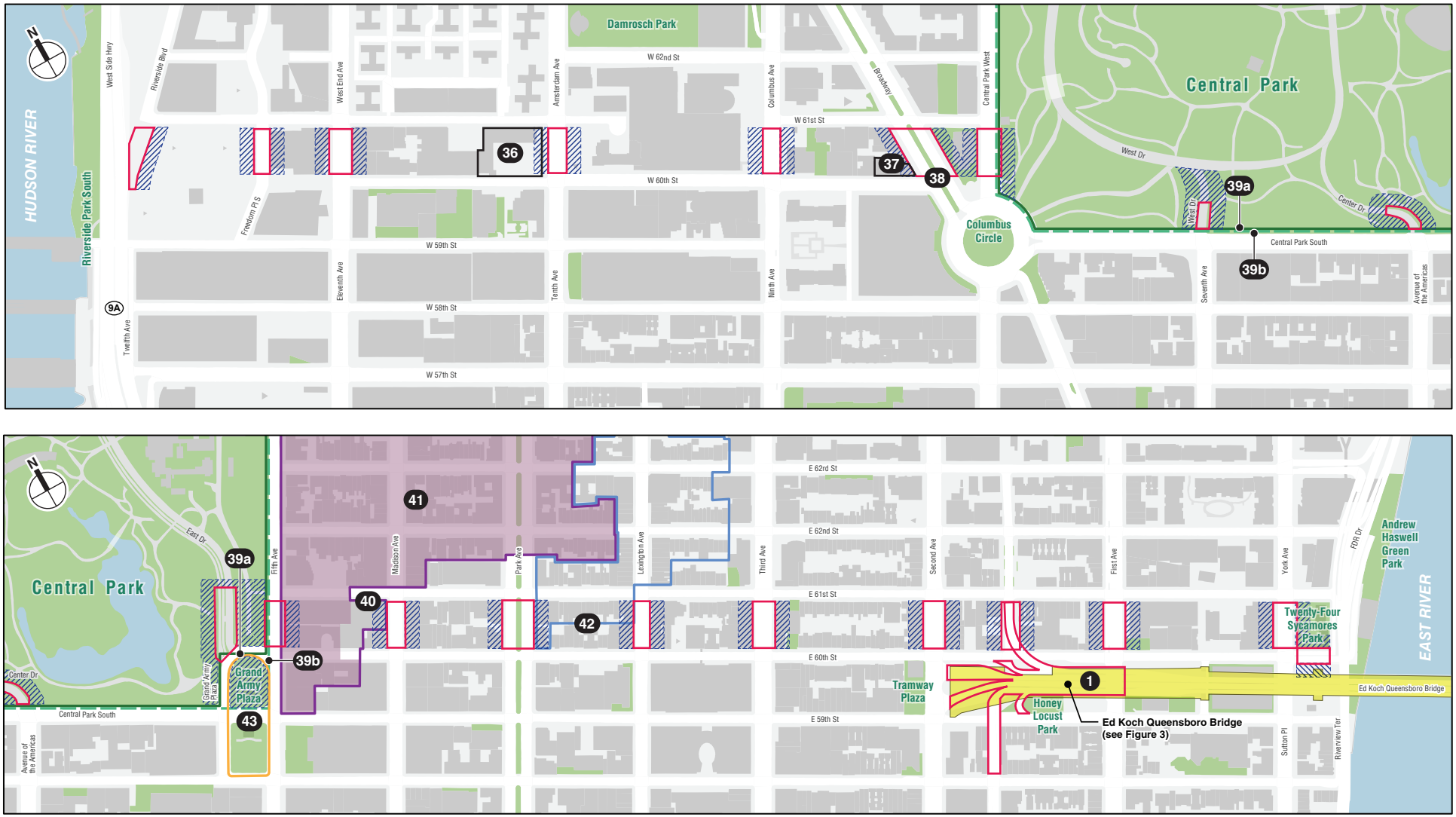
High Line

CBD TOLLING PROGRAM

Historic Architectural Resources: Lincoln Tunnel Portion of the APE

Figure 6

11.29.21



Area of Potential Effects (APE)

- *Direct Effects Portion of the APE*
- *Indirect Effects Portion of the APE*
- 36 *Historic Resource (corresponds to Table 1)*
- *Historic Resource Tax Lot (as applicable)*
- *Central Park (NYC Scenic Landmark)*
- *Central Park (NR-listed, NHL)*
- *Grand Army Plaza (NYC Scenic Landmark)*
- *NR-listed/NR-eligible Tunnel and Bridge Boundaries (approximate)*

Historic Districts

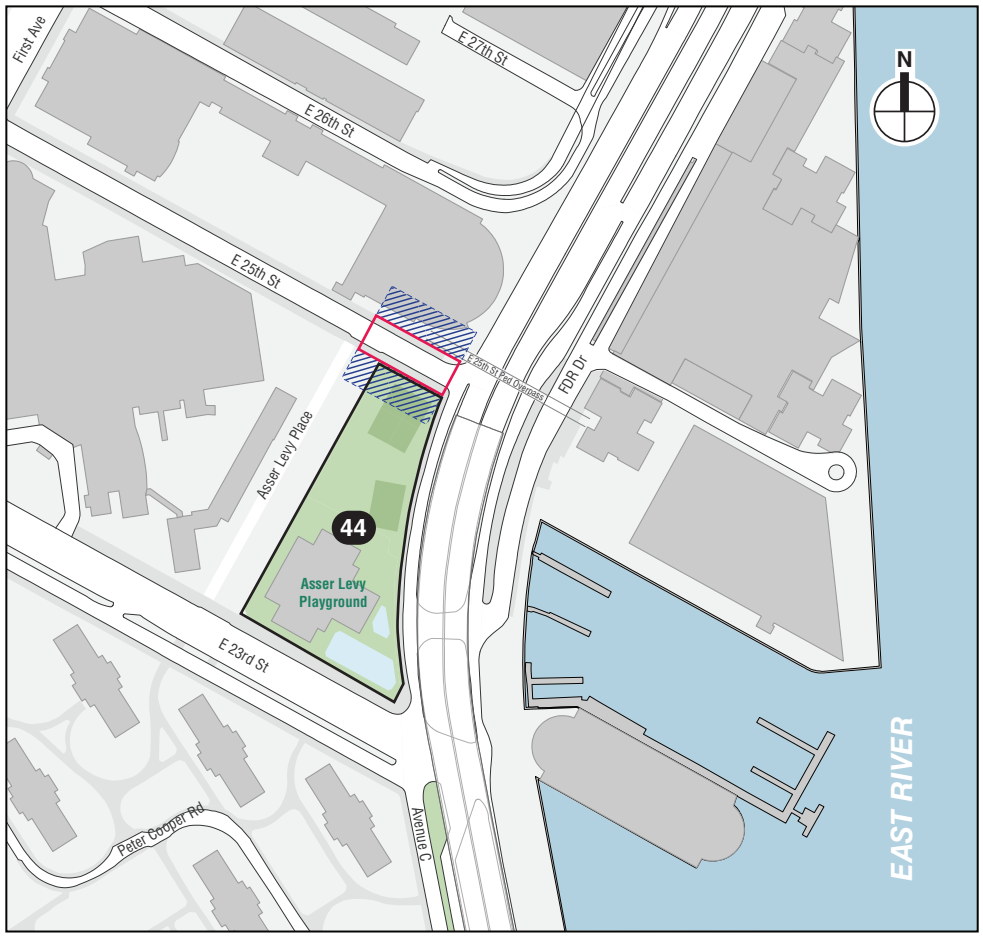
- *Upper East Side Historic District (NR-listed)*
- *Upper East Side Historic District (NYCHD)*
- *Upper East Side Historic District Boundary Increase and Additional Documentation (NR-listed)*

Historic Architectural Resources: 60th Street and Central Park Portions of the APE

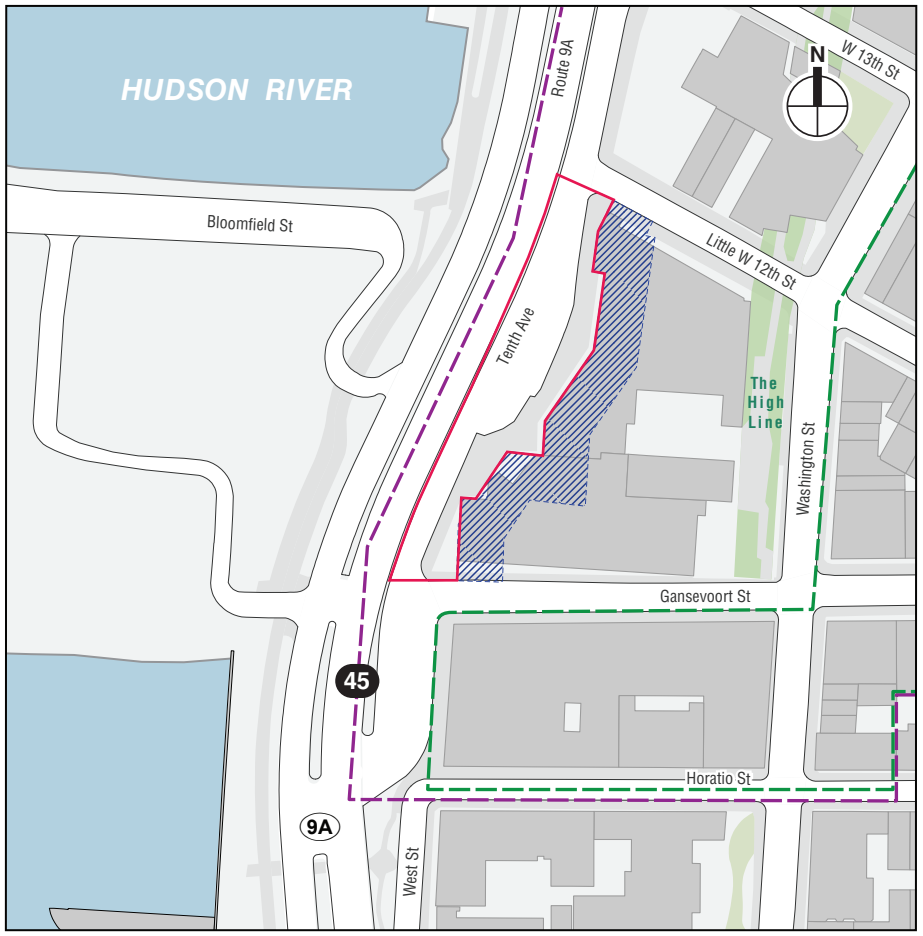
CBD TOLLING PROGRAM

Figure 7

11.29.21



FDR Drive/East 25th Street



West Side Highway/Gansevoort Street

Area of Potential Effects (APE)

Direct Effects Portion of the APE

Indirect Effects Portion of the APE

44 *Historic Resource (corresponds to Table 1)*

Historic Resource Tax Lot (as applicable)

Gansevoort Market Historic District (NR-listed)

Gansevoort Market Historic District (NYCHD)

Historic Architectural Resources: FDR Drive/East 25th Street and West Side Highway/Gansevoort Street Portions of the APE

CBD TOLLING PROGRAM

Figure 8

3.1 TOLLING INFRASTRUCTURE AND TOLLING SYSTEM EQUIPMENT AT HISTORIC BRIDGES AND TUNNELS

Within the APE, the CBD Tolling Alternative would result in new tolling infrastructure and tolling system equipment on the structural elements at two historic bridges: the Ed Koch Queensboro Bridge and the Manhattan Bridge and at one tunnel: the Lincoln Tunnel. In addition, new tolling infrastructure and tolling system equipment would be placed on structural elements of the High Line, a former freight railroad viaduct.

3.1.1 Ed Koch Queensboro Bridge

The Ed Koch Queensboro Bridge (NR-Listed, NYCL) was designed by engineer Gustav Lindenthal and architect Henry Hornbostel. Constructed in 1901-1908, the bridge spans the East River between East 59th Street in Manhattan and 11th Street and Bridge Plaza North and South in Queens. At the time of construction, it was the largest and heaviest cantilever bridge ever constructed and was the first bridge to connect Manhattan and Queens, influencing development in Queens. It is 7,000 feet long and is a through-type cantilevered structure with its roadways located between the bridge's 350-foot-tall towers. The bridge has two levels of traffic with several ramps connecting it to local streets in Manhattan and Queens and a pedestrian and bicycle path. On the Manhattan side, the area beneath the bridge approach is designed as an arcade of arches, with the area east of First Avenue originally designed for use as a marketplace, and the ceiling designed of self-supporting "Guastavino" tiled vaults; in 1918 glazing was added to the arcade to allow the market to function year-round. The designation report for the Ed Koch Queensboro Bridge notes that the bridge has "an inspiring and dramatic silhouette" against the backdrop of Midtown Manhattan and the lower-scale buildings in Queens.[3] As stated in the NR Nomination Form, the superstructure of the bridge displays considerable aesthetic treatment, with its steel towers capped with ornate steel finials.[4] The NYCL designation also includes Queensboro Bridge Plaza at Second Avenue in Manhattan, which has cast-iron kiosks and monumental candelabra. The Ed Koch Queensboro Bridge is significant in the areas of architecture and engineering "as an urban artifact, as an important engineering achievement and as a civic symbol."[5]

Figures 3 and 7 show the APE in the vicinity of the Ed Koch Queensboro Bridge. The bridge is the only historic property identified in this portion of the APE (Resource No. 1).

Based on preliminary design, at the Ed Koch Queensboro Bridge tolling system equipment would be attached to the underside of existing bridge girders at the eastbound and westbound lower roadways and to an existing retaining wall along a westbound exit traffic lane within the boundaries of the NR-Listed resource (see Figures 2-1 and 2-2 of Attachment 2 and Attachment 3, page 63). The CBD Tolling Alternative would add tolling infrastructure and tolling system equipment of minimal visibility that is consistent with the type of infrastructure already located on the bridge, including signage, and would not obstruct views

[3] New York City Landmarks Preservation Commission, Queensboro Bridge, April 16, 1974, p. 2.

[4] National Register of Historic Places Inventory – Nomination Form, Queensboro (59th Street) Bridge, October 20, 1978, Item 7, p. 2.

[5] Ibid, Item 8.

to any visually significant portions of the bridge structure, including the towers, steel superstructure with finials, Manhattan arcaded approach, or features of Queensboro Bridge Plaza.

The CBD Tolling Alternative would add tolling infrastructure and tolling system equipment that would be in keeping with the existing transportation use of the historic bridge and would not alter the characteristics that qualify the Queensboro Bridge for listing in the NR.

3.1.2 Manhattan Bridge

The Manhattan Bridge (NR-Listed, NYCL-Eligible) is a two-level, steel suspension bridge that spans the East River between Canal Street in Manhattan and Flatbush Avenue in Brooklyn. The final design of the bridge was the result of the work of several engineers and architects. R.S. Buck designed early plans for the bridge, but in 1903 Gustav Lindenthal in collaboration with Henry Hornbostel revised plans for the bridge. These plans were later rejected, and in 1904, Leon Moisseiff developed the final design for the bridge. Carrère & Hastings replaced Hornbostel as architectural consultants, but retained much of Hornbostel's design for the towers and anchorages. The bridge opened in 1909. A grand arch with flanking colonnades designed by Carrère and Hastings is at the bridge entrance on Canal Street in Manhattan within the boundaries of the NR-Listed Bowery Historic District and is a designated NYCL. The bridge is 6,855 feet long, with a main span of 1,470 feet and carries motor vehicles on two levels, subway trains, and bicyclists/pedestrians. The Manhattan Bridge is significant in the areas of architecture and engineering as a "monumental engineering work of the early 20th century" and "as a transitional structure in the emergence of modern design principles and remains a prominent crossing of the East River."[6]

Figure 3 shows the APE in the vicinity of the Manhattan Bridge. The bridge is the only historic property identified in this portion of the APE (Resource No. 2).

The CBD Tolling Alternative would place new tolling infrastructure and tolling system equipment at the Manhattan Bridge's westbound inner roadway. In addition, the CBD Tolling Alternative would also include the installation of two new poles with mast arms supporting tolling system equipment along the eastbound and westbound outer roadways (see Attachment 3, page 64). This tolling infrastructure and tolling system equipment would be located within the boundaries of the NR-Listed resource.

Based on preliminary design, a new steel girder supporting tolling system equipment would be installed above the westbound inner roadway, supported on the existing steel framing that once supported an upper-deck roadway (removed in the mid-20th century) between the westbound inner roadway and the outer roadways (see Figures 2-3, 2-4, and 2-5 of Attachment 2). The new tolling infrastructure and tolling system equipment would not physically affect the low stone retaining walls that frame the inner roadway west of the steel-framed section, and would be at a substantial distance from the arch and colonnade located at the bridge entrance on Canal Street in Manhattan. In addition, an existing overhead sign structure with digital travel lane markers spans the inner roadway just east of the grand arch, and the proposed installation of a new girder above the roadway to support tolling system equipment as part of

[6] National Register of Historic Places Inventory – Nomination Form, Manhattan Bridge, July 6, 1983, Item 8.

the CBD Tolling Alternative would be consistent with existing infrastructure on the bridge and constitute a minimal change.

Two new poles with 20- and 25-foot-long mast arms supporting tolling equipment would also be installed on a new steel girder that would span above the inner roadway, connected on each side to the existing steel framing, described above. The mast arms would extend over each of the eastbound and westbound outer roadways. The new poles would rise 14 feet above the new steel girder. The Manhattan Bridge outer roadways are lined with modern, tall light poles and the proposed poles with tolling equipment would be of a similar height as the existing light poles. The 20- and 25-foot-long mast arms that would extend over each roadway would be narrow in profile and would not impinge on views of the arch and colonnade. Installation of two poles at a similar height to the existing light poles that line the outer roadways (approximately 30 feet tall) with mast arms would be consistent with the existing lighting infrastructure at this historic property.

The CBD Tolling Alternative would add tolling infrastructure and tolling system equipment that would be in keeping with the existing transportation use of the historic bridge and would not alter the characteristics that qualify the Manhattan Bridge for listing in the NR.

3.1.3 Lincoln Tunnel

Constructed by the Port of New York Authority under the direction of Chief Engineer Othmar H. Ammann in consultation with Ole Singstad, the first (center) tube of the Lincoln Tunnel (NR-Eligible) opened in 1937. The Port Authority enlarged the tunnel with a north tube in 1945 and a south tube in 1957. Aymar Embury II designed many of the tunnel's exterior architectural features, like the Manhattan-side ventilation structures and the north tube portal entrance at Eleventh Avenue between West 39th and West 40th Streets.

Determined eligible for NR listing in 1989 with concurrence by FEMA on February 21, 2003, the Lincoln Tunnel is significant under Criterion A in the areas of automobile transportation and regional planning and under Criterion C in the area of engineering. The APE includes the portals of the three tubes, which are contributing features of the Lincoln Tunnel. The Lincoln Tunnel is identified as Resource No. 27 on Figure 6.

The CBD Tolling Alternative could place new tolling infrastructure and tolling system equipment at the three portals of the Lincoln Tunnel (see Attachment 3, pages 66 and 67). At the portals of the south and center tubes, tolling system equipment would be mounted on the brick portal entry walls and on the brick walls of the emergency garage that separates the south and center portals. The tolling equipment could consist of four clusters of tolling system equipment at each portal, two mounted on the brick portal wall and two on the brick walls of the emergency garage (see Figures 2-6, 2-7 and 2-8 of Attachment 2). All equipment would be finished to match the brick. At the north portal, tolling system equipment consisting of four clusters of tolling system equipment would be mounted on new poles to be installed on either side of the portal roadway. The tolling equipment would be mounted on one new pole on either side of the portal roadway, consisting of a set of two tolling clusters that would be mounted vertically. Each pole would be mounted between the lower and upper brick walls of the portal and would not exceed the height of the

decorative brick piers (previously modified with the installation of a modern light fixture) that line and extend above the portal walls (see Figure 2-8 of Attachment 2). The tolling system equipment proposed at the three portals would be of a small size, minimally visible, and consistent with other existing infrastructure at the tunnel portals that are mounted on the portal walls or on poles, including conduits, piping, traffic lights, lighting, cameras, and signage.

The CBD Tolling Alternative would add tolling infrastructure and tolling system equipment that would be in keeping with the existing transportation use of the historic tunnel portals and would not alter the characteristics that qualify the Lincoln Tunnel for listing in the NR. Tolling infrastructure and tolling system equipment that would be installed along city streets in the vicinity of the Lincoln Tunnel are discussed below in Section 3.2.

3.1.4 High Line

The High Line (NR-Eligible) was completed in 1934 as part of the West Side Improvement Project, replacing the New York Central Railroad along West Street and Tenth Avenue to eliminate dangerous traffic conflicts at grade. The West Side Improvement Project also included construction of the West Side Highway (Route 9A). The 1.45-mile steel and concrete viaduct, abandoned since 1980, is located almost 30 feet above grade and today runs from Gansevoort Street to West 34th Street, roughly parallel to Tenth Avenue. The SHPO determined the High Line eligible for the National Register under Criterion A as a significant transportation structure important to New York City's 20th-century industrial development. The SHPO's resource evaluation states that despite the demolition of the portions between Bank and Clarkson Streets, between Bank and Little West Streets and between West 34th and West 35th Streets, the High Line retains much of its historic integrity and is a visual reminder of one of Manhattan's important industrial transportation corridors.

The former freight railroad viaduct has been converted to a public park. The northern section of the High Line runs in a loop track along West 34th Street, Twelfth Avenue, and along West 30th Street, where it turns south to run west of Tenth Avenue (see Figure 6, Resource No. 31). At West 30th Street, a spur runs east to Tenth Avenue, where there is a large, double-track platform over the avenue adjacent to the Morgan General Mail Facility; the platform over Tenth Avenue originally connected to the Morgan General Mail Facility to allow mail trains to enter and leave the building simultaneously. Both the loop track and spur have a concrete parapet simply ornamented with recessed panels and a tubular steel railing broken up with square concrete posts.

Proposed tolling infrastructure and tolling system equipment would be placed on the High Line at the intersection of Tenth Avenue and West 30th Street (see Attachment 3, page 42). Tolling equipment consisting of new detection equipment would be mounted on a 3 ½ inch diameter pipe which would be attached to the existing girders on the underside of the High Line structure crossing Tenth Avenue at West 30th Street (see Figure 2-9 of Attachment 2). A small equipment cabinet would be mounted on a new pole to replace an existing pole on the west side of Tenth Avenue south of West 30th Street (see Figure 2-9 of Attachment 2).

The CBD Tolling Alternative would add tolling infrastructure and tolling system equipment of minimal visibility to the High Line structure that is consistent with the type of infrastructure already mounted on the structure including signage, traffic lights, and pedestrian traffic signals. The CBD Tolling Alternative would not notably alter the High Line structure or obstruct views to its structural components or decorative elements including parapets and railings. Therefore, the CBD Tolling Alternative would not alter the characteristics that qualify the High Line for listing in the NR.

3.2 TOLLING INFRASTRUCTURE AND TOLLING SYSTEM EQUIPMENT ON CITY STREETS

On city streets near the edge of the Manhattan CBD (e.g., near 60th Street and near the entrances to and exits from bridges and tunnels connecting to the Manhattan CBD), proposed tolling infrastructure and tolling system equipment would be similar in form to streetlight poles, sign poles, or similar structures that are already in use in New York City. As described in **Section 1.1.1.2,** a variety of infrastructure and equipment types would be used, depending on location. Based on preliminary design, in most locations, the tolling infrastructure would employ modified versions of standard NYCDOT poles approximately 25 to 30 feet high, with tolling system equipment mounted directly on the pole or with mast arms that extend over the roadway supporting tolling system equipment (see **Figures 1b and 1c**). In general, the sidewalks in the APE and immediate area have a variety of infrastructure, including older and more modern light poles, signage affixed on poles, and traffic lights, including traffic lights that are mounted on an arm extending over the roadway from a pole set in the sidewalk.

The CBD Tolling Alternative would minimize interference with public sightlines, view corridors, and open spaces at the locations proposed for the installation of the proposed tolling infrastructure and tolling system equipment. Proposed tolling infrastructure and tolling system equipment would be visually consistent with the existing streetscape and the infrastructure would have the same or similar appearance as adjacent NYCDOT standard signal and streetlight poles or as NYCDOT's family of street furniture.

Assessment of potential effects to specific architectural historic resources follows.

3.2.1 South Street Seaport Historic District and Extension

The South Street Seaport Historic District was listed in the NR in 1972, and LPC designated a South Street Seaport Historic District in 1977. In 1978, the SHPO approved an expansion to the previous NR historic district, naming the expansion the South Street Seaport Historic District Extension. LPC designated an extension to the NYCL historic district in 1989. The two historic districts and historic district extensions have different boundaries (see **Figure 4**, Resource No. 3). The historic districts and extensions are significant under Criterion A for their association with the history of shipping, commerce, immigration, and culture in New York City, as well as significant under Criterion C as a collection of buildings and an urban landscape reflecting the architecture and infrastructure of the New York seaport from the 17th century through the 20th century. Both the NR-listed and NYC-designated South Street Seaport Historic Districts and Extensions contain the largest concentration of early-19th century commercial buildings in New York City. The historic districts also include Greek Revival counting houses of the 1830s, most built with granite façades on the

first floor, with brick above. By the second half of the 19th century, when the South Street area had lost its prominence in New York's commercial life, many buildings were converted for the wholesale Fulton Fish Market. In addition, a few newer structures were built in the late 19th century.

Tolling infrastructure and tolling system equipment would be placed within the boundaries of the South Street Seaport Historic District and Extension. This would occur at the northern edge of the NR-Listed South Street Seaport Historic District Extension in a parking lot on the north side of Dover Street, roughly opposite 254 Front Street (see **Attachment 3**, page 60). Based on preliminary design, a new pole would be installed where there is presently no pole at the following location:

- **Parking Lot on Dover Street between Water and Front Streets**: A new pole with an equipment cabinet would be installed in a paved parking lot on the north side of Dover Street adjacent to an eight-foot-tall modern metal fence that separates the parking area from the north Dover Street sidewalk (see **Figure 2-10** of **Attachment 2**).

Installation of the pole would not require the alteration or removal of any decorative sidewalk or street paving, and there are no historic buildings on the north side of Dover Street. The placement of a new pole at the edge of the historic district adjacent to a modern metal fence and in a paved parking area would not alter the historic characteristics of the South Street Seaport Historic District and Extension.

3.2.2 Tribeca North Historic District

The Tribeca North Historic District (NR-Eligible, NYCHD) is roughly bounded by Watts, Vestry, Hudson, Varick, Hubert, West, and Washington Streets in Manhattan near the Holland Tunnel (see **Figure 4**, Resource Nos. 5 and 6). Within the APE, the Tribeca North Historic District includes properties on Hudson Street between Hubert and Vestry Streets, Hubert Street between Hudson and Greenwich Streets, Laight Street between Greenwich and Varick Streets, and Varick Street between Laight and Vestry Streets. Beginning in the 1850s, the Tribeca neighborhood (short for the Triangle below Canal Street) transformed into a commercial district of store and loft buildings, becoming by the next decade the thriving hub of a national system for the distribution of wholesale dry goods. The Tribeca North Historic District is primarily characterized by large warehouses erected in the late 19th and early 20th centuries near the Hudson River Railroad freight terminal that was formerly located at Hudson Square. The district also contains some early 19th-century residential buildings that were converted to commercial use in the later 19th century. The Tribeca North Historic District "is significant under NR Criteria A and C for its architectural significance and historical significance contributing to New York City's architectural, economic and commercial history, the commercial development of the Hudson River shoreline, and the evolution of the warehouse. It has a distinct and special character within the larger Tribeca area, defined by many large warehouse buildings constructed mostly between 1880 and 1910, which dominate every streetscape."[7]

[7] District Certification Application documentation compiled by Higgins & Quasebarth, November 2002, included as attachment to letter from Sherida E. Paulsen, Chairman, New York City Landmarks Preservation Commission, to Bernadette Castro, Commissioner, New York State Office of Parks, Recreation and Historic Preservation, December 5, 2002.

The APE conservatively assumes that proposed tolling infrastructure and tolling system equipment could be placed within the boundaries of the Tribeca North Historic District near the Holland Tunnel. In this part of the APE, the sidewalks are typically paved in concrete, and some streetbeds retain their original Belgian-block paving. Modern poles—including tall light poles, poles with signs affixed to them, and traffic lights mounted on arms that extend over the roadways, as well as shorter poles with signage—are along the sidewalk curb lines in the district. In addition, also in the vicinity on Hudson Street just south of Hubert Street, an electronic board mounted on a pole extends over the street providing information related to the Holland Tunnel. On Hudson Street at Vestry Street, a large overhead sign structure spans the width of the street with highway-style directional signage, including for I-78 and the Holland Tunnel. Based on preliminary design, one new pole would be placed within the boundaries of the Tribeca North Historic District. The pole would be installed in a location where there is an existing pole at the following location:

- Vestry Street west of Varick Street: A new pole would be installed on the southwest corner of Vestry and Varick Streets with a 20-foot mast arm extending over Varick Street in the Tribeca North Historic District (see Figure 2-11 of Attachment 2 and Attachment 3, page 44). The pole would replace an existing modern light pole, set in the concrete sidewalk.

The replacement of an existing modern light pole with a new light pole of a similar appearance and with a mast arm with a narrow profile would result in a minimal visual change at this location within, and at the edge of, the Tribeca North Historic District boundaries.

The proposed tolling infrastructure and tolling system equipment would not be placed in front of any historic building entrances in the Tribeca North Historic District, and no historic sidewalk paving, such as bluestone or Belgian-block pavers, would be removed or altered for the installation of tolling infrastructure and tolling system equipment. Due to the variety of modern light, signal, and signage poles and larger infrastructure related to the Holland Tunnel, the tolling infrastructure and tolling system equipment associated with the CBD Tolling Alternative would not alter the characteristics that qualify the Tribeca North Historic District for listing in the NR.

No new tolling infrastructure and tolling system equipment would be placed within the boundaries of the Tribeca West Historic District.

3.2.3 Paddy's Market Historic District

The Paddy's Market Historic District (NR-Eligible) includes five blockfronts on the east side of Ninth Avenue between West 35th and West 40th Streets, as well as properties on the west side of Ninth Avenue between West 39th and 40th Streets and properties along West 39th Street west of Ninth Avenue in the Hell's Kitchen neighborhood of Manhattan. The district is located in the APE near the Lincoln Tunnel (see Figure 6, Resource No. 20). Ninth Avenue between West 34th and West 42nd Streets was the location of one of the best known peddler pushcart markets, located beneath the Ninth Avenue Elevated. The market was established around 1885 by Irish and German immigrant pushcart peddlers and lasted until 1938, when the market was abolished by the city to ease traffic congestion related to the newly constructed Lincoln Tunnel, and remove what many politicians considered an eyesore from the city's streets. After the market closed,

"Paddy's Market" came to refer to the international food stores and restaurants on Ninth Avenue in the area of the former market.[8] The buildings in the Paddy's Market Historic District are primarily late 19th century tenements, with many retaining intact storefronts that reflect the history of the market. The Paddy's Market Historic District is significant under NR Criteria A and C in the areas of commerce, ethnic heritage/European, and architecture.

Proposed tolling infrastructure and tolling system equipment would be placed on sidewalks within the boundaries of the Paddy's Market Historic District. The sidewalks on these streets are paved in concrete. Poles—including tall modern light poles, poles with traffic lights mounted on arms that extend over the roadway, and shorter poles with signage—are along the sidewalk curb lines. Based on preliminary design, two new poles would be installed where there are presently no poles at the following locations:

- West 40th Street between Ninth and Tenth Avenues. A new pole with a 25-foot mast arm extending over West 40th Street would be installed on the north side of the street east of the building entrance of 541 Ninth Avenue on the concrete sidewalk (see Figure 2-12 of Attachment 2 and Attachment 3, page 27).

- West 39th Street between Ninth and Tenth Avenues. A new pole with a 25-foot mast arm extending over West 39th Street would be installed on the south side of the street west of the building entrance at 406 West 39th Street on the concrete sidewalk. (see Attachment 3, page 29).

The new tolling infrastructure and tolling system equipment would not be placed in front of a historic building's entrance in the Paddy's Market Historic District and would not require the alteration or removal of any decorative sidewalk paving. In addition, the new poles would have profiles similar to other standard NYCDOT poles with the mounted tolling system equipment of a small size. Due to the variety of infrastructure that exists on these streets, including traffic lights mounted on arms that extend over the roadways, as well as the new infrastructure's location at the edge of the historic district boundaries, the CBD Tolling Alternative would not alter the historic character of the Paddy's Market Historic District.

3.2.4 Central Park

Central Park (NHL, NR-Listed, NYCL [NYC Scenic Landmark]) encompasses 840 acres, with the designated boundaries extending from the northern curbline of Central Park South (59th Street) to the southern curbline of Central Park North (110th Street) and from the western curbline of Fifth Avenue to the eastern curbline of Central Park West (Eighth Avenue), including the sidewalks bordering the park on all sides. Central Park was the first large-scale public park in the United States, designed in the mid-19th century by Frederick Law Olmsted and Calvert Vaux. The park was planned as a naturalistic landscape in which urban dwellers of all backgrounds could mingle and find respite from the pressures of city life. Central Park had a wide-reaching influence on subsequent park design throughout the country. Development of Central Park

[8] New York State Office of Parks, Recreation and Historic Preservation Resource Evaluation, Paddy's Market Historic District. September 17, 2021.

was undertaken between 1857 and 1873. Central Park is identified as Resource Nos. 39a and 39b on Figure 7.

Both the NR Nomination Form and the New York City Scenic Landmark designation report state that Central Park is significant for its landscape architecture and is notable as the first large-scale public park in the nation that was designed according to a plan.[9] A critical component of the plan is the parkwide circulation system, which was designed to handle five different types of circulation that cross and recross each other at different levels: footpaths, bridle paths, carriage drives, waterways, and sunken transverse roads that allow crosstown traffic to pass through the park without affecting its recreational users.

The entire park is bordered by a rustic stone wall with 20 openings (referred to as gates). The wall extends for 2.5 miles along the park's edge on both Fifth Avenue and Central Park West and for approximately 0.5 mile on both Central Park South (59th Street) and Central Park North (110th Street). The sidewalks along those park edges have hexagonal pavers that are bordered on either side by strips of granite-block paving.

The NR Nomination Form for Central Park includes the following information regarding elements of the park that are contributing features and non-contributing features to the park's historic significance:

> All structures and landscape features within the park which were designed, either as part of the original plan or were added as important elements in the gradual growth and development of the park are considered part of the landmark. These include the Arsenal, the Zoo, Bethesda Fountain, Belvedere Castle, the Lake, the Sheep Meadow, the Mall, Harlem Meer, the Dairy, Friedsam Memorial Carouse, the Obelisk, Kerbs Memorial Model Boat House, Swedish School House, Delacorte Theatre, Metropolitan Museum of Art and all of the arches and bridges created as part of the circulation system through the park. Modern tennis courts, skating rinks, cemented playgrounds, sports fields and parking areas which disrupt the landscape design, and maintenance sheds and structures of no architectural merit or part of the total design do not contribute to the national significance of the landmark.[10]

The CBD Tolling Alternative would place four new poles with tolling infrastructure and tolling system equipment at three access point locations just inside Central Park near Central Park South (59th Street)(see Figure 7 and Attachment 3, pages 7-11). On the park roads connecting to Seventh Avenue and Sixth Avenue (West Drive and Center Drive, respectively), the CBD Tolling Alternative would replace one existing streetlight pole inside the park close to Central Park South/59th Street on each road with a new streetlight pole with tolling system equipment, including a small equipment box (see Attachment 3, pages 8 and 9). Tolling signage would be attached to the replacement pole on West Drive. On the park road (East Drive) connecting to Grand Army Plaza, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box (see Attachment 3, page 10). Tolling signage would be attached to one of the replacement East Drive poles. Figures 2-13 through 2-15 of Attachment 2 show

[9] National Register of Historic Places Inventory – Nomination Form, Central Park. August 14, 1975, Item 8. New York City Landmarks Preservation Commission, Central Park Designation Report, April 16, 1974.

[10] National Register of Historic Places Inventory – Nomination Form, Central Park. August 14, 1975, Item 10.

renderings of the proposed equipment on Central Park's East Drive near Grand Army Plaza/Fifth Avenue, Central Park's Center Drive near Sixth Avenue, and Central Park's West Drive near Seventh Avenue. These replacement streetlight poles would be in the same location and have the same appearance as the existing, modern streetlight poles, and the tolling system equipment mounted on them would use matching color schemes to blend with the appearance of the poles. In addition, the backs of the tolling signs to be installed on the West Drive and East Drive poles would also be painted the same color as the poles and tolling equipment to better blend into the park landscape. While vehicular traffic is not permitted in Central Park, these entrances serve as vehicular access points for authorized vehicles (e.g., emergency response vehicles, park maintenance, park administration, vendors, and contractors). Horse carriages used for sightseeing also use these access points.

In addition, tolling infrastructure and tolling system equipment would be installed along the sidewalk bordering the park on Fifth Avenue between East 60th and 61st Streets and on the sidewalk bordering the park on Central Park West between West 60th and 61st Streets. Based on preliminary design, on the west side of Fifth Avenue an existing modern streetlight pole would be replaced with a new light pole of a similar appearance, with tolling system equipment, including a small equipment box, at the same location (see Figure 2-16 of Attachment 2 and Attachment 3, page 11). The existing streetlight is set within granite-block paving. As the existing streetlight is a modern fixture, it does not contribute to the significance of the park and installation of tolling infrastructure and tolling system equipment at this location would not remove a contributing feature of the park.

On the east side of Central Park West, a new 26-foot-tall pole with a narrow profile, 50-foot mast arm extending over the Central Park West roadway that would have a green material finish would be installed (see Figure 2-17a of Attachment 2 and Attachment 3, page 7). The size of the pole, mast arm, and pole foundation are dictated by Project system and structural requirements, which include the need to detect vehicles across the full width of the Central Park West roadway from curb to curb, and to meet wind speed and wind pressure standards for the pole and mast arm inclusive of the dead loads incurred by the tolling infrastructure and tolling system equipment mounted on it. The proposed location of the pole on the east side of Central Park West results from a number of constraints that preclude placing a pole in another location with tolling system infrastructure and tolling system equipment to capture vehicles that cross the CBD boundary on Central Park West between West 60th and West 61st Streets.

Specifically, a new pole to support tolling system infrastructure and tolling system equipment must be placed on the east side of the Central Park West roadway between West 60th and West 61st Streets, and must include a 50-foot-long mast arm that extends over Central Park West for the following reasons:

- No pole can be placed on the west side of the Central Park West roadway between West 60th and West 61st Streets because of the presence of other infrastructure there that precludes the foundation for a new pole supporting tolling infrastructure and tolling system equipment. This includes the presence of the very shallow 59th Street-Columbus Circle subway station mezzanine (the mezzanine roof is located 16" from the top of the existing street surface) and sewer and fire hydrant lines on the west side of Central Park West between Columbus Circle and West 61st Street. As a result, there is not sufficient

depth or clearance to install the required pole foundation (which measures approximately 6.5' x 6.5' x 5'). It is also not possible to mount the pole and mast arm to the existing subway elevator structure on the west side of the Central Park West, as the structure cannot carry the additional load.

- The proposed pole cannot be located on a different block, such as on Central Park West north of West 61st Street, since this would be inconsistent with the definition of the CBD Tolling Alternative, which has a boundary at 60th Street. The CBD Tolling Alternative includes tolling infrastructure and tolling system equipment on all southbound and northbound streets as they cross the boundary, to provide the necessary vehicle information for the tolling program. Moreover, moving the proposed pole north would not avoid the need to place a pole on the east side of the Central Park West roadway, since the infrastructure present on the west side of the roadway is linear and is therefore located on that block as well.
- Since no pole can be located on the west side of Central Park West, the pole on the east side of the street must support a mast arm long enough to extend the full width of the roadway, so that all potential locations where a vehicle may cross the boundary are covered. Consequently, the proposed pole must have a 50-foot-long mast arm.

The new pole would be at the curb near a modern bus stop sign, and northwest of a metal shed vendor structure, on the east side of Central Park West as noted above. The new pole would be set within the existing granite-block paving. The new pole would be near the intersection of Central Park West and Columbus Circle, where there is a variety of modern street infrastructure including light poles with traffic lights mounted on mast arms that extend over the roadways, a subway elevator housed in a metal structure on the sidewalk, and with other large modern buildings and objects including the large metal globe structure associated with a modern hotel building across Central Park West from the proposed pole location. The new pole and tolling infrastructure and tolling system equipment would have a uniform green material finish that matches the color palette of infrastructure on the street. The roadbed of Central Park West at the location where the new mast arm is proposed is not located within the boundaries of the Central Park historic property. The pole with mast arm with a green material finish would be visible from within Central Park in views southwest, partially visible in leaf-on conditions (see **Figure 2-17b** of **Attachment 2**). The pole and mast arm would be more visible in leaf-off conditions, though in context with other tall recent development on the west side of Central Park West and at Columbus Circle and modern infrastructure such as light poles, bus stop poles, and traffic light poles on Central Park West, as well as NYCT poles that serve communications functions that are located within Central Park adjacent to the park's stone wall (see **Figure 2-17c** of **Attachment 2**). On both Fifth Avenue and Central Park West, installation of the new poles would require removal of some of the surrounding granite-block pavers to remove and install the new poles. Existing pavers or new pavers to match the existing condition would be installed upon installation of the new pole. The new tolling infrastructure and tolling system equipment within Central Park would not alter the NR and NHL-qualifying characteristics of Central Park, including its landscape architecture and circulation system. No historic or landscape park features (i.e., benches, trees, plantings, and signage) would be removed to accommodate installation or operation of proposed tolling infrastructure and tolling system equipment. On each of the three park roadways (West Drive, Central Drive and East Drive), the four new replacement light poles, which would be of the same appearance as the light

poles they would replace, and the tolling system equipment mounted on them, would result in a minimal visual change. In addition, as described above, the replacement pole on the Fifth Avenue sidewalk and the new pole on the Central Park West sidewalk would be consistent with the presence of modern street furniture in the area, would similarly constitute a minimal change. The CBD Tolling Alternative would not change the character of Central Park's use or of physical features within the property's setting that contribute to its historic significance, and would not introduce visual elements that diminish the integrity of Central Park's significant features.

The Project Sponsors would coordinate with the New York City Department of Parks and Recreation (NYC Parks) and the Central Park Conservancy regarding the final design of the tolling infrastructure and tolling system equipment in Central Park.

3.2.5 Upper East Side Historic District and Boundary Increase

The Upper East Side Historic District (NR-Listed, NYCHD), including all or portions of blocks between Fifth Avenue and approximately Lexington Avenue from East 59th to East 79th Street, was listed in the NR in 1984 (see Resource Nos. 40 and 41 on **Figure 7**). In 2005, the NR boundaries were expanded to include additional properties in two separate areas east and west of Lexington Avenue, between East 60th and East 65th Streets and between East 71st and East 76th Streets. The amendment to the NR listing also modified the period of significance for the district.[11] The historic district and boundary increase primarily comprise large houses, townhouses, apartment buildings, and associated carriage houses and garages, as well as institutional buildings that were constructed largely in the late 19th and early 20th centuries. Within the APE between East 60th and East 61st Streets, the Upper East Side Historic District and Boundary Increase includes properties along the west side of Lexington Avenue, the east side of Park Avenue, the west side of Madison Avenue, and the east side of Fifth Avenue (see **Figure 7**, Resource No. 42). The Upper East Side Historic District and Boundary Increase is significant under NR Criteria A and C in the categories of community planning and development and architecture.[12]

Proposed tolling infrastructure and tolling system equipment would be placed on sidewalks within the boundaries of the Upper East Side Historic District and Boundary Increase. This would occur on sidewalks at the edges of the historic district boundaries on Fifth Avenue and Park Avenue. The sidewalks on these streets are paved in concrete with the exception of decorative paving in some instances at building entrances. Poles—including tall modern light poles, poles with traffic lights mounted on arms that extend over the roadway, and shorter poles with signage—are along the sidewalk curb lines. Based on preliminary design, new poles would be installed where there are presently no poles at the following locations:

[11] The Upper East Side NYCHD was originally designated in 1981 with slightly different boundaries than those of the NR district. In 2010, the NYCHD boundary was extended to the east to include properties east and west of Lexington Avenue between East 63rd and East 65th Streets and East 71st and East 76th Streets. These boundaries are different from those of the NR boundary increase.

[12] National Register of Historic Places Registration Form, Upper East Side Historic District (Boundary Increase and Additional Documentation). December 30, 2005, Section 8, p. 1.

- **Fifth Ave between East 60th and 61st Streets:** A new pole with a 30-foot mast arm extending over Fifth Avenue would be installed on the east side of Fifth Avenue on the concrete sidewalk that borders the north end of the Metropolitan Club (1 East 60th Street). See **Figure 2-16** of **Attachment 2** and Attachment 3, page 11.

- **Park Avenue between East 60th and 61st Streets:** A new pole with a 35-foot mast arm extending over the northbound Park Avenue roadbed would be installed on the east side of the street south of the building entrance of 525 Park Avenue on the concrete sidewalk. See **Figure 2-18** of **Attachment 2** and **Attachment 3**, page 13.

The new tolling infrastructure and tolling system equipment would not be placed in front of a historic building's entrance in the Upper East Side Historic District and Boundary Increase and would not require the alteration or removal of any decorative sidewalk paving, such as bluestone or Belgian-block pavers. In addition, the new poles would have a profile similar to other standard NYCDOT poles with the mounted tolling system equipment of a small size (see **Figures 2-16 and 2-18** of **Attachment 2**). The mast arms of the proposed poles on Fifth Avenue and Park Avenue would overhang roadways that are not included within the historic district boundaries. Due to the variety of infrastructure that exists on these streets, including traffic lights mounted on arms that extend over the roadway, as well as the new infrastructure's location at the edges of the historic district boundaries, the CBD Tolling Alternative would not alter the historic character of the Upper East Side Historic District and Boundary Increase.

3.2.6 Gansevoort Market Historic District

The Gansevoort Market Historic District (NR-Listed) encompasses all or portions of 19 blocks and is roughly bounded by West 16th Street, Eleventh Avenue and West Street, Horatio and Gansevoort Streets, and Ninth Avenue and Hudson Street. The NYCHD boundaries of the historic district differ, including excluding properties north of West 15th Street, and certain properties west of Washington Street and east of Hudson Street. The street plan—which transitions between the typical Manhattan street grid and the older Greenwich Village street plan—is a contributing element to both historic districts. The historic district is characterized by a mix of buildings constructed between the 1840s and 1940s. Although the buildings in the historic district consist of a range of types and sizes from different historical periods that represent the area's changing uses, certain common features create an architectural cohesion. These features include the use of brick, a general low-rise character, metal ground-floor canopies, multiple buildings designed by the same architects in historical revival styles, and Belgian block paving. The earliest buildings are typically residential structures, many of which were later converted to commercial uses, but a few extant industrial structures date to the pre-Civil War era. After the Civil War, most new buildings were manufacturing and warehouse structures. In the late 19th century, the creation of two markets spurred new development, particularly of wholesale businesses that catered to the markets. Buildings constructed in the late 19th and early 20th centuries include market buildings, stables, warehouses, and loft buildings, as well as residential structures. In 1898, development of a cold storage warehouse and power plant at 521–527 West Street and 109–111 Horatio Street by the Manhattan Refrigerating Company, along with the installation of a system of underground refrigeration pipes that serviced 18 blocks, spurred the concentration of wholesale

meat businesses in the district. As meatpacking became the most prominent district business, numerous older buildings were converted while new low-rise market buildings were constructed. Today, as many of the buildings are occupied by restaurants, boutiques, furniture stores, and nightclubs, many ground-level facades have been altered with large plate glass windows and modern façade treatments that clearly signal the new land uses in the area. The Gansevoort Market Historic District is significant under Criterion A for commercial history, community development, industrial history and transportation history and also significant under Criterion C "as an architecturally rich, mixed-use, mercantile district consisting of industrial, commercial and residential buildings linked to the city's working waterfront."[13] The Gansevoort Meat Market Historic District is identified as Resource No. 45 on **Figure 8**.

Proposed tolling infrastructure and tolling system equipment could be placed on sidewalks within the boundaries of the Gansevoort Market Historic District as described below. In this part of the APE (**Figure 8**), the sidewalks are typically paved in concrete, and some streetbeds retain their original Belgian-block paving. Modern poles—including tall light poles and shorter poles with signs affixed to them—are along the sidewalk curb lines in the district. Based on preliminary design, a new pole may be installed where there is presently no pole at the following location:

- **Tenth Avenue between Gansevoort and Little West 12th Streets**: A new pole with an equipment cabinet may be installed on the east side of Tenth Avenue on the concrete sidewalk (see **Attachment 3**, page 50).

The pole would be located within the boundaries of the NR-Listed Gansevoort Market Historic District, which includes the east sidewalk on Tenth Avenue. However, this location is at the western edge of the historic district, and the east Tenth Avenue frontage between Gansevoort and Little West 12th Streets is occupied by the recently constructed Whitney Museum of Art and a two-story commercial building with retail spaces to the north of it. The Whitney Museum of Art replaced a number of buildings that were identified as non-contributing to the significance of the NR-Listed Gansevoort Market Historic District.[14] Installation of the pole would not require the alteration or removal of any decorative sidewalk or street paving, such as bluestone or Belgian-block pavers. Due to the variety of infrastructure that exists on the block and other streets in the historic district including modern light poles and signage, as well as the new infrastructure's location at the edge of the historic district boundaries adjacent to Route 9A, the CBD Tolling Alternative would not alter the historic character of the Gansevoort Market Historic District.

[13] National Register of Historic Places Registration Form, Gansevoort Market Historic District. April 9, 2007, Section 8, p.1.

[14] National Register of Historic Places Registration Form, Gansevoort Market Historic District. April 9, 2007.

3.3 OTHER INDIVIDUAL HISTORIC ARCHITECTURAL PROPERTIES

Based on preliminary design, other locations where new tolling infrastructure and tolling system equipment would be placed on the sidewalks of city streets within the APE include the streets listed below with corresponding historic properties (with reference number from **Table 1** shown).[15]

- On the Brooklyn Bridge eastbound roadway and westbound exit ramp east of Centre Street and in the concrete median between a westbound exit from Pearl Street and westbound exit from the southbound FDR Drive (**Figure 4**)
  - No historic properties – see discussion below

- On Canal Street west of Varick Street at the Holland Tunnel exit (**Figure 4**)
  - See discussion below

- On Broome Street between Hudson and Varick Streets near the Holland Tunnel (**Figure 4**)
  - 8 - American Thread Building

- On West Street adjacent to the Battery Park Underpass (**Figure 5**)
  - 9 - Whitehall Building
  - 10 - Downtown Athletic Club Building (NYCL)
  - 11 - 21 West Street

- At the Trinity Street exit from the Hugh L. Carey Tunnel (**Figure 5**)
  - No historic properties

- Near the Lincoln Tunnel including the portals at Tenth Avenue between West 38th and West 39th Streets (**Figure 6**)
  - 12 - U.S. Post Office – Morgan General Mail Facility
  - 13 - 406-426 West 31st Street
  - 14 - U.S. General Post Office
  - 15 - Pennsylvania Railroad North River Tunnel
  - 16 - St. Michael's Roman Catholic Church Complex
  - 17 - Master Printers Building
  - 18 - Webster Apartments
  - 19 - Harding Building (Garment Center Historic District)
  - 21 - Former Pinehill Crystal Water Company
  - 22 - Hill Building
  - 23 - 500 West 37th Street
  - 24 - Underhill Building

[15] Historic properties not included in this list include historic districts and individual properties that are located in the Direct Effects portion of the APE and have been previously discussed in Sections 3.1 and 3.2. These include Resources 1-3, 5-7, 20, 27, 31, 39-42 and 45.

  - 25 - 408 West 39th Street
  - 26 - 523-539 Ninth Avenue
  - 28 - St. Raphael Roman Catholic Church and Rectory
  - 29 - 500-506 West 42nd Street
  - 30 - McGraw Hill Publishing Company Building
  - 32 - Former French Hospital
  - 33 - Lithuanian Alliance of America
  - 34 - Hotel Irwin
  - 35 - Engine Co. 34 Firehouse

- On Manhattan's north-south avenues between 60th and 61st Streets (**Figure 7**)
  - 36 - P.S. 191 Hudson Honors School
  - 37 - Cova Building
  - 38 - 59th Street-Columbus Circle Subway Station
  - 43 - Grand Army Plaza

- On East 25th Street west of the FDR Drive (**Figure 8**)
  - 44- Public Baths

The addition of the proposed tolling infrastructure and tolling system equipment would not alter the NR-qualifying characteristics of the individual historic properties that are in the APE and the Harding Building in the Garment Center Historic District in the APE.[16] As noted in **Table 1**, the individual historic properties eligible or listed in the NR meet Criterion A or C or both NR criteria and are significant as part of the development of neighborhoods in New York City and/or are significant for their architectural or engineering characteristics. The McGraw-Hill Publishing Company Building, which is a NHL, is significant in the history of skyscraper construction and is considered the first expression of the curtain wall in a high-rise building.[17] As noted in **Table 1**, there would be no physical changes to this resource or to its immediate setting.

With the exception of an underground subway station, an elevated former freight railroad viaduct structure, tunnels, bridges, and parks, historic architectural resources in the APE consist of buildings that line the sidewalks on the blocks where new tolling infrastructure and tolling system equipment would be installed. Overall, installing new street poles with tolling system equipment or new poles with mast arms with tolling system equipment that are at a similar height to and in a similar form as existing poles in the APE would be consistent with the setting of historic architectural resources in the APE, and would not add incompatible visual elements to any resource's setting that would diminish the integrity of a historic architectural resource's NR-qualifying characteristics. The tolling infrastructure and tolling system equipment would be visually consistent with the existing urban streetscape where, as described above, the sidewalks in the APE and immediate area contain a variety of infrastructure, including older and more

[16] As noted in **Table 1**, only one property in the Garment Center Historic District is in the APE: the Harding Building at 440 Ninth Avenue.

[17] National Register of Historic Places Inventory – Nomination Form, McGraw-Hill Building. January 9, 1980

modern light poles, signage affixed on poles, and traffic lights, including traffic lights that are mounted on an arm extending over the roadway from a pole set in the sidewalk. No new tolling infrastructure or tolling system equipment would be placed directly in front of a historic building's entrance.

Although a new pole with supporting tolling system equipment would be placed on the concrete median separating the Holland Tunnel exit roadway and Canal Street (see **Attachment 3**, page 44), the concrete median contains a variety of infrastructure including signs, a traffic light, modern light poles and the support for a large sign structure that spans above Canal Street and the Holland Tunnel exit. Therefore, the proposed tolling infrastructure and tolling system equipment at this location would not adversely alter the setting, prominence, or visibility of the historic Holland Tunnel exit ramp structure including its granite-faced concrete retaining walls. As discussed in **Section 1.2.2.3**, no new tolling infrastructure and tolling system equipment would be mounted directly on the Holland Tunnel structure.

Based on preliminary design, the CBD Tolling Alternative would install three new poles with tolling system equipment at the Brooklyn Bridge eastbound roadway and westbound exit ramp east of Centre Street (see **Figure 4** and **Attachment 3**, page 59). Two poles with 25-foot mast arms would replace an existing modern light pole at the westbound exit ramp and a new pole with tolling system equipment would be installed on the south side of the eastbound roadway. In addition, a new pole with tolling system equipment could be placed in the concrete median between a westbound exit from Pearl Street and westbound exit from the southbound FDR Drive (see **Attachment 3**, page 57). The proposed new tolling infrastructure and tolling system equipment would be outside the NHL, NR-Listed and NYCL-designated boundaries for the Brooklyn Bridge. There are no historic properties in this portion of the APE.

4. Basis for Recommended Project Finding

As described in this document, the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the NR. The CBD Tolling Alternative would not remove historic architectural resources or remove or alter contributing features to historic architectural resources. The tolling infrastructure and tolling system equipment would not diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association.

Measures that have been or would be taken to avoid or minimize adverse effects include the following:

- Tolling infrastructure and tolling system equipment on city streets would be placed on city sidewalks so that it would not be installed in front of a historic building's entrance.
- Historic or decorative sidewalk paving within historic districts would not be removed or altered to install tolling infrastructure and tolling system equipment. On Fifth Avenue and Central Park West, any granite-block pavers that would be removed to install replacement poles would be reused or replaced in kind. Proposed work on sidewalks or protected paving located within historic districts designated by LPC would following guidance as set forth in Chapter 10: Historic Districts with Sidewalks Regulated by LPC of the *LPC Permit Guidebook* (2019).

- New light poles and associated equipment would be visually consistent with the existing palette of street furniture in the APE.
- In Central Park, new tolling infrastructure and tolling system equipment would be installed at only three access point locations along the existing park roadway system, and minimized by replacing four existing light poles there with poles that have the same appearance.
- For new tolling infrastructure and tolling system equipment on the park edges (Fifth Avenue and Central Park West), poles would be placed near the curbs and would be consistent with the presence of modern street furniture in the area, constituting a minimal change to the character of Central Park. On Central Park West, measures implemented to minimize the visual impact of the pole with 50-foot-long mast arm include combining the disparate required elements of the tolling system equipment into single enclosures ("clusters") that are the minimum size possible (smaller than a traffic light). This would reduce the visibility of the tolling system equipment. In addition, the proposed pole and tolling infrastructure and tolling system equipment would have a uniform green material finish that matches the color palette of infrastructure on the street. The pole and mast arm would be completely removable so there would be no interference with New York City's Thanksgiving Day Parade, which uses Central Park West and involves large parade floats and balloons. Furthermore, the Memorandum of Understanding (MOU) between NYCDOT and TBTA for the Project restricts any equipment other than the tolling system equipment from being installed on the pole and mast arm. NPS will be consulted when the current MOU expires, is revised or extended.
- The Project Sponsors would coordinate with NYC Parks, the SHPO, and NPS regarding the proposed addition of street trees to help screen the pole and mast arm proposed on the Central Park West sidewalk.
- The Project Sponsors would coordinate with NYC Parks and the Central Park Conservancy regarding the final design of the tolling infrastructure and tolling system equipment in Central Park. As described above, the new pole and tolling infrastructure and tolling system equipment on Central Park West would have a uniform green material finish that matches the color palette of infrastructure on the street. In addition, the backs of the tolling signs to be installed on the West Drive and East Drive poles would also be painted the same color as the poles and tolling equipment to better blend into the park landscape.

FHWA, in coordination with NYSDOT, has applied the Criteria of Adverse Effect (36 CFR 800.5(a)(1)) to identified historic properties within the APE, and finds the Project would have No Adverse Effect. The Project would not result in any direct or indirect effects on historic properties that would alter the characteristics of a historic property that qualify it for inclusion in the NRHP.

5. Consulting Party and Public Involvement

NYSDOT and FHWA have solicited input from Consulting Parties and the public concerning the Project's effect on historic properties, which has been taken into account in the recommended No Adverse Effect

finding. Outreach completed to date and future planned outreach to Consulting Parties and the public is described below and associated correspondence is provided in Attachment 4.

Consultation with the SHPO was initiated on behalf of the FHWA on September 24, 2021, including providing a list of potential Consulting Parties. On October 18, 2021, the SHPO provided suggestions for the addition of other potential Consulting Parties.

FHWA initiated Section 106 consultation with representatives of Federally-recognized Native American tribes with an interest in the geographical area of the Project location. FHWA formally initiated Section 106 consultation with the Shinnecock Indian Nation, Stockbridge-Munsee Community Band of Mohican Indians, Delaware Nation, and Delaware Tribe in letters dated October 6 and October 12, 2021, inviting them to meet with FHWA and NYSDOT representatives. The Stockbridge-Munsee Mohican Tribal Historic Preservation Extension Office responded on October 13, 2021 indicating they had no concerns with the Project. The October 2021 Cultural Resources Screening Report was provided to the four Federally-recognized Native American tribes on October 28, 2021.

In consultation with SHPO, the Project Sponsors identified potential Consulting Parties and invited them to participate in Section 106 consultation. Four organizations accepted the invitation to participate as Consulting Parties, and FHWA approved them on November 12, 2021. These include the National Park Service, LPC, the New York Landmarks Conservancy, and NYC Parks. A Consulting Parties meeting was held on December 16, 2021. The purpose of the meeting was to provide Consulting Parties with an overview of the Project, the Section 106 process, and the status of the Section 106 process for the Project. The Consulting Parties were given an opportunity to provide input on the nature of the historic properties in the APE and the Project's potential effects on historic properties. Subsequent to the Consulting Parties meeting, on December 23, 2021, NYSDOT provided the Consulting Parties with information about the Project; the APE as defined in consultation with the SHPO; the historic properties identified in the APE; and proposed Project-related activities on, in, and/or in the vicinity of the identified historic properties.

Following that meeting, FHWA and the Project Sponsors conducted additional consultation with NPS, SHPO, and NYC Parks regarding the proposed pole and mast arm on Central Park West. The Project Sponsors made a presentation to FHWA, NPS, SHPO and NYC Parks on February 16, 2022 that included information regarding alternatives considered for the location of the pole and mast arm, information regarding the design features of the tolling infrastructure and tolling system equipment proposed at this location, and information related to the Project design at this location and how it was developed to minimize the Project's visibility. Based on an information request made by the SHPO on March 9, 2022, a package was provided to FHWA, SHPO, NPS, and NYC Parks on March 16, 2022 that included additional information regarding the proposed pole and mast arm, including visual simulations of the pole and mast arm with different finishes, and an elevation, plan, and photographs depicting the surrounding infrastructure and their associated heights relative to the proposed Central Park West pole. Based on comments received from NPS, the SHPO, and NYC Parks, FHWA hosted a meeting on April 6, 2022 with the Project Sponsors and Consulting Parties to discuss and seek agreement regarding the most appropriate color finish for the Central Park West pole, mast arm, and associated tolling equipment. Consensus was reached that a green finish would match the color palette used for infrastructure in Central Park and on Central Park West and better blend into the surrounding landscape.

The Draft (Proposed Final) Finding Documentation recommending a No Adverse Effect finding for the Project pursuant to Section 106 was provided to the Consulting Parties by NYSDOT on April 12, 2022 and to the four Federally-recognized Native American tribes by FHWA on April 13, 2022, for review and comment. In a letter dated April 18, 2022 the SHPO concurred with the recommended No Adverse Effect finding. On April 29, 2022 NYC Parks requested minor clarifications and revisions to the text of the Finding Documentation. In a letter dated May 19, 2022, NPS concurred with the finding of No Adverse Effect and agreed with the proposed green finish for the proposed Central Park West pole, mast arm, and associated tolling equipment. Information regarding the proposed addition of tolling signage to two of the replacement poles within Central Park (one pole at West Drive and one pole at East Drive) was subsequently provided to the four Federally-recognized Native American tribes by FHWA on May 31, 2022 and to the Consulting Parties by NYSDOT on June 3, 2022, for review and comment. In this correspondence, FHWA and NYSDOT indicated that the signage would not alter character-defining features or alter the integrity of Central Park and that the Finding Documentation would continue to recommend a No Adverse Effect determination. In comments dated June 1, 2022, the Stockbridge-Munsee Mohican Tribal Historic Preservation Extension Office stated their concurrence with the SHPO's finding of No Adverse Effect. In comments dated June 10, 2022 NYC Parks requested that the backs of the signs be painted the same color as the poles and equipment to better blend into the park landscape. The SHPO, NPS, and LPC indicated their concurrence of the No Adverse Effect determination in correspondence dated June 16 and 17, 2022.

Based on input received through the consultation process, requested text revisions have been incorporated into this Finding Documentation and the Project Sponsors modified the design of the CBD Tolling Alternative at three locations to respond to concerns raised by Consulting Parties. At the Lincoln Tunnel north portal, the Project Sponsors originally proposed four clusters of tolling system equipment, consisting of a set of two tolling clusters mounted vertically at one brick pier of the brick portal entry on either side of the portal roadway. To avoid affecting the brick patterned pier and respond to a request that the tolling system equipment be pole-mounted rather than mounted directly on the brick piers, the Project Sponsors modified the design so that the tolling system equipment would be pole-mounted, as described above in Section 3.1.3. At the High Line, the Project Sponsors originally proposed a cabinet housing tolling system equipment on a column of the High Line structure. To respond to requests that the equipment cabinet be pole-mounted rather than mounted directly on the High Line structure, the Project Sponsors revised the design so that the equipment cabinet would be mounted on a new pole installed on the west side of Tenth Avenue south of West 30th Street as desribed above in Section 3.1.4. To address visibility concerns at the Central Park West tolling location, the proposed pole and mast arm would be finished in a green color, rather than the originally proposed black finish. In addition, the backs of the tolling signs to be installed at two replacement poles within Central Park would be painted the same color as the poles and equipment. Revisions made to the Finding Documentation based on comments received by Consulting Parties on the Draft (Proposed Final) Finding Documentation and on the subsequent submission of information regarding the installation of tolling signage at two locations within Central Park were not substantive and did not alter the recommended finding. With these revisions, this Finding Documentation is considered final.

The Project Sponsors also developed and are implementing a Public Involvement Plan, consistent with NYSDOT Public Participation Plan guidelines, to support their efforts in coordinating with the public. The purpose of the Public Involvement Plan is to establish a process for soliciting input from the public,

encouraging open discussion of Project details and issues, and providing multiple opportunities for public comments and questions related to the Project for consideration during the EA development and for subsequent agency decision-making. This plan will allow the Project Sponsors and FHWA to consider the views among varying interest groups and stakeholders throughout the decision-making process.

Outreach for the Project includes extensive outreach activities via virtual meetings and webinars prior to completion of the EA, development of a Project website, production of Project fact sheets, maintenance of a contact list to keep interested individuals informed about Project progress, and coordination with interested and involved stakeholders including NYC Parks, the Central Park Conservancy, and the Friends of the High Line. When the EA is complete, additional outreach will be conducted, including public meetings and hearings to solicit comments on the document.

6. Attachments

Attachment 1: Detection Point Locations

Attachment 2: Detection Point Visual Simulations

Attachment 3: Detection Point Location Plans

Attachment 4: Correspondence

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Section 106 Finding Documentation

Volume 2: Attachments

SHPO Project Review No: 21PR06430

June 2022

Attachment 1:
Detection Point Locations

June 2022

Central Business District Tolling Program
Detector Locations
October 1, 2021

Location Description	Direction	Cross-Streets	Proposed Structure/Foundation	Mast Arm Length and Pole Type	Comments
Brooklyn Bridge Section	EB	Ramp from Park Row NB	Connected to existing Cantilever Sign Structure	N/A	
Brooklyn Bridge Section	EB	By Pearl Street	New tall Sidefire pole with spread footing foundation sitting on existing bridge wall footing	Modified M-2A (SF)	
Brooklyn Bridge Ramp	WB	Ramp to FDR & Pearl St	New Sidefire connected to existing Overhead Sign Structure post	N/A	
Brooklyn Bridge Section	WB	To Center St NB	Replace existing pole with new modified M-2A pole with combined spread footing foundation	25-ft Modified M-2A	
Brooklyn Bridge Section	WB	Ramp to Park Row	Replace existing pole with new modified M-2A pole with combined spread footing foundation	25-ft Modified M-2A	
Brooklyn Bridge Section	EB	Ramp from Pearl St	New Standard Sidefire pole with spread footing foundation	Standard M-2A (SF)	
Brooklyn Bridge to FDR	EB	From FDR NB	Connected to existing Cantilever Sign Structure	N/A	A standalone pole is required to support equipment cabinets.
Brooklyn Bridge to FDR	EB	From FDR SB	Connected to existing Cantilever Sign Structure	N/A	
West Drive, W	SB	Near 59th St.	Replace existing pole with new Standard Sidefire pole with spread footing foundation	Standard M-2A (SF)	
Center Drive, W	NB	Near 59th St.	Replace existing pole with new Standard Sidefire pole with spread footing foundation	Standard M-2A (SF)	
East Drive, E	NB	Near Grand Army Plaza	Replace existing pole with new Standard Sidefire pole with spread footing foundation	Standard M-2A (SF)	
East Drive, W	SB	Near Grand Army Plaza	Replace existing pole with new Standard Sidefire pole with spread footing foundation	Standard M-2A (SF)	
60th Street	EB	E of York	New Sidefire on existing light pole attached on existing roadway barrier/wall	N/A	
Fifth Avenue	SB	Bet 60th & 61st	New modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	
Fifth Avenue	SB	Bet 60th & 61st	Replace existing pole with new Standard Sidefire pole with drilled shaft foundation	Standard M-2A (SF)	
Madison Ave	NB	Bet 60th & 61st	New jumbo M-2A pole with spread footing foundation	50-ft Modified M-2A	
Park Avenue SB	SB	Bet 60th & 61st	New modified M-2A pole with drilled shaft foundation	35-ft Modified M-2A	
Park Avenue NB	NB	Bet 60th & 61st	New modified M-2A pole with drilled shaft foundation	35-ft Modified M-2A	
Lexington Ave	SB	Bet 60th & 61st	New modified M-2A pole with spread footing foundation	20-ft Modified M-2A	
Lexington Ave	SB	Bet 60th & 61st	Replace existing pole with new modified M-2A pole with spread footing foundation	25-ft Modified M-2A	
Third Ave	NB	Bet 60th & 61st	Replace existing pole with new modified M-2A pole with drilled shaft foundation	35-ft Modified M-2A	
Third Ave	NB	Bet 60th & 61st	New modified M-2A pole with spread footing foundation	25-ft Modified M-2A	
Second Ave	SB	Bet 60th & 61st	New Sidefire on existing light pole and foundation	N/A	
Second Ave	SB	Bet 60th & 61st	New Jumbo M2A Pole with 50-ft Mast Arm with Spread Footing	50-ft Modified M-2A	
1st Ave	NB	Bet 60th & 61st	New modified M-2A pole with spread footing foundation	35-ft Modified M-2A	
1st Ave	NB	Bet 60th & 61st	New modified M-2A pole with spread footing foundation	25-ft Modified M-2A	
York Ave	NB	Bet 60th & 61st	New modified M-2A pole with spread footing foundation	25-ft Modified M-2A	
York Ave	SB	Bet 60th & 61st	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	
FDR	SB	Bet JFW & 61st	Connected to existing Overhead Sign Structure	N/A	
FDR	NB	At 53rd	Connected to existing Overhead Sign Structure	N/A	
Greenwich Street Exit	EB	HLC	Replace existing pole with new modified M-2A pole with spread footing foundation	20-ft Modified M-2A	
Broome Street	EB	E of Hudson	Replace existing pole with new modified M-2A pole with spread footing foundation	25-ft Modified M-2A	Detection Point required only if CBDTP goes on PANYNJ property.
Holland Tunnel Entrance	NB	Bet Hudson & Varick ST	New Sidefire with drilled shaft foundation	Standard M-2A (SF)	Detection Point not required if CBDTP goes on PANYNJ property.
Holland Tunnel Entrance	NB	Bet Hudson & Varick ST	New modified Region 10 pole with spread footing foundation	50-ft Region 10	Detection Point not required if CBDTP goes on PANYNJ property.
Broome Street	WB	W of Varick ST	Replace existing pole with new modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
Holland Tunnel Exit	EB	At Tunnel Exit	New sidefire with drilled shaft foundation	Standard M-2A (SF)	Detection Point not required if CBDTP goes on PANYNJ property.
Holland Tunnel Exit	EB	At Tunnel Exit	Replace existing pole with new modified M-2A pole with drilled shaft foundation	20-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.

Central Business District Tolling Program
Detector Locations
October 1, 2021

Location Description	Direction	Cross-Streets	Proposed Structure/Foundation	Mast Arm Length and Pole Type	Comments
PANYNJ property at Holland Tunnel Exit	EB	At Tunnel Exit	On existing sign structure over Holland Tunnel roadway	N/A	Detection Point required only if CBDTP goes on PANYNJ property.
PANYNJ property. Holland Tunnel Entrance	WB	At Tunnel Entrance	On exsiting structure with overheight height warning devices	N/A	Detection Point required only if CBDTP goes on PANYNJ property.
W 34th Street	EB	E of Dyer ST	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 34th Street	WB	E of Dyer ST	New modified M-2A pole with spread footing foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 35th Street	WB	W of Dyer ST	Replace existing pole with new modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 35th Street	WB	E of Dyer ST	Replace existing pole with new modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 36th Street	EB	Bet 10th & Dyer	Replace existing pole with new modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 36th Street	EB	Bet 9th & Dyer	Replace existing pole with new modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
9th Ave	SB	Bet 36th & 37th, Near 36th	Replace existing pole with new modified M-2A pole with spread footing foundation	20-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 39th Street	WB	West of 9th Ave, Nearer 9th	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 39th Street	WB	West of 9th Ave, Further from 9th	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
10th Ave	NB	S of 30th Overhead on Highline	Connected to the existing High Line structure	N/A	Detection Point not required if CBDTP goes on PANYNJ property.
W 39th Street	WB	Near PANYNJ W end of block	New modified M-2A pole with spread footing foundation	35-ft Modified M-2A	Detection Point required only if CBDTP goes on PANYNJ property.
40th Street	EB	Near 11th Ave	New modified Region 10 Pole with spread footing foundation	50-ft Region 10	Detection Point not required if CBDTP goes on PANYNJ property.
40th Street	EB	West of 10th Ave	Replace existing pole with new modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
40th Street	EB	East of 10th Ave	New modified M-2A pole with spread footing foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 40th Street	EB	West of 9th Ave, Further from 9th	Replace existing pole with new modified M-2A pole with spread footing foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 40th Street	EB	West of 9th Ave, Nearer 9th	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 41st Street	WB	Bet Dyer & 9th Ave	Replace existing pole with new modified M-2A pole with drilled shaft foundation	35-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 41st Street	WB	10th & Dyer	New modified Region 10 pole with drilled shaft foundation	50-ft Region 10	Detection Point not required if CBDTP goes on PANYNJ property.
W 41st Street	WB	East of Galvin Ave	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 41st Street	WB	West of Galvin Ave	Replace existing pole with new modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 30th Street	EB	W of Dyer ST	New modified Region 10 pole with drilled shaft foundation	50-ft Region 10	Detection Point not required if CBDTP goes on PANYNJ property.
10th Ave	NB	Bet W 41st & W 42nd	Replace existing pole with new modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
10th Ave	NB	Bet W 41st & W 42nd	New modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 42nd Street	EB	10th & Dyer	Replace existing pole with new modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.

Central Business District Tolling Program
Detector Locations
October 1, 2021

Location Description	Direction	Cross-Streets	Proposed Structure/Foundation	Mast Arm Length and Pole Type	Comments
W 42nd Street	WB	10th & Dyer	New modified M-2A pole with spread footing foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 42nd Street	EB	Bet Dyer & 9th Ave	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 42nd Street	WB	Bet Dyer & 9th Ave	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
9th Ave	SB	Bet 29th and 30th St	Replace existing pole with new modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
9th Ave	SB	Bet 29th and 30th St	Replace existing pole with new modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
9th Ave	SB	Bet 30th and 31th St	Replace existing pole with new modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
9th Ave	SB	Bet 30th and 31th St	New modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
30th St	EB	Bet 8th and 9th Ave	Replace existing pole with new modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
10th Ave	NB	Bet 38th and 39th St	New modified M-2A pole with spread footing foundation	30-ft Modified M-2A	This Detection Point is required even if CBDTP goes on PANYNJ property.
10th Ave	NB	Bet 38th and 39th St	New modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
30th	EB	West of Highline	Replace existing pole with new modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
Lincoln Tunnel South Tunnel	EB	PANYNJ property NYC side	Install on walls outside of tunnel entrance	N/A	This Detection Point is required only if CBDTP goes on PANYNJ property.
Lincoln Tunnel Middle Tunnel	ContraFlow	PANYNJ property NYC side	Install on walls outside of tunnel entrance	N/A	This Detection Point is required only if CBDTP goes on PANYNJ property.
Lincoln Tunnel North Tunnel	WB	PANYNJ property NYC side	Install on walls outside of tunnel entrance	N/A	This Detection Point is required only if CBDTP goes on PANYNJ property.
10th Ave	NB	Bet 30th & 31st	New modified M-2A pole with spread footing foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
10th Ave	NB	Bet 30th & 31st	Replace existing pole with new modified M-2A pole with drilled shaft foundation	30-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 31nd Street	WB	W of Dyer ST	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 31nd Street	WB	E of Dyer ST	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 33th Street	WB	Near PANYNJ, W of Intersection	New modified M-2A pole with spread footing foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 33th Street	WB	Near PANYNJ, E of Intersection	New modified M-2A pole with spread footing foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 34th Street	EB	W of Dyer ST	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
W 34th Street	WB	W of Dyer ST	New modified M-2A pole with drilled shaft foundation	25-ft Modified M-2A	Detection Point not required if CBDTP goes on PANYNJ property.
Manhattan Bridge, EB	WB	Bet Market and Forsyth	New modified M-2A pole on new overhead beam supported on existing roadway columns	25-ft Modified M-2A	
Manhattan Bridge, Inner	ContraFlow	Bet Market and Forsyth	New overhead beam supported on existing roadway columns	N/A	
Manhattan Bridge, WB	EB	Bet Market and Forsyth	New modified M-2A pole on new overhead beam supported on existing roadway columns	20-ft Modified M-2A	
Queensboro Lower WB	WB	Bet 1st & 2nd Ave	Connected between existing bridge girder and existing bracing member	N/A	
Queensboro Lower EB	EB	Bet 1st & 2nd Ave	Connected between existing bridge girder and existing bracing member	N/A	
Queensboro Lower Outer	WB	Bet 1st & 2nd Ave	Connected to existing retaining wall	N/A	
Queensboro Upper Ramp	EB	Bet 58th & 59th	Connected to existing Overhead Sign Structure	N/A	

Central Business District Tolling Program
Detector Locations
October 1, 2021

Location Description	Direction	Cross-Streets	Proposed Structure/Foundation	Mast Arm Length and Pole Type	Comments
Queensboro 59th Lower Ramp	EB	Bet 59th & 60th	Connected to existing bridge girder	N/A	
Queensboro Exit Ramp	NB / WB	Bet 1st & 2nd Ave	Connected to underside of existing superstructure	N/A	
FDR	SB	At 53rd	Connected to existing Overhead Sign Structure	N/A	
FDR	NB	At 25th ST	Connected to existing pedestrian bridge	N/A	
FDR	SB	At 25th ST	Connected to existing pedestrian bridge	N/A	
FDR	NB/EB	Near Old Slip	Connected to existing Overhead Sign Structure	N/A	
FDR	SB/WB	Near Old Slip	Connected to existing Overhead Sign Structure	N/A	
West Street, SB	SB	Near Battery Place	New modified M-2A pole with spread footing foundation	20-ft Modified M-2A	
West Street, NB	NB	Near Battery Place	New modified M-2A pole with spread footing foundation	20-ft Modified M-2A	
West Side Highway	NB	Near Liberty ST	Connected to existing pedestrian bridge	N/A	
West Side Highway	SB	Near Liberty ST	Connected to existing pedestrian bridge	N/A	
West Side Highway	NB	Near Chamber ST	Connected to existing pedestrian bridge	N/A	
West Side Highway	SB	Near Chamber ST	Connected to existing pedestrian bridge	N/A	
West Side Highway	NB	Near Gansevoort	Connected to existing Overhead Sign Structure	N/A	
West Side Highway	SB	Near Gansevoort	Connected to existing Overhead Sign Structure	N/A	
Riverside Blvd	NB	Near W 61st	New modified M-2A pole connected to existing bridge pier	25-ft Modified M-2A	
Riverside Blvd	SB	Near W 61st	Cluster under the overhead bridge superstructure.	N/A	
Freedom Place	NB	Near W 60th	New Standard Sidefire pole with new footing supported on existing building concrete beam	Standard M-2A (SF)	
Freedom Place	SB	Near W 60th	New Standard Sidefire pole with new footing supported on existing building concrete beam	Standard M-2A (SF)	
West End Ave	NB	Near W 60th	New modified M-2A pole with combined spread footing foundation	25-ft Modified M-2A	
West End Ave	SB	Near W 60th	New modified M-2A pole with combined spread footing foundation	25-ft Modified M-2A	
Amsterdam Ave	NB	Bet 60th & 61st	New Jumbo M2A Pole with 50-ft Mast Arm with Spread Footing	50-ft Modified M-2A	
Columbus Ave	SB	Bet 60th & 61st	New Jumbo M2A Pole with 50-ft Mast Arm with Spread Footing	50-ft Modified M-2A	
Columbus Ave	SB	Bet 60th & 61st	New Sidefire on existing light pole and foundation	N/A	
Broadway SB	SB	Bet 60th & 61st	Replace existing pole with new modified M-2A pole with spread footing foundation	35-ft Modified M-2A	
Broadway NB	NB	Bet 60th & 61st	New modified M-2A pole with spread footing foundation	35-ft Modified M-2A	
Central Park W	NB	Bet 61st & Columbus Cir	New Jumbo M2A Pole with 50-ft Mast Arm with Spread Footing	50-ft Modified M-2A	
Williamsburg Bridge	WB	Bet Pitt and Ridge	Connected to existing Overhead Sign Structure	N/A	
Williamsburg Bridge	EB	Bet Pitt and Ridge	Connected to existing Overhead Sign Structure	N/A	
West Side Highway	SB	57th St	Connected to existing Overhead Sign Structure	N/A	
West Side Highway	NB	57th St	Connected to existing Overhead Sign Structure	N/A	

Attachment 2:
Detection Point Visual Simulations

June 2022



No Action Alternative



CBD Tolling Alternative

Rendering of CBD Tolling Alternative:
Ed Koch Queensboro Bridge
Lower Level Westbound and Eastbound



No Action Alternative



CBD Tolling Alternative, view west

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Ed Koch Queensboro Bridge
Lower Level Westbound Approaching East 60th Street

Figure 2-2

3.7.22



No Action Alternative, view southeast



CBD Tolling Alternative, view southeast

Rendering of CBD Tolling Alternative:
Manhattan Bridge
Westbound Outer Roadway



No Action Alternative, view west



CBD Tolling Alternative, view west

Rendering of CBD Tolling Alternative:
Manhattan Bridge
Westbound Center Lanes



No Action Alternative, view west



CBD Tolling Alternative, view west

Rendering of CBD Tolling Alternative:
Manhattan Bridge
Eastbound Outer Lanes

Figure 2-5



No Action Alternative



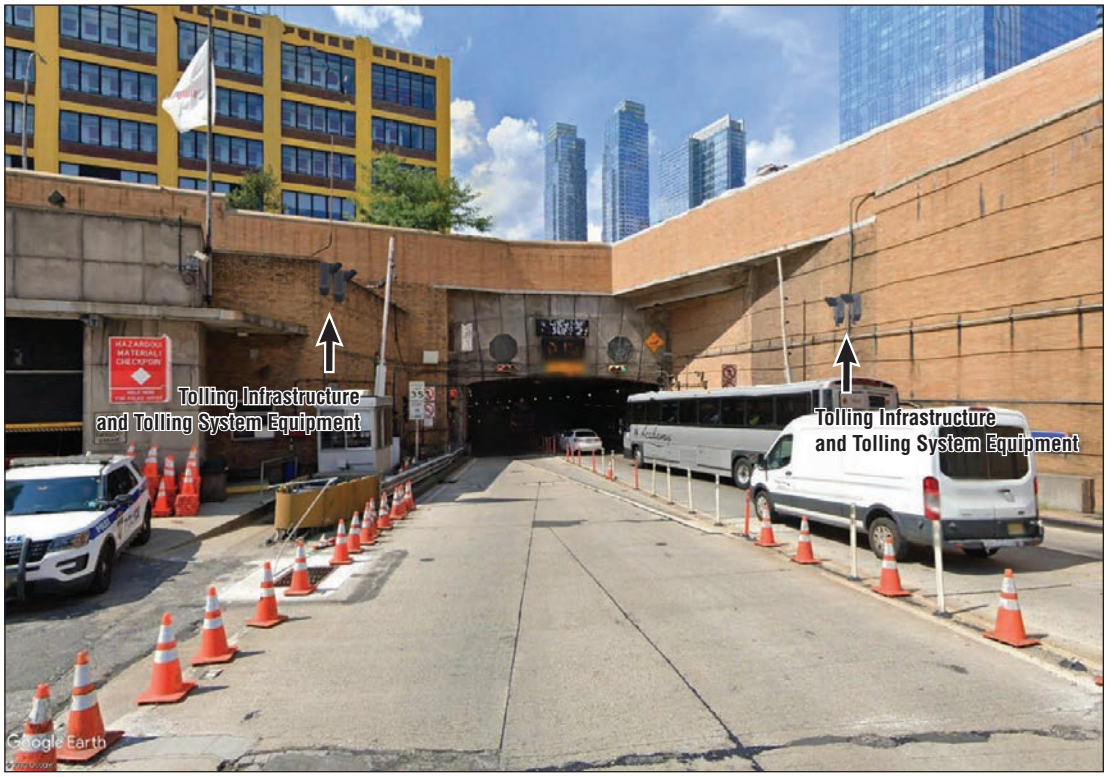
CBD Tolling Alternative

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Lincoln Tunnel South Tube

Figure 2-6



No Action Alternative



CBD Tolling Alternative

Comparison Views of No Action Alternative and CBD Tolling Alternative: Lincoln Tunnel Center Tube

Figure 2-7



No Action Alternative



CBD Tolling Alternative

Comparison Views of No Action Alternative and CBD Tolling Alternative: Lincoln Tunnel North Tube



No Action Alternative, view north on Tenth Avenue



CBD Tolling Alternative, view north on Tenth Avenue

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
High Line at Tenth Avenue and West 30th Street

Figure 2-9



No Action Alternative, view south



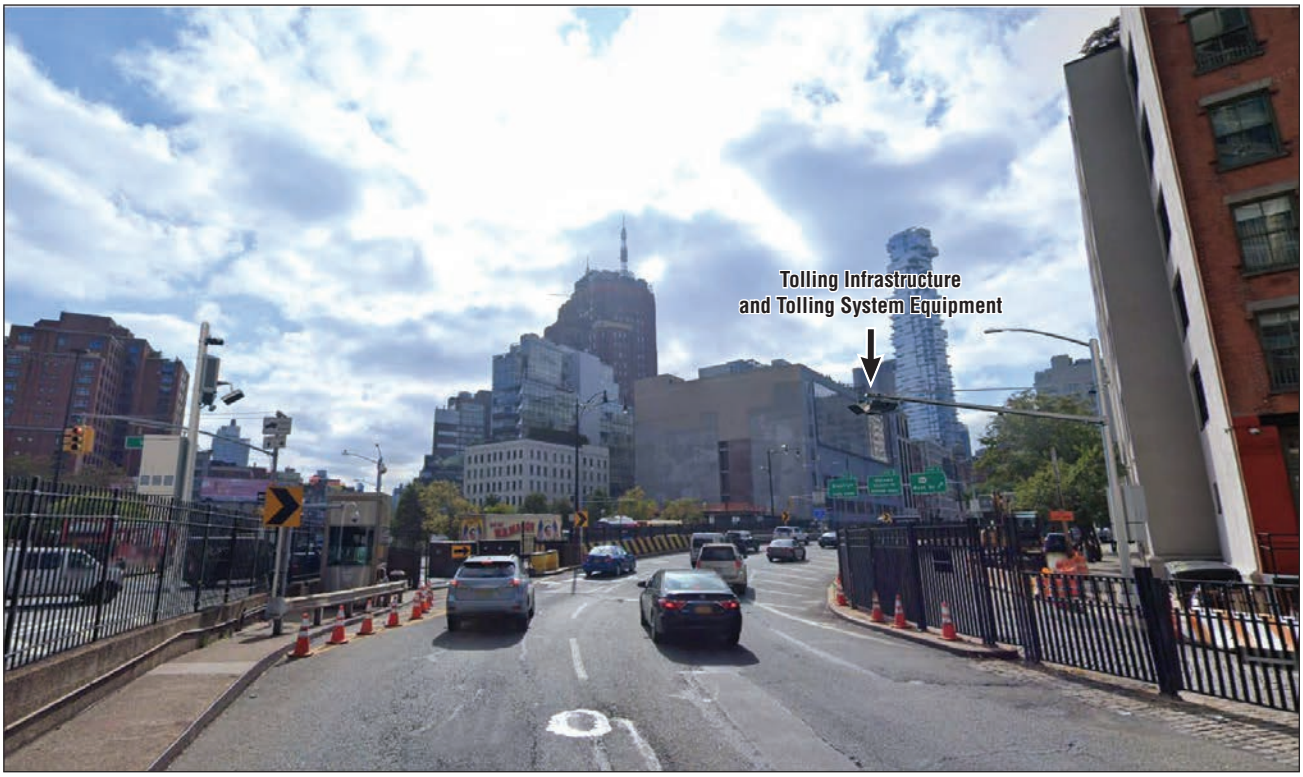
CBD Tolling Alternative, view south

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Parking Lot on Dover Street

Figure 2-10



No Action Alternative, view south



CBD Tolling Alternative, view south

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Vestry Street at Holland Tunnel Exit

Figure 2-11



No Action Alternative, view northeast



CBD Tolling Alternative, view northeast

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
West 40th Street West of Ninth Avenue

Figure 2-12

6.15.22



No Action Alternative, view northeast



CBD Tolling Alternative, view northeast

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Central Park East Drive near Grand Army Plaza

Figure 2-13



No Action Alternative, view southeast



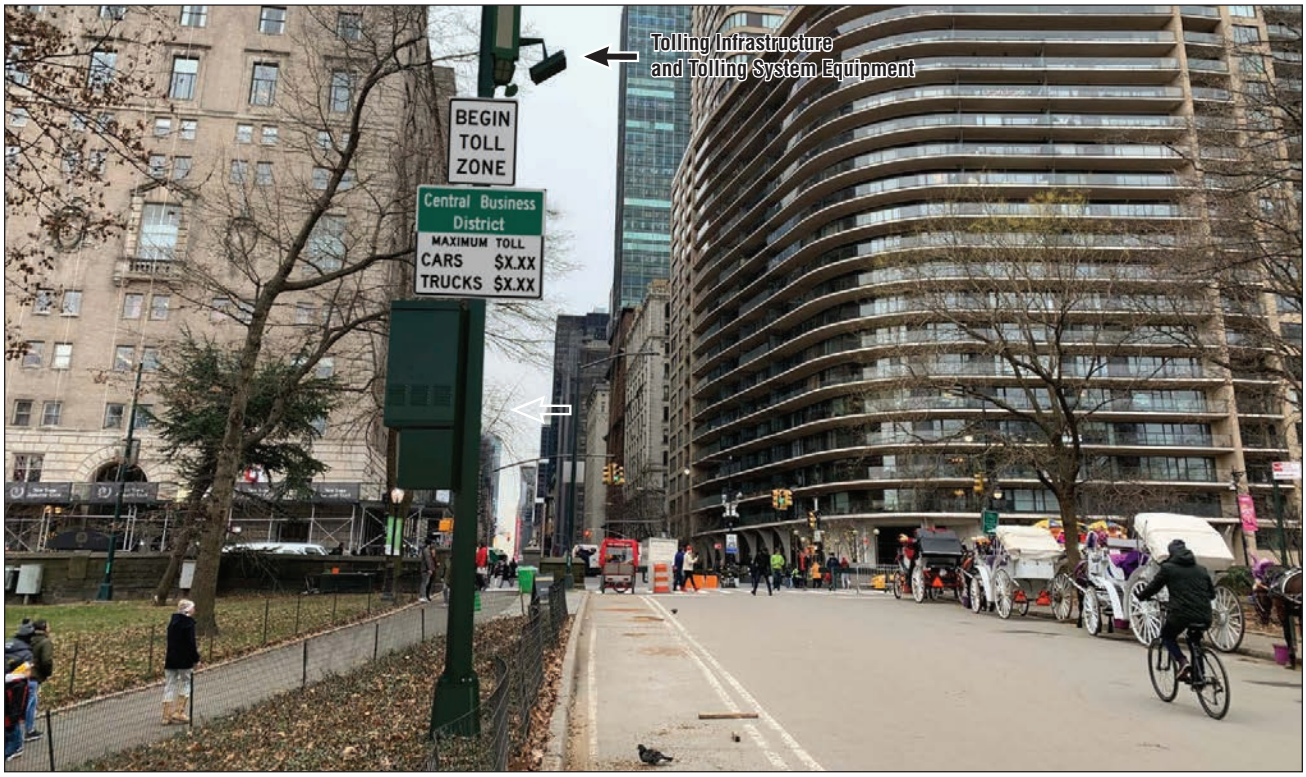
CBD Tolling Alternative, view southeast

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Central Park Center Drive near Sixth Avenue

Figure 2-14



No Action Alternative, view south



CBD Tolling Alternative, view south

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Central Park West Drive near Seventh Avenue

Figure 2-15



No Action Alternative, view south



CBD Tolling Alternative, view south

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Fifth Avenue at East 60th Street

Figure 2-16



No Action Alternative, view north

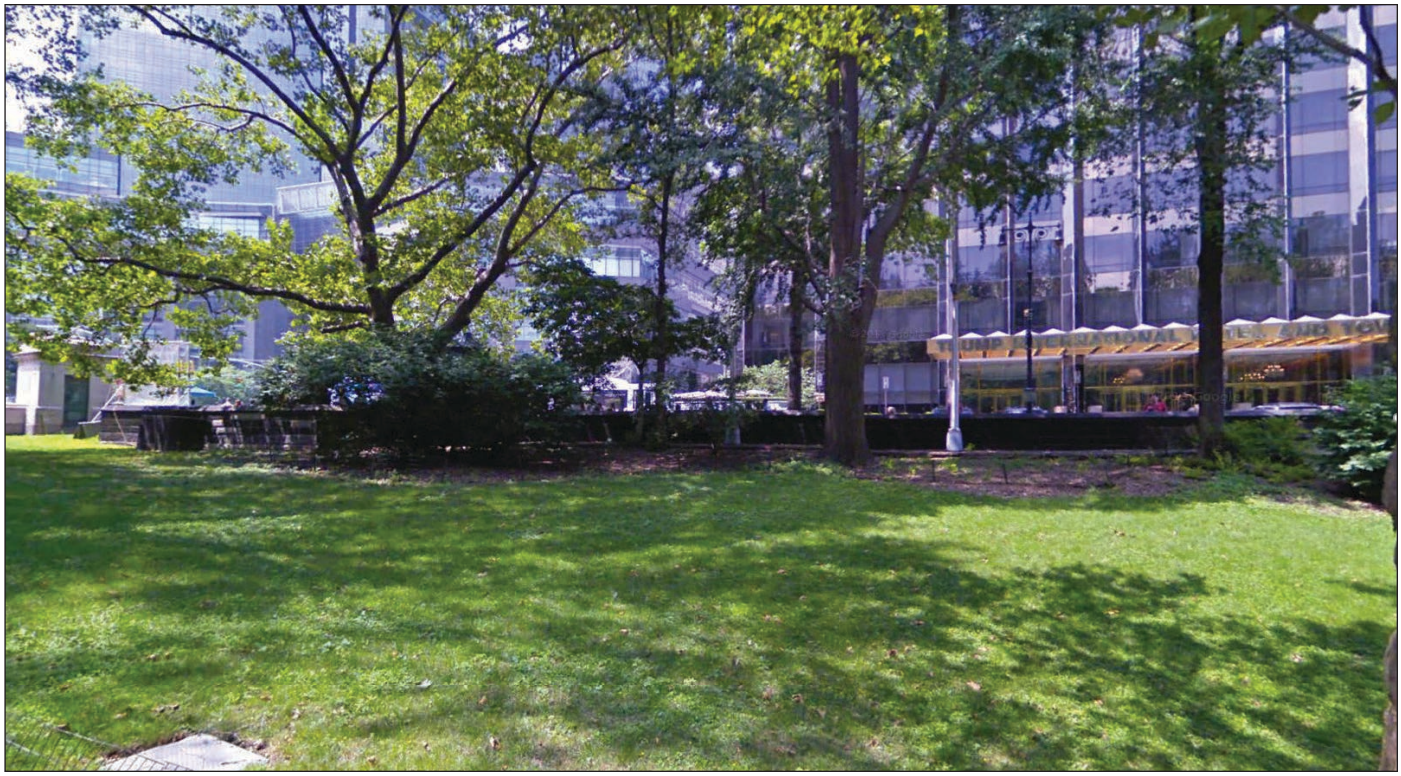


CBD Tolling Alternative, view north

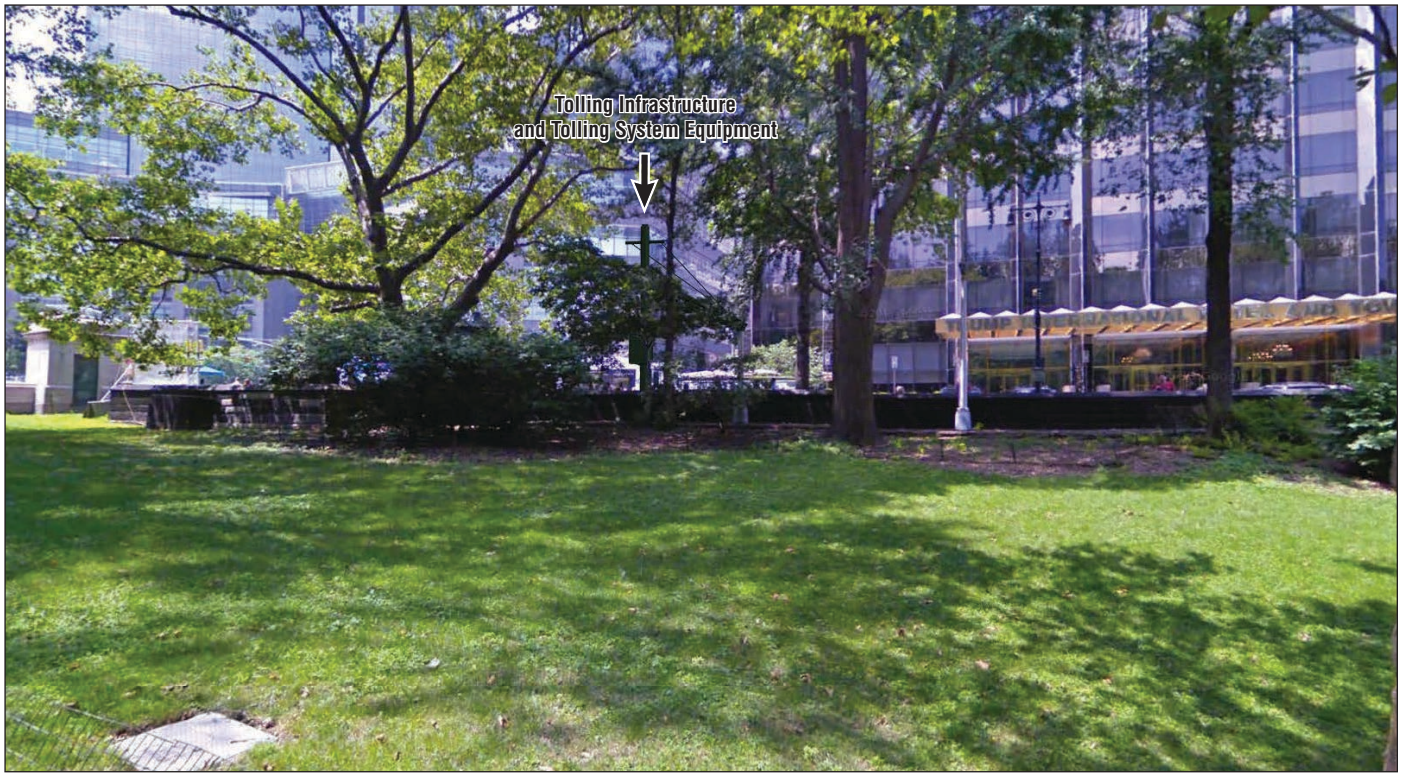
Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Central Park West at West 60th Street

Figure 2-17a

6.15.22



No Action Alternative, view southwest from within Central Park



CBD Tolling Alternative, view southwest from within Central Park

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Central Park West at West 60th Street – View from within
Central Park (Leaf-on Conditions)

6.15.22



No Action Alternative, view southwest from within Central Park



CBD Tolling Alternative, view southwest from within Central Park

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Central Park West at West 60th Street – View from within
Central Park (Leaf-off Conditions)



No Action Alternative, view south



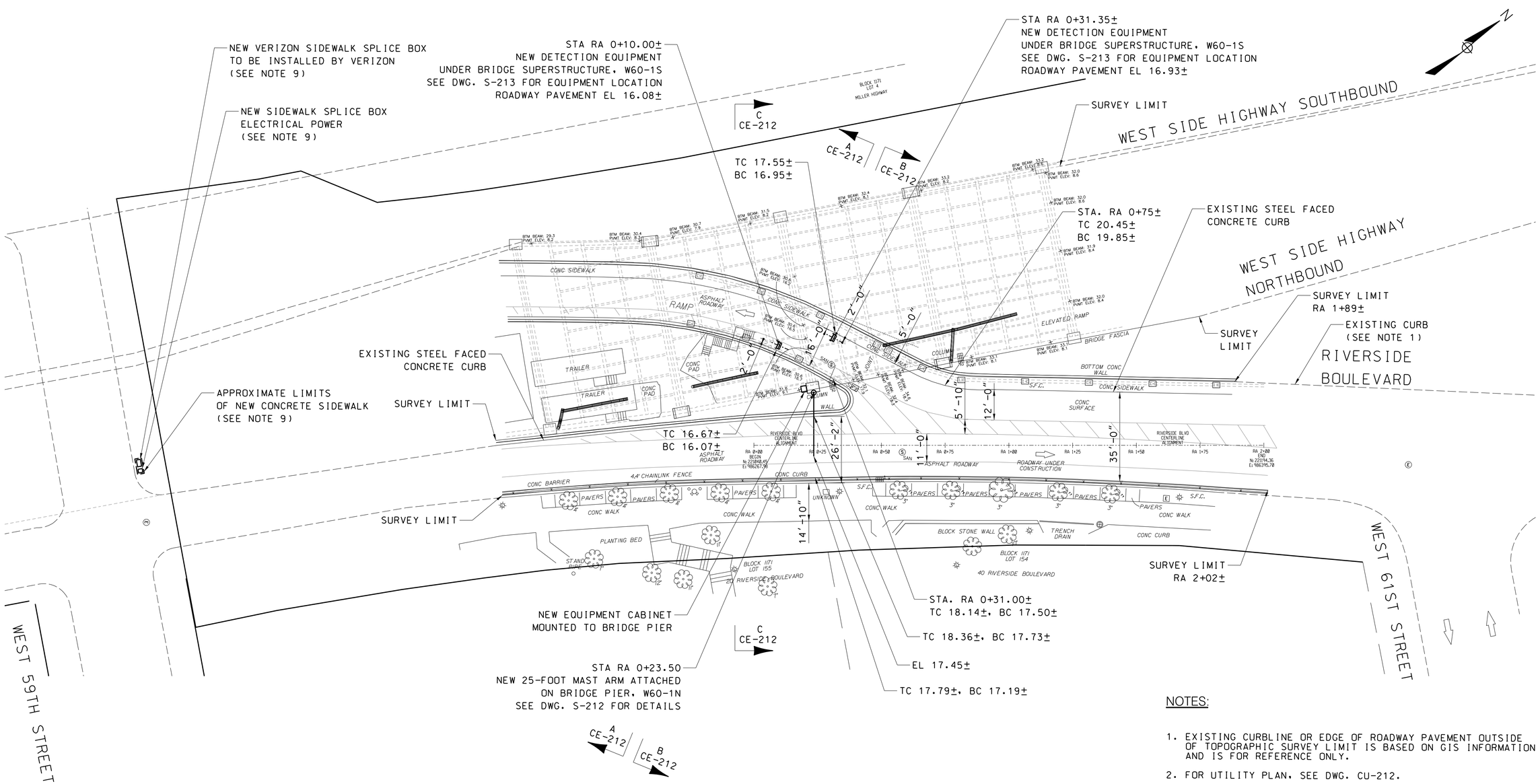
CBD Tolling Alternative, view south

Comparison Views of No Action Alternative
and CBD Tolling Alternative:
Park Avenue at East 60th Street

Figure 2-18

Attachment 3:
Detection Point Location Plans

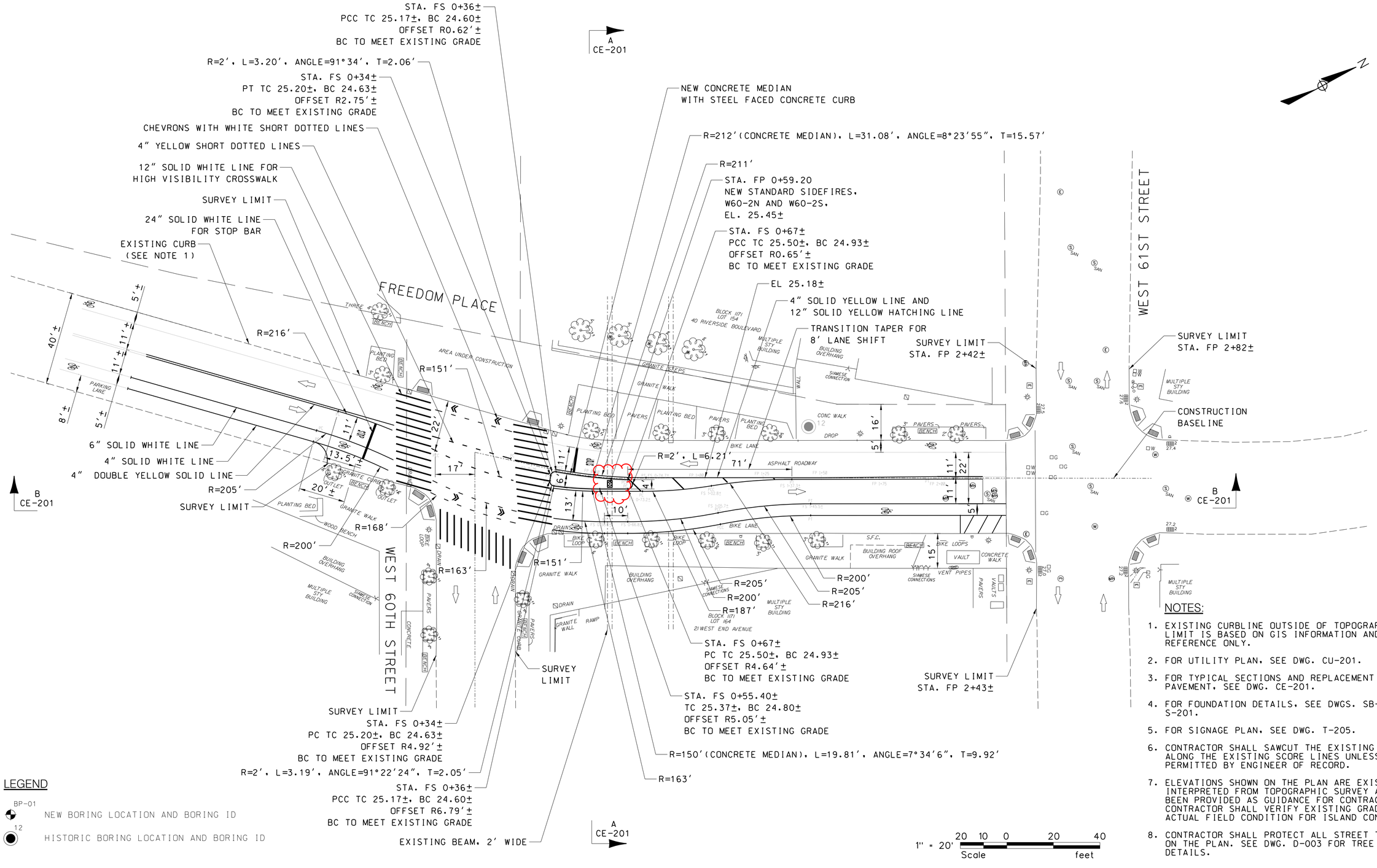
June 2022



NOTES:

1. EXISTING CURBLINE OR EDGE OF ROADWAY PAVEMENT OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-212.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-212.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-212.
5. FOR SIGNAGE PLAN, SEE DWG. T-201.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-212.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVI DED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
9. THE NORTH SIDEWALK ON WEST 59TH STREET WEST OF RIVERSIDE BOULEVARD IS CURRENTLY UNDER CONSTRUCTION. EXISTING CURBLINE SHOWN ON THE PLAN IS OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT AND IS FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL SIDEWALK CONDITION AND COORDINATE INSTALLATION OF SIDEWALK SPLICE BOX ELECTRICAL POWER AND VERIZON SIDEWALK SPLICE BOX WITH ENGINEER OF RECORD. SIDEWALK DISTURBED SHALL BE RECONSTRUCTED TO MEET EXISTING CONDITION.

Riverside Boulevard between West 60th Street and West 61st Street



LEGEND

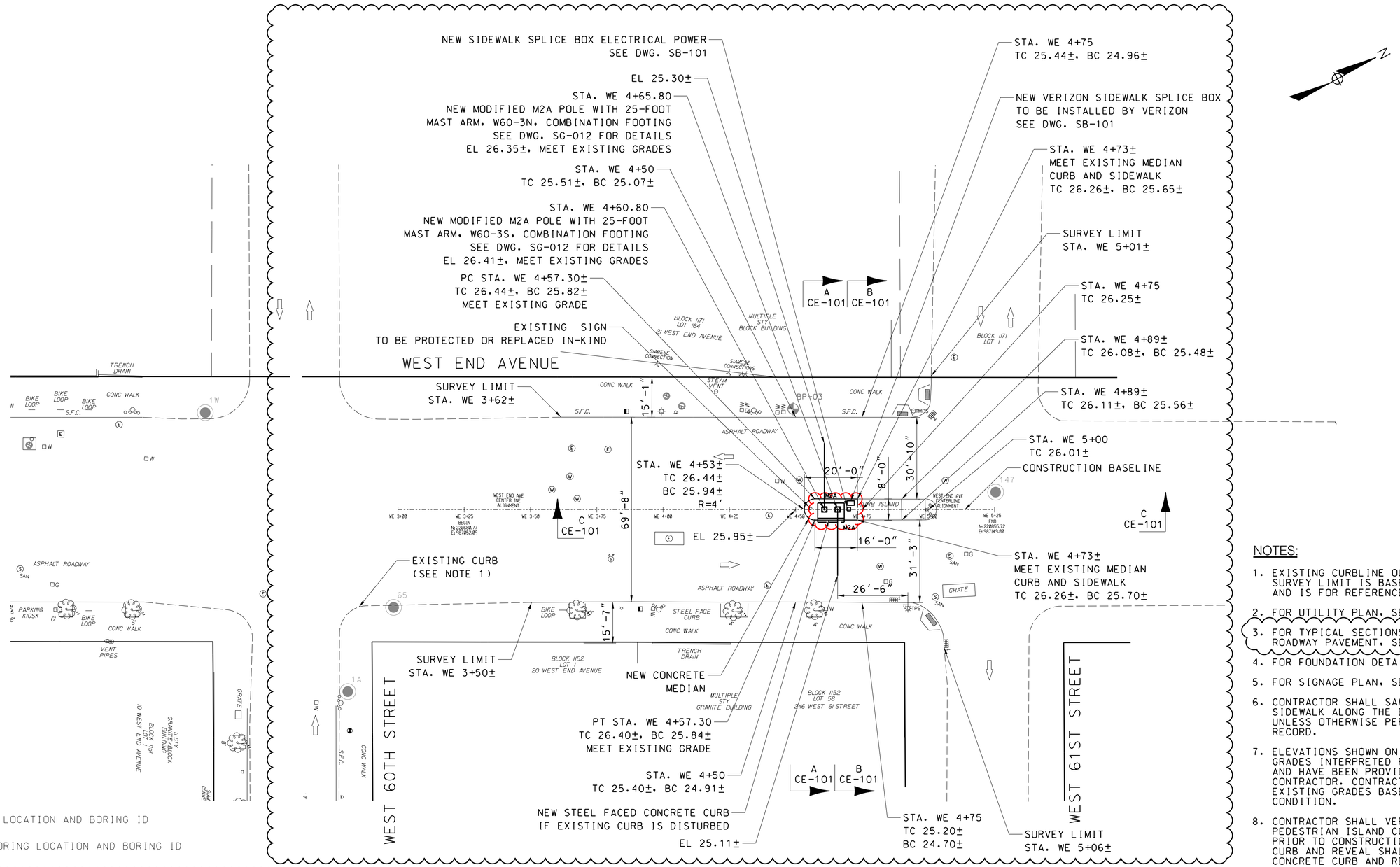
BP-01 — NEW BORING LOCATION AND BORING ID

12 — HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-201.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-201.
4. FOR FOUNDATION DETAILS, SEE DWGS. SB-201 AND S-201.
5. FOR SIGNAGE PLAN, SEE DWG. T-205.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION FOR ISLAND CONSTRUCTION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

Freedom Place between West 60th Street and West 61st Street



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
W60-3N	NO	WE 4+66.80	CROSSWALK	23.0 FT±
W60-3S	NO	WE 4+59.80	TRAFFIC SIGN	4.0 FT±

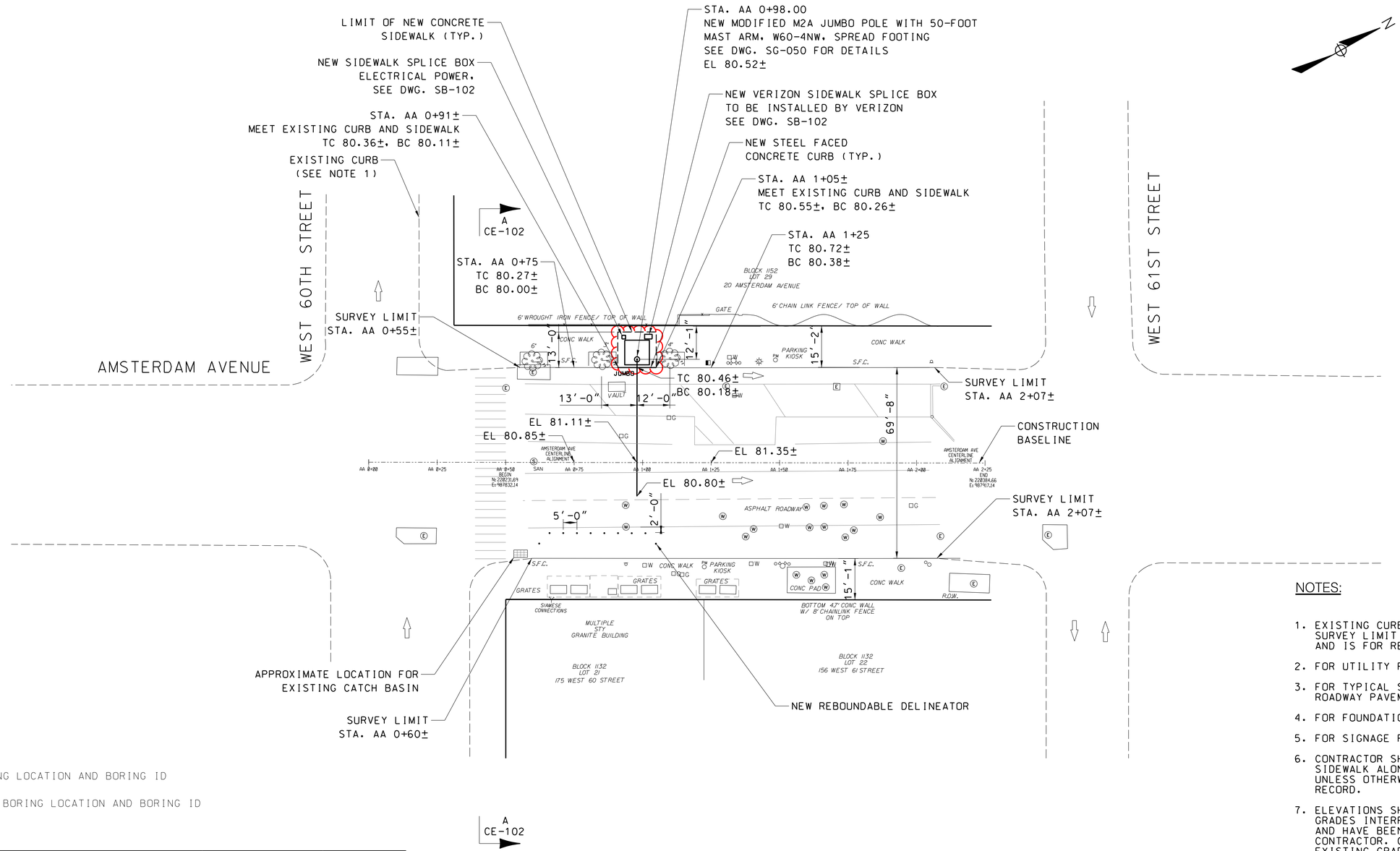
1

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-101.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-101.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-101.
5. FOR SIGNAGE PLAN, SEE DWG. T-101.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL VERIFY THE EXISTING PEDESTRIAN ISLAND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION. PROPOSED CONCRETE CURB AND REVEAL SHALL MATCH THE EXISTING CONCRETE CURB AND REVEAL AT DETECTION POINTS W60-3N AND W60-3S.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES ON WEST END AVENUE BETWEEN WEST 60TH STREET AND WEST 61ST STREET. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' — Scale: 20 10 0 20 40 feet

West End Avenue between West 60th Street and West 61st Street



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

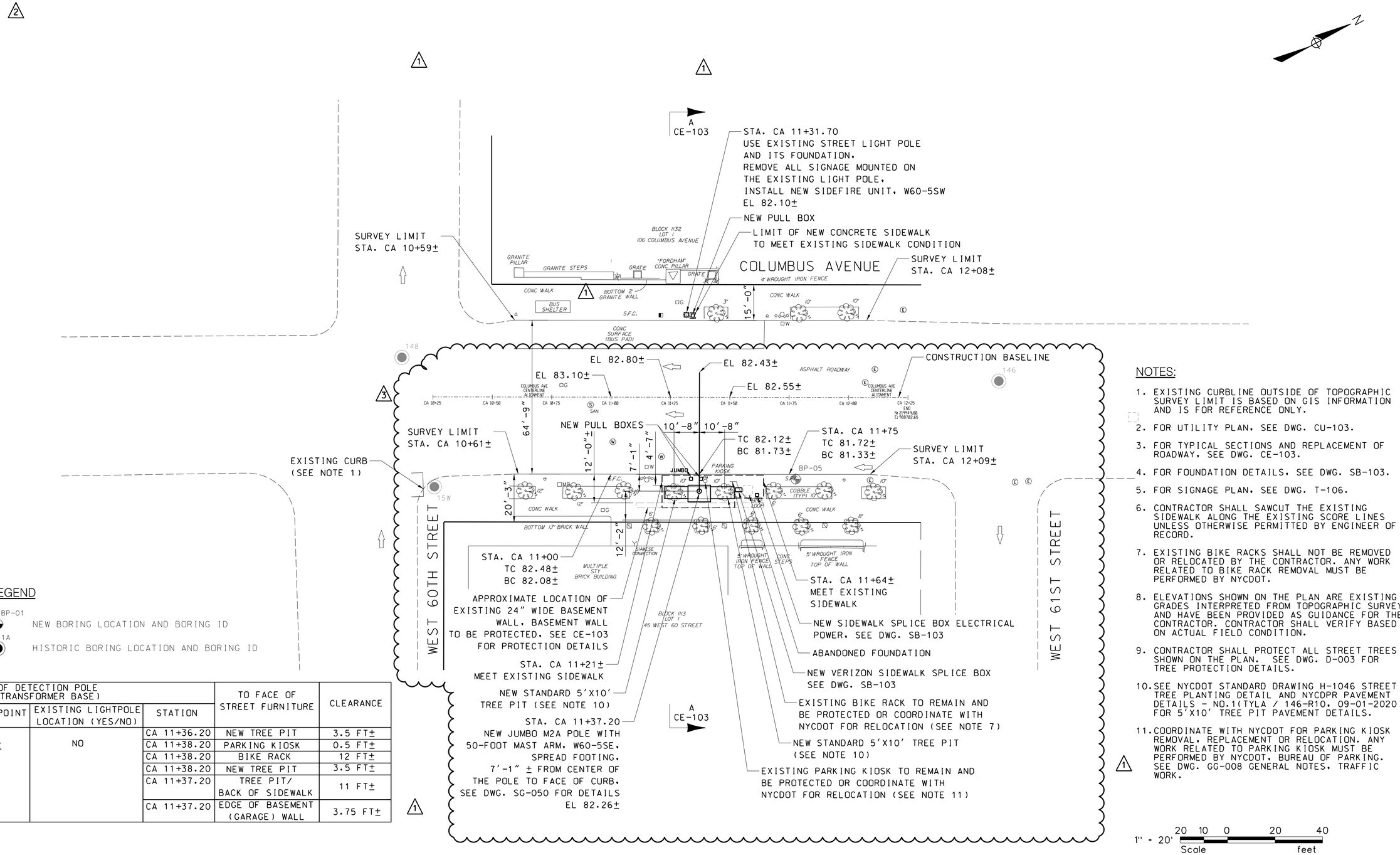
FROM FACE OF DETECTION POLE			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
W60-4NW	NO	AA 0+97.00	TREE PIT	6.5 FT±
		AA 0+99.00	TREE PIT	6.5 FT±
		AA 0+98.00	IRON FENCE	11.0 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-102.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-102.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-102.
5. FOR SIGNAGE PLAN, SEE DWG. T-105.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale: 20 10 0 20 40 feet

Amsterdam Avenue between West 60th Street and West 61st Street



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

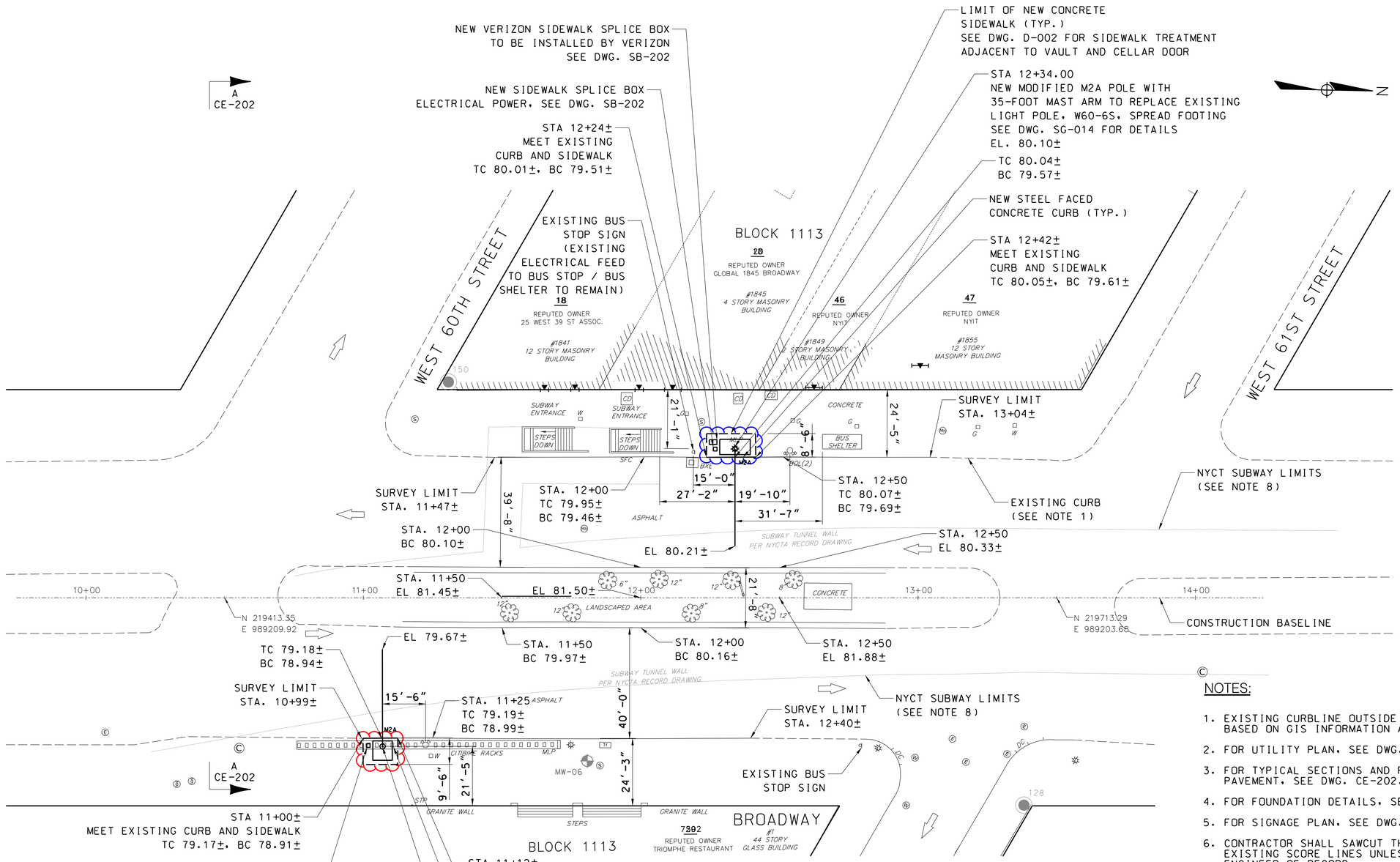
FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
W60-5SE	NO	CA 11+36.20	NEW TREE PIT	3.5 FT±
		CA 11+38.20	PARKING KIOSK	0.5 FT±
		CA 11+38.20	BIKE RACK	12 FT±
		CA 11+38.20	NEW TREE PIT	3.5 FT±
		CA 11+37.20	TREE PIT/ BACK OF SIDEWALK	11 FT±
		CA 11+37.20	EDGE OF BASEMENT (GARAGE) WALL	3.75 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-103.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-103.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-103.
5. FOR SIGNAGE PLAN, SEE DWG. T-106.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. EXISTING BIKE RACKS SHALL NOT BE REMOVED OR RELOCATED BY THE CONTRACTOR. ANY WORK RELATED TO BIKE RACK REMOVAL MUST BE PERFORMED BY NYCDOT.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
10. SEE NYCDOT STANDARD DRAWING H-1046 STREET TREE PLANTING DETAIL AND NYCDPR PAVEMENT DETAILS - NO.1(TYLA / 146-R10, 09-01-2020) FOR 5'X10' TREE PIT PAVEMENT DETAILS.
11. COORDINATE WITH NYCDOT FOR PARKING KIOSK REMOVAL, REPLACEMENT OR RELOCATION. ANY WORK RELATED TO PARKING KIOSK MUST BE PERFORMED BY NYCDOT, BUREAU OF PARKING. SEE DWG. GG-008 GENERAL NOTES, TRAFFIC WORK.

1" = 20' Scale — 20 10 0 20 40 feet

Columbus Avenue between West 60th Street and West 61st Street

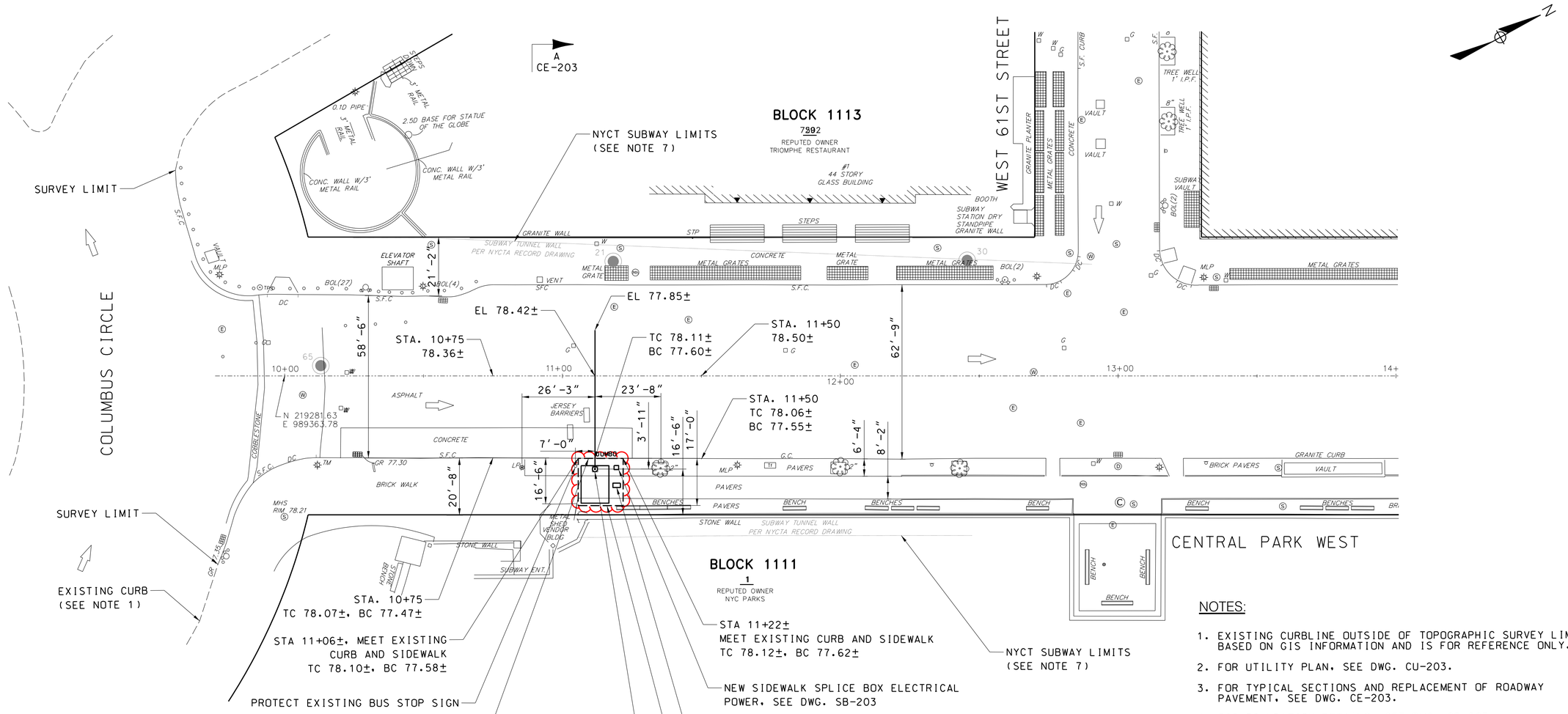


FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
W60-6S	YES	12+33.00	SUBWAY ENTRANCE	26.0 FT±
		12+35.00	FIRE HYDRANT	16.5 FT±
		12+34.00	BUILDING LINE	20.0 FT±
W60-7N	NO	11+08.00	FIRE HYDRANT	13.5 FT±
		11+07.00	CITIBIKE STATION	0 FT±
		11+07.00	GRANITE WALL	20.5 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-202.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-202.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-02.
5. FOR SIGNAGE PLAN, SEE DWG. T-206.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. EXISTING CITI BIKE STATIONS SHALL NOT BE REMOVED OR RELOCATED BY THE CONTRACTOR. ANY WORK RELATED TO CITI BIKE STATIONS MUST BE PERFORMED BY THE CITI BIKE/NYC BICYCLE SHARE.
8. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
9. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
10. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

Broadway between West 60th Street and West 61st Street



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

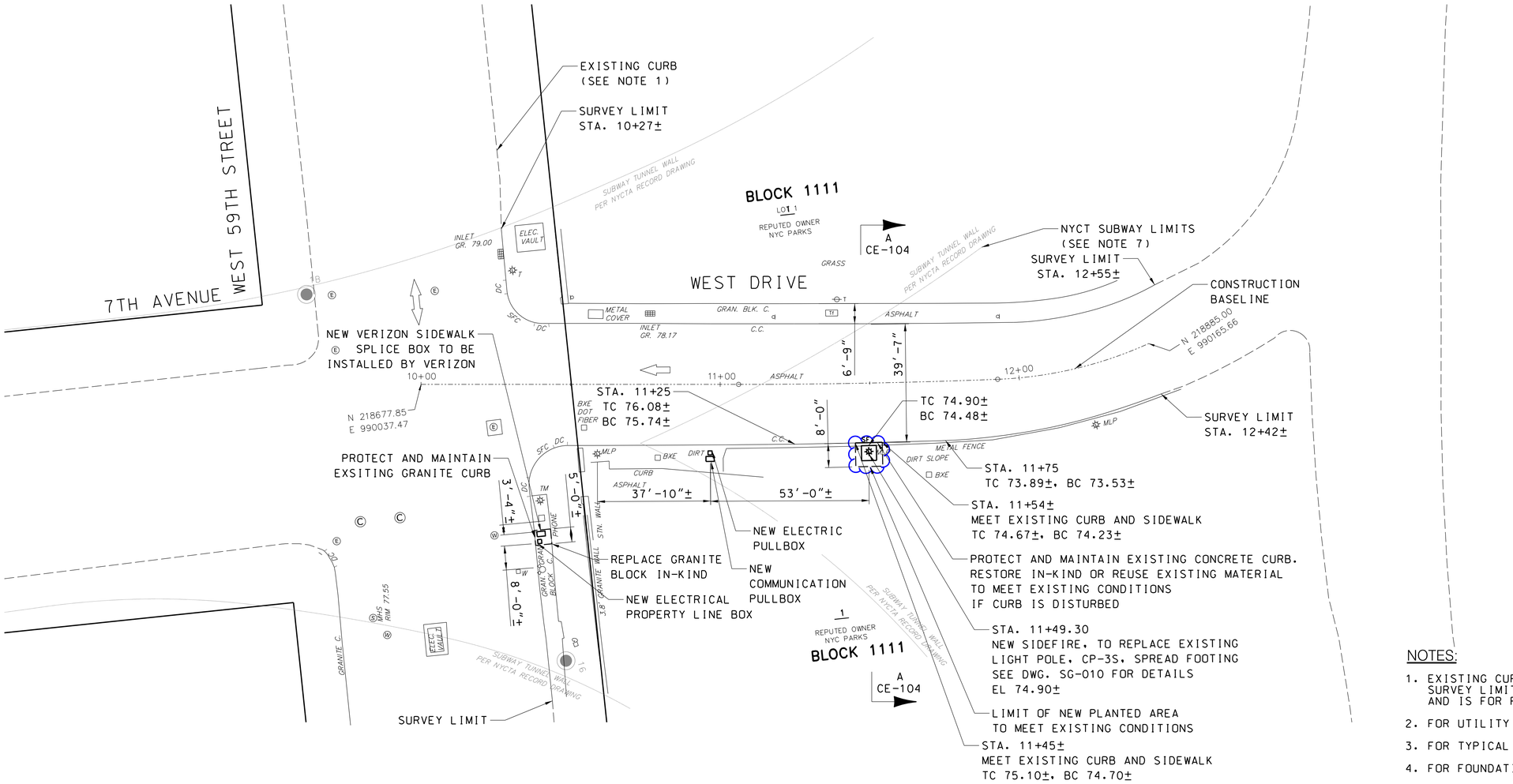
FROM FACE OF DETECTION POLE			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
W60-8NE	NO	11+10.70	BUS STOP SIGN	6.0 FT±
		11+10.70	NYCT STANCHION	25.0 FT±
		12+12.70	TREE PIT	19.5 FT±
		11+11.70	BACK OF SIDEWALK (VENDOR BUILDING)	11.5 FT±
		11+11.70	STONE WALL	15.5 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-203.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-203.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-203.
5. FOR SIGNAGE PLAN, SEE DWG. T-209.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' — Scale: 20 10 0 20 40 feet

Central Park West Avenue between West 60th Street and West 61st Street



LEGEND

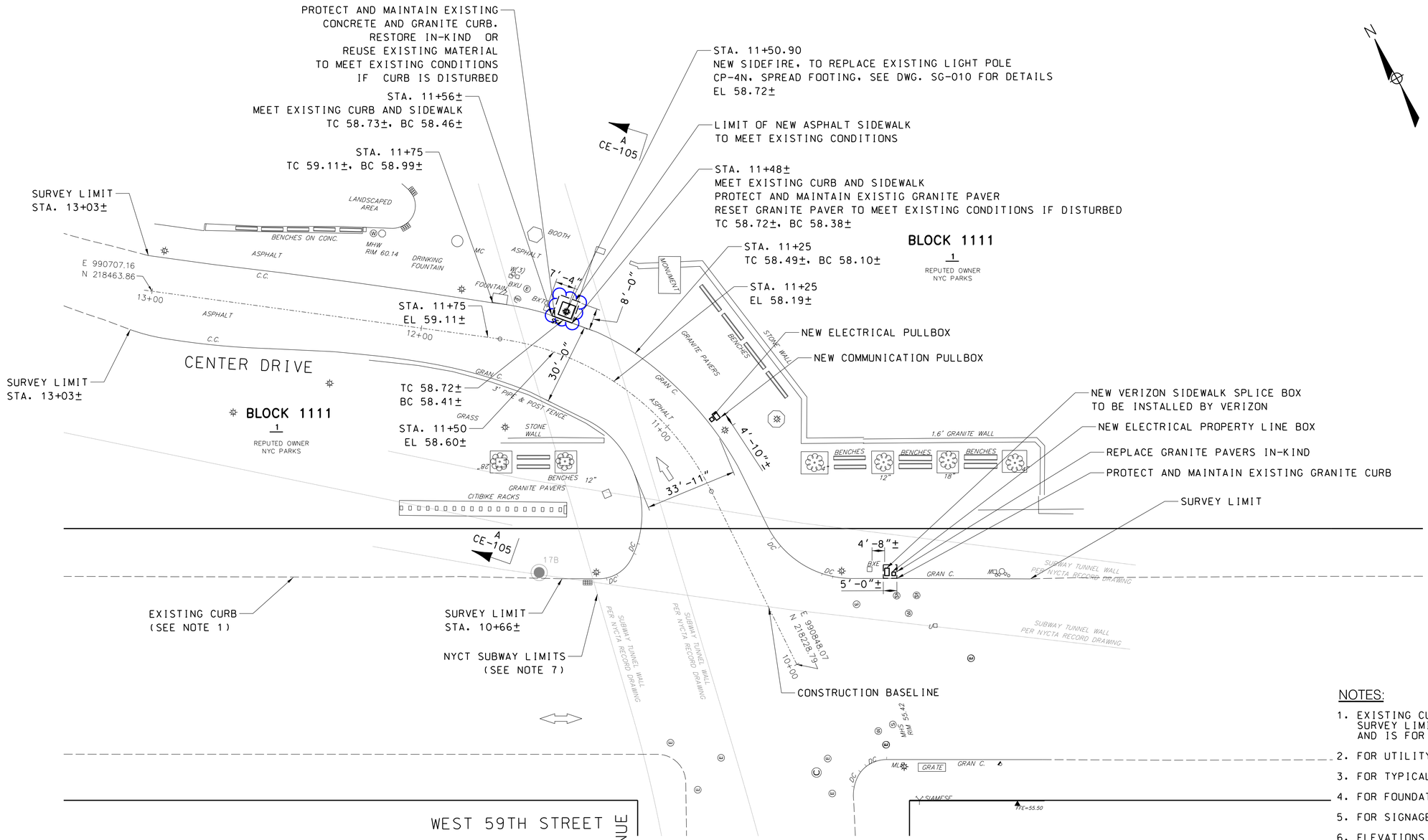
BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-104.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-104.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-104.
5. FOR SIGNAGE PLAN, SEE DWG. T-110.
6. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
7. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.
8. CONTRACTOR SHALL PROTECT ALL TREES WITHIN 50 FEET OF WORK SITE. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

Central Park - West Drive



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

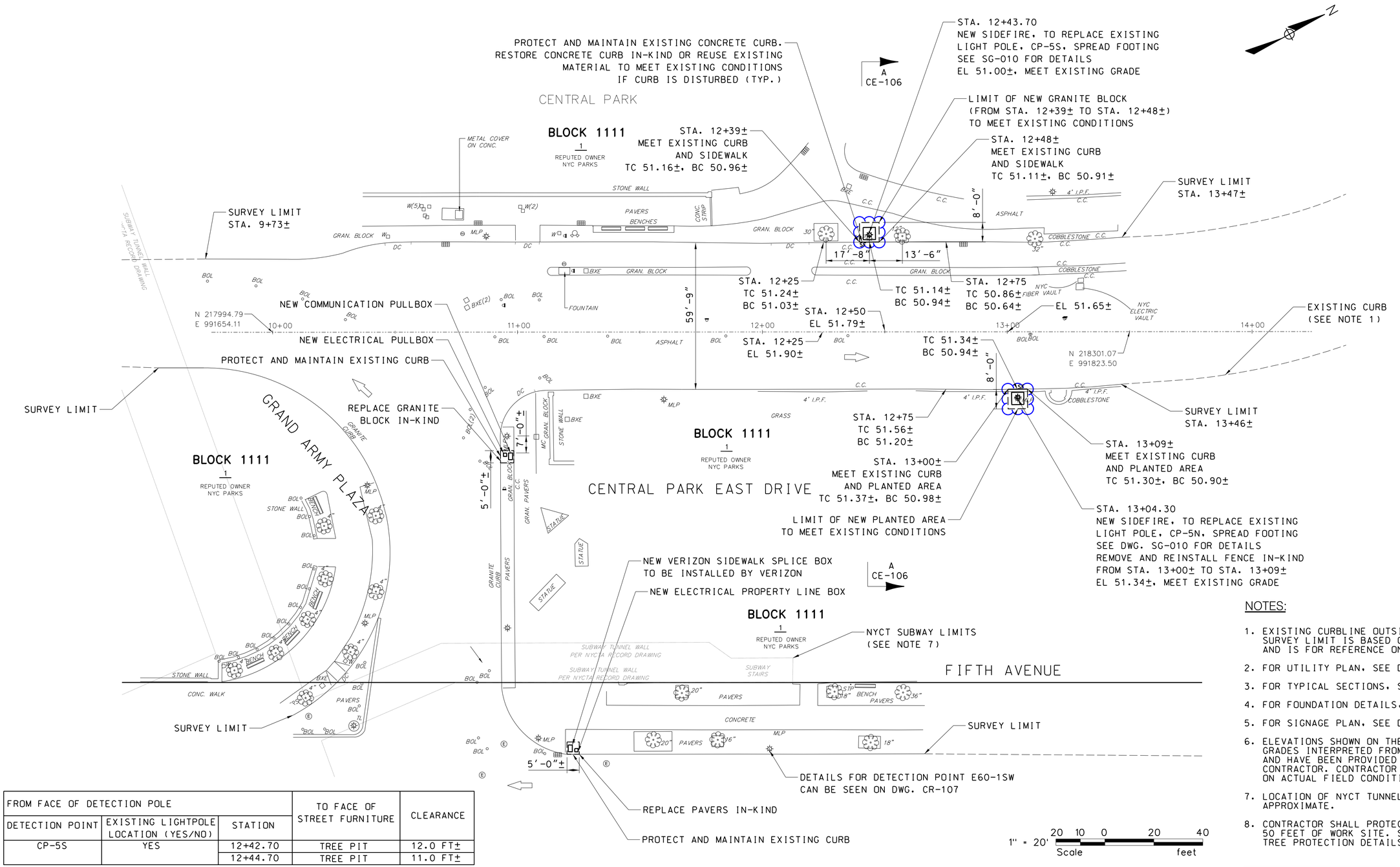
FROM FACE OF DETECTION POLE			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
CP-4N	YES	11+51.90	ELECTRIC BOX	5.0 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-105.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-105.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-105.
5. FOR SIGNAGE PLAN, SEE DWG. T-111.
6. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
7. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.
8. CONTRACTOR SHALL PROTECT ALL TREES WITHIN 50 FEET OF WORK SITE. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' — 20 10 0 20 40 — Scale feet

Central Park - Center Drive

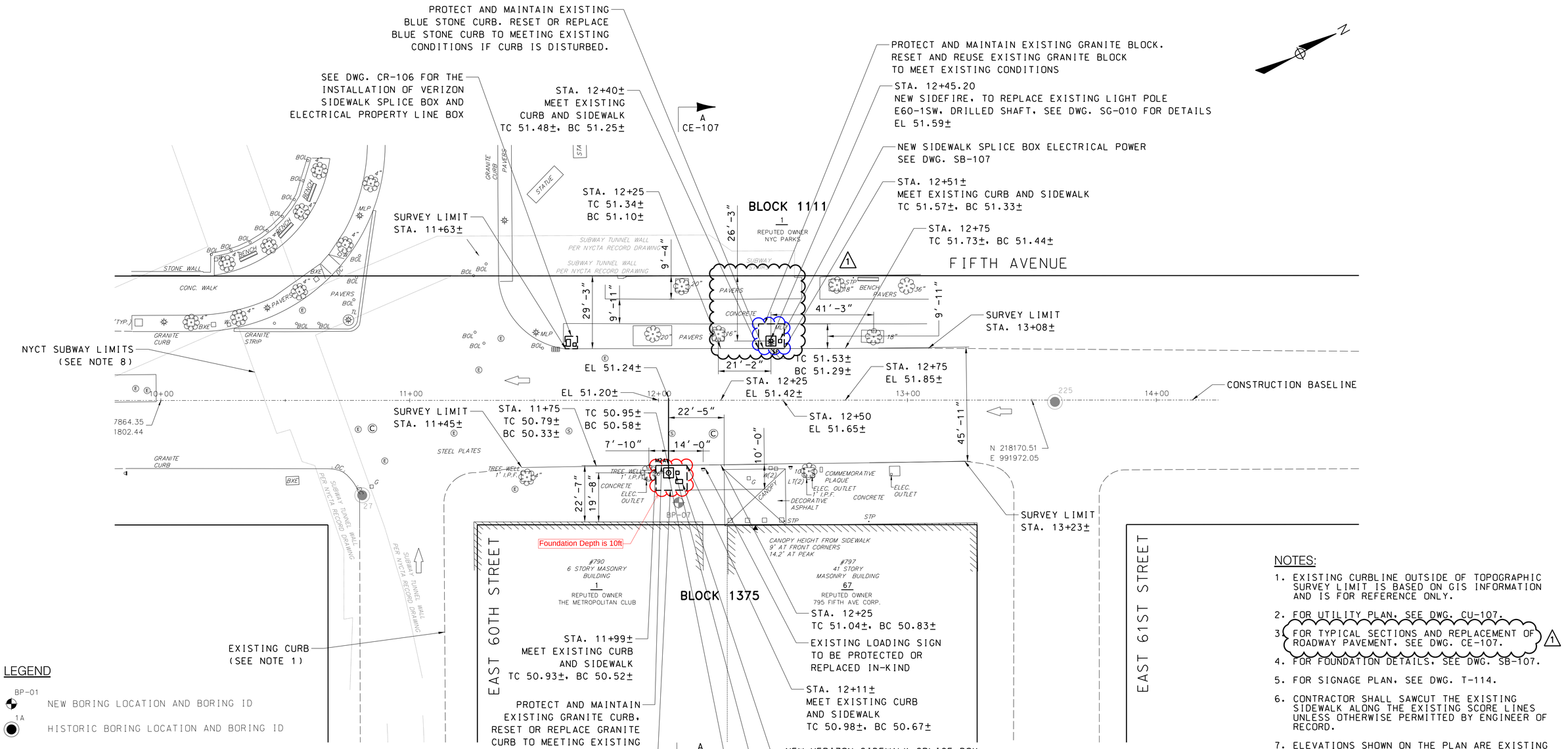


FROM FACE OF DETECTION POLE			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
CP-5S	YES	12+42.70	TREE PIT	12.0 FT±
		12+44.70	TREE PIT	11.0 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-106.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-106.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-106.
5. FOR SIGNAGE PLAN, SEE DWG. T-112.
6. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
7. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.
8. CONTRACTOR SHALL PROTECT ALL TREES WITHIN 50 FEET OF WORK SITE. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

Central Park - East Drive



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
E60-1SW	YES	12+44.20	TREE PIT	17.5 FT±
		12+46.20	TREE PIT	35.5 FT±
		12+45.20	EDGE OF WALL	25.0 FT±
E60-1SE	NO	12+03.00	TREE PIT	4.5 FT±
		12+05.00	HOTEL CANOPY	21.5 FT±
		12+05.00	LOADING SIGN	12.0 FT±
		12+04.00	BUILDING LINE	18.7 FT±

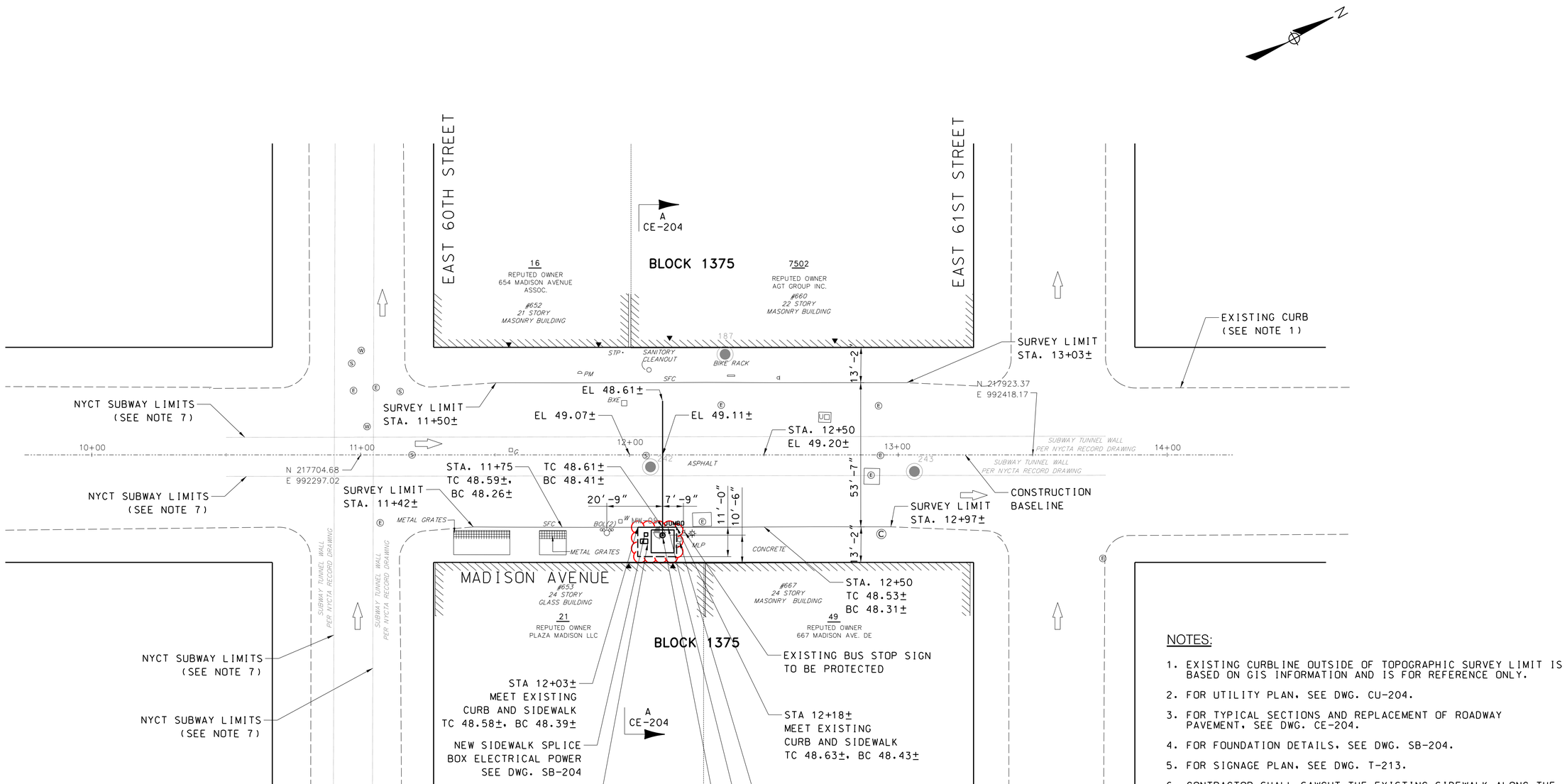
1

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-107.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-107. 1
4. FOR FOUNDATION DETAILS, SEE DWG. SB-107.
5. FOR SIGNAGE PLAN, SEE DWG. T-114.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
8. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' — 20 10 0 20 40 — Scale feet

Fifth Avenue between East 60th Street and East 61st Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
E60-2NE	NO	12+11.30	FIRE HYDRANT	18.5 FT±
		12+13.30	GAS VALVE	4.5 FT±
		12+13.30	BUS STOP SIGN	6.0 FT±
		12+13.30	STREET LIGHT	9.0 FT±
		12+12.30	BUILDING LINE	9.5 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

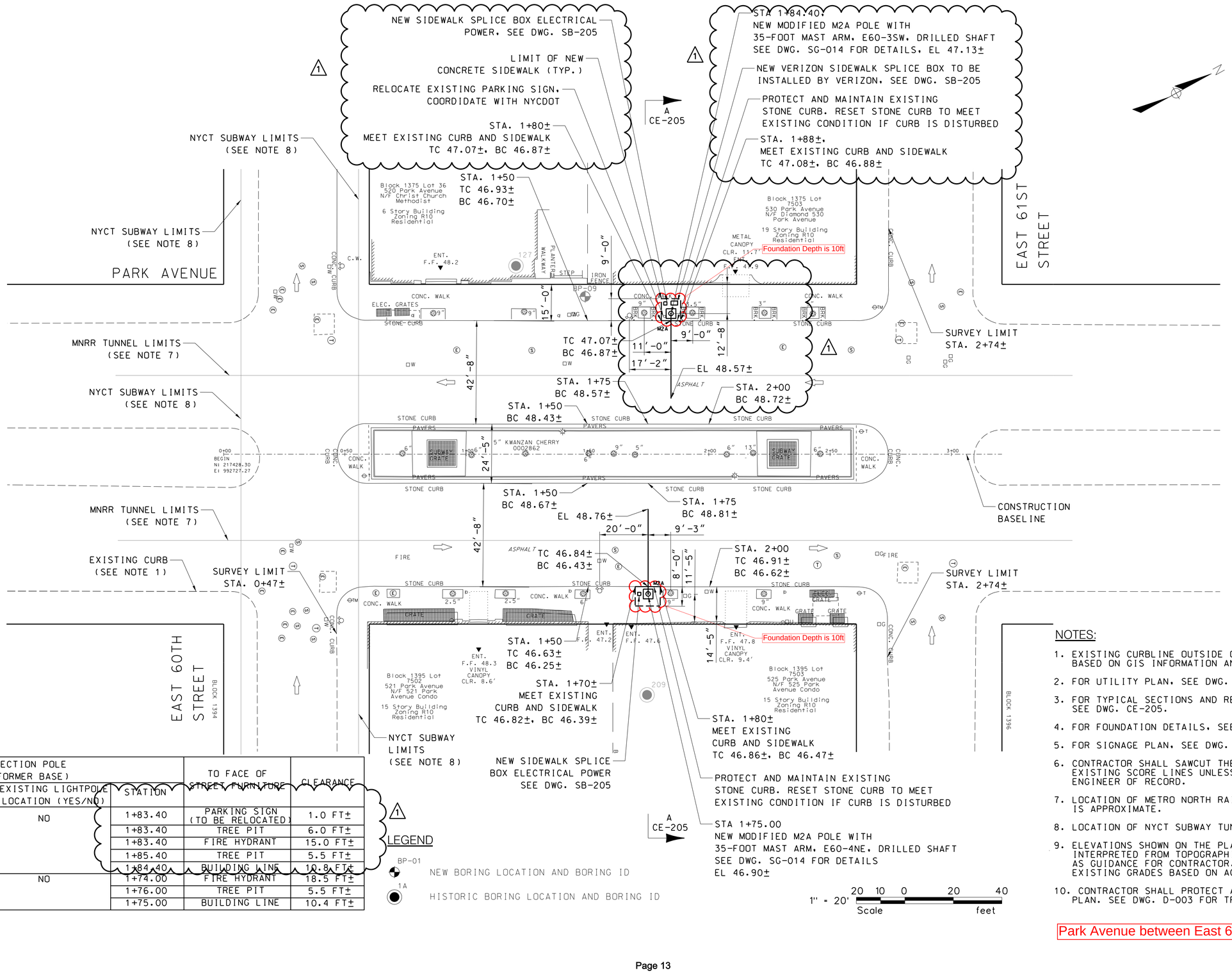
1A HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-204.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-204.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-204.
5. FOR SIGNAGE PLAN, SEE DWG. T-213.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.

1" = 20' Scale 20 10 0 20 40 feet

Madison Avenue between East 60th Street and East 61st Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
E60-3SW	NO	1+83.40	PARKING SIGN (TO BE RELOCATED)	1.0 FT±
		1+83.40	TREE PIT	6.0 FT±
		1+83.40	FIRE HYDRANT	15.0 FT±
		1+85.40	TREE PIT	5.5 FT±
		1+84.40	BUILDING LINE	10.8 FT±
E60-4NE	NO	1+74.00	FIRE HYDRANT	18.5 FT±
		1+76.00	TREE PIT	5.5 FT±
		1+75.00	BUILDING LINE	10.4 FT±

LEGEND

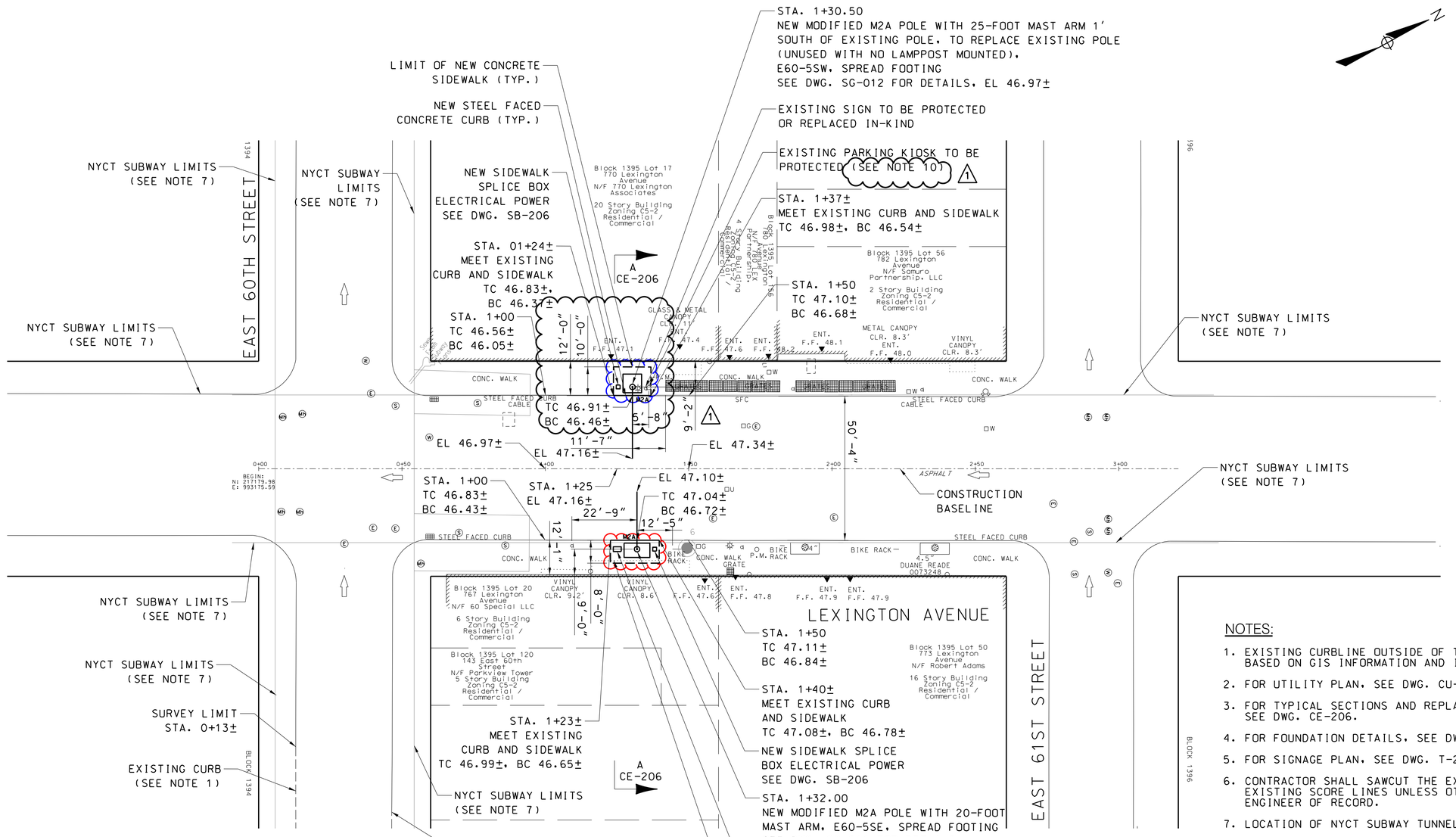
BP-01 NEW BORING LOCATION AND BORING ID

1A HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-205.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-205.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-205.
5. FOR SIGNAGE PLAN, SEE DWG. T-214.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. LOCATION OF METRO NORTH RAILROAD (MNRR) TUNNEL STRUCTURE IS APPROXIMATE.
8. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
9. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
10. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

Park Avenue between East 60th Street and East 61st Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
E60-5SW	NO	1+31.50	PARKING METER	4.5 FT±
		1+31.50	SIGN	3.5 FT±
		1+31.50	SUBWAY GRATE	10.5 FT±
		1+30.50	BUILDING LINE	8.2 FT±
E60-5SE	NO	1+33.00	BIKE RACK	11.5 FT±
		1+32.00	BUILDING LINE	8.0 FT±
		1+32.00	EDGE OF CANOPY	3.0 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

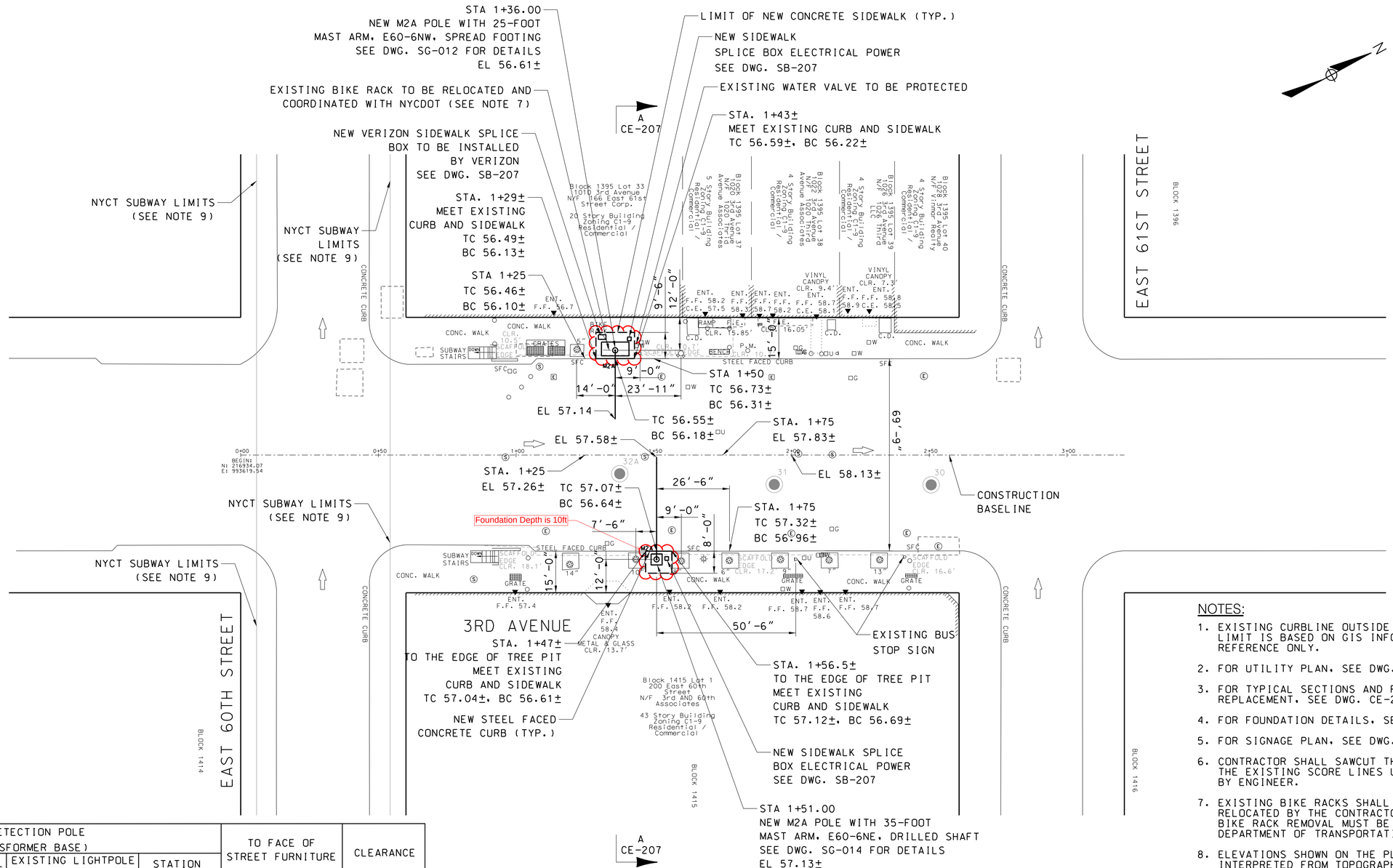
1A HISTORIC BORING LOCATION AND BORING ID

1" = 20' Scale 20 10 0 20 40 feet

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-206.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-206.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-206.
5. FOR SIGNAGE PLAN, SEE DWG. T-218.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
10. COORDINATE WITH NYCDOT FOR PARKING KIOSK REMOVAL, REPLACEMENT OR RELOCATION. ANY WORK RELATED TO MUNI METERS MUST BE PERFORMED BY NYCDOT, BUREAU OF PARKING. SEE DWG. GG-008, GENERAL NOTES, TRAFFIC WORK.
11. CONTRACTOR SHALL MAINTAIN AND PROTECT EXISTING CANOPY DURING CONSTRUCTION.

Lexington Avenue between East 60th Street and East 61st Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
E60-6NW	NO	1+35.00	TREE PIT	10.5 FT±
		1+35.00	BIKE RACK (TO RELOCATE)	1.0 FT±
		1+37.00	SIGN POST	8.0 FT±
		1+37.00	FIRE HYDRANT	22.0 FT±
		1+36.00	BUILDING LINE	11.0 FT±
E60-6NE	NO	1+50.00	TREE PIT	3.5 FT±
		1+52.00	TREE PIT	4.5 FT±
		1+51.00	BUILDING LINE	11.0 FT±

LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

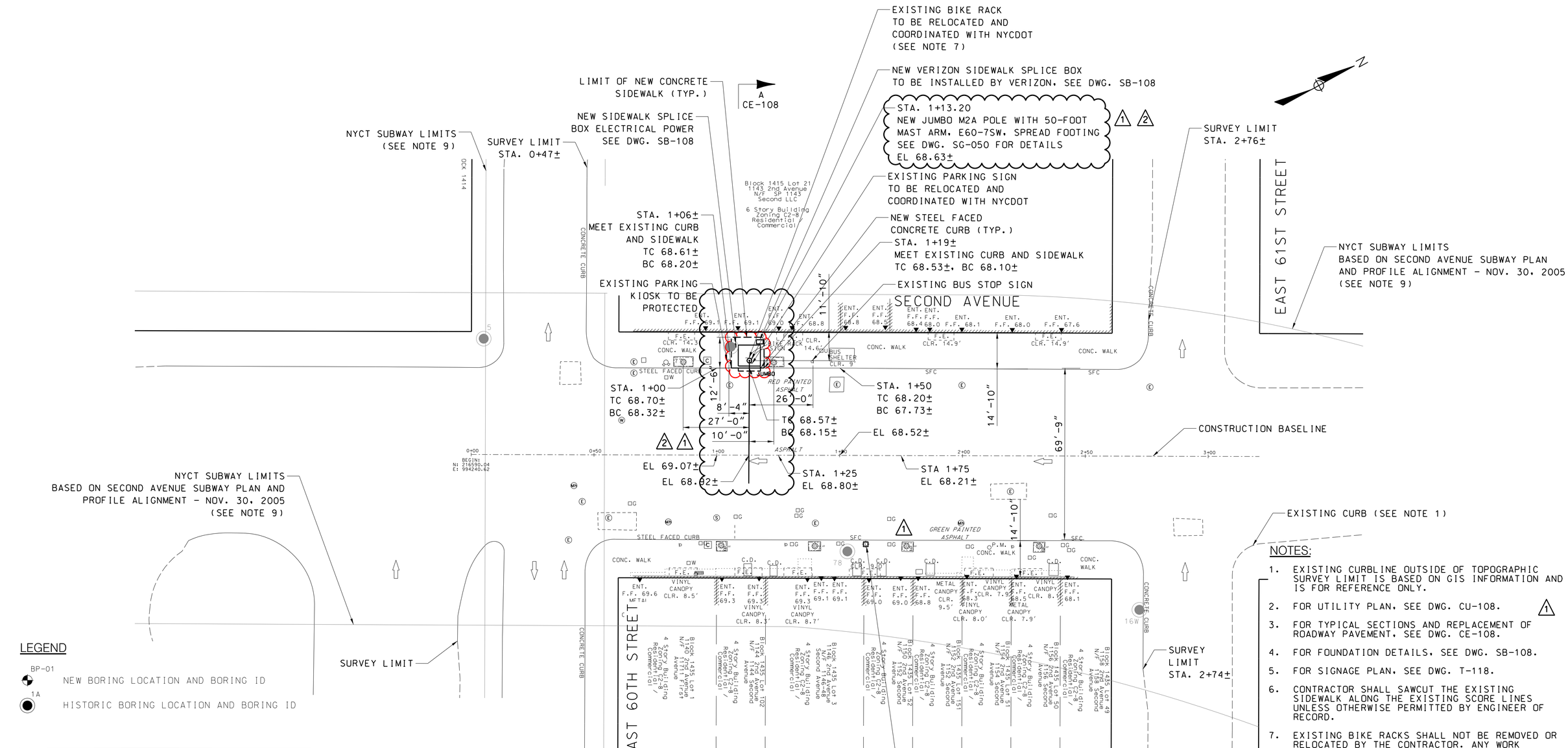
1A — HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-207.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY REPLACEMENT, SEE DWG. CE-207.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-207.
5. FOR SIGNAGE PLAN, SEE DWG. T-222.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER.
7. EXISTING BIKE RACKS SHALL NOT BE REMOVED OR RELOCATED BY THE CONTRACTOR. ANY WORK RELATED TO BIKE RACK REMOVAL MUST BE PERFORMED BY THE DEPARTMENT OF TRANSPORTATION.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
9. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
10. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' — 20 10 0 20 40 — Scale feet

Third Avenue between East 60th Street and East 61st Street



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

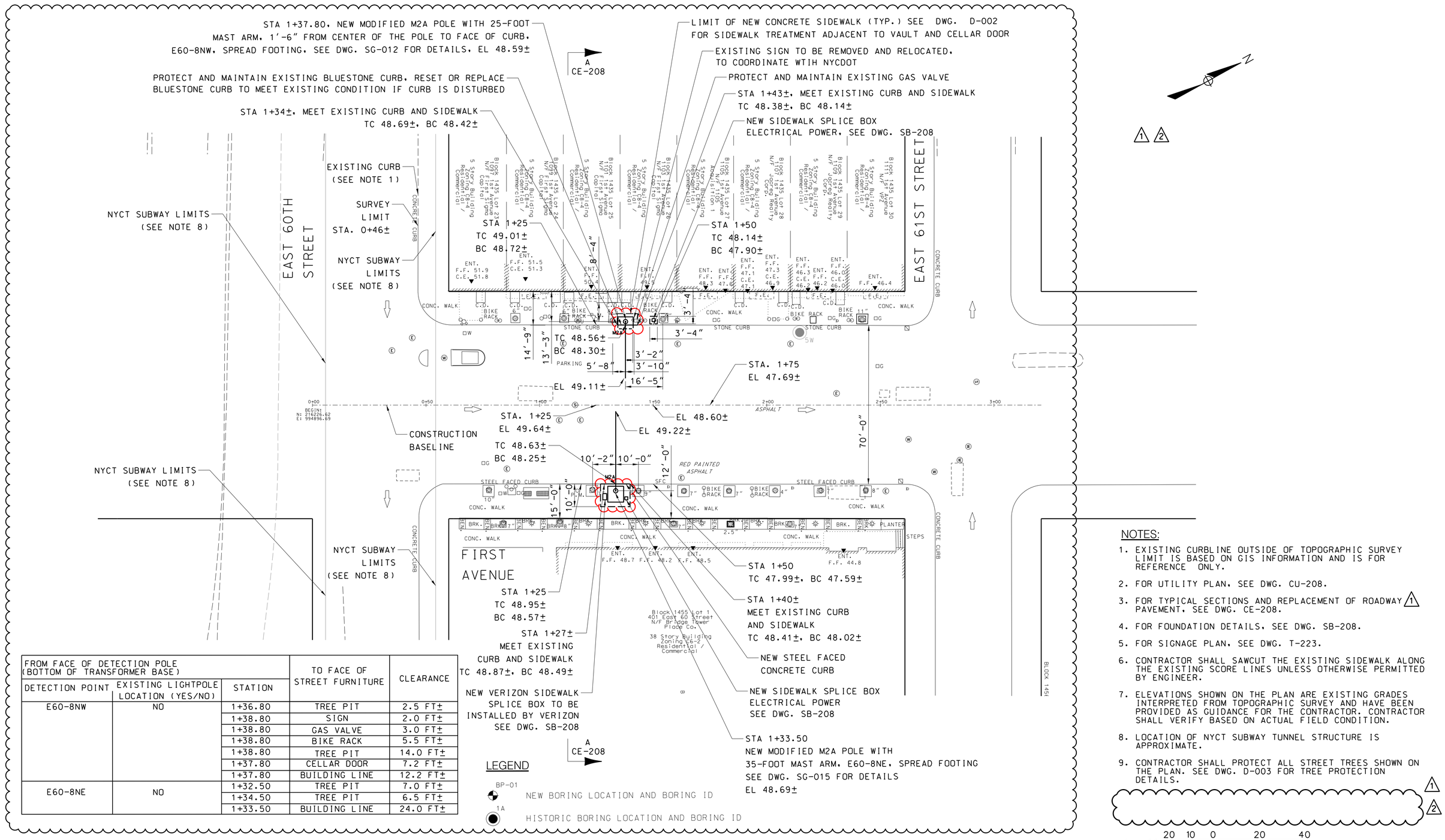
1A — HISTORIC BORING LOCATION AND BORING ID

FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
E60-7SW	NO	1+12.20	PARKING SIGN	0 FT (TO BE RELOCATED)
		1+12.20	PARKING METER	7.0 FT±
		1+12.20	TREE PIT	22.0 FT±
		1+14.20	BIKE RACK	0 FT (TO BE RELOCATED)
		1+14.20	TREE PIT	5.0 FT±
		1+13.20	BUILDING LINE	10.8 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-108.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-108.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-108.
5. FOR SIGNAGE PLAN, SEE DWG. T-118.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. EXISTING BIKE RACKS SHALL NOT BE REMOVED OR RELOCATED BY THE CONTRACTOR. ANY WORK RELATED TO BIKE RACK REMOVAL MUST BE PERFORMED BY THE DEPARTMENT OF TRANSPORATION.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
9. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.
10. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

Second Avenue between East 60th Street and East 61st Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
E60-8NW	NO	1+36.80	TREE PIT	2.5 FT±
		1+38.80	SIGN	2.0 FT±
		1+38.80	GAS VALVE	3.0 FT±
		1+38.80	BIKE RACK	5.5 FT±
		1+38.80	TREE PIT	14.0 FT±
		1+37.80	CELLAR DOOR	7.2 FT±
		1+37.80	BUILDING LINE	12.2 FT±
E60-8NE	NO	1+32.50	TREE PIT	7.0 FT±
		1+34.50	TREE PIT	6.5 FT±
		1+33.50	BUILDING LINE	24.0 FT±

LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

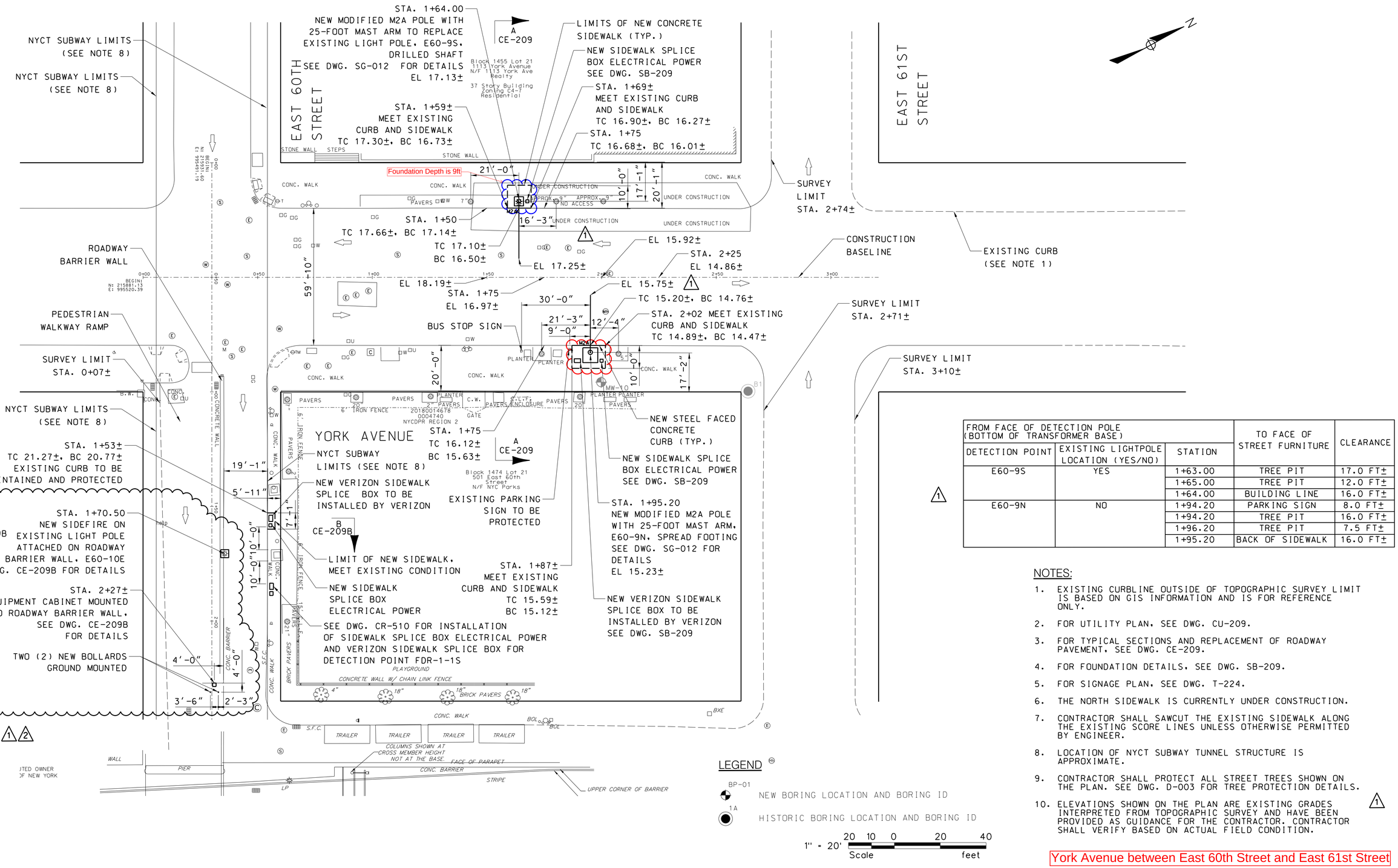
1A — HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-208.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY (1) PAVEMENT, SEE DWG. CE-208.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-208.
5. FOR SIGNAGE PLAN, SEE DWG. T-223.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
8. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale — 20 10 0 20 40 feet

First Avenue between East 60th Street and East 61st Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
E60-9S	YES	1+63.00	TREE PIT	17.0 FT±
		1+65.00	TREE PIT	12.0 FT±
		1+64.00	BUILDING LINE	16.0 FT±
E60-9N	NO	1+94.20	PARKING SIGN	8.0 FT±
		1+94.20	TREE PIT	16.0 FT±
		1+96.20	TREE PIT	7.5 FT±
		1+95.20	BACK OF SIDEWALK	16.0 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

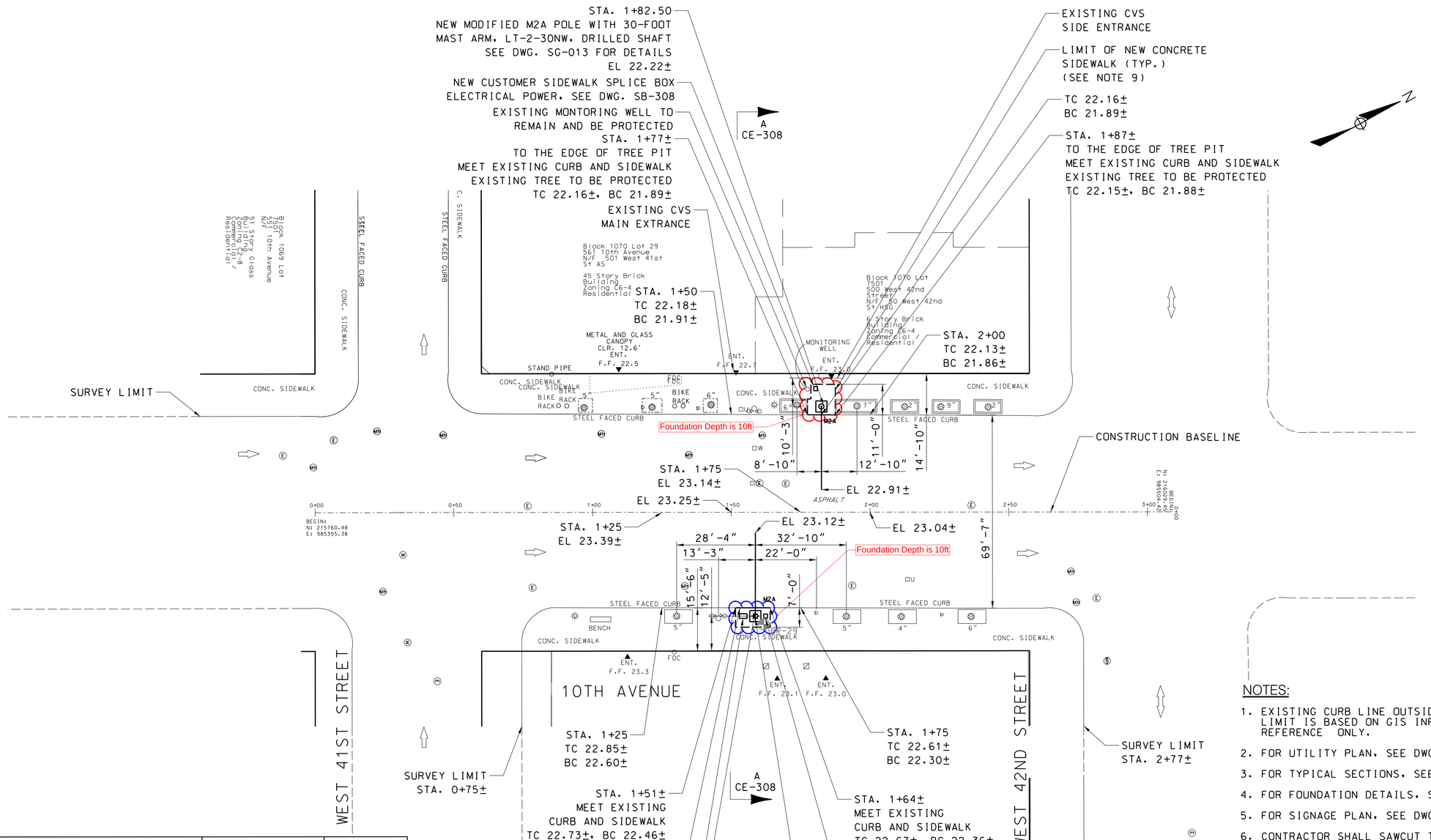
1A HISTORIC BORING LOCATION AND BORING ID

1" = 20' Scale 20 10 0 20 40 feet

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-209.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-209.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-209.
5. FOR SIGNAGE PLAN, SEE DWG. T-224.
6. THE NORTH SIDEWALK IS CURRENTLY UNDER CONSTRUCTION.
7. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER.
8. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
10. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.

York Avenue between East 60th Street and East 61st Street



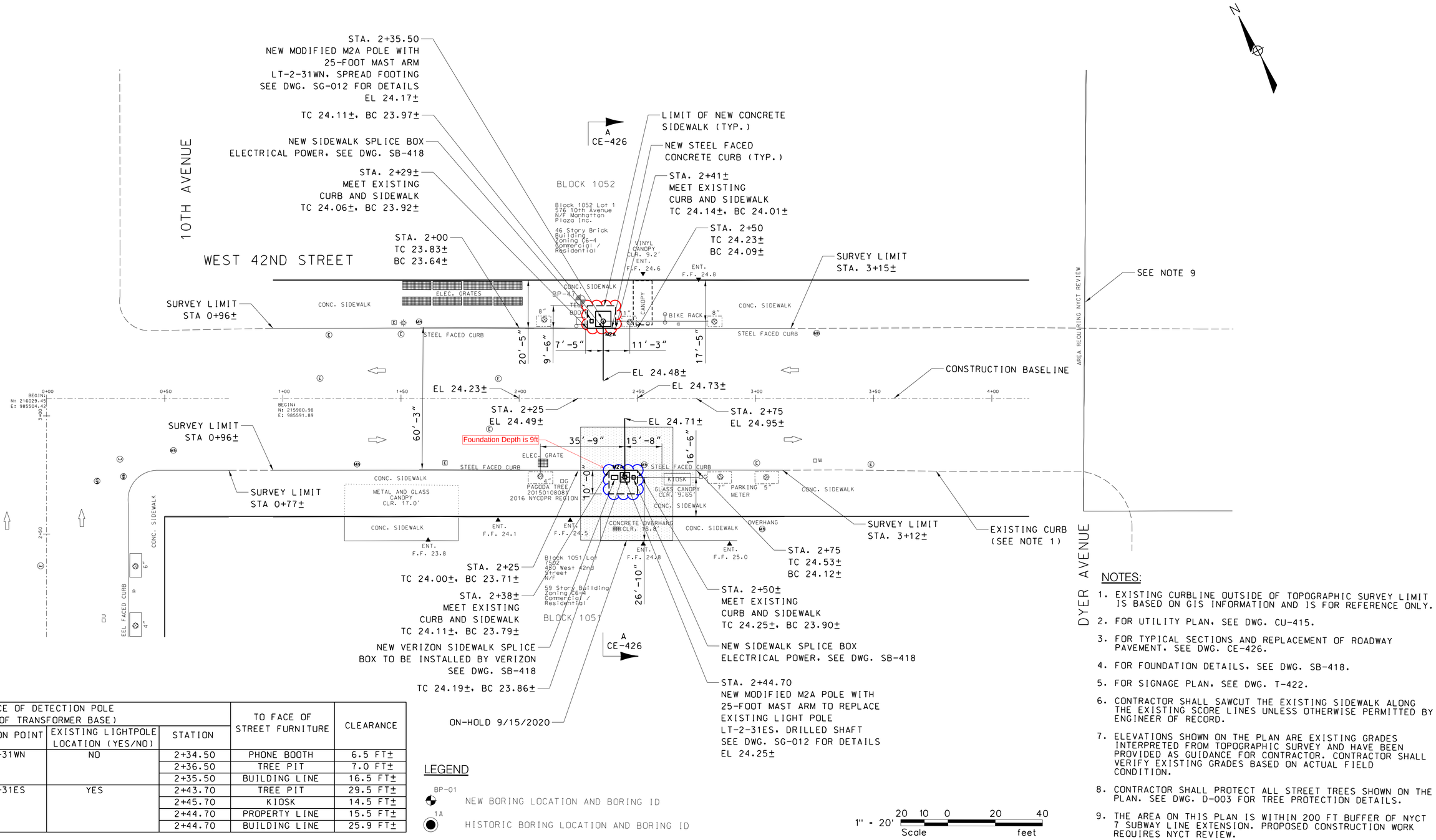
FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-30NW	NO	1+81.50	TREE PIT	4.0 FT±
		1+83.50	TREE PIT	4.0 FT±
		1+82.50	BUILDING LINE STEPS	9.2 FT±
LT-2-30NE	YES	1+57.60	FIRE HYDRANT BOLLARD	9.0 FT±
		1+57.60	TREE PIT	22.0 FT±
		1+59.60	TREE PIT	27.0 FT±
		1+59.60	SIGNAGE	21.0 FT±
		1+58.60	BUILDING LINE	11.5 FT±

NOTES:

1. EXISTING CURB LINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-306.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-308.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-308.
5. FOR SIGNAGE PLAN, SEE DWG. T-305.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
9. BUILDING VAULT(S) EXIST FOR BLOCK 1070, LOT 7501. LIMITS AND NATURE OF THE VAULT TO BE FURTHER INVESTIGATED. SEE DWG. D-002 FOR SIDEWALK TREATMENT ADJACENT TO VAULT AND CELLAR DOOR.

1" - 20' scale: 20 10 0 20 40 feet

10th Avenue between West 41st Street and West 42nd Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-31WN	NO	2+34.50	PHONE BOOTH	6.5 FT±
		2+36.50	TREE PIT	7.0 FT±
		2+35.50	BUILDING LINE	16.5 FT±
LT-2-31ES	YES	2+43.70	TREE PIT	29.5 FT±
		2+45.70	KIOSK	14.5 FT±
		2+44.70	PROPERTY LINE	15.5 FT±
		2+44.70	BUILDING LINE	25.9 FT±

LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

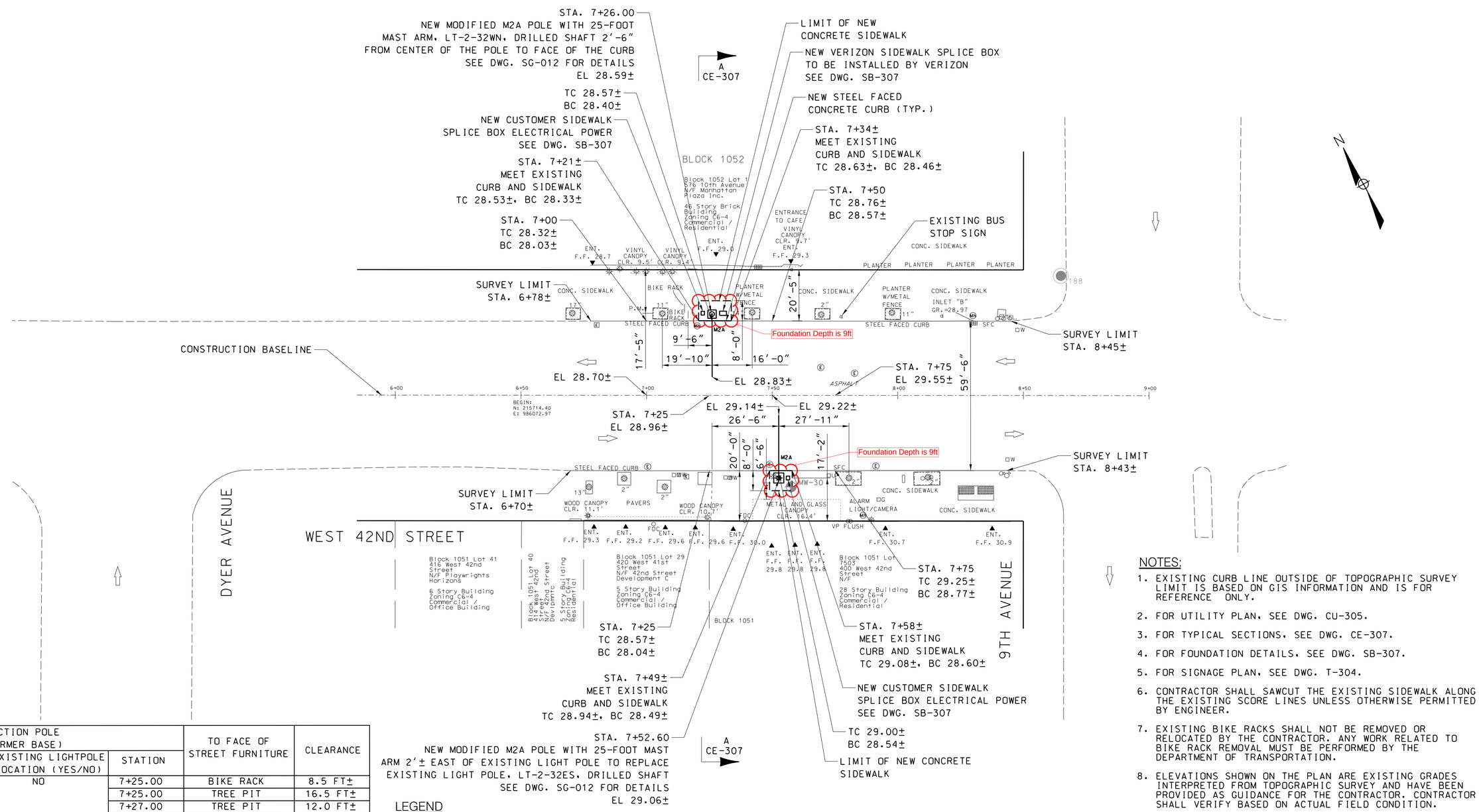
1A — HISTORIC BORING LOCATION AND BORING ID

1" = 20' Scale (20 10 0 20 40 feet)

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-415.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-426.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-418.
5. FOR SIGNAGE PLAN, SEE DWG. T-422.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
9. THE AREA ON THIS PLAN IS WITHIN 200 FT BUFFER OF NYCT 7 SUBWAY LINE EXTENSION. PROPOSED CONSTRUCTION WORK REQUIRES NYCT REVIEW.

West 42nd Street between 10th Avenue and Dyer Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-32WN	NO	7+25.00	BIKE RACK	8.5 FT±
		7+25.00	TREE PIT	16.5 FT±
		7+27.00	TREE PIT	12.0 FT±
		7+26.00	BUILDING LINE	18.5 FT±
LT-2-32ES	YES	7+51.90	EMPTY TREE PIT	25.5 FT±
		7+53.30	TREE PIT	22.0 FT±
		7+52.60	BUILDING LINE	16.2 FT±
		7+52.60	CANOPY	7.5 FT±

LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

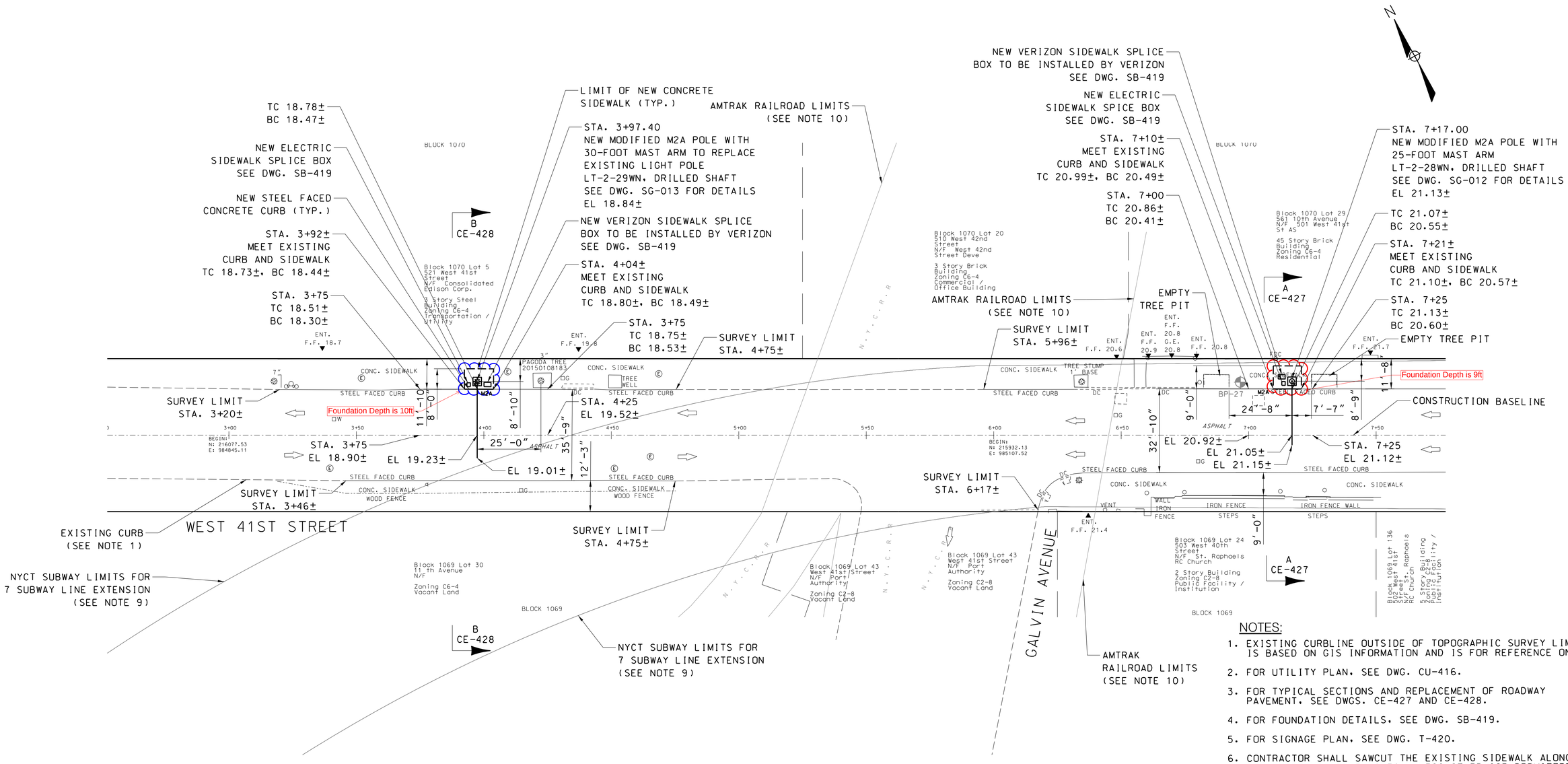
1A — HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURB LINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-305.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-307.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-307.
5. FOR SIGNAGE PLAN, SEE DWG. T-304.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER.
7. EXISTING BIKE RACKS SHALL NOT BE REMOVED OR RELOCATED BY THE CONTRACTOR. ANY WORK RELATED TO BIKE RACK REMOVAL MUST BE PERFORMED BY THE DEPARTMENT OF TRANSPORTATION.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" - 20' scale: 20 10 0 20 40 feet

West 42nd Street between Dyer Avenue and 9th Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-29WN	YES	3+98.40	TREE PIT	21.0 FT±
		3+97.40	BUILDING LINE	7.9 FT±
LT-2-28WN	NO	7+16.00	EMPTY TREE PIT	23.5 FT±
		7+18.00	EMPTY TREE PIT	6.5 FT±
		7+17.00	BUILDING LINE	7.8 FT±
		7+17.00	STAND PIPE	10.0 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

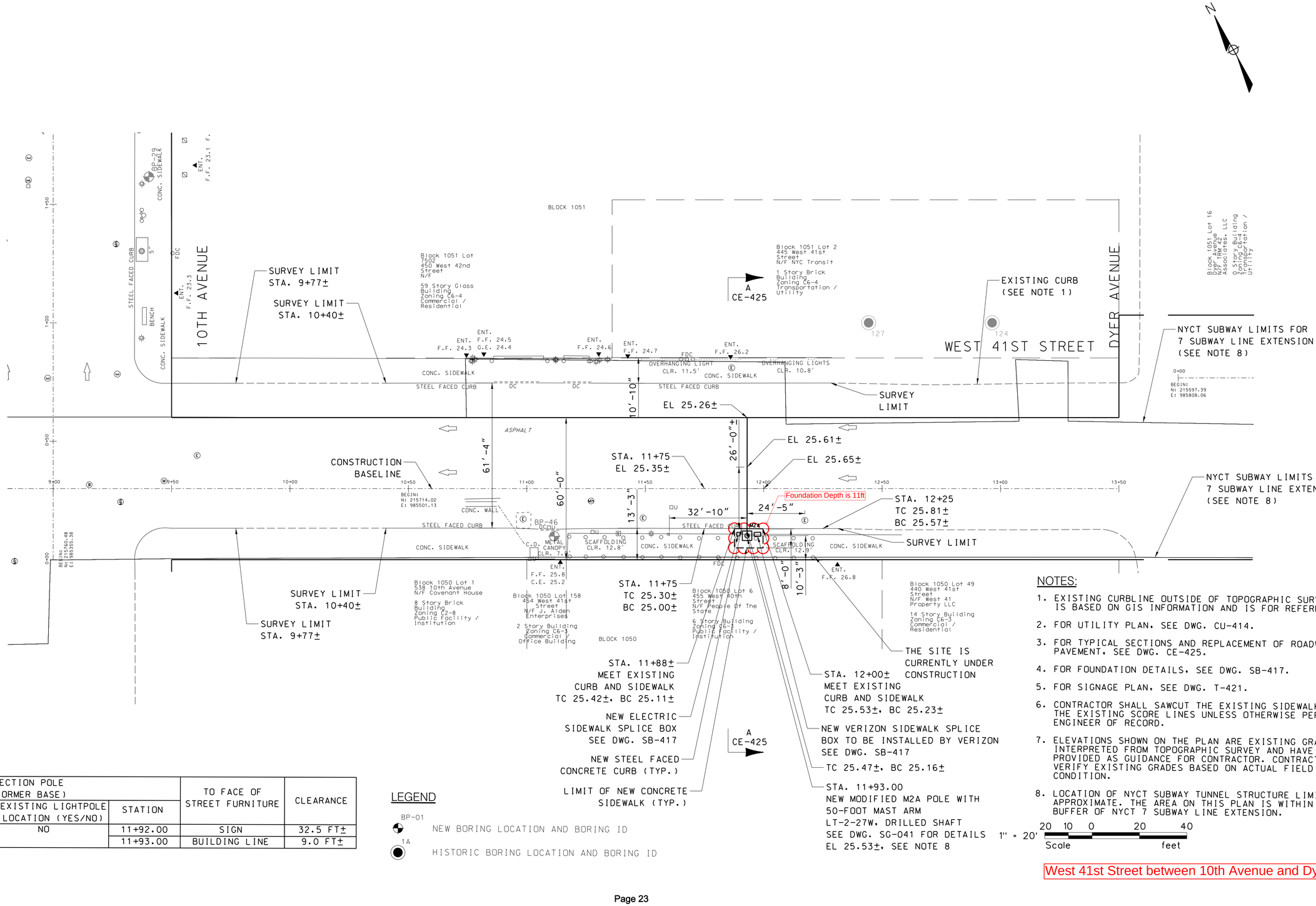
1A HISTORIC BORING LOCATION AND BORING ID

1" = 20' Scale (20 10 0 20 40 feet)

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-416.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWGS. CE-427 AND CE-428.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-419.
5. FOR SIGNAGE PLAN, SEE DWG. T-420.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
9. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
10. LOCATION OF AMTRAK STRUCTURE IS APPROXIMATE.

West 41st Street at Galvin Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-27W	NO	11+92.00	SIGN	32.5 FT±
		11+93.00	BUILDING LINE	9.0 FT±

LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

NOTES:

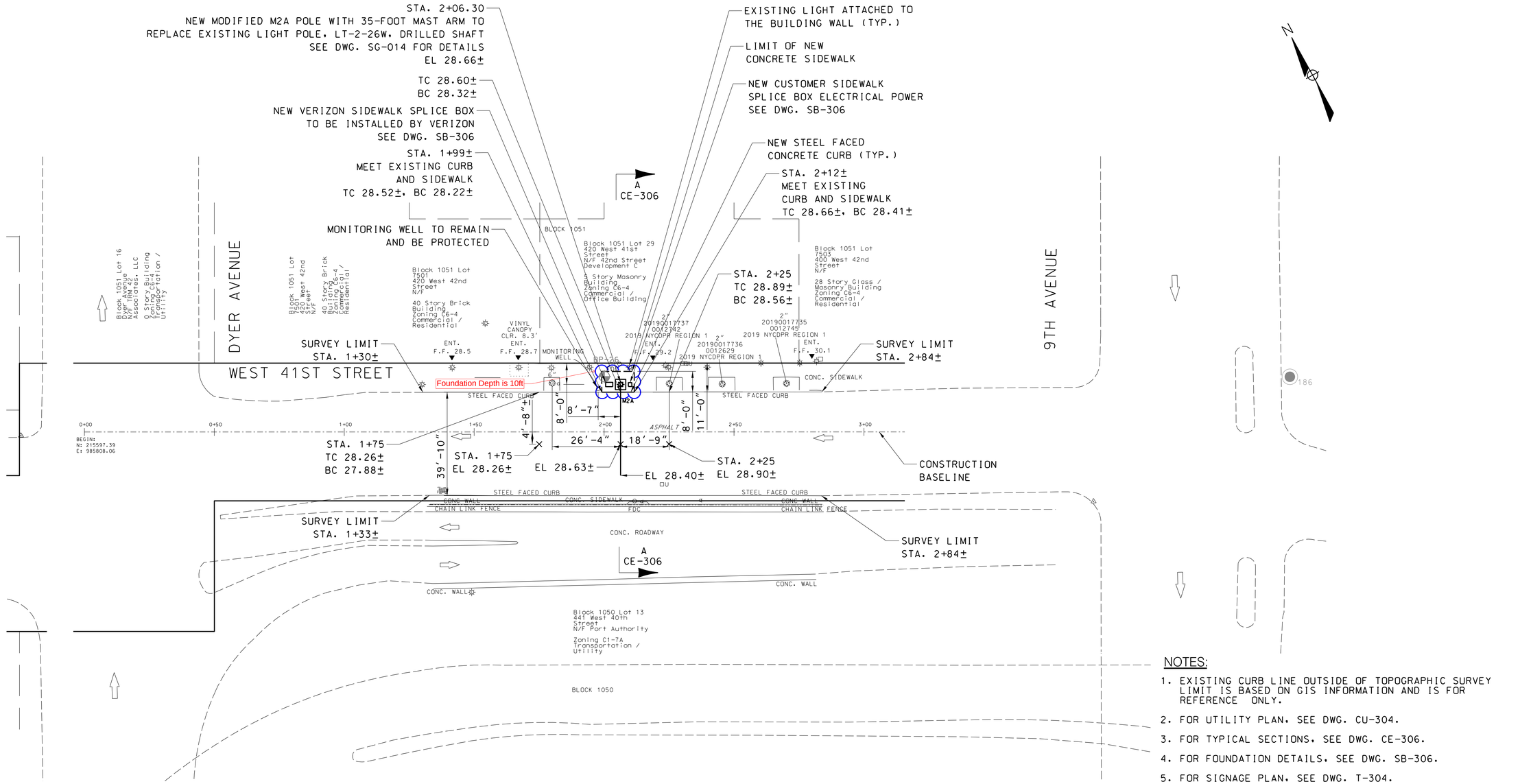
1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-414.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-425.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-417.
5. FOR SIGNAGE PLAN, SEE DWG. T-421.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE LIMITS IS APPROXIMATE. THE AREA ON THIS PLAN IS WITHIN 200 FT BUFFER OF NYCT 7 SUBWAY LINE EXTENSION.

1" = 20'

20 10 0 20 40

Scale feet

West 41st Street between 10th Avenue and Dyer Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-26W	YES	2+05.30	MONITORING WELL	7.5 FT±
		2+05.30	TREE PIT	22.5 FT±
		2+07.30	TREE PIT	13.0 FT±
		2+06.30	BUILDING LINE	7.0 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

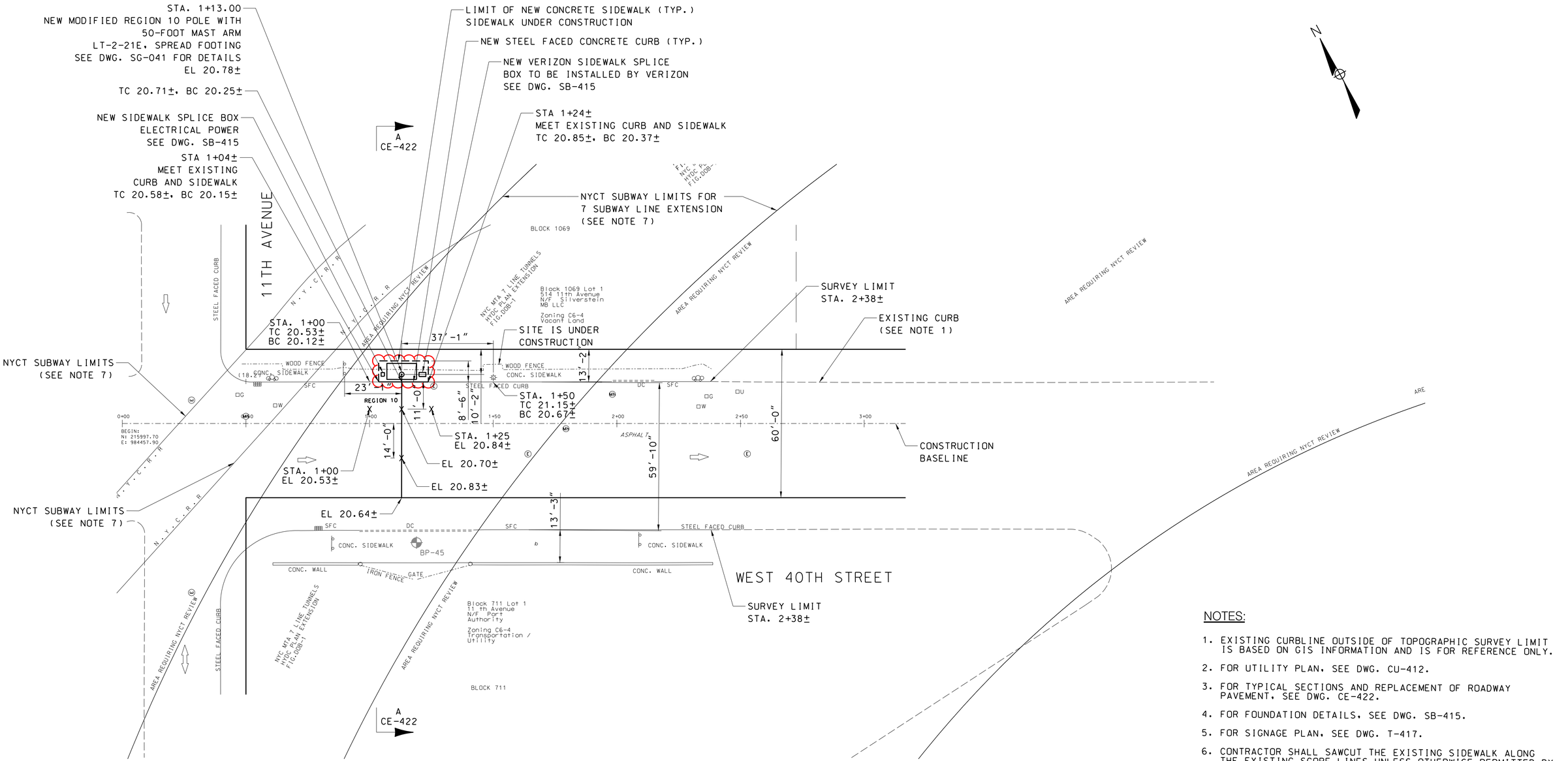
1A HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURB LINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-304.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-306.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-306.
5. FOR SIGNAGE PLAN, SEE DWG. T-304.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale: 20 10 0 20 40 feet

West 41st Street between Dyer Avenue and 9th Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-21E	NO	1+12.00	SIGN POST	21.5 FT±
		1+14.00	LIGHT POLE	35.0 FT±

LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

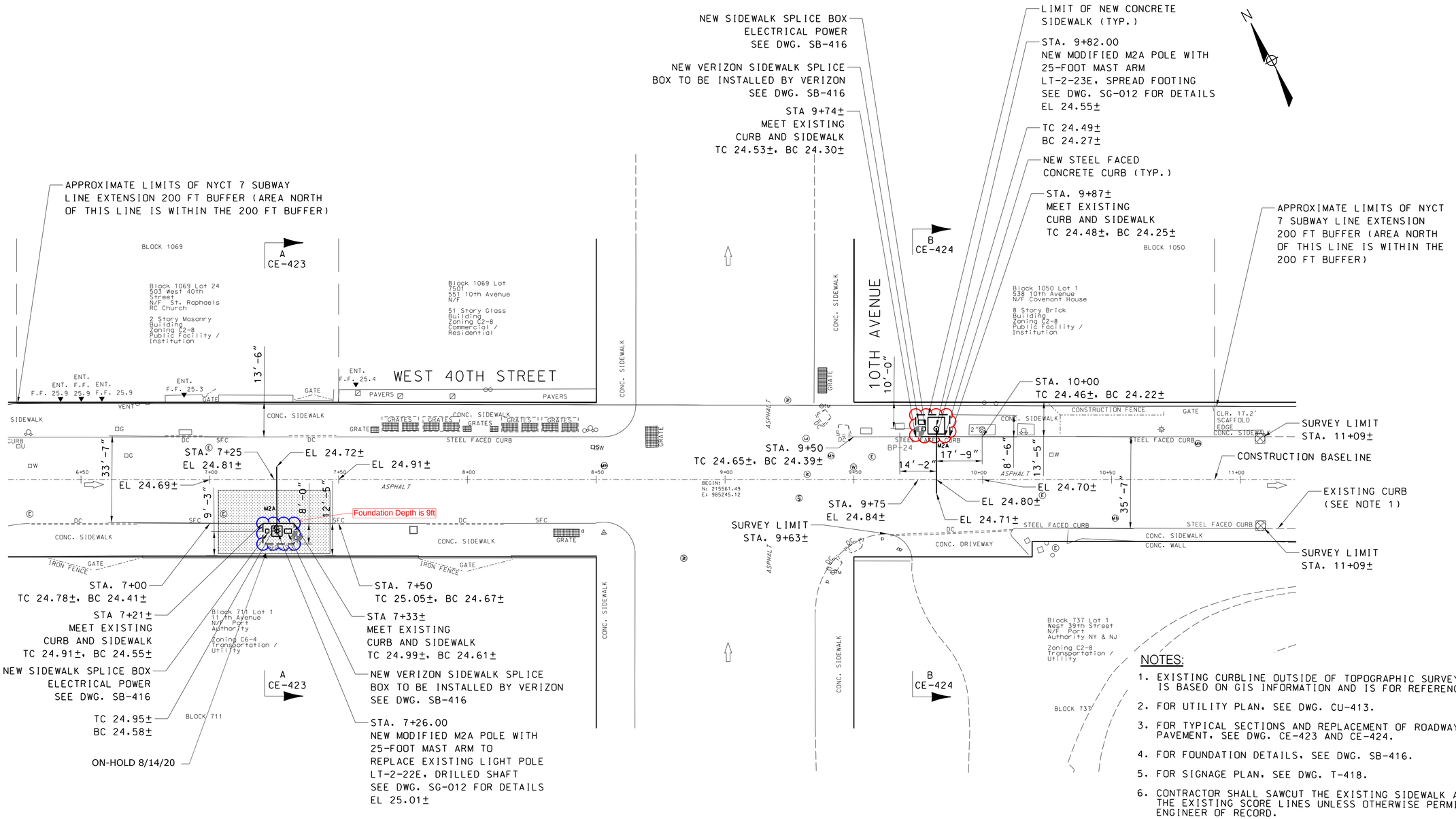
1A — HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-412.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-422.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-415.
5. FOR SIGNAGE PLAN, SEE DWG. T-417.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
9. THE NORTH SIDEWALK IS UNDER CONSTRUCTION.

1" = 20' — 20 10 0 20 40 — Scale feet

West 40th Street between 11th Avenue and Galvin Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-22E	YES	7+26.00	FENCE BASE	8.3 FT±
LT-23E	NO	9+81.00	PHONE BOOTH	11.5 FT±
		9+83.00	TREE PIT	11.5 FT±
		9+82.00	BUILDING LINE	9.0 FT±

LEGEND

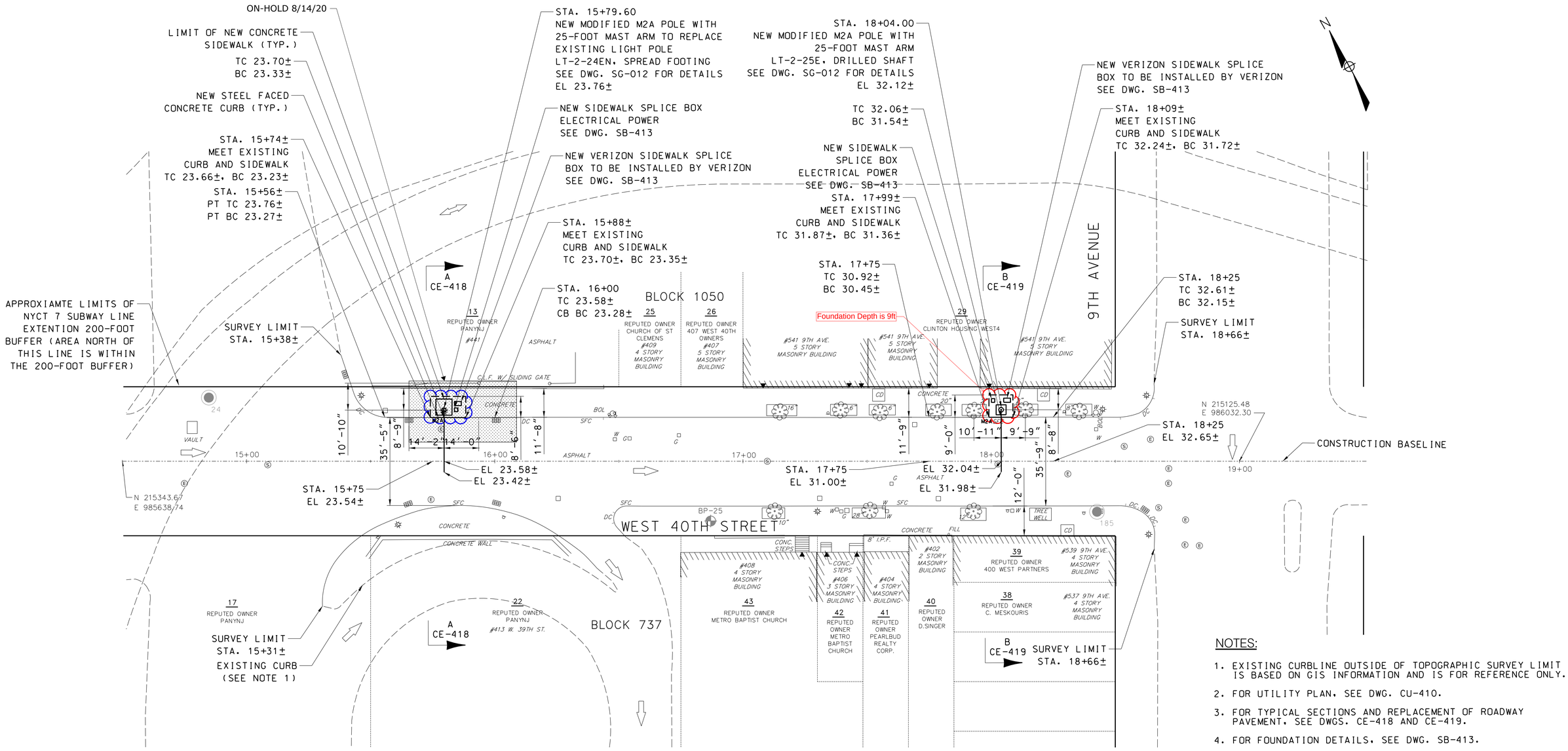
BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-413.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-423 AND CE-424.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-416.
5. FOR SIGNAGE PLAN, SEE DWG. T-418.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

West 40th Street at 10th Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-24EN	YES	15+78.60	CATCH BASIN	11.5 FT±
		15+80.60	DRIVEWAY	13.0 FT±
		15+79.60	CHAIN LINK FENCE	8.9 FT±
LT-2-25E	NO	18+03.00	TREE PIT	5.0 FT±
		18+05.00	TREE PIT	4.5 FT±
		18+04.00	BUILDING LINE	7.7 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

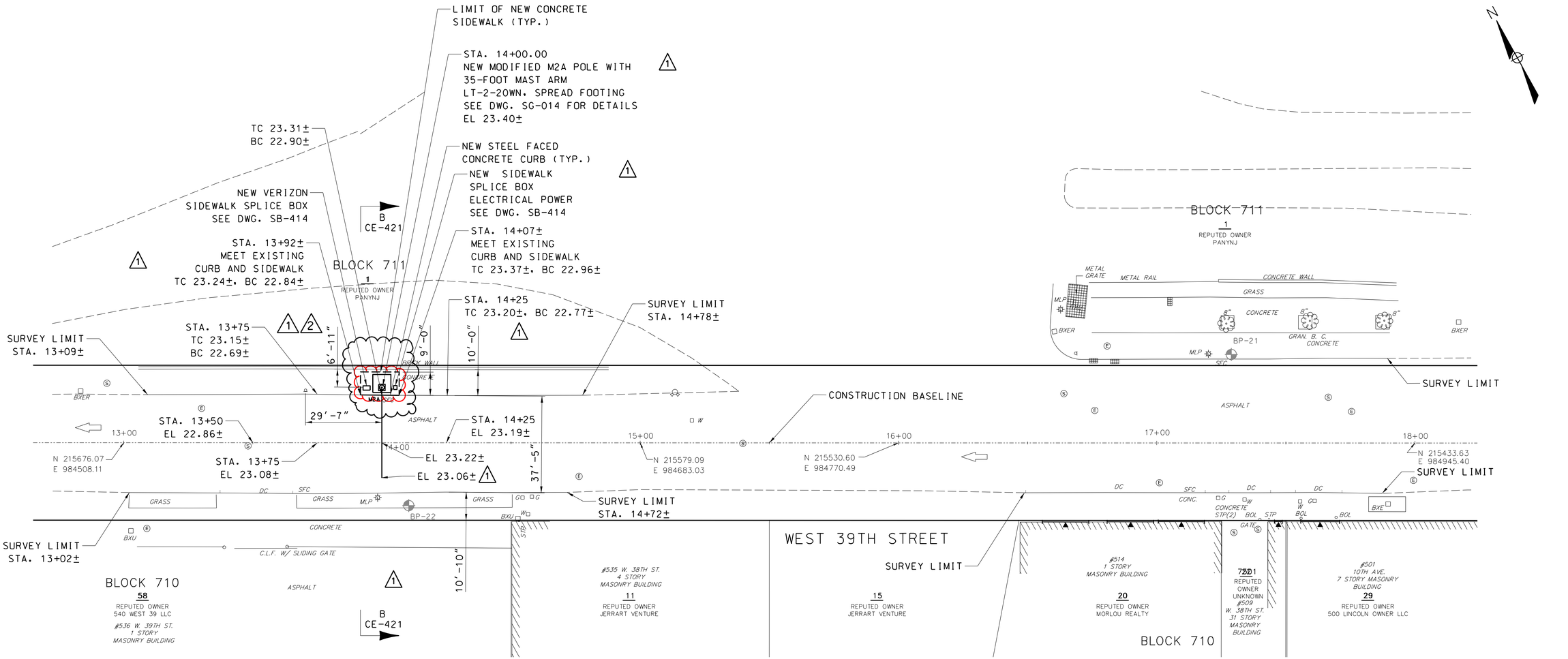
1A HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-410.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWGS. CE-418 AND CE-419.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-413.
5. FOR SIGNAGE PLAN, SEE DWG. T-419.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale 20 10 0 20 40 feet

West 40th Street between 9th Avenue and Dyer Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-20WN	NO 2/1	13+99.00	SIGN POST	28.0 FT±
		14+00.00	BRICK WALL	5.9 FT±

LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

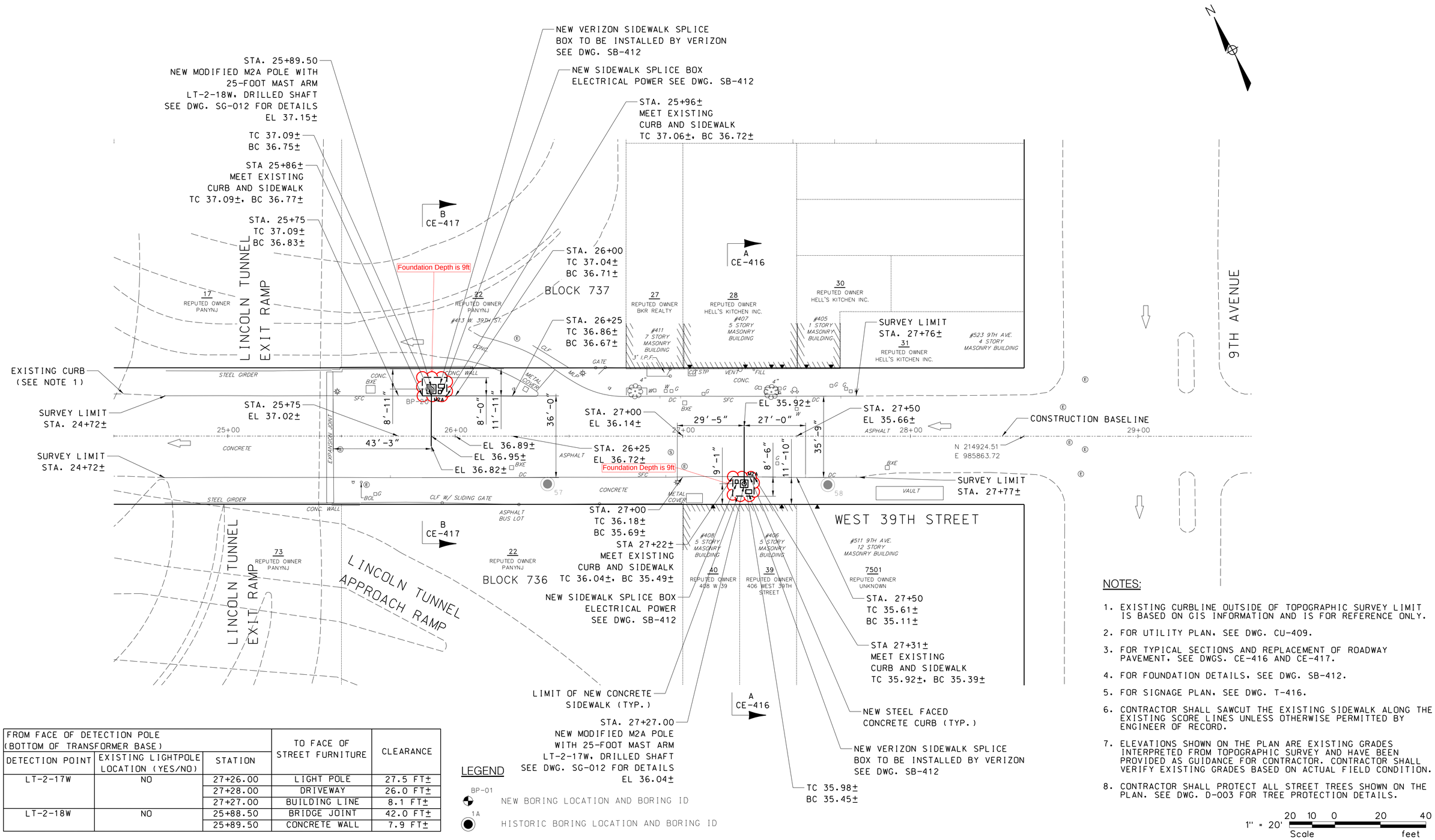
1A — HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-411.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-421.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-414.
5. FOR SIGNAGE PLAN, SEE DWG. T-414.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.

1" = 20' Scale — 20 10 0 20 40 feet

West 39th Street between 10th Avenue and 11th Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-17W	NO	27+26.00	LIGHT POLE	27.5 FT±
		27+28.00	DRIVEWAY	26.0 FT±
		27+27.00	BUILDING LINE	8.1 FT±
LT-2-18W	NO	25+88.50	BRIDGE JOINT	42.0 FT±
		25+89.50	CONCRETE WALL	7.9 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

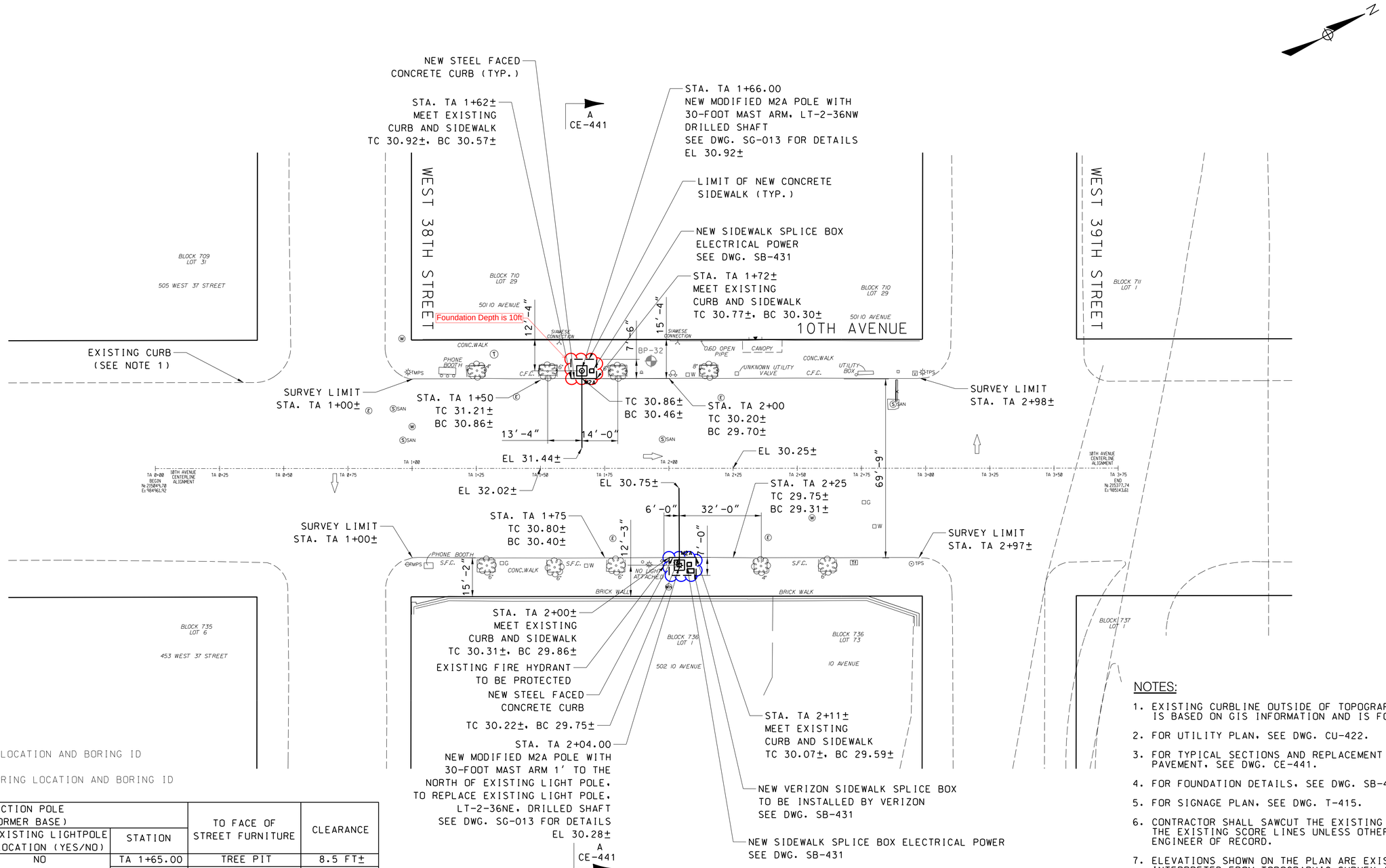
1A HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-409.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWGS. CE-416 AND CE-417.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-412.
5. FOR SIGNAGE PLAN, SEE DWG. T-416.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale 20 10 0 20 40 feet

West 39th Street between 9th Avenue and Dyer Avenue



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

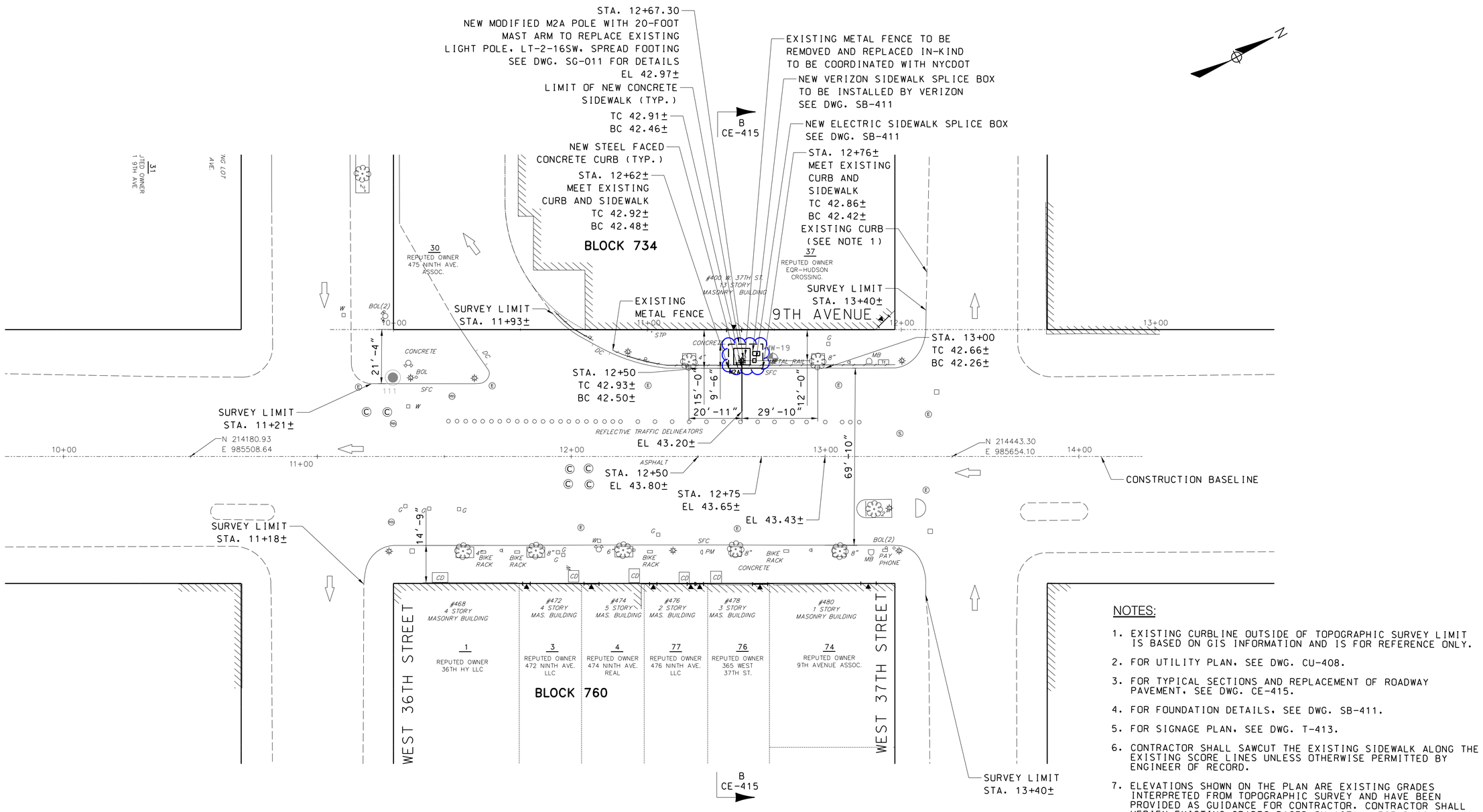
1A — HISTORIC BORING LOCATION AND BORING ID

FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-36NW	NO	TA 1+65.00	TREE PIT	8.5 FT±
		TA 1+67.00	TREE PIT	9.5 FT±
		TA 1+66.00	BUILDING LINE	11.3 FT±
LT-2-36NE	YES	TA 2+03.00	FIRE HYDRANT	4.0 FT±
		TA 2+05.00	TREE PIT	28.0 FT±
		TA 2+04.00	BUILDING LINE	11.2 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-422.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-441.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-431.
5. FOR SIGNAGE PLAN, SEE DWG. T-415.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

10th Avenue between West 38th Street and West 39th Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-16SW	YES	12+66.30	TREE PIT	17.0 FT±
		12+68.30	TREE PIT	26.5 FT±
		12+67.30	BUILDING LINE (ENTRANCE)	11.0 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

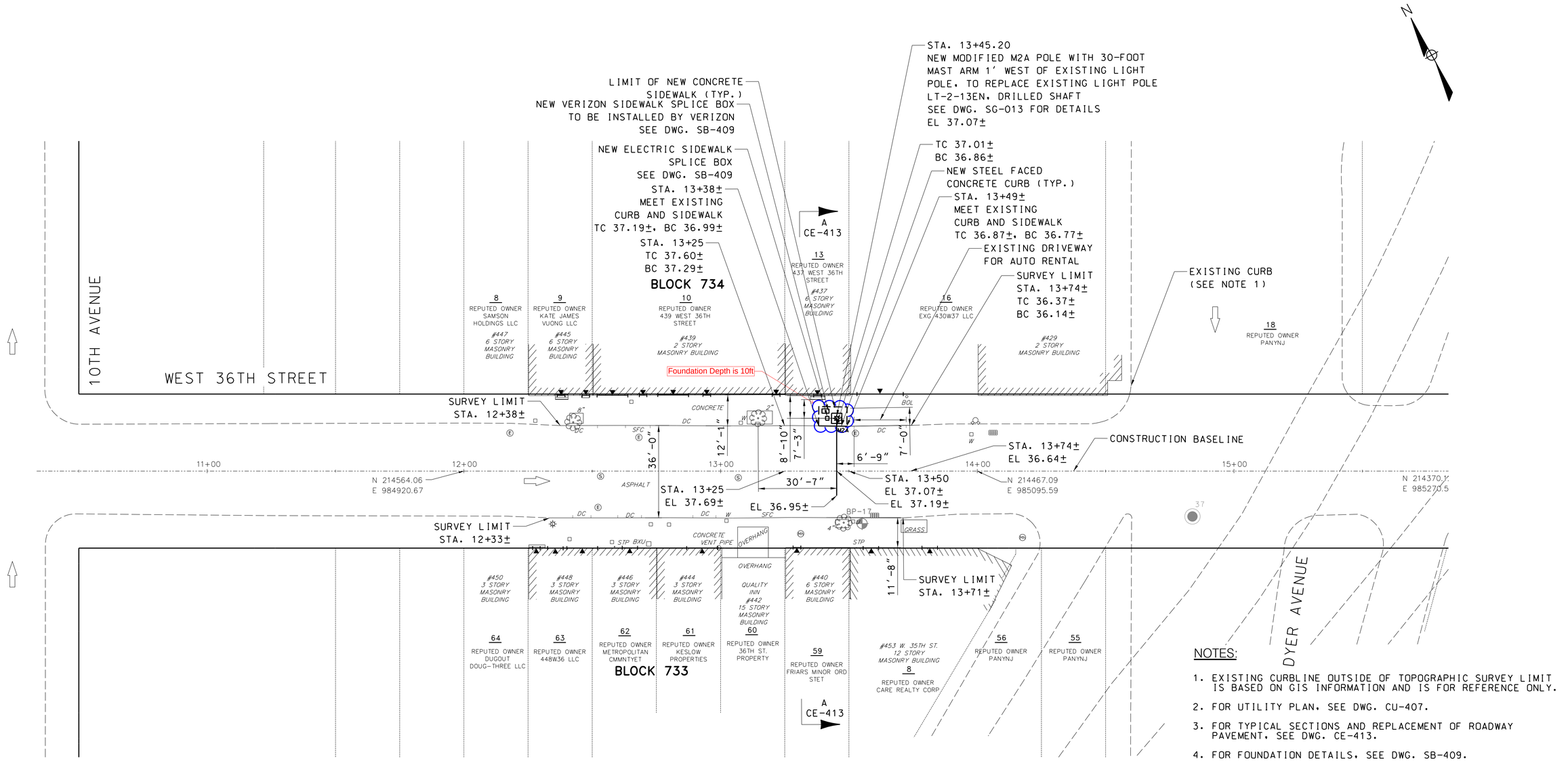
1A HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-408.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-415.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-411.
5. FOR SIGNAGE PLAN, SEE DWG. T-413.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale 20 10 0 20 40 feet

9th Avenue between West 36th Street and West 37th Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-13EN	YES	13+44.20	TREE PIT	24.0 FT±
		13+46.20	DRIVEWAY	5.8 FT±
		13+45.20	BUILDING STAIRS	6.2 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

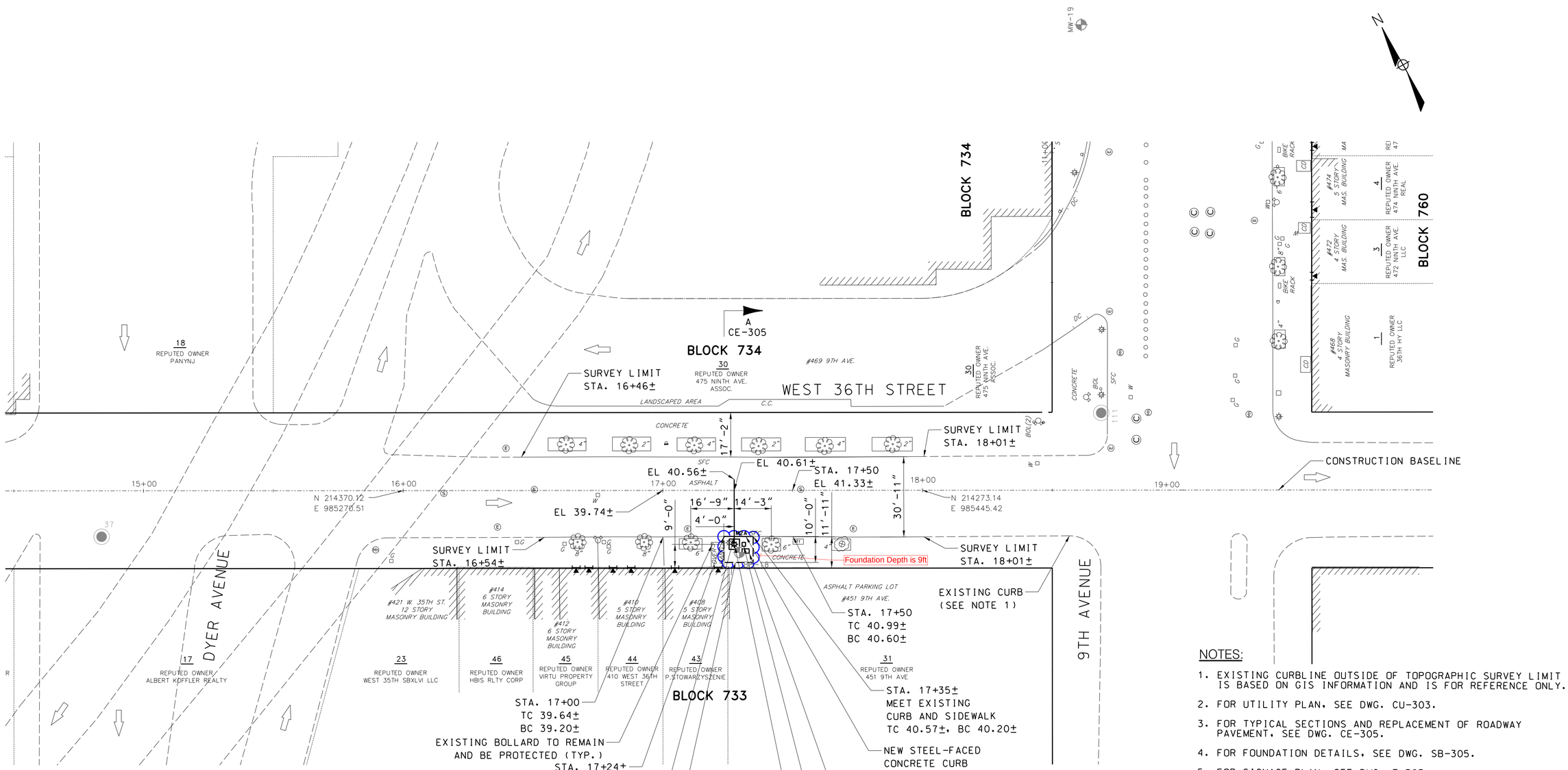
1A HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-407.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-413.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-409.
5. FOR SIGNAGE PLAN, SEE DWG. T-412.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale 20 10 0 20 40 feet

West 36th Street between 10th Avenue and Dyer Avenue



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

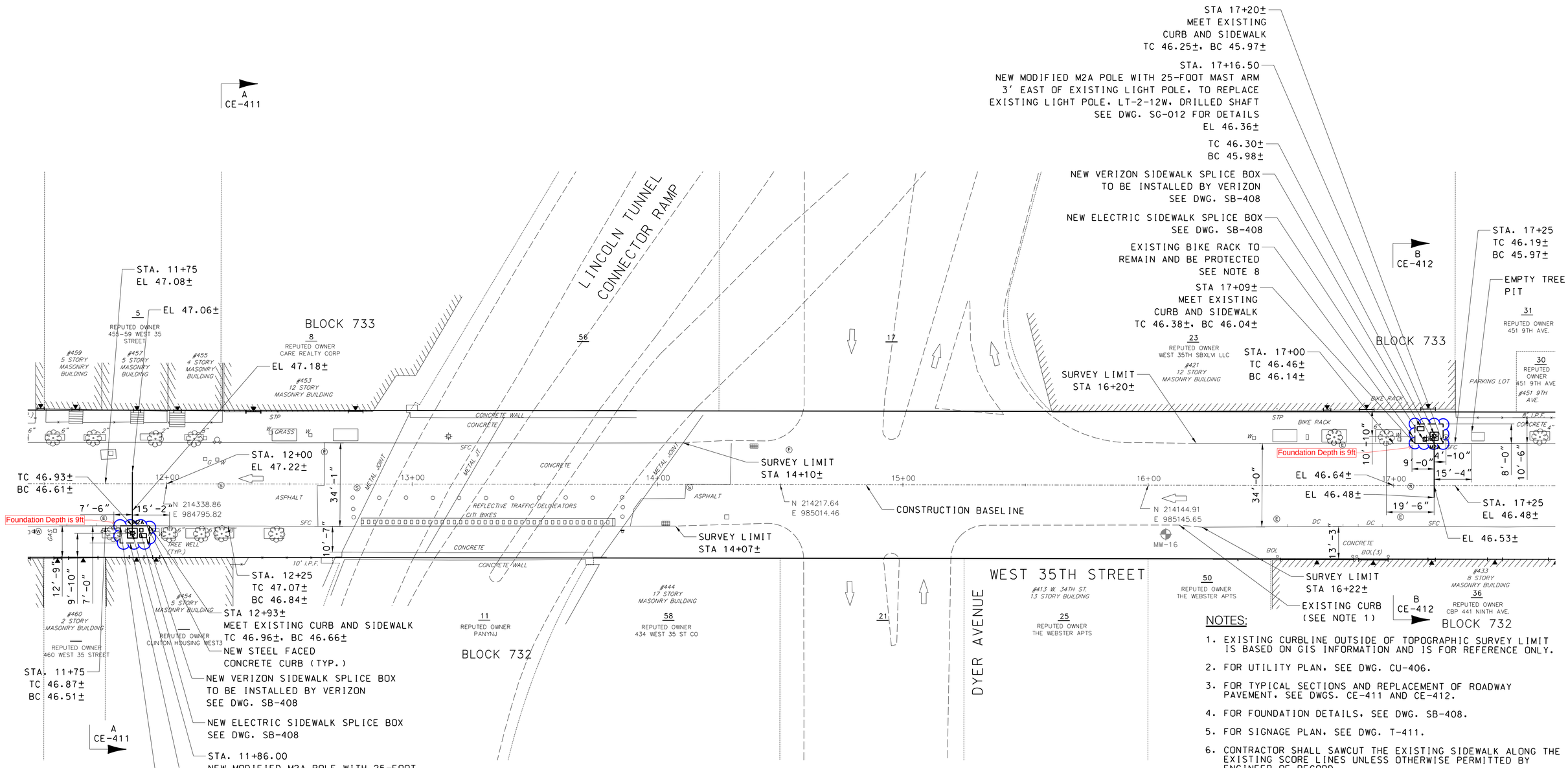
FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-14E	YES	17+26.80	TREE PIT	11.5 FT±
		17+26.80	CANOPY	3.0 FT±
		17+28.30	TREE PIT	10.0 FT±
		17+27.50	BUILDING LINE	8.0 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-303.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-305.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-305.
5. FOR SIGNAGE PLAN, SEE DWG. T-303.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale: 20 10 0 20 40 feet

West 36th Street between Dyer Avenue and 9th Avenue



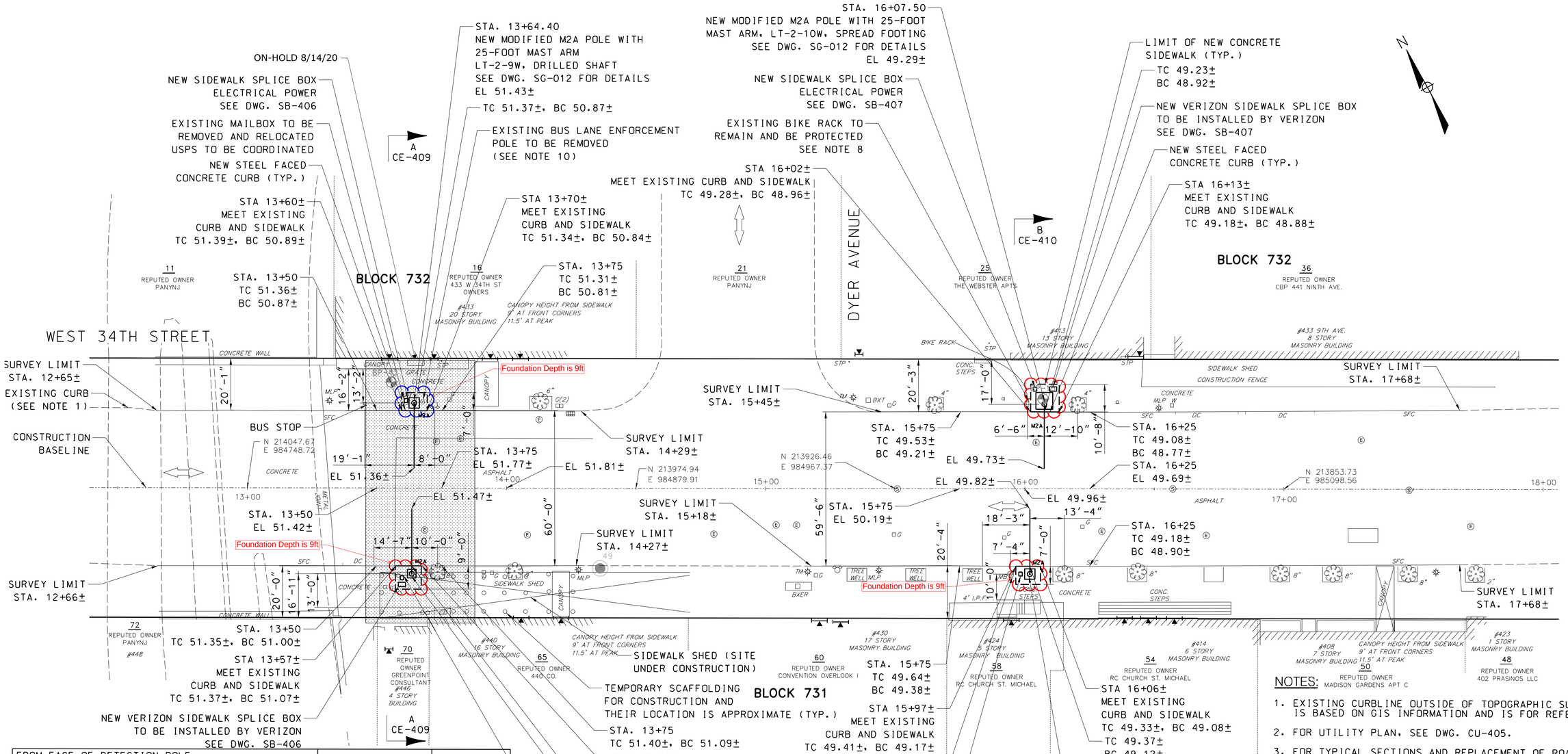
FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-11W	YES	11+85.00	TREE PIT	4.0 FT±
		11+87.00	TREE PIT	11.0 FT±
		11+86.00	BUILDING LINE	8.9 FT±
LT-2-12W	YES	17+15.50	BIKE RACK	8.0 FT±
		17+15.50	TREE PIT	12.5 FT±
		17+17.50	ELECTRIC MANHOLE	3.0 FT±
		17+17.50	EMPTY TREE PIT	14.0 FT±
		17+16.50	BUILDING LINE	9.9 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-406.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWGS. CE-411 AND CE-412.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-408.
5. FOR SIGNAGE PLAN, SEE DWG. T-411.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. EXISTING BIKE RACKS SHALL NOT BE REMOVED OR RELOCATED BY THE CONTRACTOR. ANY WORK RELATED TO BIKE RACK REMOVAL MUST BE PERFORMED BY THE DEPARTMENT OF TRANSPORTATION.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale 20 10 0 20 40 feet

West 35th Street at Dyer Avenue



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-9W	NO	13+63.40	BUS STOP SIGN	18.0 FT±
		13+65.40	FIRE HYDRANT	6.5 FT±
		13+64.40	BUILDING CANOPY	15.1 FT±
LT-2-9E	NO	13+62.50	DRIVEWAY	13.5 FT±
		13+64.50	TREE PIT	6.5 FT±
		13+63.50	CELLAR DOOR	12.0 FT±
		13+63.50	BUILDING LINE	15.9 FT±
LT-2-10W	NO	16+06.50	BIKE RACK	5.5 FT±
		16+08.50	TREE PIT	10.0 FT±
		16+07.50	BUILDING LINE	16.0 FT±
LT-2-10E	NO	16+01.00	MAILBOX	5.5 FT±
		16+03.00	TREE PIT	8.0 FT±
		16+02.00	CONCRETE STEPS	9.0 FT±

LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-405.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWGS. CE-409 AND CE-410.
4. FOR FOUNDATION DETAILS, SEE DWGS. SB-406 AND SB-407.
5. FOR SIGNAGE PLAN, SEE DWG. T-410.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. EXISTING BIKE RACKS SHALL NOT BE REMOVED OR RELOCATED BY THE CONTRACTOR. ANY WORK RELATED TO BIKE RACK REMOVAL MUST BE PERFORMED BY THE DEPARTMENT OF TRANSPORTATION.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
10. THERE IS NO CAMERA MOUNTED ON THE BUS LANE ENFORCEMENT POLE.

1" = 20' (20 10 0 20 40 Scale feet)

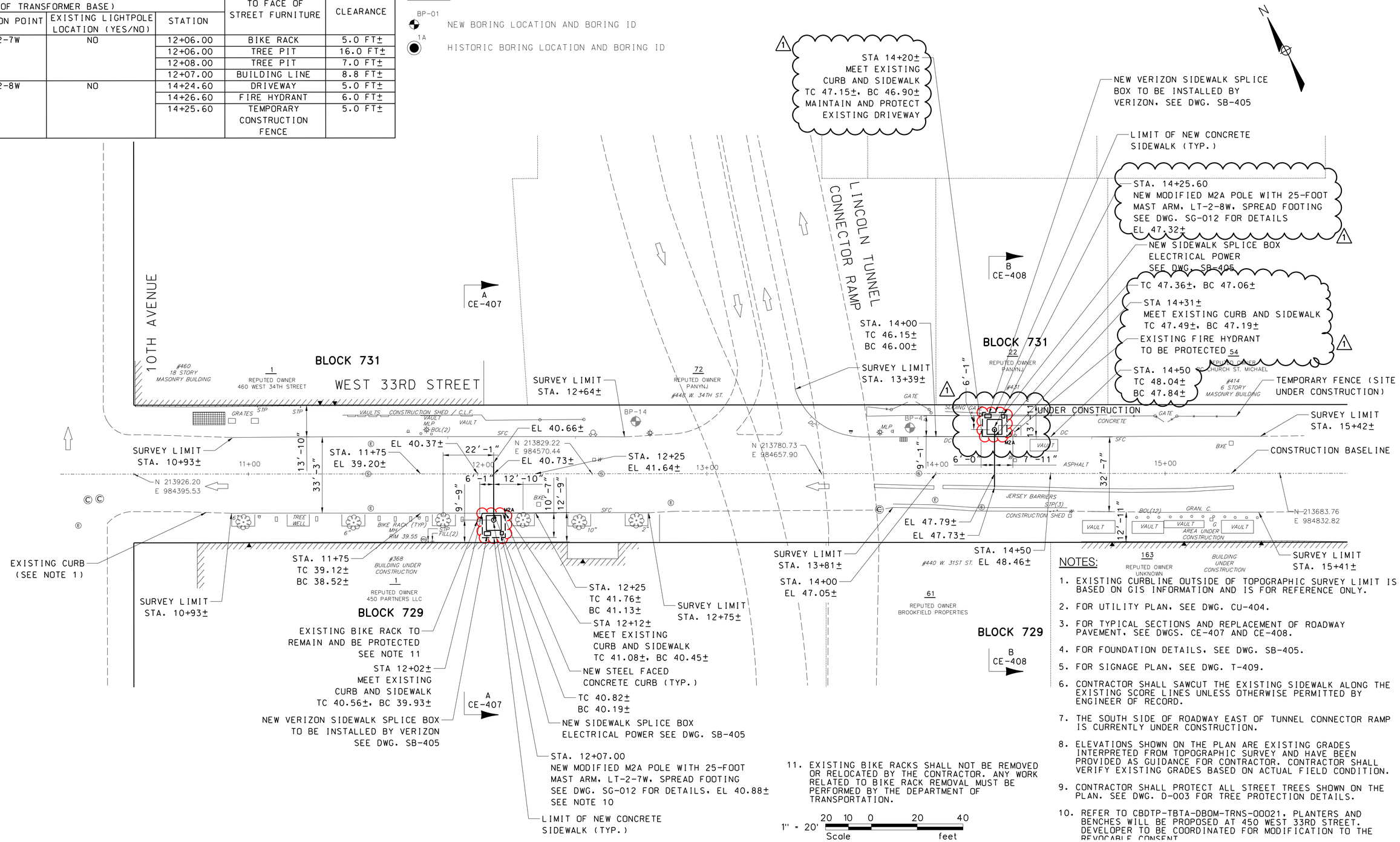
West 34th Street at Dyer Avenue

FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-7W	NO	12+06.00	BIKE RACK	5.0 FT±
		12+06.00	TREE PIT	16.0 FT±
		12+08.00	TREE PIT	7.0 FT±
		12+07.00	BUILDING LINE	8.8 FT±
LT-2-8W	NO	14+24.60	DRIVEWAY	5.0 FT±
		14+26.60	FIRE HYDRANT	6.0 FT±
		14+25.60	TEMPORARY CONSTRUCTION FENCE	5.0 FT±

LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID



NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-404.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWGS. CE-407 AND CE-408.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-405.
5. FOR SIGNAGE PLAN, SEE DWG. T-409.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. THE SOUTH SIDE OF ROADWAY EAST OF TUNNEL CONNECTOR RAMP IS CURRENTLY UNDER CONSTRUCTION.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
10. REFER TO CBDTP-TBTA-DBOM-TRNS-00021, PLANTERS AND BENCHES WILL BE PROPOSED AT 450 WEST 33RD STREET. DEVELOPER TO BE COORDINATED FOR MODIFICATION TO THE REVOCABLE CONSENT.
11. EXISTING BIKE RACKS SHALL NOT BE REMOVED OR RELOCATED BY THE CONTRACTOR. ANY WORK RELATED TO BIKE RACK REMOVAL MUST BE PERFORMED BY THE DEPARTMENT OF TRANSPORTATION.

1" = 20' Scale — 20 10 0 20 40 feet

West 33rd Street between 9th Avenue and 10th Avenue

FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-5W	NO	12+47.00	TREE PIT	19.0 FT±
		12+49.00	DRIVEWAY	5.0 FT±
		12+48.00	BUILDING LINE STAIRS	5.2 FT±
LT-2-6W	NO	15+15.00	BUILDING LINE	9.3 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

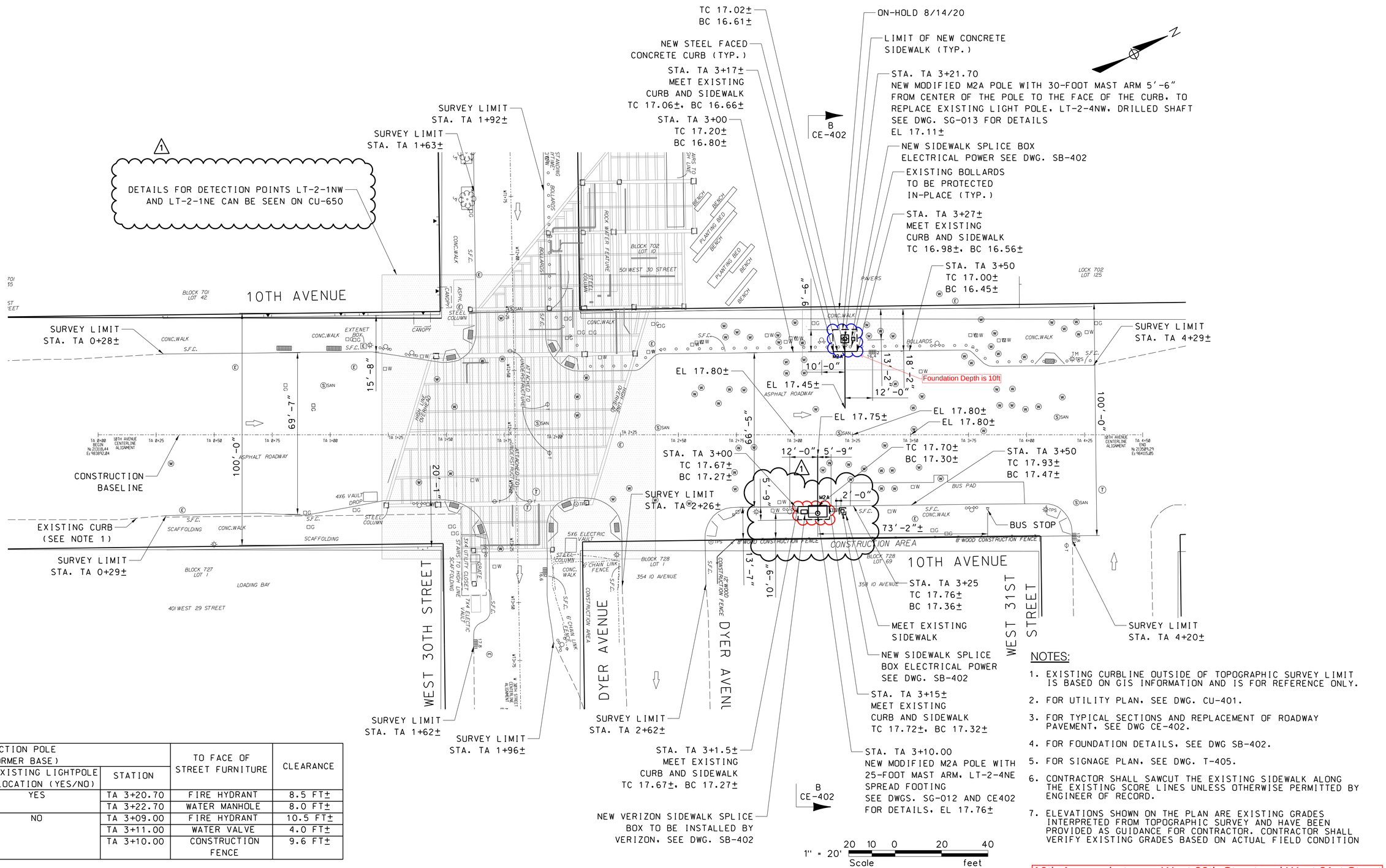
1A HISTORIC BORING LOCATION AND BORING ID

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT I BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-403.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWGS. CE-405 AND CE-406.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-404.
5. FOR SIGNAGE PLAN, SEE DWG. T-408.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. THE SOUTH SIDEWALK IS CURRENTLY UNDER CONSTRUCTION. THE SCAFFOLDINGS WERE INSTALLED AFTER SURVEY DATA WAS COLLECTED AND THEIR LOCATIONS ARE APPROXIMATE.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20'
20 10 0 20 40
Scale feet

West 31st Street at Dyer Avenue

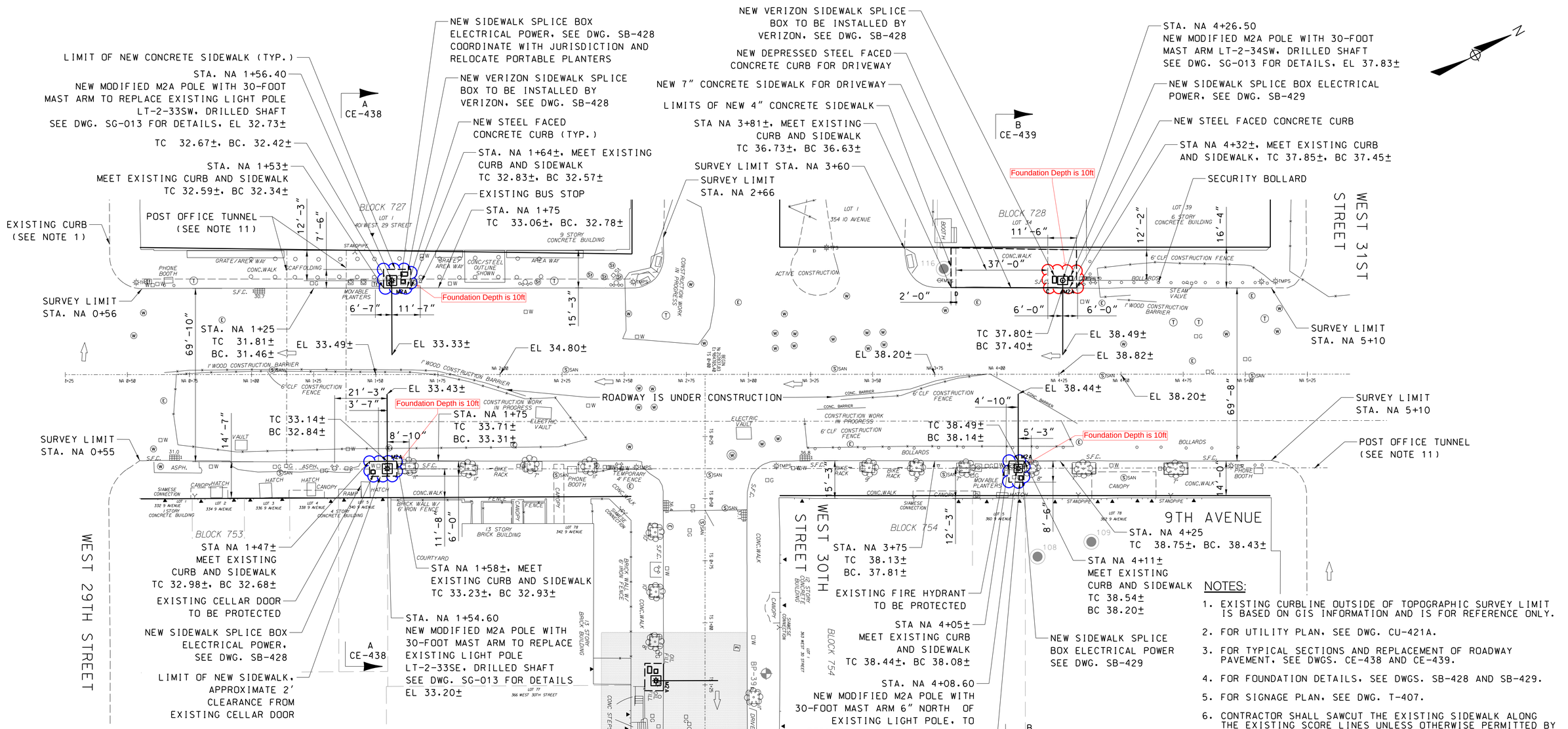


FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-4NW	YES	TA 3+20.70	FIRE HYDRANT	8.5 FT±
		TA 3+22.70	WATER MANHOLE	8.0 FT±
LT-2-4NE	NO	TA 3+09.00	FIRE HYDRANT	10.5 FT±
		TA 3+11.00	WATER VALVE	4.0 FT±
		TA 3+10.00	CONSTRUCTION FENCE	9.6 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-401.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG CE-402.
4. FOR FOUNDATION DETAILS, SEE DWG SB-402.
5. FOR SIGNAGE PLAN, SEE DWG. T-405.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION

10th Avenue between West 29th Street and West 31st Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-33SW	YES	NA 1+55.40	TRAFFIC VAULT	4.5 FT±
		NA 1+57.40	BUS STOP SIGN	10.5 FT±
		NA 1+56.40	BUILDING LINE	11.2 FT±
LT-2-33SE	YES	NA 1+53.60	WATER VALVE	2.0 FT±
		NA 1+55.60	TREE PIT	3.0 FT±
		NA 1+54.60	BUILDING LINE	10.5 FT±
LT-2-34SW	NO	NA 4+25.50	EDGE OF NEW DRIVEWAY	5.0 FT±
		NA 4+27.50	FIRE HYDRANT	5.0 FT±
		NA 4+26.50	BACK OF SIDEWALK	11.5 FT±
LT-2-34SE	YES	NA 4+07.60	FIRE HYDRANT	2.5 FT±
		NA 4+09.60	TREE PIT	2.0 FT±
		NA 4+08.60	BUILDING LINE	11.2 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

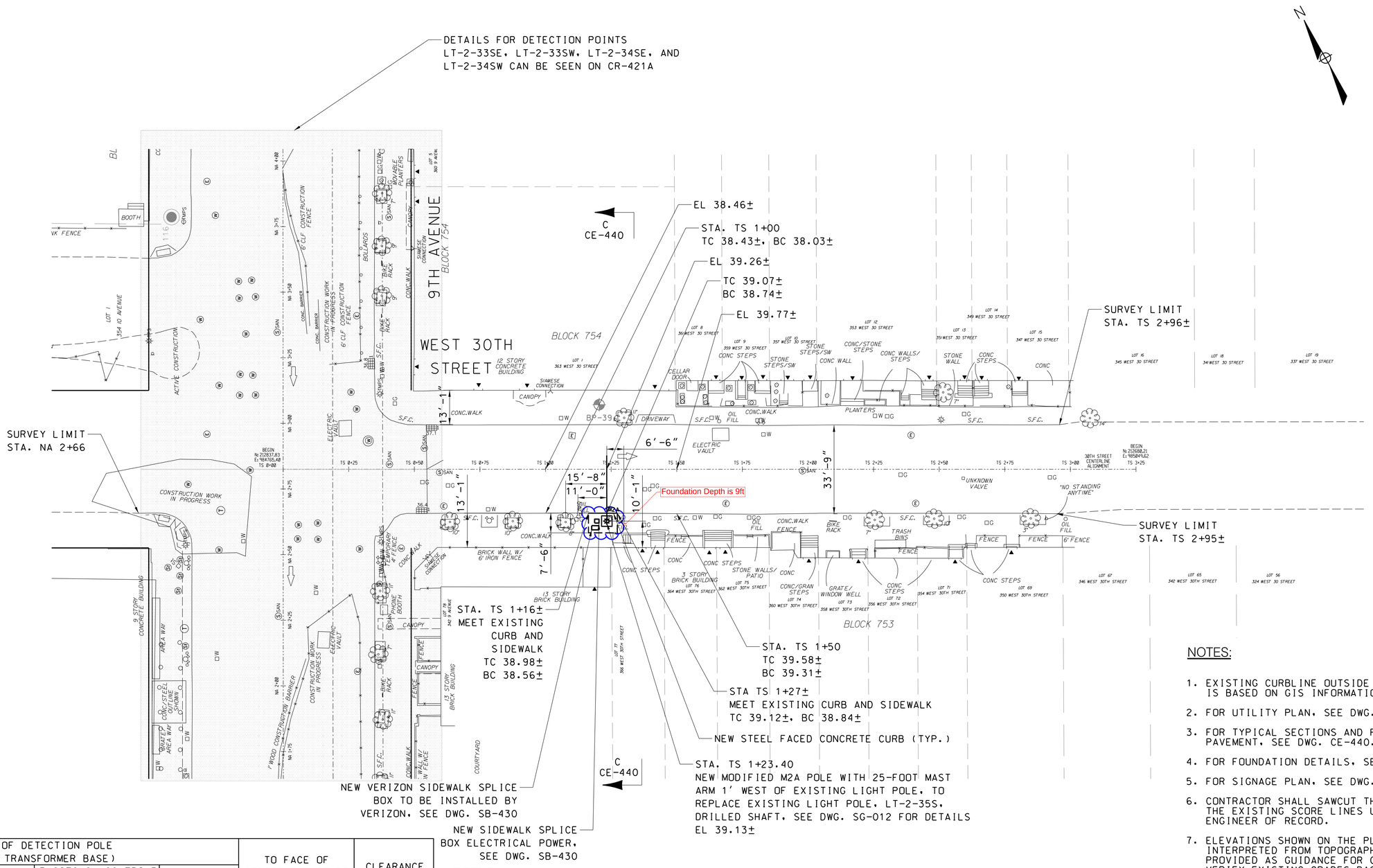
1A HISTORIC BORING LOCATION AND BORING ID

1" = 20' Scale 20 10 0 20 40 feet

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-421A.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWGS. CE-438 AND CE-439.
4. FOR FOUNDATION DETAILS, SEE DWGS. SB-428 AND SB-429.
5. FOR SIGNAGE PLAN, SEE DWG. T-407.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. THE EAST SIDE OF 9TH AVENUE IS CURRENTLY UNDER CONSTRUCTION. CONTRACTOR TO VERIFY ROADWAY ALIGNMENT AND GRADES BASED ON FIELD CONDITION.
8. THE WEST SIDE OF 9TH AVENUE IS CURRENTLY UNDER CONSTRUCTION. THE LOCATIONS FOR SCAFFOLDING IS APPROXIMATE AND FOR REFERENCE ONLY.
9. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
10. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
11. LOCATION OF POST OFFICE TUNNEL (THE FARLEY - ORGAN POSTAL TUNNEL) IS APPROXIMATE, BASED ON CON EDISON CONDUIT PLATES M22E-4 AND M23E-3.

9th Avenue between West 29th Street and West 31st Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-35S	YES	TS 1+22.40	OIL FILL	9.5 FT±
		TS 1+22.40	TREE PIT	12.5 FT±
		TS 1+24.40	OIL FILL	5.0 FT±
		TS 1+23.40	IRON FENCE	4.5 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

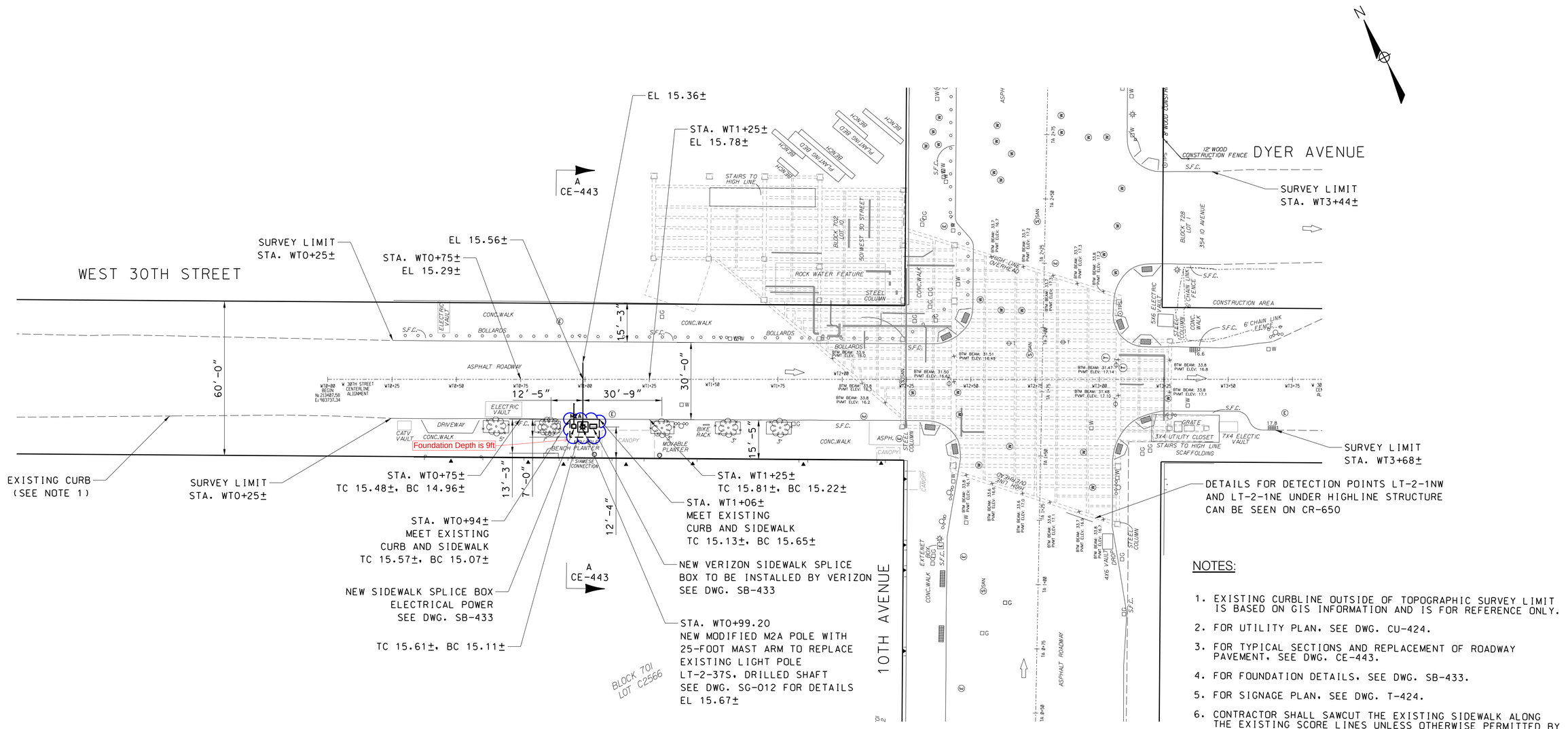
1A HISTORIC BORING LOCATION AND BORING ID

1" = 20' Scale 20 10 0 20 40 feet

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-421B.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-440.
4. FOR FOUNDATION DETAILS, SEE DWG. AND SB-430.
5. FOR SIGNAGE PLAN, SEE DWG. T-407.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

West 30th Street between 8th Avenue and 9th Avenue

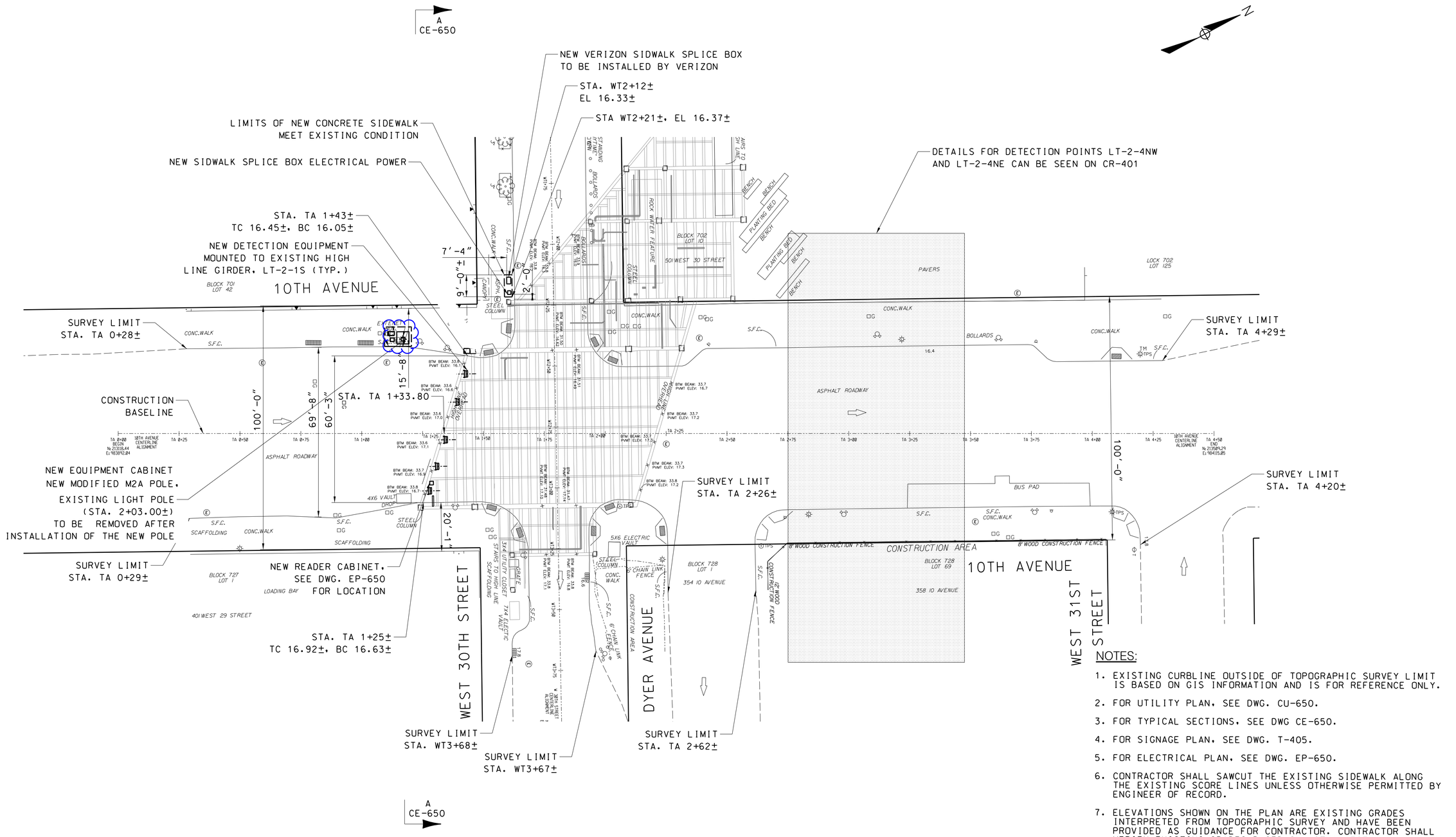


FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-37S	YES	WT 0+98.20	TREE PIT	8.0 FT±
		WT 1+00.20	CANOPY	6.5 FT±
		WT 1+00.20	TREE PIT	25.5 FT±
		WT 0+99.20	SIAMESE CONNECTION	10.5 FT±
		WT 0+99.20	BUILDING LINE	11.5 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-424.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-443.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-433.
5. FOR SIGNAGE PLAN, SEE DWG. T-424.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

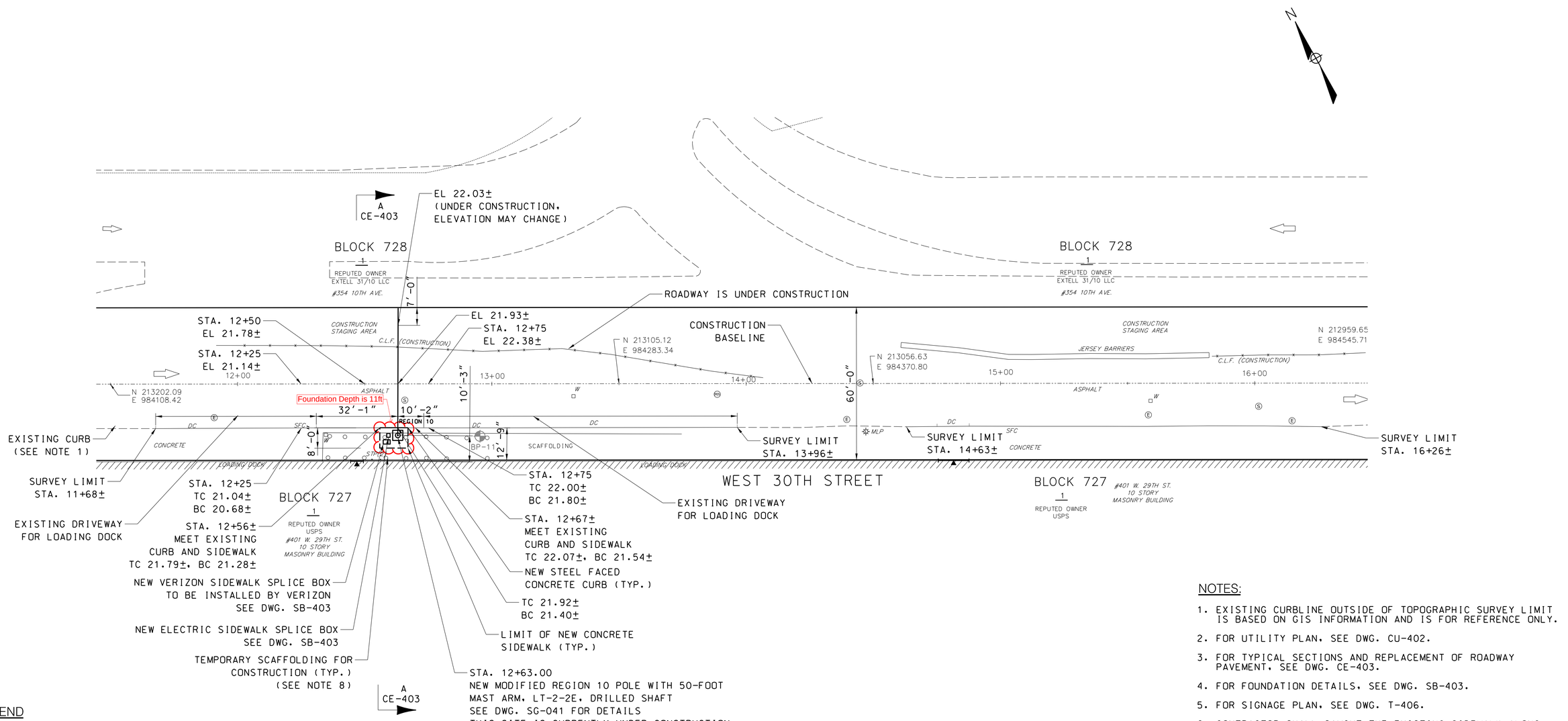
West 30th Street between 10th Avenue and 11th Avenue



NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-650.
3. FOR TYPICAL SECTIONS, SEE DWG CE-650.
4. FOR SIGNAGE PLAN, SEE DWG. T-405.
5. FOR ELECTRICAL PLAN, SEE DWG. EP-650.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

10th Avenue between West 29th Street and West 31st Street



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

1A — HISTORIC BORING LOCATION AND BORING ID

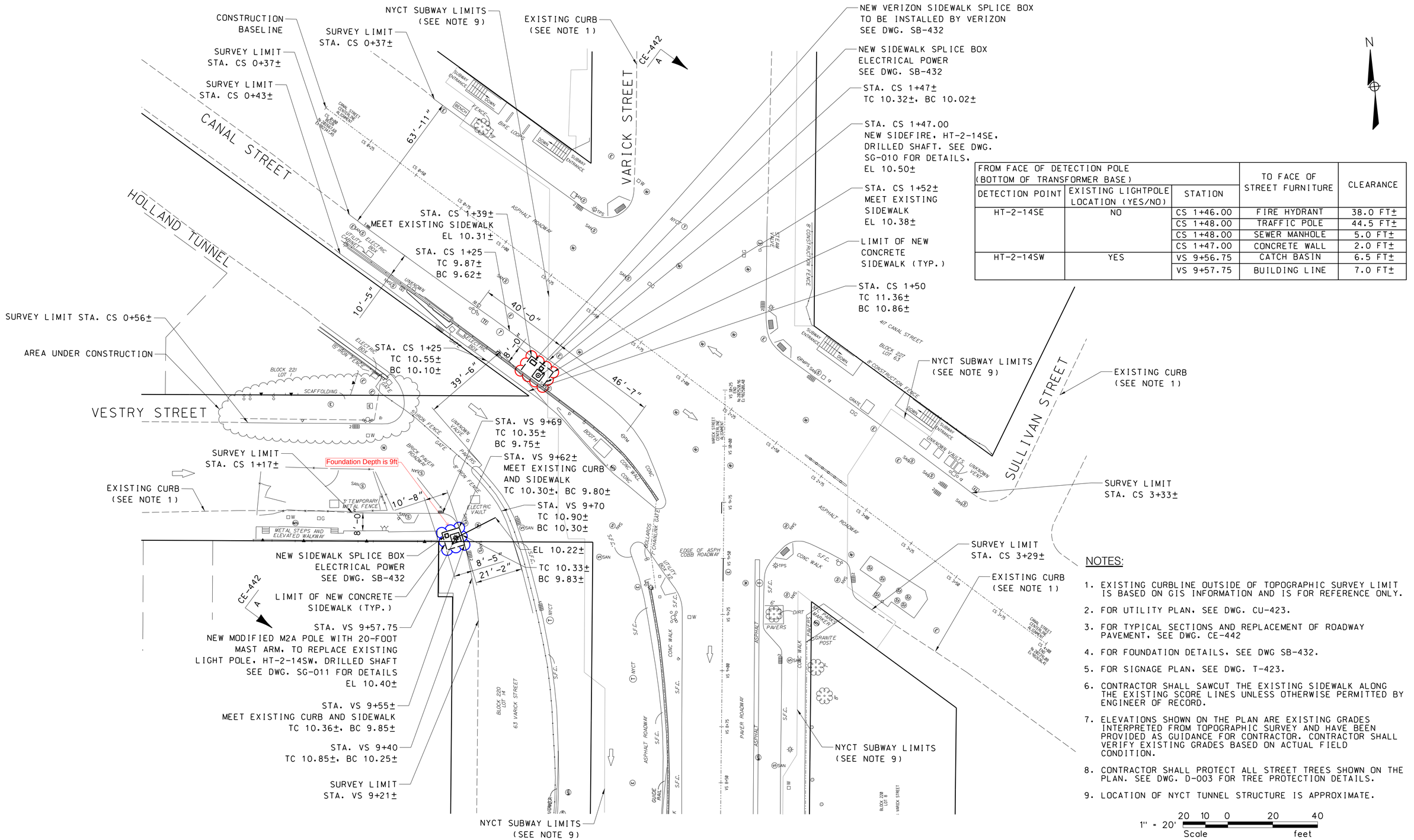
FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
LT-2-2E	NO	12+53.75	DRIVEWAY	23.0 FT±
		12+56.25	DRIVEWAY	17.0 FT±
		12+55.00	STANDPIPE	10.0 FT±
		12+55.00	BUILDING LINE	9.0 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-402.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-403.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-403.
5. FOR SIGNAGE PLAN, SEE DWG. T-406.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. THE NORTH SIDE OF ROADWAY IS CURRENTLY UNDER CONSTRUCTION.
8. THE SOUTH SIDEWALK IS CURRENTLY UNDER CONSTRUCTION. THE SCAFFOLDINGS WERE INSTALLED AFTER SURVEY DATA WAS COLLECTED AND THEIR LOCATIONS ARE APPROXIMATE.
9. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.

20 10 0 20 40
1" = 20' Scale feet

West 30th Street between 9th Avenue and 10th Avenue



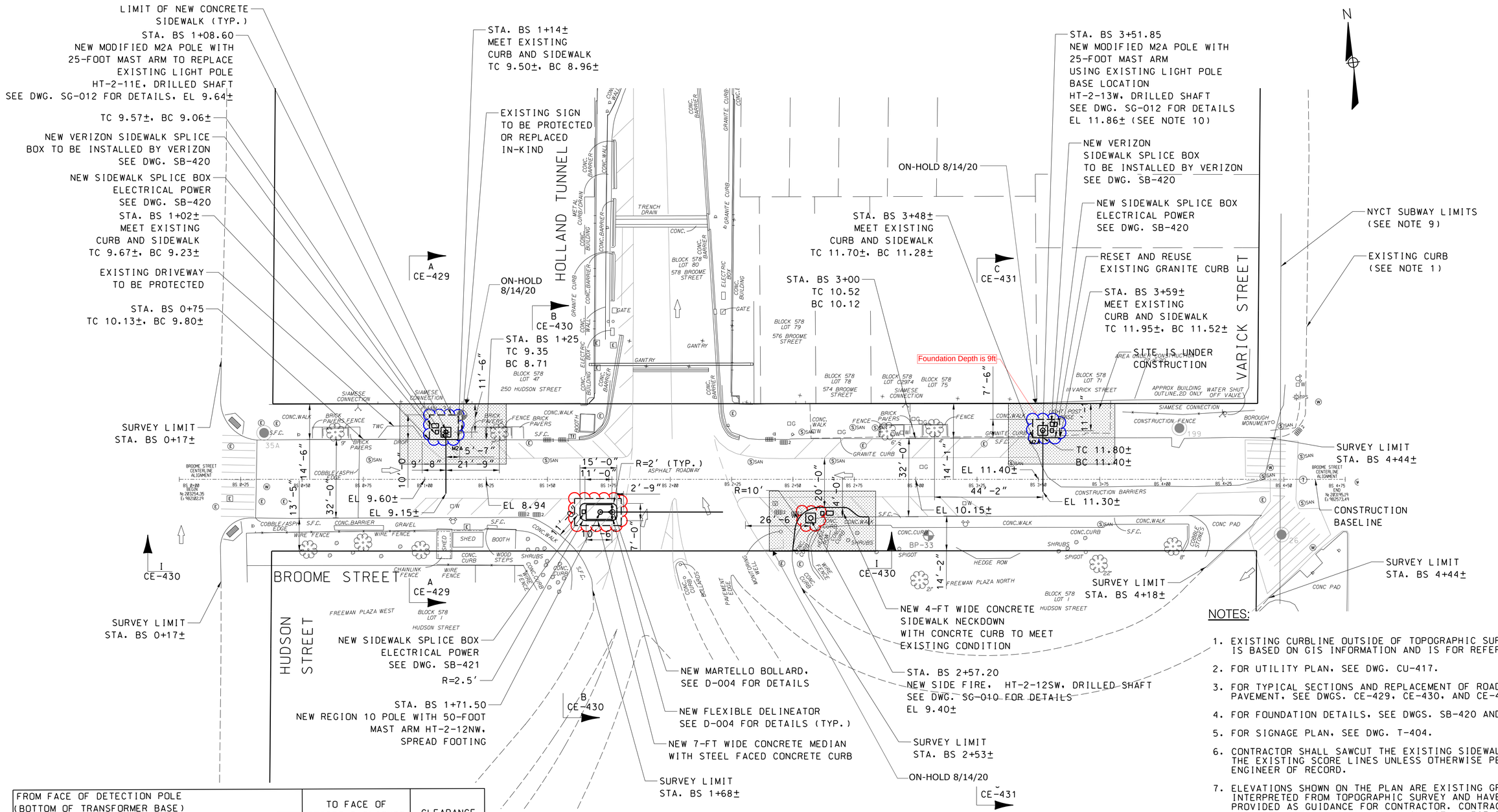
FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
HT-2-14SE	NO	CS 1+46.00	FIRE HYDRANT	38.0 FT±
		CS 1+48.00	TRAFFIC POLE	44.5 FT±
		CS 1+48.00	SEWER MANHOLE	5.0 FT±
		CS 1+47.00	CONCRETE WALL	2.0 FT±
HT-2-14SW	YES	VS 9+56.75	CATCH BASIN	6.5 FT±
		VS 9+57.75	BUILDING LINE	7.0 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-423.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-442
4. FOR FOUNDATION DETAILS, SEE DWG SB-432.
5. FOR SIGNAGE PLAN, SEE DWG. T-423.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
9. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.

1" = 20' Scale 20 10 0 20 40 feet

Vestry Street and Holland Tunnel Exit by Canal Street and Varick Street



FROM FACE OF DETECTION POLE (BOTTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
HT-2-11E	YES	BS 1+07.60	DRIVEWAY	8.5 FT±
		BS 1+09.60	TREE PIT	15.5 FT±
		BS 1+08.60	BUILDING LINE	10.5 FT±
HT-2-13W	NO	BS 3+50.85	TREE PIT	37.5 FT±
		BS 3+51.85	LIGHT POLE BASE	0 FT±
		BS 3+51.85	BUILDING LINE	10.1 FT±

LEGEND

BP-01 NEW BORING LOCATION AND BORING ID

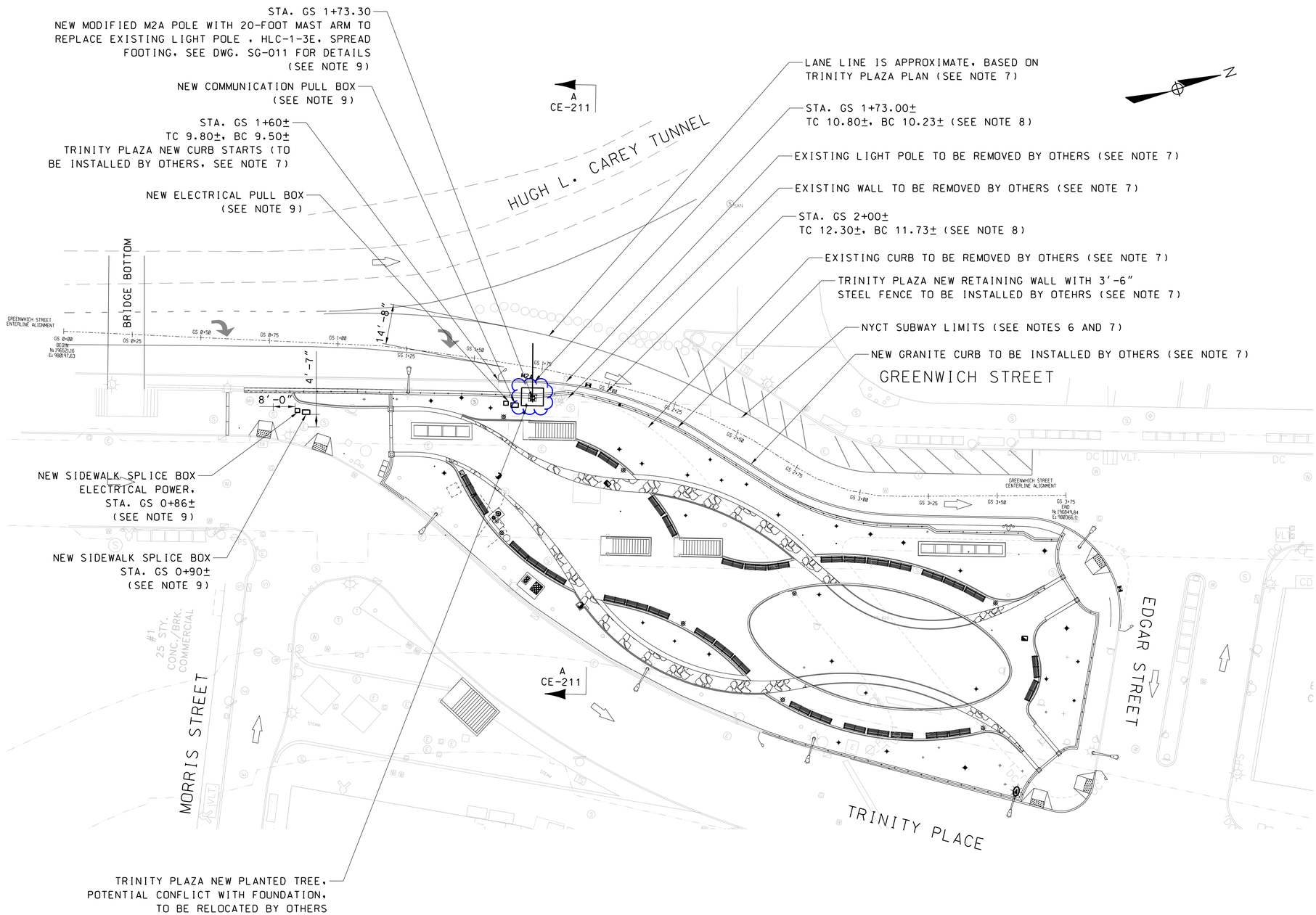
1A HISTORIC BORING LOCATION AND BORING ID

1" = 20' Scale 20 10 0 20 40 feet

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-417.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWGS. CE-429, CE-430, AND CE-431.
4. FOR FOUNDATION DETAILS, SEE DWGS. SB-420 AND SB-421.
5. FOR SIGNAGE PLAN, SEE DWG. T-404.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
9. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
10. THE SITE IS CURRENTLY UNDER CONSTRUCTION. COORDINATE WITH NYCDOT FOR THE STREET LIHGT INSTALLATION.

Broome Street between Hudson Street and Varick Street

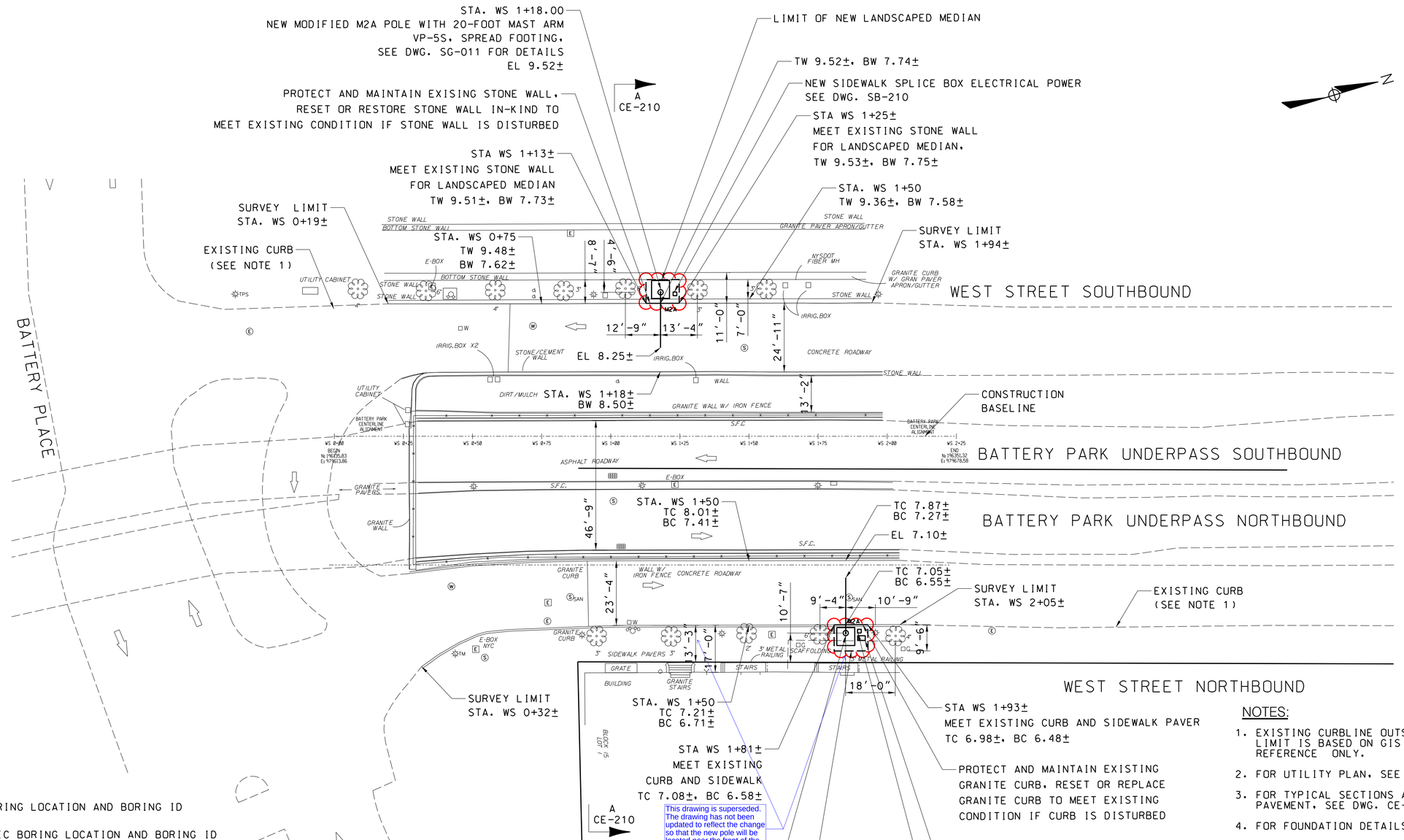


NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-211.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-211.
4. FOR FOUNDATION PLAN, SEE DWG. SB-211.
5. FOR SIGNAGE PLAN, SEE DWG. T-511.
6. THE LOCATION OF NYCT SUBWAY TUNNEL IS APPROXIMATE.
7. TOPOGRAPHIC SURVEY AND PLAZA DESIGN ARE FROM THE CONSTRUCTION OF ELIZABETH H. BERGER PLAZA LOCATED BETWEEN TRINITY PLACE, GREENWICH STREET, MORRIS STREET AND EDGAR STREET, CONTRACT NO. MG-41300-114M (TRINITY PLAZA), CITY OF NEW YORK PARKS AND RECREATION DATED 2/9/18. REFER TO TRINITY PLAZA PLANS FOR DETAIL OF ADJACENT PLAZA CONSTRUCTION.
8. ELEVATIONS SHOWN ON THE PLAN ARE GRADES INTERPRETED FROM TRINITY PLAZA GRADING PLAN AND HAVE BEEN PROVIDED AS GUIDANCE FOR CONTRACTOR. CONTRACTOR SHALL VERIFY EXISTING GRADES BASED ON ACTUAL FIELD CONDITION.
9. FOUNDATION FOR THE DETECTION POLE, SIDEWALK SPLICE BOXS, PULL BOXES, AND CONDUITS HAVE BEEN PREVIOULY INSTALLED.

1" = 20' Scale: 20 10 0 20 40 feet

Greenwich Street Exit from HLC Tunnel



LEGEND

BP-01 — NEW BORING LOCATION AND BORING ID

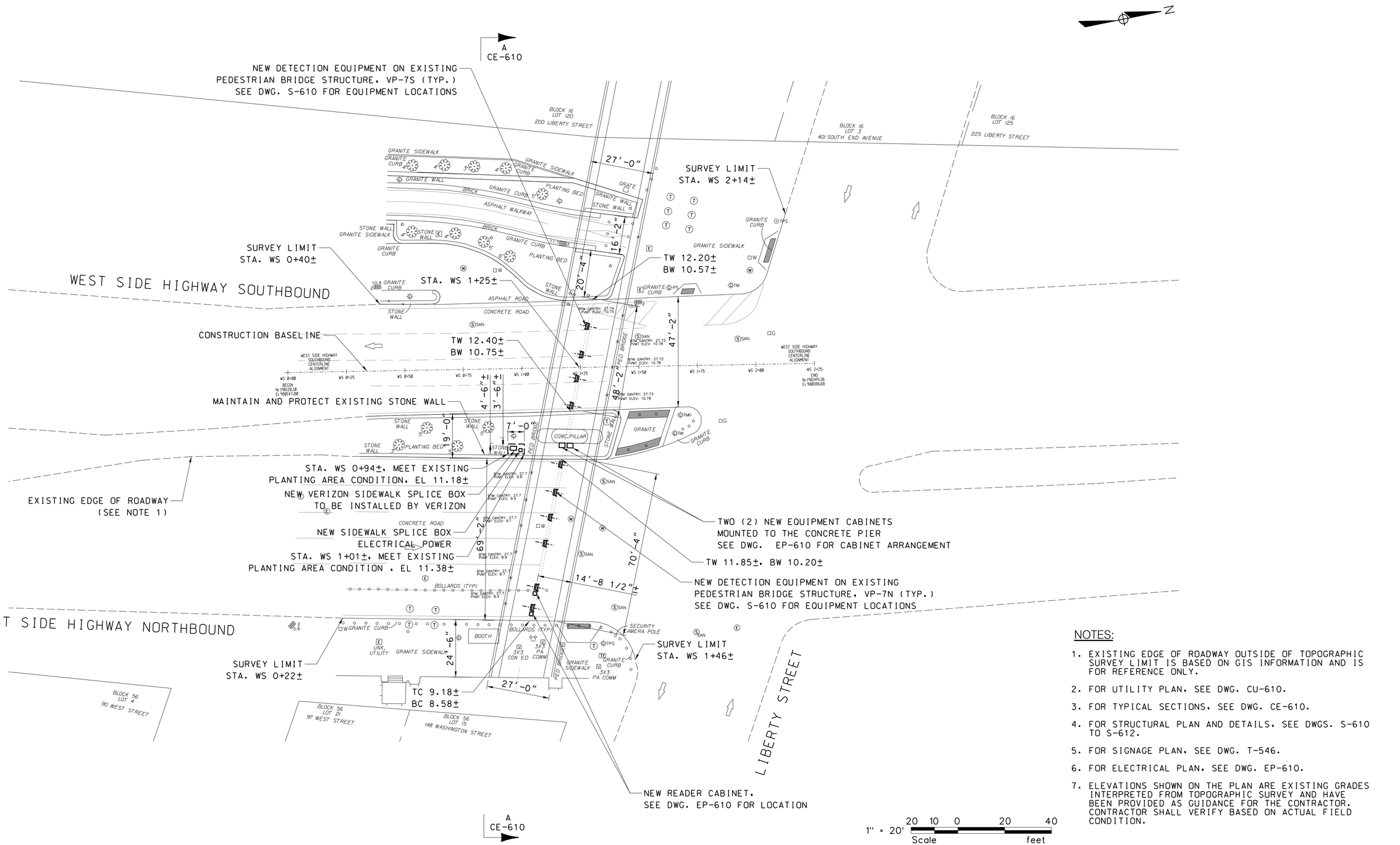
1A — HISTORIC BORING LOCATION AND BORING ID

FROM FACE OF DETECTION POLE (BOTOM OF TRANSFORMER BASE)			TO FACE OF STREET FURNITURE	CLEARANCE
DETECTION POINT	EXISTING LIGHTPOLE LOCATION (YES/NO)	STATION		
VP-5S	YES	WS 1+17.00	TREE PIT	10.0 FT±
		WS 1+19.00	TREE PIT	10.5 FT±
VP-6N	YES	WS 1+84.00	TREE PIT	14.0 FT±
		WS 1+86.00	LIGHT POLE	9.0 FT±
		WS 1+86.00	TREE PIT	15.0 FT±
		WS 1+85.00	BUILDING LINE/ STAIRS	9.5 FT±

NOTES:

1. EXISTING CURBLINE OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-210.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY PAVEMENT, SEE DWG. CE-210.
4. FOR FOUNDATION DETAILS, SEE DWG. SB-210.
5. FOR SIGNAGE PLAN, SEE DWG. T-542.
6. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
9. TREE PROTECTION ON THE PLANTED MEDIAN ALONG WEST STREET WESTBOUND TO BE COORDINATED WITH NEW YORK STATE.

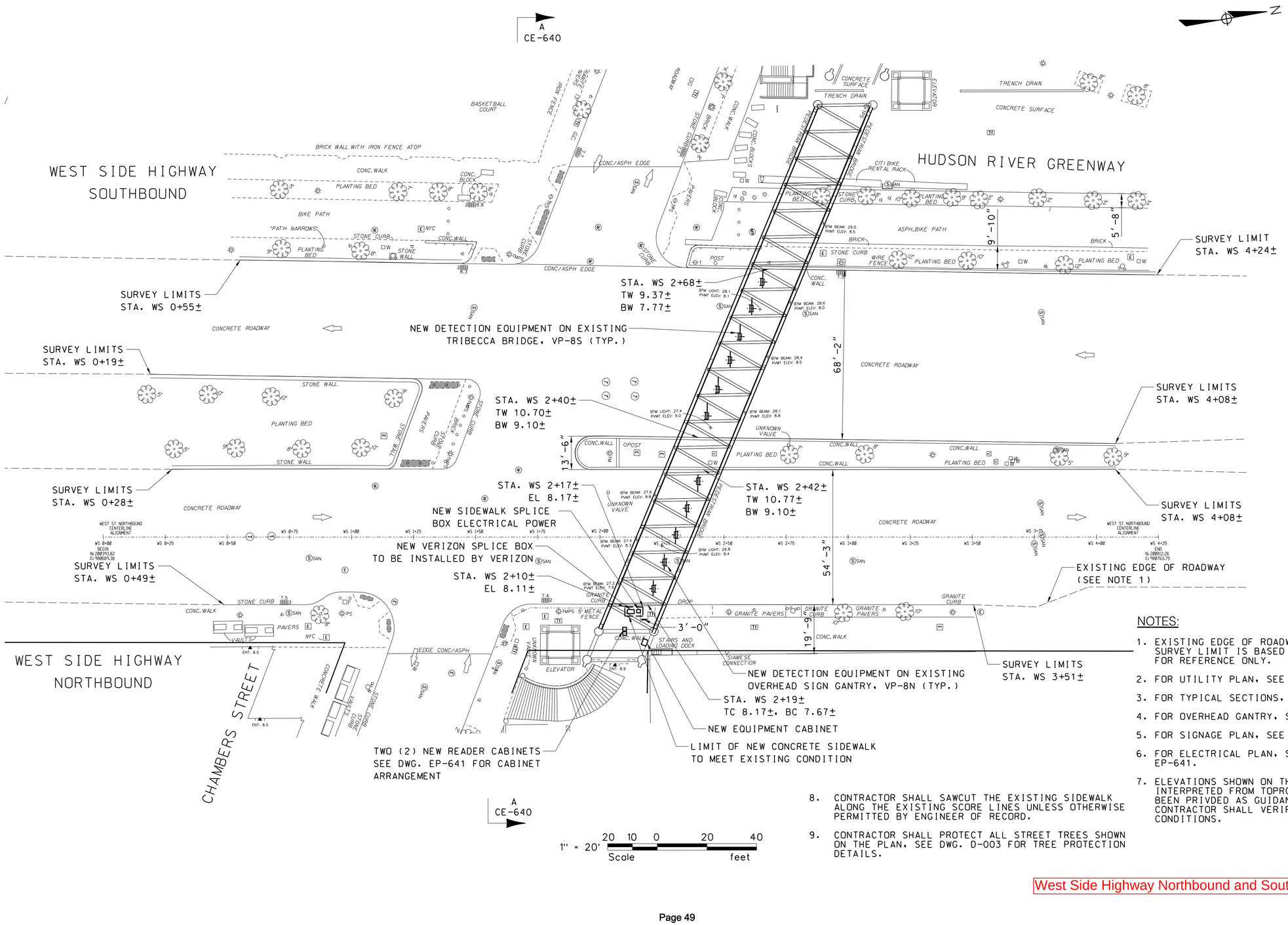
West Street between 1st Place and Battery Place



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-610.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-610.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWGS. S-610 TO S-612.
5. FOR SIGNAGE PLAN, SEE DWG. T-546.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-610.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.

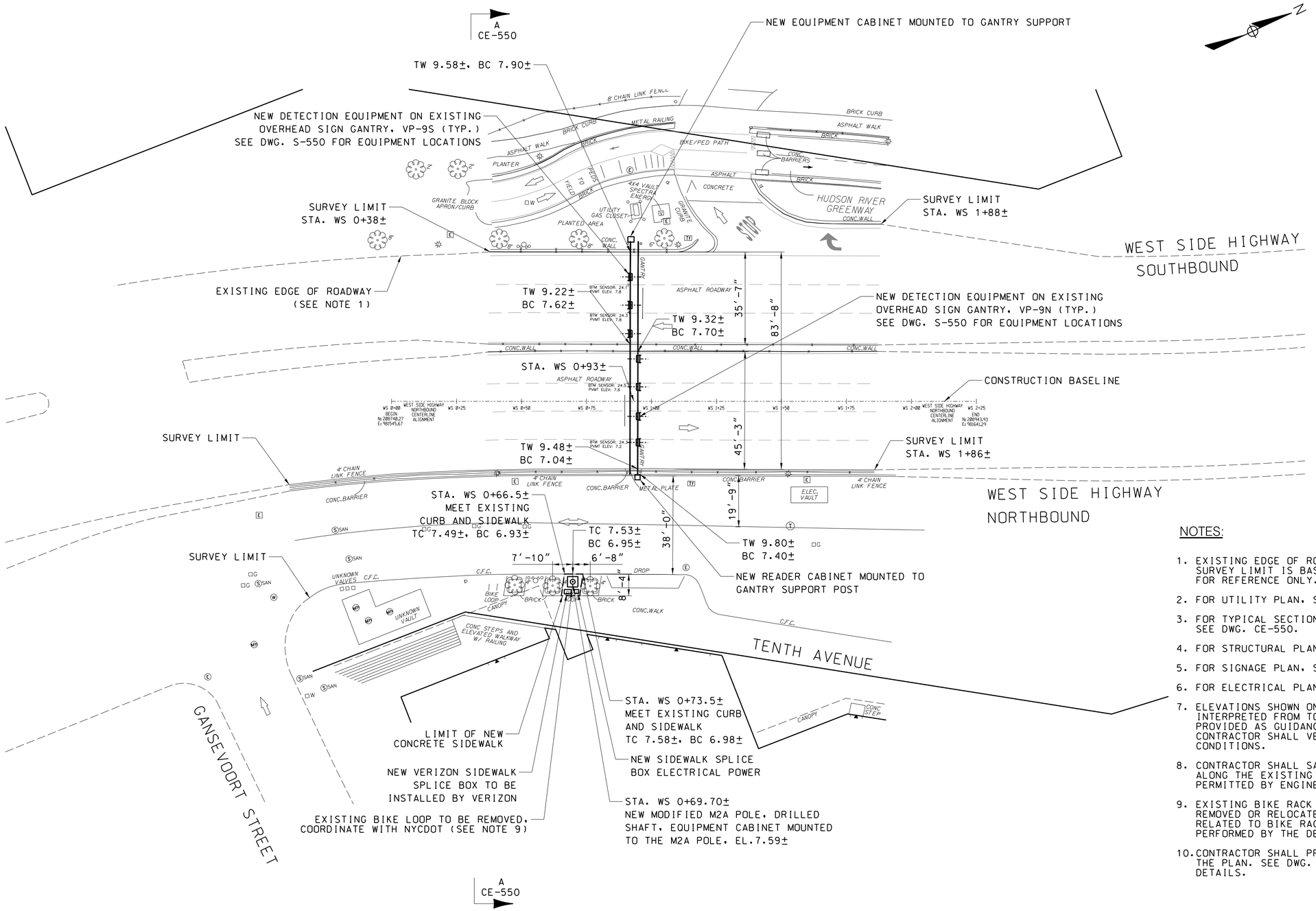
West Side Highway Northbound and Southbound North at Liberty Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-640.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-640.
4. FOR OVERHEAD GANTRY, SEE DWG. S-640.
5. FOR SIGNAGE PLAN, SEE DWGS. T-549.
6. FOR ELECTRICAL PLAN, SEE DWGS. EP-640 AND EP-641.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPRGRAPHIC SURVEY AND HAVE BEEN PRIVDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.
8. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN, SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

West Side Highway Northbound and Southbound North at Chambers Street

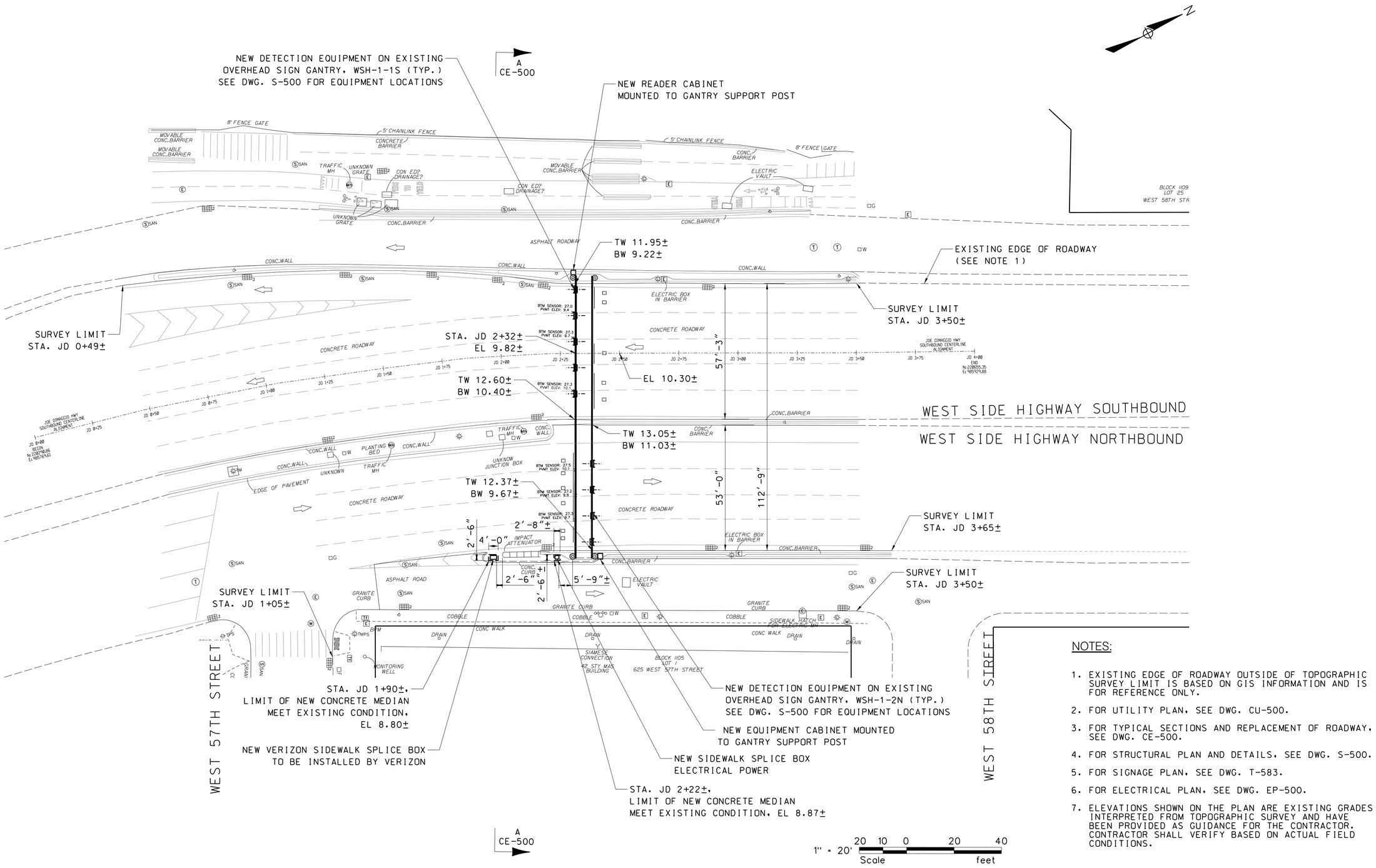


NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-550.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-550.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-550.
5. FOR SIGNAGE PLAN, SEE DWG. T-562.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-550.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.
8. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
9. EXISTING BIKE RACK AND BIKE LOOP SHALL NOT BE REMOVED OR RELOCATED BY THE CONTRACTOR. ANY WORK RELATED TO BIKE RACK AND BIKE LOOP REMOVAL MUST BE PERFORMED BY THE DEPARTMENT OF TRANSPORATION.
10. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

1" = 20' Scale — 20 10 0 20 40 feet

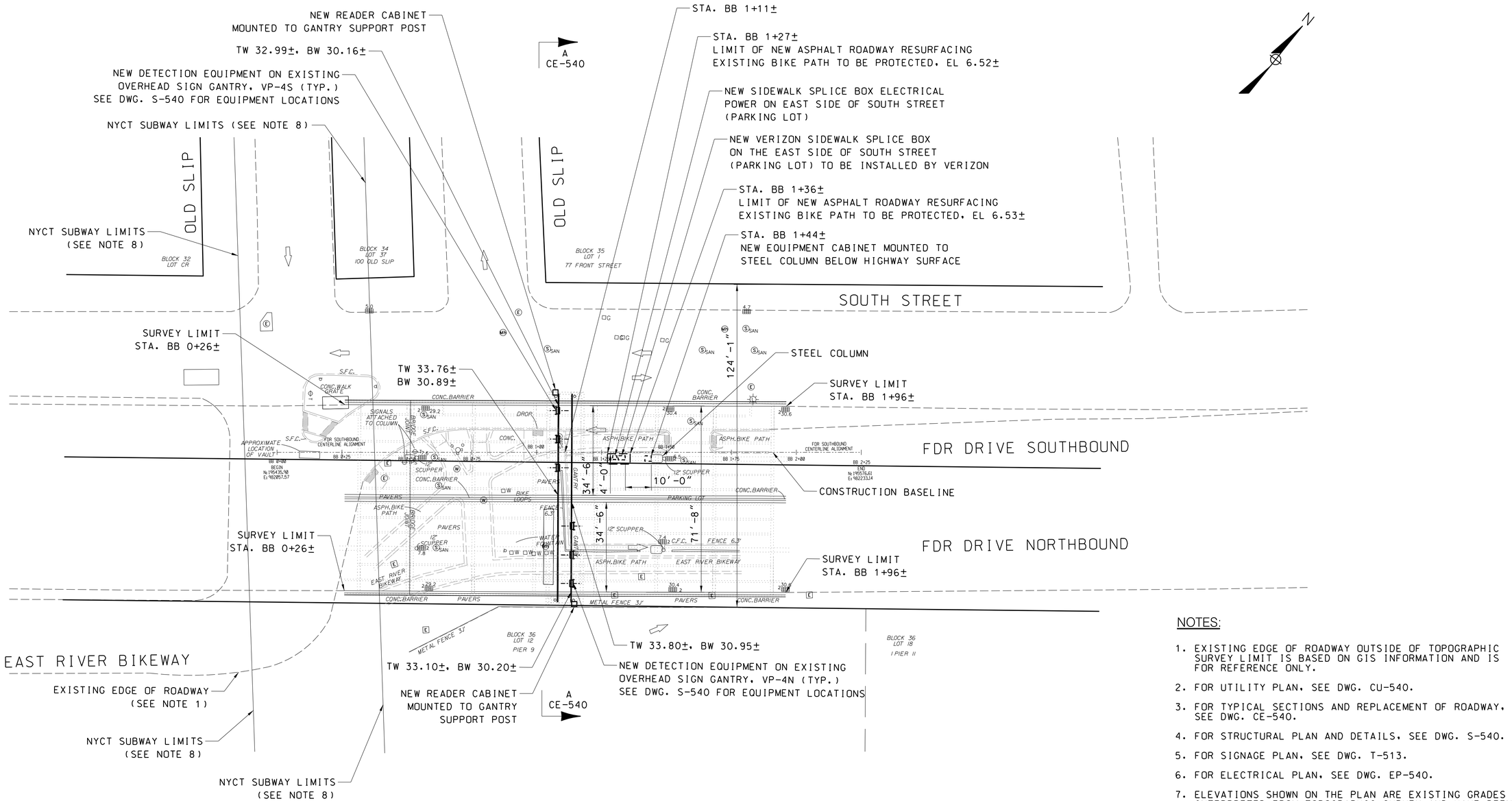
West Side Highway Northbound and Southbound North at Gansevoort Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-500.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-500.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-500.
5. FOR SIGNAGE PLAN, SEE DWG. T-583.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-500.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.

West Side Highway Northbound and Southbound North at West 57th Street



NOTES:

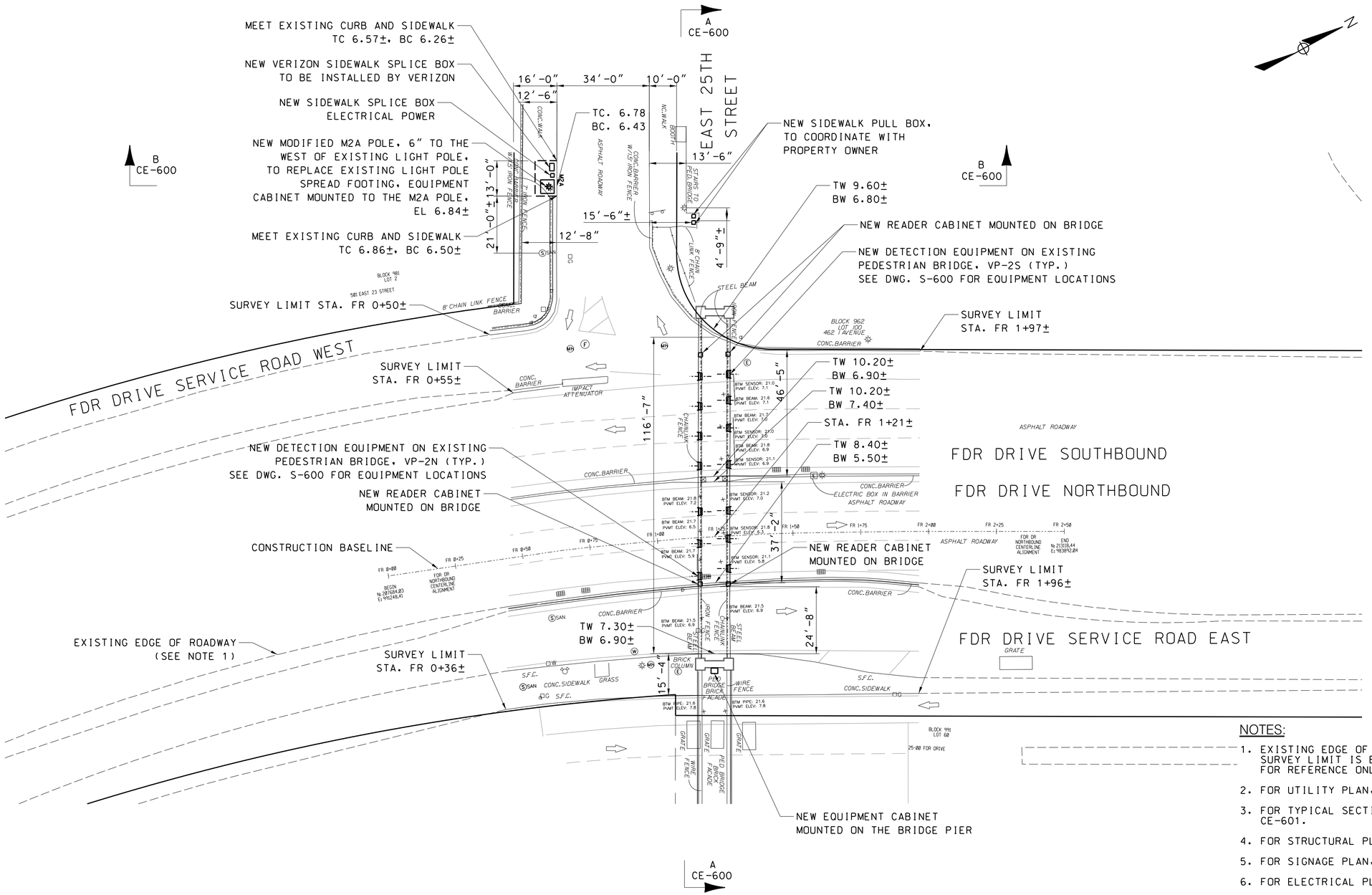
1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-540.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-540.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-540.
5. FOR SIGNAGE PLAN, SEE DWG. T-513.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-540.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.
8. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.

1" = 20'

20 10 0 20 40

Scale feet

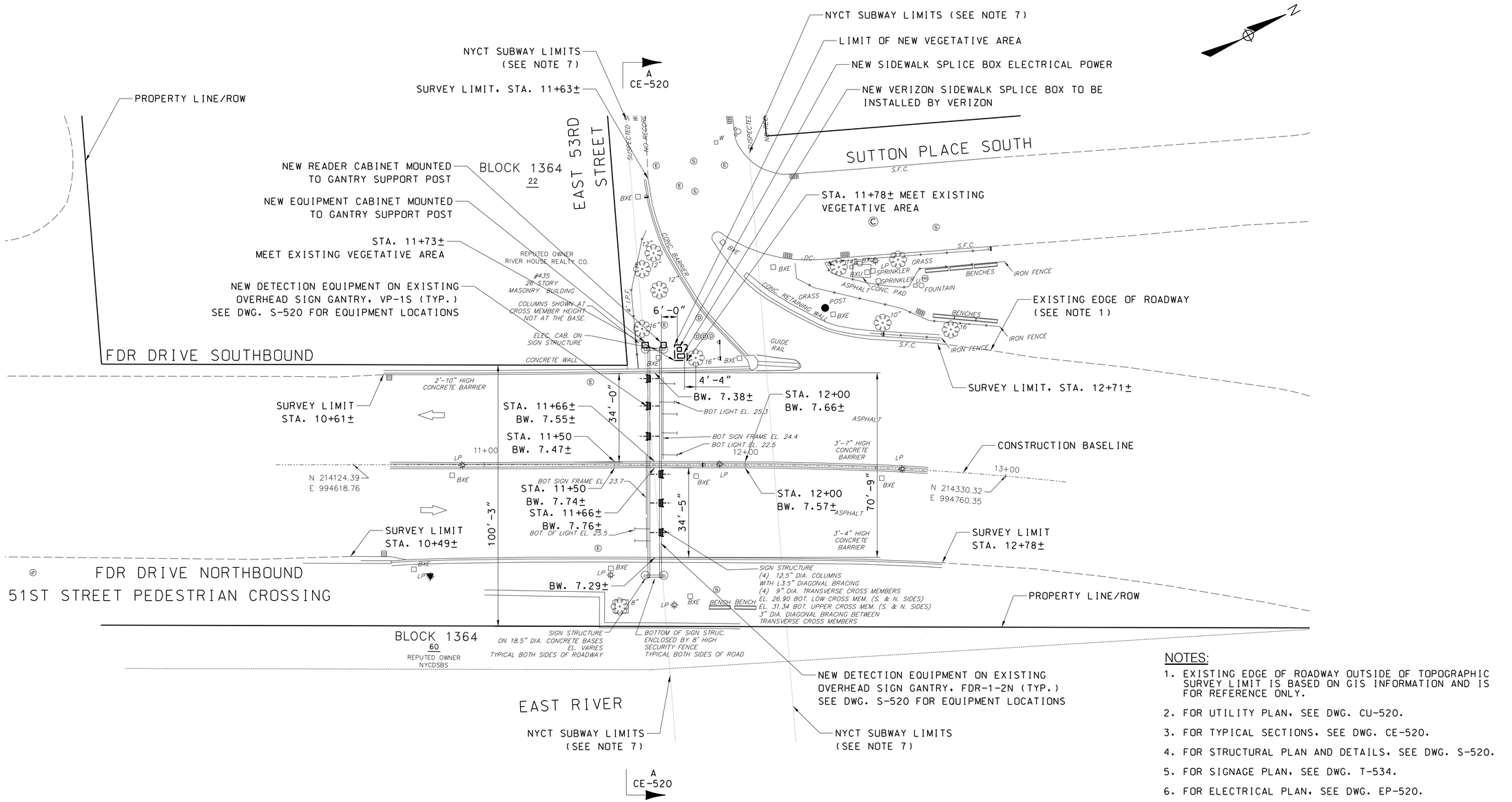
FDR Drive Northbound and Southbound at Old Slip



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-600.
3. FOR TYPICAL SECTIONS, SEE DWGS. CE-600 AND CE-601.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-600.
5. FOR SIGNAGE PLAN, SEE DWG. T-527.
6. FOR ELECTRICAL PLAN, SEE EP-600.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
8. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.

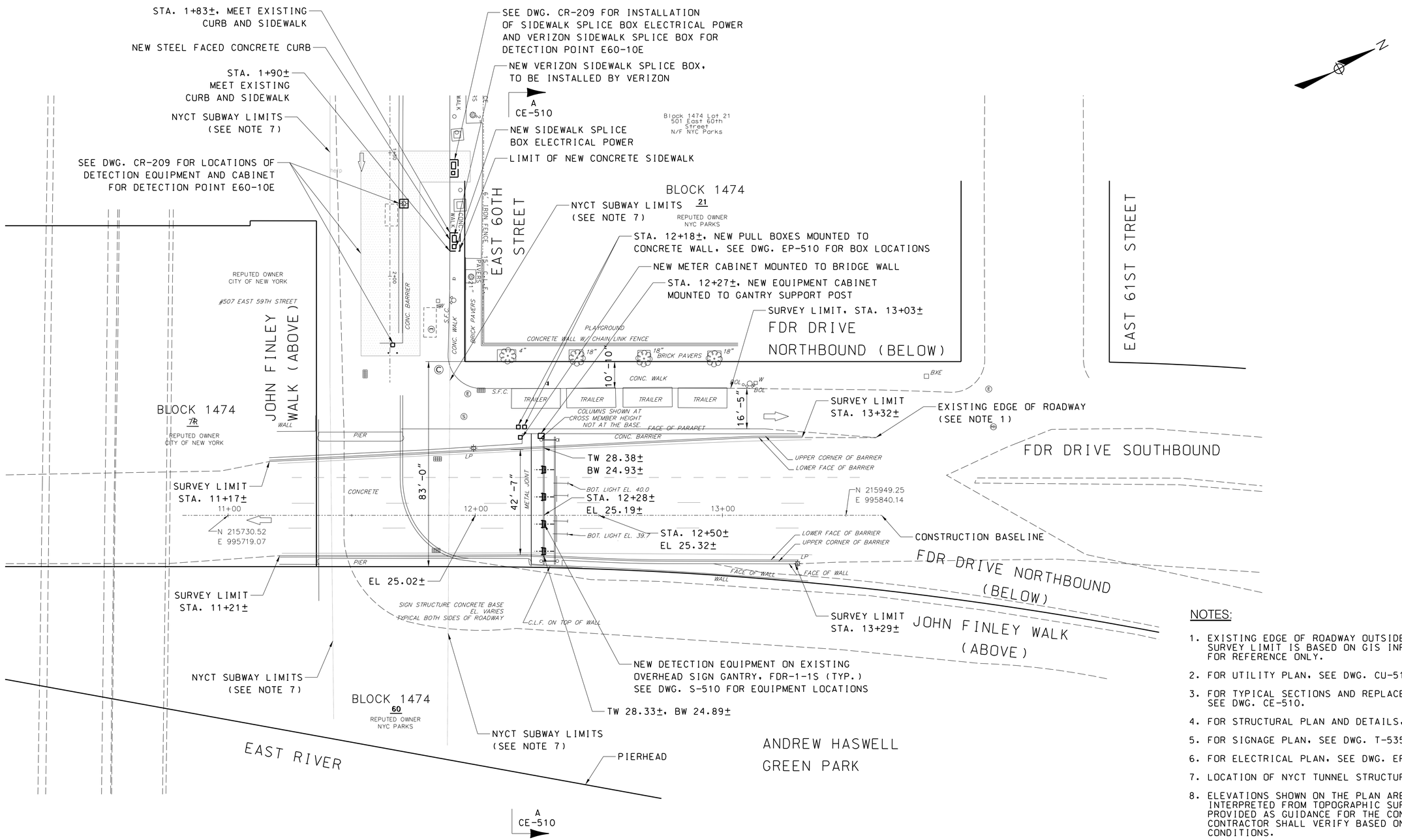
FDR Drive at East 25th Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-520.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-520.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-520.
5. FOR SIGNAGE PLAN, SEE DWG. T-534.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-520.
7. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.
9. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

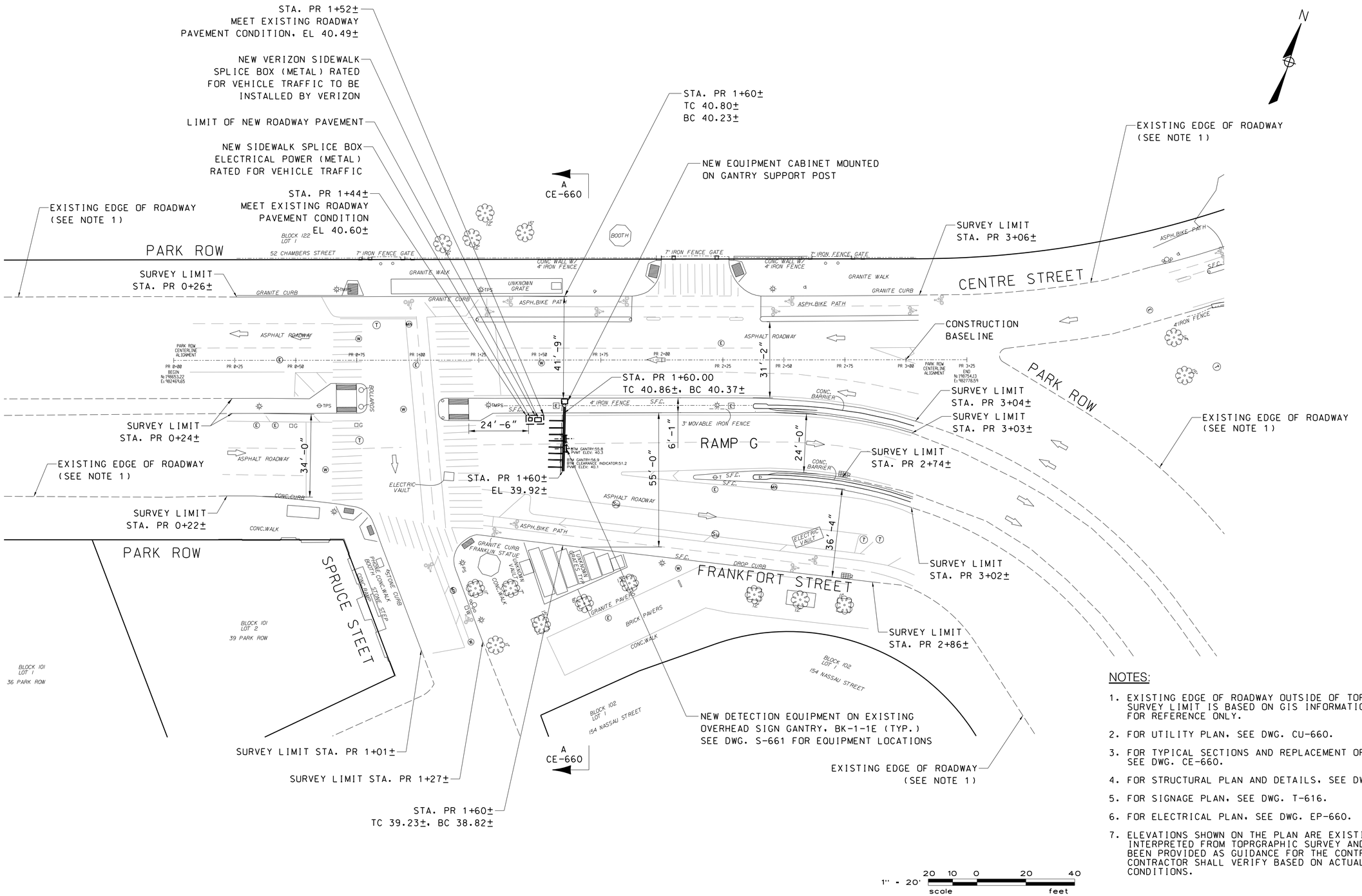
FDR Drive Northbound and Southbound at East 53rd Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-510.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-510.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-510.
5. FOR SIGNAGE PLAN, SEE DWG. T-535.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-510.
7. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.
8. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.
9. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
10. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.

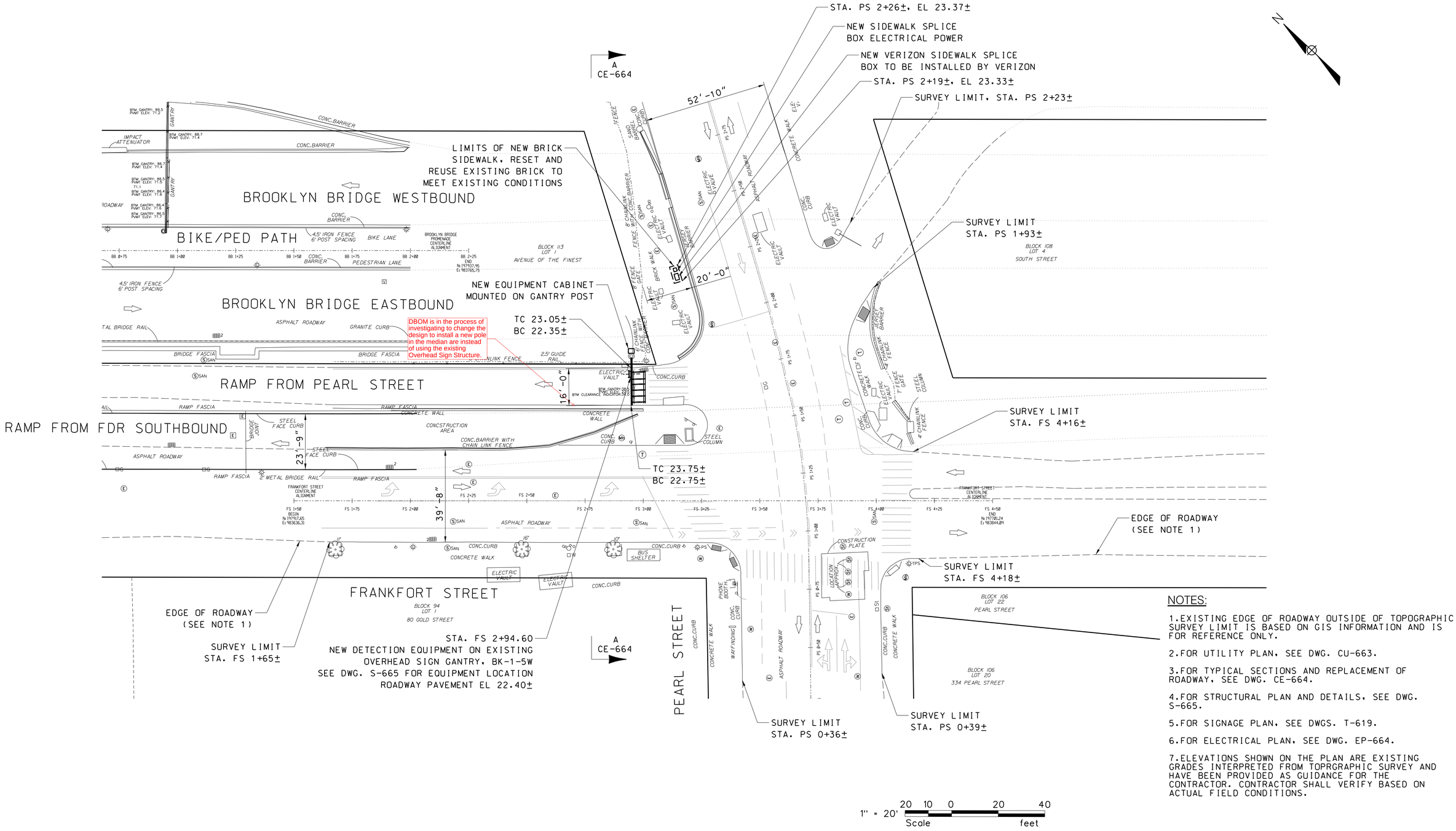
FDR Drive Southbound between East 60th Street and 61st Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-660.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-660.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-661.
5. FOR SIGNAGE PLAN, SEE DWG. T-616.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-660.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPRGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.

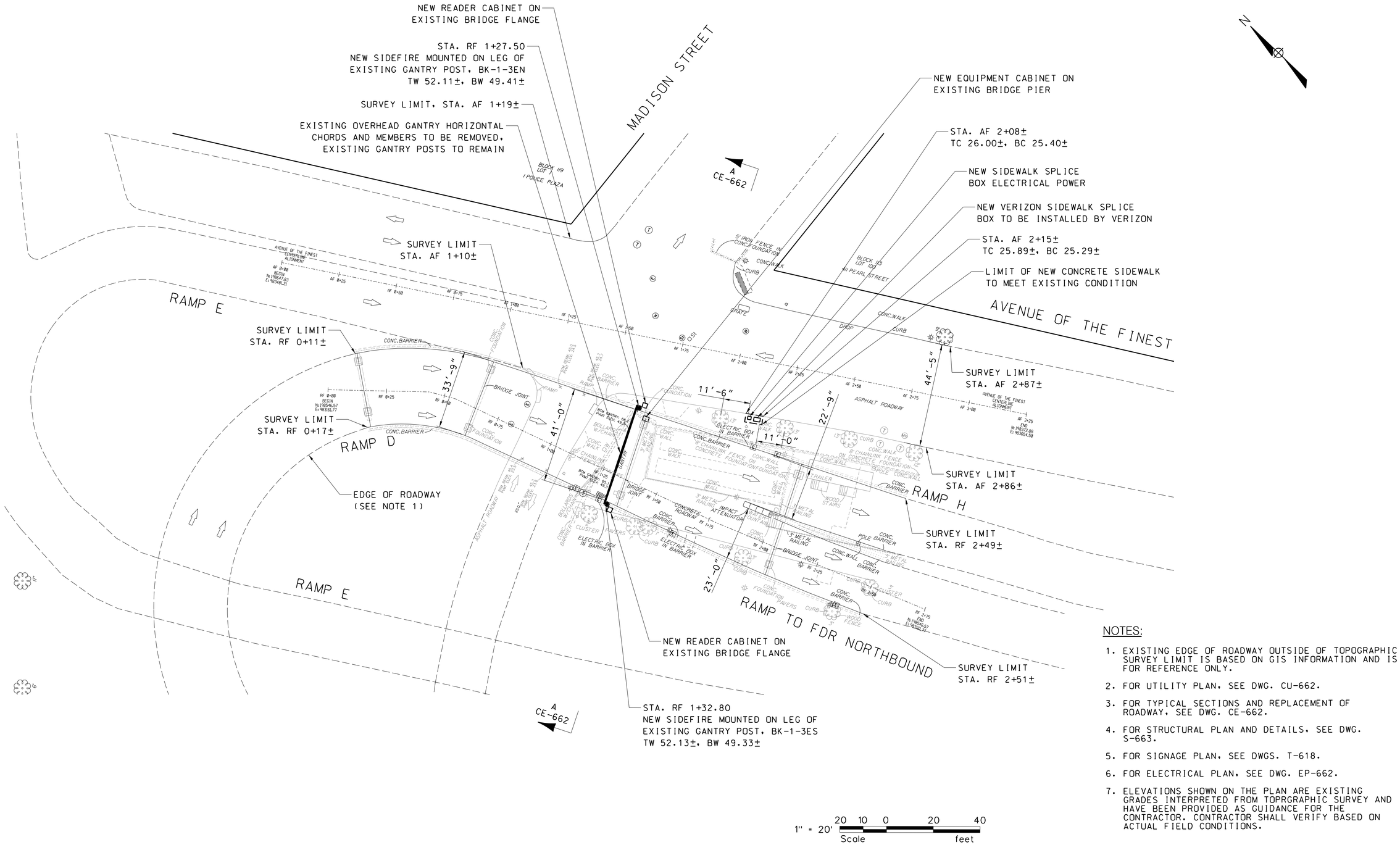
Brooklyn Bridge at Park Row and Spruce Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-663.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-664.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-665.
5. FOR SIGNAGE PLAN, SEE DWGS. T-619.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-664.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPRGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.

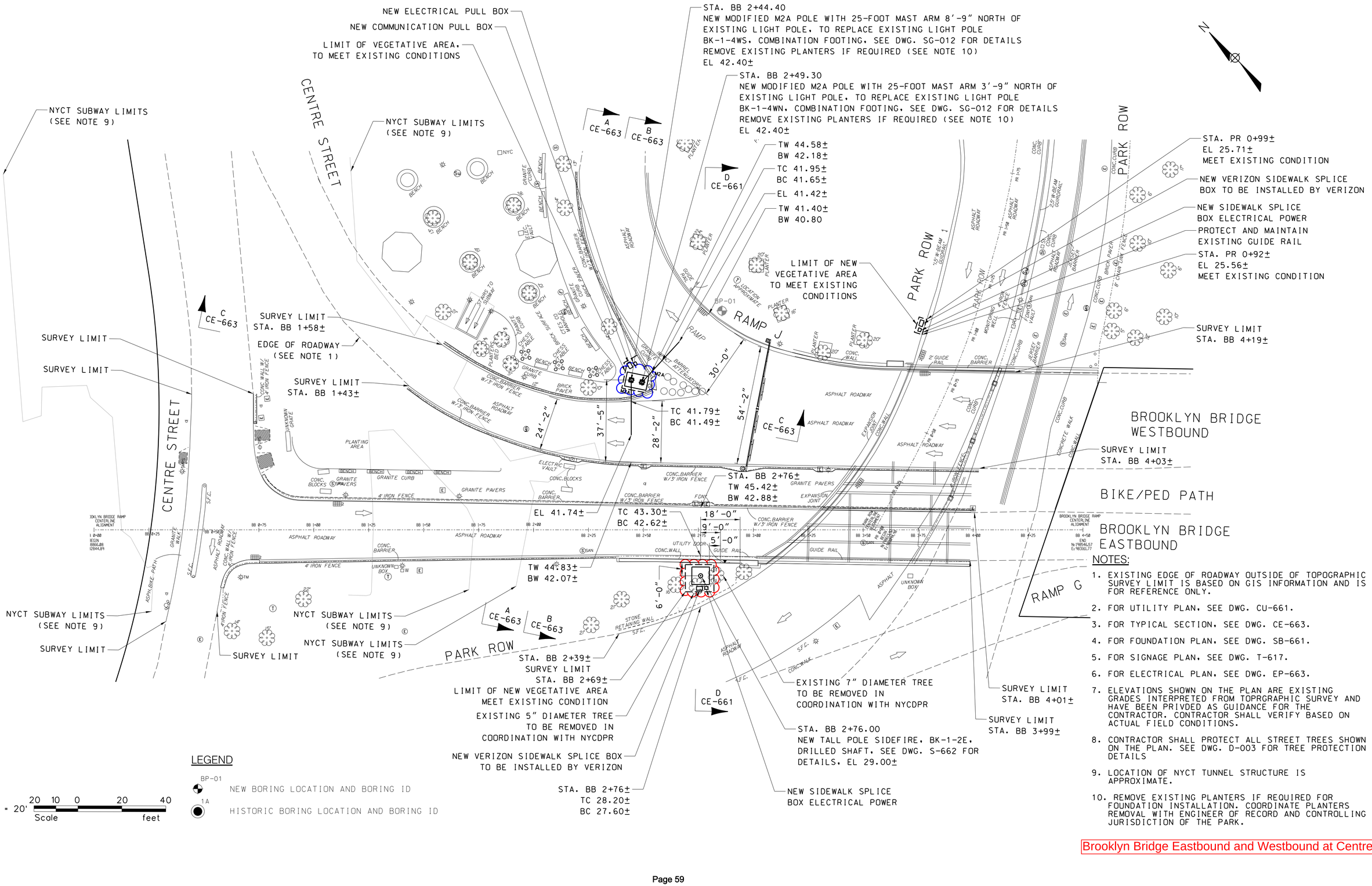
Brooklyn Bridge Ramp at Pearl Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-662.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-662.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWG. S-663.
5. FOR SIGNAGE PLAN, SEE DWGS. T-618.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-662.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPRGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.

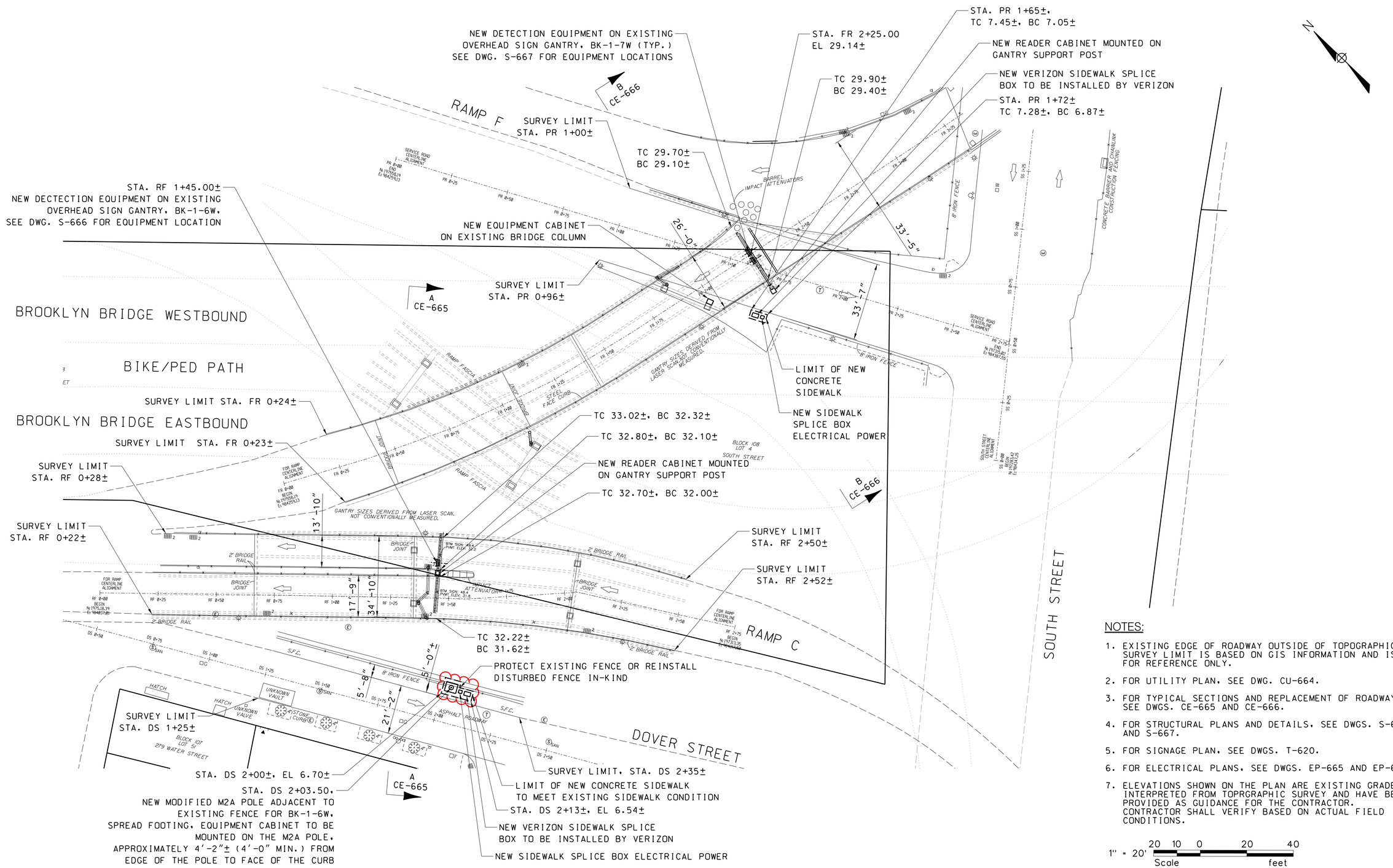
Brooklyn Bridge Ramp D at Madison Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-661.
3. FOR TYPICAL SECTION, SEE DWG. CE-663.
4. FOR FOUNDATION PLAN, SEE DWG. SB-661.
5. FOR SIGNAGE PLAN, SEE DWG. T-617.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-663.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPRGRAPHIC SURVEY AND HAVE BEEN PRIVDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.
8. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS
9. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.
10. REMOVE EXISTING PLANTERS IF REQUIRED FOR FOUNDATION INSTALLATION. COORDINATE PLANTERS REMOVAL WITH ENGINEER OF RECORD AND CONTROLLING JURISDICTION OF THE PARK.

Brooklyn Bridge Eastbound and Westbound at Centre Street

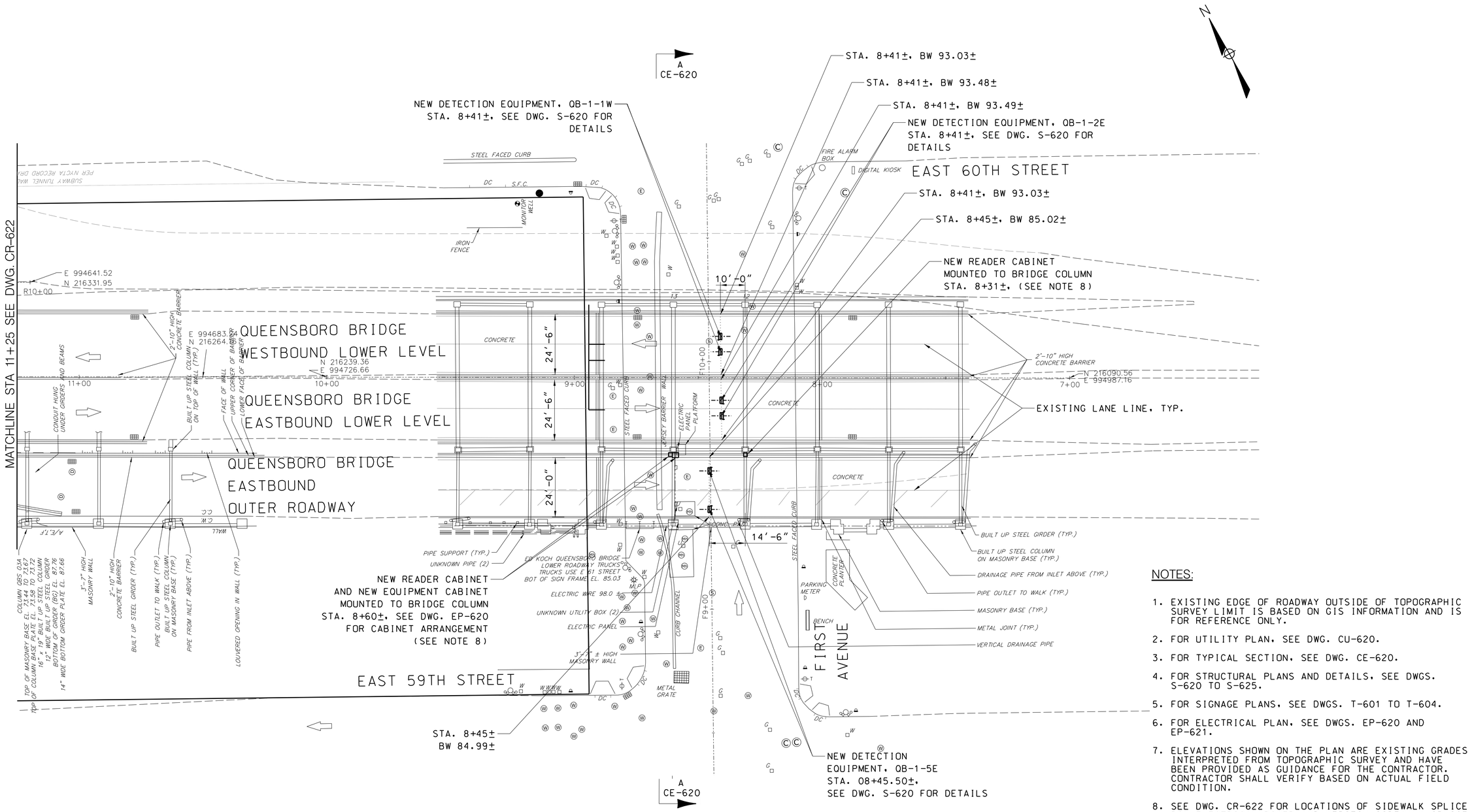


NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-664.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWGS. CE-665 AND CE-666.
4. FOR STRUCTURAL PLANS AND DETAILS, SEE DWGS. S-666 AND S-667.
5. FOR SIGNAGE PLAN, SEE DWGS. T-620.
6. FOR ELECTRICAL PLANS, SEE DWGS. EP-665 AND EP-666.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPRGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.

1" = 20' Scale: 20 10 0 20 40 feet

Brooklyn Bridge Ramps Near South Street

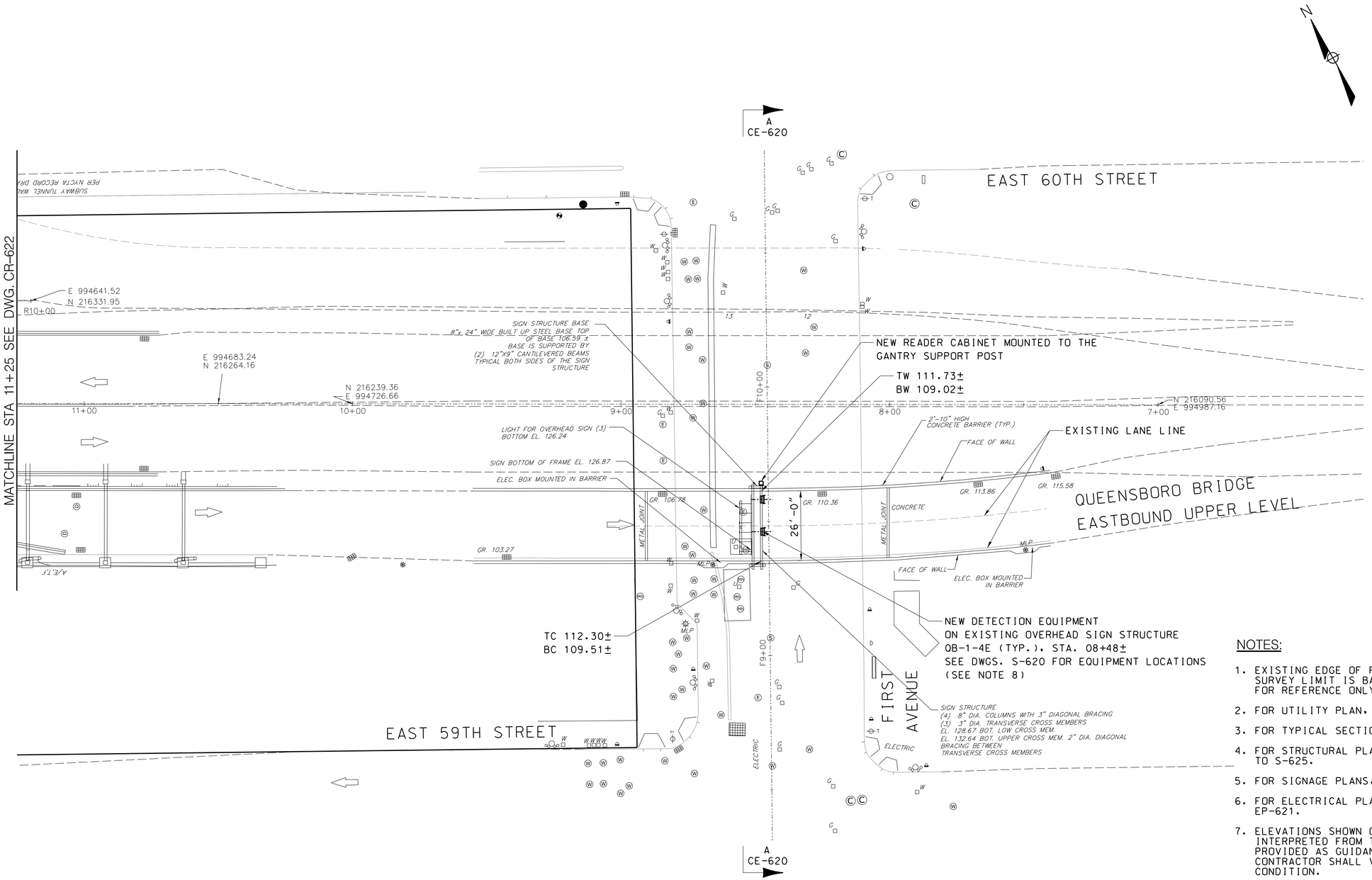


NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-620.
3. FOR TYPICAL SECTION, SEE DWG. CE-620.
4. FOR STRUCTURAL PLANS AND DETAILS, SEE DWGS. S-620 TO S-625.
5. FOR SIGNAGE PLANS, SEE DWGS. T-601 TO T-604.
6. FOR ELECTRICAL PLAN, SEE DWGS. EP-620 AND EP-621.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
8. SEE DWG. CR-622 FOR LOCATIONS OF SIDEWALK SPLICE BOX ELECTRICAL POWER AND VERIZON SIDEWALK SPLICE BOX.

1" = 20' Scale — 20 10 0 20 40 feet

Queensboro Bridge Lower Level Between East 59th Street and East 60th Street at First Avenue

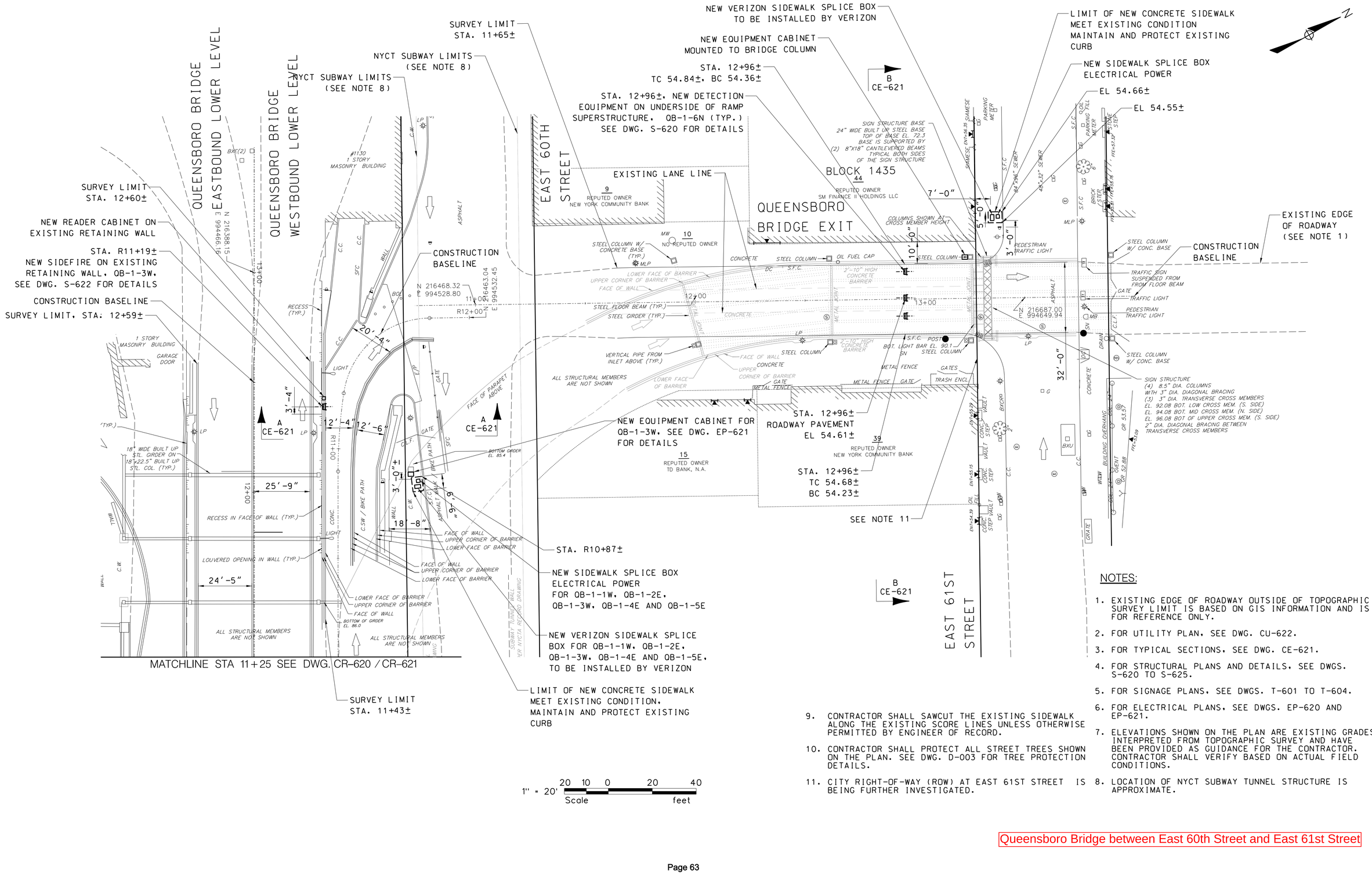


NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-621.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-620.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWGS. S-620 TO S-625.
5. FOR SIGNAGE PLANS, SEE DWGS. T-601 TO T-604.
6. FOR ELECTRICAL PLANS, SEE DWGS. EP-620 AND EP-621.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITION.
8. SEE DWG. CR-622 FOR LOCATIONS OF SIDEWALK SPLICE BOX ELECTRICAL POWER AND VERIZON SIDEWALK SPLICE BOX.

1" = 20' Scale 20 10 0 20 40 feet

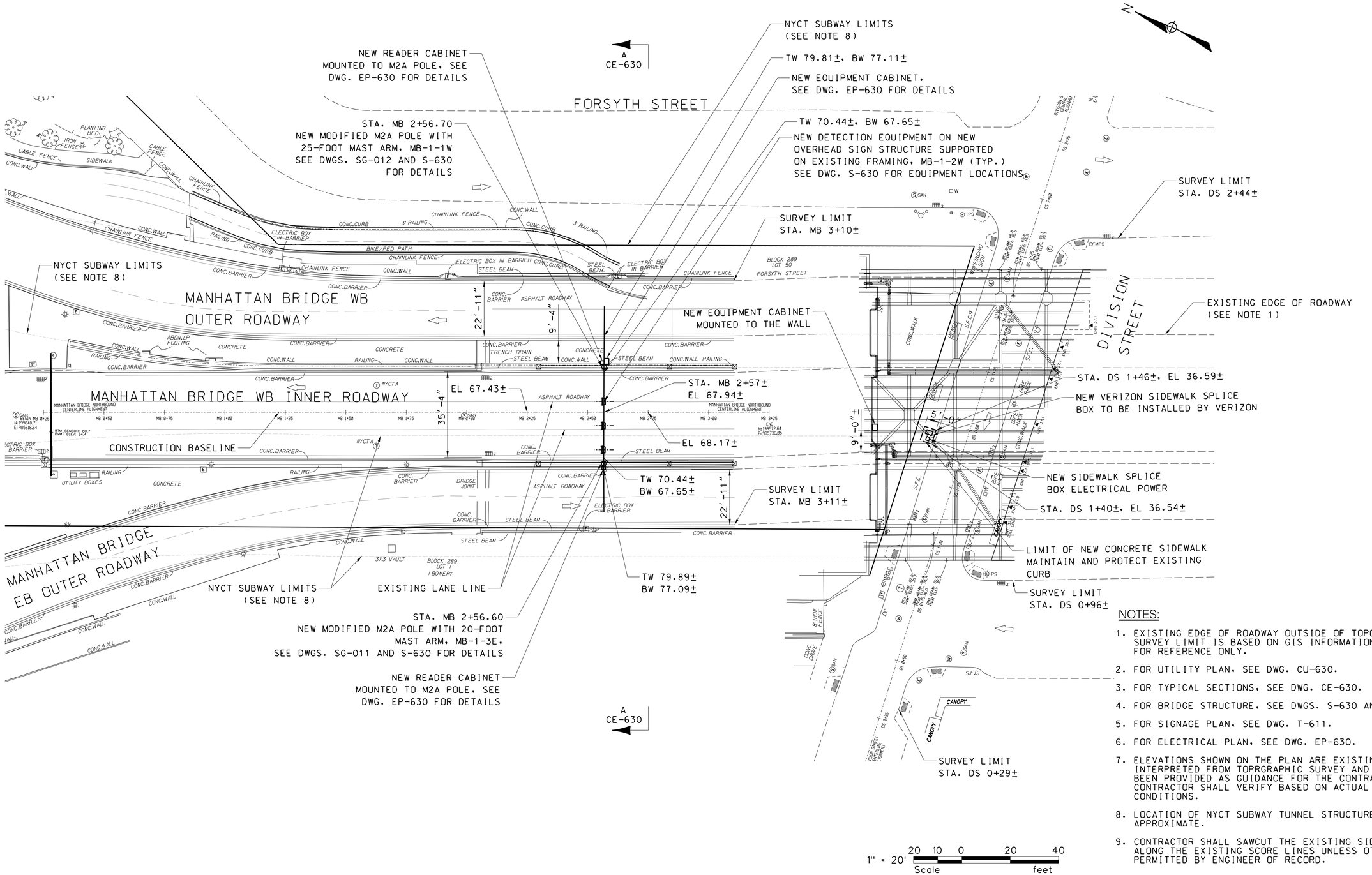
Queensboro Bridge Upper Level Between East 59th Street and East 60th Street at First Avenue



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-622.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-621.
4. FOR STRUCTURAL PLANS AND DETAILS, SEE DWGS. S-620 TO S-625.
5. FOR SIGNAGE PLANS, SEE DWGS. T-601 TO T-604.
6. FOR ELECTRICAL PLANS, SEE DWGS. EP-620 AND EP-621.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.
8. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
9. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.
10. CONTRACTOR SHALL PROTECT ALL STREET TREES SHOWN ON THE PLAN. SEE DWG. D-003 FOR TREE PROTECTION DETAILS.
11. CITY RIGHT-OF-WAY (ROW) AT EAST 61ST STREET IS BEING FURTHER INVESTIGATED.

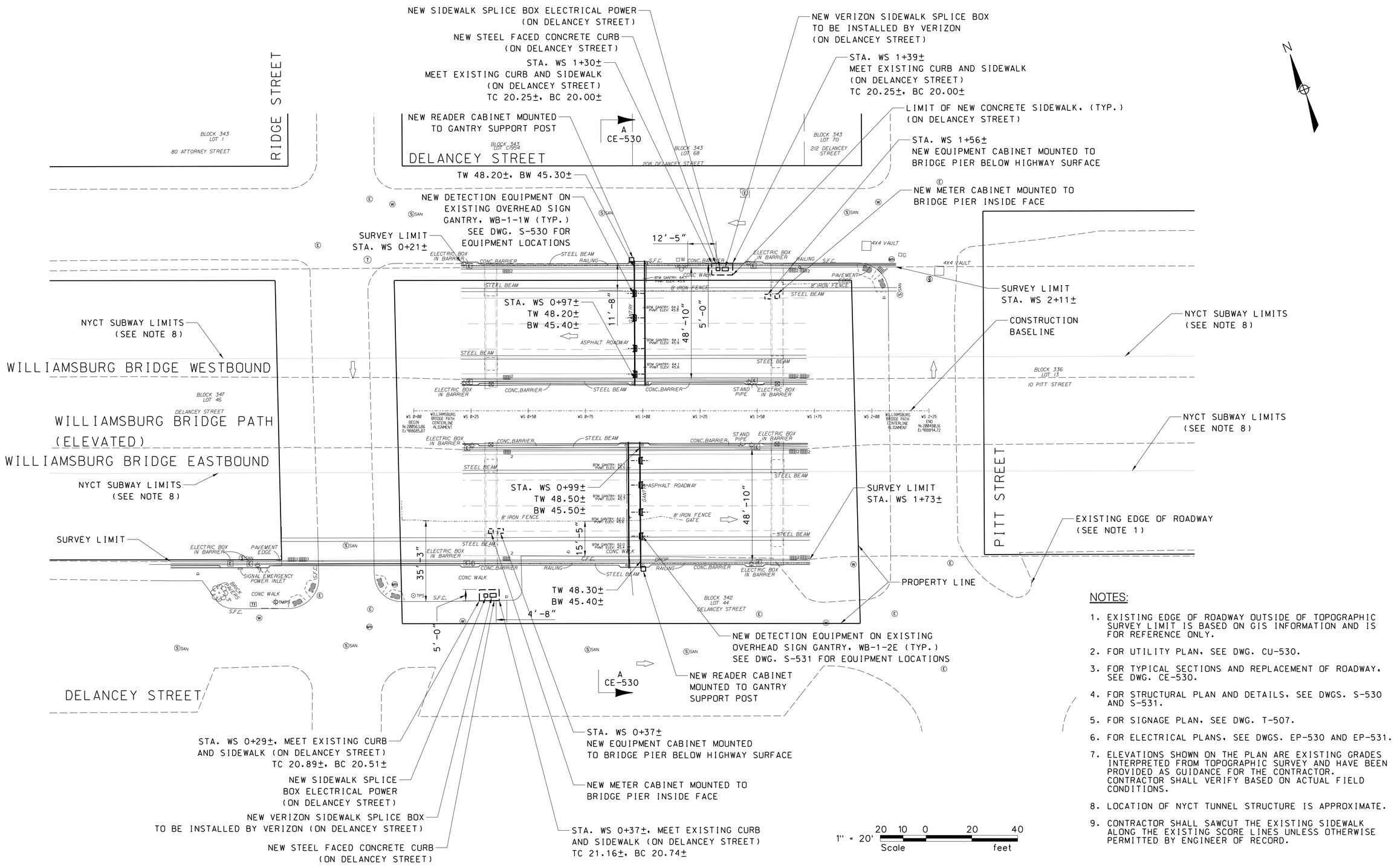
Queensboro Bridge between East 60th Street and East 61st Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-630.
3. FOR TYPICAL SECTIONS, SEE DWG. CE-630.
4. FOR BRIDGE STRUCTURE, SEE DWGS. S-630 AND S-631.
5. FOR SIGNAGE PLAN, SEE DWG. T-611.
6. FOR ELECTRICAL PLAN, SEE DWG. EP-630.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPRGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.
8. LOCATION OF NYCT SUBWAY TUNNEL STRUCTURE IS APPROXIMATE.
9. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.

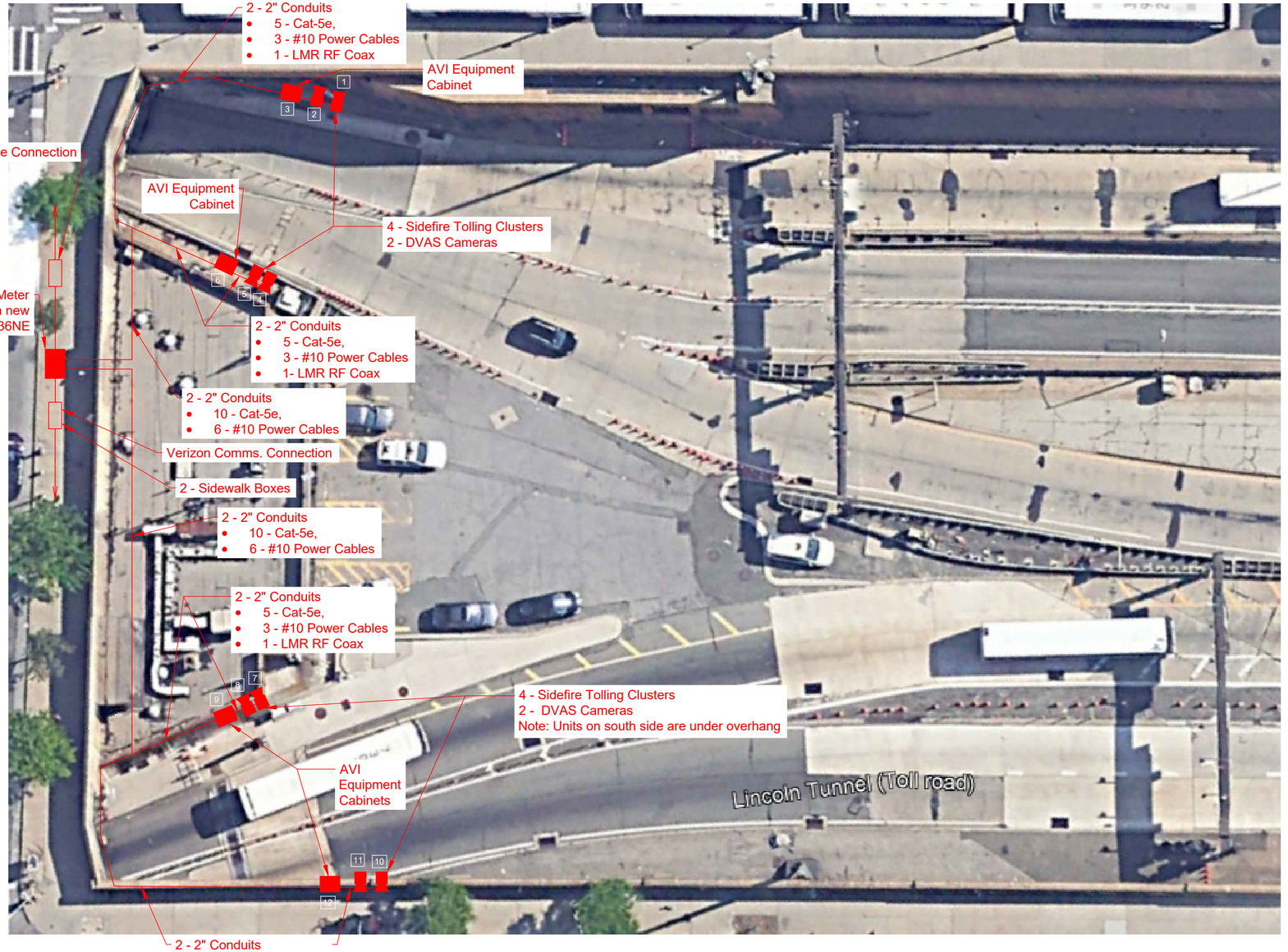
Manhattan Bridge at Division Street



NOTES:

1. EXISTING EDGE OF ROADWAY OUTSIDE OF TOPOGRAPHIC SURVEY LIMIT IS BASED ON GIS INFORMATION AND IS FOR REFERENCE ONLY.
2. FOR UTILITY PLAN, SEE DWG. CU-530.
3. FOR TYPICAL SECTIONS AND REPLACEMENT OF ROADWAY, SEE DWG. CE-530.
4. FOR STRUCTURAL PLAN AND DETAILS, SEE DWGS. S-530 AND S-531.
5. FOR SIGNAGE PLAN, SEE DWG. T-507.
6. FOR ELECTRICAL PLANS, SEE DWGS. EP-530 AND EP-531.
7. ELEVATIONS SHOWN ON THE PLAN ARE EXISTING GRADES INTERPRETED FROM TOPOGRAPHIC SURVEY AND HAVE BEEN PROVIDED AS GUIDANCE FOR THE CONTRACTOR. CONTRACTOR SHALL VERIFY BASED ON ACTUAL FIELD CONDITIONS.
8. LOCATION OF NYCT TUNNEL STRUCTURE IS APPROXIMATE.
9. CONTRACTOR SHALL SAWCUT THE EXISTING SIDEWALK ALONG THE EXISTING SCORE LINES UNLESS OTHERWISE PERMITTED BY ENGINEER OF RECORD.

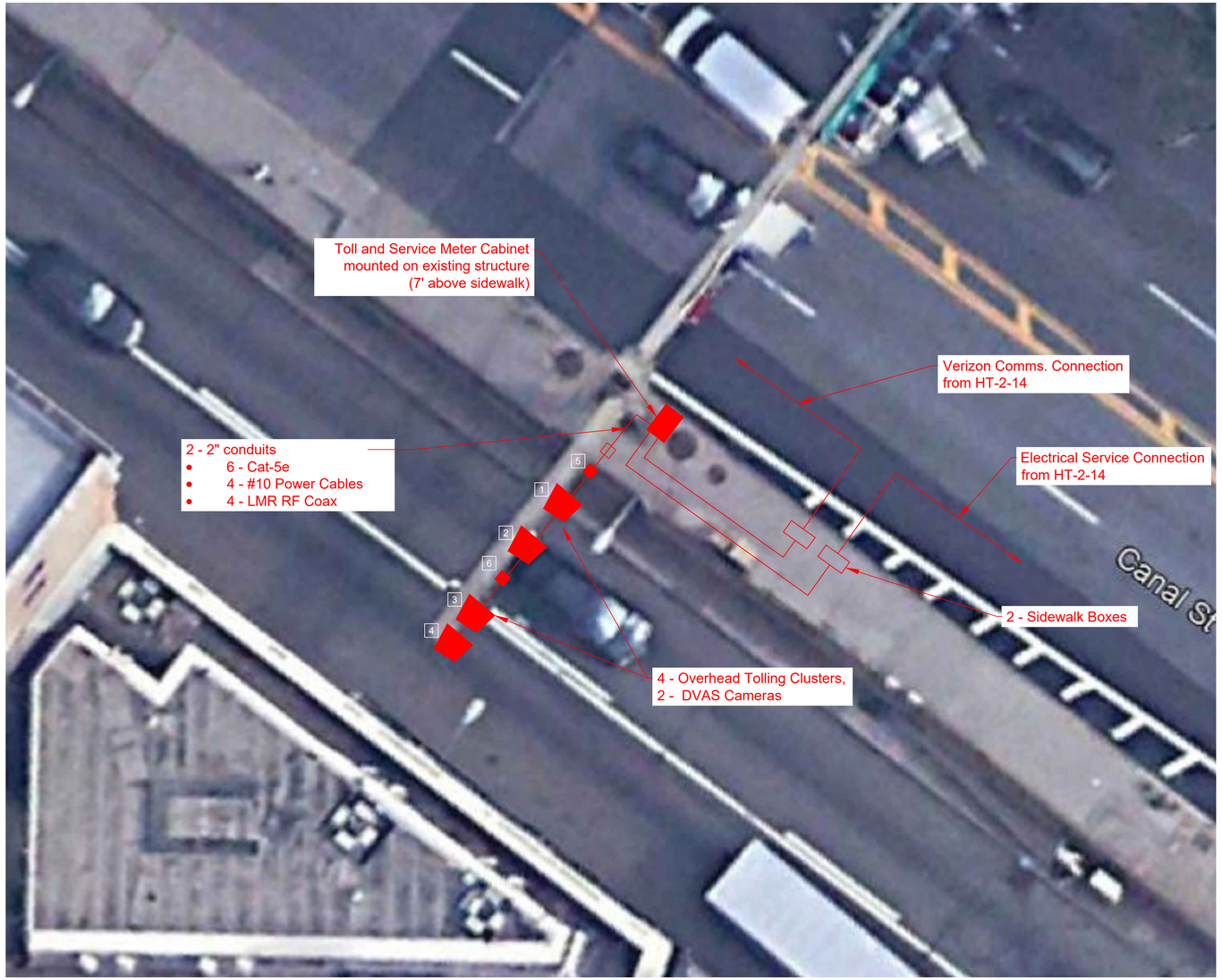
Williamsburg Bridge between Ridge Street and Pitt Street



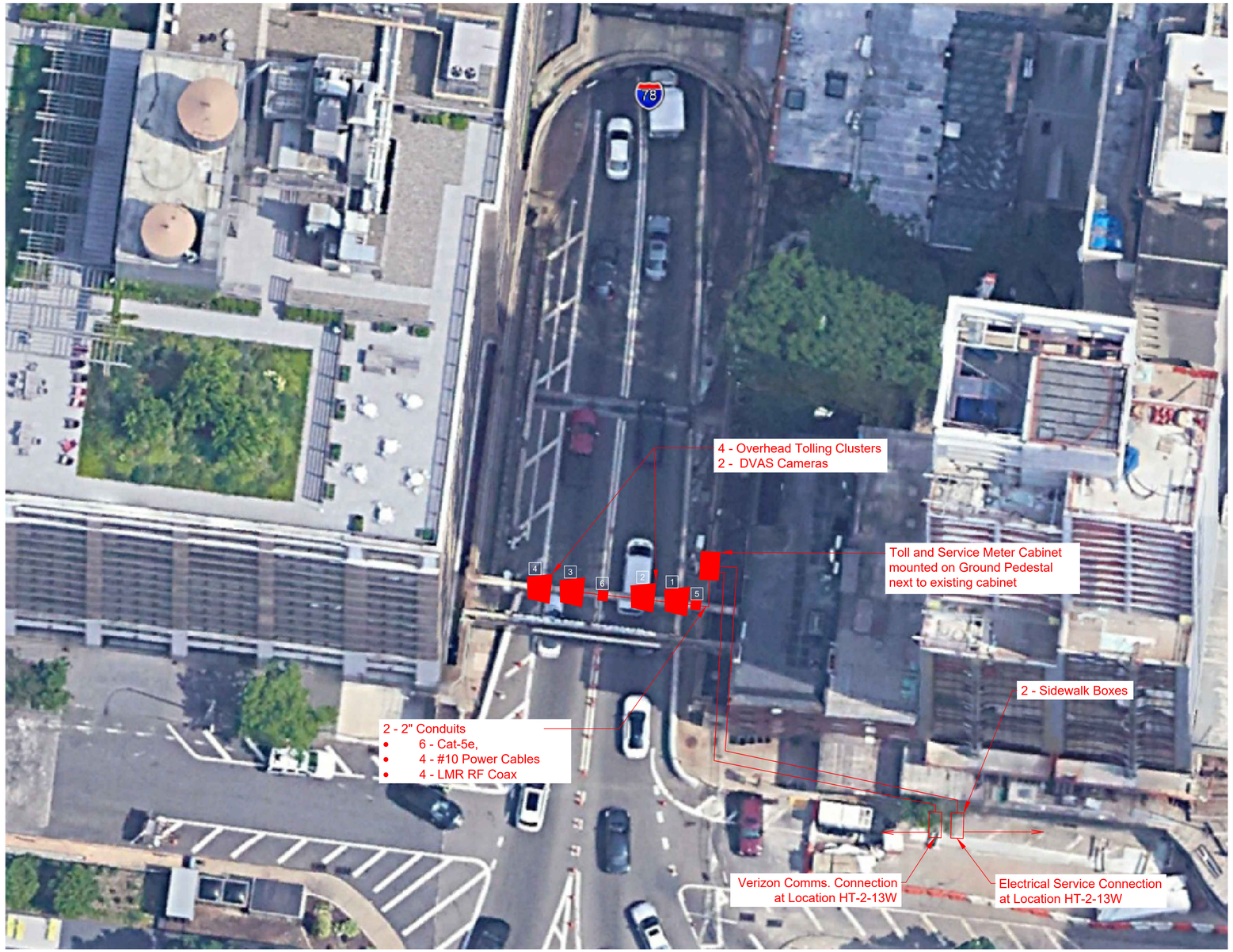
Lincoln Tunnel: South and Center Tubes



Lincoln Tunnel: North Tube



Holland Tunnel: In-Bound Tube



Holland Tunnel: Out-Bound Tube

Attachment 4: Correspondence

LIST OF CORRESPONDENCE
As of June 17, 2022

- Letter of September 24, 2021 from NYSDOT to SHPO initiating consultation and providing list of potential Consulting Parties
- Letters sent from NYSDOT to potential Consulting Parties dated September 30 and October 1, 2021 inviting participation as Section 106 Consulting Party
- Letters sent from FHWA to Tribal Nations on October 6 and October 12, 2021 initiating consultation
- Response from Stockbridge-Munsee Mohican Tribal Historic Preservation Extension Office dated October 13, 2021, indicating no concerns with the Project
- Letter of October 18, 2021 from SHPO to NYSDOT responding to September 24, 2021 initiation letter
- Letter from NYSDOT to FHWA of October 21, 2021 advising on status of Consulting Parties
- Transmittals of the *Cultural Resources Screening Report* to SHPO and Tribal Nations, dated October 28, 2021, from NYSDOT and FHWA.
- Letter from FHWA to NYSDOT of November 12, 2021 approving Section 106 Consulting Parties
- Letters from NYSDOT to Consulting Parties of November 22, 2021 transmitting FHWA approval letter of November 12, 2021 and inviting Consulting Parties to participate in a virtual meeting on December 16, 2021
- Letter of November 22, 2021 from SHPO to NYSDOT providing comments on the *Cultural Resources Screening Report*
- Letter of December 6, 2021 from NYSDOT to SHPO providing additional information
- Transmittal of information to Consulting Parties by NYSDOT on December 23, 2021
- Letter of December 30, 2021 from SHPO to NYSDOT providing comments on the additional information in NYSDOT's December 6, 2021 submission
- New York Landmarks Conservancy comments, dated January 12, 2022
- New York City Department of Parks and Recreation comments, dated January 12, 2022
- New York City Landmarks Preservation Commission comments, dated January 13, 2022
- National Park Service comments, dated January 28, 2022
- SHPO request for information regarding Central Park West pole, dated March 9, 2022
- Transmittal of information to SHPO and National Park Service, dated March 16, 2022
- New York City Department of Parks and Recreation comments in response to March 16, 2022 submission, dated March 17, 2022
- National Park Service comments in response to March 16, 2022 submission, dated March 30, 2022

- Letter of March 31, 2022 from SHPO to NYSDOT in response to March 16, 2022 submission
- New York City Department of Parks and Recreation comments, dated April 1, 2022
- Letters from NYSDOT to Consulting Parties of April 12, 2022 transmitting the Draft (Proposed Final) Finding Documentation for review and comment
- Letters from FHWA to Tribal Nations of April 13, 2022 transmitting the Draft (Proposed Final) Finding Documentation for review and comment
- Letter of April 18, 2022 from SHPO to NYSDOT concurring with the recommended No Adverse effect finding
- Comments from the New York City Department of Parks and Recreation on the Draft (Proposed Final) Finding Documentation, dated April 29, 2022
- Letter of May 19, 2022 from the National Park Service to NYSDOT concurring with the No Adverse Effect finding and providing additional comments
- Letters from FHWA to Tribal Nations of May 31, 2022 transmitting information regarding signage on two replacement poles in Central Park
- Response from Stockbridge-Munsee Mohican Tribal Historic Preservation Extension Office dated June 1, 2022 concurring with SHPO's finding of No Adverse Effect
- Letters from NYSDOT to Consulting Parties of June 3, 2022 transmitting information regarding signage on two replacement poles in Central Park
- New York City Department of Parks and Recreation comments, requesting that the backs of the tolling signs in Central Park be painted the same color as the pole and equipment so it will blend in better with the park landscape, dated June 10, 2022
- Letter of June 16, 2022 from SHPO to NYSDOT indicating concurrence with finding of No Adverse Effect provided that the back sides of the tolling signage in Central Park are finished to match the pole and tolling infrastructure, as requested by NYC Parks
- New York City Landmarks Preservation Commission comments, indicating concurrence with the SHPO finding dated 6/16/22 of no Adverse Effect, dated June 17, 2022
- National Park Service comments, indicating support for the Finding Documentation to continue to recommend a no adverse effect determination for the project, dated June 17, 2022

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

September 24, 2021

Upload via CRIS
R. Daniel Mackay
Deputy Commissioner for Historic Preservation
Deputy State Historic Preservation Officer
New York State Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation
P.O. Box 189
Waterford, NY 12188-0189

Re: ***Initiation of Section 106 Consultation***
Manhattan Central Business District (CBD) Tolling Program

Dear Mr. Mackay,

On behalf of the Federal Highway Administration (FHWA), the New York State Department of Transportation (NYSDOT) is initiating consultation with the New York State Historic Preservation Office (SHPO) for the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project), in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations at 36 CFR 800: *Protection of Historic Properties* (Section 106).

The FHWA, in cooperation with the Triborough Bridge and Tunnel Authority (TBTA) — an affiliate of the Metropolitan Transportation Authority (MTA) — and the NYSDOT and New York City Department of Transportation (NYCDOT) (collectively, the Project Sponsors), will prepare an Environmental Assessment in accordance with the National Environmental Policy Act (NEPA) of 1969 to analyze the potential effects of the CBD Tolling Program. The Environmental Assessment will analyze the potential effects of implementing this Project.

The local study area for the CBD Tolling Program includes Manhattan from the Battery to (and including) 60th Street (see attached map). This area encompasses the tolling zone as defined by New York State's MTA Reform and Traffic Mobility Act. The Project purpose is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into the FHWA's Value Pricing Pilot Program (VPPP). The Project would address the following needs:

- Reduce vehicle congestion in the Manhattan CBD.
- Create a new local, recurring funding source for MTA's capital projects.

Additional information on the Project is available on the Project website: https://new.mta.info/project/CBDTP.

Enclosed is a list of potential Consulting Parties for your review. Those on the list will be invited to be Consulting Parties.

Based on the project location within their identified areas of interest for Section 106 consultation, the Delaware Nation, the Delaware Tribe, the Shinnecock Indian Nation, and the Stockbridge-Munsee Community Band of Mohican Indians will also be notified of this Project under separate cover, to initiate consultation in coordination with the FHWA.

If you have any questions or need additional information about this undertaking, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

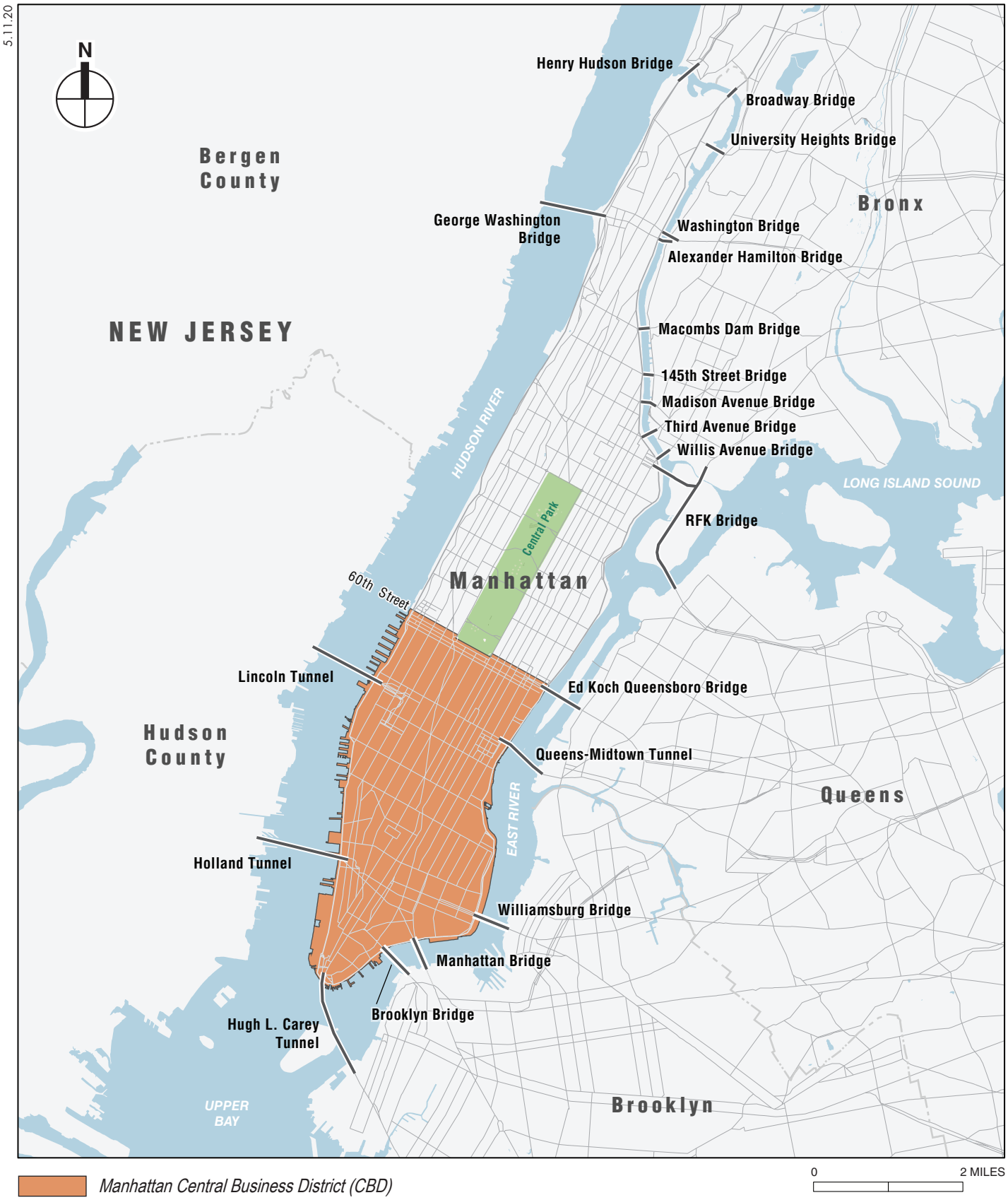
Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

Encl: Project Location Map
Invited Potential Section 106 Consulting Parties

cc: R. Davies, FHWA
A. Price, FHWA
R. Epstein, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT



CBD TOLLING PROGRAM

Project Location: Manhattan Central Business District

CBD Tolling Program

Invited Potential Section 106 Consulting Parties

Last Name	First Name	Title	Organization	Email	Address	phone
Eberle	Mark	Resource Planning Specialist/External Review Coordinator	National Park Service	mark_eberle@nps.gov	Interior Region 1, North Atlantic-Appalachian 1234 Market Street, 20th Floor Philadelphia, PA 19107	215-597-1258
Goldwyn	Andrea	Director, Public Policy	New York Landmarks Conservancy	andreagoldwyn@nylandmarks.org	One Whitehall Street, New York, NY 10004	212-995-5260
Murphy	Mary K.	Director of Planning and Regional Development	Port Authority of New York and New Jersey	mkmurphy@panynj.gov	4 World Trade Center 150 Greenwich Street, 16th Floor New York, NY 10007	212-435-4437
Nelson	Margaret	Acting Commissioner	New York City Parks		The Arsenal, Central Park, 830 Fifth Avenue, New York, NY 10065	212-360-1305
Santucci	Gina	Director of Environmental Review	New York City Landmarks Preservation Commission	gsantucci@lpc.nyc.gov	1 Centre St, #9N, New York, NY 10007	212-669-7822
Smith	Elizabeth W.	President & CEO	Central Park Conservancy		14 East 60th Street, New York, NY 10022	212-310-6600

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

September 30, 2021

[Name]
[Company]
[Address]
[City,State,Zip]

Re: Section 106 Consulting Party Status
Manhattan Central Business District (CBD) Tolling Program

Dear ___,

The Federal Highway Administration (FHWA) in cooperation with the Triborough Bridge and Tunnel Authority (TBTA)—an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT) (collectively the Project Sponsors) will prepare an Environmental Assessment in accordance with the National Environmental Policy Act (NEPA) of 1969 to analyze the potential effects of the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project). The Environmental Assessment will analyze the potential effects of implementing this Project. Additional information on the Project is available on the project website: https://new.mta.info/project/CBDTP.

The Environmental Assessment for the CBD Tolling Program will serve as the basis for the FHWA, as the lead federal agency, to issue its environmental findings under NEPA and will also comply with the requirements of Section 106 of the National Historic Preservation Act (NHPA), as amended, and other applicable federal laws, rules, and regulations.

Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on historic properties that are listed in or eligible for listing in the National Register of Historic Places. The Section 106 process (36 CFR Part 800) involves consultation among the Federal agency (FHWA), the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties to consider measures to avoid, minimize or mitigate any adverse effects on identified historic properties. Consulting Parties are identified based on the nature of their legal or economic relation to the federal undertaking or affected properties, or their concern with the undertaking's effects on historic properties.

Based on these criteria, on behalf of FHWA, NYSDOT would like to invite you to participate as a Section 106 Consulting Party. The enclosed brochure, "*Protecting Historic Properties: A Citizen's Guide to Section 106 Review," Advisory Council on*

Historic Preservation, provides additional information. The brochure can also be accessed online at:
https://www.achp.gov/digital-library-section-106-landing/citizens-guide-section-106-review

If you are interested in Consulting Party status, please contact Lori Blair at lori.blair@dot.ny.gov or 518-485-5632 by October 15, 2021. If we do not hear from you, we will advise FHWA that you did not wish to participate as a Consulting Party.

If you do accept this invitation to serve as a Consulting Party, we will reach out to you after October 15 to schedule a Consulting Parties meeting. We anticipate holding a webinar with the Consulting Parties in November 2021.

Sincerely,

Catherine Leslie
Director, EIS & Special Projects Bureau

Encls: Project Location
"*Protecting Historic Properties: A Citizen's Guide to Section 106 Review," Advisory Council on Historic Preservation*

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
R. Epstein, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

October 1, 2021

[Name]
[Company]
[Address]
[City,State,Zip]

Re: Section 106 Consulting Party Status
Manhattan Central Business District (CBD) Tolling Program

Dear ___,

The Federal Highway Administration (FHWA) in cooperation with the Triborough Bridge and Tunnel Authority (TBTA)—an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT) (collectively the Project Sponsors) will prepare an Environmental Assessment in accordance with the National Environmental Policy Act (NEPA) of 1969 to analyze the potential effects of the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project). The Environmental Assessment will analyze the potential effects of implementing this Project. Additional information on the Project is available on the project website: https://new.mta.info/project/CBDTP.

The Environmental Assessment for the CBD Tolling Program will serve as the basis for the FHWA, as the lead federal agency, to issue its environmental findings under NEPA and will also comply with the requirements of Section 106 of the National Historic Preservation Act (NHPA), as amended, and other applicable federal laws, rules, and regulations.

Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on historic properties that are listed in or eligible for listing in the National Register of Historic Places. The Section 106 process (36 CFR Part 800) involves consultation among the Federal agency (FHWA), the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties to consider measures to avoid, minimize or mitigate any adverse effects on identified historic properties. Consulting Parties are identified based on the nature of their legal or economic relation to the federal undertaking or affected properties, or their concern with the undertaking's effects on historic properties.

Based on these criteria, on behalf of FHWA, NYSDOT would like to invite you to participate as a Section 106 Consulting Party. The enclosed brochure, "*Protecting Historic Properties: A Citizen's Guide to Section 106 Review," Advisory Council on Historic Preservation,* provides additional information. The brochure can also be accessed online at:
https://www.achp.gov/digital-library-section-106-landing/citizens-guide-section-106-review

If you are interested in Consulting Party status, please contact Lori Blair at lori.blair@dot.ny.gov or 518-485-5632 by October 15, 2021. If we do not hear from you, we will advise FHWA that you did not wish to participate as a Consulting Party.

If you do accept this invitation to serve as a Consulting Party, we will reach out to you after October 15 to schedule a Consulting Parties meeting. We anticipate holding a webinar with the Consulting Parties in November 2021.

Sincerely,

Catherine Leslie
Director, EIS & Special Projects Bureau

Encls: Project Location
"*Protecting Historic Properties: A Citizen's Guide to Section 106 Review," Advisory Council on Historic Preservation*

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
R. Epstein, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
518-431-4121 (fax)
NewYork.fhwa@dot.gov

October 6, 2021

In Reply Refer To:
HPM-NY

Chairman Bryan Polite
Shinnecock Indian Nation
Shinnecock Indian Territory
P.O. Box 5006
Southampton, New York 11969-5006

SUBJECT: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project

Dear Chairman Polite:

The Federal Highway Administration (FHWA) would like to initiate consultation with the Shinnecock Indian Nation for the proposed Central Business District (CBD) Tolling Program, an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended, and implementing regulations of 36 CFR Part 800: *Protection of Historic Properties*. The CBD Tolling Program is located in Manhattan, New York County, New York. Attached, please find a map showing the location of the Project.

The Federal Highway Administration, in cooperation with the Triborough Bridge and Tunnel Authority (TBTA) - an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT) (collectively the Project Sponsors) will prepare an Environmental Assessment in accordance with the National Environmental Policy Act (NEPA) of 1969 for the CBD Tolling Program. The Environmental Assessment will analyze the potential effects of implementing the Project. Additional information on the Project is available on the project website: https://new.mta.info/project/CBDTP

The Environmental Assessment for the CBD Tolling Program will serve as the basis for the FHWA, as the lead federal agency, to issue its environmental findings under NEPA and will also comply with the requirements of Section 106 and other applicable federal laws, rules, and regulations.

We invite you to meet with representatives of the FHWA and the Project Sponsors to receive additional information about the Project, and to offer your views regarding the project location and potential to affect properties of religious and cultural significance to the Shinnecock Indian Nation. If you would like to meet with us to discuss the Project, please provide your availability

to meet between November 15, 2021 and November 30, 2021. We will contact you to set up a date and time.

If you have any questions or would like to request any further information, please contact me at 518-431-8858.

Sincerely,

Anna Price
Director Office of Program Management

Encl: Project Location Map

cc: D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
R. Epstein, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT
Rick Marquis, FHWA, HDA-NY
Patricia Millington, FHWA, HEA-NY
Robert Davies, FHWA, HPD-NY
Melissa Toni, FHWA, HEA-NY

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

October 12, 2021

In Reply Refer To:
HPM-NY

Nathan Allison
Tribal Historic Preservation Officer & Archaeologist
Stockbridge-Munsee Community Band of Mohican Indians
Stockbridge-Munsee Mohican Tribal Historic Preservation Extension Office
88 Spring Street
Williamstown, MA 01267

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project

Dear Mr. Allison:

The Federal Highway Administration (FHWA) would like to initiate consultation with the Stockbridge-Munsee Community Band of Mohican Indians for the proposed Central Business District (CBD) Tolling Program (CBD Tolling Program or the Project), an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended, and implementing regulations of 36 CFR Part 800: *Protection of Historic Properties*. The CBD Tolling Program is located in Manhattan, New York County, New York. Attached, please find a map showing the location of the Project.

The FHWA, in cooperation with the Triborough Bridge and Tunnel Authority (TBTA) - an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT) (collectively the Project Sponsors) will prepare an Environmental Assessment in accordance with the National Environmental Policy Act (NEPA) of 1969 for the CBD Tolling Program. The Environmental Assessment will analyze the potential effects of implementing the Project. Additional information on the Project is available on the project website: https://new.mta.info/project/CBDTP.

The Environmental Assessment for the CBD Tolling Program will serve as the basis for the FHWA, as the lead federal agency, to issue its environmental findings under NEPA and will also comply with the requirements of Section 106 and other applicable federal laws, rules, and regulations.

We invite you to meet with representatives of the FHWA and the Project Sponsors to receive additional information about the Project, and to offer your views regarding the project location

and potential to affect properties of religious and cultural significance to the Stockbridge-Munsee Community Band of Mohican Indians. If you would like to meet with us to discuss the Project, please provide your availability to meet between November 15, 2021 and November 30, 2021. We will contact you to set up a date and time.

If you have any questions or would like to request any further information, please contact me at (518)431-8858.

Sincerely,

Anna Price
Director of Program Management

Encl: Project Location Map

cc: Tricia Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
R. Epstein, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

October 12, 2021

In Reply Refer To:
HPM-NY

Billie Anderson
TCNS Coordinator
Delaware Nation
31064 State Highway 281, PO Box 825
Anadarko, OK 73005

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project

Dear Ms. Anderson:

The Federal Highway Administration (FHWA) would like to initiate consultation with the Delaware Nation for the proposed Central Business District (CBD) Tolling Program (CBD Tolling Program or the Project), an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended, and implementing regulations of 36 CFR Part 800: *Protection of Historic Properties*. The CBD Tolling Program is located in Manhattan, New York County, New York. Attached, please find a map showing the location of the Project.

The FHWA, in cooperation with the Triborough Bridge and Tunnel Authority (TBTA) - an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT) (collectively the Project Sponsors) will prepare an Environmental Assessment in accordance with the National Environmental Policy Act (NEPA) of 1969 for the CBD Tolling Program. The Environmental Assessment will analyze the potential effects of implementing the Project. Additional information on the Project is available on the project website: https://new.mta.info/project/CBDTP.

The Environmental Assessment for the CBD Tolling Program will serve as the basis for the FHWA, as the lead federal agency, to issue its environmental findings under NEPA and will also comply with the requirements of Section 106 and other applicable federal laws, rules, and regulations.

We invite you to meet with representatives of the FHWA and the Project Sponsors to receive additional information about the Project, and to offer your views regarding the project location and potential to affect properties of religious and cultural significance to the

Delaware Nation. If you would like to meet with us to discuss the Project, please provide your availability to meet between November 15, 2021 and November 30, 2021. We will contact you to set up a date and time.

If you have any questions or would like to request any further information, please contact me at (518)431-8858.

Sincerely,

Anna Price
Director of Program Management

Encl: Project Location Map

cc: Tricia Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
R. Epstein, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT
Erin Paden, Historic Preservation Director

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

October 12, 2021

In Reply Refer To:
HPM-NY

Susan Bachor, M.A.
Archaeologist
Delaware Tribe Historic Preservation
126 University Circle, Rm 437
East Stroudsburg, PA 18301

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project

Dear Ms. Bachor:

The Federal Highway Administration (FHWA) would like to initiate consultation with the Delaware Tribe for the proposed Central Business District (CBD) Tolling Program (CBD Tolling Program or the Project), an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended, and implementing regulations of 36 CFR Part 800: *Protection of Historic Properties*. The CBD Tolling Program is located in Manhattan, New York County, New York. Attached, please find a map showing the location of the Project.

The FHWA, in cooperation with the Triborough Bridge and Tunnel Authority (TBTA) - an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT) (collectively the Project Sponsors) will prepare an Environmental Assessment in accordance with the National Environmental Policy Act (NEPA) of 1969 for the CBD Tolling Program. The Environmental Assessment will analyze the potential effects of implementing the Project. Additional information on the Project is available on the project website: https://new.mta.info/project/CBDTP.

The Environmental Assessment for the CBD Tolling Program will serve as the basis for the FHWA, as the lead federal agency, to issue its environmental findings under NEPA and will also comply with the requirements of Section 106 and other applicable federal laws, rules, and regulations.

We invite you to meet with representatives of the FHWA and the Project Sponsors to receive additional information about the Project, and to offer your views regarding the project location and potential to affect properties of religious and cultural significance to the

Delaware Tribe. If you would like to meet with us to discuss the Project, please provide your availability to meet between November 15, 2021 and November 30, 2021. We will contact you to set up a date and time.

If you have any questions or would like to request any further information, please contact me at (518)431-8858.

Sincerely,

Anna Price
Director of Program Management

Encl: Project Location Map

cc: Tricia Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
R. Epstein, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

From: Price, Anna (FHWA)
To: Leslie, Catherine S. (DOT); Blair, Lori E (DOT)
Subject: FW: Central Business District Tolling Program - Consultation with Tribal Nations
Date: Wednesday, October 13, 2021 3:11:55 PM
Attachments: image002.png

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

FYI

From: Price, Anna (FHWA)
Sent: Wednesday, October 13, 2021 12:51 PM
To: Nathan Allison <nathan.allison@mohican-nsn.gov>
Cc: Anderson, Cindy (FHWA) <cindy.anderson@dot.gov>; Millington, Tricia (FHWA) <patricia.millington@dot.gov>; Davies, Robert (FHWA) <Robert.Davies@dot.gov>
Subject: RE: Central Business District Tolling Program - Consultation with Tribal Nations

Dear Mr. Allison-

Thank you so much for responding so promptly.
We appreciate the coordination and communication.

Respectfully,

Anna Price
Director, Office of Program Management

FHWA New York Division
Leo O'Brien Building
11A Clinton Ave, Suite 719
Albany, NY 12207
518-431-8858



From: Nathan Allison <nathan.allison@mohican-nsn.gov>
Sent: Wednesday, October 13, 2021 12:02 PM
To: Price, Anna (FHWA) <anna.price@dot.gov>
Cc: Anderson, Cindy (FHWA) <cindy.anderson@dot.gov>
Subject: RE: Central Business District Tolling Program - Consultation with Tribal Nations

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Ms. Price,

Good afternoon. Thank you for requesting comments from the Stockbridge-Munsee Community Tribal Historic Preservation Office. We have reviewed the documents associated with the proposed Central Business District Tolling Program in NYC. We have the following comments.

- The SMC THPO have no concerns with this project and defer attendance at the upcoming project meeting.

Please let me know should you have any questions.

Best,

Nathan

Nathan Allison
Tribal Historic Preservation Officer & Archaeologist
Stockbridge-Munsee Mohican Tribal Historic Preservation
Extension Office
86 Spring Street
Williamstown, MA 01267
(413) 884-6029
nathan.allison@mohican-nsn.gov
www.mohican-nsn.gov
Visit our FAQ page: https://www.mohican.com/services/cultural-services/cultural-affairs/faq/
Pronouns: He/Him

From: Anderson, Cindy (FHWA) <cindy.anderson@dot.gov>
Sent: Wednesday, October 13, 2021 10:02 AM
To: Nathan Allison <nathan.allison@mohican-nsn.gov>
Cc: Price, Anna (FHWA) <anna.price@dot.gov>; Millington, Tricia (FHWA) <patricia.millington@dot.gov>; Daniel.Mackay@parks.ny.gov; Olivia.Brazee@parks.ny.gov; ron.epstein dot.ny.gov <ron.epstein@dot.ny.gov>; Catherine Leslie <Catherine.Leslie@dot.ny.gov>; allison.cdecerreno@mtahq.org; WCarry@dot.nyc.gov; Musolino, Donna (FHWA) <donna.musolino@dot.gov>
Subject: RE: Central Business District Tolling Program - Consultation with Tribal Nations

CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.

Attached is the Federal Highway Administration's letter regarding the subject project. If you have questions or concerns, contact Anna Price, Director of Program Management at 518-431-8858 or by email at Anna.Price@dot.gov

Attachments (2)

- CBDTP Consulting Party Invitation Letter Stockbridge Munsee
- CBDTP Project Location

Cindy M. Anderson

Cindy M. Anderson| Program Coordinator
DOT | FHWA | New York Division Office (HFA-NY)
Leo O'Brien Federal Building, 11A Clinton Ave, Room 719,
Albany, NY 12207
O: 518-431-8857
C: 845-522-7496
cindy.anderson@dot.gov

NEW YORK STATE OF OPPORTUNITY.
Parks, Recreation and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

October 18, 2021

Lori Blair
Environmental Specialist 2/Cultural Resource Specialist
NYSDOT
50 Wolf Road, POD 4-1
Albany, NY 12232

Re: FHWA
Central Business District (CBD) Tolling Program
The Battery to 60th Street, Manhattan, NY
21PR06430

Dear Lori Blair:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (NY Environmental Conservation Law Article 8).

We have reviewed the provided letter from NYSDOT to SHPO initiating Section 106 consultation on behalf of FHWA dated September 24, 2021, project location map, and list of invited Potential Section 106 Consulting Parties. Based upon review of that document we offer the following comments:

1. We recommend adding the Historic Districts Council and MAS to the list of Consulting Parties to invite. Those two groups were on the draft list that we received by email dated September 17, 2021.
2. We look forward to continued consultation, but effectively our review cannot begin until our receipt of more detailed project documentation, including a detailed scope of work, plans/drawings, project-specific locations mapped, APE maps, and identification of historic properties with the APEs.

We would appreciate if the requested information could be provided via our Cultural Resource Information System (CRIS) at https://cris.parks.ny.gov/ on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an

existing project". You will need this project number and your e-mail address. If you have any questions, please contact Olivia Brazee, Historic Site Restoration Coordinator, who is best reached via e-mail at olivia.brazee@parks.ny.gov.

Sincerely,



Linda Mackey
Historic Preservation Program Analyst

cc: Amanda Sutphin, Daniel Pagano, Gina Santucci, Jessica MacClean, NYC LPC
Anna Price, Mary Santangelo, NYS DOT

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

October 21, 2021

Anna Price
Director of Program Management
Federal Highway Administration
New York Division
Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207

Re: ***Section 106 – Request for Approval of Consulting Party Status***
Manhattan Central Business District (CBD) Tolling Program
New York County, New York
OPRHP 21PR06430

Dear Ms. Price,

Enclosed for Federal Highway Administration (FHWA) consideration, please find a list of potential Section 106 Consulting Parties for the Manhattan Central Business District (CBD) Tolling Program, recommended by the New York State Department of Transportation (NYSDOT) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800.2(c)(5):

> *Certain individuals and organizations with a demonstrated interest in the undertaking may participate as consulting parties due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties.*

The NYSDOT invited the agencies and organizations on the enclosed list to be Consulting Parties in letters dated September 30, 2021 and October 1, 2021. The letter was sent to regional organizations due to the nature of their legal or economic relation to affected properties or organizations with an interest in historic resources to inform them of the opportunity to participate as a Consulting Party.

The following individuals and organizations accepted the invitation to be a Consulting Party:

1. Mark Eberle, National Park Service with a request to add Kathryn Schlegel and Laurel Racine to the project's email distribution list
2. David Cuff, New York City Department of Parks and Recreation
3. Gina Santucci, New York City Landmarks Preservation Commission

4. Andrea Goldwyn, New York Landmarks Conservancy

We respectfully request FHWA approval of the above-referenced individuals and organizations, granting Consulting Party status for participation in the Section 106 process.

The following individuals and organizations did not respond to the invitation to be a Consulting Party:

1. Mary K. Murphy, Port Authority of New York and New Jersey
2. Elizabeth W. Smith, Central Park Conservancy

The Delaware Nation, the Delaware Tribe, the Shinnecock Indian Nation, and the Stockbridge-Munsee Community Band of Mohican Indians have been identified as having a consultative role in accordance with 36 CFR Part 800.2(c)(ii), since they have previously identified a geographical area of interest for Section 106 consultation that includes the project location in New York County, New York. We understand that the FHWA reached out to the Tribal Nations in correspondence dated October 6, 2021 and October 13, 2021. In an email dated October 13, 2021, the Stockbridge-Munsee responded that the SMC THPO have no concerns with this project and defer attendance at the upcoming meeting.

If you have any questions or need additional information about this undertaking, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS and Special Projects Bureau

CL/lb/bb
Encl: Table of Invited Consulting Parties

cc: R. Davies, FHWA
R. D. Mackay, SHPO
R. Epstein, NYSDOT
A. L. C. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

CBD Tolling Program

Invited Consulting Parties

Invited agencies and organizations who accepted the Invitation

Last Name	First Name	Title	Organization	Email	Address	phone
Eberle Schlegel Racine	Mark Kathryn Laurel	Resource Planning Specialist/External Review Coordinator	National Park Service	mark_eberle@nps.gov kathryn_schlegel@nps.gov laurel_racince@nps.gov	Interior Region 1, North Atlantic-Appalachian 1234 Market Street, 20th Floor Philadelphia, PA 19107	215-597-1258
Goldwyn	Andrea	Director, Public Policy	New York Landmarks Conservancy	andreagoldwyn@nylandmarks.org	One Whitehall Street, New York, NY 10004	212-995-5260
Fialkoff	Gabrielle	Commissioner	New York City Department of Parks & Recreation	Gabrielle.fialkoff@parks.nyc.gov	The Arsenal, Central Park, 830 Fifth Avenue, New York, NY 10065	212-360-1305
Santucci	Gina	Director of Environmental Review	New York City Landmarks Preservation Commission	gsantucci@lpc.nyc.gov	1 Centre St, #9N, New York, NY 10007	212-669-7822

Invited agencies and organizations who did not respond to the Invitation

Last Name	First Name	Title	Organization	Email	Address	phone
Murphy	Mary K.	Director of Planning and Regional Development	Port Authority of New York and New Jersey	mkmurphy@panynj.gov	4 World Trade Center 150 Greenwich Street, 16th Floor New York, NY 10007	212-435-4437
Smith	Elizabeth W.	President & CEO	Central Park Conservancy	Elizabeth.Smith@centralparknyc.org	14 East 60th Street, New York, NY 10022	212-310-6600

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

October 28, 2021

Upload via CRIS
R. Daniel Mackay
Deputy Commissioner for Historic Preservation
Deputy State Historic Preservation Officer
New York State Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation
P.O. Box 189
Waterford, NY 12188-0189

Re: ***Section 106 Screening Report***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Mr. Mackay:

On behalf of the Federal Highway Administration (FHWA), the New York State Department of Transportation (NYSDOT) is submitting the enclosed information to the New York State Historic Preservation Office (SHPO) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties* as part of continuing consultation for the for the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project).

Enclosed for the SHPO's review is the *Cultural Resources Screening Report* prepared for the Project. The report describes the assessment of the potential presence of historic properties within a defined Study Area, defines an Area of Potential Effects (APE), and identifies historic properties within the Study Area and APE. The report also provides preliminary information about the Project and Project alternatives and summarizes an assessment of the archaeological potential of areas that could be disturbed by the Project. The results of the screening indicate that the extent of prior disturbance has reduced the archaeological potential such that the presence of archaeological deposits is highly unlikely within the project area; therefore, no archaeological survey is recommended. Based on prior coordination, no architectural survey is recommended.

In accordance with 36 CFR 800.4(a)(1), an APE has been defined for the Project to assess potential effects of the Project on known historic properties within the APE. The APE is based on the proposed scope of work that includes:

- Installation of new poles with tolling infrastructure and tolling system equipment on city streets and other at-grade roadways, and
- Mounting of new poles and tolling infrastructure and tolling system equipment directly on bridge structures.

Based on review of the provided information, we respectfully request the written concurrence of the SHPO with the NYSDOT assessment that archaeological and architectural surveys are not needed and with the definition of the APE for the assessment of effects on known historic architectural properties.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

Encl: *Central Business District (CBD) Tolling Program, Cultural Resources Screening Report,* October 2021

cc: R. Davies, FHWA (w/out Encl)
A. Price, FHWA (w/out Encl)
R. Epstein, NYSDOT (w/out Encl)
A. de Cerreño, MTA (w/out Encl)
W. Carry, NYCDOT (w/out Encl)
N. Angel, MTA (w/out Encl)

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

October 28, 2021

In Reply Refer To:
HPM-NY

Chairman Bryan Polite
Shinnecock Indian Nation
Shinnecock Indian Territory
PO Box 5006
Southampton, NY 11969-5006

Re: Section 106 Screening Report
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Chairman Polite:

As part of continuing consultation for the proposed Central Business District (CBD) Tolling Program (CBD Tolling Program or the Project), an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended, and implementing regulations of 36 CFR Part 800: *Protection of Historic Properties*, the Federal Highway Administration is submitting a *Cultural Resources Screening Report* prepared for the Project to the Shinnecock Indian Nation. This report has also been submitted to the New York State Historic Preservation Office (SHPO) for review and comment.

The *Cultural Resources Screening Report* describes the assessment of the potential presence of historic properties within a defined Study Area, defines an Area of Potential Effects (APE), and identifies historic properties within the Study Area and APE. The report also provides preliminary information about the Project and Project alternatives and summarizes an assessment of the archaeological potential of areas that could be disturbed by the Project. The results of the screening indicate that the extent of prior disturbance has reduced the archaeological potential such that the presence of archaeological deposits within the project area is highly unlikely; therefore, no archaeological survey is recommended.

In accordance with 36 CFR 800.4(a)(1), an APE has been defined for the Project to assess potential effects of the Project on known historic properties within the APE. The APE is based on the proposed scope of work that includes:

- Installation of new poles with tolling infrastructure and tolling system equipment on city streets and other at-grade roadways.
- Mounting of new poles and tolling infrastructure and tolling system equipment directly on bridge structures.

We are soliciting the views of the Shinnecock Indian Nation regarding the results of this assessment and recommendations regarding archaeological investigations.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

Anna Price
Director of Program Management

Encl: *Central Business District (CBD) Tolling Program, Cultural Resources Screening Report,* October 2021

cc: T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
R. Epstein, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
N. Angel, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

October 28, 2021

In Reply Refer To:
HPM-NY

Billie Anderson
TCNS Coordinator
31064 State Highway 281
PO Box 825
Anadarko, OK 73005

Re: Section 106 Screening Report
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Ms. Anderson:

As part of continuing consultation for the proposed Central Business District (CBD) Tolling Program (CBD Tolling Program or the Project), an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended, and implementing regulations of 36 CFR Part 800: *Protection of Historic Properties*, the Federal Highway Administration is submitting a *Cultural Resources Screening Report* prepared for the Project to the Delaware Nation. This report has also been submitted to the New York State Historic Preservation Office (SHPO) for review and comment.

The *Cultural Resources Screening Report* describes the assessment of the potential presence of historic properties within a defined Study Area, defines an Area of Potential Effects (APE), and identifies historic properties within the Study Area and APE. The report also provides preliminary information about the Project and Project alternatives and summarizes an assessment of the archaeological potential of areas that could be disturbed by the Project. The results of the screening indicate that the extent of prior disturbance has reduced the archaeological potential such that the presence of archaeological deposits within the project area is highly unlikely; therefore, no archaeological survey is recommended.

In accordance with 36 CFR 800.4(a)(1), an APE has been defined for the Project to assess potential effects of the Project on known historic properties within the APE. The APE is based on the proposed scope of work that includes:

- Installation of new poles with tolling infrastructure and tolling system equipment on city streets and other at-grade roadways.
- Mounting of new poles and tolling infrastructure and tolling system equipment directly on bridge structures.

We are soliciting the views of the Delaware Nation regarding the results of this assessment and recommendations regarding archaeological investigations.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

Anna Price
Director of Program Management

Encl: *Central Business District (CBD) Tolling Program, Cultural Resources Screening Report,* October 2021

cc: T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
R. Epstein, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
N. Angel, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

October 28, 2021

In Reply Refer To:
HPM-NY

Susan Bachor, M.A.
Archeologist
Delaware Tribe Historic Preservation
126 University Circle, Rm. 437
East Stroudsburg, PA 18301

Re: Section 106 Screening Report
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Ms. Bachor:

As part of continuing consultation for the proposed Central Business District (CBD) Tolling Program (CBD Tolling Program or the Project), an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended, and implementing regulations of 36 CFR Part 800: *Protection of Historic Properties*, the Federal Highway Administration is submitting a *Cultural Resources Screening Report* prepared for the Project to the Delaware Tribe. This report has also been submitted to the New York State Historic Preservation Office (SHPO) for review and comment.

The *Cultural Resources Screening Report* describes the assessment of the potential presence of historic properties within a defined Study Area, defines an Area of Potential Effects (APE), and identifies historic properties within the Study Area and APE. The report also provides preliminary information about the Project and Project alternatives and summarizes an assessment of the archaeological potential of areas that could be disturbed by the Project. The results of the screening indicate that the extent of prior disturbance has reduced the archaeological potential such that the presence of archaeological deposits within the project area is highly unlikely; therefore, no archaeological survey is recommended.

In accordance with 36 CFR 800.4(a)(1), an APE has been defined for the Project to assess potential effects of the Project on known historic properties within the APE. The APE is based on the proposed scope of work that includes:

- Installation of new poles with tolling infrastructure and tolling system equipment on city streets and other at-grade roadways.
- Mounting of new poles and tolling infrastructure and tolling system equipment directly on bridge structures.

We are soliciting the views of the Delaware Tribe regarding the results of this assessment and recommendations regarding archaeological investigations.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

Anna Price
Director of Program Management

Encl: *Central Business District (CBD) Tolling Program, Cultural Resources Screening Report,* October 2021

cc: T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
R. Epstein, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
N. Angel, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

October 28, 2021

In Reply Refer To:
HPM-NY

Nathan Allison
Tribal Historic Preservation Officer & Archeologist
Stockbridge-Munsee Mohican Tribal
Historic Preservation Extension Office
86 Spring Street
Williamstown, MA 01267

Re: Section 106 Screening Report
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Mr. Allison,

As part of continuing consultation for the proposed Central Business District (CBD) Tolling Program (CBD Tolling Program or the Project), an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended, and implementing regulations of 36 CFR Part 800: *Protection of Historic Properties*, the Federal Highway Administration is submitting a *Cultural Resources Screening Report* prepared for the Project to the Stockbridge-Munsee Community Band of Mohican Indians. This report has also been submitted to the New York State Historic Preservation Office (SHPO) for review and comment.

The *Cultural Resources Screening Report* describes the assessment of the potential presence of historic properties within a defined Study Area, defines an Area of Potential Effects (APE), and identifies historic properties within the Study Area and APE. The report also provides preliminary information about the Project and Project alternatives and summarizes an assessment of the archaeological potential of areas that could be disturbed by the Project. The results of the screening indicate that the extent of prior disturbance has reduced the archaeological potential such that the presence of archaeological deposits within the project area is highly unlikely; therefore, no archaeological survey is recommended.

In accordance with 36 CFR 800.4(a)(1), an APE has been defined for the Project to assess potential effects of the Project on known historic properties within the APE. The APE is based on the proposed scope of work that includes:

- Installation of new poles with tolling infrastructure and tolling system equipment on city streets and other at-grade roadways.
- Mounting of new poles and tolling infrastructure and tolling system equipment directly on bridge structures.

We are soliciting the views of the Stockbridge-Munsee Community Band of Mohican Indians regarding the results of this assessment and recommendations regarding archaeological investigations.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

Anna Price
Director of Program Management

Encl: *Central Business District (CBD) Tolling Program, Cultural Resources Screening Report,* October 2021

cc: T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
R. Epstein, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
N. Angel, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
518-431-4121 (fax)
NewYork.fhwa@dot.gov

November 12, 2021

In Reply Refer To:
HPD-NY

Catherine Leslie
Director, EIS and Special Projects Bureau
New York State Department of Transportation

Subject: Section 106 Consulting Party Status Approval
Manhattan Central Business District (CBD) Tolling Program

Dear Ms. Leslie:

We have reviewed your November 9, 2021 letter, requesting approval of individuals and/or organizations to participate as Section 106 consulting parties on the subject project. As stated in 36 CFR Part 800.2(c)(5):

Certain individuals and organizations with a demonstrated interest in the undertaking may participate as consulting parties due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties.

After reviewing the information contained in the requests, we have approved the following individuals acting on behalf of their organizations to be consulting parties to the Section 106 process for the subject project:

1. Mark Eberle, National Park Service
2. David Cuff, New York City Department of Parks and Recreation
3. Gina Santucci, New York City Landmarks Preservation Commission
4. Andrea Goldwyn, New York Landmarks Conservancy

Consulting party status entitles these individuals/organizations to share views, receive and review pertinent information, offer ideas, and consider possible solutions together with the Federal Highway Administration (FHWA), the New York State Department of Transportation (NYSDOT), and other consulting parties. Please ensure the requestors have a copy of the Advisory Council on Historic Preservation's (ACHP) guide entitled "Protecting Historic Properties: A citizens Guide to Section 106 Review".

We understand that the NYSDOT invited the agencies and organizations to be Consulting Parties as identified in the attachment to the NYSDOT November 9, 2021 letter. Letters of invitation were sent to the agencies and organizations by the NYSDOT September 30, 2021, October 1, 2021 and October 21, 2021. The NYSDOT sent the consulting party invitation letters to regional

organizations due to the nature of their legal or economic relation to affected properties or organizations with an interest in historic resources or based on the recommendation of the New York State Historic Preservation Office (SHPO).

The FHWA acknowledges that the following individuals do not have consulting party status for the subject project based on declination to the invitation or lack of response to the NYSDOT's invitations as described and dated above:

1. Elizabeth Goldstein, Municipal Art Society of New York (Declination conveyed by Alia Soomro)
2. Mary K. Murphy, Port Authority of New York and New Jersey, no response
3. Elizabeth W. Smith, Central Park Conservancy, no response
4. Lorna Nowvé, Historic Districts Council, no response

The Delaware Nation, The Delaware Tribe, the Shinnecock Indian Nation, and the Stockbridge-Munsee Community Band of Mohican Indians have been identified as having consultative roles in accordance with 36 CFR Part 800.2(c)(ii), due to previously identified geographical areas of interest for Section 106 consultation that includes the project location in the New York County, New York. The FHWA did reach out to the Tribal Nations in letters dated October 6, 2021 and October 13, 2021. As of the date of this letter only the Stockbridge-Munsee responded via email dated October 13, 2021 and stated no concerns with this project and defer attendance at the upcoming meeting.

If you have any questions, please contact Robert Davies by email at Robert.davies@dot.gov or by phone at (518) 431-8880.

Sincerely,

Anna Price
Director of Program Management

cc: L. Blair, NYSDOT
R. Epstein, NYSDOT
A. C deCerreno, MTA HQ
W. Carry, NYCDOT
R. Davies FHWA, HPD-NY
K. Kramer FHWA, HEA-NY

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

November 22, 2021

Andrea Goldwyn
Director, Public Policy
New York Landmarks Conservancy
One Whitehall Street
New York, NY 10004

Via email

RE: ***Section 106 Consulting Party Status***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Goldwyn:

Congratulations, you have been approved by the Federal Highway Administration (FHWA) as a Consulting Party in the Section 106 process for the Manhattan Central Business District (CBD) Tolling Program (Project) (see attached letter). Attached for your information, please find the guide entitled *Protecting Historic Properties: A Citizen's Guide to Section 106 Review*, a publication of the Advisory Council on Historic Preservation.

As an approved Consulting Party, you are cordially invited to participate in a virtual meeting to be held via WebEx on **Thursday, December 16, 2021 at 10:30am**. The purpose of this meeting is to initiate Section 106 consultation for the Project by providing an overview of the project and the Section 106 process. Consulting Parties will have an opportunity to provide input on the nature of historic properties within the Area of Potential Effects and the Project's potential effects on historic properties. We anticipate that the meeting will be 1½ hours, allowing for a presentation followed by questions. Please RSVP by contacting Lori Blair at the number or email address below. An invitation with instructions to join the meeting will be emailed separately.

On behalf of the FHWA and the New York State Department of Transportation (NYSDOT), thank you for your interest and participation in the Section 106 process.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS and Special Projects Bureau

CL/lb/bb

Encl: November 12, 2021 Letter from FHWA to NYSDOT – *Section 106 Consulting Party Status Approval*
"*Protecting Historic Properties: A Citizen's Guide to Section 106 Review," Advisory Council on Historic Preservation*

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
R. Epstein, NYSDOT
A. L. C. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

November 22, 2021

David Cuff
Director of Environmental Review
Planning and Development
New York City Department of Parks & Recreation
The Arsenal, Central Park,
830 Fifth Avenue
New York, NY 10065

Via email

RE: ***Section 106 Consulting Party Status***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Mr. Cuff:

Congratulations, you have been approved by the Federal Highway Administration (FHWA) as a Consulting Party in the Section 106 process for the Manhattan Central Business District (CBD) Tolling Program (Project) (see attached letter). Attached for your information, please find the guide entitled *Protecting Historic Properties: A Citizen's Guide to Section 106 Review*, a publication of the Advisory Council on Historic Preservation.

As an approved Consulting Party, you are cordially invited to participate in a virtual meeting to be held via WebEx on **Thursday, December 16, 2021 at 10:30am**. The purpose of this meeting is to initiate Section 106 consultation for the Project by providing an overview of the project and the Section 106 process. Consulting Parties will have an opportunity to provide input on the nature of historic properties within the Area of Potential Effects and the Project's potential effects on historic properties. We anticipate that the meeting will be 1½ hours, allowing for a presentation followed by questions. Please RSVP by contacting Lori Blair at the number or email address below. An invitation with instructions to join the meeting will be emailed separately.

On behalf of the FHWA and the New York State Department of Transportation (NYSDOT), thank you for your interest and participation in the Section 106 process.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS and Special Projects Bureau

CL/lb/bb

Encl: November 12, 2021 Letter from FHWA to NYSDOT – *Section 106 Consulting Party Status Approval*
"*Protecting Historic Properties: A Citizen's Guide to Section 106 Review," Advisory Council on Historic Preservation*

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
R. Epstein, NYSDOT
A. L. C. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

November 22, 2021

Gina Santucci
Director of Environmental Review
New York City Landmarks Preservation Commission
1 Centre St, #9N
New York, NY 10007

Via email

RE: ***Section 106 Consulting Party Status***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Santucci:

Congratulations, you have been approved by the Federal Highway Administration (FHWA) as a Consulting Party in the Section 106 process for the Manhattan Central Business District (CBD) Tolling Program (Project) (see attached letter). Attached for your information, please find the guide entitled *Protecting Historic Properties: A Citizen's Guide to Section 106 Review*, a publication of the Advisory Council on Historic Preservation.

As an approved Consulting Party, you are cordially invited to participate in a virtual meeting to be held via WebEx on **Thursday, December 16, 2021 at 10:30am**. The purpose of this meeting is to initiate Section 106 consultation for the Project by providing an overview of the project and the Section 106 process. Consulting Parties will have an opportunity to provide input on the nature of historic properties within the Area of Potential Effects and the Project's potential effects on historic properties. We anticipate that the meeting will be 1½ hours, allowing for a presentation followed by questions. Please RSVP by contacting Lori Blair at the number or email address below. An invitation with instructions to join the meeting will be emailed separately.

On behalf of the FHWA and the New York State Department of Transportation (NYSDOT), thank you for your interest and participation in the Section 106 process.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS and Special Projects Bureau

CL/lb/bb
Encl: November 12, 2021 Letter from FHWA to NYSDOT – *Section 106 Consulting Party Status Approval*
"*Protecting Historic Properties: A Citizen's Guide to Section 106 Review," Advisory Council on Historic Preservation*

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
R. Epstein, NYSDOT
A. L. C. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

November 22, 2021

Mark Eberle
Resource Planning Specialist/
External Review Coordinator
National Park Service
Interior Region 1, North Atlantic-Appalachian
1234 Market Street, 20th Floor
Philadelphia, PA 19107

Via email

RE: ***Section 106 Consulting Party Status***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Mr. Eberle:

Congratulations, you have been approved by the Federal Highway Administration (FHWA) as a Consulting Party in the Section 106 process for the Manhattan Central Business District (CBD) Tolling Program (Project) (see attached letter). Attached for your information, please find the guide entitled *Protecting Historic Properties: A Citizen's Guide to Section 106 Review*, a publication of the Advisory Council on Historic Preservation.

As an approved Consulting Party, you are cordially invited to participate in a virtual meeting to be held via WebEx on **Thursday, December 16, 2021 at 10:30am**. The purpose of this meeting is to initiate Section 106 consultation for the Project by providing an overview of the project and the Section 106 process. Consulting Parties will have an opportunity to provide input on the nature of historic properties within the Area of Potential Effects and the Project's potential effects on historic properties. We anticipate that the meeting will be 1½ hours, allowing for a presentation followed by questions. Please RSVP by contacting Lori Blair at the number or email address below. An invitation with instructions to join the meeting will be emailed separately.

On behalf of the FHWA and the New York State Department of Transportation (NYSDOT), thank you for your interest and participation in the Section 106 process.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS and Special Projects Bureau

CL/lb/bb

Encl: November 12, 2021 Letter from FHWA to NYSDOT – *Section 106 Consulting Party Status Approval*
"*Protecting Historic Properties: A Citizen's Guide to Section 106 Review," Advisory Council on Historic Preservation*

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
R. Epstein, NYSDOT
A. L. C. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

ADVISORY COUNCIL ON HISTORIC PRESERVATION

Protecting Historic Properties:

A CITIZEN'S GUIDE TO SECTION 106 REVIEW









WWW.ACHP.GOV

CONTENTS

4 What is Section 106 Review?

5 Understanding Section 106 Review

8 Determining Federal Involvement

12 Working with Federal Agencies

14 Influencing Project Outcomes

18 How the ACHP Can Help

20 When Agencies Don't Follow the Rules

21 Following Through

22 Contact Information

COVER PHOTOS:

Clockwise, from top left: Historic Downtown Louisville, Kentucky; Section 106 consultation at Medicine Lake, California; bighorn sheep petroglyph in Nine Mile Canyon, Utah (photo courtesy Jerry D. Spangler); Worthington Farm, Monocacy Battlefield National Historic Landmark, Maryland (photo courtesy Maryland State Highway Administration).

About the ACHP

The mission of the Advisory Council on Historic Preservation (ACHP) is to promote the preservation, enhancement, and sustainable use of our nation's historic resources, and advise the President and the Congress on national historic preservation policy.

The ACHP, an independent federal agency, also provides a forum for influencing federal activities, programs, and policies that affect historic properties. In addition, the ACHP has a key role in carrying out the Preserve America program.

The 24-member council is supported by a professional staff in Washington, D.C. For more information contact:

Advisory Council on Historic Preservation
401 F Street, NW, Suite 308
Washington, DC 20001-2637
(202) 517-0200
www.achp.gov

Introduction

Proud of your heritage? Value the places that reflect your community's history? You should know about Section 106 review, an important tool you can use to influence federal decisions regarding historic properties. By law, you have a voice when a project involving federal action, approval, or funding may affect properties that qualify for the National Register of Historic Places, the nation's official list of historic properties.

This guide from the Advisory Council on Historic Preservation (ACHP), the agency charged with historic preservation leadership within federal government, explains how your voice can be heard.

Each year, the federal government is involved with many projects that affect historic properties. For example, the Federal Highway Administration works with states on road improvements, the Department of Housing and Urban Development grants funds to cities to rebuild communities, and the General Services Administration builds and leases federal office space.

Agencies like the Forest Service, the National Park Service, the Bureau of Land Management, the Department of Veterans Affairs, and the Department of Defense make decisions daily

Consultation Matters



about the management of federal buildings, parks, forests, and lands. These decisions may affect historic properties, including those that are of traditional religious and cultural significance to federally recognized Indian tribes and Native Hawaiian organizations.

Projects with less obvious federal involvement can also have repercussions on historic properties. For example, the construction of a boat dock or a housing development that affects wetlands may also affect fragile archaeological sites and require a U.S. Army Corps of Engineers permit. Likewise, the construction of a cellular tower may require a license from the Federal Communications Commission and might compromise historic or culturally significant landscapes or properties valued by Indian tribes or Native Hawaiian organizations for traditional religious and cultural practices.

These and other projects with federal involvement can harm historic properties. The Section 106 review process gives you the opportunity to alert the federal government to the historic properties you value and influence decisions about projects that affect them.



The Bureau of Land Management worked with a large group of consulting parties to craft solutions to protect fragile rock art and other historic properties from the effects of increased truck traffic when natural gas wells were permitted near Nine Mile Canyon. (photo courtesy Jerry D. Spangler, Colorado Plateau Archaeological Alliance)

What is Section 106 Review?

In the National Historic Preservation Act of 1966 (NHPA), Congress established a comprehensive program to preserve the historical and cultural foundations of the nation as a living part of community life. Section 106 of the NHPA is crucial to that program because it requires consideration of historic preservation in the multitude of projects with federal involvement that take place across the nation every day.

Section 106 requires federal agencies to consider the effects of projects they carry out, approve, or fund on historic properties. Also, federal agencies must provide the ACHP an opportunity to comment on such projects prior to the agency's decision on them.

Section 106 review encourages, but does not mandate, preservation. Sometimes there is no way for a needed project to proceed without harming historic properties. Section 106 review does ensure that preservation values are factored into federal agency planning and decisions. Because of Section 106, federal agencies must assume responsibility for the consequences of the projects they carry out, approve, or fund on historic properties and be publicly accountable for their decisions.

Stewardship



The Owe'neh Bupingeh Preservation Project has had a profound impact on the Ohkay Owingeh community in New Mexico and is heralded as a model planning effort for Native American communities in historic settings. (mud plastering workshop photo by Tania Hammidi)

Understanding Section 106 Review

Regulations issued by the ACHP spell out the Section 106 review process, specifying actions federal agencies must take to meet their legal obligations. The regulations are published in the Code of Federal Regulations at 36 CFR Part 800, "Protection of Historic Properties," and can be found on the ACHP's Web site at **www.achp.gov**.

Federal agencies are responsible for initiating Section 106 review, most of which takes place between the agency and state and tribal or Native Hawaiian organization officials. Appointed by the governor, the State Historic Preservation Officer (SHPO) coordinates the state's historic preservation program and consults with agencies during Section 106 review.

Agencies also consult with officials of federally recognized Indian tribes when the projects have the potential to affect historic properties on tribal lands or historic properties of significance to such tribes located off tribal lands. Some tribes have officially designated Tribal Historic Preservation Officers (THPOs), while others designate representatives to consult with agencies as needed. In Hawaii, agencies consult with Native Hawaiian organizations (NHOs) when historic properties of religious and cultural significance to them may be affected.

To successfully complete Section 106 review, federal agencies must do the following:

- gather information to decide which properties in the area that may be affected by the project are listed, or are eligible for listing, in the National Register of Historic Places (referred to as "historic properties");
- determine how those historic properties might be affected;
- explore measures to avoid or reduce harm ("adverse effect") to historic properties; and
- reach agreement with the SHPO/THPO (and the ACHP in some cases) on such measures to resolve any adverse effects or, failing that, obtain advisory comments from the ACHP, which are sent to the head of the agency.

What are Historic Properties?

In the Section 106 process, a historic property is a prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within these National Register properties. The term also includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization, so long as that property also meets the criteria for listing in the National Register.

The National Register of Historic Places

The National Register of Historic Places is the nation's official list of properties recognized for their significance in American history, architecture, archaeology, engineering, and culture. It is administered by the National Park Service, which is part of the Department of the Interior. The Secretary of the Interior has established the criteria for evaluating the eligibility of properties for the National Register. In short, the property must be significant, be of a certain age, and have integrity:

- **Significance**. Is the property associated with events, activities, or developments that were important in the past? With the lives of people who were historically important? With distinctive architectural history, landscape history, or engineering achievements? Does it have the potential to yield important information through archaeological investigation about our past?
- **Age and Integrity**. Is the property old enough to be considered historic (generally at least 50 years old) and does it still look much the way it did in the past?

During a Section 106 review, the federal agency evaluates properties against the National Register criteria and seeks the consensus of the SHPO/THPO/tribe regarding eligibility. A historic property need not be formally listed in the National Register in order to be considered under the Section 106 process. Simply coming to a consensus determination that a property is eligible for listing is adequate to move forward with Section 106 review. (For more information, visit the National Register Web site at **www.cr.nps.gov/nr**).

When historic properties may be harmed, Section 106 review usually ends with a legally binding agreement that establishes how the federal agency will avoid, minimize, or mitigate the adverse effects. In the very few cases where this does not occur,

the ACHP issues advisory comments to the head of the agency who must then consider these comments in making a final decision about whether the project will proceed.

Section 106 reviews ensure federal agencies fully consider historic preservation issues and the views of the public during project planning. Section 106 reviews do not mandate the approval or denial of projects.



SECTION 106: WHAT IS AN ADVERSE EFFECT?

If a project may alter characteristics that qualify a specific property for inclusion in the National Register in a manner that would diminish the integrity of the property, that project is considered to have an adverse effect. Integrity is the ability of a property to convey its significance, based on its location, design, setting, materials, workmanship, feeling, and association.

Adverse effects can be direct or indirect and include the following:

- physical destruction or damage
- alteration inconsistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties
- relocation of the property
- change in the character of the property's use or setting
- introduction of incompatible visual, atmospheric, or audible elements
- neglect and deterioration
- transfer, lease, or sale of a historic property out of federal control without adequate preservation restrictions

Determining Federal Involvement

If you are concerned about a proposed project and wondering whether Section 106 applies, you should first determine whether the federal government is involved. Will a federal agency fund or carry out the project? Is a federal permit, license, or approval needed? Section 106 applies only if a federal agency is carrying out the project, approving it, or funding it, so confirming federal involvement is critical.

National Register



The National Register offers a rich diversity of properties such as Chicano Park in San Diego, California. (mural restoration photo by Ricardo Duffy, courtesy Caltrans)



IS THERE FEDERAL INVOLVEMENT? CONSIDER THE POSSIBILITIES:

Is a federally owned or federally controlled property involved, such as a military base, park, forest, office building, post office, or courthouse? Is the agency proposing a project on its land, or would it have to provide a right-of-way or other approval to a private company for a project such as a pipeline or mine?

Is the project receiving federal funds, grants, or loans? If it is a transportation project, frequent sources of funds are the Federal Highway Administration, the Federal Transit Administration, and the Federal Railroad Administration. Many local government projects receive funds from the Department of Housing and Urban Development. The Federal Emergency Management Agency provides funds for disaster relief.

Does the project require a federal permit, license, or other approval? Often housing developments impact wetlands, so a U.S. Army Corps of Engineers permit may be required. Airport projects frequently require approvals from the Federal Aviation Administration.

Many communications activities, including cellular tower construction, are licensed by the Federal Communications Commission. Hydropower and pipeline development requires approval from the Federal Energy Regulatory Commission. Creation of certain new bank branches must be approved by the Federal Deposit Insurance Corporation.

Federal Funds



Interstate 70 at the Georgetown-Silver Plume National Historic Landmark, Colorado. Impacts to the historic mountain towns were expected due to the planned expansion of the interstate. (photo courtesy J.F. Sato & Associates)

Sometimes federal involvement is obvious. Often, involvement is not immediately apparent. If you have a question, contact the project sponsor to obtain additional information and to inquire about federal involvement. All federal agencies have Web sites. Many list regional or local contacts and information on major projects. The SHPO/THPO/tribe, state or local planning commissions, or statewide historic preservation organizations may also have project information.

Once you have identified the responsible federal agency, write to the agency to request a project description and inquire about the status of project planning. Ask how the agency plans to comply with Section 106, and voice your concerns. Keep the SHPO/THPO/tribe advised of your interest and contacts with the federal agency.

MONITORING FEDERAL ACTIONS

The sooner you learn about proposed projects with federal involvement, the greater your chance of influencing the outcome of Section 106 review.

Learn more about the history of your neighborhood, city, or state. Join a local or statewide preservation, historical, or archaeological organization. These organizations are often the ones first contacted by federal agencies when projects commence.

If there is a clearinghouse that distributes information about local, state, tribal, and federal projects, make sure you or your organization is on its mailing list.

Make the SHPO/THPO/tribe aware of your interest.

Become more involved in state and local decision making. Local planning reviews may indicate whether there is federal involvement in a proposed project, so be mindful. Ask about the applicability of Section 106 to projects under state, tribal, or local review. Does your state, tribe, or community have preservation laws in place? If so, become knowledgeable about and active in the implementation of these laws.

Review the local newspaper for notices about projects being reviewed under other federal statutes, especially the National Environmental Policy Act (NEPA). Under NEPA, a federal agency must determine if its proposed major actions will significantly impact the environment. Usually, if an agency is preparing an Environmental Impact Statement under NEPA, it must also complete a Section 106 review for the project.



Working with Federal Agencies

Throughout the Section 106 review process, federal agencies must consider the views of the public. This is particularly important when an agency is trying to identify historic properties that might be affected by a project and is considering ways to avoid, minimize, or mitigate harm to them.

Agencies must give the public a chance to learn about the project and provide their views. How agencies publicize projects depends on the nature and complexity of the particular project and the agency's public involvement procedures.

Public meetings are often noted in local newspapers and on television and radio. A daily government publication, the *Federal Register* (available at many public libraries and online at **www.federalregister.gov**), has notices concerning projects, including those being reviewed under NEPA. Federal agencies often use NEPA for purposes of public outreach under Section 106 review. Agencies may also coordinate their NEPA and Section 106 reviews.

Federal agencies also frequently contact local museums and historical societies directly to learn about historic properties and community concerns. In addition, organizations like the National Trust for Historic Preservation (NTHP) are actively engaged in a number of Section 106 consultations on projects around the country. The NTHP is a private, non-profit membership organization dedicated to saving historic

Learn About the Project

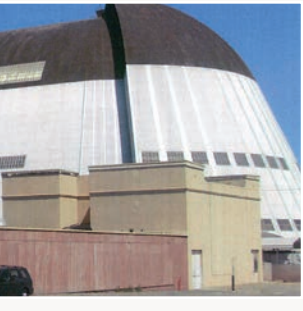


places and revitalizing America's communities. Organizations like the NTHP and your state and local historical societies and preservation interest groups can be valuable sources of information. Let them know of your interest.

When the agency provides you with information, let the agency know if you disagree with its findings regarding what properties are eligible for the National Register of Historic Places or how the proposed project may affect them. Tell the agency—in writing—about any important properties that you think have been overlooked or incorrectly evaluated. Be sure to provide documentation to support your views.

When the federal agency releases information about project alternatives under consideration, make it aware of the options you believe would be most beneficial. To support alternatives that would preserve historic properties, be prepared to discuss costs and how well your preferred alternatives would meet project needs. Sharing success stories about the treatment or reuse of similar resources can also be helpful.

Applicants for federal assistance or permits, and their consultants, often undertake research and analyses on behalf of a federal agency. Be prepared to make your interests and views known to them, as well. But remember the federal agency is ultimately responsible for completing Section 106 review, so make sure you also convey your concerns directly to it.



Hangar 1, a historic dirigible hangar at Moffett Field at NASA Ames Research Center, California. The unique nature of this historic resource has drawn wide public, and some congressional, interest.

Influencing Project Outcomes

In addition to seeking the views of the public, federal agencies must actively consult with certain organizations and individuals during review. This interactive consultation is at the heart of Section 106 review.

Consultation does not mandate a specific outcome. Rather, it is the process of seeking, discussing, and considering the views of consulting parties about how project effects on historic properties should be handled.

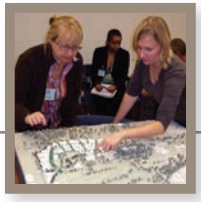
To influence project outcomes, you may work through the consulting parties, particularly those who represent your interests. For instance, if you live within the local jurisdiction where a project is taking place, make sure to express your views on historic preservation issues to the local government officials who participate in consultation.

Speak Up



Residents in the Lower Mid-City Historic District in New Orleans express their opinions about the proposed acquisition and demolition of their properties for the planned new Department of Veterans Affairs and Louisiana State University medical centers which would replace the facilities damaged as a result of Hurricane Katrina.

You or your organization may want to take a more active role in Section 106 review, especially if you have a legal or economic interest in the project or the affected properties. You might also have an interest in the effects of the project as an individual, a business owner, or a member of a neighborhood association, preservation group, or other organization. Under these circumstances, you or your organization may write to the federal agency asking to become a consulting party.



WHO ARE CONSULTING PARTIES?

The following parties are entitled to participate as consulting parties during Section 106 review:

- Advisory Council on Historic Preservation;
- State Historic Preservation Officers;
- Federally recognized Indian tribes/THPOs;
- Native Hawaiian organizations;
- Local governments; and
- Applicants for federal assistance, permits, licenses, and other approvals.

Other individuals and organizations with a demonstrated interest in the project may participate in Section 106 review as consulting parties "due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties." Their participation is subject to approval by the responsible federal agency.

When requesting consulting party status, explain in a letter to the federal agency why you believe your participation would be important to successful resolution. Since the SHPO/THPO or tribe will assist the federal agency in deciding who will participate in the consultation, be sure to provide the SHPO/THPO or tribe with a copy of your letter. Make sure to emphasize your relationship with the project and demonstrate how your connection will inform the agency's decision making.

If you are denied consulting party status, you may ask the ACHP to review the denial and make recommendations to the federal agency regarding your participation. However, the federal agency makes the ultimate decision on the matter.

Consulting party status entitles you to share your views, receive and review pertinent information, offer ideas, and consider possible solutions together with the federal agency and other consulting parties. It is up to you to decide how actively you want to participate in consultation.

Get Involved



Section 106 consultation with an Indian tribe

MAKING THE MOST OF CONSULTATION

Consultation will vary depending on the federal agency's planning process and the nature of the project and its effects.

Often consultation involves participants with a wide variety of concerns and goals. While the focus of some may be preservation, the focus of others may be time, cost, and the purpose to be served by the project.

Effective consultation occurs when you:

- keep an open mind;
- state your interests clearly;
- acknowledge that others have legitimate interests, and seek to understand and accommodate them;
- consider a wide range of options;
- identify shared goals and seek options that allow mutual gain; and
- bring forward solutions that meet the agency's needs.

Creative ideas about alternatives—not complaints—are the hallmarks of effective consultation.



How the ACHP Can Help

Under Section 106 review, most harmful effects are addressed successfully by the federal agency and the consulting parties without participation by the ACHP. So, your first points of contact should always be the federal agency and/or the SHPO/THPO.

When there is significant public controversy, or if the project will have substantial effects on important historic properties, the ACHP may elect to participate directly in the consultation. The ACHP may also get involved if important policy questions are raised, procedural problems arise, or if there are issues of concern to Indian tribes or Native Hawaiian organizations.

Whether or not the ACHP becomes involved in consultation, you may contact the ACHP to express your views or to request guidance, advice, or technical assistance. Regardless of the

Collecting Comments



A panel of ACHP members listen to comments during a public meeting.

scale of the project or the magnitude of its effects, the ACHP is available to assist with dispute resolution and advise on the Section 106 review process.

If you cannot resolve disagreements with the federal agency regarding which historic properties are affected by a project or how they will be impacted, contact the ACHP. The ACHP may then advise the federal agency to reconsider its findings.



CONTACTING THE ACHP: A CHECKLIST

If you have questions about Section 106 that the SHPO/THPO/federal agency cannot answer, you may contact the ACHP. Try to have the following information available:

- the name of the responsible federal agency and how it is involved;
- a description of the project;
- the historic properties involved; and
- a clear statement of your concerns about the project and its effect on historic properties.

If you suspect federal involvement but have been unable to verify it, or if you believe the federal agency or one of the other participants in review has not fulfilled its responsibilities under the Section 106 regulations, you can ask the ACHP to investigate. In either case, be as specific as possible.

When Agencies Don't Follow the Rules

A federal agency must conclude Section 106 review before making a decision to approve a project, or fund or issue a permit that may affect a historic property. Agencies should not make obligations or take other actions that would preclude consideration of the full range of alternatives to avoid or minimize harm to historic properties before Section 106 review is complete.

If the agency acts without properly completing Section 106 review, the ACHP can issue a finding that the agency has prevented meaningful review of the project. This means that, in the ACHP's opinion, the agency has failed to comply with Section 106 and therefore has not met the requirements of federal law.

A vigilant public helps ensure federal agencies comply fully with Section 106. In response to requests, the ACHP can investigate questionable actions and advise agencies to take corrective action. As a last resort, preservation groups or individuals can litigate in order to enforce Section 106.

If you are involved in a project and it seems to be getting off track, contact the agency to voice your concern. Call the SHPO or THPO to make sure they understand the issue. Call the ACHP if you feel your concerns have not been heard.

Following Through

Stay Informed



Milton Madison Bridge over the Ohio River between Kentucky and Indiana. Bridge projects can affect a variety of cultural and historic properties. (photo courtesy Wilbur Smith Associates/Michael Baker Engineers)

After agreements are signed, the public may still play a role in the Section 106 process by keeping abreast of the agreements that were signed and making sure they are properly carried out. The public may also request status reports from the agency.

Designed to accommodate project needs and historic values, Section 106 review relies on strong public participation. Section 106 review provides the public with an opportunity to influence how projects with federal involvement affect historic properties. By keeping informed of federal involvement, participating in consultation, and knowing when and whom to ask for help, you can play an active role in deciding the future of historic properties in your community.

Section 106 review gives you a chance to weigh in when projects with federal involvement may affect historic properties you care about. Seize that chance, and make a difference!

Contact Information

Advisory Council on Historic Preservation

Office of Federal Agency Programs
401 F Street, NW, Suite 308
Washington, DC 20001-2637
Phone: (202) 517-0200
Fax: (202) 517-6381
E-mail: achp@achp.gov
Web site: www.achp.gov

The ACHP's Web site includes more information about working with Section 106 and contact information for federal agencies, SHPOs, and THPOs. The ACHP also publishes Section 106 Success Stories at www.achp.gov/sec106_successes.html.

National Association of Tribal Historic Preservation Officers

P.O. Box 19189
Washington, D.C. 20036-9189
Phone: (202) 628-8476
Fax: (202) 628-2241
E-mail: info@nathpo.org
Web site: www.nathpo.org

National Conference of State Historic Preservation Officers

444 North Capitol Street, NW, Suite 342
Washington, D.C. 20001
Phone: (202) 624-5465
Fax: (202) 624-5419
Web site: www.ncshpo.org
For the SHPO in your state, see:
http://ncshpo.org/shpodirectory.shtml

National Park Service

Heritage Preservation Services
1849 C Street, NW (2255)
Washington, D.C. 20240
E-mail: NPS_HPS-info@nps.gov
Web site: www.nps.gov/history

National Register of Historic Places
1201 Eye Street, NW (2280)
Washington, D.C. 20005
Phone: (202) 354-2211
Fax: (202) 371-6447
E-mail: nr_reference@nps.gov
Web site: www.nps.gov/nr

National Trust for Historic Preservation

2600 Virginia Avenue, NW
Suite 1100
Washington, DC 20037
Phone: (800) 944-6847 or (202) 588-6000
Fax: (202) 588-6038
Web site: www.preservationnation.org

Office of Hawaiian Affairs

560 North Nimitz Highway
Suite 200
Honolulu, HI 96817
Phone: (808) 594-1835
Fax: (808) 594-1865
E-mail: info@oha.org
Web site: www.oha.org

Beneath the Surface





Ohio Department of Transportation workers made an unanticipated archaeological discovery while working just north of Chillicothe along state Route 104. It is a remnant of an Ohio & Erie Canal viaduct. (photo courtesy Bruce W. Aument, Staff Archaeologist, ODOT/Office of Environmental Services)

TO LEARN MORE

For detailed information about the ACHP, Section 106 review process, and our other activities, visit us at www.achp.gov or contact us at:

Advisory Council on Historic Preservation
401 F Street, NW, Suite 308
Washington, DC 20001-2637
Phone: (202) 517-0200
Fax: (202) 517-6381
E-mail: achp@achp.gov

WWW.ACHP.GOV

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

November 22, 2021

Lori Blair
Environmental Specialist 2, Cultural Resource Specialist
NYSDOT
50 Wolf Road, POD 4-1
Albany, NY 12232

Re: FHWA
Central Business District (CBD) Tolling Program
21PR06430
CBDTP

Dear Lori Blair:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (NY Environmental Conservation Law Article 8).

We have reviewed the Section 106 initiation letter and Section106 Cultural Resources Screening Report that were submitted to our office on October 28th, 2021.

Based upon our review, we offer the following comments:

1. We concur with the proposed APEs and it continues to be our opinion that no further survey work is warranted. Our office identified the following additional S/NR eligible historic resources within the project APEs, including: the Lithuanian Alliance at 307 West 30th Street, the Hotel Irvin at 308 West 30th Street, and the Firehouse Engine Co. 34 at 440-442 West 38th Street. These resources have been linked to the project in CRIS.
2. We have concerns that the proposed Central Park locations may not be appropriate, considering the park is a National Historic Landmark scenic landscape, including: the pole with 50-foot mast arm proposed for Central Park West and 61st Street; the pole with 30-foot mast arm proposed for Fifth Avenue between 60th and 61st Streets; and the four locations within the park proposed for installation of new side-fire equipment. It is unclear what the size of the side-fire equipment is; please clarify so that the potential indirect visual impacts can be assessed.
3. We recommend a pole-mounted detection point instead of mounting equipment directly to the High Line structure at the proposed location at the southwest corner of 10th Avenue and West 30th Street

4. We have concerns with the potential visual impacts of the pole with mast arm propose for West 40th Street west of 9th Avenue because it is within the S/NR eligible Paddy's Market Historic District
5. We also have concerns with mounting tolling equipment directly to the decorative brick piers of the Lincoln Tunnel north tube entrance. Can other locations nearby be found? Or could these detection points be pole-mounted or wall-mounted away from the decorative piers?
6. We concur with the recommendation that an archaeological survey is unnecessary.

If additional information or correspondence is required regarding this project it should be provided via our Cultural Resource Information System (CRIS) at www.nysparks.com/shpo/online-tools/ Once on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an existing project". You will need this project number and your e-mail address. If you have any questions, I am best reached via e-mail.

Sincerely,



Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov via e-mail only

cc: G. Santucci, A. Sutphin, J. MacLean, D. Pagano, NYC LPC
M. Santangelo, NYSDOT
A. Price, US DOT

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

December 6, 2021

Upload via CRIS
Olivia Brazee
Historic Site Restoration Coordinator
New York State Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation
P.O. Box 189
Waterford, NY 12188-0189

Re: ***Section 106 of the National Historic Preservation Act***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Brazee:

On behalf of the Federal Highway Administration (FHWA), the New York State Department of Transportation (NYSDOT) is submitting the enclosed information to the New York State Historic Preservation Office (SHPO) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties* as part of continuing consultation for the for the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project).

In correspondence dated November 22, 2021, the SHPO provided comments on the *Cultural Resources Screening Report* for the Project regarding proposed infrastructure and/or equipment at several locations, including on Central Park West near 61st Street; on Fifth Avenue between 60th and 61st Street; within Central Park; on the High Line structure at 10th Avenue; on West 40th Street west of 9th Avenue; and at the Lincoln Tunnel. In response to SHPO's comments, the NYSDOT is providing the enclosed document with additional information for each of the aforementioned locations.

A Section 106 Finding Documentation describing the assessment of effects on historic properties is currently being prepared for the Project. In accordance with 36 CFR 800.16(1) and 36 CFR 800.5(a)(1), the assessment will consider the National Register-qualifying characteristics of historic properties in the APE and assess whether the Project would result in any alterations of those qualifying characteristics, and if so, if they are altered in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association. Once prepared, the NYSDOT will share a preliminary draft of the Finding Documentation with SHPO for review.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/df
Encl: *Additional Information in Response to SHPO's Comments on the Cultural Resources Screening Report, Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430*

cc: R. Davies, FHWA
A. Price, FHWA
R. Epstein, NYSDOT
A. de Cerreño, MTA
N. Angel, MTA
W. Carry, NYCDOT

Additional Information in Response to SHPO's Comments on the *Cultural Resources Screening Report*
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Central Park West

The Project includes the installation of a new 26-foot-tall pole on the east side of Central Park West with a narrow profile, 50-foot mast arm extending over the Central Park West roadbed (see rendering below). The new pole would be near the intersection of Central Park West and Columbus Circle, where there is a variety of modern street infrastructure including light poles with traffic lights mounted on mast arms that extend over the roadways, a subway elevator housed in a metal structure on the sidewalk, and other large modern buildings and objects including the large metal globe structure associated with a modern hotel building across Central Park West from the proposed pole location (see photo below).

Central Park West is 63 feet wide with 2 traffic lanes, 1 parking lane, 1 90-degree parking lane, and a bike lane with buffer. Because of the width and lack of islands or positive separation, the road is treated as 5 virtual lanes and 1 bike lane.

The presence of subway infrastructure approximately 2 feet below the roadway precludes the use of the west side of Central Park West for tolling infrastructure. Many different design options were considered for this location. However, because of the constraints of the road width and the location of the subway infrastructure, the proposed design utilizing a 50-foot mast arm was the only feasible and practical option.

The 50-foot mast arm shown in the below rendering is the only way to meet the system requirements of the Project. A side-fire option would require one side-fire per 12 feet of roadway and could not cover all lanes without missing some vehicles from occlusion.



Central Park West Between 60th and 61st Streets - RENDERING showing proposed pole.



View north along Central Park West from Columbus Circle showing existing conditions along the street corridor. (Google street view)

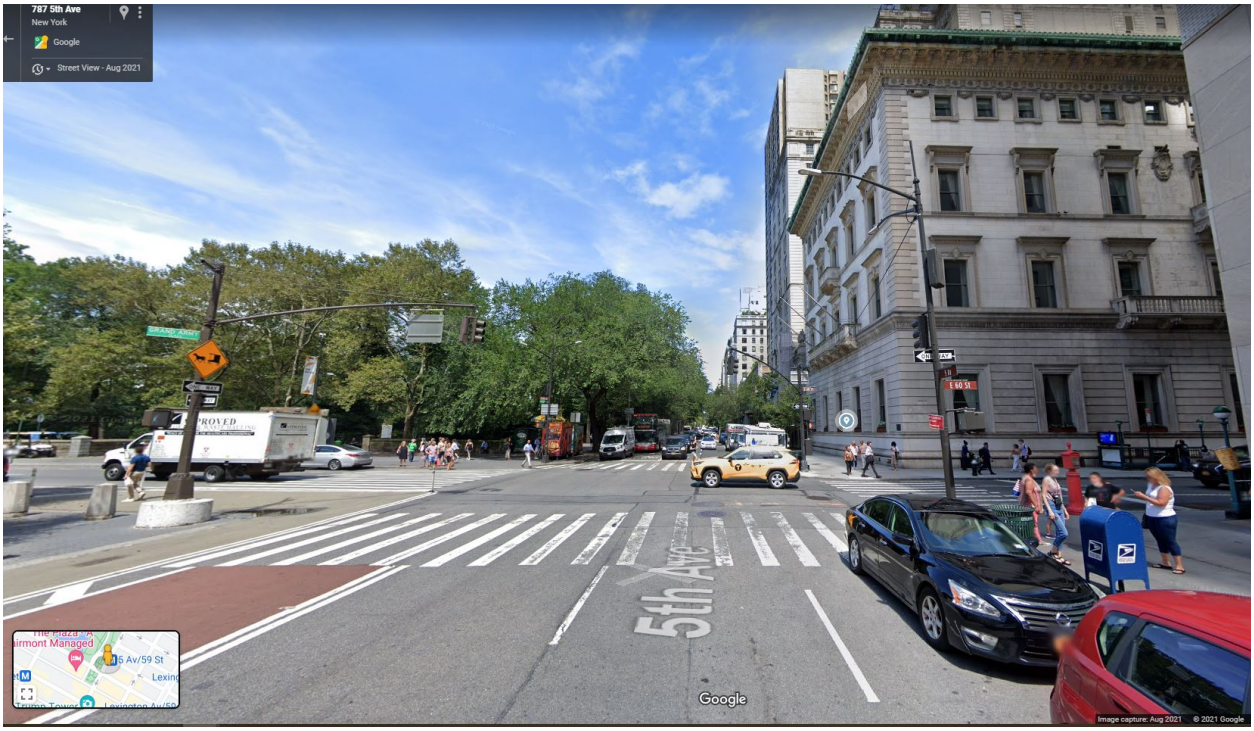
5th Avenue Between 60th and 61st Streets

The Project includes the replacement of an existing modern streetlight pole on the west side of 5th Avenue with a new light pole of a similar appearance, with tolling system equipment, including a side-fire and small equipment box at the same location. A pole with 30-foot mast arm is proposed on the east side of Fifth Ave, where The Pierre Hotel is located (see rendering below). In the vicinity, there is a variety of modern street infrastructure, including light poles with traffic lights mounted on mast arms that extend over the roadways (for example - see photo below).

5th Avenue is 46 feet wide with 4 traffic lanes and 1 parking lane. A side-fire is proposed on the west side of Fifth Ave, which is on the Central Park side of the street. The 30-foot mast arm is the only way to meet the system performance requirements of the Project. A side-fire option, two on each side, could not cover the width of the roadway without missing some vehicles from occlusion.



View southeast across 5th Avenue just north of 60th Street – RENDERING showing proposed poles and mast arm.



View north along 5th Avenue across East 60th Street showing existing conditions along the street corridor. Note existing traffic signals and poles. The proposed pole is just to the north of (beyond) the intersection. (Google street view)

Central Park Internal Sites –

The CBD Tolling Alternative would place new tolling infrastructure and tolling system equipment at three locations just inside Central Park near Central Park South (59th Street). On the park roads connecting to Seventh Avenue and Sixth Avenue (West Drive and Center Drive, respectively), the Project would replace one existing streetlight pole inside the park close to Central Park South/59th Street on each road with a new streetlight pole with tolling system equipment, including a small equipment box (see renderings below). On the park road connecting to Grand Army Plaza (East Drive), the Project would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. These replacement streetlight poles would be in the same location and have the same appearance as the existing, modern streetlight poles, and the tolling system equipment mounted on them would use matching color schemes to blend with the appearance of the poles.

The size of the proposed equipment is as follows:

- Toll Equipment Cabinet – 44” x 29” x 25”
- Meter Cabinet – 18” x 30” x 18”
- Side Fire –10” x 14”x 39”



West Drive at 7th Avenue and 59th Street – RENDERING showing proposed replacement pole and equipment.



Center Drive at 6th Avenue and 59th Street – RENDERING showing replacement pole and equipment.



East Drive between Grand Army Plaza and 61st Street – RENDERING showing replacement poles and equipment.

High Line

Proposed tolling infrastructure and tolling system equipment would be placed on the High Line at the intersection of 10th Avenue and West 30th Street. As proposed, new detection equipment would be mounted on an existing girder on the underside of the High Line structure crossing 10th Avenue (see rendering below). A small equipment cabinet would also be mounted on a column of the High Line structure at the southwest corner of 10th Avenue and West 30th Street (see rendering below). The infrastructure and tolling system equipment would be of minimal visibility and would be consistent with the type of infrastructure already mounted on the structure including signage, traffic lights, and pedestrian traffic signals.

The width of 10th Street is 60 feet with 5 lanes. The proposed design as shown is the only option to meet the system requirements of the Project. A side-fire option (one each side of the road) could not cover all of the lanes without missing some vehicles from occlusion.

Associated equipment cabinets could be installed on a separate pole instead of the High Line steel structure, but the over the roadway tolling equipment clusters must be installed on the underside of the High Line steel structure.

The Project Sponsor is coordinating with the Port Authority of New York and New Jersey (PANYNJ) to locate tolling infrastructure and tolling system equipment on PANYNJ property associated with the Lincoln and Holland Tunnels. If PANYNJ approves the use of its property, the Project Sponsor can eliminate several detection points on local streets near the Lincoln and Holland Tunnels This site would be removed from the Project if a Host Site Agreement with PANYNJ is executed.



View north along 10th Avenue towards the High Line – RENDERING showing proposed detection equipment on the underside of the structure. Note existing signs, traffic lights and pedestrian traffic signals on the structure.



View southeast from West 30th Street towards 10th Avenue – RENDERING showing proposed equipment on the side of the High Line structure. Note existing signs, traffic lights and pedestrian traffic signals on the structure.

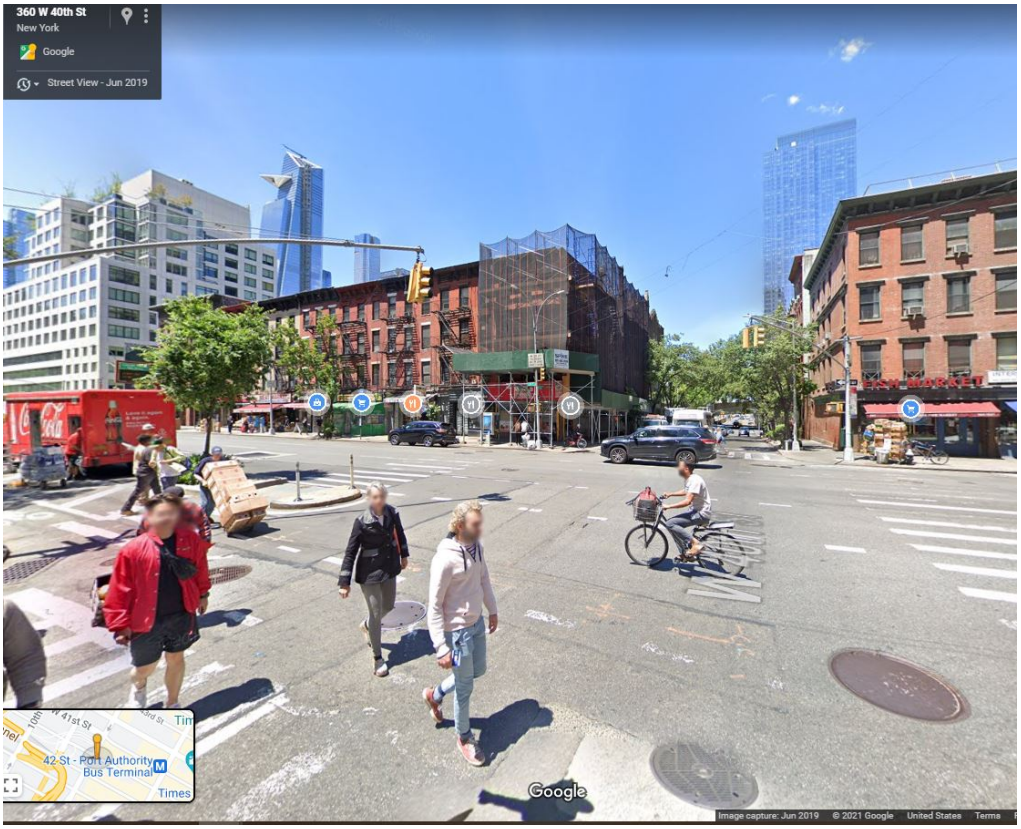
West 40th Street west of 9th Avenue

A new pole with a 25-foot mast arm extending over West 40th Street would be installed on the north side of the street east of the building entrance of 541 9th Avenue (see rendering below). The proposed pole would be installed on the concrete sidewalk located in the northwestern corner of the Paddy's Market Historic District. The new pole would have a profile similar to other standard NYCDOT poles, with the mounted tolling system equipment of a small size. There is a variety of existing infrastructure in the vicinity and elsewhere in the district, including traffic lights mounted on arms that extend over the roadways (see photo below).

This site would be removed from the Project if a Host Site Agreement with PANYNJ is executed.



View northeast along 40th Street - RENDERING showing proposed pole and 25-foot mast arm.



View west across 9th Avenue at West 40th Street showing existing conditions along the street corridor within the northern end of the Paddy's Market Historic District. The proposed pole and mast arm would be just beyond the intersection shown in the background of the photo. (Google street view)

Lincoln Tunnel

At the north portal, tolling system equipment consisting of four clusters of tolling system equipment would be mounted on the brick portal entry walls on either side of the portal roadway. The tolling equipment would be mounted on one pier on either side of the portal roadway, consisting of a set of two tolling clusters that would be mounted vertically, fitting within the central recessed brick panel created by the surrounding brick patterning, so as not to affect the design of the pier structure (see rendering below). The brick piers have each been previously modified with the installation of a modern light fixture. The tolling system equipment proposed at the three entry portals would be of a small size, minimally visible, and consistent with other existing infrastructure at the tunnel portals that are mounted on the portal walls, including conduits, piping, traffic lights, lighting, cameras, and signage.

The SHPO commented on the mounting of tolling equipment directly to the decorative brick piers of the Lincoln Tunnel north tube entrance. The side-fire could be mounted in a different orientation on the column to be hidden or a separate pole installed. Wall mounting away from the decorative piers at this site isn't an option due to the lower height of the walls.

Note that this site is only viable if PANYNJ property access is granted (contingent on executing Host Site Agreement with PANYNJ).



View towards north tube of Lincoln Tunnel – RENDERING showing proposed infrastructure and equipment.

From:	Blair, Lori E (DOT) <Lori.Blair@dot.ny.gov>
Sent:	Thursday, December 23, 2021 8:24 AM
To:	mark_eberle@nps.gov; kathryn_schlegel@nps.gov; Brazee, Olivia (PARKS); andreagoldwyn@nylandmarks.org; Cuff, David (Parks); Gina Santucci (LPC)
Cc:	robert.davies (robert.davies@dot.gov); Pavlik, Monica (FHWA); anna.price@dot.gov; Kramer, Kaylie (FHWA); Leslie, Catherine S. (DOT); Williamson, Ann (DOT); C. de Cerreno, Allison; Flax, Leah; jschneider@mtabt.org; Desantis, Romolo; Julie Cowing; Claudia Cooney; Timoney, Caitlin; Hannah Brockhaus
Subject:	Central Business District Tolling Program - OPRHP 21PR06430 Section 106 Consultation
Attachments:	CBDTP Section 106 CP Mtg 1_Presentation FIN 12-16-21.pdf; CBDTP Section 106 Meeting Summary_12-22-2021.pdf; CBDTP Project Info for Consulting Parties December 2021.pdf

Good morning,

The Central Business District Tolling Program (CBDTP) Project Team would like to again thank you for your interest in the Project and for attending the Section 106 Consulting Parties meeting on December 16th. As discussed during the meeting, the attached information is being provided to the Consulting Parties to supplement the information presented during the meeting. Attached please find:

- A pdf of the presentation from the December 16th meeting
- Meeting notes and a list of attendees
- A document summarizing project information; a description of the Area of Potential Effects (APE) as defined in consultation with the State Historic Preservation Office (SHPO); historic properties identified in the APE; and proposed project-related activities on/in/in the vicinity of the identified historic properties.

We are seeking your input on the historic properties and potential effects of the Project on those properties. Please provide your comments by January 12, 2022.

Please send your comments to me and do not hesitate to contact me at the numbers below, if you have any questions.

Thank you,
Lori

Lori E. Blair
Environmental Specialist 2, Environmental Impact Statements & Special Projects Bureau

New York State Department of Transportation
Office of Environment
50 Wolf Road, POD 4-1, Albany, NY 12232
(518) 485-5632 | lori.blair@dot.ny.gov
www.dot.ny.gov



NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

December 30, 2021

Lori Blair
Environmental Specialist 2, Cultural Resource Specialist
NYSDOT
50 Wolf Road, POD 4-1
Albany, NY 12232

Re: FHWA
Central Business District (CBD) Tolling Program
21PR06430
CBDTP

Dear Lori Blair:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

We have reviewed your letter and the additional information provided to our office on December 6th, 2021. Based upon our review, we offer the following comments:

1. We are still concerned that the pole with 50-foot mast arm proposed for Central Park West would negatively impact views of the park and would likely alter the setting associated with the park's western boundary and character-defining stone retaining wall. We have no concerns with the other Central Park locations.
2. We have no concerns with the equipment boxes proposed to be mounted on the underside of the High Line, however we continue to recommend that the side-mounted cabinet be pole-mounted rather than mounted directly onto the High Line structure.
3. We have no concerns with the West 40th Street and 9th Avenue location.
4. We would appreciate further clarification regarding the Lincoln Tunnel north tube location. It is unclear what is meant by "the side-fire could be mounted in a different orientation on the column to be hidden." If pole-mounting is an option, we would recommend that instead of mounting directly to the decorative brick pier.

If you have any questions, I am best reached via e-mail.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov via e-mail only

cc: G. Santucci, A. Sutphin, J. MacLean, D. Pagano, NYC LPC
M. Santangelo, NYSDOT
A. Price, US DOT

THE NEW YORK LANDMARKS CONSERVANCY

January 12, 2022

Lori Blair
Environmental Specialist 2, Environmental Impact Statements & Special Projects Bureau
Office of Environment
New York State Department of Transportation
lori.blair@dot.ny.gov

Re: Central Business District Tolling Program - Section 106 Review

Dear Ms. Blair,

The New York Landmarks Conservancy is pleased to participate in the Section 106 review for the Central Business District Tolling Program (CBDTP). We thank you for the December 16 presentation and accompanying materials.

The Area of Potential Impacts for this project covers hundreds of Manhattan blocks that include several dozen landmarks and historic districts under the purview of the New York City Landmarks Preservation Commission and the New York State Historic Preservation Office. Our review of this proposal looks to ensure that installation of tolling equipment does not cause damage to historic fabric or detract from historic sites.

We appreciate that the CBDTP will tailor installation of tolling equipment to the many specific sites. At some locations, such as the Lincoln Tunnel (resource 27) or Dover Street parking lot (resource 3), the new equipment will be attached to existing infrastructure. The tolling equipment is fairly small in proportion to the existing structures, and will have a minimal effect.

Some new equipment does threaten to have a substantial visual impact on historic resources. There are several planned installations within Central Park (resources 39 a and b). The Park is a scenic landmark, known for its landscape design and its pastoral beauty. The proposed installations would have a negative impact on both. As there is no regular vehicular traffic within the Park, moving the tolling equipment outside of the Park could mitigate this impact. Nearby installations along 60th Street at Fifth Avenue and Park Avenue (resources 40- 42) will create visual clutter that diminishes these streetscapes.

We are also mindful of other proposals to install equipment, such as cell phone technology, across the City, and want to raise the concern that all of these installations, along with existing street furniture and sidewalk sheds, create a cumulative effect of cacophony on New York's streets. We ask that in every instance, the CBDTP takes the most minimal approach available to prevent this effect.

Thank you for the opportunity to present the Conservancy's views. Please do not hesitate to reach out should you require clarification on any of the above comments.

Sincerely,

Andrea Goldwyn

Andrea Goldwyn
Director of Public Policy

From:	Cuff, David (Parks) <David.Cuff@parks.nyc.gov>
Sent:	Wednesday, January 12, 2022 2:57 PM
To:	'Blair, Lori E (DOT)'; mark_eberle@nps.gov; kathryn_schlegel@nps.gov; Brazee, Olivia (PARKS); andreagoldwyn@nylandmarks.org; Gina Santucci (LPC)
Cc:	robert.davies (robert.davies@dot.gov); Pavlik, Monica (FHWA); anna.price@dot.gov; Kramer, Kaylie (FHWA); Leslie, Catherine S. (DOT); Williamson, Ann (DOT); C. de Cerreno, Allison; Flax, Leah; jschneider@mtabt.org; Desantis, Romolo; Julie Cowing; Claudia Cooney; Timoney, Caitlin; Hannah Brockhaus
Subject:	RE: Central Business District Tolling Program - OPRHP 21PR06430 Section 106 Consultation

Hi Lori,

We have a few comments on the Project Information document. The comments stem from some of the project information we have reviewed to date. For this reason, I included all recipients of the original email as there may need to be coordination to address the comments. If anyone wants to follow up directly with me, feel free.

- Page 35 – "The Project Sponsors would coordinate with NYC Parks and the Central Park Conservancy in the design and final location of the tolling infrastructure and tolling system equipment in Central Park"
    - Some coordination has occurred to date. Should this rather be stating coordination with NYC Parks "has" occurred? Are the Project Sponsors going to come back to do additional coordination with NYC Parks and CPC? And, if more coordination with NYC Parks and CPC will occur, shouldn't the same coordination efforts occur with NYC Parks and Friends of the High Line regarding the High Line?
- Page 40 – "In Central Park, new tolling infrastructure and tolling system equipment would be minimized by limiting them to four locations along the existing park roadway system,…"
    - Disagree with how this is phrased - It is not being "limited" to four locations. The locations are dictated by the existing park access points to the CBD.
- Page 40 – "NYC Parks and the Central Park Conservancy would coordinate in designing and placing the tolling infrastructure and tolling system equipment in Central Park."
    - Same Comment as above for Page 35.

We also have a general comment on the project-

- For Central Park and Grand Army Plaza - We would like confirmation the equipment on poles would be painted the same color as the poles. Also, is it at all possible that equipment be placed higher on poles in these locations?

Thanks-

David Cuff
Director of Environmental Review
Planning and Development

T 212.360.3492
C 917-938-5221

F 212.360.3453
E David.Cuff@parks.nyc.gov

NYC Parks
The Arsenal, Central Park
830 Fifth Avenue, Room 401
New York, NY 10065
nyc.gov/parks

ENVIRONMENTAL REVIEW

Project number: 77DOT030Y (DEPARTMENT OF TRANSPORTATION)
Project: Central Business District Tolling
Date Received: 10/29/2021

Comments: LPC review of "CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM, Cultural Resources Screening Report, SHPO Project Review No: 21PR06430, October 2021" has been conducted. Comments are as follows.

Architecture:

Table 1, "Historic Properties in the Study Area". The following items need to be corrected:

Item 4, Manhattan Bridge. The Arch and Colonnade are LPC designated. The bridge structure/deck itself is not LPC designated or eligible.
Item 16, U.S. Post Office-Morgan General Mail Facility appears LPC eligible.
Item 20, St. Michael's RC Church Complex appears LPC eligible.

The NRE Paddy's Market Historic District does not appear LPC eligible.

LPC notes that the document states that no new tolling equipment would be installed on the LPC designated Brooklyn Bridge, therefore no adverse effect is anticipated to the bridge.

Section 3.2.2, "Manhattan Bridge." The Arch and Colonnade are LPC designated. The bridge structure/deck itself is not LPC designated or eligible.

Regarding additional NRE properties listed by the SHPO in their letter of 11/22/21, none of these properties appear LPC eligible.

- The Lithuanian Alliance, 307 West 30th Street.
- Hotel Irvin, 308 West 30th Street.
- Firehouse, Engine Co. 34, 440-442 West 38th Street.

The following LPC designated historic districts: Gansevoort Market, Tribeca North, Tribeca West, and the South St. Seaport HD and Extension include original Belgian block pavers and bluestone sidewalks as contributing features. Please see the following LPC guidance for any proposed work on sidewalks or protected paving:

https://www1.nyc.gov/assets/lpc/downloads/pdf/LPCPermitGuidebook_Chapter10_Sidewalks.pdf

Additionally, LPC concurs with the SHPO finding of 12/30/21 that the pole with 50-foot mast arm proposed for Central Park West would negatively impact views of the park and would likely alter the setting associated with the park's western boundary and character-defining stone retaining wall. There are no concerns with the other Central Park locations.

Regarding archaeology, LPC concurs with the finding that:

"Extensive prior disturbance associated with historic land modifications and construction of the existing transportation facilities and existing utilities has reduced the archaeological potential such that the presence of intact archaeological deposits is highly unlikely within the very limited areas of ground disturbance proposed by the Project. Based on the extent of previous disturbance, there is no potential for intact archaeological resources and so an archaeological survey is not recommended." P.23. There are no further archeological concerns.

Cc: NYS SHPO

Gina Santucci 1/13/2022

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 34621_FSO_DNP_11052021.docx

From: Eberle, Mark D <mark_eberle@nps.gov>
Sent: Friday, January 28, 2022 3:37 PM
To: Blair, Lori E (DOT); kathryn_schlegel@nps.gov; Brazee, Olivia (PARKS); andreagoldwyn@nylandmarks.org; Cuff, David (Parks); Gina Santucci (LPC)
Cc: robert.davies (robert.davies@dot.gov); Pavlik, Monica (FHWA); anna.price@dot.gov; Kramer, Kaylie (FHWA); Leslie, Catherine S. (DOT); Williamson, Ann (DOT); C. de Cerreno, Allison; Flax, Leah; jschneider@mtabt.org; Desantis, Romolo; Julie Cowing; Claudia Cooney; Timoney, Caitlin; Hannah Brockhaus; Slater, Mark P; Racine, Laurel A
Subject: Re: [EXTERNAL] Central Business District Tolling Program - OPRHP 21PR06430 Section 106 Consultation

Hi Lori,
Thanks for coordinating this information with the National Park Service and the additional time to review. Below are comments on the project information document that you provided from the December 16, 2021 meeting.

- We recommend that you consider completing a traffic pattern study or examination of the area aroun the Central Park NHL to see if the tolling system will change existing traffic patterns and usage. For example, will the tolls cause more cars to "cut through" Central Park to turn around and avoid entering the toll area?
- We want to confirm that no tolling device will be installed on historic structures; if so, we request that it be installed in a way that it can be easily removed without damage to the structure and associated historic fabric.

We look forward to further discussion on these topics as we proceed through the Section 106 process.

Any question, please let me know-
Thanks,
Mark

Mark Eberle
External Review Coordinator / Resource Planning Specialist
National Park Service
Interior Region 1, North Atlantic-Appalachian
Resource Planning and Compliance Division
1234 Market Street, 20th Floor, Philadelphia, PA 19107
Phone: 215-597-1258 Mobile: 267-315-1631

DOI folks: check out the new and improved RPC Division SharePoint Site

From: Brazee, Olivia (PARKS) <Olivia.Brazee@parks.ny.gov>
Sent: Wednesday, March 9, 2022 8:54 AM
To: Blair, Lori E (DOT) <Lori.Blair@dot.ny.gov>; robert.davies (robert.davies@dot.gov) <robert.davies@dot.gov>; Pavlik, Monica (FHWA) <Monica.Pavlik@dot.gov>; anna.price@dot.gov; Kramer, Kaylie (FHWA) <kaylie.kramer@dot.gov>; Eberle, Mark D <mark_eberle@nps.gov>; Slater, Mark P <Mark_Slater@nps.gov>; Schlegel, Kathryn A <Kathy_Schlegel@nps.gov>; C. de Cerreno, Allison <allison.cdecerreno@mtahq.org>; Angel, Nichola <nangel@mtabt.org>; Romolo Desantis <Rdesanti@mtabt.org>
Cc: Mackey, Linda (PARKS) <Linda.Mackey@parks.ny.gov>; Leslie, Catherine S. (DOT) <Catherine.Leslie@dot.ny.gov>; Cuff, David (Parks) <David.Cuff@parks.nyc.gov>; Lindsay.Quartini@parks.ny; wullom@dot.nyc.gov; WCarry@dot.nyc.gov; Julie Cowing <jcowing@akrf.com>; McNamara, Ian <Ian.McNamara@wsp.com>; Reis, Sergio (TBTA) <sreis@mtabt.org>; Timoney, Caitlin <Caitlin.Timoney@hdrinc.com>; Lindsay.Quartini@parks.nyc.gov; Friman, Paul <pfriman@mtabt.org>; Oliva, Louis <LOLIVA@mtahq.org>; Simeon, Jean <jsimeon@dot.nyc.gov>; Lloyd, Timothy (PARKS) <Timothy.Lloyd@parks.ny.gov>; Christopher M. Calvert <ccalvert@akrf.com>; Cumming, Beth (PARKS) <Beth.Cumming@parks.ny.gov>; LaFrank, Kathleen (PARKS) <Kathleen.LaFrank@parks.ny.gov>
Subject: RE: CBDTP Section 106 - Central Park West Mast Arm (SHPO #21PR06430)

Hello, All,
Our office met with the NPS on Wednesday, 3/2 to discuss the Central Park West pole-and-mast arm and to review together the renderings and other project materials- we had an interesting and productive discussion. At this point, we would like to request a few more specific pieces of information and materials that we think will help us arrive at a finding of No Adverse Effect. Specifically, these items are as follows:

- Could new renderings be provided that show the pole-and-mast arm finished in a lighter color, like the standard DOT lightpole silver/gray? A lighter finish color may help the installation blend in more with the immediate context
- What is the expected "shelf life" of this tolling technology? Could there be an agreement put in place that would require removal of the pole-and-mast arm once the tolling technology becomes obsolete, or gets replaced with new technology? In a similar vein, could there be an agreement put in place that would prohibit the installation or mounting of anything besides the tolling equipment on the pole-and-mast arm?
- Is there a different material and design that could be specified for the construction of the pole-and-mast arm that would allow for smaller and less obtrusive pole and mast-arm diameters and that would be more consistent with the scale and design of existing streetscape lighting and traffic signal structures? Stronger (titanium alloy?) material? Reducing the mast arm diameter and adding a tension bracket? The scale (bulk) and design of the current structure appears more fitting for a multilane highway than the setting of a world-renowned National Historic Landmark.
- Could the overhead lane detection devices be smaller in size (i.e. only house the bare minimum amount of equipment needed for detecting vehicle information). If overhead devices were half the size/weight, the size and height of the mast arm pole could potentially be reduced and less obtrusive.
- Could street trees be planted next to the installation, to help it blend in more with the immediate context?
- Could a scale elevation drawing be provided that shows the proposed pole-and-mast arm in situ, with its dimensions (as currently proposed) shown in comparison with the dimensions of the surrounding features, such as the CP stone retaining wall, the newsstand kiosk, the subway entrance across CPW, and other street furniture? This should help us better understand the scale of the installation.

Let me know if you have questions about any of the above, or if you'd like to meet to discuss.
Regards,
~Olivia

Olivia Brazee *(she/her/hers)*
Historic Site Restoration Coordinator
Division for Historic Preservation

New York State Parks, Recreation & Historic Preservation
Peebles Island State Park, P.O. Box 189, Waterford, NY 12188-0189
518-268-2182 | cell - 518-948-2067 | olivia.brazee@parks.ny.gov
https://parks.ny.gov/shpo

From:	Blair, Lori E (DOT) <Lori.Blair@dot.ny.gov>
Sent:	Wednesday, March 16, 2022 3:19 PM
To:	Brazee, Olivia (PARKS); robert.davies (robert.davies@dot.gov); Pavlik, Monica (FHWA); anna.price@dot.gov; Kramer, Kaylie (FHWA); Eberle, Mark D; Slater, Mark P; Schlegel, Kathryn A; C. de Cerreno, Allison; Angel, Nichola; Romolo Desantis
Cc:	Mackey, Linda (PARKS); Leslie, Catherine S. (DOT); Cuff, David (Parks); Young, Sybil (Parks); wullom@dot.nyc.gov; WCarry@dot.nyc.gov; Julie Cowing; McNamara, Ian; Reis, Sergio (TBTA); Timoney, Caitlin; Lindsay.Quartini@parks.nyc.gov; Friman, Paul; Oliva, Louis; Simeon, Jean; Lloyd, Timothy (PARKS); Christopher M. Calvert; Cumming, Beth (PARKS); LaFrank, Kathleen (PARKS); zparmenter@dot.nyc.gov; Claudia Cooney
Subject:	RE: CBDTP Section 106 - Central Park West Mast Arm (SHPO #21PR06430)
Attachments:	Response to SHPO-NPS_2022-3-16.docx; CPW Surrounding Feature Dimensions DFT v1 3-15-22.pdf; 22-0311 W60-8 CPW with views from Central Park.pdf

Good afternoon,

The project team has prepared responses to the questions below and prepared the requested renderings.

For your consideration, attached please find the comments/responses document and the following supporting materials:

- Renderings of the proposed Central Park West pole in three different colors: Central Park Green, NYCDOT silver/grey, and NYCDOT black finishes. Also included are the associated color swatches.
- Elevation, plan and photos depicting the surrounding infrastructure and heights relative to the proposed Central Park West pole.

Please don't hesitate to contact me if you have any questions or need anything else to assist in preparing your recommendation of a 106 finding for the Project. We are hoping to receive your opinion as soon as possible.

Thanks,

Lori

CBD Tolling
Responses to SHPO & NPS comments dated March 9, 2022

March 16, 2022

- Could new renderings be provided that show the pole-and-mast arm finished in a lighter color, like the standard DOT lightpole silver/gray? A lighter finish color may help the installation blend in more with the immediate context.
  Please see attached renderings and color swatches, which show Central Park Green, NYCDOT silver/grey, and NYCDOT black finishes. The Design Build Operate & Maintain (DBOM) architect (Dattner) extensively reviewed the aesthetic environment of the Central Park West (CPW) streetscape in coordination with NYCDOT and determined that a black finish would maintain the visual continuity of the existing infrastructure along CPW, which is finished in black. From a pedestrian perspective, this continuity of finish within the streetscape is key to a contextual installation that doesn't stand out. While the infrastructure within Columbus Circle is galvanized/gray, the proposed pole is not within Columbus Circle proper and is instead a part of the CPW streetscape. Also, although the infrastructure within Central Park is finished in Central Park Green, the proposed pole is not within Central Park. There is no Central Park Green finished streetscape infrastructure in the immediate vicinity of the proposed pole, and thus, Dattner determined that a Central Park Green finish would call more attention to this pole.

- What is the expected "shelf life" of this tolling technology? Could there be an agreement put in place that would require removal of the pole-and-mast arm once the tolling technology becomes obsolete, or gets replaced with new technology? In a similar vein, could there be an agreement put in place that would prohibit the installation or mounting of anything besides the tolling equipment on the pole-and-mast arm?
  The expected shelf life of the tolling equipment is 10 years. The DBOM contract includes provisions allowing TBTA to have the equipment and pole removed, replaced and/or upgraded to new technology. The Memorandum of Understanding (MOU) between NYCDOT and TBTA restricts any equipment other than the tolling equipment from being installed on the pole and mast arms.

- Is there a different material and design that could be specified for the construction of the pole-and-mast arm that would allow for smaller and less obtrusive pole and mast-arm diameters and that would be more consistent with the scale and design of existing streetscape lighting and traffic signal structures? Stronger (titanium alloy?) material? Reducing the mast arm diameter and adding a tension bracket? The scale (bulk) and design of the current structure appears more fitting for a multilane highway than the setting of a world-renowned National Historic Landmark.
  The AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals is the Professional Engineering Design Standard is followed for the Structural Design of the poles. Additional Standards/Codes such as ACI 318, Building Code Requirements for Structure Concrete, ASCE 7-16, Minimum Design Loads and Associated Criteria for Buildings and Other Structures are also followed for the Structural Design. NYCDOT Guidelines, such as the NYC Street Design Manual are followed for clearance dimensions between the proposed poles and existing NYC street furniture. The proposed design is the minimal size possible given the operational needs to provide coverage for the full width of the 63' (six-lane) roadway on

Central Park West. For public safety, the AASHTO requirements dictate design standards and materials used regardless of location.

- Could the overhead lane detection devices be smaller in size (i.e. only house the bare minimum amount of equipment needed for detecting vehicle information). If overhead devices were half the size/weight, the size and height of the mast arm pole could potentially be reduced and less obtrusive.
  The overall size of the tolling equipment detection device housing is governed by the required equipment within the housing needed to meet the project's operational requirements, the thermal loads of the internal components, and maintenance serviceability. Dattner Architects developed the housing for the tolling equipment with the specific goal to minimize visual impact and work within the urban environment. The foundation of Dattner's approach to minimizing visual impact was to minimize the number of parts, thus minimizing the number of exposed cables, connections, and potential for discrepancies in materials or finish amongst elements. When viewed from the perspective and speed of a pedestrian, the sides and bottom of the housing are the predominant expression of the system. Creases have been introduced to the sides of the housing, creating facets that provide shadow play, break down the mass of the enclosure and provide a design continuity throughout the system. Angled skirting at the bottom of the enclosure further integrates the antenna housing into the overall form and the single expression, again minimizing the visual impact by reducing the number of discreet elements.

  In comparison to a standard NYCDOT three section traffic signal, the overhead lane detection cluster is approximately 21% smaller. The overhead lane detection cluster measures approximately 34”x13”, while the standard NYCDOT three section signal head measures approximately 40”x14”.

  The size of the mast arm and pole are governed by multiple factors outside of the size of the tolling equipment, including the length and rigidity of the mast arm and wind load requirements of the mast arm itself. Even if the tolling equipment could be reduced in size, a change would not appreciably change the size of the pole or arm with a 50' length.

- Could street trees be planted next to the installation, to help it blend in more with the immediate context?
  Note that there are currently two street trees on this block, in addition to the trees within Central Park that overhang the sidewalk outside of the park. The Project Sponsors will consider the planting of additional street trees, in coordination with NYCDRP.

- Could a scale elevation drawing be provided that shows the proposed pole-and-mast arm in situ, with its dimensions (as currently proposed) shown in comparison with the dimensions of the surrounding features, such as the CP stone retaining wall, the newsstand kiosk, the subway entrance across CPW, and other street furniture? This should help us better understand the scale of the installation.
  Please see the attached document “CPW Surrounding Feature Dimensions DFT v1 3-15-22” for a dimensioned elevation and plan drawing as well as a marked-up rendering to show the heights of other relevant infrastructure.

  On the east side of the street, the Central Park stone wall is roughly 16' behind the proposed pole. The metal vendor building is roughly 5' south and 12' behind the proposed pole. The

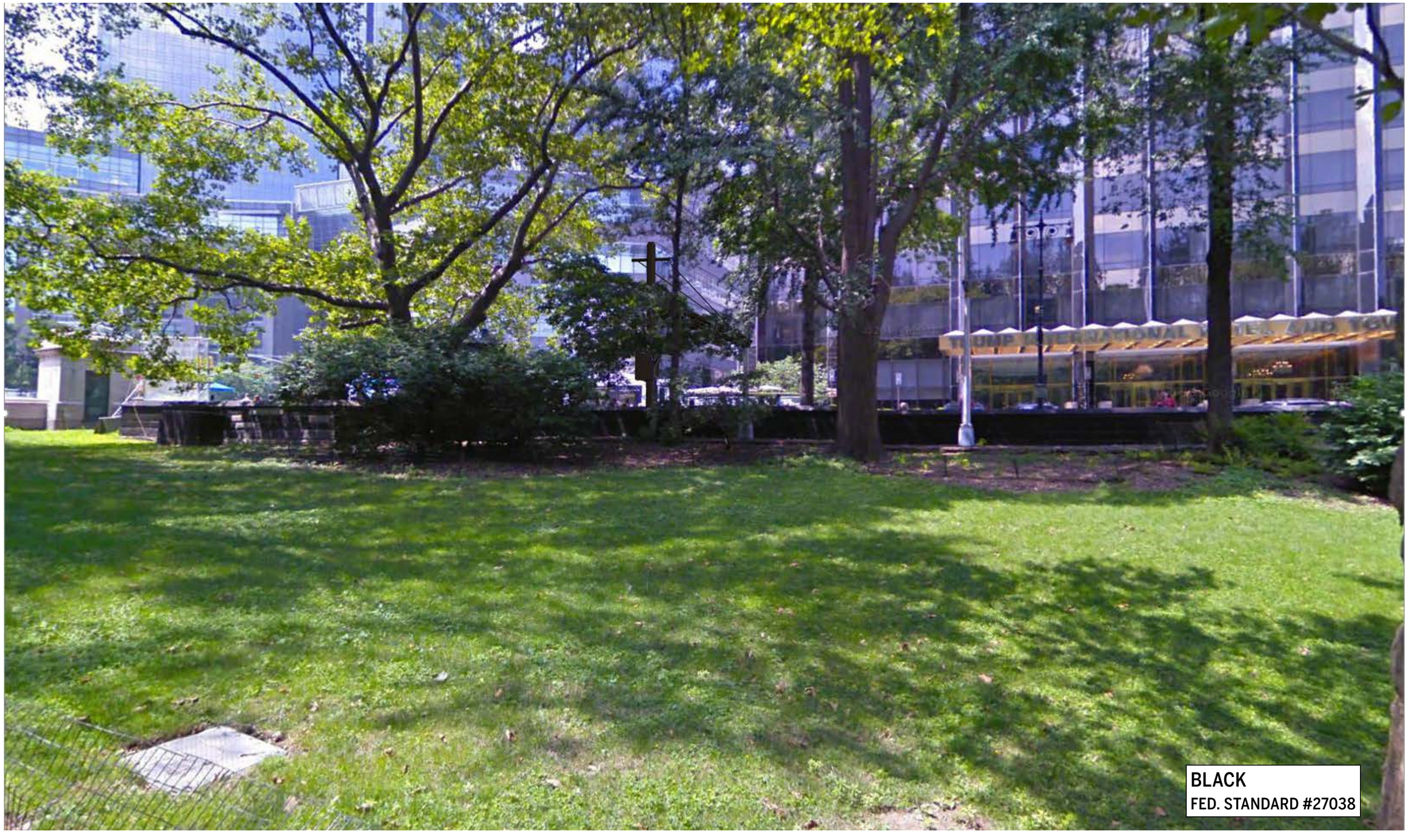
seating area is roughly 5' north and 10' behind the proposed pole. The subway entrance is roughly 27' south of the proposed pole and behind the metal vendor building. The nearby newsstand kiosk is approximately 15’ tall and the traffic signal pole located further south near Columbus Circle is approximately 20’-2” tall.

On the west side of the street, there is a decorative streetlamp that is approximately 26’-7” tall and it stands next to a NYCT subway elevator shaft that is approximately 17’ tall. Another traffic signal pole is located further south near Columbus Circle, and it is approximately 20’-2” tall.

W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET



W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET



W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET



W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET



W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET

GREEN
FED. STANDARD #14036

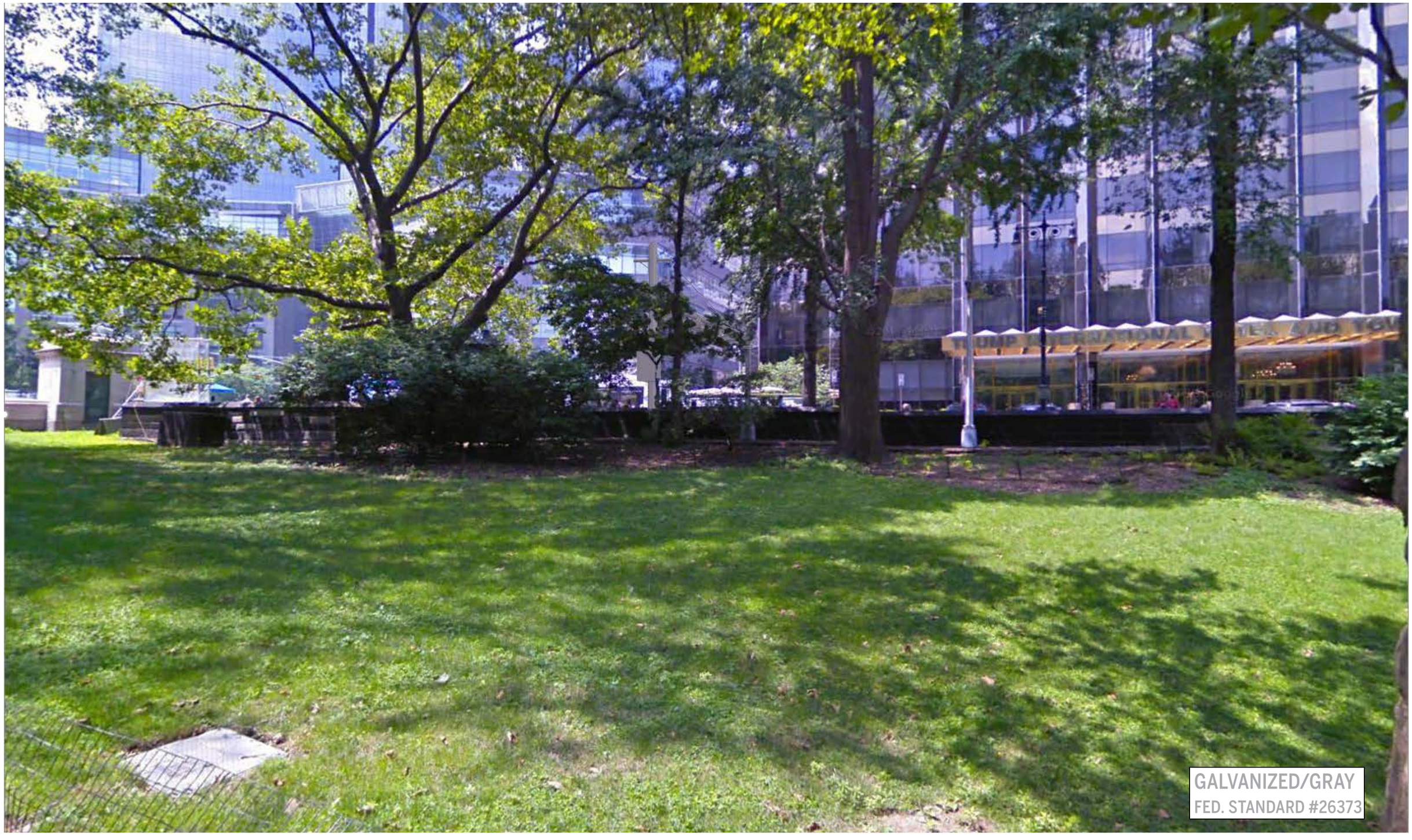
W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET



W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET



W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET



W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET

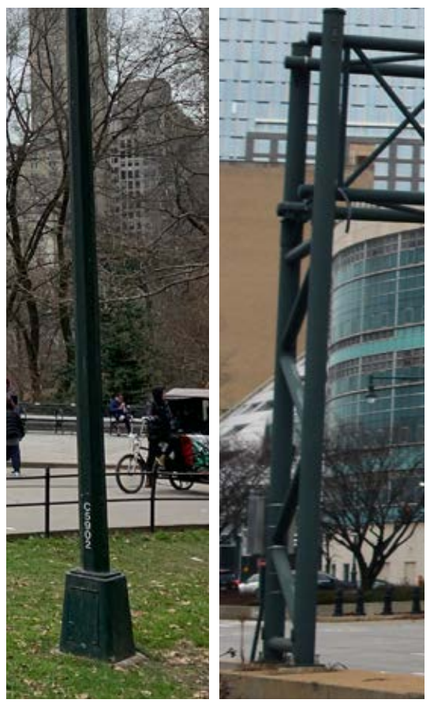


CBDTP SUPPORTING STRUCTURE COLOR PALETTE

GALVANIZED/GRAY
FED. STANDARD #26373



GREEN
FED. STANDARD #14036



BLACK
FED. STANDARD #27038



MANHATTAN BLUE
FED. STANDARD #35209



QUEENSBORO BROWN
FED. STANDARD #20059



CHAMBER ST WHITE
PPG AMERCOAT 450H

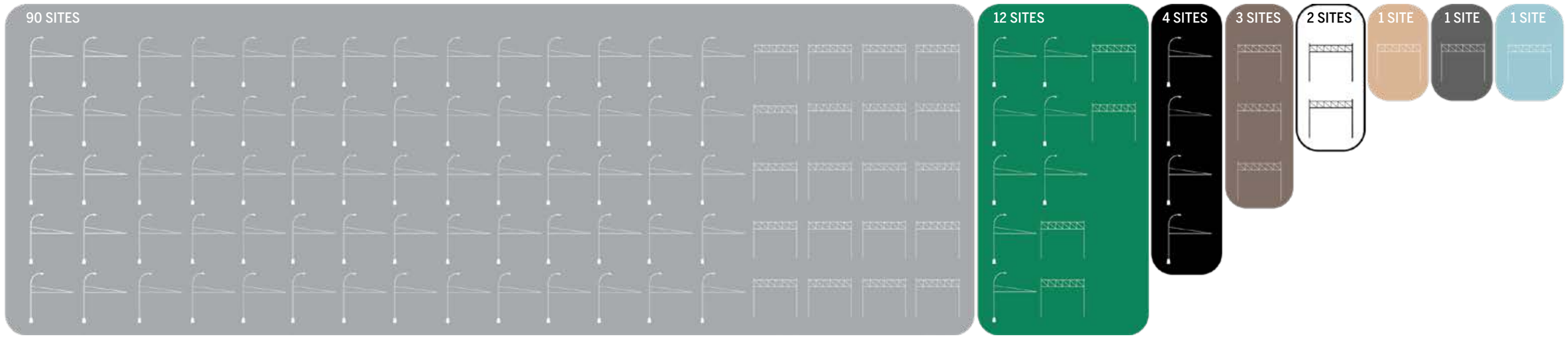


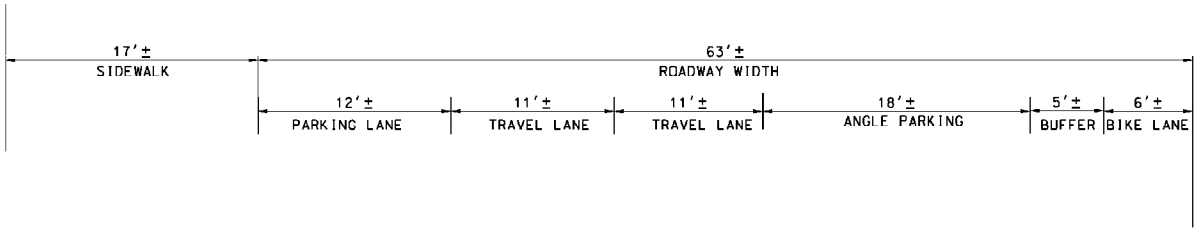
QUEENSBORO TAN
FED. STANDARD #22563

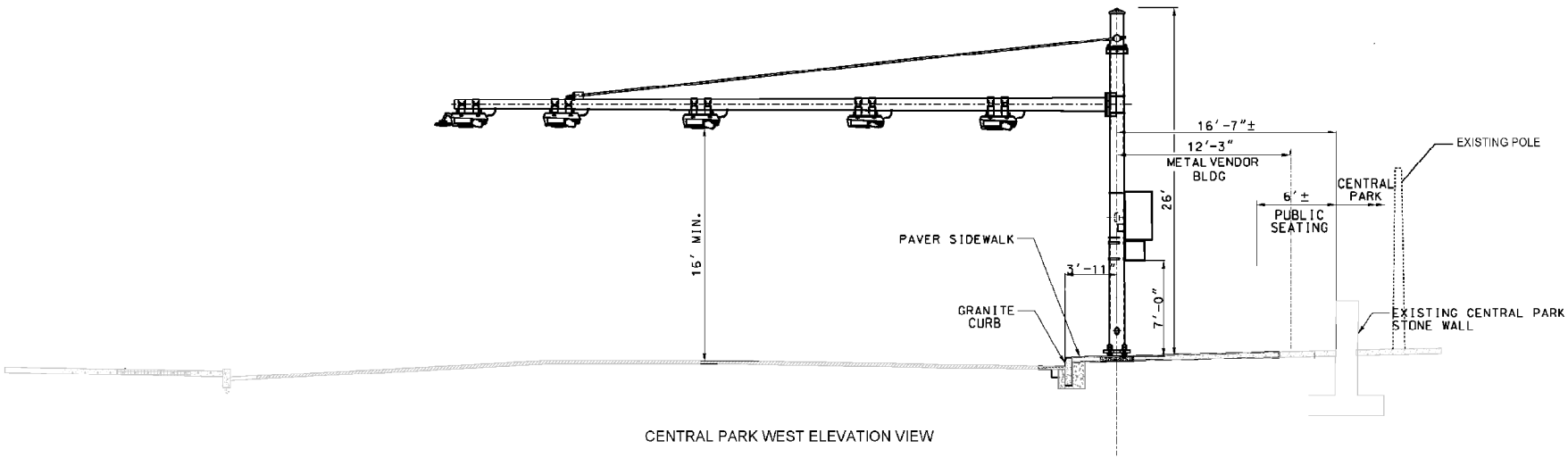


HIGHLINE GREY
SW6994 GREENBLACK

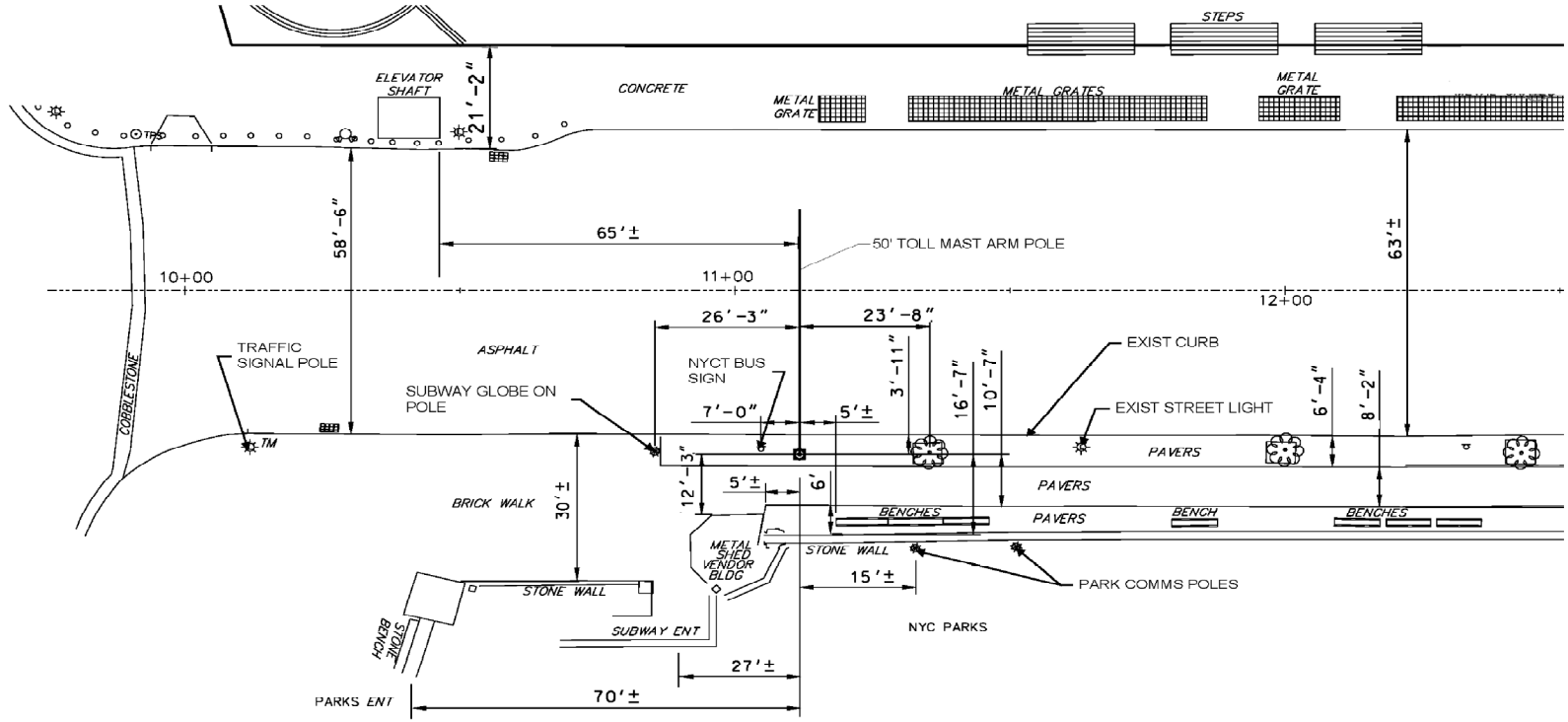








CENTRAL PARK WEST ELEVATION VIEW



CENTRAL PARK WEST PLAN VIEW

W60-8 CENTRAL PARK WEST BETWEEN 60TH & 61ST STREET



View from Columbus Circle looking north up Central Park West



From: Cuff, David (Parks) <David.Cuff@parks.nyc.gov>
Sent: Thursday, March 17, 2022 10:57 AM
To: 'Blair, Lori E (DOT)'; Brazee, Olivia (PARKS); robert.davies (robert.davies@dot.gov); Pavlik, Monica (FHWA); anna.price@dot.gov; Kramer, Kaylie (FHWA); Eberle, Mark D; Slater, Mark P; Schlegel, Kathryn A; C. de Cerreno, Allison; Angel, Nichola; Romolo Desantis
Cc: Mackey, Linda (PARKS); Leslie, Catherine S. (DOT); Young, Sybil (Parks); Ullom, William; Carry, William; Julie Cowing; McNamara, Ian; Reis, Sergio (TBTA); Timoney, Caitlin; Quartini, Lindsay (Parks); Friman, Paul; Oliva, Louis; Simeon, Jean; Lloyd, Timothy (PARKS); Christopher M. Calvert; Cumming, Beth (PARKS); LaFrank, Kathleen (PARKS); zparmenter@dot.nyc.gov; Claudia Cooney
Subject: RE: CBDTP Section 106 - Central Park West Mast Arm (SHPO #21PR06430)

As mentioned previously, NYC Parks prefers the green color the most and would be ok with the black color as a second choice.

We don't prefer grey as it would be inconsistent with existing street lighting and traffic poles along CPW.

Thank you.

David Cuff
Director of Environmental Review
Planning and Development

T 212.360.3492
C 917-938-5221
F 212.360.3453
E David.Cuff@parks.nyc.gov

NYC Parks
The Arsenal, Central Park
830 Fifth Avenue, Room 401
New York, NY 10065
nyc.gov/parks

From: Eberle, Mark D <mark_eberle@nps.gov>
Sent: Wednesday, March 30, 2022 3:18 PM
To: Blair, Lori E (DOT); Brazee, Olivia (PARKS); robert.davies (robert.davies@dot.gov); Pavlik, Monica (FHWA); anna.price@dot.gov; Kramer, Kaylie (FHWA); Slater, Mark P; Schlegel, Kathryn A; C. de Cerreno, Allison; Angel, Nichola; Romolo Desantis; Sams, Cheryl A
Cc: Mackey, Linda (PARKS); Leslie, Catherine S. (DOT); Cuff, David (Parks); Young, Sybil (Parks); wullom@dot.nyc.gov; WCarry@dot.nyc.gov; Julie Cowing; McNamara, Ian; Reis, Sergio (TBTA); Timoney, Caitlin; Lindsay.Quartini@parks.nyc.gov; Friman, Paul; Oliva, Louis; Simeon, Jean; Lloyd, Timothy (PARKS); Christopher M. Calvert; Cumming, Beth (PARKS); LaFrank, Kathleen (PARKS); zparmenter@dot.nyc.gov; Claudia Cooney
Subject: Re: [EXTERNAL] RE: CBDTP Section 106 - Central Park West Mast Arm (SHPO # 21PR06430)

Hi Lori,
Thanks for responding to our questions and preparing additional renderings for the Central Park mast arm for us to review. After further discussions with NY SHPO and internally, the National Park Service will not be pursuing an adverse effect on this project; however, we will have recommendations for the use of galvanized steel for the mast arm structure near Central Park, as well as the planting of a street tree or two to block the new structure from the entrance plaza to Central Park. We will provide our official letter response to you within 30-days of receiving your Findings of Effect document.

Any questions, please let me know-
Thanks,
Mark

Mark Eberle
External Review Coordinator / Resource Planning Specialist
National Park Service
Interior Region 1, North Atlantic-Appalachian
Resource Planning and Compliance Division
1234 Market Street, 20th Floor, Philadelphia, PA 19107
Cell Phone: 267-315-1631
General Work Hours and Schedule: M: office 8:00am-4:00pm; T-F: telework 8:00am-4:30pm

DOI folks: check out the new and improved RPC Division SharePoint Site

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

March 31, 2022

Lori Blair
NYSDOT
50 Wolf Road, POD 4-1
Albany, NY 12232

Re: FHWA
Central Business District (CBD) Tolling Program
21PR06430
CBDTP

Dear Lori Blair:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project.

We have reviewed the responses your provided to our comments in your e-mail, with attachments, dated March 16th, 2022. Based upon our review, we offer the following comments:

1. It is our opinion that a galvanized finish would be the least visually obtrusive, and so we recommend this finish for the Central Park West pole-and-mast arm.
2. We are satisfied there is an MOU in place which is a binding agreement for the removal, replacement, or modification/upgrading of the pole-and-mast arm installation after a period of 10 years. We understand this agreement prohibits the installation of any other equipment on the mast arm and pole besides the proposed tolling equipment. Please consult with us when the 10-year period expires, so that we may comment on any changes.
3. We are satisfied with the explanation given for the structural design and sizing of the pole-and-mast arm installation and its various components.
4. We continue to recommend the addition of street trees to help screen the pole-and-mast arm. Consultation should continue regarding possible appropriate location(s).

It is our understanding that FHWA intends to issue a finding of No Adverse Effect in their final Finding Documentation. We anticipate being able to concur with this finding.

If you have any questions, I am best reached via e-mail.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov via e-mail only

cc: G. Santucci, A. Sutphin, J. MacLean, D. Pagano, NYC LPC, A. Price, US DOT

From:	Cuff, David (Parks) <David.Cuff@parks.nyc.gov>
Sent:	Friday, April 1, 2022 2:13 PM
To:	'Blair, Lori E (DOT)'; Eberle, Mark D; Brazee, Olivia (PARKS); robert.davies (robert.davies@dot.gov); Pavlik, Monica (FHWA); anna.price@dot.gov; Kramer, Kaylie (FHWA); Slater, Mark P; Schlegel, Kathryn A; C. de Cerreno, Allison; Angel, Nichola; Romolo Desantis; Sams, Cheryl A
Cc:	Mackey, Linda (PARKS); Leslie, Catherine S. (DOT); Young, Sybil (Parks); Ullom, William; Carry, William; Julie Cowing; McNamara, Ian; Reis, Sergio (TBTA); Timoney, Caitlin; Quartini, Lindsay (Parks); Friman, Paul; Oliva, Louis; Simeon, Jean; Lloyd, Timothy (PARKS); Christopher M. Calvert; Cumming, Beth (PARKS); LaFrank, Kathleen (PARKS); zparmenter@dot.nyc.gov; Claudia Cooney; Prince, Nancy (Parks)
Subject:	RE: [EXTERNAL] RE: CBDTP Section 106 - Central Park West Mast Arm (SHPO # 21PR06430)
Attachments:	Existing Poles on CPW1.pdf

Hi all-

Just want to clarify the reasoning behind NYC Parks' position that we prefer the green color and then the black color for the Central Park West mast arm.

We feel the consistency with the existing poles on Central Park West (CPW) should be considered. The congestion pricing mast arm is a similar structure to the existing traffic lights on CPW and consideration should be given to match the mast arm with the established dark green color of the traffic lights that also extend over CPW. Further, matching the green color allows the mast arm to at least partially blend in with the green of the tree canopy.

Our second choice is matching the mast arm with the historic black light poles on CPW. Black would also match existing street infrastructure and would allow for, to a lesser degree, the mast arm to blend in with the existing tree canopy.

See examples of both the existing traffic lights and the historic black street poles in this section of CPW in attached PDF.

Please let me know if anyone would like to discuss further.

David Cuff
Director of Environmental Review
Planning and Development

T 212.360.3492
C 917-938-5221
F 212.360.3453
E David.Cuff@parks.nyc.gov

NYC Parks
The Arsenal, Central Park
830 Fifth Avenue, Room 401
New York, NY 10065
nyc.gov/parks


Historic Black Light Pole
Green Traffic Lights
W 61
ONE WAY

Green Traffic Pole on CPW with Tree Canopy behind it.

Google
Image capture: Aug 2021 © 2022 Google United States Terms Privacy Report


Historic Black Light Pole on CPW
ONE
AY
ONE WAY
NO STANDING
VALET
PARK
ENTER ON 61ST STREET
Google

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

April 12, 2022

Mark Eberle
Resource Planning Specialist/External Review Coordinator
National Park Service
Interior Region 1, North Atlantic-Appalachian
1234 Market Street, 20th Floor
Philadelphia, PA 19107

RE: ***Section 106 Consultation-Finding Documentation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Mr. Eberle:

As a Section 106 Consulting Party for the Manhattan Central Business District (CBD) Tolling Program (Project), the New York State Department of Transportation (NYSDOT), in coordination with the Federal Highway Administration (FHWA), is providing the enclosed Draft (Proposed Final) *Section 106 Finding Documentation* for your review and comment in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties*.

The Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register. Therefore, the Project would have no adverse effects on historic properties based on the assessment of effects for the Project.

The NYSDOT and the FHWA have considered input from Consulting Parties in the recommended No Adverse Effect finding, as discussed in the Finding Documentation. Responses to comments made by the Consulting Parties are provided in the attached *Comment/Response Matrix.*

The NYSDOT respectfully requests written comments on the draft *Finding Documentation* by May 12, 2022. If no substantive comments are received from SHPO, the Tribal Nations, or the other Consulting Parties, the *Finding Documentation* will be considered final.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS and Special Projects Bureau

CL/lb/bb

Encl. Draft (Proposed Final) *Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (April 2022)*

Section 106 Consulting Parties Comment/Response Matrix

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
T. Smith, NYSDOT
A. L. C. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

April 12, 2022

Andrea Goldwyn
Director, Public Policy
New York Landmarks Conservancy
One Whitehall Street
New York, NY 10004

RE: ***Section 106 Consultation-Finding Documentation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Goldwyn:

As a Section 106 Consulting Party for the Manhattan Central Business District (CBD) Tolling Program (Project), the New York State Department of Transportation (NYSDOT), in coordination with the Federal Highway Administration (FHWA), is providing the enclosed Draft (Proposed Final) *Section 106 Finding Documentation* for your review and comment in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties*.

The Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register. Therefore, the Project would have no adverse effects on historic properties based on the assessment of effects for the Project.

The NYSDOT and the FHWA have considered input from Consulting Parties in the recommended No Adverse Effect finding, as discussed in the Finding Documentation. Responses to comments made by the Consulting Parties are provided in the attached *Comment/Response Matrix.*

The NYSDOT respectfully requests written comments on the draft *Finding Documentation* by May 12, 2022. If no substantive comments are received from SHPO, the Tribal Nations, or the other Consulting Parties, the *Finding Documentation* will be considered final.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS and Special Projects Bureau

CL/lb/bb

Encl. Draft (Proposed Final) *Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (April 2022)*

Section 106 Consulting Parties Comment/Response Matrix

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
T. Smith, NYSDOT
A. L. C. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

April 12, 2022

Gina Santucci
Director of Environmental Review
New York City Landmarks Preservation Commission
1 Centre St, #9N
New York, NY 10007

RE: ***Section 106 Consultation-Finding Documentation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Santucci:

As a Section 106 Consulting Party for the Manhattan Central Business District (CBD) Tolling Program (Project), the New York State Department of Transportation (NYSDOT), in coordination with the Federal Highway Administration (FHWA), is providing the enclosed Draft (Proposed Final) *Section 106 Finding Documentation* for your review and comment in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties*.

The Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register. Therefore, the Project would have no adverse effects on historic properties based on the assessment of effects for the Project.

The NYSDOT and the FHWA have considered input from Consulting Parties in the recommended No Adverse Effect finding, as discussed in the Finding Documentation. Responses to comments made by the Consulting Parties are provided in the attached *Comment/Response Matrix.*

The NYSDOT respectfully requests written comments on the draft *Finding Documentation* by May 12, 2022. If no substantive comments are received from SHPO, the Tribal Nations, or the other Consulting Parties, the *Finding Documentation* will be considered final.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS and Special Projects Bureau

CL/lb/bb

Encl. Draft (Proposed Final) *Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (April 2022)*

Section 106 Consulting Parties Comment/Response Matrix

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
T. Smith, NYSDOT
A. L. C. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

April 12, 2022

Upload via CRIS
Olivia Brazee
Historic Site Restoration Coordinator
New York State Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation
P.O. Box 189
Waterford, NY 12188-0189

RE: ***Section 106 Consultation: Finding Documentation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Brazee:

The New York State Department of Transportation (NYSDOT), on behalf of the Federal Highway Administration (FHWA), is submitting the Draft (Proposed Final) *Section 106 Finding Documentation* prepared for the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project) for review by the New York State Historic Preservation Office (SHPO), in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations (36 CFR Part 800): *Protection of Historic Properties.*

The Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register. Therefore, the Project would have no adverse effects on historic properties based on the assessment of effects for the Project.

The NYSDOT and the FHWA have considered input from Consulting Parties in the recommended No Adverse Effect finding, as discussed in the Finding Documentation. Responses to comments made by the Consulting Parties are provided in the attached *Comment/Response Matrix.*

If no substantive comments are received from SHPO, the Tribal Nations, or the other Consulting Parties, the *Finding Documentation* will be considered final. The NYSDOT respectfully requests the written concurrence of the SHPO with the recommended finding of No Adverse Effect for the undertaking.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/bb

Encl: Draft (Proposed Final) *Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (April 2022)*

Section 106 Consulting Parties Comment/Response Matrix

cc: R. Davies, FHWA
A. Price, FHWA
T. Smith, NYSDOT
A. de Cerreño, MTA
N. Angel, MTA
W. Carry, NYCDOT

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

April 12, 2022

David Cuff
Director of Environmental Review, Planning and Development
New York City Department of Parks & Recreation
The Arsenal, Central Park
830 Fifth Avenue
New York, NY 10065

RE: ***Section 106 Consultation-Finding Documentation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Mr. Cuff:

As a Section 106 Consulting Party for the Manhattan Central Business District (CBD) Tolling Program (Project), the New York State Department of Transportation (NYSDOT), in coordination with the Federal Highway Administration (FHWA), is providing the enclosed Draft (Proposed Final) *Section 106 Finding Documentation* for your review and comment in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties*.

The Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register. Therefore, the Project would have no adverse effects on historic properties based on the assessment of effects for the Project.

The NYSDOT and the FHWA have considered input from Consulting Parties in the recommended No Adverse Effect finding, as discussed in the Finding Documentation. Responses to comments made by the Consulting Parties are provided in the attached *Comment/Response Matrix.*

The NYSDOT respectfully requests written comments on the draft *Finding Documentation* by May 12, 2022. If no substantive comments are received from SHPO, the Tribal Nations, or the other Consulting Parties, the *Finding Documentation* will be considered final.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS and Special Projects Bureau

CL/lb/bb

Encl. Draft (Proposed Final) *Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (April 2022)*

Section 106 Consulting Parties Comment/Response Matrix

cc: R. Davies, FHWA
A. Price, FHWA
R. D. Mackay, SHPO
T. Smith, NYSDOT
A. L. C. de Cerreño, MTA
W. Carry, NYCDOT
N. Angel, MTA

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
518-431-4121
NewYork.FHWA@dot.gov

April 13, 2022

In Reply Refer To:
HPD-NY

Ms. Katelyn Lucas
Historic Preservation Assistant
31064 State Highway 281
PO Box 825
Anadarko, OK 73005

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Ms. Lucas:

The Federal Highway Administration (FHWA) is transmitting to the Delaware Nation an electronic copy of the Draft (Proposed Final) *Section 106 Finding Documentation* prepared for the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project) in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations (36 CFR Part 800).

An archaeological assessment for the Project was included in the October 2021 Cultural Resources Screening Report that was previously shared with the Delaware Nation. The assessment concluded that the extent of prior disturbance has reduced the archaeological potential such that the presence of intact archaeological deposits is highly unlikely within the Archaeological Study Area. Therefore, no archaeological survey was recommended. In correspondence dated November 22, 2021, the SHPO concurred with this recommendation.

The *Section 106 Finding Documentation* documents an assessment of the Project's effects on architectural properties (buildings, structures and districts) that are eligible for or listed in the National Register of Historic Places and concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify these historic properties for listing in the National Register. The Finding Document concludes that the Project will have no adverse effects on historic properties.

The FHWA respectfully requests any written comments from the Delaware Nation on the *Section 106 Finding Documentation* by May 13, 2022. Please send written comments to the FHWA address included on the letterhead or to anna.price@dot.gov.

If no substantive comments are received from SHPO, the Tribal Nations or the other Consulting Parties, the Finding Documentation will be considered final.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

ANNA C PRICE

Digitally signed by ANNA C PRICE
Date: 2022.04.13 14:52:43 -04'00'

Anna Price
Director of Program Management

Enclosures:
Draft (Proposed Final) *Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (April 2022)*

cc: R. Davies, FHWA, HPD-NY
T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
T. Smith, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
518-431-4121
NewYork.FHWA@dot.gov

April 13, 2022

In Reply Refer To:
HPM-NY

Susan Bachor, M.A.
Archaeologist
Delaware Tribe Historic Preservation
126 University Circle, Rm. 437
East Stroudsburg, PA 18301

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Ms. Bachor:

The Federal Highway Administration (FHWA) is transmitting to the Delaware Tribe an electronic copy of the Draft (Proposed Final) *Section 106 Finding Documentation* prepared for the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project) in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations (36 CFR Part 800).

An archaeological assessment for the Project was included in the October 2021 Cultural Resources Screening Report that was previously shared with the Delaware Tribe. The assessment concluded that the extent of prior disturbance has reduced the archaeological potential such that the presence of intact archaeological deposits is highly unlikely within the Archaeological Study Area. Therefore, no archaeological survey was recommended. In correspondence dated November 22, 2021, the SHPO concurred with this recommendation.

The *Section 106 Finding Documentation* documents an assessment of the Project's effects on architectural properties (buildings, structures and districts) that are eligible for or listed in the National Register of Historic Places and concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify these historic properties for listing in the National Register. The Finding Document concludes that the Project will have no adverse effects on historic properties.

The FHWA respectfully requests any written comments from the Delaware Tribe on the *Section 106 Finding Documentation* by May 13, 2022. Please send written comments to the FHWA address included on the letterhead or to anna.price@dot.gov. If no substantive comments are

received from SHPO, the Tribal Nations or the other Consulting Parties, the Finding Documentation will be considered final.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

ANNA C PRICE Digitally signed by ANNA C PRICE Date: 2022.04.13 14:50:17 -04'00'

Anna Price
Director of Program Management

Enclosures:
Draft (Proposed Final) *Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (April 2022)*

cc: R. Davies, FHWA, HPD-NY
T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
T. Smith, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
518-431-4121
NewYork.FHWA@dot.gov

April 13, 2022

In Reply Refer To:
HPM-NY

Ms. Lauryn Randall
Council of Trustees
Shinnecock Indian Nation
PO Box 5006
Southampton, NY 11969

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Ms. Randall:

The Federal Highway Administration (FHWA) is transmitting to the Shinnecock Indian Nation an electronic copy of the Draft (Proposed Final) *Section 106 Finding Documentation* prepared for the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project) in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations (36 CFR Part 800).

An archaeological assessment for the Project was included in the October 2021 Cultural Resources Screening Report that was previously shared with the Shinnecock Indian Nation. The assessment concluded that the extent of prior disturbance has reduced the archaeological potential such that the presence of intact archaeological deposits is highly unlikely within the Archaeological Study Area. Therefore, no archaeological survey was recommended. In correspondence dated November 22, 2021, the SHPO concurred with this recommendation.

The *Section 106 Finding Documentation* documents an assessment of the Project's effects on architectural properties (buildings, structures and districts) that are eligible for or listed in the National Register of Historic Places and concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify these historic properties for listing in the National Register. The Finding Document concludes that the Project will have no adverse effects on historic properties.

The FHWA respectfully requests any written comments from the Shinnecock Indian Nation on the *Section 106 Finding Documentation* by May 13, 2022. Please send written comments to the FHWA address included on the letterhead or to anna.price@dot.gov. If no substantive comments

are received from SHPO, the Tribal Nations or the other Consulting Parties, the Finding Documentation will be considered final.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

ANNA C PRICE

Digitally signed by ANNA C PRICE
Date: 2022.04.13 14:51:23 -04'00'

Anna Price
Director of Program Management

Enclosures:
Draft (Proposed Final) *Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (April 2022)*

cc: R. Davies, FHWA, HPD-NY
T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
T. Smith, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT
Aiyana Smith, Executive Director
Josephine Smith, Director of Cultural Resources
Ashley Robinson, COTE Executive Assistant
Jeremy Dennis, Tribal Historic Preservation Officer
Shinnecock Nation Graves Protection Warriors Society

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
518-431-4121
NewYork.FHWA@dot.gov

April 13, 2022

In Reply Refer To:
HPM-NY

Ms. Bonney Hartley
Tribal Historic Preservation Manager
Stockbridge-Munsee Mohican Tribal
Historic Preservation Extension Office
Williamstown, MA 01267

Re: Section 106 Consultation
Manhattan Central Business District (CBD)Tolling Program Project
OPRHP 21PR06430

Dear Ms. Hartley:

The Federal Highway Administration (FHWA) is transmitting to the Stockbridge-Munsee Community Band of Mohican Indians an electronic copy of the Draft (Proposed Final) *Section 106 Finding Documentation* prepared for the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project) in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations (36 CFR Part 800).

An archaeological assessment for the Project was included in the October 2021 Cultural Resources Screening Report that was previously shared with the Stockbridge-Munsee Community Band of Mohican Indians. The assessment concluded that the extent of prior disturbance has reduced the archaeological potential such that the presence of intact archaeological deposits is highly unlikely within the Archaeological Study Area. Therefore, no archaeological survey was recommended. In correspondence dated November 22, 2021, the SHPO concurred with this recommendation. The Stockbridge-Munsee Mohican Tribal Historic Preservation Officer responded with no concerns with the project on October 13, 2021.

The *Section 106 Finding Documentation* documents an assessment of the Project's effects on architectural properties (buildings, structures and districts) that are eligible for or listed in the National Register of Historic Places and concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify these historic properties for listing in the National Register. The Finding Document concludes that the Project will have no adverse effects on historic properties.

The FHWA respectfully requests any written comments from the Stockbridge-Munsee Community Band of Mohican Indians on the *Section 106 Finding Documentation* by May 13, 2022. Please send written comments to the FHWA address included on the letterhead or to anna.price@dot.gov. If no substantive comments are received from SHPO, the Tribal Nations or the other Consulting Parties, the Finding Documentation will be considered final.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

ANNA C PRICE Digitally signed by ANNA C PRICE Date: 2022.04.13 14:48:47 -04'00'

Anna Price
Director of Program Management

Enclosures:
Draft (Proposed Final) *Section 106 Finding Documentation Manhattan Central Business District (CBD) Tolling Program, OPRHP 21PR06430 (April 2022)*

cc: R. Davies, FHWA, HPD-NY
T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
T. Smith, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

April 18, 2022

Lori Blair
Environmental Specialist 2, Cultural Resource Specialist
NYSDOT
50 Wolf Road, POD 4-1
Albany, NY 12232

Re: FHWA
Central Business District (CBD) Tolling Program
21PR06430
CBDTP

Dear Lori Blair:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project.

We have reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* report dated April 2022, submitted to our office on April 12th, 2022. Based upon our review, we concur with the recommended finding of No Adverse Effect for the undertaking.

If you have any questions, I am best reached via e-mail.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov via e-mail only

cc: G. Santucci, A. Sutphin, J. MacLean, D. Pagano, NYC LPC, A. Price, US DOT

United States Department of the Interior

NATIONAL PARK SERVICE
Interior Region 1
North Atlantic-Appalachian
1234 Market Street, 20th Floor
Philadelphia, PA 19107

IN REPLY REFER TO:

1.A.2.(IR1-RSS)

May 19, 2022

Catherine Leslie, Director, EIS and Special Projects Bureau
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232

RE: Section 106 Consultation Finding Document, Manhattan Central Business District Tolling Program

Dear Ms. Leslie:

The National Park Service (NPS) has reviewed the Section 106 Finding Document for the proposed Central Business District (CBD) Tolling Program in the Borough of Manhattan, New York City/County, NY. The purpose of the project is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements. As defined for this project, the Manhattan CBD, which encompasses all of Lower Manhattan and Midtown Manhattan, consists of the geographic area of Manhattan south and inclusive of 60th Street to the extent practicable, but not including the Franklin D. Roosevelt Drive and West Side Highway/Route 9A, including the Battery Park underpass and any surface roadway portion of the Hugh L. Carey Tunnel connecting to West Street (the West Side Highway/Route 9A). It is our understanding that this area is characterized by traffic congestion and delays that slow travel and jeopardize the vitality of the Manhattan CBD and surrounding region.

The NPS appreciates the extensive consultation that New York State Department of Transportation (NYSDOT) and the Federal Highway Administration (FHWA) conducted on this proposed project, particularly our areas of concern directly adjacent to Central Park, a world-renowned National Historic Landmark. Central Park encompasses 840 acres, with the designated boundaries extending from the northern curbline of Central Park South (59th Street) to the southern curbline of Central Park North (110th Street) and from the western curbline of Fifth Avenue to the eastern curbline of Central Park West (Eighth Avenue), including the sidewalks bordering the park on all sides. Central Park was the first large-scale public park in the United States, designed in the mid-19th century by Frederick Law Olmsted and Calvert Vaux. The Park was planned as a naturalistic landscape in which urban dwellers of all backgrounds could mingle and find respite from the pressures of city life.

After several consulting party meetings, discussions, and written exchanges focused on the project infrastructure that will be located in close proximity to the Columbus Circle entrance to Central Park (Southwest corner of the park), we offer the following additional comments and observations on the project and the ***Draft (Proposed Final) Central Business District Tolling Program Section 106 Finding*** Documentation – *April 2022*

> Pg. 32;
> 3.2 TOLLING INFRASTRUCTURE AND TOLLING SYSTEM EQUIPMENT ON CITY STREETS

"The CBD Tolling Alternative would minimize interference with public sightlines, view corridors, and open spaces at the locations proposed for the installation of the proposed tolling infrastructure and tolling system equipment. Proposed tolling infrastructure and tolling system equipment would be visually consistent with the existing streetscape and the infrastructure would have the same or similar appearance as adjacent NYCDOT standard signal and streetlight poles or as NYCDOT's family of street furniture."

While we agree the project as a whole, and the many tolling equipment installations proposed across the Central Business District meet this goal, we believe that the installation near the Columbus Circle Entrance to Central Park does not, at least to the same degree, as the other installations. The post-and-mast arm installation in this location is considerably different in scale (in bulk and dimensions) than the existing street infrastructure in this location. While the height of the pole is generally consistent with the tallest streetlights in the vicinity, its profile (pole diameter) is significantly and noticeably broader than existing street lighting and traffic poles. More significantly, the 50' mast arm that spans the full width of Central Park West (CPW), does interfere with the sightlines and the open view corridor that extends 2.5 miles along the west side of Central Park. It is the only permanent fixture that bridges the otherwise open corridor along CPW, breaking the open sky plane. While this view corridor is outside of park boundary and there is other visual clutter in the immediate setting of the park near the Columbus Circle park entrance, we believe this post-and-mast arm installation is noteworthy.

We are, however, satisfied with the explanation offered by the project sponsors and consultants for the necessity of the structural design and sizing of the pole-and-mast arm installation and tolling system equipment, particularly given the MOU agreement in place for the removal, replacement, or modification/upgrading of the post-and mast arm installation after a period of 10 years. Please consult with us when the 10-year period expires so that we may comment on any changes. While we are of the opinion that a lighter color finish, such as the galvanized steel option, would best minimize the visual obtrusiveness of the only structure bridging CPW and the long site line and 2.5 mile view corridor down CPW, we also recognize the strong preference of New York City Department of Parks and Recreation (NYC Parks) to match the green ("central park green") traffic light polls along CPW as well as other green street furnishings inside the park, providing some coherency with park related furnishings.

In conclusion, the National Park Service concurs with your Finding of No Adverse Effect on historic resources and agrees to the green ("central park green") finish color for the post-and-mast arm installation near the Columbus Circle entrance to Central Park. We recommend introducing street trees, as appropriate, to partially screen the structure from the park entrance as well as the view from the North along CPW toward the post-and-mast arm installation at this location. We also recommend working with NYC Parks to determine appropriate native tree species and specific locations for the tree installment. The NPS requests continued coordination on the tree installation final location and progress.

Thank you for coordinating with the NPS on this project and we look forward to continuing to work with you as a cooperating agency under the National Environmental Policy Act, and plan to review the Draft Environmental Assessment, when it is available. We appreciate your efforts to care for and minimize harm to National Historic Landmarks as you carry out your mission.

If you have any questions, please contact me or Kathy Schlegel at 215-554-1771 or via e-mail at kathy_schlegel@nps.gov.

Sincerely,



Laurel A. Racine
Program Manager, History and Preservation Assistance Program

cc:
Robert Davies, FHWA
Anna Price, FHWA
Daniel Mackay, NY SHPO
Olivia Brazee, NY SHPO
Lori Blair, NYSDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

May 31, 2022

In Reply Refer To:
HPM-NY

Council of Trustees
Shinnecock Indian Nation
Delaware Tribe Historic Preservation
counciloftrustees@shinnecock.org

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Council Members:

The Federal Highway Administration (FHWA), in coordination with the New York State Department of Transportation is transmitting the electronic submission of the enclosed information for the Central Business District Tolling Program (CBDTP) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* The information pertains to the addition of signage within Central Park.

As described in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, the Project includes the installation of four replacement poles with equipment in Central Park. On West Drive and Center Drive, the CBD Tolling Alternative would replace one existing streetlight pole on each of these roads inside the park close to Central Park South/59th Street with a new streetlight pole with tolling system equipment, including a small equipment box. On East Drive, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. Following consultation with the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties, the Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have no adverse effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New York City Department of Parks and Recreation (NYC Parks) and the National Park Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from NYC Parks and NPS. Responses to comments made by NYC Parks and NPS with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage which was not included in the April 2022 Draft (Proposed Final) Section 106 *Finding Document,* we are continuing Section 106 consultation by seeking comments on the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding* Documentation will be updated to include the attached renderings and a description of the signage. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation will continue to recommend a no adverse effect determination for the CBDTP.

Based on review of the provided information, we respectfully request written comments related to the addition of the two signs to the proposed replacement poles. Please provide your comments to me at Anna.Price@dot.gov no later than June 14, 2022.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

ANNA C PRICE Digitally signed by ANNA C PRICE Date: 2022.06.01 11:24:47 -04'00'

Anna Price
Director of Program Management

Encl: Central Park Replacement poles with equipment and signs
Section 106_ Consulting Parties_ Comment Matrix _ Finding Document_ 2022 5 24

cc: R. Davies, FHWA
M. Pavlik, FHWA
T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
A. Smith, Shinnecock
J. Smith, Shinnecock
A. Robinson, Shinnecock
J. Dennis, Shinnecock
L. Randall, Shinnecock
Shinnecock Nation Graves Protection Warrior Society
T. Smith, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

May 31, 2022

In Reply Refer To:
HPM-NY

Susan Bachor, M.A.
Archaeologist
Delaware Tribe Historic Preservation
sbachor@delawaretribe.org

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Ms. Bachor:

The Federal Highway Administration (FHWA), in coordination with the New York State Department of Transportation is transmitting the electronic submission of the enclosed information for the Central Business District Tolling Program (CBDTP) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* The information pertains to the addition of signage within Central Park.

As described in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, the Project includes the installation of four replacement poles with equipment in Central Park. On West Drive and Center Drive, the CBD Tolling Alternative would replace one existing streetlight pole on each of these roads inside the park close to Central Park South/59th Street with a new streetlight pole with tolling system equipment, including a small equipment box. On East Drive, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. Following consultation with the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties, the Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have no adverse effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New York City Department of Parks and Recreation (NYC Parks) and the National Park Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from NYC Parks and NPS. Responses to comments made

by NYC Parks and NPS with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage which was not included in the April 2022 Draft (Proposed Final) Section 106 *Finding Document,* we are continuing Section 106 consultation by seeking comments on the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding* Documentation will be updated to include the attached renderings and a description of the signage. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation will continue to recommend a no adverse effect determination for the CBDTP.

Based on review of the provided information, we respectfully request written comments related to the addition of the two signs to the proposed replacement poles. Please provide your comments to me at Anna.Price@dot.gov no later than June 14, 2022.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

ANNA C PRICE

Digitally signed by ANNA C PRICE
Date: 2022.06.01 11:26:47 -04'00'

Anna Price
Director of Program Management

Encl: Central Park Replacement poles with equipment and signs
Section 106_ Consulting Parties_ Comment Matrix _ Finding Document_ 2022 5 24

cc: R. Davies, FHWA, HPD-NY
M. Pavlik, FHWA
T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
T. Smith, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

May 31, 2022

In Reply Refer To:
HPM-NY

Ms. Katelyn Lucas
Historic Preservation Assistant
Delaware Nation
klucas@delawarenation-nsn.gov

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Ms. Lucas:

The Federal Highway Administration (FHWA), in coordination with the New York State Department of Transportation is transmitting the electronic submission of the enclosed information for the Central Business District Tolling Program (CBDTP) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* The information pertains to the addition of signage within Central Park.

As described in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, the Project includes the installation of four replacement poles with equipment in Central Park. On West Drive and Center Drive, the CBD Tolling Alternative would replace one existing streetlight pole on each of these roads inside the park close to Central Park South/59th Street with a new streetlight pole with tolling system equipment, including a small equipment box. On East Drive, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. Following consultation with the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties, the Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have no adverse effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New York City Department of Parks and Recreation (NYC Parks) and the National Park Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from NYC Parks and NPS. Responses to comments made

by NYC Parks and NPS with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage which was not included in the April 2022 Draft (Proposed Final) Section 106 *Finding Document,* we are continuing Section 106 consultation by seeking comments on the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding* Documentation will be updated to include the attached renderings and a description of the signage. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation will continue to recommend a no adverse effect determination for the CBDTP.

Based on review of the provided information, we respectfully request written comments related to the addition of the two signs to the proposed replacement poles. Please provide your comments to me at Anna.Price@dot.gov no later than June 14, 2022.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

ANNA C PRICE

Digitally signed by ANNA C PRICE
Date: 2022.06.01 11:25:48 -04'00'

Anna Price
Director of Program Management

Encl: Central Park Replacement poles with equipment and signs
Section 106_ Consulting Parties_ Comment Matrix _ Finding Document_ 2022 5 24

cc: R. Davies, FHWA, HPD-NY
M. Pavlik, FHWA
T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
T. Smith, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
NewYork.FHWA@dot.gov

May 31, 2022

In Reply Refer To:
HPM-NY

Ms. Bonney Hartley
Tribal Historic Preservation Manager
Stockbridge-Munsee Mohican Tribal
Historic Preservation Extension Office
thpo@mohican-nsn.gov

Re: Section 106 Consultation
Manhattan Central Business District (CBD) Tolling Program Project
OPRHP 21PR06430

Dear Ms. Hartley:

The Federal Highway Administration (FHWA), in coordination with the New York State Department of Transportation is transmitting the electronic submission of the enclosed information for the Central Business District Tolling Program (CBDTP) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* The information pertains to the addition of signage within Central Park.

As described in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, the Project includes the installation of four replacement poles with equipment in Central Park. On West Drive and Center Drive, the CBD Tolling Alternative would replace one existing streetlight pole on each of these roads inside the park close to Central Park South/59th Street with a new streetlight pole with tolling system equipment, including a small equipment box. On East Drive, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. Following consultation with the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties, the Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have no adverse effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New York City Department of Parks and Recreation (NYC Parks) and the National Park Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from NYC Parks and NPS. Responses to comments made by NYC Parks

and NPS with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage which was not included in the April 2022 Draft (Proposed Final) Section 106 *Finding Document,* we are continuing Section 106 consultation by seeking comments on the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding* Documentation will be updated to include the attached renderings and a description of the signage. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation will continue to recommend a no adverse effect determination for the CBDTP.

Based on review of the provided information, we respectfully request written comments related to the addition of the two signs to the proposed replacement poles. Please provide your comments to me at Anna.Price@dot.gov no later than June 14, 2022.

If you have any questions or would like to request any further information, please contact me at (518) 431-8858.

Sincerely,

ANNA C PRICE Digitally signed by ANNA C PRICE Date: 2022.06.01 11:23:46 -04'00'

Anna Price
Director of Program Management

Encl: Central Park Replacement poles with equipment and signs
Section 106_ Consulting Parties_ Comment Matrix _ Finding Document_ 2022 5 24

cc: R. Davies, FHWA, HPD-NY
M. Pavlik, FHWA
T. Millington, FHWA, HEA-NY
D. Mackay, NYSOPRHP
O. Brazee, NYSOPRHP
T. Smith, NYSDOT
C. Leslie, NYSDOT
A. de Cerreño, MTA
W. Carry, NYCDOT

From: thpo <thpo@mohican-nsn.gov>
Sent: Wednesday, June 01, 2022 1:45 PM
To: Anderson, Cindy (FHWA) <cindy.anderson@dot.gov>
Cc: anna.price@dot.gov; Kramer, Kaylie (FHWA) <kaylie.kramer@dot.gov>; Davies, Robert (FHWA) <Robert.Davies@dot.gov>; Pavlik, Monica (FHWA) <Monica.Pavlik@dot.gov>; patricia.millington@dot.gov; Mackay, Daniel (PARKS) <Daniel.Mackay@parks.ny.gov>; Brazee, Olivia (PARKS) <Olivia.Brazee@parks.ny.gov>; Smith, Terry (DOT) <Terry.Smith@dot.ny.gov>; Leslie, Catherine S. (DOT) <Catherine.Leslie@dot.ny.gov>; allison.cdecerreno@mtahq.org; WCarry@dot.nyc.gov
Subject: RE: FHWA to Tribal Nations_ Stockbridge-Munsee signs_5 31 22

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Ms. Anderson,

Thank you for your inquiry regarding the Manhattan Central Business District (CBD) Tolling Program Project.

After reviewing the attached documentation, the Stockbridge-Munsee Community Historic Preservation Office concurs with the NY SHPO's finding of 'No Adverse Effect.'

Please keep us informed should their be a change in the project and/or APE.

Warmly,
Dr. Jeff

Jeffrey C Bendremer Ph.D., RPA
Tribal Historic Preservation Officer
Stockbridge-Munsee Community
Tribal Historic Preservation Extension Office
86 Spring St.
Williamstown, MA 01267
413-884-6029 (o)
406-544-5269 (c)

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Chief Engineer

June 3, 2022

Andrea Goldwyn
Director, Public Policy
New York Landmarks Conservancy
One Whitehall Street
New York, NY 10004

RE: ***Section 106 Consultation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Goldwyn:

On behalf of the Federal Highway Administration (FHWA), the New York State Department of Transportation (NYSDOT) is submitting the enclosed information for the Central Business District Tolling Program (CBDTP) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* The information pertains to the addition of signage within Central Park.

As described in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, the Project includes the installation of four replacement poles with equipment in Central Park. On West Drive and Center Drive, the CBD Tolling Alternative would replace one existing streetlight pole on each of these roads inside the park close to Central Park South/59th Street with a new streetlight pole with tolling system equipment, including a small equipment box. On East Drive, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. Following consultation with the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties, the Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have no adverse effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New York City Department of Parks and Recreation (NYC Parks) and the National Park

Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from NYC Parks and NPS. Responses to comments made by NYC Parks and NPS with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage that was not included in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation,* we are continuing Section 106 consultation by seeking comments on the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding Documentation* will be updated to include the attached renderings and a description of the signage. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation will continue to recommend a no adverse effect determination for the CBDTP.

Based on review of the provided information, we respectfully request written comments related to the addition of the two signs to the proposed replacement poles. Please provide your comments to Lori Blair at lori.blair@dot.ny.gov no later than June 17, 2022.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/bb
Encl: Figures 1-2: Comparison Views of No Action Alternative and CBD Tolling Alternative
Section 106 Consulting Parties Comment/Response Matrix

cc: M. Pavlik, FHWA (w/out encl.)
R. Davies, FHWA (w/out encl.)
A. Price, FHWA (w/out encl.)
K. Kramer, FHWA (w/out encl.)
T. Smith, NYSDOT (w/out encl.)
A. de Cerreño, MTA (w/out encl.)
N. Angel, MTA (w/out encl.)
W. Carry, NYCDOT (w/out encl.)

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Chief Engineer

June 3, 2022

Gina Santucci
Director of Environmental Review
NYC Landmarks Preservation Commission
1 Centre St. #9N
New York, NY 10007

RE: ***Section 106 Consultation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Santucci:

On behalf of the Federal Highway Administration (FHWA), the New York State Department of Transportation (NYSDOT) is submitting the enclosed information for the Central Business District Tolling Program (CBDTP) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* The information pertains to the addition of signage within Central Park.

As described in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, the Project includes the installation of four replacement poles with equipment in Central Park. On West Drive and Center Drive, the CBD Tolling Alternative would replace one existing streetlight pole on each of these roads inside the park close to Central Park South/59th Street with a new streetlight pole with tolling system equipment, including a small equipment box. On East Drive, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. Following consultation with the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties, the Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have no adverse effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New York City Department of Parks and Recreation (NYC Parks) and the National Park

Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from NYC Parks and NPS. Responses to comments made by NYC Parks and NPS with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage that was not included in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation,* we are continuing Section 106 consultation by seeking comments on the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding Documentation* will be updated to include the attached renderings and a description of the signage. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation will continue to recommend a no adverse effect determination for the CBDTP.

Based on review of the provided information, we respectfully request written comments related to the addition of the two signs to the proposed replacement poles. Please provide your comments to Lori Blair at lori.blair@dot.ny.gov no later than June 17, 2022.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/bb
Encl: Figures 1-2: Comparison Views of No Action Alternative and CBD Tolling Alternative
Section 106 Consulting Parties Comment/Response Matrix

cc: M. Pavlik, FHWA (w/out encl.)
R. Davies, FHWA (w/out encl.)
A. Price, FHWA (w/out encl.)
K. Kramer, FHWA (w/out encl.)
T. Smith, NYSDOT (w/out encl.)
A. de Cerreño, MTA (w/out encl.)
N. Angel, MTA (w/out encl.)
W. Carry, NYCDOT (w/out encl.)

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Chief Engineer

June 3, 2022

Mark Eberle
Resource Planning Specialist/External Review Coordinator
National Park Service
Interior Region 1, North Atlantic-Appalachian
1234 Market Street, 20th Floor
Philadelphia, PA 19107

RE: ***Section 106 Consultation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Mr. Eberle:

On behalf of the Federal Highway Administration (FHWA), the New York State Department of Transportation (NYSDOT) is submitting the enclosed information for the Central Business District Tolling Program (CBDTP) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* The information pertains to the addition of signage within Central Park.

As described in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, the Project includes the installation of four replacement poles with equipment in Central Park. On West Drive and Center Drive, the CBD Tolling Alternative would replace one existing streetlight pole on each of these roads inside the park close to Central Park South/59th Street with a new streetlight pole with tolling system equipment, including a small equipment box. On East Drive, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. Following consultation with the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties, the Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have no adverse effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New

York City Department of Parks and Recreation (NYC Parks) and the National Park Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from NYC Parks and NPS. Responses to comments made by NYC Parks and NPS with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage that was not included in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation,* we are continuing Section 106 consultation by seeking comments on the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding Documentation* will be updated to include the attached renderings and a description of the signage. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation will continue to recommend a no adverse effect determination for the CBDTP.

Based on review of the provided information, we respectfully request written comments related to the addition of the two signs to the proposed replacement poles. Please provide your comments to Lori Blair at lori.blair@dot.ny.gov no later than June 17, 2022.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/bb
Encl: Figures 1-2: Comparison Views of No Action Alternative and CBD Tolling Alternative
Section 106 Consulting Parties Comment/Response Matrix

cc: M. Pavlik, FHWA (w/out encl.)
R. Davies, FHWA (w/out encl.)
A. Price, FHWA (w/out encl.)
K. Kramer, FHWA (w/out encl.)
T. Smith, NYSDOT (w/out encl.)
A. de Cerreño, MTA (w/out encl.)
N. Angel, MTA (w/out encl.)
W. Carry, NYCDOT (w/out encl.)

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Chief Engineer

June 3, 2022

David Cuff
Director of Environmental Review, Planning and Development
New York City Department of Parks & Recreation
The Arsenal, Central Park
830 Fifth Avenue New York, NY 10065

RE: ***Section 106 Consultation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Mr. Cuff:

On behalf of the Federal Highway Administration (FHWA), the New York State Department of Transportation (NYSDOT) is submitting the enclosed information for the Central Business District Tolling Program (CBDTP) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* The information pertains to the addition of signage within Central Park.

As described in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, the Project includes the installation of four replacement poles with equipment in Central Park. On West Drive and Center Drive, the CBD Tolling Alternative would replace one existing streetlight pole on each of these roads inside the park close to Central Park South/59th Street with a new streetlight pole with tolling system equipment, including a small equipment box. On East Drive, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. Following consultation with the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties, the Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have no adverse effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New York City Department of Parks and Recreation (NYC Parks) and the National Park

Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from NYC Parks and NPS. Responses to comments made by NYC Parks and NPS with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage that was not included in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation,* we are continuing Section 106 consultation by seeking comments on the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding Documentation* will be updated to include the attached renderings and a description of the signage. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation will continue to recommend a no adverse effect determination for the CBDTP.

Based on review of the provided information, we respectfully request written comments related to the addition of the two signs to the proposed replacement poles. Please provide your comments to Lori Blair at lori.blair@dot.ny.gov no later than June 17, 2022.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/bb
Encl: Figures 1-2: Comparison Views of No Action Alternative and CBD Tolling Alternative
Section 106 Consulting Parties Comment/Response Matrix

cc: M. Pavlik, FHWA (w/out encl.)
R. Davies, FHWA (w/out encl.)
A. Price, FHWA (w/out encl.)
K. Kramer, FHWA (w/out encl.)
T. Smith, NYSDOT (w/out encl.)
A. de Cerreño, MTA (w/out encl.)
N. Angel, MTA (w/out encl.)
W. Carry, NYCDOT (w/out encl.)

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Chief Engineer

June 3, 2022

Olivia Brazee
Historic Site Restoration Coordinator
New York State Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation
P.O. Box 189
Waterford, NY 12188-0189

RE: ***Section 106 Consultation***
Manhattan Central Business District (CBD) Tolling Program
OPRHP 21PR06430

Dear Ms. Brazee:

On behalf of the Federal Highway Administration (FHWA), the New York State Department of Transportation (NYSDOT) is submitting the enclosed information for the Central Business District Tolling Program (CBDTP) in accordance with Section 106 of the National Historic Preservation Act, as amended, and implementing regulations at 36 CFR Part 800: *Protection of Historic Properties.* The information pertains to the addition of signage within Central Park.

As described in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, the Project includes the installation of four replacement poles with equipment in Central Park. On West Drive and Center Drive, the CBD Tolling Alternative would replace one existing streetlight pole on each of these roads inside the park close to Central Park South/59th Street with a new streetlight pole with tolling system equipment, including a small equipment box. On East Drive, the CBD Tolling Alternative would replace two existing streetlight poles inside the park close to Central Park South/59th Street with new streetlight poles that support tolling system equipment, including a small equipment box. Following consultation with the State Historic Preservation Office (SHPO), Tribal Nations, and other Consulting Parties, the Finding Documentation concludes that the CBD Tolling Alternative would not result in changes that would alter the characteristics that qualify historic properties for listing in the National Register and recommends that the proposed undertaking would have no adverse effect on historic properties in accordance with 36 CFR §800.4(d)(1).

The SHPO reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* and concurred with the recommended finding of no adverse effect as noted in a letter dated April 18, 2022. Comments were received from two of the Consulting Parties: the New

York City Department of Parks and Recreation (NYC Parks) and the National Park Service (NPS). No comments have been received from the Tribal Nations or the remaining Consulting Parties. Revisions to the Draft (Proposed Final) *Section 106 Finding Documentation* were made based on the comments received from NYC Parks and NPS. Responses to comments made by NYC Parks and NPS with specific reference to revisions to the Finding Documentation are provided in the attached *Comment/Response Matrix.* The revisions were not substantive and did not alter the recommended finding.

Subsequent to the submission of the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation*, proposed signage has been added to two of the replacement poles within Central Park. Signs would be attached to the replacement pole on West Drive and to one of the poles on East Drive, as shown in the attached figures. The components of the CBDTP as evaluated in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation* have otherwise not changed.

Given the addition of the signage that was not included in the April 2022 Draft (Proposed Final) *Section 106 Finding Documentation,* we are continuing Section 106 consultation by seeking comments on the addition of the signs to the two replacement poles in Central Park.

The *Section 106 Finding Documentation* will be updated to include the attached renderings and a description of the signage. Applying the *criteria of adverse effect* (36 CFR Part 800.5(a)(1), the addition of the signage would not alter character-defining features or diminish the integrity of setting of Central Park. Therefore, the Finding Documentation will continue to recommend a no adverse effect determination for the CBDTP.

Based on review of the provided information, we respectfully request written comments related to the addition of the two signs to the proposed replacement poles. Please provide your comments to Lori Blair at lori.blair@dot.ny.gov no later than June 17, 2022.

If you have questions or would like additional information, please contact Lori Blair at (518) 485-5632 or lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/bb
Encl: Figures 1-2: Comparison Views of No Action Alternative and CBD Tolling Alternative
Section 106 Consulting Parties Comment/Response Matrix

cc: M. Pavlik, FHWA (w/out encl.)
R. Davies, FHWA (w/out encl.)
A. Price, FHWA (w/out encl.)
K. Kramer, FHWA (w/out encl.)
T. Smith, NYSDOT (w/out encl.)
A. de Cerreño, MTA (w/out encl.)
N. Angel, MTA (w/out encl.)
W. Carry, NYCDOT (w/out encl.)

From: Cuff, David (Parks) <David.Cuff@parks.nyc.gov>
Sent: Friday, June 10, 2022 4:05 PM
To: catherine.leslie <catherine.leslie@dot.ny.gov>
Cc: monica.pavlik@dot.gov; Robert Davies <robert.davies@dot.gov>; anna.price@dot.gov; kaylie.kramer@dot.gov; Smith, Terry (DOT) <Terry.Smith@dot.ny.gov>; C. de Cerreno, Allison <allison.cdecerreno@mtahq.org>; Angel, Nichola <nangel@mtabt.org>; Carry, William <wcarry@dot.nyc.gov>; Young, Sybil (Parks) <Sybil.Young@parks.nyc.gov>; Shera, Brendan (Parks) <brendan.shera@parks.nyc.gov>
Subject: RE: CBDTP - Section 106 Consultation

Catherine-

In response to your June 3rd Letter regarding Section 106 Consultation on the Manhattan Central Business District (CBD) Tolling Program (OPRHP 21PR06430), we understand the need for the signs, we request that the backs of the signs be painted the same color as the pole and equipment so it will blend in better with the park landscape.

Please let me know if you have any questions.

David Cuff
Director of Environmental Review
Planning and Development

T 212.360.3492
C 917-938-5221
F 212.360.3453
E David.Cuff@parks.nyc.gov

NYC Parks
The Arsenal, Central Park
830 Fifth Avenue, Room 401
New York, NY 10065
nyc.gov/parks

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

June 16, 2022

Lori Blair
Environmental Specialist 2, Cultural Resource Specialist
NYSDOT
50 Wolf Road, POD 4-1
Albany, NY 12232

Re: FHWA
Central Business District (CBD) Tolling Program
21PR06430
CBDTP

Dear Lori Blair:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project.

We have reviewed the continuing consultation information that was submitted to our office on June 3rd, 2022, illustrating proposed signage at the Central Park tolling locations. Based upon our review, we concur with the proposed finding that the project, as modified, continues to have No Adverse Effect upon historic properties, provided that the back sides of the signage be finished to match the pole and tolling infrastructure, as requested by NYC Parks.

If you have any questions, I am best reached via e-mail.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov via e-mail only

cc: G. Santucci, A. Sutphin, J. MacLean, D. Pagano, NYC LPC, A. Price, US DOT

Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: 77DOT030Y (DEPARTMENT OF TRANSPORTATION)
Project: Central Business District Tolling
Date Received: 6/3/2022

Comments: LPC is in receipt of a letter dated 6/3/22 regarding modification of poles within the S/NR listed and LPC designated Central Park. LPC concurs with the SHPO finding dated 6/16/22 of no Adverse Effect.

Cc: SHPO

Gina Santucci 6/17/2022

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 34621_FSO_GS_06172022.docx

From: Racine, Laurel A <Laurel_Racine@nps.gov> **On Behalf Of** NHL NEReview, NPS
Sent: Friday, June 17, 2022 9:39 AM
To: Blair, Lori E (DOT) <Lori.Blair@dot.ny.gov>
Subject: RE: CBDTP - Section 106 Consultation - Proposed Signage in Central Park

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Ms. Blair,
The National Park Service (NPS) reviewed the figures included with Catherine Leslie's June 3 letter. These figures show signage not included in the April 2022 draft Section 106 Finding Document for the Manhattan Central Business District Tolling Program (CBDTP). We understand the proposed signage would be added to the replacement pole on West Drive and to one of the poles on East Drive.

The NPS agrees the additional signs do not alter character-defining features or diminish the integrity of setting of Central Park. The NPS supports New York Department of Transportation's plan for the Finding Document to continue to recommend a no adverse effect determination for the CBDTP.

Thank you for including the NPS as a consulting party. We appreciate your efforts to care for and minimize harm to National Historic Landmarks as you carry out your mission.

Sincerely,
Laurel A. Racine
Program Manager

History and Preservation Assistance
National Park Service
Interior Region 1, North Atlantic - Appalachian
1234 Market Street, 20th Floor
Philadelphia, PA 19107

Section 106 Consulting Parties Comment/Response Matrix
Finding Documentation
6/17/2022

Item	Agency	Commentor	Date	Comment	Response
1	SHPO	Olivia Brazee	4/18/22	We have reviewed the Draft (Proposed Final) *Section 106 Finding Documentation* report dated April 2022, submitted to our office on April 12th, 2022. Based upon our review, we concur with the recommended finding of No Adverse Effect for the undertaking.	Concurrence noted in the Finding Documentation.
2	NYC Parks	David Cuff	4/29/22	Page 4 – "See later comment about reference to 3 access points and 4 locations - it can be a little hard to follow in the document - references to both 3 and 4 locations." "Also, only 6th and 7th Avenues access points connect to CPS. The third access point connects to Grand Army Plaza. Suggest revising to "connects or near CPS" - or something similar." Page 19, Item 39 of Table 1, Central Park. "Its a little confusing when there's a reference to 4 locations. Suggest replace with "4 poles at three access point locations in the park" - or something similar - and use the revised description consistently throughout the document."	The Finding Documentation has been revised to clarify language that there are four replacement poles at three access point locations in Central Park. Edits to this effect have been made on pages 4, 36, 38, and in Table 1 on page 19. In addition, text has been clarified on page 4 that the 3 access point locations connect to or are near Central Park South.
3	NYC Parks	David Cuff	4/29/22	Page 17, Item 31 of Table 1, The High Line – "Why does this refer the underside of the viaduct? Thought tolling equipment at High Line was revised to be on a pole and girder, as described later? In addition, Attachment 3, Page 42 appears to be showing the pole and girder." Page 31 – "This description does not seem to match what is shown in Table? And what is	The text in the table on page 17 has been retained as is for brevity. As clarified by MTA, text has been included on page 31 of the Finding Documentation specifying that the tolling equipment would be mounted on a 3 ½ inch diameter pipe which would be attached to the existing girders on the underside of the High Line structure. Text in the Finding Documentation regarding a new pole on which would be mounted a small

Item	Agency	Commentor	Date	Comment	Response
				shown in Attachment 3, Page 42 doesn't seem to match Figure 2-9 in Attachment 2?"	equipment cabinet is accurate. Figure 2-9 of Attachment 2 depicts the proposed condition.
				Figure 2-9, Attachment 2 – "Wasn't this revised to be on a Girder/Column?"	
4	NYC Parks	David Cuff	4/29/22	Pages 38 & 45 – "Can the agreed-upon green color of mast-arm and pole be mentioned here as well?"	References to the agreed upon green finish for the Central Park West pole have been added on pages 37, 38, and 45 with respect to the description of the pole/mast arm, to make clear the green finish is what is depicted in Figures 2-17a-2-17c of Attachment 2, and as part of the measures to avoid and minimize adverse effects.
				Page 46 – "Can this be mentioned in earlier locations of the document, as noted above?"	
				Figure 2-17a, Attachment 2 – "Is this the agreed-upon green color? If not, can we show that one here?"	
				Figure 2-17c, Attachment 2 – "Is this the agreed-upon green color mast arm being shown? If so can we put that in the Figure name or other place?"	
5	NPS	Laurel A. Racine	5/19/22	NPS states that the pole and mast arm is different in scale than existing street infrastructure, therefore they believe it does not, at least to the same degree, " minimize interference with public sightlines, view corridors, and open spaces at the locations proposed for the installation of the proposed tolling infrastructure and tolling system equipment".....or is "visually consistent with the existing streetscape and the infrastructure would have the same or similar appearance as adjacent NYCDOT standard signal and streetlight poles or as NYCDOT's family of street furniture" as stated on page 32 of the Finding Document.	Comment noted.
6	NPS	Laurel A. Racine	5/19/22	NPS believes the mast arm interferes with the sightlines and open view corridor extending along Central Park West.	Comment noted.
7	NPS	Laurel A. Racine	5/19/22	NPS is in the opinion that a lighter color finish would best minimize the visual obtrusiveness of the mast arm.	Comment noted.

Item	Agency	Commentor	Date	Comment	Response
8	NPS	Laurel A. Racine	5/19/22	However, despite the above opinions, NPS is satisfied with the explanation for the necessity of the structural design and sizing of the pole and mast arm and recognizes the preference of NYC Parks to have the pole and mast arm match the green traffic light polls along Central Park West.	Comment noted.
9	NPS	Laurel A. Racine	5/19/22	NPS concurs with the finding of No Adverse Effect on historic resources and agrees to the green finish color for the post-and-mast arm installation near the Columbus Circle entrance to Central Park. NPS recommends introducing street trees, as appropriate, to partially screen the structure from the park entrance as well as the view from the north along Central Park West and recommends the Project Sponsors work with NYC Parks to determine appropriate native tree species and specific locations for the tree installment. They request coordination with the NPS on the installation final location and progress.	The Finding Documentation stated (on page 45), "The Project Sponsors would coordinate with NYC Parks and SHPO regarding the proposed addition of street trees to help screen the pole and mast arm proposed on the Central Park West sidewalk." The sentence has been revised to include NPS in the coordination such that, "The Project Sponsors would coordinate with NYC Parks, the SHPO, and NPS regarding the proposed addition of street trees to help screen the pole and mast arm proposed on the Central Park West sidewalk."
10	NPS	Laurel A. Racine	5/19/22	NPS would like to be consulted when the 10-year MOU regarding the removal, replacement or modification/upgrading of the post and mast arm installation expires.	The Finding Doc has been revised by adding a sentence – "The National Park Service will be consulted when the current MOU expires, is revised or extended."
11	Stockbridge-Munsee Community Tribal Historic Preservation Extension Office	Jeffrey C. Bendremer	6/1/22	After reviewing the attached documentation, the Stockbridge-Munsee Community Historic Preservation Office concurs with the NY SHPO's finding of 'No Adverse Effect.'	Concurrence noted in the Finding Documentation.

Item	Agency	Commentor	Date	Comment	Response
12	NYC Parks	David Cuff	6/10/22	In response to your June 3rd Letter regarding Section 106 Consultation on the Manhattan Central Business District (CBD) Tolling Program (OPRHP 21PR06430), we understand the need for the signs, we request that the backs of the signs be painted the same color as the pole and equipment so it will blend in better with the park landscape.	The Finding Documentation has been revised to state that the backs of the signs will be painted the same color as the pole and equipment. In addition, Figure 2-13 of Attachment 2 of the Finding Documentation has been revised to show the back of the signs on the pole on East Drive painted the same color as the pole and equipment.
13	SHPO	Olivia Brazee	6/16/22	Concur with the proposed finding that the project, as modified, continues to have No Adverse Effect upon historic properties, provided that the back sides of the signage be finished to match the pole and tolling infrastructure, as requested by NYC Parks.	Concurrence noted in the Finding Documentation. The text in the Finding Documentation has been revised to indicate this requested design change has been incorporated into the project as noted above.
14	NYCLPC	Gina Santucci	6/17/22	LPC is in receipt of a letter dated 6/3/22 regarding modification of poles within the S/NR listed and LPC designated Central Park. LPC concurs with the SHPO finding dated 6/16/22 of no Adverse Effect.	Concurrence noted in the Finding Documentation.
15	NPS	Laurel A. Racine	6/17/22	The NPS agrees the additional signs do not alter character-defining features or diminish the integrity of setting of Central Park. The NPS supports New York Department of Transportation's plan for the Finding Document to continue to recommend a no adverse effect determination for the CBDTP.	Concurrence noted in the Finding Documentation.

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 9, Visual Resources

August 2022

Contents

Appendix 9. Visual Resources 9-1
9.1 INTRODUCTION 9-1
9.2 METHODOLOGY 9-1
9.3 AFFECTED ENVIRONMENT 9-2
9.3.1 Regulatory Context 9-2
9.3.2 Area of Visual Effect 9-2
9.3.3 Description of the Visual Environment 9-3
9.3.3.1 Cultural Environment 9-3
9.3.3.2 Project Environment 9-6
9.3.4 Viewer Groups 9-7
9.4 ENVIRONMENTAL CONSEQUENCES 9-9
9.4.1 No Action Alternative 9-9
9.4.2 CBD Tolling Alternative 9-9
9.4.2.1 Appearance of Tolling Infrastructure and Tolling System Equipment 9-9
9.4.2.2 Assessment of Visual Effect 9-11
9.5 CONCLUSION 9-13

Attachment 1. Visual Impact Assessment Scoping Questionnaire

Figures

Figure 9-1a. Area of Visual Effect and Photo Key for Renderings 9-14
Figure 9-1b. Area of Visual Effect and Photo Key for Renderings: 60th Street 9-15
Figure 9-2. Comparison Views of No Action Alternative and CBD Tolling Alternative: Broadway at West 60th Street 9-16
Figure 9-3. Comparison Views of No Action Alternative and CBD Tolling Alternative: Central Park West at West 60th Street Near Columbus Circle 9-17
Figure 9-4a. Comparison Views of No Action Alternative and CBD Tolling Alternative: Central Park West Drive near Seventh Avenue 9-18
Figure 9-4b. Comparison Views of No Action Alternative and CBD Tolling Alternative: Central Park Center Drive near Sixth Avenue 9-19
Figure 9-4c. Comparison Views of No Action Alternative and CBD Tolling Alternative: Central Park East Drive Near Grand Army Plaza 9-20
Figure 9-5. Comparison Views of No Action Alternative and CBD Tolling Alternative: Fifth Avenue at East 60th Street 9-21
Figure 9-6. Comparison Views of No Action Alternative and CBD Tolling Alternative: Madison Avenue at East 60th Street 9-22
Figure 9-7. Comparison Views of No Action Alternative and CBD Tolling Alternative, Park Avenue at East 60th Street 9-23
Figure 9-8. Comparison Views of No Action Alternative and CBD Tolling Alternative: First Avenue at East 60th Street 9-24

Figure 9-9a. Comparison Views of No Action Alternative and CBD Tolling Alternative: Ed Koch Queensboro Bridge Lower Level Westbound and Eastbound 9-25
Figure 9-9b. Comparison Views of No Action Alternative and CBD Tolling Alternative: Ed Koch Queensboro Bridge Lower Level, Westbound Approaching East 60th Street 9-26
Figure 9-10. Comparison Views of No Action Alternative and CBD Tolling Alternative: FDR Drive at East 5th Street 9-27
Figure 9-11. Comparison Views of No Action Alternative and CBD Tolling Alternative: Manhattan Bridge Westbound Center Lanes 9-28
Figure 9-12. Comparison Views of No Action Alternative and CBD Tolling Alternative: Vestry Street at Holland Tunnel Exit 9-29
Figure 9-13. Comparison Views of No Action Alternative and CBD Tolling Alternative: High Line at Tenth Avenue and West 30th Street 9-30
Figure 9-14a. Comparison Views of No Action Alternative and CBD Tolling Alternative: Lincoln Tunnel North Tube 9-31
Figure 9-14b. Comparison Views of No Action Alternative and CBD Tolling Alternative: Lincoln Tunnel Center Tube 9-32
Figure 9-15. Comparison Views of No Action Alternative and CBD Tolling Alternative: West 40th Street West of Ninth Avenue 9-33
Figure 9-16. Rendering of Proposed New Signage, Fifth Avenue between East 66th and 67th Streets 9-34
Figure 9-17. Rendering of Proposed New Signage, Fifth Avenue between East 62nd and 63rd Streets 9-34
Figure 9-18. Rendering of Proposed New Signage, Fifth Avenue at East 60th Street 9-35

Acronyms

AVE ..... Area of Visual Effect
CBD ..... Central Business District
FDR Drive ..... Franklin D. Roosevelt Drive
FHWA ..... Federal Highway Administration
NYCDOT ..... New York City Department of Transportation
PANYNJ ..... Port Authority of New York and New Jersey
VIA ..... Visual Impact Assessment

Appendix 9. Visual Resources

9.1 INTRODUCTION

This appendix evaluates the potential effects of implementation of the Central Business District (CBD) Tolling Program (the Project) on visual resources and aesthetic conditions in the local study area for tolling infrastructure and tolling system equipment.

9.2 METHODOLOGY

FHWA's *Guidelines for the Visual Impact Assessment of Highway Projects* (VIA guidance)[1] provide procedures for assessing the impact of roadway projects on prominent visual resources and aesthetic conditions of the surrounding communities.

FHWA's VIA guidance begins with a "visual impact assessment (VIA) decision tree," a process that determines whether a VIA is required for a project and, if so, the appropriate level of documentation, ranging from a VIA memorandum, to an abbreviated VIA, a standard VIA, or an expanded VIA. The appropriate level of analysis is based on the potential visual effects of a project. The guidance calls for a scoping tool—the VIA Scoping Questionnaire (**Appendix 9, "Visual Resources: Attachment 1"**)—to help determine first if a VIA is necessary, and if so, the level of detail needed to fulfill regulatory and judicial requirements.[2] Noting that "the assessment of visual impacts should not place an undue burden on the government entities providing those transportation services and improvements necessary for the health, safety, and welfare of the communities they serve," the guidance recommends that no assessment be prepared if there would be no noticeable visible changes to visual resources, viewers, or visual quality and that if there would be a visual change, the level of assessment be tailored to the potential level of visual change.[3]

The Project Sponsors completed the VIA Scoping Questionnaire, and the resulting score for the Project determined that no visual impact assessment is required (**Appendix 9, "Visual Resources: Attachment 1"**). Nonetheless, the Project Sponsors prepared this appendix to describe the physical elements of the CBD Tolling Alternative that could affect the visual environment. The appendix demonstrates that the effects of the Project would be neutral and not adverse.

---

1 Federal Highway Administration. January 2015. *Guidelines for the Visual Impact Assessment of Highway Projects*. FHWA-HEP-15-029. https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx.

2 Refer to FHWA's *Visual Impact Assessment Guidelines of Highway Projects*, Chapter 3, for more information. https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx#chap3.

3 Ibid. pp. 3 through 5.

9.3 AFFECTED ENVIRONMENT

9.3.1 Regulatory Context

FHWA's VIA guidance calls for identifying local, state, regional, and Federal plans, policies, and regulations related to visual resources, views, or visual quality in the area that could be affected by a project. According to the guidance, these plans, policies, and regulations are evidence of a community's visual preferences.

In the Manhattan CBD and local study area for tolling infrastructure and tolling system equipment, regulations that relate to visual resources, views, and visual quality include the Zoning Resolution of the City of New York, which governs the shape and form of buildings and mandates provision of visual corridors to the waterfront.[4] In addition, as described in **Chapter 8, "Historic and Cultural Resources,"** certain properties in areas near the Project location are recognized as historic properties, including National Historic Landmarks, properties listed on or eligible for listing on the National Register of Historic Places, and/or properties designated as New York City Landmarks. The visual setting for historic properties is an important consideration for the assessment of a project's visual effects. One of the historic properties near the Project location is Central Park, which in addition to being a historic property is also a New York City Scenic Landmark. FHWA and the Project Sponsors assessed the potential visual effects associated with implementation of the Project as part of the process required by Section 106 of the National Historic Preservation Act, as discussed in **Chapter 8**.

9.3.2 Area of Visual Effect

FHWA's VIA guidance provides information on defining the area of visual effect (sometimes referred to as the AVE), which is the study area for a VIA. According to the guidance, the area of visual effect is "the area in which views of the project would be visible as influenced by the presence or absence of intervening topography, vegetation, and structures."

The assessment of potential visual effects of the Project presented in this appendix uses the area where tolling infrastructure and tolling system equipment would be visible to viewer groups as the area of visual effect. **Figure 3-2a** in **Chapter 3, "Environmental Analysis Framework,"** shows the local study area for tolling infrastructure and tolling system equipment, which was used as the area of visual effect for the Project because it encompasses the areas of proposed new visual elements (i.e., project environment) associated with the Project and adjacent areas. **Figure 3-2b through Figure 3-2g** provide more detailed information on the local study area for tolling infrastructure and tolling system equipment. **Figure 3-3a through Figure 3-3j** illustrate the proposed locations of tolling infrastructure and tolling system equipment. As described and illustrated in **Chapter 3**, the local study area for tolling infrastructure and tolling system equipment, which is the basis for the study area for potential visual effects, consists of the areas where tolling infrastructure and tolling system equipment would be installed for the CBD Tolling Alternative and immediately adjacent

[4] Zoning Resolution of the City of New York City. Article VI Chapter 2. https://zr.planning.nyc.gov/article-vi/chapter-2.

areas on the same city block. These are also the areas where the tolling infrastructure and tolling system equipment would be visible.

9.3.3 Description of the Visual Environment

This appendix describes the general visual character of the Manhattan CBD as it applies to the area of visual effect, which, as noted earlier, consists of locations where tolling infrastructure and tolling system equipment would be placed and adjacent areas.

FHWA's guidance identifies three types of visual environments:

- Natural environment, which is a landscape without built elements.
- Cultural environment, which is a landscape that is composed of built elements or is otherwise highly manipulated. Cultural environments can include buildings, infrastructure, structures, and other artifacts and art, as discussed later in this appendix.
- Project environment, which is landscape inside the proposed transportation right-of-way and can be natural environment, cultural environment, or a combination of both.

The existing visual character of an area is determined by its visual distinctive features, or "visual resources." As defined in the FHWA guidance, visual resources are visible components of the natural, cultural, or project environments.

For the CBD Tolling Alternative, the area of visual effect is a cultural environment, because it is a fully developed urban landscape. The Project environment (i.e., the specific locations where Project elements are proposed) consists of the transportation right-of-way and adjacent sidewalks where new tolling infrastructure and tolling system equipment would be placed. The area of visual effect also includes portions of roadway and adjacent sidewalk in three small areas of Central Park near its southern boundary. There is natural environment in Central Park, but the area of visual effect for the Project in Central Park is limited to grassy areas and trees close to the roadway that can be considered a cultural environment according to the definition in the FHWA guidance. Other landscaped park spaces are in the area of visual effect, but these are urban parks that are also not natural environment according to the definition in the FHWA guidance. The next section of this appendix describes the parks in the area of visual effect.

9.3.3.1 Cultural Environment

The cultural environment of the area of visual effect is densely developed. It contains all four of the visual elements of a cultural environment described in FHWA's VIA guidance: buildings, infrastructure, structures, and artifacts and art.

As defined in FHWA's VIA guidance, buildings (defined as "enclosed structures that are or have been used by people") are often the dominant human-constructed objects in a landscape and are prevalent in the Manhattan CBD. Lower Manhattan (generally the area south of Canal Street) and Midtown Manhattan (generally the area north of 34th Street, between 34th and 60th Streets) feature mid- and high-rise

commercial and residential buildings in an area that has been developed and redeveloped for more than 100 years. Most buildings are built to the sidewalk line, forming a continuous streetwall along most streets and avenues. The area of visual effect, and particularly the 60th Street corridor and the areas near the Lincoln and Holland Tunnels, is consistent with this pattern.

FHWA's VIA guidance notes, "In addition to buildings, the country's infrastructure systems add to visual character of the cultural environment."[5] Infrastructure, such as streets, sidewalks, and bridges, supports the human functions within the cultural study area. Streets are a prominent feature of the Manhattan CBD. Most of the Manhattan CBD—including the 60th Street corridor and the areas near the Lincoln and Holland Tunnels—has a grid pattern of streets with wide, north–south avenues and narrower east–west streets that intersect at standard, 90-degree angles. Most avenues are about 100 feet wide from property line to property line, including a wide sidewalk on each side of the roadway. Streets are typically 60 feet wide from property line to property line, including a sidewalk on each side. Broadway is an exception to the grid street pattern. Broadway cuts through the regular grid on a diagonal, forming irregular intersections with the east–west streets and north–south avenues, including West 59th and 60th Streets in the area of visual effect. In Lower Manhattan near the Brooklyn Bridge and Manhattan Bridge, the street pattern is irregular. While some streets and avenues intersect at 90-degree angles, others intersect at nonstandard angles.

Traffic controls, including traffic lights on mast arms extending over the street, streetlights, and signage are common features throughout the Manhattan CBD and the area of visual effect.

The area of visual effect includes the two peripheral highways on the far west and far east sides of the Manhattan CBD. On the west side along the Hudson River waterfront, the West Side Highway/Route 9A is a two-way, at-grade arterial roadway that extends from the Hugh L. Carey Tunnel to West 57th Street, where it transitions to an elevated roadway that extends beyond the Manhattan CBD. For most of the at-grade portion of this highway, a landscaped median separates northbound and southbound traffic. The West Side Highway/Route 9A has overhead signs and in Lower Manhattan has pedestrian bridges that cross the highway. On the east side along the East River waterfront, the Franklin D. Roosevelt (FDR) Drive begins at the Battery (the southern end of Manhattan) and runs along the East River for the full length of the Manhattan CBD. The FDR Drive is a limited-access highway with interchanges at principal east–west streets. It is close to existing commercial and residential neighborhoods and is either at-grade or on a viaduct elevated about 20 feet above local streets. Like the West Side Highway/Route 9A, the FDR Drive has overhead sign structures at intervals along its route and some overhead pedestrian bridges. Both peripheral highways also have streetlights, signage including overhead sign structures, and overhead pedestrian bridges; the West Side Highway/Route 9A also has traffic lights.

Close to its western and eastern edges, the area of visual effect also includes four tunnels and four bridges that provide vehicular access to and from the Manhattan CBD. On the west side in Midtown, the Holland

[5] The VIA guidance states, "Railroads, airports, harbors, roads, canals, dams, electrical and telecommunication utilities, pipelines, sewer and water systems, solar arrays, wind turbines, and other infrastructure provide a special set of buildings, structures, and associated artifacts that, as part of an intermodal system of moving people, goods, and services, can affect the visual character of an adjacent highway project. A major visual attribute of infrastructure is its linearity." Federal Highway Administration, p. 5-13.

and Lincoln Tunnels connect to the Manhattan street grid with curved access ramps; the Lincoln Tunnel in particular has a number of below-grade access roads that cut through the street grid as well as above-grade ramps that connect directly into the Port Authority Bus Terminal structure. In Lower Manhattan, access to and from the Hugh L. Carey Tunnel is via a plaza-like area that is lower than the surrounding street grid. On the east side, access to and from the Queens-Midtown Tunnel is also via a plaza-like area and several below-grade roads that cut through the street grid. For these four tunnels, the access roadways are notable interruptions to the surrounding streetscape.

The four bridges that connect directly to the Manhattan CBD—the Brooklyn, Manhattan, and Williamsburg Bridges in Lower Manhattan and the Ed Koch Queensboro Bridge in Midtown near East 59th Street—are prominent visual features in the nearby area of visual effect. Each includes multiple access ramps that cut through the street grid, typically on ramps above the local streets. The bridges' superstructures are also dominant visually from the area of visual effect.

As defined in FHWA's VIA guidance, structures are "engineered elements that provide a necessary social function but are not buildings or part of a larger infrastructure system" (e.g., walls, towers, or other constructed items that serve a utilitarian function). The area of visual effect has very few structures that are not buildings, but the areas near the Lincoln and Holland Tunnels and along the West Side Highway/Route 9A have ventilation structures for the vehicle and rail tunnels that cross beneath the area.

The last type of visual element defined in the FHWA VIA guidance is artifacts and art, which are elements other than buildings, infrastructure, and structures that contribute to the visual environment. As noted earlier, public parks and plazas are present in the area of visual effect. These include Central Park and Columbus Circle in the 60th Street corridor, as well as smaller plazas. Along the West Side Highway/Route 9A and FDR Drive, there are two linear waterfront parks beside the highways—Hudson River Park and East River Park—as well as many smaller parks and plazas that abut the highways. Many of the parks and plazas in the area of visual effect feature public art, including fountains, sculptures, and landscaping features. Chapter 7, "Parks and Recreational Resources," provides a list and maps of the parks in the area of visual effect. As discussed in Chapter 7 and illustrated in Figure 7-1a through Figure 7-1g, the area of visual effect includes 82 parks, as follows:

- 60th Street corridor: 19 parks and plazas adjacent to city blocks that are included in the area of visual effect. Most of these are small plaza areas close to the street. The 60th Street corridor also includes Central Park, discussed more below.
- Lincoln Tunnel area: Four plazas close to the roadway and the High Line, a park atop an elevated former freight railroad line. These plazas are close to the street.
- Holland Tunnel area: Three plazas close to the roadway.
- Queens-Midtown Tunnel area: Three plazas close to the roadway.
- Brooklyn, Manhattan, and Williamsburg Bridges approaches: Nine plazas close to the roadway.

- **West Side Highway/Route 9A and the FDR Drive:** Many parks and plazas are adjacent to these two peripheral highways. They include Hudson River Park, which is adjacent to the west side of the West Side Highway/Route 9A from Lower Manhattan to West 59th Street, and John V. Lindsay East River Park, which is adjacent to the east side of the FDR Drive from Lower Manhattan to East 13th Street. They also include many smaller parks and plazas along the approximately 10.6 miles of these two peripheral highways included in the Manhattan CBD.

The southernmost portion of Central Park is at the northern boundary of the Manhattan CBD and within the area of visual effect. Central Park is an 840-acre park bounded by Central Park South (59th Street), Fifth Avenue, Central Park North (110th Street), and Central Park West (the extension of Eighth Avenue). The area of visual effect within Central Park encompasses small areas of three park roadways close to the park border. These roads provide access for park patrons. Each roadway has adjacent walkways and signage, landscaped lawns, and mature trees. Chapter 7, "Parks and Recreational Resources," provides more information on the area of Central Park that would be affected by the Project. Chapter 7 also provides information on the numerous other parks that are within the parks study area, which is the same area as the area of visual effect (see Table 7-1).

9.3.3.2 Project Environment

According to FHWA VIA guidance, the Project environment is the landscape inside the proposed transportation right-of-way and can be natural environment, cultural environment, or a combination of both. For this Project, the Project environment consists of roads and the adjacent sidewalks, tunnel portals and bridges, and in a few cases, median islands or overhead sign structures.

Avenues and streets are the primary elements of the Project environment. Most avenues and wide crosstown streets have long north–south sightlines, but sightlines on narrow streets tend to be obstructed by mature street trees, signage, and other building and sidewalk features. Avenues and streets in the Project environment are level, at-grade terrain. Most serve one-way traffic within the Manhattan CBD, but notable exceptions include Eleventh Avenue/West End Avenue, Broadway, Park Avenue, and York Avenue in the 60th Street corridor, and Eleventh Avenue near the Lincoln Tunnel. Most avenues have four to five lanes for moving traffic with some sections with curbside or offset bus lanes, bicycle lanes, and/or parking lanes. Most one-way streets have one or two lanes for moving traffic with curbside parking and/or bike lanes, and two-way streets have two or four lanes for moving traffic with curbside bus lanes, bicycle lanes, and/or parking lanes. Park Avenue and Broadway have center medians, and some avenues have concrete islands and raised features to delineate bicycle lanes and provide pedestrian refuge. The avenues and streets in the Project environment have streetlight poles at regular intervals and poles with mast arms over the roadway supporting traffic lights at each intersection. Signage is also a common feature in the Project environment.

The two peripheral highways in the Project environment both serve two-way traffic. The West Side Highway/Route 9A is generally three to four lanes wide in each direction with a landscaped median dividing the two directions of traffic. This highway runs north–south along the western edge of Manhattan, with regular intersections with east–west local streets that are controlled by traffic lights. For most of its length

south of West 57th Street, the West Side Highway/Route 9A has on-street parking on the east (northbound) side of the street. At West 57th Street, the highway ramps upward to become an elevated highway above the local street grid. Roadway-related infrastructure along the West Side Highway/Route 9A includes traffic lights on mast arms extending over the street, streetlights, signage (including overhead sign structures), and overhead pedestrian bridges.

On the east side of Manhattan, the FDR Drive is a limited-access peripheral highway. It is generally three lanes in each direction with a barrier in the median to separate traffic. Access to and from the highway is via ramps that connect to the local street grid. Similar to the West Side Highway/Route 9A, roadway-related infrastructure along the FDR Drive includes streetlights, signage (including overhead sign structures), and overhead pedestrian bridges.

The four tunnels and four bridges that connect to the Manhattan CBD are also part of the Project environment. Along the roads leading to and from these tunnels and bridges are streetlight poles and poles with traffic controls; there are also similar poles along the sides of the roadways on the bridges.

The Project environment within Central Park consists of sidewalks adjacent to paved roadways. Within Central Park, streetlight poles and other types of poles with equipment mounted on them are already adjacent to the park road system, including in the area where the proposed tolling infrastructure and tolling system equipment would be placed (discussed in Section 9.3.2).

9.3.4 Viewer Groups

The FHWA VIA guidance calls for identifying the population, referred to as viewers, who could be affected by any changes in the visual environment that would result from the Project. As defined in the guidance, there are two distinct groups of viewers: neighbors and travelers. Neighbors are people who are adjacent to the highway (i.e., Project site) and have views of the road, and travelers are people who use the highway (i.e., Project site) and have views from the road. The guidance further divides these types of potential travelers, to help establish viewer preferences and their sensitivity to changes in the visual environment:[6]

- Neighbors, consisting of people who may have a view of the Project, include the following:
  - Residential neighbors, consisting of people who live within viewing distance of the Project
  - Recreational neighbors, who participate in recreation in the area of visual effect
  - Institutional neighbors, including people who provide or receive services from institutions, such as schools and hospitals
  - Civic neighbors, consisting of people who provide or receive services from a government organization
  - Retail neighbors, including merchants and shoppers

[6] The FHWA VIA guidance also notes that for an abbreviated visual impact assessment and frequently for a standard visual impact assessment, the simple division between neighbors and travelers is sufficient for assessing visual impacts.

  - Commercial neighbors, or people who occupy or use office buildings and other commercial structures
  - Industrial neighbors, who work in industrial facilities
  - Agricultural neighbors, or farmers
  - Viewer neighbors, who are traveling but not in the Project site; these can include pedestrians, bicyclists, and motorists on other routes

- Travelers, defined as the users of the existing highway or future users of the improved highway (in this case, people who would travel past the proposed tolling infrastructure and tolling system equipment); these can be motorists, bicyclists, or pedestrians:
  - Commuting travelers, who are regular travelers of the same route
  - Touring travelers, who use the highway (Project site) primarily for enjoyment
  - Shipping travelers, consisting primarily of drivers delivering goods and can also include delivery people and messengers in the Manhattan CBD

The Manhattan CBD has a wide mix of land uses and therefore supports all of these viewer groups except industrial and agricultural neighbors. Residential neighbors are most sensitive to the changes in the visual environment, although residents of the Manhattan CBD are accustomed to the urban character of the Manhattan CBD. Institutional, civic, retail, and commercial neighbors have less sensitivity to changes in the visual environment than residential neighbors, and they are also accustomed to the urban character of the Manhattan CBD. Recreational neighbors are sensitive to changes in their recreational spaces (i.e., parks); in the Manhattan CBD, recreational spaces are urban parks, plazas, promenades, and indoor facilities that are typical of the physical and cultural environment of the Manhattan CBD.

The Manhattan CBD's transportation right-of-way serves motorists, bicyclists, and pedestrians for various trip purposes; therefore, it supports commuting travelers, touring travelers (i.e., tourists), and shipping travelers by multiple modes (i.e., car, bus, truck, bicycle, and on foot).[7] Travelers in the Manhattan CBD are highly acclimated to its transportation network and the supporting infrastructure. While commuters and shippers have frequent exposure to the same visual environment, they may not be sensitive to changes in the visual environment because they are focused mainly on the business purpose of their trip rather than leisure or other purposes. Touring travelers have greater sensitivity to the visual environment because pleasure takes more prominence in the purpose of their trips; however, views of the Manhattan CBD's physical and cultural environment, including its skyscrapers, signs, public art, and street life, are generally the points of interest for touring travelers. Pedestrians are more sensitive to changes in the visual environment than motorists and bicyclists because pedestrians, moving at slower speeds, spend more time experiencing a trip than bicyclists and motorists at higher speeds; however, all three user groups are highly accustomed to the urban character of the Manhattan CBD.

[7] Refer to FHWA's *Visual Impact Assessment Guidelines of Highway Projects*, Section 5.3, for a definition of viewer groups. www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx#chap52.

9.4 ENVIRONMENTAL CONSEQUENCES

9.4.1 No Action Alternative

The No Action Alternative would not result in a vehicular tolling program or any associated tolling infrastructure and tolling system equipment; therefore, it would have no effect on visual resources in the Manhattan CBD or area of visual effect. The area of visual effect would remain the same, and viewer groups would continue to be accustomed to that environment.

9.4.2 CBD Tolling Alternative

9.4.2.1 Appearance of Tolling Infrastructure and Tolling System Equipment

Chapter 2, "Project Alternatives," describes the proposed tolling infrastructure and tolling system equipment for the CBD Tolling Alternative (Section 2.4.2.2). As discussed there, this would include poles and mast arms, similar to those used for streetlights and traffic lights today; tolling system equipment housed in enclosures; and signage similar in size and character to signs already present throughout Manhattan. Figure 9-1 through Figure 9-18 at the end of this appendix provide illustrations comparing the No Action Alternative and the CBD Tolling Alternative at representative locations within the area of visual effect. Figure 9-1a and Figure 9-1b depict the area of visual effect and provide a photo key showing the locations for the figures that follow. Figure 9-2 through Figure 9-18 provide renderings of conditions with the No Action Alternative and the CBD Tolling Alternative. In addition, Appendix 2D, "Project Alternatives: CBD Tolling Program Signage," provides details about the size and location of signage associated with the CBD Tolling Alternative.

The tolling infrastructure and tolling system equipment has been designed to minimize its visual impact, by using existing infrastructure as much as possible and coordinating the appearance of new infrastructure and equipment with the existing street furniture palette. Different tolling infrastructure would be used, depending on location, to minimize the Project footprint and reflect the existing setting. In most locations, the CBD Tolling Alternative would use octagonal poles that are similar in appearance to the New York City Department of Transportation's (NYCDOT) standard poles for traffic signals and streetlights (these are called "M-2A" poles), except that the poles would be larger in diameter (potentially up to 14 inches in diameter rather than 8.5 inches). The poles for the CBD Tolling Alternative would typically be at locations where standard poles are currently installed or would replace existing poles with new poles that are up to about 20 feet from the existing poles. In some locations, new poles would be installed where no poles currently exist. In all cases, the Project Sponsors would avoid the removal of street trees for pole placement to the maximum extent feasible and practicable. Figure 2-2a through Figure 2-2k in Chapter 2, "Project Alternatives," provide information on the proposed locations and types of infrastructure at each location based on preliminary design.

On some poles, a new mast arm (similar to the mast arms that support traffic signals throughout New York City) would extend 20 to 50 feet over the roadway with tolling system equipment mounted on it. On other poles, tolling system equipment would be mounted directly on the pole without a mast arm. The color of

poles, cabinets, and tolling system equipment would be consistent and would match existing light pole colors. Supports, fasteners, and other hardware would also be designed to be minimally visible. Figure 9-2, Figure 9-3, Figure 9-5, Figure 9-6, Figure 9-7, Figure 9-8, and Figure 9-15 illustrate locations with proposed mast arms over the roadway. Figure 9-4a, Figure 9-4b, Figure 9-4c, and Figure 9-5 show locations with tolling system equipment mounted on poles without a mast arm.

On the East River bridges, West Side Highway/Route 9A, and along the FDR Drive, tolling system equipment would be mounted on existing structures, including the bridge superstructures and light poles and on existing overhead sign structures and pedestrian bridges. Figure 9-9a, Figure 9-9b, Figure 9-9c, and Figure 9-11 provide views of proposed tolling infrastructure and tolling system equipment at the Ed Koch Queensboro Bridge and Manhattan Bridge. Figure 9-10 illustrates the proposed tolling infrastructure and tolling system equipment mounted to an existing pedestrian bridge over the FDR Drive. At the Queens-Midtown Tunnel and Hugh L. Carey Tunnel, tolling system equipment already in place would be used.

The Project Sponsors are coordinating with the Port Authority of New York and New Jersey (PANYNJ) regarding the locations for tolling infrastructure and tolling system equipment near the Holland and Lincoln Tunnels. If PANYNJ approves the use of its property for associated tolling infrastructure and tolling system equipment, this would allow the Project Sponsors to eliminate tolling infrastructure and tolling system equipment from the local streets near the Holland and Lincoln Tunnels. Figure 9-12 illustrates proposed tolling infrastructure and tolling system equipment on a local street near the Holland Tunnel. Figure 9-13 and Figure 9-15 show views of proposed tolling infrastructure and tolling system equipment on a local street near the Lincoln Tunnel. Figure 9-14a and Figure 9-14b show tolling system infrastructure and tolling system equipment on PANYNJ property at the Lincoln Tunnel.

The proposed tolling system equipment would be clustered into single enclosures to reduce its visual impact. These enclosures would house the license-plate reader cameras, illuminators, and antenna in a single unit comparable in size and mass to traffic control devices currently used throughout the area of visual effect. The cameras included in the array of tolling system equipment would use infrared illumination at night to allow images of license plates to be collected without any need for visible light.

The CBD Tolling Alternative would include new tolling infrastructure and tolling system equipment at three locations in Central Park near its southern boundary at Central Park South/59th Street. At these locations, four existing streetlight poles would be replaced with new poles supporting tolling system equipment. These replacement streetlight poles would be in the same location and have the same appearance as existing streetlight poles. The tolling system equipment mounted on them would use matching color schemes to blend with the appearance of the poles.

In addition to the tolling infrastructure and tolling system equipment, the CBD Tolling Alternative would include signage on local streets outside the Manhattan CBD to advise drivers before they enter the tolling zone, and within the Manhattan CBD to advise drivers before they exit the zone. These signs would be similar in size and nature to existing signs and would be mounted on standard sign posts on local streets and on existing infrastructure where feasible.

The type, sequence, and quantity of signs would differ depending on the location. **Chapter 2, "Project Alternatives," Section 2.4.2.2**, includes a description of the types, numbers, and sizes of proposed signs, and **Appendix 2D, "Project Alternatives: CBD Tolling Program Signage,"** provides maps illustrating potential locations for signage and depictions of the types of signs, based on preliminary design. This information would be further refined during final design, and some additional signs or signs in different locations might be required as a result of final design. **Figure 9-5, Figure 9-16, Figure 9-17, and Figure 9-18** illustrate the types of signage included as part of the CBD Tolling Alternative.

9.4.2.2 Assessment of Visual Effect

In most locations, the Project environment where the proposed new tolling infrastructure and tolling system equipment would be installed is on city streets, bridges and bridge ramps over land, near tunnel portals, and on the West Side Highway/Route 9A and the FDR Drive. The tolling infrastructure and tolling system equipment on city streets would be placed where there is already a variety of sidewalk structures and infrastructure, including streetlight poles, traffic lights, bus stops, and signs.

The CBD Tolling Alternative would minimize interference with public sightlines, view corridors, and open spaces at the locations of proposed tolling infrastructure and tolling system equipment. The infrastructure and equipment would be visually consistent with the existing streetscape and would have the same or similar appearance as adjacent NYCDOT standard signal and streetlight poles or as NYCDOT's family of street furniture. Therefore, the CBD Tolling Alternative would have a neutral effect on the visual environment of the surrounding area.

At the three locations in Central Park where tolling infrastructure and tolling system equipment is proposed, four existing streetlight poles would be replaced with new poles supporting tolling system equipment. These replacement streetlight poles would be in the same location and have the same appearance as existing streetlight poles, and the tolling system equipment mounted on them would use matching color schemes to blend with the appearance of the poles. In addition, tolling infrastructure and tolling system equipment would be installed along the sidewalk bordering the park on Fifth Avenue between East 60th and 61st Streets and on the sidewalk bordering the park on Central Park West between West 60th and 61st Streets. Based on preliminary design, on the west side of Fifth Avenue an existing modern streetlight pole would be replaced with a new light pole of similar appearance. On Central Park West, a new 26-foot-tall pole with a narrow profile, with a 50-foot mast arm extending over the Central Park West roadway would be installed on the east (park) side of the road. These poles along the sidewalk bordering Central Park would be consistent with the presence of modern street furniture in the area and would constitute a minimal change. The CBD Tolling Alternative would not change the character of Central Park's use or of physical features within the property's setting that contribute to its historic significance and would not introduce visual elements that diminish the integrity of Central Park's significant features. Therefore, the CBD Tolling Alternative would have a neutral effect on the visual environment of Central Park and the surrounding area.

FHWA and the Project Sponsors assessed the potential visual effects on historic properties associated with implementation of the Project as part of the process required by Section 106 of the National Historic Preservation Act, as discussed in **Chapter 8, "Historic and Cultural Resources."** That assessment concludes

that the tolling infrastructure and tolling system equipment would not result in adverse effects on historic architectural resources, many of which are also prominent visual features within or near the area of visual effect. This includes Central Park, as discussed previously, as well as other historic properties. Each of the bridges that connect to the Manhattan CBD is a historic property, as described in **Chapter 8**. The proposed tolling infrastructure and tolling system equipment that would be installed on those bridges would generally have minimal visibility that is consistent with the type of infrastructure already located on the bridges (including signage) and would not obstruct views to any visually significant portions of the bridge structures. On the Manhattan Bridge, a new steel girder that supports tolling system equipment would be installed above the westbound inner roadway, and would be supported on the existing steel framing that once supported an upper-deck roadway (removed in the mid-20th century) between the westbound inner roadway and the outer roadways (**Figure 9-11**). The new tolling infrastructure and tolling system equipment would be at a substantial distance from the arch and colonnade located at the bridge entrance on Canal Street in Manhattan, where it would be prominent in views only for drivers in the westbound center lanes as they approach the end of the bridge. This view would be available only for a short time as drivers move toward the end of the bridge.

The new signs within and outside of the Manhattan CBD would be similar in size and placement to other signs already common throughout the area of visual effect. These would have a neutral effect on the visual environment of the Project area.

For the various viewer groups in the area of visual effect, including neighbors (residential, recreational, institutional, civic, retail, and commercial; see **Section 9.3.4** earlier in this appendix) and travelers (commuting, touring, and shipping; see also **Section 9.3.4**), the visual changes introduced by the CBD Tolling Alternative would be minimal in the context of the urban landscape and are not likely result in a change in visual quality as perceived by these viewers. Therefore, the CBD Tolling Alternative would have a neutral effect on viewer groups.

Following the implementation of the CBD Tolling Alternative, motorists, pedestrians, and bicyclists would continue to use existing roadways and sidewalks. As described in **Subchapter 5B, "Social Conditions: Neighborhood Character,"** changes in traffic volumes and pedestrian activity that would result with implementation of the CBD Tolling Alternative would not result in adverse effects on the aesthetic characteristics of the areas where they would occur. Projected changes in traffic, transit ridership, and pedestrians would occur on busy arterial roadways and near transit hubs (see **Chapter 4, "Transportation,"** including **Subchapter 4A, "Regional Transportation Effects and Modeling," Subchapter 4B, "Highways and Local Intersections," Subchapter 4C, "Transit,"** and **Subchapter 4E, "Pedestrians and Bicycles"**), where heavy transportation activities are already part of the Project environment. Therefore, these changes in traffic and pedestrian activity associated with the CBD Tolling Alternative would have a neutral effect on viewer groups.

Overall, the installation of tolling infrastructure and tolling system equipment as well as changes in traffic and pedestrian volumes that would result from the CBD Tolling Alternative would have a neutral effect on viewer groups and would not result in adverse effects on the visual environment.

9.5 CONCLUSION

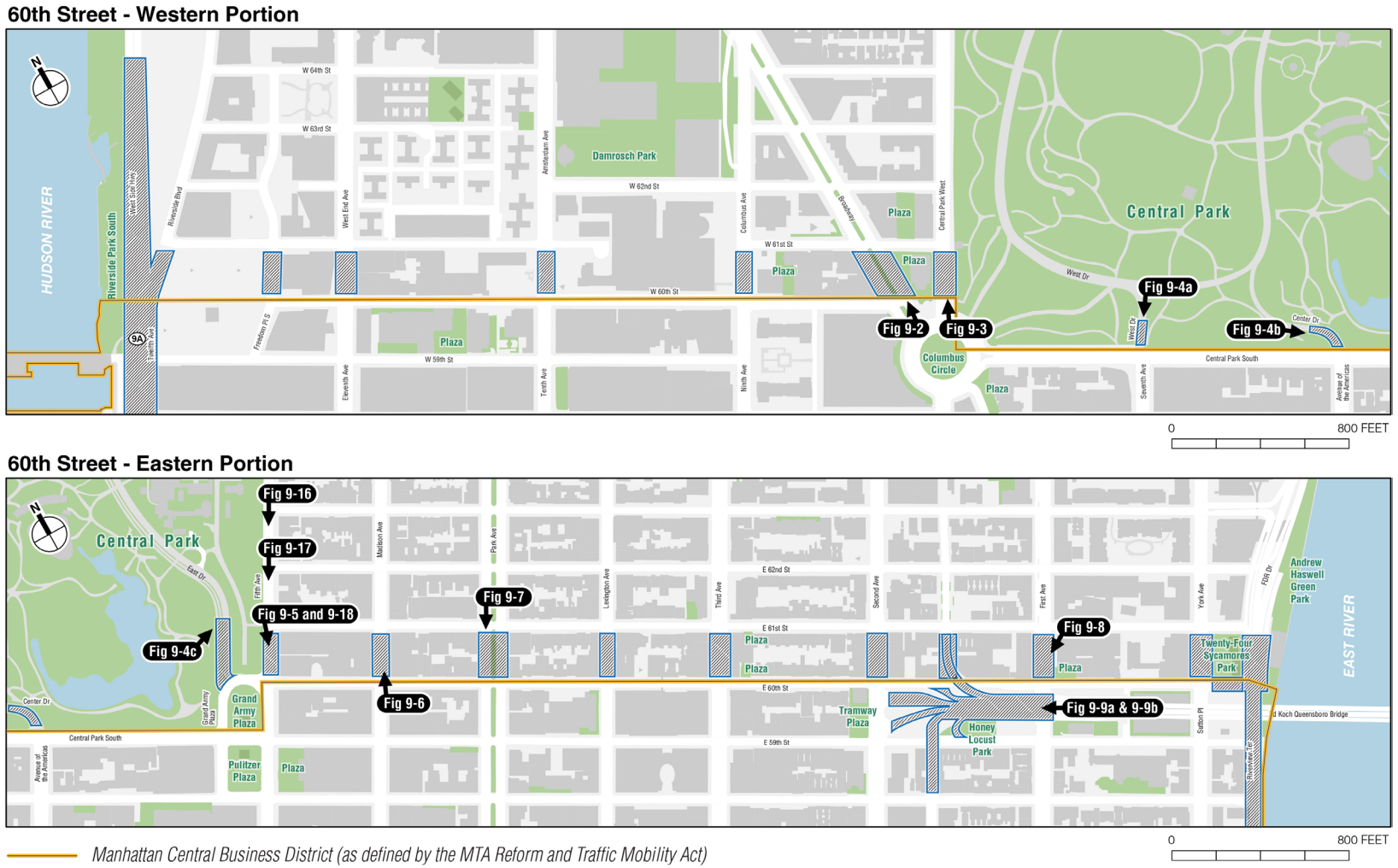
For the various viewer groups in the area of visual effect—including residential, recreational, institutional, civic, retail, and commercial "neighbors" (i.e., those who may have a view of the Project), and commuting, touring, and shipping "travelers" (i.e., those who would use the affected roadways)—the visual changes introduced by the CBD Tolling Alternative would be minimal in the context of the urban landscape and are not likely to result in a change in visual quality as perceived by these viewers. Therefore, the CBD Tolling Alternative would have a neutral effect on viewer groups.

Figure 9-1a. Area of Visual Effect and Photo Key for Renderings



Source: Department of Information Technology & Telecommunications. NYC Open Data, NYC Planimetrics. https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d.

Figure 9-1b. Area of Visual Effect and Photo Key for Renderings: 60th Street



Source: Department of Information Technology & Telecommunications. NYC Open Data, NYC Planimetrics. https://data.cityofnewyork.us/Transportation/NYC-Planimetrics/wt4d-p43d.

Figure 9-2. Comparison Views of No Action Alternative and CBD Tolling Alternative: Broadway at West 60th Street



No Action Alternative, view northwest at Broadway



CBD Tolling Alternative, view northwest at Broadway

Figure 9-3. Comparison Views of No Action Alternative and CBD Tolling Alternative: Central Park West at West 60th Street Near Columbus Circle



No Action Alternative, view north

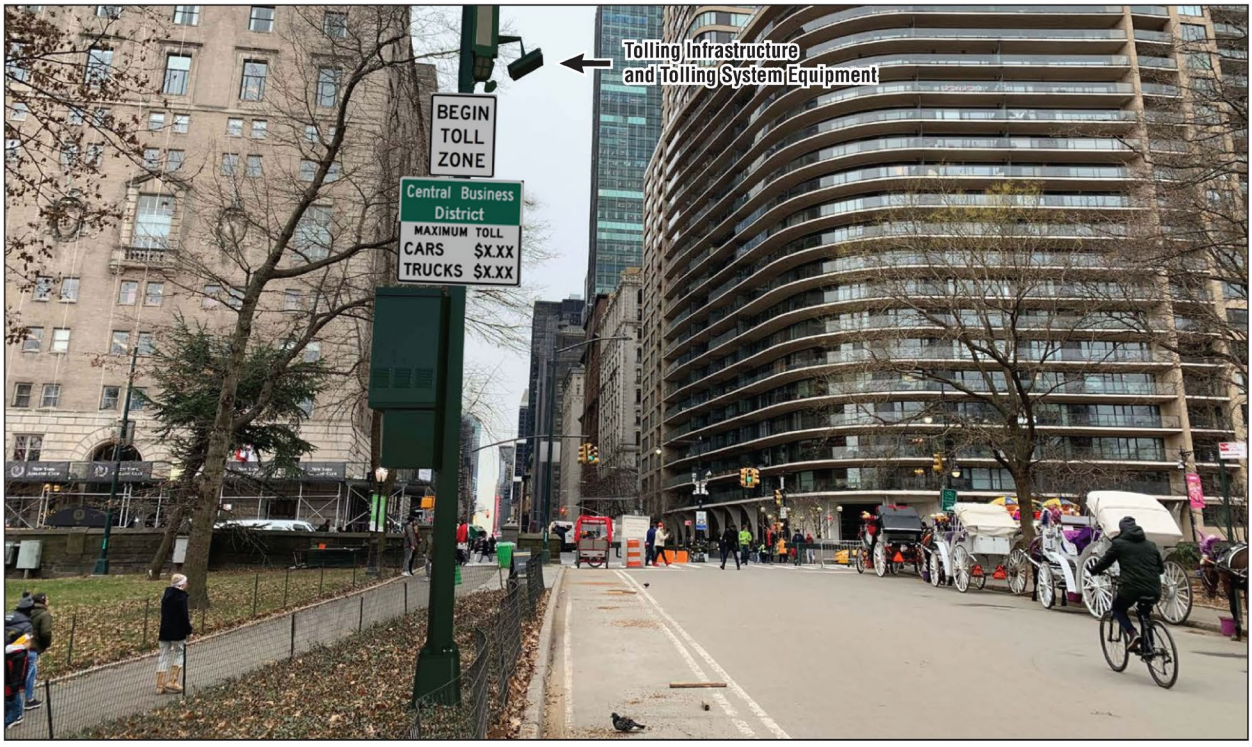


CBD Tolling Alternative, view north

Figure 9-4a. Comparison Views of No Action Alternative and CBD Tolling Alternative: Central Park West Drive near Seventh Avenue



No Action Alternative, view south



CBD Tolling Alternative, view south

Figure 9-4b. Comparison Views of No Action Alternative and CBD Tolling Alternative: Central Park Center Drive near Sixth Avenue



No Action Alternative, view southeast



CBD Tolling Alternative, view southeast

Figure 9-4c. Comparison Views of No Action Alternative and CBD Tolling Alternative: Central Park East Drive Near Grand Army Plaza

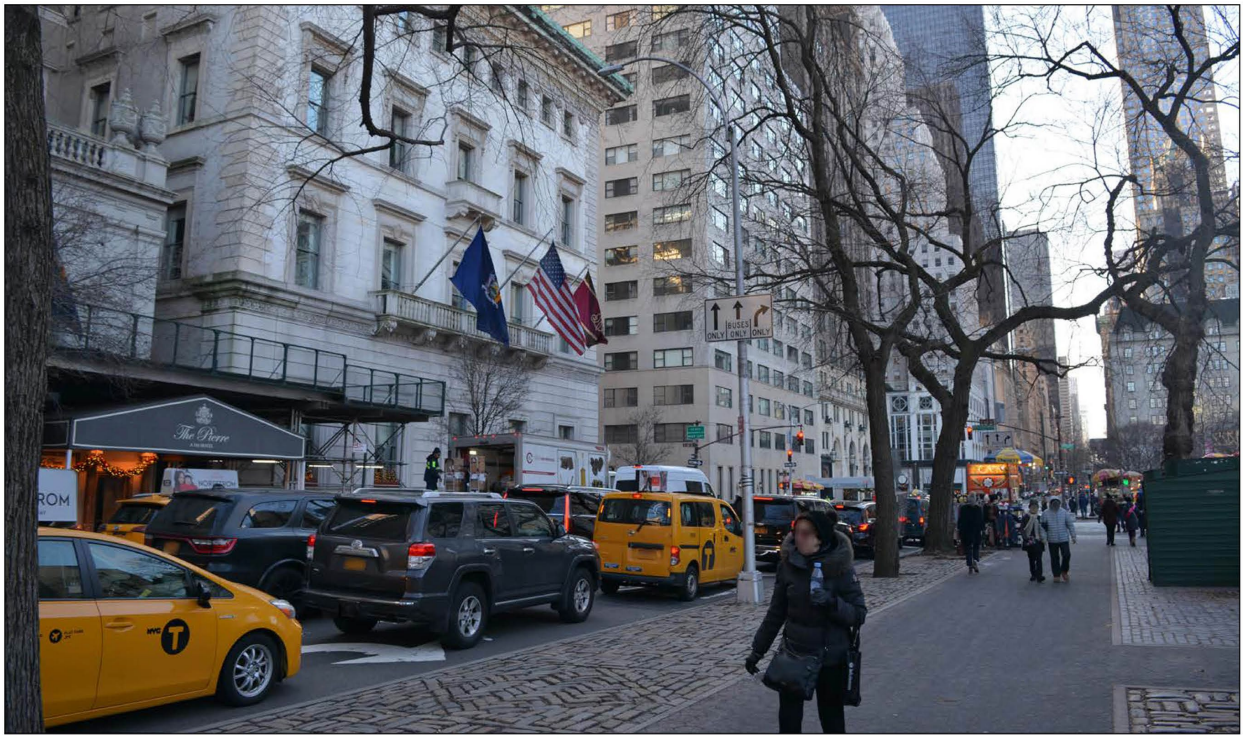


No Action Alternative, view northeast

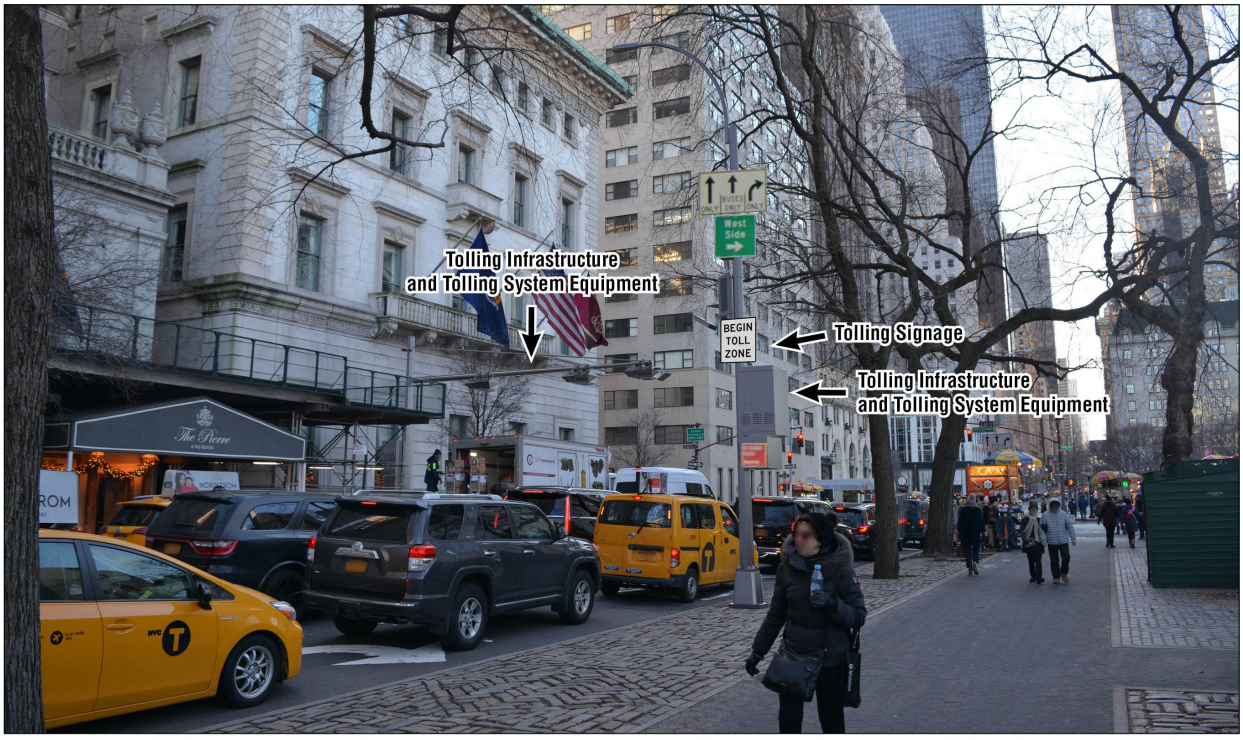


CBD Tolling Alternative, view northeast

Figure 9-5. Comparison Views of No Action Alternative and CBD Tolling Alternative: Fifth Avenue at East 60th Street



No Action Alternative, view south



CBD Tolling Alternative, view south

Figure 9-6. Comparison Views of No Action Alternative and CBD Tolling Alternative: Madison Avenue at East 60th Street



No Action Alternative, view north

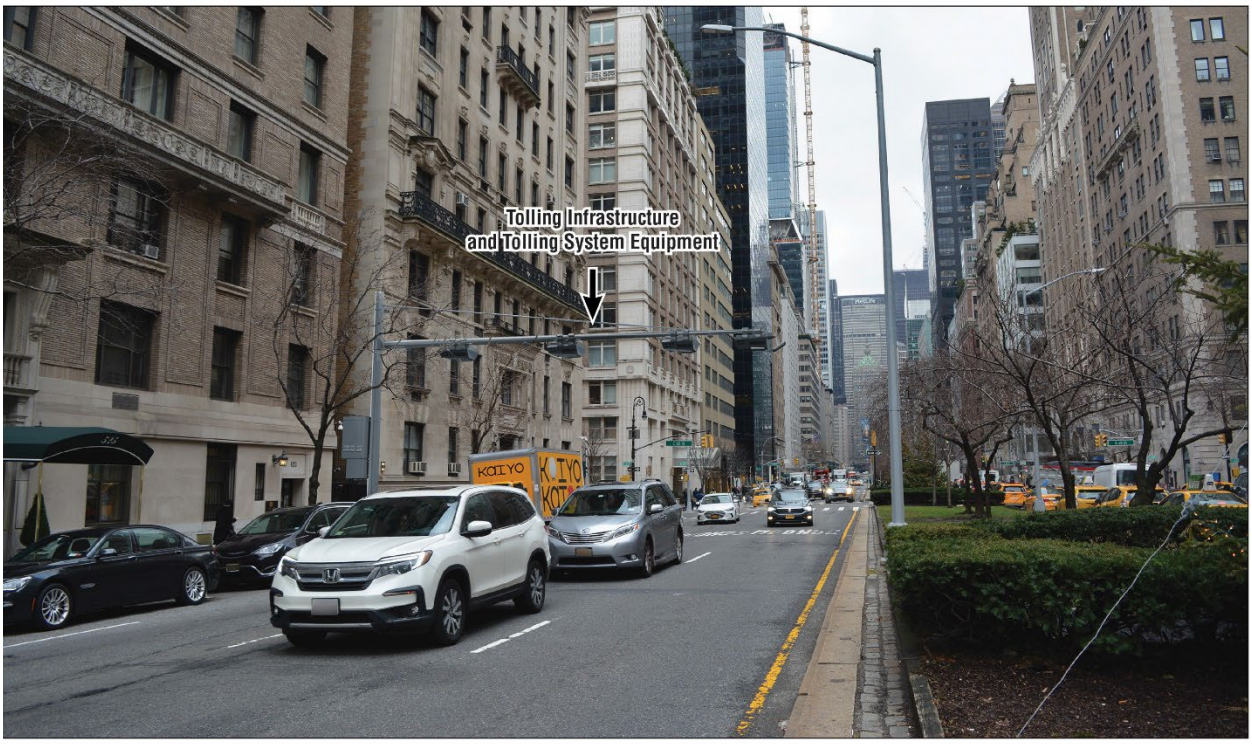


CBD Tolling Alternative, view north

Figure 9-7. Comparison Views of No Action Alternative and CBD Tolling Alternative, Park Avenue at East 60th Street



No Action Alternative, view south from East 60th Street crosswalk

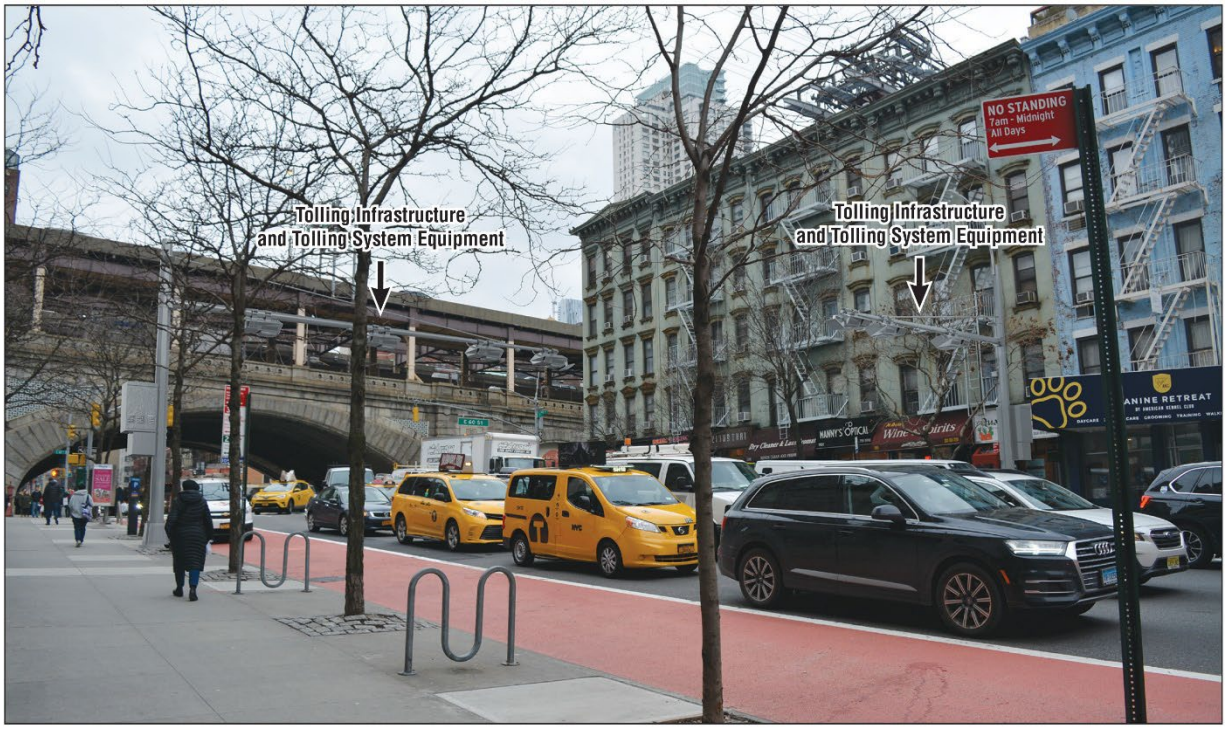


CBD Tolling Alternative, view south from East 60th Street crosswalk

Figure 9-8. Comparison Views of No Action Alternative and CBD Tolling Alternative: First Avenue at East 60th Street



No Action Alternative, view southwest

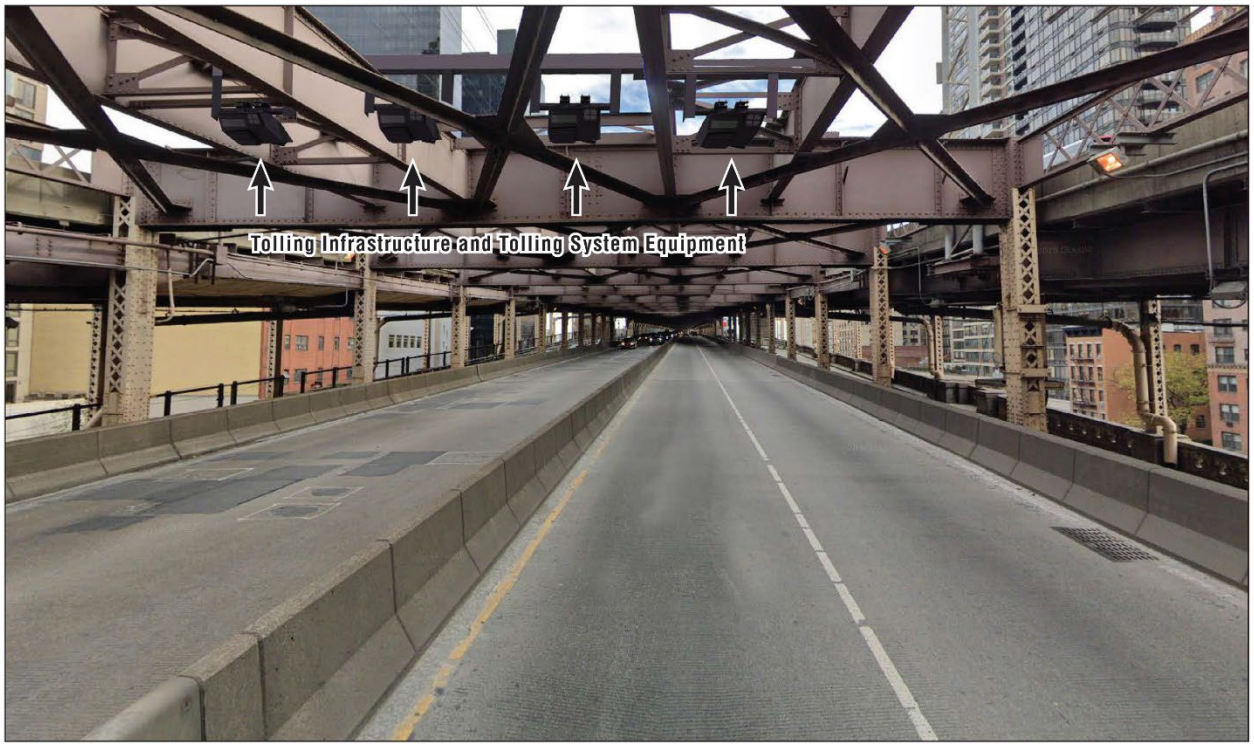


CBD Tolling Alternative, view southwest

Figure 9-9a. Comparison Views of No Action Alternative and CBD Tolling Alternative: Ed Koch Queensboro Bridge Lower Level Westbound and Eastbound



No Action Alternative

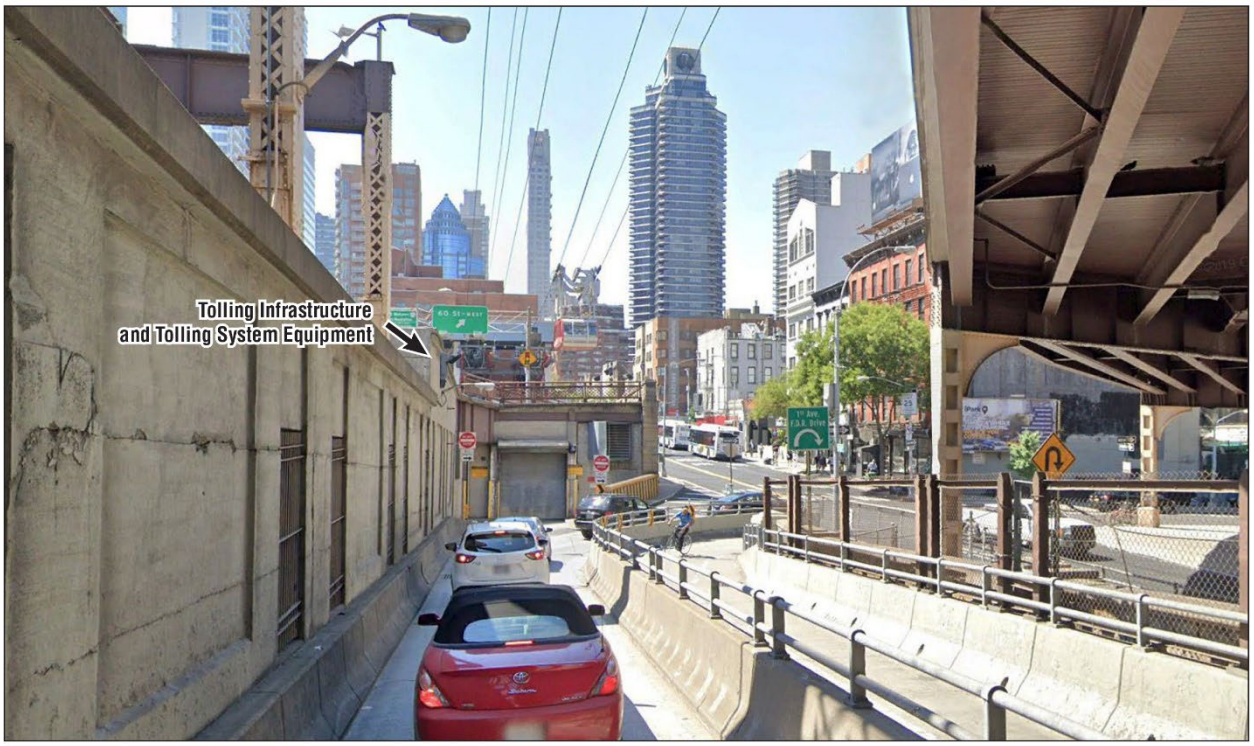


CBD Tolling Alternative

Figure 9-9b. Comparison Views of No Action Alternative and CBD Tolling Alternative:
Ed Koch Queensboro Bridge Lower Level, Westbound Approaching East 60th Street

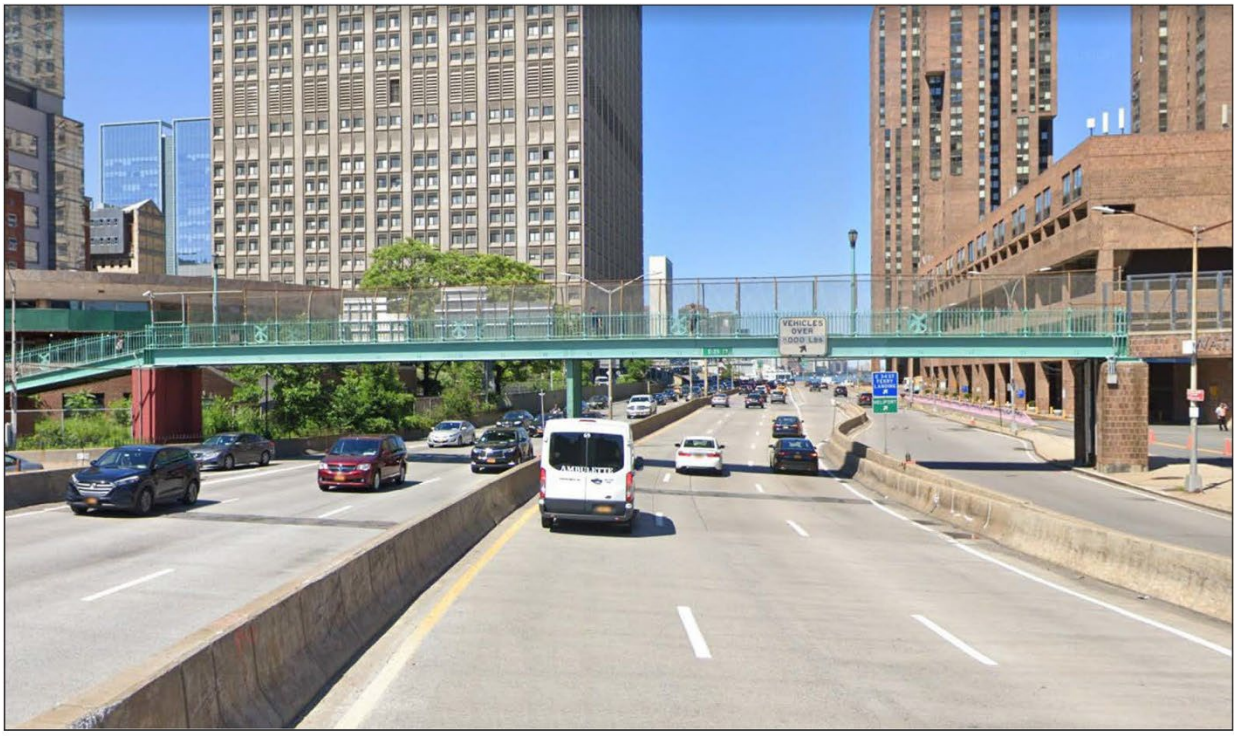


No Action Alternative, view west

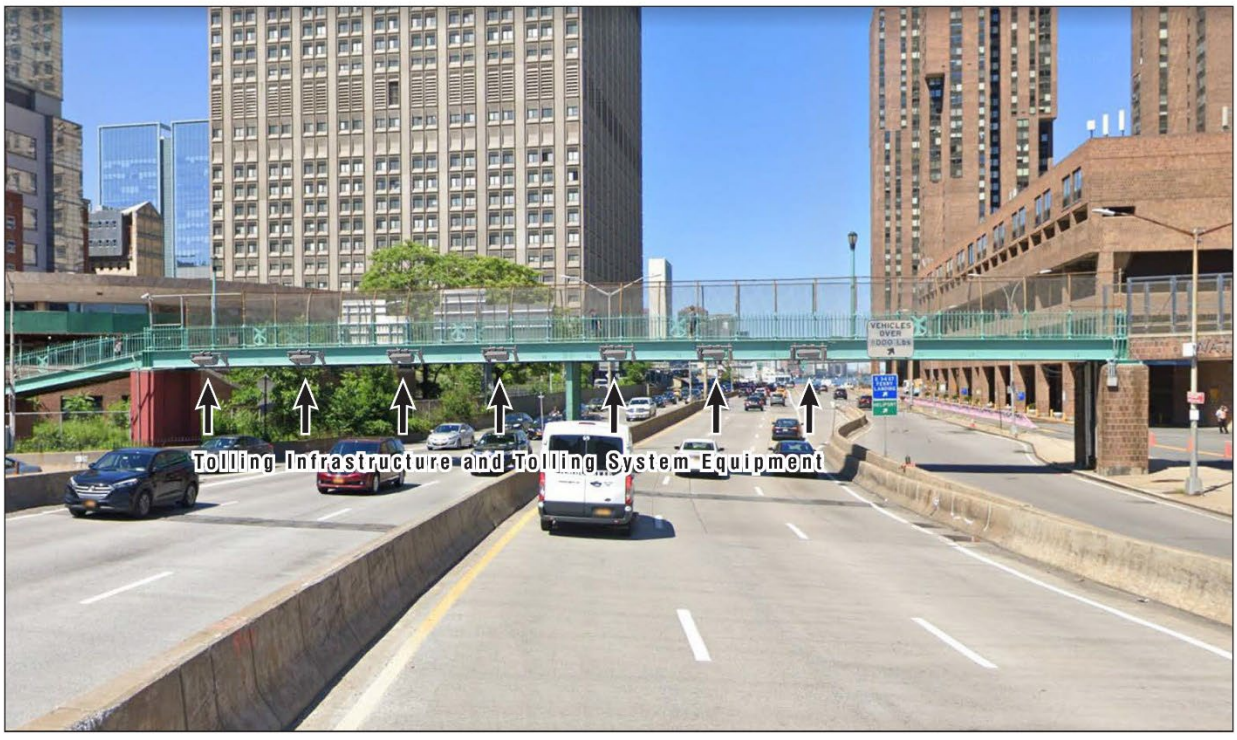


CBD Tolling Alternative, view west

Figure 9-10. Comparison Views of No Action Alternative and CBD Tolling Alternative: FDR Drive at East 5th Street



No Action Alternative, view north



CBD Tolling Alternative, view north

Figure 9-11. Comparison Views of No Action Alternative and CBD Tolling Alternative: Manhattan Bridge Westbound Center Lanes

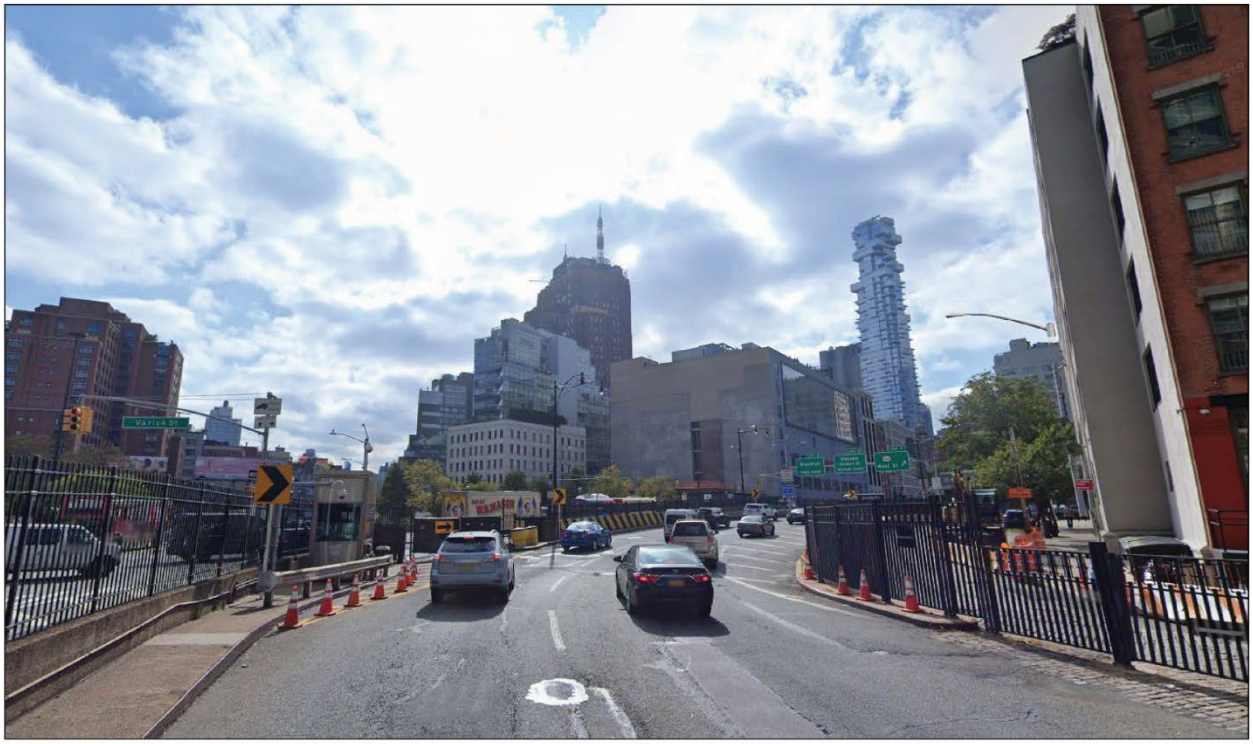


No Action Alternative, view northwest



CBD Tolling Alternative, view northwest

Figure 9-12. Comparison Views of No Action Alternative and CBD Tolling Alternative: Vestry Street at Holland Tunnel Exit



No Action Alternative, view south



CBD Tolling Alternative, view south

Figure 9-13. Comparison Views of No Action Alternative and CBD Tolling Alternative: High Line at Tenth Avenue and West 30th Street



No Action Alternative, view north on Tenth Avenue



CBD Tolling Alternative, view north on Tenth Avenue

Figure 9-14a. Comparison Views of No Action Alternative and CBD Tolling Alternative: Lincoln Tunnel North Tube

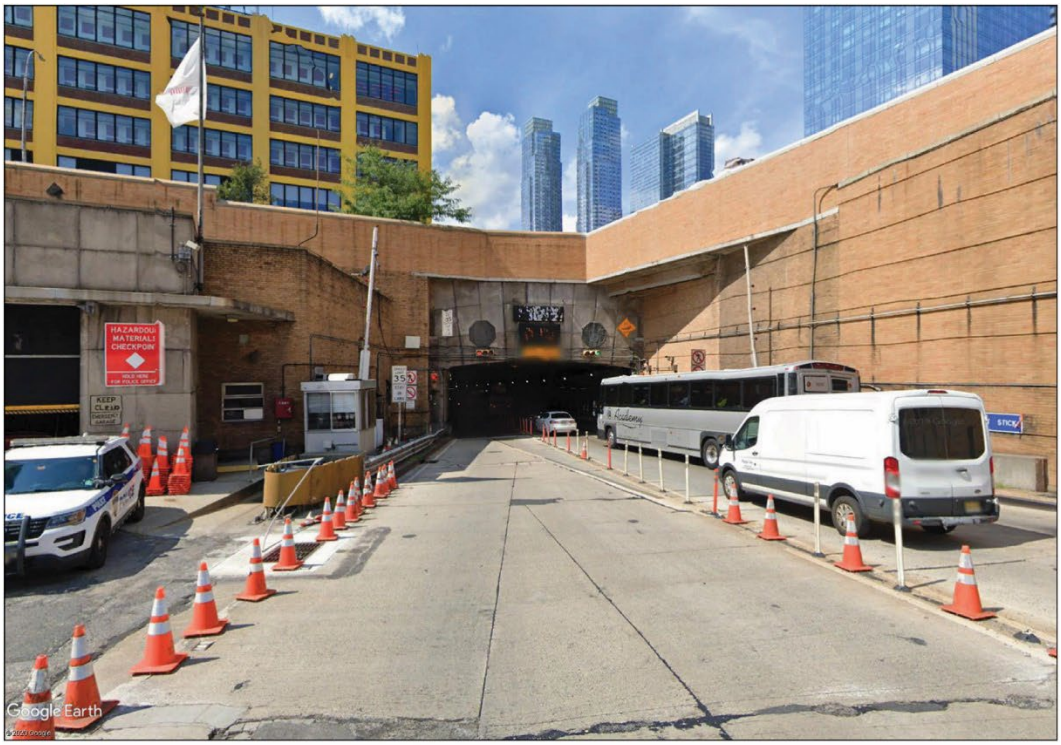


No Action Alternative



CBD Tolling Alternative

Figure 9-14b. Comparison Views of No Action Alternative and CBD Tolling Alternative: Lincoln Tunnel Center Tube



No Action Alternative



CBD Tolling Alternative

Figure 9-15. Comparison Views of No Action Alternative and CBD Tolling Alternative: West 40th Street West of Ninth Avenue



No Action Alternative, view northeast



CBD Tolling Alternative, view northeast

Figure 9-16. Rendering of Proposed New Signage, Fifth Avenue between East 66th and 67th Streets



Figure 9-17. Rendering of Proposed New Signage, Fifth Avenue between East 62nd and 63rd Streets



Figure 9-18. Rendering of Proposed New Signage, Fifth Avenue at East 60th Street



Attachment 1
Visual Impact Assessment Scoping Questionnaire

The Federal Highway Administration (FHWA) guidance, *Guidelines for the Visual Impact Assessment of Highway Projects* (January 2015),[8] provides procedures for assessing the impact of roadway projects on prominent visual resources and aesthetic conditions of the surrounding communities. The guidance begins with a "visual impact assessment (VIA) decision tree," a process to determine whether a VIA is required for a project and, if so, the appropriate level of documentation, ranging from a VIA memorandum, to an abbreviated VIA, a standard VIA, or an expanded VIA. The appropriate level of analysis is based on the potential visual effects of a project. The guidance calls for a scoping tool, the Visual Impact Assessment (VIA) Scoping Questionnaire, to help determine first if a visual impact assessment is necessary, and if so, the level of detail needed to fulfill regulatory and judicial requirements.[9] Noting that "the assessment of visual impacts should not place an undue burden on the government entities providing those transportation services and improvements necessary for the health, safety, and welfare of the communities they serve," the guidance recommends that no assessment be prepared if there would be no noticeable visible changes to visual resources, viewers, or visual quality and that if there would be a visual change, the level of assessment be tailored to the potential level of visual change.[10]

The Project Sponsors completed the Visual Impact Assessment Scoping Questionnaire for the Central Business District (CBD) Tolling Program (the Project), and based on the resulting score for the Project, determined that no visual impact assessment is required. This appendix provides the Visual Impact Assessment Scoping Questionnaire that the Project Sponsors completed for the Project.

The FHWA guidance notes that producing a Visual Impact Assessment can be complicated and it describes recommended skills, training, and experience for authors of a Visual Impact Assessment. The Visual Impact Assessment Scoping Questionnaire provided in this appendix was prepared, as noted, by Christopher M. Calvert, AICP, a Senior Vice President at AKRF, Inc. Mr. Calvert is an urban planner with 25 years of experience in preparing environmental assessments for large-scale FHWA transportation projects. Given that the Scoping Questionnaire demonstrates that no Visual Impact Assessment is needed for the Project, a practitioner with the recommended skills, training, and experience for authors of such an assessment is not necessary.

---

8 Federal Highway Administration. January 2015. *Guidelines for the Visual Impact Assessment of Highway Projects*. FHWA-HEP-15-029. https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx.

9 Refer to FHWA's *Visual Impact Assessment Guidelines of Highway Projects*, Chapter 3, for more information. https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx#chap3.

10 Ibid. pp. 3–5.

Visual Impact Assessment Scoping Questionnaire

Project Name: **Central Business District Tolling Program** Site Visit Date: **Various, 2019, 2020, 2021**

Location: **New York County (Manhattan), New York** Time: **9 AM - 3 PM**

Special Conditions/Notes: **The area of visual effect is the area where proposed tolling infrastructure and tolling system equipment would be installed, in Manhattan generally south of 61st Street.** Conducted By: **Christopher M. Calvert, AICP**

Environmental Compatibility

1. *Will the project result in a noticeable change in the physical characteristics of the existing environment?* (Consider all project components and construction impacts - both permanent and temporary, including landform changes, structures, noise barriers, vegetation removal, railing, signage, and contractor activities.)

- ☐ High level of permanent change (3)
- ☐ Moderate level of permanent change (2)
- ☑ Low level of permanent or temporary change (1)
- ☐ No Noticeable Change (0)

2. *Will the project complement or contrast with the visual character desired by the community?* (Evaluate the scale and extent of the project features compared to the surrounding scale of the community. Is the project likely to give an urban appearance to an existing rural or suburban community? Do you anticipate that the change will be viewed by the public as positive or negative? Research planning documents, or talk with local planners and community representatives to understand the type of visual environment local residents envision for their community.)

- ☐ Low Compatibility (3)
- ☐ Moderate Compatibility (2)
- ☑ High compatibility (1)

3. *What level of local concern is there for the types of project features (e.g., bridge structures, large excavations, sound barriers, or median planting removal) and construction impacts that are proposed?* (Certain project improvements can be of special interest to local citizens, causing a heightened level of public concern, and requiring a more focused visual analysis.)

- ☐ High concern (3)
- ☐ Moderate concern (2)
- ☐ Low concern (1)
- ☑ Negligible Project Features (0)

4. *Is it anticipated that to mitigate visual impacts, it may be necessary to develop extensive or novel mitigation strategies to avoid, minimize, or compensate for adverse impacts or will using conventional mitigation strategies, such as landscape or architectural treatment adequately mitigate adverse visual impacts?*

☐ Extensive Non-Conventional Mitigation Likely (3)
☐ Some non-conventional Mitigation Likely (2)
☐ Only Conventional Mitigation Likely (1)
☑ No Mitigation Likely (0)

5. Will this project, when seen collectively with other projects, result in an aggregate adverse change (cumulative impacts) in overall visual quality or character? (Identify any projects [both state and local] in the area that have been constructed in recent years and those currently planned for future construction. The window of time and the extent of area applicable to possible cumulative impacts should be based on a reasonable anticipation of the viewing public's perception.)

☐ Cumulative Impacts likely: 0-5 years (3)
☐ Cumulative Impacts likely: 6-10 years (2)
☑ Cumulative Impacts unlikely (1)

Viewer Sensitivity

1. *What is the potential that the project proposal may be controversial within the community, or opposed by any organized group?* (This can be researched initially by talking with the state DOT and local agency management and staff familiar with the affected community's sentiments as evidenced by past projects and/or current information.)

☐ High Potential (3)
☐ Moderate Potential (2)
☑ Low Potential (1)
☐ No Potential (0)

2. *How sensitive are potential viewer-groups likely to be regarding visible changes proposed by the project?* (Consider among other factors the number of viewers within the group, probable viewer expectations, activities, viewing duration, and orientation. The expected viewer sensitivity level may be scoped by applying professional judgment, and by soliciting information from other DOT staff, local agencies and community representatives familiar with the affected community's sentiments and demonstrated concerns.)

☐ High Sensitivity (3)
☐ Moderate Sensitivity (2)
☑ Low Sensitivity (1)

3. *To what degree does the project's aesthetic approach appear to be consistent with applicable laws, ordinances, regulations, policies or standards?*

☐ Low Compatibility (3) ☐ Moderate Compatibility (2)
☑ High compatibility (1)

4. *Are permits going to be required by outside regulatory agencies (i.e., Federal, State, or local)?* (Permit requirements can have an unintended consequence on the visual environment. Anticipated permits, as well as specific permit requirements - which are defined by the permitter, may be determined by talking with the project environmental planner and project engineer. Note: coordinate with the state DOT representative responsible for obtaining the permit prior to communicating directly with any permitting agency. Permits that may benefit from additional analysis include permits that may result in visible built features, such as infiltration basins or devices under a storm water permit or a retaining wall for wetland avoidance or permits for work in sensitive areas such as coastal development permits or on Federal lands, such as impacts to Wild and Scenic Rivers.)

☐ Yes (3) ☐ Maybe (2)
☑ No (1)

5. *Will the project sponsor or public benefit from a more detailed visual analysis in order to help reach consensus on a course of action to address potential visual impacts?* (Consider the proposed project features, possible visual impacts, and probable mitigation recommendations.)

☐ Yes (3) ☐ Maybe (2)
☑ No (1)

Determining the Level of Visual Impact Assessment

Total the scores of the answers to all ten questions on the Visual Impact Assessment Scoping Questionnaire. Use the total score from the questionnaire as an indicator of the appropriate level of VIA to perform for the project. Confirm that the level suggested by the checklist is consistent with the project teams' professional judgments. If there remains doubt about whether a VIA needs to be completed, it may be prudent to conduct an Abbreviated VIA. If there remains doubt about the level of the VIA, begin with the simpler VIA process. If visual impacts emerge as a more substantial concern than anticipated, the level of VIA documentation can always be increased.

The level of the VIA can initially be based on the following ranges of total scores:

☐ ***Score 25-30***
An *Expanded VIA* is probably necessary. It is recommended that it should be proceeded by a formal visual scoping study prior to beginning the VIA to alert the project team to potential highly adverse impacts and to develop new project alternatives to avoid those impacts. These technical studies will likely receive state-wide, even national, public review. Extensive use of visual simulations and a comprehensive public involvement program would be typical.

☐ ***Score 20-24***
A *Standard VIA* is recommended. This technical study will likely receive extensive local, perhaps state-wide, public review. It would typically include several visual simulations. It would also include a thorough examination of public planning and policy documents supplemented with a direct public engagement processes to determine visual preferences.

☐ ***Score 15-19***
An *Abbreviated VIA* would briefly describe project features, impacts and mitigation requirements. Visual simulations would be optional. An Abbreviated VIA would receive little direct public interest beyond a summary of its findings in the project's environmental documents. Visual preferences would be based on observation and review of planning and policy documents by local jurisdictions.

☐ ***Score 10-14***
A *VIA Memorandum* addressing minor visual issues that indicates the nature of the limited impacts and any necessary mitigation strategies that should be implemented would likely be sufficient along with an explanation of why no formal analysis is required.

☑ ***Score 6-9***
No noticeable physical changes to the environment are proposed and no further analysis is required. Print out a copy of this completed questionnaire for your project file to document that there is no effect. A *VIA Memorandum* may be used to document that there is no effect and to explain the approach used for the determination.

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 10, Air Quality

August 2022

Contents

10A, Description of Pollutants and MOVES Modeling Files (Electronic)

10B, Project-Level Hot-Spot Screening Procedure

10C, Highway Link Particulate Matter Hot-Spot Detailed Assessment (Methodology, Interagency Consultation, and Results)

10D, Changes in Annual Average Daily Traffic (AADT)

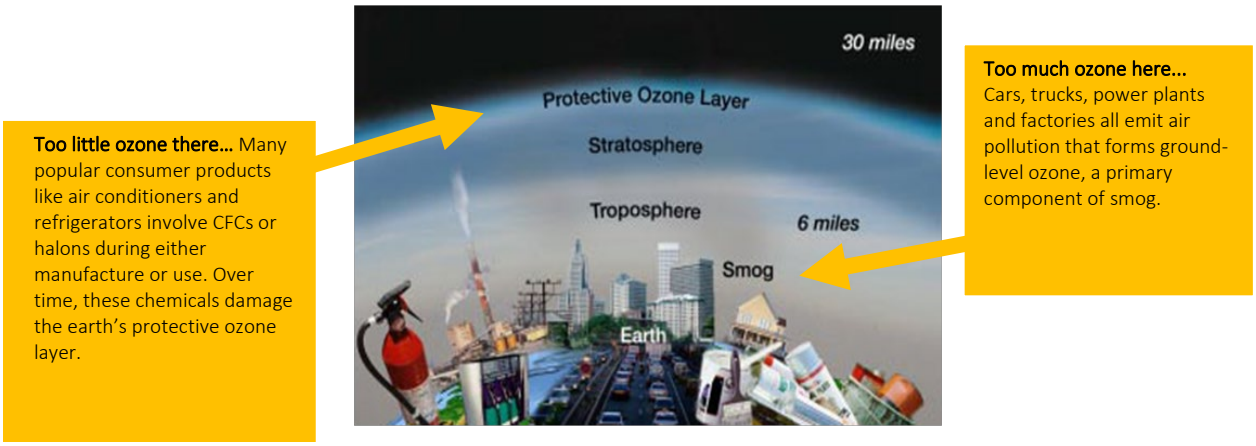
10A, Description of Pollutants and MOVES Modeling Files (Electronic)

10A.1 Criteria and Mobile Source Air Toxic Descriptions

Ozone

Ozone (O_3) is a colorless toxic gas. As shown in **Figure 10A-1**, O_3 is found in both the Earth's upper and lower atmospheric levels. In the upper atmosphere, O_3 is a naturally occurring gas that helps to prevent the sun's harmful ultraviolet rays from reaching the Earth. In the lower layer of the atmosphere, O_3 is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOCs). This happens when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources chemically react in the presence of sunlight.

Figure 10A-1. Ozone in the Atmosphere



Source: EPA

O_3 at ground level is a harmful air pollutant, because of its effects on people and the environment, and it is the main ingredient in "smog." O_3 in the air we breathe can harm our health. People most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers.

Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and airway inflammation. It also can reduce lung function and harm lung tissue. Ozone can worsen bronchitis, emphysema, and asthma, leading to increased medical care. O_3 also damages vegetation by inhibiting its growth. The effects of changes in VOC and NOx emissions are examined on a regional level.

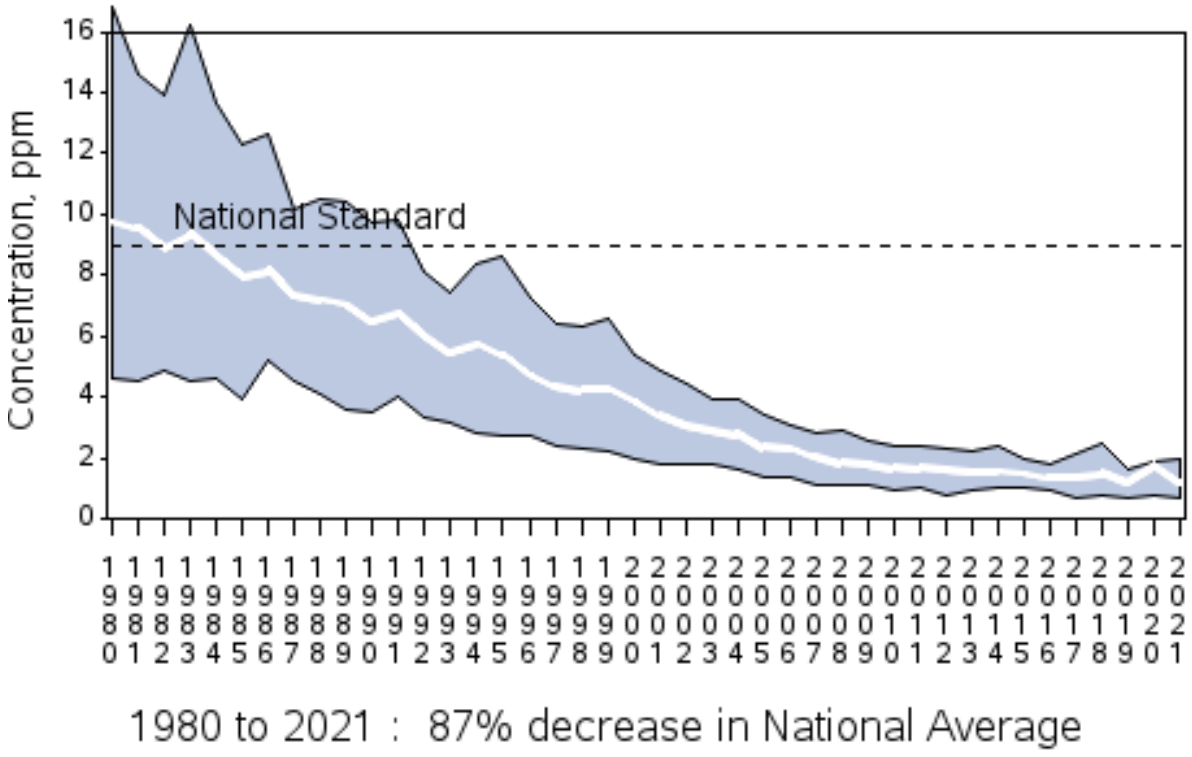
Carbon Monoxide

Carbon monoxide (CO) is a colorless gas that interferes with the transfer of oxygen to the brain. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. Motor vehicle emissions (on-road motor vehicle exhaust) are the primary source of CO. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Prolonged exposure to high levels of CO can cause headaches, drowsiness, loss of equilibrium, or heart disease. CO levels are generally highest in the colder months of the year when temperature inversions (when warmer air traps colder air near the ground) and/or stable atmospheric conditions are more frequent.

CO concentrations can vary greatly over relatively short distances. Relatively high concentrations of CO are typically found near congested intersections, along heavily used roadways carrying slow-moving traffic, and in areas where atmospheric dispersion is inhibited by urban "street canyon" conditions. Consequently, CO concentrations are predicted on a microscale basis.

As shown in **Figure 10A-2**, national 8-hour average CO levels have decreased by 87 percent between 1980 and 2021. This reduction is due in large part to the Clean Air Act (CAA). The CAA required the U.S. Environmental Protection Agency (EPA) to issue a series of rules to reduce pollution from vehicle exhaust, refueling emissions and evaporating gasoline. As a result, emissions from a new car purchased today are over 90 percent cleaner than a new vehicle purchased in 1970. This applies to SUVs and pickup trucks, as well. As cleaner vehicles enter the national fleet and older vehicles are taken out of service, emissions continue to drop.

Figure 10A-2: CO Air Quality, 1980-2021



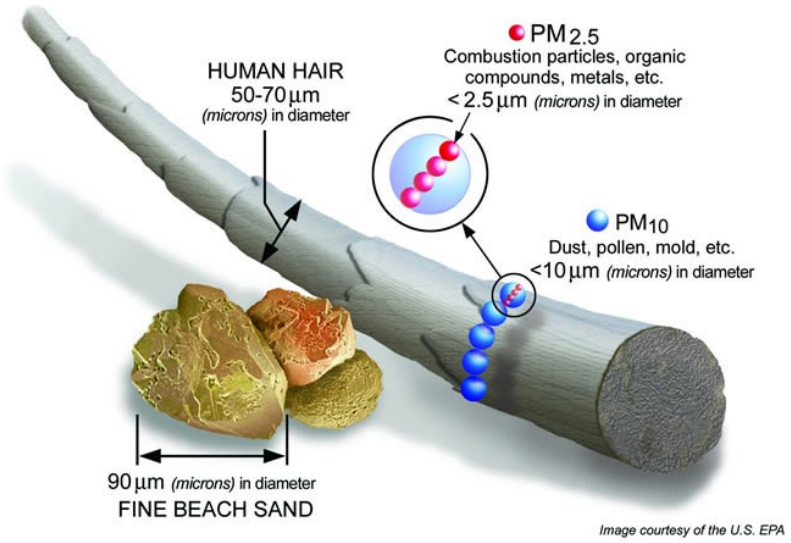
Source: https://www.epa.gov/air-trends/carbon-monoxide-trends#conat

Particulate Matter and Black Carbon

Particulate pollution is composed of solid particles or liquid droplets that are small enough to remain suspended in the air. In general, particulate pollution can include dust, soot, salts, acids, metals and smoke; these can be irritating but usually are not poisonous. Particulate pollution also can include bits of solid or liquid substances that can be highly toxic. Of particular concern are those particles that are smaller than, or equal to, 10 microns (PM_{10}) or 2.5 microns ($PM_{2.5}$) in size. A micron, also referred to as a micrometer, is

a millionth of a meter. PM_{10} refers to particulate matter less than or equal to 10 microns in diameter, about one-seventh the thickness of a human hair (**Figure 10A-3**).

Figure 10A-3: Relative Particulate Matter Size



Source: EPA Office of Air and Radiation

Major sources of PM_{10} include motor vehicles; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Suspended particulates produce haze and reduce visibility. Data collected through numerous nationwide studies indicate that most of the PM_{10} comes from the following:

- Fugitive dust
- Wind erosion
- Agricultural and forestry sources

A small portion of particulate matter is the product of fuel combustion processes. In the case of $PM_{2.5}$, the combustion of fossil fuels accounts for a large portion of this pollutant. The main health effect of airborne particulate matter is on the respiratory system. $PM_{2.5}$ refers to particulates that are 2.5 microns or less in diameter, roughly 1/28th the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur dioxide (SO_2), nitrogen oxides, and volatile organic compounds. Black carbon (BC) is one component of $PM_{2.5}$ and is emitted from diesel exhaust and other sources. Like PM_{10}, $PM_{2.5}$ can penetrate the human respiratory system's natural defenses and damage the respiratory tract when inhaled. Whereas particles 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues.

Nitrogen Dioxide and Nitric Oxide

Nitrogen dioxide (NO_2), a brownish gas, irritates the lungs. It can cause breathing difficulties at high concentrations. Like O_3, NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as nitrogen oxides (NOx) and are major contributors to ozone formation. NO_2 also contributes to the formation of PM_{10}, small liquid and solid particles that are less than 10 microns in diameter (see discussion of PM_{10} above). At atmospheric concentration, NO_2 is only potentially irritating. In high concentrations, the result is a brownish-red cast to the atmosphere and reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 parts per million (ppm).

Lead

Pb is a stable element that persists and accumulates both in the environment and in animals. Its principal effects in humans are on the blood-forming, nervous, and renal systems. Lead levels in the urban environment from mobile sources have substantially decreased due to the Federally mandated switch to lead-free gasoline.

Sulfur Dioxide

SO_2 is a product of high-sulfur fuel combustion. The main sources of SO_2 are coal and oil used in power stations, industry and for domestic heating. Industrial chemical manufacturing is another source of SO_2. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Mobile Source Air Toxics

In addition to the criteria pollutants for which there are National Ambient Air Quality Standards (NAAQS), EPA also regulates air toxics. Toxic air pollutants are those pollutants known or suspected to cause cancer or other serious health effects. Most air toxics originate from human made sources, including on-road mobile sources, nonroad mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Mobile source air toxics (MSATs) are a subset of the 188 air toxics defined by the CAA Amendments. MSAT are compounds emitted from highway vehicles and nonroad equipment. Some toxic compounds are present in fuel and are emitted into the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (http://www.epa.gov/iris/). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from its 2011 National Air Toxics Assessment (NATA) (https://www.epa.gov/national-air-toxics-assessment). These are:

- 1,3-butadiene – characterized as carcinogenic to humans by inhalation.
- Acetaldehyde – classified as a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- Acrolein – major effects from chronic (long-term) inhalation exposure consist of general respiratory congestion and eye, nose, and throat irritation. The potential carcinogenicity of acrolein cannot be determined based on existing data.
- Benzene – characterized as a known human carcinogen.
- Diesel particulate matter (DPM) – likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases. Diesel exhaust also represents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.
- Ethylbenzene – classified as a Group D, not classifiable as to human carcinogenicity. Chronic exposure to ethylbenzene by inhalation in humans has shown conflicting results regarding its effects on the blood.
- Formaldehyde – classified as a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- Naphthalene – classified naphthalene as a Group C, possible human carcinogen. Acute exposure of humans to naphthalene by inhalation, ingestion, and dermal contact is associated with hemolytic anemia, damage to the liver, and neurological damage. Cataracts have also been reported in workers acutely exposed to naphthalene by inhalation and ingestion.
- Polycyclic organic matter (POM) – defines a broad class of compounds that includes the polycyclic aromatic hydrocarbon compounds (PAHs), of which benzo[a]pyrene is a member. Cancer is the major concern from exposure to POM. EPA has classified seven PAHs (benzo[a]pyrene, benz[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene) as Group B2, probable human carcinogens.

10B, Project-Level Hot-Spot Screening Procedure

The following tables present the details of the screening analysis that was performed to determine if detailed microscale modeling for carbon monoxide (CO), particulate matter (PM_{10} or $PM_{2.5}$) would be required to assess the potential air quality effects of implementing the CBD Tolling Program. The screening was conducted using the criteria from NYSDOT's *The Environmental Manual*, Chapter 1.1. **Chapter 10, "Air Quality," Section 10.3.2.2** presents the results of the screening analysis.

Table 10B-1. Upper East Side Study Area – No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	E 60th Street & Queensboro Bridge Exit	0	0	807	618	Pass	NA	0	0	940	711	Pass	NA	0	0	473	243	Pass	NA	0	0	437	366	Pass	NA
2	E 60th Street & 3rd Ave	C	C	1720	1439	Pass	NA	C	C	1582	1238	Pass	NA	C	B	1477	939	Pass	NA	C	B	1676	1189	Pass	NA
3	E 60th Street & York Ave	C	C	1386	1128	Pass	NA	C	C	1653	1224	Pass	NA	C	B	1691	1151	Pass	NA	C	C	1402	1002	Pass	NA
4	E 59th Street & 2nd Ave	E	C	3246	2455	Pass	NA	D	C	3686	1731	Pass	NA	E	B	3803	1041	Pass	NA	C	A	3476	1035	Pass	NA
5	E 60th Street & 2nd Ave	C	C	2829	2368	Pass	NA	C	C	3188	2041	Pass	NA	C	B	3092	1109	Pass	NA	C	B	2939	976	Pass	NA
6	E 60th Street & 1st Ave	C	C	1740	1274	Pass	NA	C	C	1667	1158	Pass	NA	B	B	1469	847	Pass	NA	B	B	1727	1434	Pass	NA
7	E 60th Street & Lexington Ave	C	C	1495	1266	Pass	NA	C	C	1345	1006	Pass	NA	B	B	1205	711	Pass	NA	C	C	1640	903	Pass	NA
8a	E 60th Street & Park Ave NB	C	C	1476	1273	Pass	NA	C	C	1305	1037	Pass	NA	C	C	1474	1024	Pass	NA	C	C	974	822	Pass	NA
8b	E 60th Street & Park Ave SB	C	C	1754	1701	Pass	NA	B	B	1344	1225	Pass	NA	B	B	1325	1105	Pass	NA	B	B	1368	1094	Pass	NA
9	E 60th Street & Madison Ave	B	B	1392	1172	Pass	NA	B	B	1074	828	Pass	NA	C	B	1372	1007	Pass	NA	B	B	1374	1120	Pass	NA
10	E 62nd Street & Queensboro Bridge Exit	B	B	1638	1200	Pass	NA	B	B	1795	1645	Pass	NA	B	A	1308	672	Pass	NA	B	B	1880	2032	Pass	NA
11	E 60th Street & 5th Ave	C	C	1607	1313	Pass	NA	C	C	1270	955	Pass	NA	C	B	1209	827	Pass	NA	C	B	1508	956	Pass	NA
12	E 63rd Street & York Ave	C	C	2394	2086	Pass	NA	C	C	2457	1988	Pass	NA	D	D	2374	1869	Fail	Pass	C	C	2021	1437	Pass	NA
13	E 53rd Street & FDR Drive	0	0	491	454	Pass	NA	0	0	502	434	Pass	NA	0	0	528	444	Pass	NA	0	0	523	417	Pass	NA
14	E 61st Street & 5th Ave	C	B	1125	862	Pass	NA	B	B	918	629	Pass	NA	C	B	832	518	Pass	NA	C	B	1160	658	Pass	NA
15	E 65th Street & 5th Ave	D	C	1981	1841	Pass	NA	C	C	1555	1441	Pass	NA	C	C	1819	1701	Pass	NA	C	C	1680	1555	Pass	NA
16	E 66th Street & 5th Avenue	C	C	1590	1420	Pass	NA	C	C	1502	1365	Pass	NA	C	C	1616	1479	Pass	NA	C	C	1529	1360	Pass	NA
17	E 79th Street & 5th Ave	D	D	2012	1839	Fail	Pass	D	C	1920	1771	Pass	NA	D	C	2044	1879	Pass	NA	C	C	1653	1491	Pass	NA
18	E 71st Street & York Ave	C	C	1275	1120	Pass	NA	C	C	1361	1151	Pass	NA	C	C	1430	1183	Pass	NA	C	C	963	642	Pass	NA

Table 10B-2. Upper East Side Study Area – No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	E 60th Street & Queensboro Bridge Exit	0	0	-6	-4	0	-10	Pass	NA	0	0	-1	-4	0	-5	Pass	NA	0	0	0	-3	-1	-4	Pass	NA	0	0	-2	-1	0	-3	Pass	NA
2	E 60th Street & 3rd Ave	C	C	-21	-11	-1	-33	Pass	NA	C	C	-28	-11	0	-39	Pass	NA	C	B	-17	-16	0	-33	Pass	NA	C	B	-15	-6	0	-21	Pass	NA
3	E 60th Street & York Ave	C	C	-3	-6	0	-9	Pass	NA	C	C	-4	-7	0	-11	Pass	NA	C	B	-4	-6	0	-10	Pass	NA	C	C	-2	-4	0	-6	Pass	NA
4	E 59th Street & 2nd Ave	E	C	-53	-27	-3	-83	Pass	NA	D	C	-212	-30	-11	-253	Pass	NA	E	B	-303	-79	-8	-390	Pass	NA	C	A	-65	-31	-16	-112	Pass	NA
5	E 60th Street & 2nd Ave	C	C	-36	-25	-2	-63	Pass	NA	C	C	-99	-31	-1	-131	Pass	NA	C	B	-135	-82	-7	-224	Pass	NA	C	B	-53	-17	-16	-86	Pass	NA
6	E 60th Street & 1st Ave	C	C	-31	-19	-2	-52	Pass	NA	C	C	-46	-13	-3	-62	Pass	NA	B	B	-17	-21	-1	-39	Pass	NA	B	B	-6	-4	0	-10	Pass	NA
7	E 60th Street & Lexington Ave	C	C	-15	-10	-1	-26	Pass	NA	C	C	-22	-10	-1	-33	Pass	NA	B	B	-22	-13	0	-35	Pass	NA	C	C	-11	-10	-1	-22	Pass	NA
8a	E 60th Street & Park Ave NB	C	C	-60	-22	-4	-86	Pass	NA	C	C	-23	-11	-2	-36	Pass	NA	C	C	-8	-14	0	-22	Pass	NA	C	C	-6	-7	0	-13	Pass	NA
8b	E 60th Street & Park Ave SB	C	C	-3	-1	0	-4	Pass	NA	B	B	-5	-3	0	-8	Pass	NA	B	B	-2	-5	0	-7	Pass	NA	B	B	-3	-2	0	-5	Pass	NA
9	E 60th Street & Madison Ave	B	B	-16	-17	-1	-34	Pass	NA	B	B	-11	-10	-1	-22	Pass	NA	C	B	-7	-25	0	-32	Pass	NA	B	B	-3	-6	0	-9	Pass	NA
10	E 62nd Street & Queensboro Bridge Exit	B	B	-4	-4	0	-8	Pass	NA	B	B	-1	0	0	-1	Pass	NA	B	A	0	-2	0	-2	Pass	NA	B	B	-1	0	0	-1	Pass	NA
11	E 60th Street & 5th Ave	C	C	-8	-25	0	-33	Pass	NA	C	C	-7	-16	0	-23	Pass	NA	C	B	-10	-34	0	-44	Pass	NA	C	B	-3	-11	-1	-15	Pass	NA
12	E 63rd Street & York Ave	C	C	-2	-5	0	-7	Pass	NA	C	C	-4	-6	0	-10	Pass	NA	D	D	-3	-5	0	-8	Fail	Pass	C	C	-4	-2	0	-6	Pass	NA
13	E 53rd Street & FDR Drive	0	0	-1	0	0	-1	Pass	NA	0	0	-1	-2	0	-3	Pass	NA	0	0	0	-1	0	-1	Pass	NA	0	0	-1	0	0	-1	Pass	NA
14	E 61st Street & 5th Ave	C	B	-6	-23	0	-29	Pass	NA	B	B	-7	-15	0	-22	Pass	NA	C	B	-7	-20	0	-27	Pass	NA	C	B	-2	-10	-2	-14	Pass	NA
15	E 65th Street & 5th Ave	D	C	-2	-12	0	-14	Pass	NA	C	C	-4	-7	0	-11	Pass	NA	C	C	-1	-6	0	-7	Pass	NA	C	C	-1	-4	0	-5	Pass	NA
16	E 66th Street & 5th Avenue	C	C	-5	-13	0	-18	Pass	NA	C	C	-6	-7	0	-13	Pass	NA	C	C	-1	-6	0	-7	Pass	NA	C	C	-1	-4	0	-5	Pass	NA
17	E 79th Street & 5th Ave	D	D	-5	-13	0	-18	Fail	Pass	D	C	-2	-6	0	-8	Pass	NA	D	C	-2	-5	0	-7	Pass	NA	C	C	-1	-4	0	-5	Pass	NA
18	E 71st Street & York Ave	C	C	-3	-5	0	-8	Pass	NA	C	C	-4	-5	0	-9	Pass	NA	C	C	-5	-6	0	-11	Pass	NA	C	C	-4	-6	0	-10	Pass	NA

Table 10B-3. Long Island City Study Area - No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1a	Pulaski Bridge / 11th Street & Jackson Avenue	E	E	2473	2447	Fail	Pass	D	D	2030	2038	Fail	Pass	D	D	2690	2739	Fail	Pass	0	0	0	0	Pass	NA
1b	11th Street & 48TH Avenue	C	C	1305	1293	Pass	NA	C	C	1060	1068	Pass	NA	B	B	1361	1363	Pass	NA	0	0	0	0	Pass	NA
2	50th Avenue @ Vernon Blvd	B	B	544	553	Pass	NA	B	B	586	635	Pass	NA	B	B	648	739	Pass	NA	0	0	0	0	Pass	NA
3	Green Street & McGuiness Blvd	C	C	2487	2442	Pass	NA	C	C	1837	1774	Pass	NA	D	D	2201	2068	Fail	Pass	0	0	0	0	Pass	NA
4	McGuinness Blvd & Freeman Street	0	0	2723	2647	Pass	NA	0	0	2097	1965	Pass	NA	0	0	2570	2401	Pass	NA	0	0	0	0	Pass	NA
5	21st Street & 49th Avenue	D	D	948	941	Fail	Pass	D	C	875	880	Pass	NA	B	B	1108	1150	Pass	NA	0	0	0	0	Pass	NA
7	11th Street & Borden Avenue	0	0	1443	1409	Pass	NA	0	0	1696	1784	Pass	NA	0	0	1529	1670	Pass	NA	0	0	0	0	Pass	NA
8a	Van Dam Street & QMT Expy	D	C	2344	2200	Pass	NA	D	B	2192	2009	Pass	NA	C	C	2072	1852	Pass	NA	0	0	0	0	Pass	NA
8b	Van Dam Street & Borden Avenue	E	E	1376	1290	Fail	Pass	D	D	1276	1077	Fail	Pass	C	C	1373	1251	Pass	NA	0	0	0	0	Pass	NA
9	Jackson Ave / Northern Blvd & Queens Plaza	C	C	2556	2416	Pass	NA	0	0	2497	1966	Pass	NA	0	0	2582	1908	Pass	NA	0	0	0	0	Pass	NA
11a	Thomson Avenue & Dutch Kills Street	0	0	1681	1669	Pass	NA	C	C	1530	1483	Pass	NA	C	C	2143	2144	Pass	NA	0	0	0	0	Pass	NA
11b	Thomson Avenue & Dutch Kills Street	0	0	2523	2358	Pass	NA	0	0	2390	2344	Pass	NA	0	0	2798	2799	Pass	NA	0	0	0	0	Pass	NA
12	21st Street & Queens Plaza N	D	D	1998	1915	Fail	Pass	D	D	1723	1710	Fail	Pass	E	E	2298	2198	Fail	Pass	0	0	0	0	Pass	NA

Table 10B-4. Long Island City Study Area - No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1a	Pulaski Bridge / 11th Street & Jackson Avenue	E	E	0	0	0	0	Fail	Pass	D	D	0	0	0	0	Fail	Pass	D	D	0	0	0	0	Fail	Pass	0	0	0	0	0	0	Pass	NA
1b	11th Street & 48th Avenue	C	C	0	0	0	0	Pass	NA	C	C	0	0	0	0	Pass	NA	B	B	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA
2	50th Avenue @ Vernon Blvd	B	B	1	-1	0	0	Pass	NA	B	B	2	1	0	3	Pass	NA	B	B	3	1	0	4	Pass	NA	0	0	0	0	0	0	Pass	NA
3	Green Street & McGuiness Blvd	C	C	-2	-1	0	-3	Pass	NA	C	C	-6	-1	-1	-8	Pass	NA	D	D	-4	0	0	-4	Fail	Pass	0	0	0	0	0	0	Pass	NA
4	McGuinness Blvd & Freeman Street	0	0	-5	0	0	-5	Pass	NA	0	0	-11	-2	0	-13	Pass	NA	0	0	-6	-1	0	-7	Pass	NA	0	0	0	0	0	0	Pass	NA
5	21st Street & 49th Avenue	D	D	0	0	0	0	Fail	Pass	D	C	0	0	0	0	Pass	NA	B	B	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA
7	11th Street & Borden Avenue	0	0	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA
8a	Van Dam Street & QMT Expy	D	C	-10	-2	-1	-13	Pass	NA	D	B	-16	-2	-1	-19	Pass	NA	C	C	-12	-6	-1	-19	Pass	NA	0	0	0	0	0	0	Pass	NA
8b	Van Dam Street & Borden Avenue	E	E	-7	-1	0	-8	Fail	Pass	D	D	-14	-3	-2	-19	Fail	Pass	C	C	-9	-5	-1	-15	Pass	NA	0	0	0	0	0	0	Pass	NA
9	Jackson Ave / Northern Blvd & Queens Plaza	C	C	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA
11a	Thomson Avenue & Dutch Kills Street	0	0	-1	-1	0	-2	Pass	NA	C	C	-2	-1	0	-3	Pass	NA	C	C	0	1	0	1	Pass	NA	0	0	0	0	0	0	Pass	NA
11b	Thomson Avenue & Dutch Kills Street	0	0	-1	-1	0	-2	Pass	NA	0	0	-3	-3	-1	-7	Pass	NA	0	0	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA
12	21st Street & Queens Plaza N	D	D	0	0	0	0	Fail	Pass	D	D	-2	-1	0	-3	Fail	Pass	E	E	0	-1	0	-1	Fail	Pass	0	0	0	0	0	0	Pass	NA

Table 10B-5. Lower Manhattan Study Area – No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	Trinity Place & Edgar Street	B	B	117	97	Pass	NA	C	C	364	462	Pass	NA	C	C	144	138	Pass	NA	0	0	0	0	Pass	NA
2	Trinity Place & Rector Street	C	C	251	228	Pass	NA	C	C	508	584	Pass	NA	C	C	264	236	Pass	NA	0	0	0	0	Pass	NA
3a	HCT Entrance/Exit & West Street	C	C	4216	4200	Pass	NA	B	B	4055	4205	Pass	NA	A	A	3511	3597	Pass	NA	0	0	0	0	Pass	NA
3b	HCT Exit & West Street & West Thams Street	C	C	3339	3310	Pass	NA	C	C	3265	3237	Pass	NA	C	C	2373	2240	Pass	NA	0	0	0	0	Pass	NA
4	Chambers Street & Centre Street	C	C	1588	1489	Pass	NA	C	C	1409	988	Pass	NA	E	D	1873	1545	Fail	Pass	0	0	0	0	Pass	NA
5a	Canal Street & Hudson Street/Holland Tunnel On-Ramp	C	C	2586	2324	Pass	NA	D	D	1988	1525	Fail	Pass	C	C	1533	1452	Pass	NA	0	0	0	0	Pass	NA
5b	Canal Street & Holland Tunnel On-Ramp	E	E	2013	1905	Fail	Pass	C	B	1319	1091	Pass	NA	F	F	1889	1829	Fail	Pass	0	0	0	0	Pass	NA
7a	Canal Street S & West Street	D	D	5849	5740	Fail	Pass	C	C	4638	4610	Pass	NA	D	D	5146	4982	Fail	Pass	0	0	0	0	Pass	NA
9	West Street & Albany Street	C	C	4436	4422	Pass	NA	C	C	4149	4373	Pass	NA	C	C	4049	4070	Pass	NA	0	0	0	0	Pass	NA
10	West Street & Vesey Street	C	C	4668	4628	Pass	NA	C	C	4562	4701	Pass	NA	C	C	4373	4360	Pass	NA	0	0	0	0	Pass	NA
11	West Street & Chambers Street	D	C	5053	4961	Pass	NA	C	C	4845	4848	Pass	NA	D	C	4840	4721	Pass	NA	0	0	0	0	Pass	NA
14	Canal Street/Manhattan Bridge & Bowery	D	C	8718	8252	Pass	NA	C	B	2774	1769	Pass	NA	C	B	3276	2217	Pass	NA	0	0	0	0	Pass	NA
15	Manhattan Bridge & Bowery	C	B	1421	1149	Pass	NA	B	A	1162	630	Pass	NA	B	B	1395	792	Pass	NA	0	0	0	0	Pass	NA
18	6th Avenue & Watts Street	B	B	1884	1739	Pass	NA	B	B	1784	1525	Pass	NA	C	C	997	851	Pass	NA	0	0	0	0	Pass	NA
19	Canal Street & 6th Avenue/Laight Street	E	D	3634	3451	Fail	Pass	C	C	2555	2186	Pass	NA	C	C	2932	2631	Pass	NA	0	0	0	0	Pass	NA

Table 10B-6. Lower Manhattan Study Area – No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	Trinity Place & Edgar Street	B	B	-1	-10	0	-11	Pass	NA	C	C	10	-11	0	-1	Pass	NA	C	C	0	-4	0	-4	Pass	NA	0	0	0	0	0	0	Pass	NA
2	Trinity Place & Rector Street	C	C	-2	-8	0	-10	Pass	NA	C	C	3	14	0	17	Pass	NA	C	C	-1	-3	0	-4	Pass	NA	0	0	0	0	0	0	Pass	NA
3a	HCT Entrance/Exit & West Street	C	C	-2	8	0	6	Pass	NA	B	B	1	12	0	13	Pass	NA	A	A	0	17	0	17	Pass	NA	0	0	0	0	0	0	Pass	NA
3b	HCT Exit & West Street & West Thames Street	C	C	-1	0	0	-1	Pass	NA	C	C	-3	-1	0	-4	Pass	NA	C	C	-2	-4	0	-6	Pass	NA	0	0	0	0	0	0	Pass	NA
4	Chambers Street & Centre Street	C	C	-23	-40	0	-63	Pass	NA	C	C	-32	-152	0	-184	Pass	NA	E	D	-61	-124	0	-185	Fail	Pass	0	0	0	0	0	0	Pass	NA
5a	Canal Street & Hudson Street/Holland Tunnel On-Ramp	C	C	-17	-13	-1	-31	Pass	NA	D	D	-42	-6	-8	-56	Fail	Pass	C	C	-2	-1	0	-3	Pass	NA	0	0	0	0	0	0	Pass	NA
5b	Canal Street & Holland Tunnel On-Ramp	E	E	-13	-9	-3	-25	Fail	Pass	C	B	-33	-6	-10	-49	Pass	NA	F	F	-2	-1	0	-3	Fail	Pass	0	0	0	0	0	0	Pass	NA
7a	Canal Street S & West Street	D	D	-6	-5	0	-11	Fail	Pass	C	C	-5	-1	0	-6	Pass	NA	D	D	-5	-4	0	-9	Fail	Pass	0	0	0	0	0	0	Pass	NA
9	West Street & Albany Street	C	C	0	0	0	0	Pass	NA	C	C	6	4	0	10	Pass	NA	C	C	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA
10	West Street & Vesey Street	C	C	-1	-1	0	-2	Pass	NA	C	C	5	2	0	7	Pass	NA	C	C	-1	-1	0	-2	Pass	NA	0	0	0	0	0	0	Pass	NA
11	West Street & Chambers Street	D	C	-4	-2	0	-6	Pass	NA	C	C	1	0	0	1	Pass	NA	D	C	-2	-4	0	-6	Pass	NA	0	0	0	0	0	0	Pass	NA
14	Canal Street/Manhattan Bridge & Bowery	D	C	-44	-14	-4	-62	Pass	NA	C	B	-127	-31	-9	-167	Pass	NA	C	B	-48	-35	-1	-84	Pass	NA	0	0	0	0	0	0	Pass	NA
15	Manhattan Bridge & Bowery	C	B	0	0	0	0	Pass	NA	B	A	0	0	0	0	Pass	NA	B	B	0	0	0	0	Pass	NA	0	0	0	0	0	0	Pass	NA
18	6th Avenue & Watts Street	B	B	-7	-6	0	-13	Pass	NA	B	B	-9	-6	-1	-16	Pass	NA	C	C	-2	-6	0	-8	Pass	NA	0	0	0	0	0	0	Pass	NA
19	Canal Street & 6th Avenue/Laight Street	E	D	-20	-8	-1	-29	Fail	Pass	C	C	-46	-4	-3	-53	Pass	NA	C	C	-16	-6	-1	-23	Pass	NA	0	0	0	0	0	0	Pass	NA

Table 10B-7. Queens-Midtown Tunnel – No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10%	NB	BD	NB	BD	LOS	10%	NB	BD	NB	BD	LOS	10%	NB	BD	NB	BD	LOS	10%
1	E 37th Street & 3rd Avenue	B	B	1837	1808	Pass	NA	C	C	1521	1531	Pass	NA	B	B	1790	1723	Pass	NA	C	C	1799	1861	Pass	NA
2	E 36th Street & 2nd Avenue	D	D	2437	2353	Fail	Pass	F	F	2640	2656	Fail	Pass	C	C	3036	3177	Pass	NA	C	C	2581	2980	Pass	NA
3	E 34th Street & 3rd Avenue	D	D	2071	1943	Fail	Pass	D	C	2247	2028	Pass	NA	D	C	2507	2232	Pass	NA	C	C	2410	2156	Pass	NA
4	E 35th Street & 3rd Avenue	B	B	1684	1584	Pass	NA	B	B	1734	1580	Pass	NA	B	B	1961	1733	Pass	NA	B	B	1878	1666	Pass	NA
5	E 34th Street & 2nd Avenue	D	C	2826	2768	Pass	NA	C	C	2573	2477	Pass	NA	C	D	2712	2605	Fail	Pass	C	B	2769	2591	Pass	NA
6	E 35th Street & 2nd Avenue	B	B	2205	2160	Pass	NA	B	B	1767	1707	Pass	NA	B	B	2067	1977	Pass	NA	B	B	2042	1926	Pass	NA

Table 10B-8. Queens-Midtown Tunnel – No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	E 37th Street & 3rd Avenue	B	B	-2	-1	-1	-4	Pass	NA	C	C	-2	0	0	-2	Pass	NA	B	B	-4	-2	0	-6	Pass	NA	C	C	1	-1	0	0	Pass	NA
2	E 36th Street & 2nd Avenue	D	D	-8	-7	0	-15	Fail	Pass	F	F	-2	0	0	-2	Fail	Pass	C	C	7	-2	0	5	Pass	NA	C	C	4	6	0	10	Pass	NA
3	E 34th Street & 3rd Avenue	D	D	-9	-11	0	-20	Fail	Pass	D	C	-14	-6	0	-20	Pass	NA	D	C	-9	-14	0	-23	Pass	NA	C	C	-3	-2	0	-5	Pass	NA
4	E 35th Street & 3rd Avenue	B	B	-5	-2	0	-7	Pass	NA	B	B	-8	-2	-1	-11	Pass	NA	B	B	-6	-6	0	-12	Pass	NA	B	B	-2	-2	0	-4	Pass	NA
5	E 34th Street & 2nd Avenue	D	C	-4	-3	0	-7	Pass	NA	C	C	-6	-2	0	-8	Pass	NA	C	D	-1	-6	0	-7	Fail	Pass	C	B	-1	-4	0	-5	Pass	NA
6	E 35th Street & 2nd Avenue	B	B	-3	-4	0	-7	Pass	NA	B	B	-4	-2	0	-6	Pass	NA	B	B	-2	-3	0	-5	Pass	NA	B	B	-1	-1	0	-2	Pass	NA

Table 10B-9. Red Hook Study Area – No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	Hamilton Avenue, Clinton Street & West 9th Street	A	B	5490	5506	Pass	NA	B	B	5387	5689	Pass	NA	B	B	5372	5471	Pass	NA	A	A	3035	3290	Pass	NA
2	Hamilton Avenue NB & West 9th Street	B	B	2324	2289	Pass	NA	B	B	2099	2129	Pass	NA	B	B	1859	1773	Pass	NA	B	B	1110	945	Pass	NA

Table 10B-10. Red Hook Study Area – No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	Hamilton Avenue, Clinton Street & West 9th Street	A	B	3	3	1	7	Pass	NA	B	B	23	2	4	29	Pass	NA	B	B	6	2	2	10	Pass	NA	A	A	12	3	2	17	Pass	NA
2	Hamilton Avenue NB & West 9th Street	B	B	-2	0	-1	-3	Pass	NA	B	B	2	1	1	4	Pass	NA	B	B	-5	-3	0	-8	Pass	NA	B	B	-3	-1	-1	-5	Pass	NA

Table 10B-11. Upper West Side Study Area – No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	W 72nd Street & West End Ave	C	C	1322	1213	Pass	NA	C	C	1360	1214	Pass	NA	D	C	1754	1503	Pass	NA	C	C	1019	872	Pass	NA
2	W 61st Street & West End Ave	B	B	1200	957	Pass	NA	B	B	1088	760	Pass	NA	B	B	1667	1111	Pass	NA	B	B	958	601	Pass	NA
3a	W 79th Street & Riverside Drive	C	C	1856	1712	Pass	NA	B	B	1593	1424	Pass	NA	C	B	1996	1731	Pass	NA	B	B	1308	1129	Pass	NA
4a	W 56th Street & 12th Avenue	B	B	1482	1472	Pass	NA	B	B	903	886	Pass	NA	B	B	989	963	Pass	NA	A	A	625	580	Pass	NA
4b	W 56th Street & West Side Highway	C	C	6271	6230	Pass	NA	C	C	5284	5203	Pass	NA	B	B	5251	5157	Pass	NA	B	B	4724	4564	Pass	NA
5a	W 55th Street & West Side Highway	C	C	5332	5290	Pass	NA	D	D	5106	5025	Fail	Pass	C	C	5021	4921	Pass	NA	C	B	4419	4260	Pass	NA
5b	W 55th Street & 12th Avenue	D	D	598	583	Fail	Pass	C	C	755	729	Pass	NA	D	D	933	889	Fail	Pass	C	C	585	507	Pass	NA
5c	W 55th Street & West Side Highway Arterial	D	D	105	104	Fail	Pass	E	E	220	217	Fail	Pass	A	A	25	25	Pass	NA	A	A	10	9	Pass	NA
6	W 60th Street & Broadway	C	C	1740	1544	Pass	NA	C	C	1620	1364	Pass	NA	C	C	1878	1561	Pass	NA	C	B	1493	1148	Pass	NA
7	W 60th Street & Columbus Ave	B	B	1442	1181	Pass	NA	A	A	1507	1101	Pass	NA	A	A	1650	1077	Pass	NA	A	A	1491	850	Pass	NA
8	W 60th Street & Amsterdam Ave	C	C	1238	970	Pass	NA	C	C	1421	1065	Pass	NA	C	C	1795	1254	Pass	NA	B	B	1221	1005	Pass	NA
9	W 60th Street & West End Ave	B	B	1316	1049	Pass	NA	B	B	1294	903	Pass	NA	B	B	1801	1218	Pass	NA	B	B	1055	665	Pass	NA
10	W 61st Street & Amsterdam Ave	A	A	1114	872	Pass	NA	A	A	1230	915	Pass	NA	A	A	1599	1096	Pass	NA	A	A	1133	932	Pass	NA
11	W 61st Street & Columbus Ave	C	B	1232	968	Pass	NA	C	B	1314	904	Pass	NA	C	B	1453	867	Pass	NA	B	B	1278	665	Pass	NA
12	W 61st Street & Broadway	B	B	1506	1292	Pass	NA	B	B	1392	1112	Pass	NA	B	B	1688	1332	Pass	NA	B	B	1270	917	Pass	NA
13	W 61st Street & Columbus Ave	B	B	672	624	Pass	NA	B	B	690	615	Pass	NA	B	B	894	804	Pass	NA	B	B	732	632	Pass	NA
14	W 81st Street & Central Park West	D	C	1849	1726	Pass	NA	D	C	2061	1894	Pass	NA	D	C	2318	2118	Pass	NA	C	C	1530	1359	Pass	NA
15	W 66th Street & Central Park West	C	C	1841	1711	Pass	NA	C	C	2037	1862	Pass	NA	C	C	2162	1949	Pass	NA	C	B	1613	1365	Pass	NA
16	W 65th Street & Central Park West	D	C	2030	1910	Pass	NA	C	C	1915	1763	Pass	NA	D	D	2191	1998	Fail	Pass	C	C	1735	1569	Pass	NA

Table 10B-12. Upper West Side Study Area – No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	W 72nd Street & West End Ave	C	C	-4	-10	0	-14	Pass	NA	C	C	-6	-4	0	-10	Pass	NA	D	C	-4	-10	0	-14	Pass	NA	C	C	0	-5	0	-5	Pass	NA
2	W 61st Street & West End Ave	B	B	-17	-14	0	-31	Pass	NA	B	B	-22	-8	0	-30	Pass	NA	B	B	-15	-13	0	-28	Pass	NA	B	B	-3	-9	0	-12	Pass	NA
3a	W 79th Street & Riverside Drive	C	C	0	-7	0	-7	Pass	NA	B	B	0	-5	0	-5	Pass	NA	C	B	0	-7	0	-7	Pass	NA	B	B	0	-2	0	-2	Pass	NA
4a	W 56th Street & 12th Avenue	B	B	-2	0	0	-2	Pass	NA	B	B	-1	0	0	-1	Pass	NA	B	B	-1	-1	0	-2	Pass	NA	A	A	0	-3	0	-3	Pass	NA
4b	W 56th Street & West Side Highway	C	C	-2	-1	-1	-4	Pass	NA	C	C	-55	-2	-1	-58	Pass	NA	B	B	-2	-3	0	-5	Pass	NA	B	B	-1	-9	0	-10	Pass	NA
5a	W 55th Street & West Side Highway	C	C	0	0	0	0	Pass	NA	D	D	0	-1	0	-1	Fail	Pass	C	C	-1	-1	0	-2	Pass	NA	C	B	-1	0	0	-1	Pass	NA
5b	W 55th Street & 12th Avenue	D	D	0	-2	0	-2	Fail	Pass	C	C	-1	-1	0	-2	Pass	NA	D	D	-1	-1	0	-2	Fail	Pass	C	C	0	-2	0	-2	Pass	NA
5c	W 55th Street & West Side Highway Arterial	D	D	0	0	0	0	Fail	Pass	E	E	0	0	0	0	Fail	Pass	A	A	0	0	0	0	Pass	NA	A	A	0	0	0	0	Pass	NA
6	W 60th Street & Broadway	C	C	-10	-11	0	-21	Pass	NA	C	C	-15	-9	-1	-25	Pass	NA	C	C	-5	-9	0	-14	Pass	NA	C	B	-2	-8	0	-10	Pass	NA
7	W 60th Street & Columbus Ave	B	B	-28	-8	-3	-39	Pass	NA	A	A	-40	-8	-1	-49	Pass	NA	A	A	-27	-8	-2	-37	Pass	NA	A	A	-14	-6	-4	-24	Pass	NA
8	W 60th Street & Amsterdam Ave	C	C	-36	-10	-2	-48	Pass	NA	C	C	-33	-7	-5	-45	Pass	NA	C	C	-18	-8	-3	-29	Pass	NA	B	B	-4	-2	0	-6	Pass	NA
9	W 60th Street & West End Ave	B	B	-16	-16	-2	-34	Pass	NA	B	B	-25	-13	-1	-39	Pass	NA	B	B	-15	-16	0	-31	Pass	NA	B	B	-5	-10	0	-15	Pass	NA
10	W 61st Street & Amsterdam Ave	A	A	-35	-9	-3	-47	Pass	NA	A	A	-29	-6	-5	-40	Pass	NA	A	A	-17	-7	-2	-26	Pass	NA	A	A	-4	-2	0	-6	Pass	NA
11	W 61st Street & Columbus Ave	C	B	-29	-5	-4	-38	Pass	NA	C	B	-38	-8	-1	-47	Pass	NA	C	B	-25	-7	-2	-34	Pass	NA	B	B	-14	-5	-2	-21	Pass	NA
12	W 61st Street & Broadway	B	B	-13	-10	0	-23	Pass	NA	B	B	-14	-10	0	-24	Pass	NA	B	B	-7	-9	0	-16	Pass	NA	B	B	-3	-10	0	-13	Pass	NA
13	W 61st Street & Columbus Ave	B	B	-4	-1	0	-5	Pass	NA	B	B	-2	-1	0	-3	Pass	NA	B	B	-1	-1	0	-2	Pass	NA	B	B	0	-1	0	-1	Pass	NA
14	W 81st Street & Central Park West	D	C	0	-6	0	-6	Pass	NA	D	C	0	-4	0	-4	Pass	NA	D	C	0	-5	0	-5	Pass	NA	C	C	0	-2	0	-2	Pass	NA
15	W 66th Street & Central Park West	C	C	-3	-3	0	-6	Pass	NA	C	C	-3	-4	0	-7	Pass	NA	C	C	-3	-5	0	-8	Pass	NA	C	B	-2	-3	0	-5	Pass	NA
16	W 65th Street & Central Park West	D	C	-4	-4	0	-8	Pass	NA	C	C	-4	-3	0	-7	Pass	NA	D	D	-2	-4	0	-6	Fail	Pass	C	C	-1	-2	0	-3	Pass	NA

Table 10B-13. Robert F. Kennedy Bridge Study Area - No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	LN Screen
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	126th Street and 2nd Avenue	C	C	2084	1995	Pass	NA	C	B	2416	2283	Pass	NA	C	C	2600	2352	Pass	NA	B	B	1310	1077	Pass	NA
2	125th Street and 2nd Avenue	C	D	2587	2604	Fail	Pass	C	C	2217	2107	Pass	NA	C	D	2988	2962	Fail	Pass	C	C	1576	1507	Pass	NA
11	E 134th Street & St. Ann's Avenue	C	C	775	775	Pass	NA	C	C	835	835	Pass	NA	C	C	665	665	Pass	NA	C	C	490	490	Pass	NA
22	St Ann's Ave and Bruckner Blvd	C	C	2415	2415	Pass	NA	D	D	2620	2620	Fail	Pass	C	C	2320	2320	Pass	NA	C	C	2265	2265	Pass	NA
17	31st St & Astoria Blvd	C	C	1243	1247	Pass	NA	B	B	901	832	Pass	NA	E	E	1199	1128	Fail	Pass	B	B	954	842	Pass	NA
24	Hoyt N & 31st St	C	C	3076	3049	Pass	NA	B	B	2383	2295	Pass	NA	B	B	2326	2187	Pass	NA	C	C	1956	1769	Pass	NA
3	Hoyt S & 31st St	C	D	1766	1805	Fail	Pass	C	C	1505	1473	Pass	NA	C	C	1860	1812	Pass	NA	C	C	1594	1582	Pass	NA

Table 10B-14. Robert F. Kennedy Bridge Study Area - No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	126th Street and 2nd Avenue	C	C	-9	-4	0	-13	Pass	NA	C	B	-9	-9	0	-18	Pass	NA	C	C	-5	-10	0	-15	Pass	NA	B	B	-12	-4	-1	-17	Pass	NA
2	125th Street and 2nd Avenue	C	D	-14	-1	-2	-17	Fail	Pass	C	C	-4	-10	0	-14	Pass	NA	C	D	-8	-17	0	-25	Fail	Pass	C	C	-7	-1	-1	-9	Pass	NA
11	E 134th Street & St. Ann's Avenue	C	C	0	0	0	0	Pass	NA	C	C	0	0	0	0	Pass	NA	C	C	0	0	0	0	Pass	NA	C	C	0	0	0	0	Pass	NA
22	St Ann's Ave and Bruckner Blvd	C	C	0	0	0	0	Pass	NA	D	D	0	0	0	0	Fail	Pass	C	C	0	0	0	0	Pass	NA	C	C	0	0	0	0	Pass	NA
17	31st St & Astoria Blvd	C	C	0	0	0	0	Pass	NA	B	B	0	1	0	1	Pass	NA	E	E	-3	0	0	-3	Fail	Pass	B	B	-1	1	0	0	Pass	NA
24	Hoyt N & 31st St	C	C	0	-1	-1	-2	Pass	NA	B	B	-3	0	-1	-4	Pass	NA	B	B	-4	-2	0	-6	Pass	NA	C	C	-3	0	0	-3	Pass	NA
3	Hoyt S & 31st St	C	D	4	0	1	5	Fail	Pass	C	C	2	0	1	3	Pass	NA	C	C	1	1	0	2	Pass	NA	C	C	1	0	1	2	Pass	NA

Table 10B-15. Downtown Brooklyn Study Area - No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	Approach	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
			NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	Flatbush Avenue and Tillary Street	Intersection	F	E	4887	4436	Fail	Pass	E	D	4505	3877	Fail	Pass	E	D	5083	4287	Fail	Pass	D	D	4383	3464	Fail	Pass
2	Adam Street and Tillary Street	Intersection	D	D	2997	2949	Fail	Pass	D	D	2874	2813	Fail	Pass	D	D	3543	3295	Fail	Pass	C	C	2109	2050	Pass	NA
3	Old Fulton Street and Vine Street	Intersection	D	D	2805	2797	Fail	Pass	D	D	2356	2306	Fail	Pass	B	B	2201	2122	Fail	Pass	C	C	2062	2049	Pass	NA

Table 10B-16. Downtown Brooklyn Study Area - No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	Flatbush Avenue and Tillary Street	F	E	-73	-12	-6	-91	Fail	Pass	E	D	-75	-14	-2	-91	Fail	Pass	E	D	-29	-16	-2	-47	Fail	Pass	D	D	-9	-13	-2	-24	Fail	Pass
2	Adam Street and Tillary Street	D	D	-1	-2	0	-3	Fail	Pass	D	D	-3	0	0	-3	Fail	Pass	D	D	-2	0	0	-2	Fail	Pass	C	C	-2	-2	0	-4	Pass	NA
3	Old Fulton Street and Vine Street	D	D	-1	0	0	-1	Fail	Pass	D	D	-2	-1	0	-3	Fail	Pass	B	B	-1	0	0	-1	Pass	NA	C	C	-1	-1	0	-2	Pass	NA

Table 10B-17. Lincoln Tunnel Study Area - No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	9th Ave and 33rd Street	B	B	1269	1221	Pass	NA	B	B	1219	1133	Pass	NA	B	B	1433	1324	Pass	NA	0	0	0	0	Pass	NA
2	Dyer Ave and 34th Street	C	C	3774	3649	Pass	NA	C	C	3642	3422	Pass	NA	C	C	4181	3912	Pass	NA	0	0	0	0	Pass	NA
3	12th Ave and 34th Street	C	C	4588	4439	Pass	NA	C	C	3819	3676	Pass	NA	C	C	5495	5204	Pass	NA	0	0	0	0	Pass	NA
4	11th Ave and 42nd Street	C	C	12866	12298	Pass	NA	C	C	11647	10729	Pass	NA	C	C	13637	12611	Pass	NA	0	0	0	0	Pass	NA
5	Dyer Ave & 36th Street	C	C	1531	1492	Pass	NA	C	C	1019	908	Pass	NA	C	C	1449	1369	Pass	NA	0	0	0	0	Pass	NA
6	10th Ave and 33rd Street	B	B	1401	1372	Pass	NA	B	B	1482	1403	Pass	NA	B	B	1937	1848	Pass	NA	0	0	0	0	Pass	NA
7	11th Ave and 34th Street	C	C	1955	1903	Pass	NA	C	C	1734	1678	Pass	NA	D	D	1320	1241	Fail	Pass	0	0	0	0	Pass	NA
8	10th Ave and 41st Street	C	C	2411	2296	Pass	NA	C	C	2913	2581	Pass	NA	C	C	2188	1817	Pass	NA	0	0	0	0	Pass	NA
9	12th Ave and 42nd Street	D	D	5394	5232	Fail	Pass	D	D	4831	4650	Fail	Pass	C	C	5824	5527	Pass	NA	0	0	0	0	Pass	NA

Table 10B-18. Lincoln Tunnel Study Area - No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	9th Ave and 33rd Street	B	B	-5	-3	0	-8	Pass	NA	B	B	-6	-2	0	-8	Pass	NA	B	B	-4	-2	0	-6	Pass	NA	0	0	0	0	0	0	Pass	NA
2	Dyer Ave and 34th Street	C	C	-2	-2	0	-4	Pass	NA	C	C	-3	-3	0	-6	Pass	NA	C	C	-1	-2	0	-3	Pass	NA	0	0	0	0	0	0	Pass	NA
3	12th Ave and 34th Street	C	C	-6	-5	0	-11	Pass	NA	C	C	-2	-4	0	-6	Pass	NA	C	C	-5	-6	0	-11	Pass	NA	0	0	0	0	0	0	Pass	NA
4	11th Ave and 42nd Street	C	C	-6	-7	-1	-14	Pass	NA	C	C	-19	-10	-2	-31	Pass	NA	C	C	-11	-9	-1	-21	Pass	NA	0	0	0	0	0	0	Pass	NA
5	Dyer Ave & 36th Street	C	C	-4	-1	0	-5	Pass	NA	C	C	-9	-1	-1	-11	Pass	NA	C	C	-2	0	0	-2	Pass	NA	0	0	0	0	0	0	Pass	NA
6	10th Ave and 33rd Street	B	B	-4	0	0	-4	Pass	NA	B	B	-22	-1	-1	-24	Pass	NA	B	B	-5	-2	0	-7	Pass	NA	0	0	0	0	0	0	Pass	NA
7	11th Ave and 34th Street	C	C	-3	-2	0	-5	Pass	NA	C	C	-8	-2	0	-10	Pass	NA	D	D	-5	-6	0	-11	Fail	Pass	0	0	0	0	0	0	Pass	NA
8	10th Ave and 41st Street	C	C	-13	-27	-1	-41	Pass	NA	C	C	-37	-31	-2	-70	Pass	NA	C	C	-53	-49	-4	-106	Pass	NA	0	0	0	0	0	0	Pass	NA
9	12th Ave and 42nd Street	D	D	-1	-4	0	-5	Fail	Pass	D	D	-2	-3	0	-5	Fail	Pass	C	C	-4	-5	0	-9	Pass	NA	0	0	0	0	0	0	Pass	NA

Table 10B-19. New Jersey Study Area - No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	14th Street / Holland Tunnel (E-W) & Marin Boulevard (N-S)	E	D	3181	2888	Fail	Pass	D	D	3052	2574	Fail	Pass	E	E	2962	2944	Fail	Pass	0	0	0	0	Pass	NA
4	14th Street (E-W) & Jersey Avenue (N-S)	D	D	4689	4396	Fail	Pass	C	C	3738	3260	Pass	NA	E	E	5664	5646	Fail	Pass	0	0	0	0	Pass	NA
5	12th Street (E-W) & Jersey Avenue (N-S)	F	E	3772	3694	Fail	Pass	D	D	2687	2586	Fail	Pass	E	E	3749	3609	Fail	Pass	0	0	0	0	Pass	NA
8	12th Street/Holland Tunnel (E-W) & Marin Boulevard (N-S)	E	D	3085	3007	Fail	Pass	C	C	2577	2476	Pass	NA	C	C	3576	3436	Pass	NA	0	0	0	0	Pass	NA

Table 10B-20. New Jersey Study Area - No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM Screen		LN LOS		LN Increment			LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	LOS	HDDT	NB	BD	MT	Bus	HT	LOS	HDDT
1	14th Street / Holland Tunnel (E-W) & Marin Boulevard (N-S)	E	D	-15	-7	0	-22	Fail	Pass	D	D	-56	-3	-3	-62	Fail	Pass	E	E	0	0	0	Fail	Pass	0	0	0	0	0	Pass	NA
4	14th Street (E-W) & Jersey Avenue (N-S)	D	D	-10	-7	0	-17	Fail	Pass	C	C	-45	-2	-3	-50	Pass	NA	E	E	0	0	0	Fail	Pass	0	0	0	0	0	Pass	NA
5	12th Street (E-W) & Jersey Avenue (N-S)	F	E	-5	-3	0	-8	Fail	Pass	D	D	-3	-1	0	-4	Fail	Pass	E	E	-2	-3	0	Fail	Pass	0	0	0	0	0	Pass	NA
8	12th Street/Holland Tunnel (E-W) & Marin Boulevard (N-S)	E	D	-6	-2	0	-8	Fail	Pass	C	C	-5	0	0	-5	Pass	NA	C	C	-2	-2	0	Pass	NA	0	0	0	0	0	Pass	NA

Table 10B-21. West Side Highway/Route 9A Study Area - No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen		
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	HDDT
1	24th Street & 12th Ave	C	C	4133	4005	Pass	NA	C	C	3484	3350	Pass	NA	C	C	4976	4711	Pass	NA	C	C	3235	2966	Pass	NA	NA

Table 10B-22. West Side Highway/Route 9A Study Area - No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	24th Street & 12th Ave	C	C	-5	-3	0	-8	Pass	NA	C	C	-4	-4	0	-8	Pass	NA	C	C	-5	-3	0	-8	Pass	NA	C	C	-4	-3	-2	-9	Pass	NA

Table 10B-23. Little Dominican Republic Area - No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	W 179th St & Broadway	C	C	813	823	Pass	Pass	C	C	1081	1142	Pass	Pass	C	C	1117	1144	Pass	Pass	0	0	0	0	Pass	Pass

Table 10B-24. Little Dominican Republic Area - No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	W 179th St & Broadway	C	C	1	5	0	6	Pass	NA	C	C	0	0	0	0	Pass	NA	C	C	0	0	0	0	Pass	NA			0	0	0	0	Pass	NA

Table 10B-25. Lower Eastside - No-Action Alternative vs. CBD Tolling Alternative Carbon Monoxide Screening

Intersection #	Intersection Name	AM LOS		AM Volume		AM Screen		MD LOS		MD Volume		MD Screen		PM LOS		PM Volume		PM Screen		LN LOS		LN Volume		LN Screen	
		NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume	NB	BD	NB	BD	LOS	10% Volume
1	Park Row/Chatham Square & Worth/Oliver St & Mott St	C	C	1076	1026	Pass	Pass	D	C	1050	798	Pass	Pass	D	C	1146	900	Pass	Pass	0	0	0	0	Pass	Pass
2	Chatham Square & E Broadway	C	C	791	741	Pass	Pass	C	D	885	633	Fail	Pass	D	D	1026	780	Fail	Pass	0	0	0	0	Pass	Pass
3	Chatham Square/Bowery & Divison St	B	B	816	766	Pass	Pass	B	B	845	593	Pass	Pass	B	C	1096	850	Pass	Pass	0	0	0	0	Pass	Pass

Table 10B-26. Lower Eastside - No-Action Alternative vs. CBD Tolling Alternative Particulate Matter Screening

Intersection #	Intersection Name	AM LOS		AM Increment			AM HDDV	AM Screen		MD LOS		MD Increment			MD HDDV	MD Screen		PM LOS		PM Increment			PM HDDV	PM Screen		LN LOS		LN Increment			LN HDDV	LN Screen	
		NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT	NB	BD	MT	Bus	HT	Total	LOS	HDDT
1	Park Row/Chatham Square & Worth/Oliver St & Mott St	C	C	-5	-2	0	-7	Pass	NA	D	C	-22	-10	0	-32	Pass	NA	D	C	-19	-8	0	-27	Pass	NA	0	0	0	0	0	0	Pass	NA
2	Chatham Square & E Broadway	C	C	-6	-3	0	-9	Pass	NA	C	D	-28	-12	0	-40	Fail	Pass	D	D	-27	-12	0	-39	Fail	Pass	0	0	0	0	0	0	Pass	NA
3	Chatham Square/Bowery & Divison St	B	B	-2	-1	0	-3	Pass	NA	B	B	-6	-4	0	-10	Pass	NA	B	C	-9	-5	0	-14	Pass	NA	0	0	0	0	0	0	Pass	NA

Table 10B-27. Maximum Truck Changes on Highway Links with Project – All Tolling Scenarios

Worst-Case Scenario	County	link #	Roadway	EJ Community	Maximum Daily Change in Trucks	AADT - No Action	AADT - Scenario	Total Trucks - No Action	Total Trucks - Scenario	% Trucks - No Action	% Trucks - Scenario
E	New York	220571	TRIBOROUGH BRIDGE (SOUTH) - N	yes	2,125	72,057	79,003	7,467	9,592	10%	12%
E	Queens	64851	TRIBOROUGH BRIDGE	yes	2,125	72,148	79,094	7,467	9,592	10%	12%
E	Queens	64831	TRIBOROUGH BRIDGE	yes	1,991	67,666	81,185	8,044	10,035	12%	12%
E	New York	64916	TRIBOROUGH BRIDGE (SOUTH) - S	yes	1,991	67,666	81,185	8,044	10,035	12%	12%
D	Queens	64851	TRIBOROUGH BRIDGE	yes	1,767	72,148	79,215	7,467	9,234	10%	12%
D	New York	220571	TRIBOROUGH BRIDGE (SOUTH) - N	yes	1,767	72,057	79,124	7,467	9,234	10%	12%
D	Queens	64831	TRIBOROUGH BRIDGE	yes	1,712	67,666	80,531	8,044	9,756	12%	12%
D	New York	64916	TRIBOROUGH BRIDGE (SOUTH) - S	yes	1,712	67,666	80,531	8,044	9,756	12%	12%
F	Queens	64851	TRIBOROUGH BRIDGE	yes	1,606	72,148	79,557	7,467	9,073	10%	11%
F	New York	220571	TRIBOROUGH BRIDGE (SOUTH) - N	yes	1,606	72,057	79,465	7,467	9,073	10%	11%
E	New York	64926	I 278	yes	1,554	42,009	44,713	6,554	8,108	16%	18%
E	New York	90365	TRIBOROUGH BRIDGE	yes	1,554	42,009	44,713	6,554	8,108	16%	18%
E	New York	64925	TRIBOROUGH BRIDGE	yes	1,554	42,009	44,713	6,554	8,108	16%	18%
E	Bronx	64930	TRIBOROUGH BRIDGE (NORTH) - N	yes	1,552	45,875	47,691	6,711	8,263	15%	17%
E	New York	64931	I 278	yes	1,552	45,875	47,691	6,711	8,263	15%	17%
E	Bronx	64940	TRIBORO BR	yes	1,552	45,875	47,691	6,711	8,263	15%	17%
E	Queens	220948	GRAND CENTRAL PKY	yes	1,543	48,951	54,546	5,358	6,901	11%	13%
D	New York	64926	I 278	yes	1,530	42,009	44,709	6,554	8,084	16%	18%
D	New York	90365	TRIBOROUGH BRIDGE	yes	1,530	42,009	44,709	6,554	8,084	16%	18%
D	New York	64926	I 278	yes	1,530	42,009	44,709	6,554	8,084	16%	18%

Table 10B-28. Maximum Average Annual Daily Traffic (AADT) on Highway Links with Project – All Tolling Scenarios

Worst-Case Scenario	County	link #	Roadway	EJ Community	AADT - No Action	AADT - Scenario	Trucks - No Action	Trucks - Scenario	Maximum Daily Change in Trucks	% Trucks - No Action	% Trucks - Scenario
C	Bergen	268133	I-95	yes	124,642	130,713	18,019	18,421	401	14.5%	14.1%
E	Bergen	268133	I-95	yes	124,642	130,668	18,019	18,421	401	14.5%	14.1%
F	Bergen	268133	I-95	yes	124,642	130,461	18,019	18,421	401	14.5%	14.1%
D	Bergen	268133	I-95	yes	124,642	130,461	18,019	18,421	401	14.5%	14.1%
B	Bergen	268133	I-95	yes	124,642	129,686	18,019	18,421	401	14.5%	14.2%
A	Bergen	268133	I-95	yes	124,642	128,575	18,019	18,421	401	14.5%	14.3%
C	Queens	64554	VAN WYCK EXPY	yes	128,793	127,045	5,664	5,703	39	4.4%	4.5%
C	Bergen	268077	I-95	yes	120,803	126,821	17,101	17,517	416	14.2%	13.8%
E	Bergen	268077	I-95	yes	120,803	126,656	17,101	17,517	416	14.2%	13.8%
F	Bergen	268077	I-95	yes	120,803	126,645	17,101	17,517	416	14.2%	13.8%
D	Bergen	268077	I-95	yes	120,803	126,416	17,101	17,517	416	14.2%	13.9%
B	Bergen	268077	I-95	yes	120,803	126,029	17,101	17,517	416	14.2%	13.9%
A	Bergen	268077	I-95	yes	120,803	124,622	17,101	17,517	416	14.2%	14.1%
A	Queens	64564	VAN WYCK EXPY	yes	123,598	123,416	4,731	4,850	119	3.8%	3.9%
B	Bergen	268131	I-95	yes	116,685	123,100	16,114	16,514	400	13.8%	13.4%
A	Bergen	268131	I-95	yes	116,685	122,596	16,114	16,514	400	13.8%	13.5%
F	Queens	64564	VAN WYCK EXPY	yes	123,598	122,259	4,731	4,850	119	3.8%	4.0%
C	Queens	64564	VAN WYCK EXPY	yes	123,598	122,250	4,731	4,850	119	3.8%	4.0%
D	Queens	64564	VAN WYCK EXPY	yes	123,598	122,200	4,731	4,850	119	3.8%	4.0%
E	Queens	64564	VAN WYCK EXPY	yes	123,598	121,845	4,731	4,850	119	3.8%	4.0%
J	Queens	64564	VAN WYCK EXPY	yes	123,598	121,602	4,731	4,850	119	3.8%	4.0%
B	Queens	63972	VAN WYCK EXPY	yes	119,688	119,497	4,081	4,101	21	3.4%	3.4%
B	Queens	64564	VAN WYCK EXPY	yes	123,598	119,188	4,731	4,850	119	3.8%	4.1%
C	Bergen	268131	I-95	yes	116,685	118,593	16,114	16,514	400	13.8%	13.9%
E	Bergen	268131	I-95	yes	116,685	117,737	16,114	16,514	400	13.8%	14.0%
E	Queens	64289	LONG ISLAND EXPY	yes	117,103	117,281	6,571	6,672	102	5.6%	5.7%
F	Queens	64289	LONG ISLAND EXPY	yes	117,103	117,108	6,571	6,672	102	5.6%	5.7%
A	Bergen	266111	SR 4	yes	117,502	117,077	7,057	7,062	5	6.0%	6.0%

10C, Highway Link Particulate Matter Hot-Spot Detailed Assessment (Methodology, Interagency Consultation, and Results)

1 Particulate Matter Hot Spot Analysis Methodology

1.1 INTRODUCTION

The Triborough Bridge and Tunnel Authority (TBTA), which is an affiliate of MTA; the New York State Department of Transportation (NYSDOT); and the New York City Department of Transportation (NYCDOT) (collectively, the Project Sponsors) are proposing a program, known as the Central Business District Tolling Program (CBD Tolling Program or the Project), to address congestion in the Manhattan Central Business District.

The Project purpose is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into the Federal Highway Administration's (FHWA's) Value Pricing Pilot Program (VPPP). The Project would address the need to reduce vehicle congestion in the Manhattan CBD and create a new local, recurring funding source for MTA's capital projects.

The Project was included in the regional emissions analysis for NYMTC's current Transportation Conformity Determination, adopted on August 19, 2021, and is included in NYMTC's current FFY 2022-2050 Regional Transportation Plan, adopted on September 9, 2021.

1.2 PURPOSE OF THIS DOCUMENT

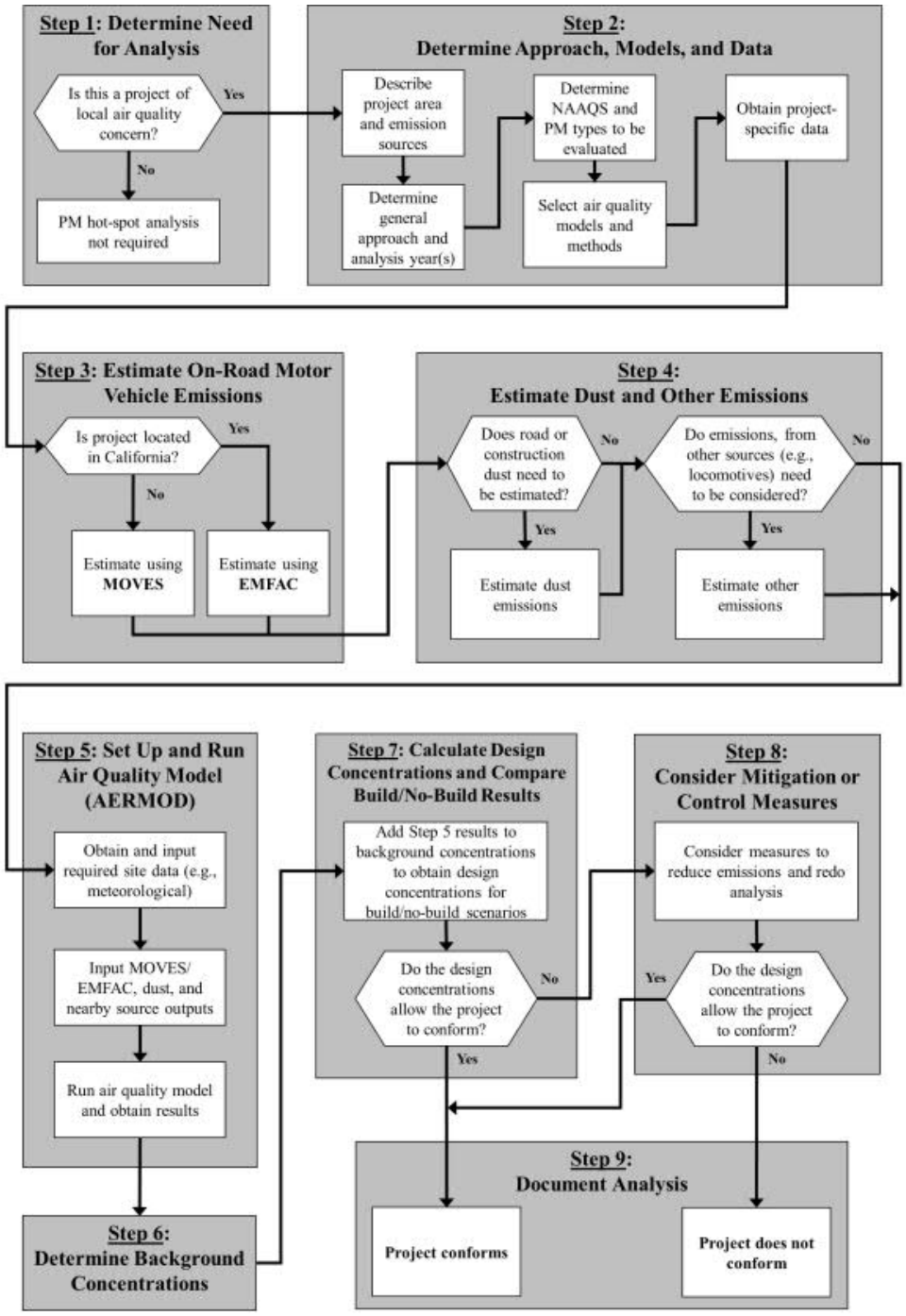
An effect of the Project includes truck diversions from the CBD to highways surrounding Manhattan – especially those going over the RFK Bridge into the South Bronx and over the George Washington Bridge into New Jersey. This is mainly due to truck traffic to/from Long Island and Pennsylvania that will re-route due to the tolling in the CBD.

As such, the Project Sponsors, in coordination with NYMTC staff, are meeting with the Interagency Consultation Group (ICG) on April 19, 2022 (Refer to Appendix A for ICG Presentation). This meeting is to discuss the PM_{10} and $PM_{2.5}$ hot-spot analysis that will be undertaken to determine potential impacts from the truck diversions on highway segments. This analysis will be performed in accordance with the United States Environmental Protection Agency (USEPA) Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas (EPA-420-B-21-037, October 2021).[1]

This PM Hot-Spot Analysis Methodology identifies the process for conducting a project-specific hot-spot analysis following USEPA's nine-step process as summarized in Exhibit 3-1 of that document, presented here in Figure 1-1.

[1] https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf

Figure 1-1 Overview of a PM Hot-Spot Analysis



Source: USEPA, "PM Hot-spot Guidance: Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas" (EPA-420-B-21-037, October 2021), page 19.

All modeling procedures will follow the applicable guidance in NYSDOT Environmental Procedures Manual (EPM) and will be reviewed and approved for use by the ICG prior to the start of the analysis. For the purposes of this project, it is assumed that three analysis sites will require a detailed PM microscale analysis and that the sites will be analyzed for the No Action Alternative as well as for the worst-case scenario of the Action Alternative.

1.3 PROPOSED NINE-STEP PM HOT-SPOT ANALYSIS

Step 1. Determine Need for a PM Hot-Spot Analysis

A $PM_{2.5}$ and PM_{10} (PM) microscale/hotspot analysis will be conducted for NEPA purposes to address public concerns regarding air quality and shall be performed in a manner consistent with USEPA guidance for PM hotspot analyses.

Step 2. Determine Approach, Models and Data

a. Approach

Three approximately 1000' long highway-segment locations have been selected for detailed analysis. These sites demonstrate an increase in diesel truck traffic due to the project and were chosen for detailed analysis based upon either highest Annual Average Daily Traffic (AADT), community concern, or the largest increase in trucks between the No Action and Action Alternatives. Details of the site selection can be found in Appendix A. The location of the nearest sensitive receptors at these selected sites can be found in Appendix B. The analysis sites are listed below and shown in Figure 1-2, Figure 1-3, and Figure 1-4. As shown in these figures, all the red traffic links within the ovals will be included in the analysis. The analysis locations are as follows:

1. I-95 west of the George Washington Bridge, Scenario C
    - Highest AADT in all scenarios
    - New Jersey location
    - EJ community
2. Cross Bronx Expressway @ Macombs Road, Scenario B
    - Community concern
    - Bronx location
    - EJ community
3. RFK (Triborough) Bridge Queens Approach, Scenario E
    - Highest truck increase across all scenarios
    - Queens location
    - EJ community

Figure 1-2 I-95 west of the GWB, Scenario C

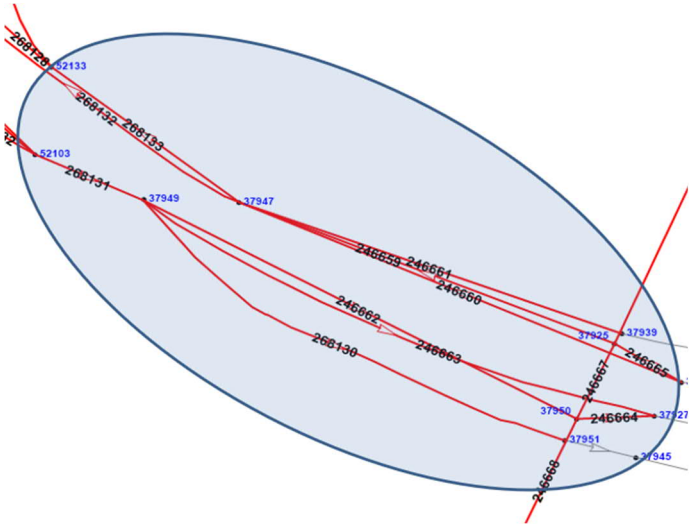


Figure 1-3 Cross Bronx @ Macombs, Scenario B

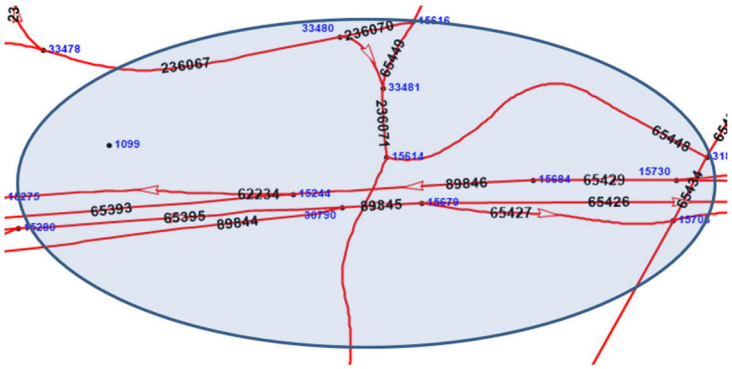
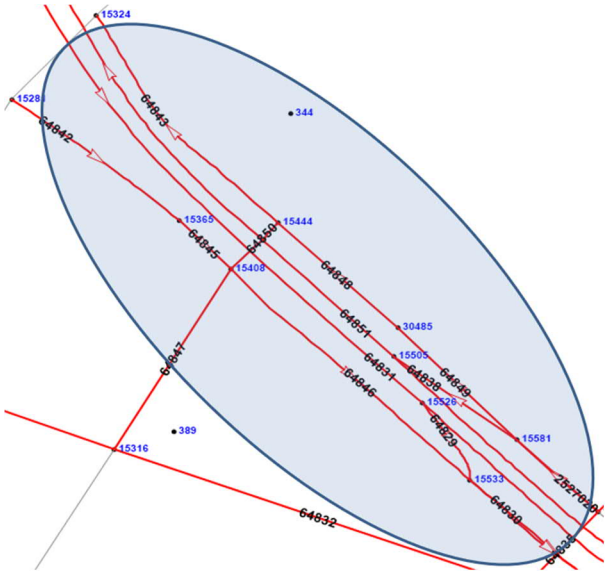


Figure 1-4 RFK (Triborough) Queens Approach, Scenario E



b. Analysis Years

The analysis is being conducted for opening year conditions (2023) with and without the project. This will capture the immediate effects of the project, particularly with regards to truck diversions on highways in the area. In addition, based on the regional emission burden analysis, which accounts for traffic growth rates and vehicle emission rates, 2023 is predicted to be the year of highest emissions for $PM_{2.5}$ emissions.

c. PM Emissions

The PM_{10} and $PM_{2.5}$ hot-spot analyses will include only directly emitted PM_{10} and $PM_{2.5}$ emissions. $PM_{2.5}$ precursors are not considered in PM hot-spot analyses, since precursors take time at the regional level to form into secondary PM. Exhaust, brake wear, and tire wear emissions from on-road vehicles are included in the project's PM_{10} and $PM_{2.5}$ analyses. For these analyses, both running and crankcase running exhaust will be considered because start exhaust is unlikely to occur on the roadways included in the model domain.

Re-entrained road dust will be included in the PM_{10} analysis because the New York State Implementation Plan previously identified that such emissions contribute to PM_{10} concentrations. Road dust will not be included in the $PM_{2.5}$ analysis.

d. Model

The analysis will be performed using the EPA's MOVES3 emissions model, AP-42 and the AERMOD dispersion model (currently version 21112).

e. Data

MOVES input parameters have been obtained from NYSDOT and NYSDEC. It will be confirmed that these parameters are still the latest and best input parameters to be used for the project. Project-specific base traffic data, including volumes, average vehicle speeds, and facility type for each roadway section in the project area, will also be obtained from the project team. Vehicle volumes will be obtained for AM, midday, PM, and overnight periods. The appropriate hourly meteorological data will be obtained in the format required for use in AERMOD, as provided by NYSDEC. The meteorological data will be representative of the terrain, climate, and topography of the study area. It is currently assumed that surface meteorological data and upper air data from LaGuardia Airport, NY will be used.

Step 3. Estimate On-Road Vehicle Emissions

On-road vehicle emissions will be estimated using MOVES. MOVES input parameters will be provided by NYSDOT and NYSDEC. MOVES input relies on link-specific data. The PM emissions vary by time of day and time of year. Volume and speed data for each link will be obtained from the traffic analysis being conducted for this project for AM, midday, PM, and overnight

periods. For each intersection and analysis year, MOVES will be run four (4) times (AM, PM, midday, and overnight) for one quarter. The month selected in MOVES will coincide with the month with seasonal fuel that results in highest PM emissions. For every source, a set of four (4) emission factors in units of grams per mile will be developed for use for each of the analysis years and for each pollutant. Based on the traffic analysis for the Proposed Project, the data will be allocated into the time periods shown in Table 1-1.

Table 1-1 Proposed Traffic Analysis Time Period Combinations

Name	Description	From	To	# of Hours
Period 1	Overnight	8:00 PM	6:00 AM	10
Period 2	AM	6:00 AM	10:00 AM	4
Period 3	Midday	10:00 AM	4:00 PM	6
Period 4	PM	4:00 PM	8:00 PM	4

Step 4. Estimate Emissions from Road Dust, Construction and Additional Sources

Road dust emissions will be included in the analysis, as described in step 2(b).

No additional sources of PM emissions will be included. It is assumed that PM concentrations due to any other nearby emissions sources will be included in the ambient monitor values used for background concentrations. In addition, the Proposed Project is not expected to result in changes to emissions from nearby sources.

Step 5. Select an Air Quality Model, Data Inputs and Receptors

a. Model

The USEPA's AERMOD air dispersion model, currently version 21112, will be used to estimate concentrations of PM due to project operations. The model uses traffic data, emission factor data, and meteorological data to estimate concentrations of PM at a series of receptors. For each modeled alternative, the model setup will include a series of links, or roadway segments, for and approximately 1,000 feet segment of the highway. The analysis will include adjacent service roads and cross-streets, as presented in Step 2.

b. Data Inputs

Link-specific inputs include length, mixing zone width, volume, emission factor, initial vertical dimension and vertical dispersion coefficient, as well as release height above ground. The project team shall provide volume and speed data on the affected roadway links for the Action and No Action condition for the agreed-upon analysis year and scenario. The vehicle mix, including the percentage of medium trucks, heavy trucks and buses, along with roadway grade (slope) on the affected roadway links will also be obtained. Meteorological input files will be

obtained from NYSDEC. As recommended in EPA's "Guideline on Air Quality Models" (Appendix W to 40 CFR Part 51), five consecutive years of the most recent and readily available meteorological data will be used for the dispersion modeling analysis. It is currently assumed that meteorological data from LaGuardia Airport will be used. For each alternative, AERMOD will be run for each of the five years of meteorological data.

c. Receptors

Receptors will be placed to estimate the highest concentrations of PM_{10} and $PM_{2.5}$ to determine any possible violations of the NAAQS. Highest concentrations are expected to occur near the areas with the highest-volume roadways. Receptors will be placed in a grid, as applicable. Pursuant to the NYSDOT's TEM and USEPA guidance, receptors will be placed five meters (approximately 16 feet) from the source of emissions, with a grid of receptors spaced at 25 meters (approximately 82 feet) nearer to the main roadway sources and 50 meters (approximately 164 feet) farther from these sources. Receptors will be placed up to 300 meters (approximately 1,000 feet) from the source of emissions.

Figure 1-5 presents a sample receptor grid.

Figure 1-5 Sample Receptor Grid



Step 6. Determine Background Concentrations from Nearby and Other Sources

The applicable background concentrations will be obtained from EPA's design value database (https://www.epa.gov/air-trends/air-quality-design-values). The background value will be added to the AERMOD modeled design values for comparison to the NAAQS. Currently these values are 22 ug/m^3 for 24 hour $PM_{2.5}$ and 8.7 ug/m^3 for annual $PM_{2.5}$. EPA does not currently provide PM_{10} design values for the area due to incomplete information. As such, the highest

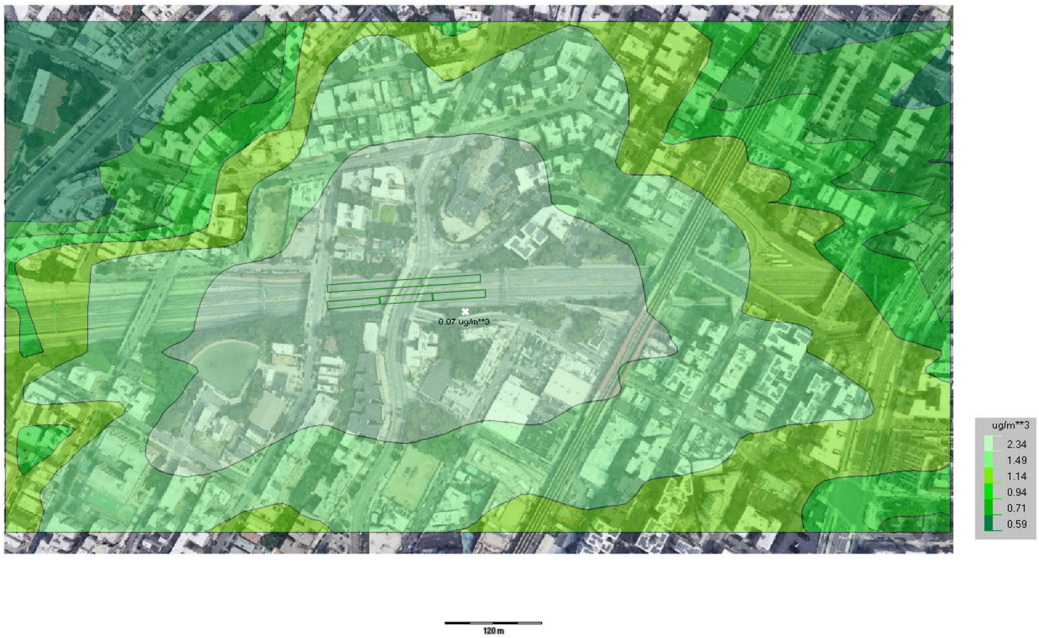
maximum annual average at the closest PM_{10} monitor to the site (PS 124) 43 ug/m^3 will be applied.

Step 7. Calculate Design Values and Determine Conformity

The model results (Step 5) will be added to the background concentration(s) (Step 6) for both the No Action and Action alternatives to calculate the design values. The maximum design values for No Action and Action alternatives will be calculated using the steps outlined in EPA's PM hot-spot guidance, which are consistent with the statistical form of the National Ambient Air Quality Standards (NAAQS). The design values will be evaluated to determine the project's potential impacts on PM_{10} and $PM_{2.5}$ concentrations in the project area.

In additional to the maximum design values, contour maps will be created using the dispersion model results to demonstrate the relative concentrations at all receptors included in the analysis. Figure 1-6 presents a sample contour diagram.

Figure 1-6 Sample Contours



Step 8. Consider Mitigation or Control Measures

If the project results in any violation of NAAQS, mitigation or control measures to reduce emissions in the project area may be considered by the project sponsors. If such measures are considered, additional modeling will need to be completed and new design values calculated to ensure that conformity requirements are met. Mitigation measures, which must include written commitments for implementation (40 CFR 93.125), include the following:

a. Retrofitting, replacing vehicles/engines, and using cleaner fuels;

b. Reducing idling;
c. Redesigning the transportation project itself;
d. Controlling fugitive dust; and
e. Controlling other sources of emissions.

Step 9. Document the PM Hot-Spot Analysis

The PM hotspot analysis and results will be documented in an Air Quality Technical Report. Due to the large volume of input and output files created for this analysis, these files will be available electronically.

Appendix A

Air Quality Interagency Consultation Presentation

April 19, 2022



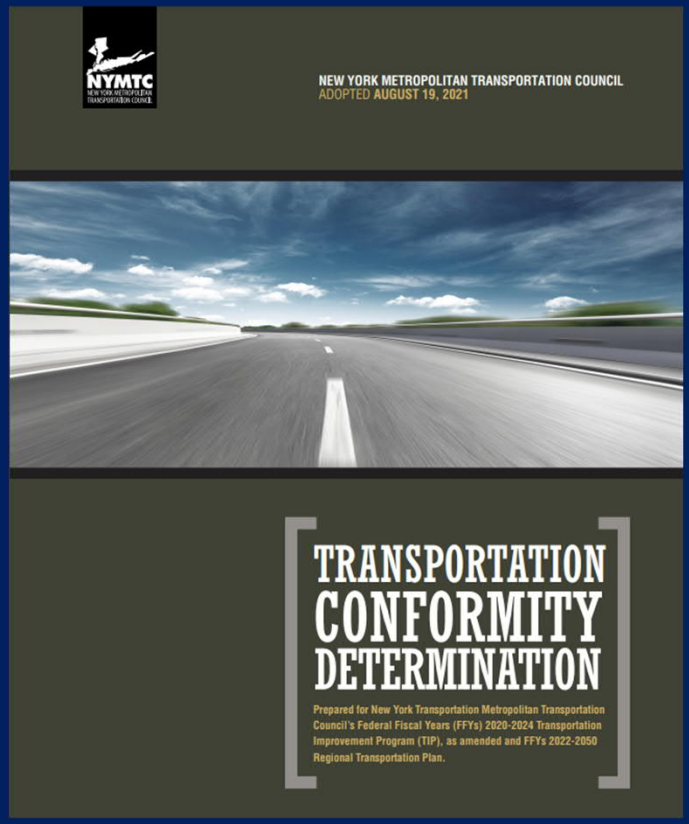
Central Business District Tolling Program

Air Quality Interagency Consultation
April 19, 2022

U.S. Department of Transportation Federal Highway Administration | MTA Bridges and Tunnels | New York State Department of Transportation | New York City DOT

Regional Conformity

- The Central Business District Tolling Program (CBDTP) was included in the regional emissions analysis for NYMTC's current Transportation Conformity Determination, adopted on August 19, 2021.
- The CBDTP is included in NYMTC's current FFY 2022-2050 Regional Transportation Plan, adopted on September 9, 2021.



Project-Level Conformity

Outcomes from 8/29/19 Interagency Consultation Group (ICG) meeting:

- **Project-level hot-spot screening** will be conducted for the CBDTP as part of the environmental review process.
    - Environmental Process will look at Hot Spot Analysis for CO or PM.
    - Screening analysis based on level of service (LOS) and traffic volume.
- If a project-level analysis is needed, the project team will meet with ICG to discuss the approach.

Projects Requiring a Quantitative $PM_{2.5}$ or PM_{10} Hot-Spot Analysis	
Project Type	Assessment of Applicability to the CBDTP
New highway projects that have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles	Not Applicable
Projects affecting intersections that are at Level of Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level of Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project	Not Applicable
New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location	Not Applicable
Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location	Not Applicable
Projects in or affecting locations, areas, or categories of sites which are identified in the $PM_{2.5}$ or PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation	Not Applicable

Project-Level Conformity

- 98 intersections around the study area were screened in consultation with NYSDOT.
- For CO, intersections with a build Level of Service (LOS) of C or better **passed the screening**.
    - If the intersection was LOS D or below in the Action Alternative, the intersection was further screened by a 10 percent or more increase in traffic volume.
- For PM, intersections with a build Level of Service (LOS) of C or better **passed the screening**.
    - For intersections that demonstrated a LOS of D or worse under the Action Alternative, an hourly change of 10 or less heavy-duty diesel vehicles would not warrant further analysis.
- **All Intersections passed the CO and PM screening analyses**.

Preliminary - Recap of Tolling Scenarios

	Scenario					
	A	B	C	D	E	F
	Base Plan	Base Plan with Caps and Exemptions	Low Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	High Crossing Credits for Vehicles Using Tunnels to Access the CBD	High Crossing Credits for Vehicles Using Tunnels to Access the CBD, with Some Caps and Exemptions	High Crossing Credits for Vehicles Using Manhattan Bridges and Tunnels to Access the CBD, with Some Caps and Exemptions
Toll Level	Lowest	Low	Medium	High	Highest	Highest
Net Revenue Projections ($/B)	$1.06	$0.83	$1.11	$1.34	$1.48	$1.02
Credits	None		Tolled CBD Crossings; Lower Credit	Tolled CBD Crossings; Higher Credit		All Manhattan; Higher Credit
Autos	1x Daily					
Taxis	Uncapped	1x Daily @ Auto Rate	Exempt	Uncapped	Exempt	1x Daily @ Auto Rate
FHVs	Uncapped	1x Daily @ Auto Rate	3x Daily @ Auto Rate	Uncapped	3x Daily @ Auto Rate	1x Daily @ Auto Rate
Trucks	Uncapped	2x Daily	Uncapped			1x Daily
Buses	Uncapped	Exempt	Uncapped		Transit: Exempt; Non-Transit: Uncapped	Exempt

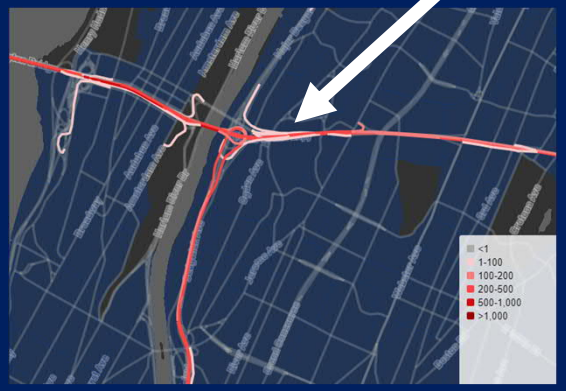
Highway Link Analyses

- **Since all intersections passed the screenings, and per agreement of the 2019 ICG, no detailed hotspot analysis were required.**
- In response to concerns raised during community meetings, the team decided to analyze the effects of the link-level highway segments on localized communities – particularly on the Cross Bronx Expressway in the vicinity of Macombs Road and on the FDR Drive near 10th Street.
- Due to the changes in truck volumes at Macombs Road, a highway link PM microscale analysis was conducted to determine air quality effects of the project.
- As the FDR does not allow trucks, a PM analysis was not conducted. A CO screening at that location passed NYSDOT TEM's Volume Threshold Analysis.

Table 1: Cross Bronx Expressway Volumes at Macombs Road

Time Period	# Hours	No Action	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E	Scenario F
Cross Bronx Expressway Volumes at Macombs Road								
AM	4	39,205	39,975	40,003	39,613	39,757	40,235	39,703
MD	6	54,071	54,596	54,522	54,277	54,666	54,659	54,689
PM	4	44,092	44,297	44,046	44,332	44,213	44,063	44,438
NT	10	49,711	52,111	52,503	50,913	50,209	51,879	50,436
Total	24	187,079	190,980	191,075	189,135	188,845	190,836	189,267
Cross Bronx Expressway Truck Volumes at Macombs Road								
AM	4	7,003	7,045	7,063	6,926	7,089	7,029	7,156
MD	6	9,924	9,896	9,986	9,893	9,851	9,896	9,845
PM	4	3,923	3,927	3,988	3,936	4,057	3,977	3,937
NT	10	6,742	7,231	7,259	7,007	7,105	7,068	7,189
Total	24	27,592	28,100	28,296	27,762	28,102	27,970	28,128
Cross Bronx Expressway Truck Percentages at Macombs Road								
AM	4	18%	18%	18%	17%	18%	17%	18%
MD	6	18%	18%	18%	18%	18%	18%	18%
PM	4	9%	9%	9%	9%	9%	9%	9%
NT	10	14%	14%	14%	14%	14%	14%	14%
Total	24	14.7%	14.7%	14.8%	14.7%	14.9%	14.7%	14.9%
Cross Bronx Expressway Truck Volume Changes at Macombs Road								
AM	4	-	42	60	-77	85	25	153
MD	6	-	-28	63	-31	-73	-27	-78
PM	4	-	5	65	13	134	54	15
NT	10	-	489	517	265	363	326	447
Total	24	-	509	704	170	510	378	536

Source: WSP



PM Microscale Analysis at Cross Bronx Expressway and Macombs Road (Analysis Year 2023)

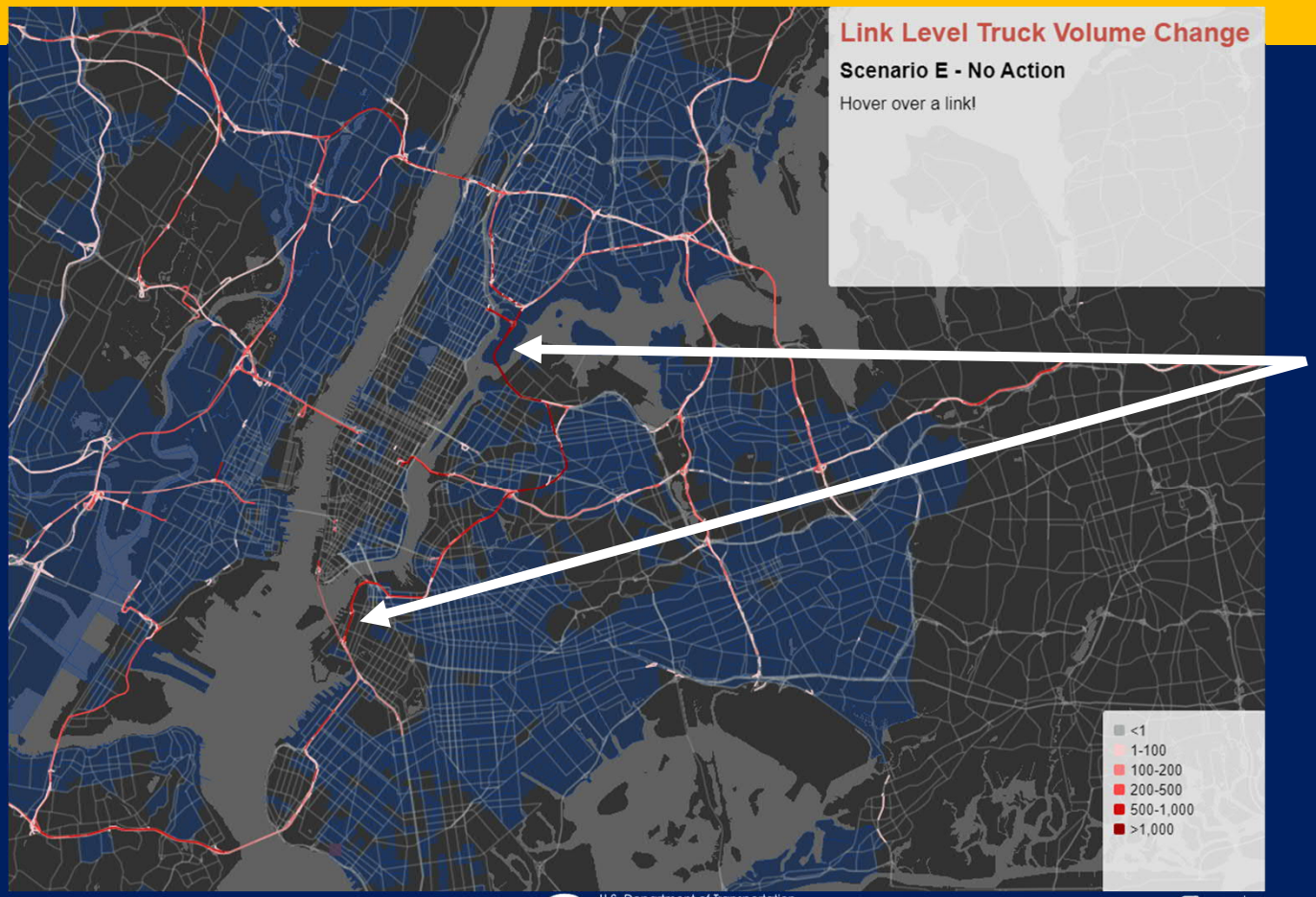
As shown, the levels are below the NAAQS.

	PM_{10} (24-hr)		$PM_{2.5}$ (24-hr)		$PM_{2.5}$ (annual)	
	No Action	Scenario B	No Action	Scenario B	No Action	Scenario B
Model result	67	70	7.6	8.1	1.9	2
Background	43		22		8.7	
Total	110	113	29.6	30.1	10.6	10.7
NAAQS ($\mu g/m^3$)	150		35		12	



AERMOD $PM_{2.5}$ 24-hour contours, Scenario B

Circumferential Truck Diversions



A more in-depth analysis of truck movements was then conducted.

As shown by the darker red links, the tolling scenarios show varying degrees of truck diversions around Manhattan.

This is mainly due to truck traffic to/from Long Island and Pennsylvania.

Note: Blue shaded areas are EJ communities

Highway Link Analysis – Maximum Truck Changes (Top 20 Highway Links)

Worst-Case Scenario	County	link #	Roadway	EJ Community	Maximum Daily Change in Trucks	AADT - No Action	AADT - Scenario	Total Trucks - No Action	Total Trucks - Scenario	% Trucks - No Action	% Trucks - Scenario
E	New York	220571	TRIBOROUGH BRIDGE (SOUTH) - N	yes	2,125	72,057	79,003	7,467	9,592	10%	12%
E	Queens	64851	TRIBOROUGH BRIDGE	yes	2,125	72,148	79,094	7,467	9,592	10%	12%
E	Queens	64831	TRIBOROUGH BRIDGE	yes	1,991	67,666	81,185	8,044	10,035	12%	12%
E	New York	64916	TRIBOROUGH BRIDGE (SOUTH) - S	yes	1,991	67,666	81,185	8,044	10,035	12%	12%
D	Queens	64851	TRIBOROUGH BRIDGE	yes	1,767	72,148	79,215	7,467	9,234	10%	12%
D	New York	220571	TRIBOROUGH BRIDGE (SOUTH) - N	yes	1,767	72,057	79,124	7,467	9,234	10%	12%
D	Queens	64831	TRIBOROUGH BRIDGE	yes	1,712	67,666	80,531	8,044	9,756	12%	12%
D	New York	64916	TRIBOROUGH BRIDGE (SOUTH) - S	yes	1,712	67,666	80,531	8,044	9,756	12%	12%
F	Queens	64851	TRIBOROUGH BRIDGE	yes	1,606	72,148	79,557	7,467	9,073	10%	11%
F	New York	220571	TRIBOROUGH BRIDGE (SOUTH) - N	yes	1,606	72,057	79,465	7,467	9,073	10%	11%
E	New York	64926	I 278	yes	1,554	42,009	44,713	6,554	8,108	16%	18%
E	New York	90365	TRIBOROUGH BRIDGE	yes	1,554	42,009	44,713	6,554	8,108	16%	18%
E	New York	64925	TRIBOROUGH BRIDGE	yes	1,554	42,009	44,713	6,554	8,108	16%	18%
E	Bronx	64930	TRIBOROUGH BRIDGE (NORTH) - N	yes	1,552	45,875	47,691	6,711	8,263	15%	17%
E	New York	64931	I 278	yes	1,552	45,875	47,691	6,711	8,263	15%	17%
E	Bronx	64940	TRIBORO BR	yes	1,552	45,875	47,691	6,711	8,263	15%	17%
E	Queens	220948	GRAND CENTRAL PKY	yes	1,543	48,951	54,546	5,358	6,901	11%	13%
D	New York	64926	I 278	yes	1,530	42,009	44,709	6,554	8,084	16%	18%
D	New York	90365	TRIBOROUGH BRIDGE	yes	1,530	42,009	44,709	6,554	8,084	16%	18%
D	New York	64926	I 278	yes	1,530	42,009	44,709	6,554	8,084	16%	18%



Notes: map shows Scenario E truck changes
Blue shaded areas are EJ communities

The project team assessed the truck data to determine those links with maximum truck changes across all scenarios. This was done to identify "worst case" locations to perform highway link PM analyses.

Note: one-way directional links

Highway Link Analysis - Max Truck Changes by County

Worst-Case Scenario	County	link #	Roadway	EJ Community	Maximum Daily Change in Trucks	AADT - No Action	AADT - Scenario	Total Trucks - No Action	Total Trucks - Scenario	% Trucks - No Action	% Trucks - Scenario
E	New York	220571	TRIBOROUGH BRIDGE (SOUTH) - N	yes	2,125	72,057	79,003	7,467	9,592	10.4%	12.1%
E	Queens	64851	TRIBOROUGH BRIDGE	yes	2,125	72,148	79,094	7,467	9,592	10.3%	12.1%
E	Bronx	64930	TRIBOROUGH BRIDGE (NORTH) - N	yes	1,552	45,875	47,691	6,711	8,263	14.6%	17.3%
D	Kings	90378	BROOKLYN BATTERY TUNNEL	no	1,277	23,795	43,802	1,796	3,073	7.5%	7.0%
E	Nassau	283052	LIE HOV WB	no	726	8,713	12,305	381	1,107	4.4%	9.0%
D	Bergen	246640	George Washington Bridge	yes	722	86,255	92,162	19,274	19,996	22.3%	21.7%
E	Richmond	90359	I 278	no	722	106,278	113,169	6,294	7,016	5.9%	6.2%
F	Fairfield	2601002	I 95 HOV	no	588	14,441	17,358	1,331	1,919	9.2%	11.1%
E	Hudson	267169	Tonnele Av	yes	540	90,326	93,367	4,460	5,000	4.9%	5.4%
A	Somerset	255656	I-78 to I-287 ramp	no	530	20,965	22,517	4,223	4,752	20.1%	21.1%
J	Suffolk	223379	LIE WB	yes	492	5,071	10,362	330	822	6.5%	7.9%
E	Rockland	246472	I 287	yes	423	35,214	37,193	5,577	6,001	15.8%	16.1%
E	Morris	256254	I 287	no	380	33,856	34,618	6,268	6,647	18.5%	19.2%
E	Union	246785	GOETHALS BRIDGE - WB	yes	347	27,265	30,664	2,533	2,880	9.3%	9.4%
E	Essex	266734	I-95 NB on-ramp	yes	311	5,773	5,915	1,141	1,452	19.8%	24.6%
F	Passaic	264358	I-80	yes	296	43,135	45,366	4,016	4,312	9.3%	9.5%
F	Westchester	77466	Westchester Ave Ramp	no	245	1,996	2,340	859	1,104	43.0%	47.2%
A	New Haven	239129	I-84 EB on-ramp	no	210	6,490	9,299	1,323	1,533	20.4%	16.5%
E	Middlesex	255463	I-287 EB	yes	157	38,414	38,461	4,557	4,713	11.9%	12.3%
B	Dutchess	244636	Rt 9 on-ramp	yes	123	8,395	8,263	373	496	4.4%	6.0%
F	Orange	222621	Rt 6 NB on-ramp	yes	46	10,229	10,877	550	596	5.4%	5.5%
F	Mercer	249007	Bruncswick Pike	yes	32	65,793	66,105	6,145	6,177	9.3%	9.3%
A	Warren	256441	-	no	26	53,670	53,640	8,729	8,755	16.3%	16.3%
E	Hunterdon	254727	I-78 WB	no	16	51,603	51,453	8,693	8,709	16.8%	16.9%
E	Putnam	79212	I 684	no	16	35,206	34,957	3,870	3,886	11.0%	11.1%
D	Monmouth	251620	CR 18	no	15	9,051	9,027	1,561	1,576	17.2%	17.5%
B	Ocean	251116	I -195	no	11	19,610	19,697	2,616	2,627	13.3%	13.3%
J	Sussex	256644	-	no	6	44,360	44,304	3,570	3,576	8.0%	8.1%

Note: one-way directional links

The project team assessed the truck data to determine those links with maximum truck changes by county across all scenarios.

This was done to identify “worst case” locations to perform highway link PM analyses.

Highway Link Analysis - Maximum AADT

Worst-Case Scenario	County	link #	Roadway	EJ Community	AADT - No Action	AADT - Scenario	Trucks - No Action	Trucks - Scenario	Maximum Daily Change in Trucks	% Trucks - No Action	% Trucks - Scenario
C	Bergen	268133	I-95	yes	124,642	130,713	18,019	18,421	401	14.5%	14.1%
E	Bergen	268133	I-95	yes	124,642	130,668	18,019	18,421	401	14.5%	14.1%
F	Bergen	268133	I-95	yes	124,642	130,461	18,019	18,421	401	14.5%	14.1%
D	Bergen	268133	I-95	yes	124,642	130,461	18,019	18,421	401	14.5%	14.1%
B	Bergen	268133	I-95	yes	124,642	129,686	18,019	18,421	401	14.5%	14.2%
A	Bergen	268133	I-95	yes	124,642	128,575	18,019	18,421	401	14.5%	14.3%
C	Queens	64554	VAN WYCK EXPY	yes	128,793	127,045	5,664	5,703	39	4.4%	4.5%
C	Bergen	268077	I-95	yes	120,803	126,821	17,101	17,517	416	14.2%	13.8%
E	Bergen	268077	I-95	yes	120,803	126,656	17,101	17,517	416	14.2%	13.8%
F	Bergen	268077	I-95	yes	120,803	126,645	17,101	17,517	416	14.2%	13.8%
D	Bergen	268077	I-95	yes	120,803	126,416	17,101	17,517	416	14.2%	13.9%
B	Bergen	268077	I-95	yes	120,803	126,029	17,101	17,517	416	14.2%	13.9%
A	Bergen	268077	I-95	yes	120,803	124,622	17,101	17,517	416	14.2%	14.1%
A	Queens	64564	VAN WYCK EXPY	yes	123,598	123,416	4,731	4,850	119	3.8%	3.9%
B	Bergen	268131	I-95	yes	116,685	123,100	16,114	16,514	400	13.8%	13.4%
A	Bergen	268131	I-95	yes	116,685	122,596	16,114	16,514	400	13.8%	13.5%
F	Queens	64564	VAN WYCK EXPY	yes	123,598	122,259	4,731	4,850	119	3.8%	4.0%
C	Queens	64564	VAN WYCK EXPY	yes	123,598	122,250	4,731	4,850	119	3.8%	4.0%
D	Queens	64564	VAN WYCK EXPY	yes	123,598	122,200	4,731	4,850	119	3.8%	4.0%
E	Queens	64564	VAN WYCK EXPY	yes	123,598	121,845	4,731	4,850	119	3.8%	4.0%
J	Queens	64564	VAN WYCK EXPY	yes	123,598	121,602	4,731	4,850	119	3.8%	4.0%
B	Queens	63972	VAN WYCK EXPY	yes	119,688	119,497	4,081	4,101	21	3.4%	3.4%
B	Queens	64564	VAN WYCK EXPY	yes	123,598	119,188	4,731	4,850	119	3.8%	4.1%
C	Bergen	268131	I-95	yes	116,685	118,593	16,114	16,514	400	13.8%	13.9%
E	Bergen	268131	I-95	yes	116,685	117,737	16,114	16,514	400	13.8%	14.0%
E	Queens	64289	LONG ISLAND EXPY	yes	117,103	117,281	6,571	6,672	102	5.6%	5.7%
F	Queens	64289	LONG ISLAND EXPY	yes	117,103	117,108	6,571	6,672	102	5.6%	5.7%
A	Bergen	266111	SR 4	yes	117,502	117,077	7,057	7,062	5	6.0%	6.0%

Note: one-way directional links

The project team also assessed traffic data to determine those links with maximum AADT by county across all scenarios.

This was done to identify “worst case” locations to perform highway link PM analyses.

Highway Link Analysis - PM Analysis Locations

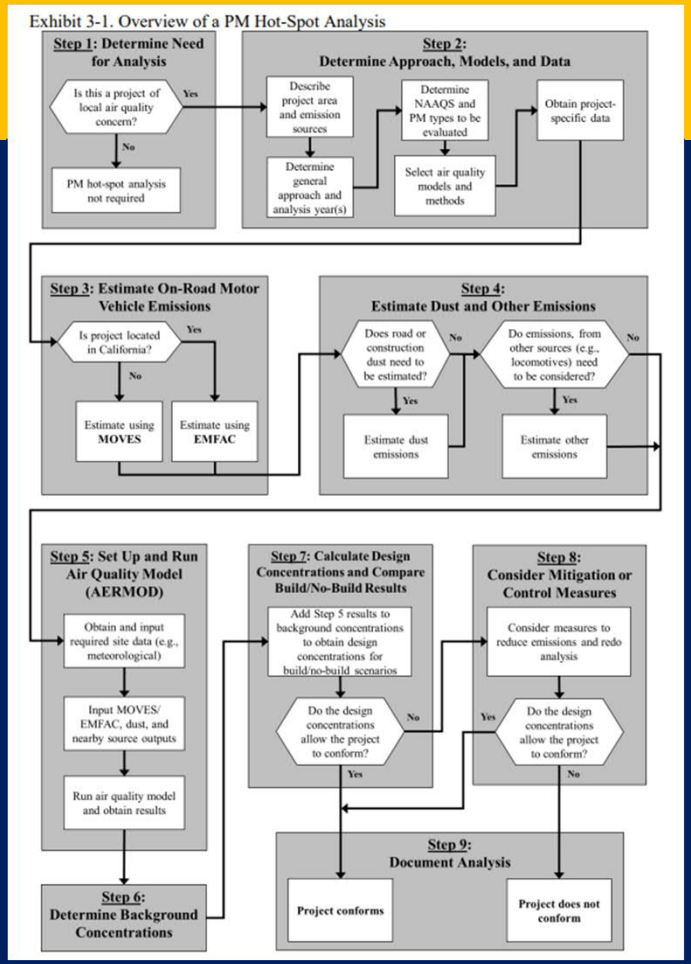
- **I-95 west of the GWB, Scenario C**
  - Highest AADT in all scenarios
  - New Jersey location
  - EJ community
- ✓ **Cross Bronx @ Macombs, Scenario B**
  - Community concern
  - Scenario with highest truck increase at that location
  - Bronx location
  - EJ community
- **RFK (Triborough) Queens Approach, Scenario E**
  - Highest truck increase across all scenarios
  - Queens location
  - EJ community



Notes: map shows Scenario E truck changes
Blue shaded areas are EJ communities

Action Items/Next Steps

- ICG concurrence on approach
  - Project team has provided draft methodology, following EPA's 9-step process, for ICG review
- ICG concurrence that no further consultation required if all levels are below NAAQS for all analyses
  - Findings for the additional locations will be circulated prior to release of EA

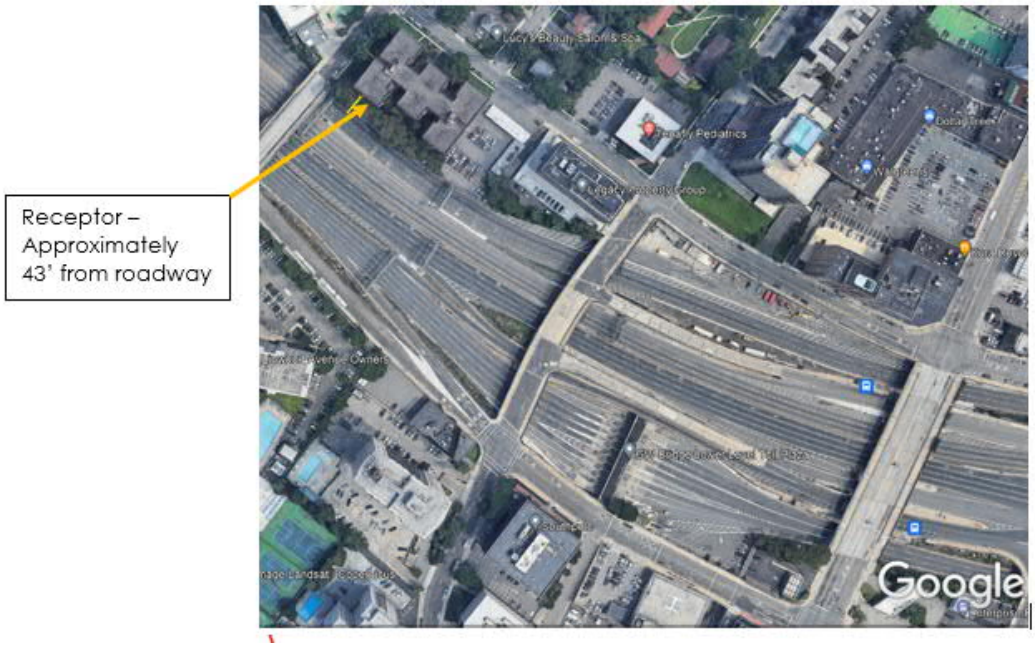


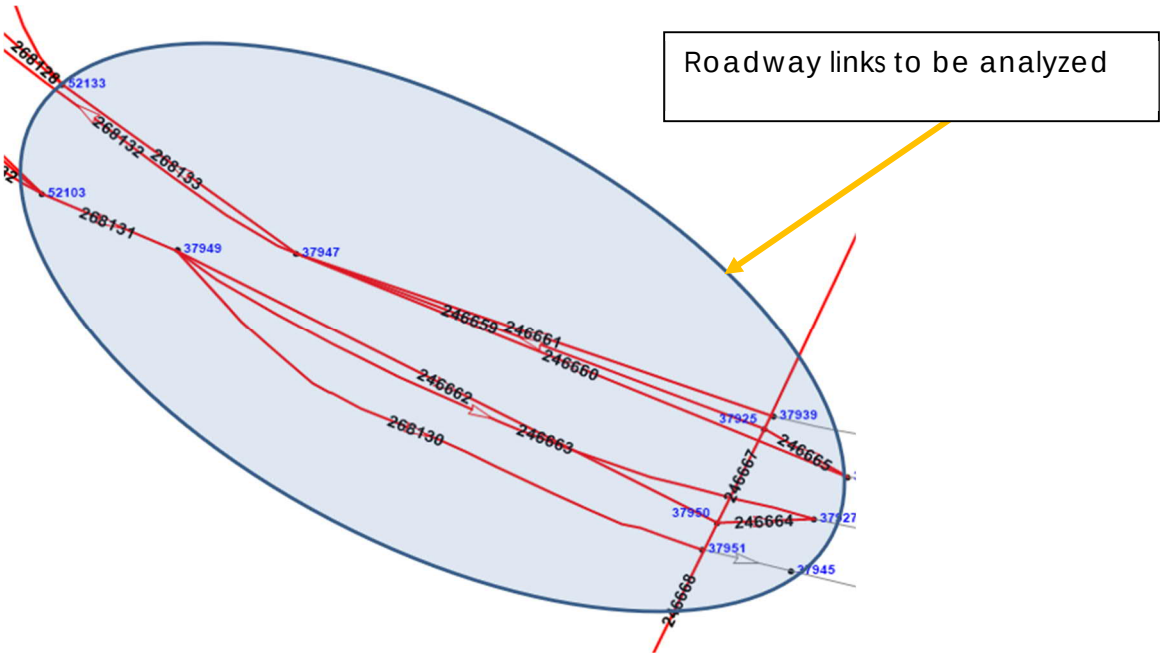
Appendix B

Nearest Sensitive Receptor Distances at Proposed Analysis Sites

During the interagency consultation meeting on 4/19/22, it was requested that more information be provided regarding the distance from the roadway to the nearest sensitive receptor at each of the proposed analysis sites. As shown in the figures below, the nearest sensitive receptors range from approximately 18' to 43' from roadway segments, depending on the analysis site. In addition to these receptors, a grid pattern of receptors, as per EPA guidance and detailed in the methodology, will also be placed at each analysis location.

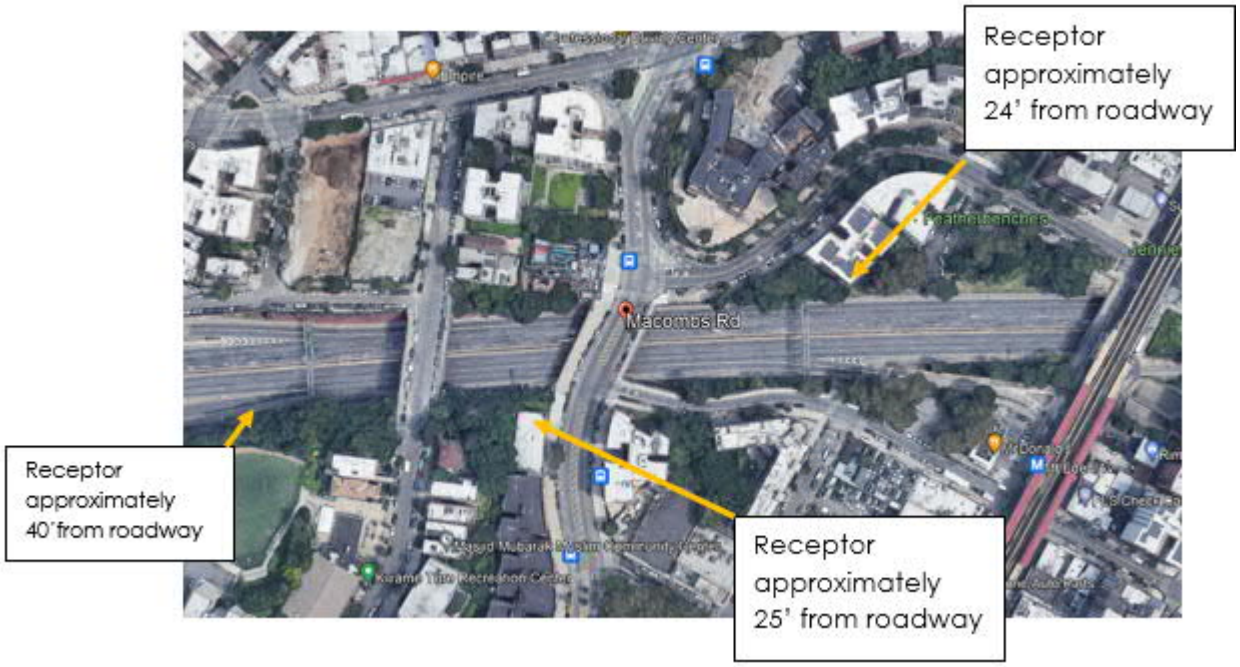
Site 1 - I-95 west of the GWB, Scenario C

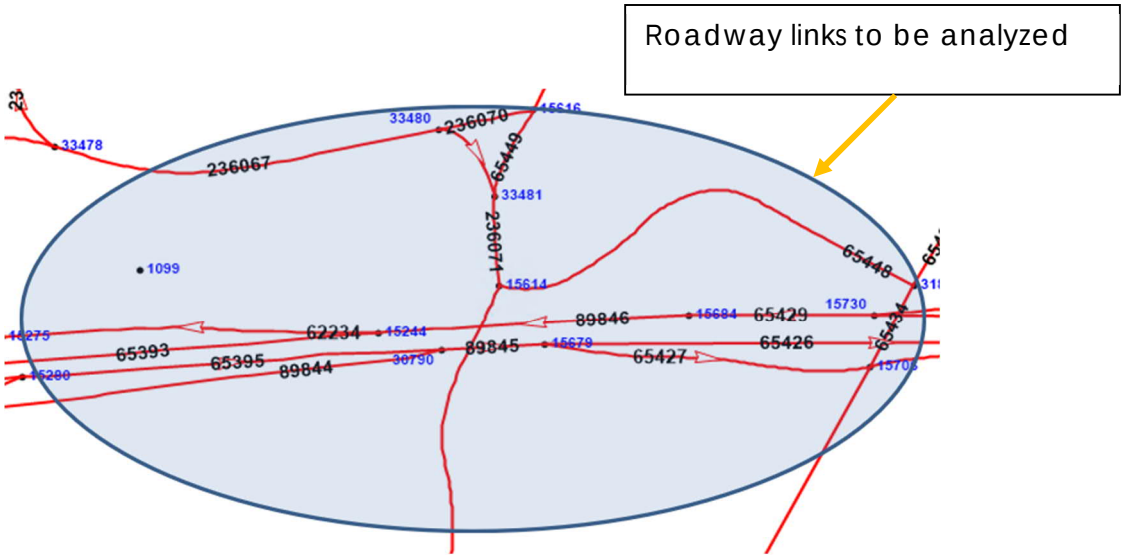




Site 2 - Cross Bronx @ Macombs, Scenario B

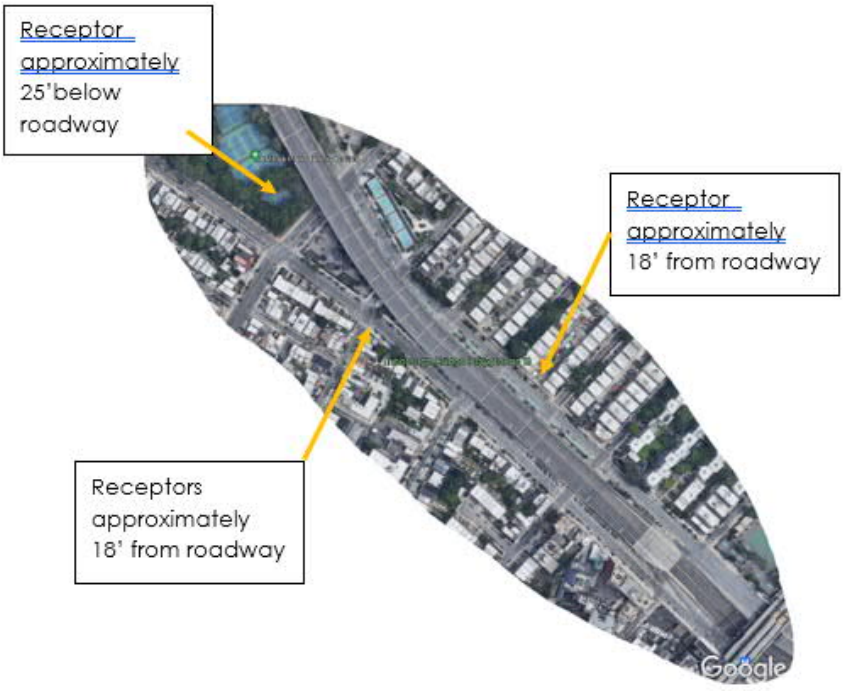
Nearest sensitive receptors are approximately 24' away from the edge of the roadway.

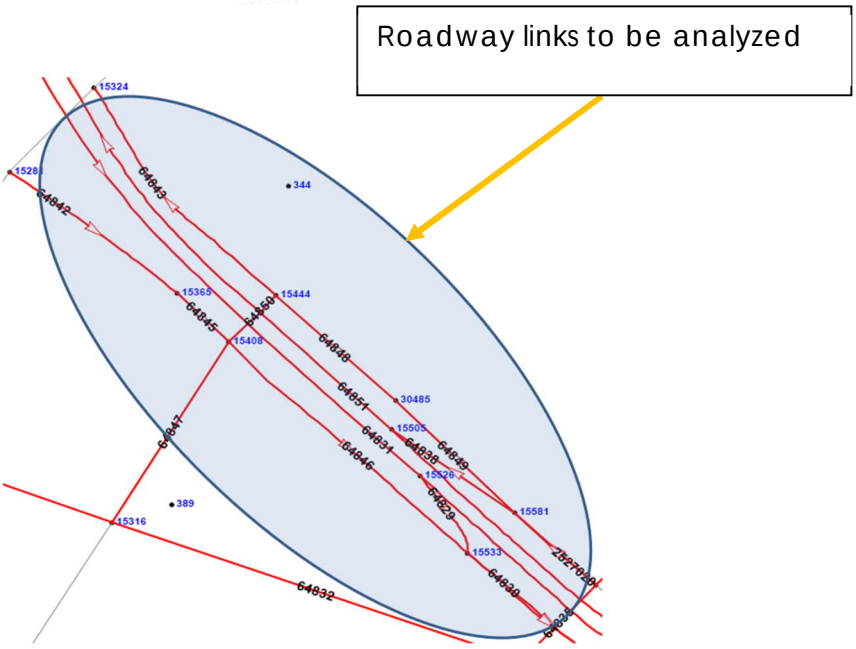




Site 3- RFK (Triborough) Queens Approach, Scenario E

Nearest sensitive receptor are approximately 18' from the edge of the roadway





Appendix C

ICG Concurrence E-mail

April 25, 2022

Tadross, Edward

From: C. de Cerreno, Allison <allison.cdecerreno@mtahq.org>
Sent: Monday, April 25, 2022 2:53 PM
To: McNamara, Ian; Tadross, Edward; Lovegrove, Alice; Liebowitz, Peter
Cc: Wojnar, Michael; Flax, Leah; Angel, Nichola; Oliva, Louis
Subject: Fwd: CBDTP Air Quality ICG Meeting: Presentation and proposed methodology

Follow Up Flag: Follow up
Flag Status: Flagged

Pls see below and let us know when things are ready as they progress.

Allison L. C. de Cerreño, Ph.D.
Deputy Chief Operating Officer
Metropolitan Transportation Authority
2 Broadway, 23rd floor • NY, NY 10004
T: 646-252-7750 • M: 646-899-3735
E: allison.cdecerreno@mtahq.org

From: Lentlie, Patrick (DOT) <Patrick.Lentlie@dot.ny.gov>
Sent: Monday, April 25, 2022 12:55:41 PM
To: C. de Cerreno, Allison <allison.cdecerreno@mtahq.org>
Cc: Angel, Nichola <nangel@mtabt.org>; Flax, Leah <leah.flax@mtabt.org>; Wojnar, Michael <mwojnar@mtahq.org>; Nelson, Debra (DOT) <Debra.Nelson@dot.ny.gov>; gautam.mani@dot.gov <gautam.mani@dot.gov>; laurita.matthew@epa.gov <laurita.matthew@epa.gov>; Lentlie, Patrick (DOT) <Patrick.Lentlie@dot.ny.gov>; anna.price@dot.gov <anna.price@dot.gov>; Moser, Daniel (FTA) <daniel.moser@dot.gov>; Black, Lily <Black.Lily@epa.gov>; Burns, Donald (FTA) <Donald.Burns@dot.gov>; Anukwe, Uzoma (FTA) <uzoma.anukwe@dot.gov>; Smith, Terry (DOT) <Terry.Smith@dot.ny.gov>; Leslie, Catherine S. (DOT) <Catherine.Leslie@dot.ny.gov>; Nierenberg, Daniel R (DOT) <Daniel.Nierenberg@dot.ny.gov>; Savage, Laura E (DOT) <Laura.Savage@dot.ny.gov>; Neerackal, George (DOT) <George.Neerackal@dot.ny.gov>
Subject: RE: CBDTP Air Quality ICG Meeting: Presentation and proposed methodology

Allison,

The ICG concurs with the methodology used to identify the three locations for the CBDTP particulate matter hot-spot analysis. The ICG also concurs that if, after review of the analysis results and documentation, the three locations return values that do not violate the relevant NAAQS, then no further consultation with the ICG is required. This concurrence comes with the condition that the following comments are satisfactorily addressed:

- The USEPA and involved agencies reserve the right to request review of the modeling inputs/outputs and design value calculations during the review of the Air Quality technical report. Accordingly, the NYSDOT recommends the input files and relevant documentation be provided as soon as possible.
- Provide the source of age distribution data for the heavy-duty long-haul diesel trucks and confirm whether it is local or MOVES default data.
- For the RFK Bridge analysis location, confirm that the emissions from the nearby Astoria Generating Station are reasonably assumed to be reflected in the background PM concentrations
- Please specify the location(s) of the monitor(s) being used for the background concentrations used in the analysis.

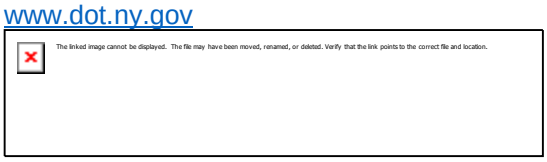
If you have any questions, please let me know.

Thanks,

Patrick

Patrick Lentlie
Environmental Specialist 2, Environmental Science Bureau

New York State Department of Transportation
50 Wolf Rd, POD 4-1, Albany, NY 12232
(518) 457-0212 | Patrick.Lentlie@dot.ny.gov
www.dot.ny.gov



From: C. de Cerreno, Allison <allison.cdecerreno@mtahq.org>
Sent: Friday, April 22, 2022 8:40 PM
To: Lentlie, Patrick (DOT) <Patrick.Lentlie@dot.ny.gov>
Subject: Re: CBDTP Air Quality ICG Meeting: Presentation and proposed methodology

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hi Patrick,
Any word from the agencies?
Allison

Allison L. C. de Cerreño, Ph.D.
Deputy Chief Operating Officer
Metropolitan Transportation Authority
2 Broadway, 23rd floor • NY, NY 10004
T: 646-252-7750 • M: 646-899-3735
E: allison.cdecerreno@mtahq.org

From: Lentlie, Patrick (DOT) <Patrick.Lentlie@dot.ny.gov>
Sent: Thursday, April 21, 2022 8:47:33 AM
To: Sheehan, Michael P (DEC) <michael.sheehan@dec.ny.gov>; gautam.mani@dot.gov <gautam.mani@dot.gov>; anna.price@dot.gov <anna.price@dot.gov>; Moser, Daniel (FTA) <daniel.moser@dot.gov>; laurita.matthew@epa.gov <laurita.matthew@epa.gov>; Black, Lily <Black.Lily@epa.gov>; Burns, Donald (FTA) <Donald.Burns@dot.gov>; Anukwe, Uzoma (FTA) <uzoma.anukwe@dot.gov>
Cc: Smith, Terry (DOT) <Terry.Smith@dot.ny.gov>; Leslie, Catherine S. (DOT) <Catherine.Leslie@dot.ny.gov>; Nelson, Debra (DOT) <Debra.Nelson@dot.ny.gov>; Neerackal, George (DOT) <George.Neerackal@dot.ny.gov>; Nierenberg, Daniel R (DOT) <Daniel.Nierenberg@dot.ny.gov>; Savage, Laura E (DOT) <Laura.Savage@dot.ny.gov>
Subject: RE: CBDTP Air Quality ICG Meeting: Presentation and proposed methodology

Good morning NYS ICG for air quality conformity,

As requested during the ICG meeting on April 19, the MTA added more detail regarding the proximity of sensitive receptors to the roadways at the selected sites. See Appendix B in the revised attachment.

Also, in the Main Body (Step 5, Item c), the original version sent on April 18 stated that the receptors will be placed up to 1,000 meters (approximately 3,280 feet) from the source of emissions. This section was revised to specify receptors will be placed up to 300 meters (approximately 1,000 feet) from the source of emissions. 300 meters is still consistent with the USEPA guidance (i.e. at least 100 meters from the project).

The April 19 presentation is also included as Appendix A. These are the only changes to the materials sent on April 18.

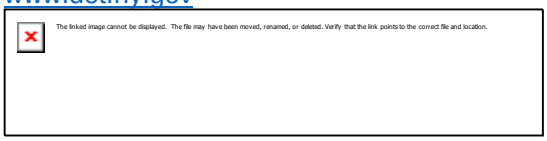
Please let me know if you concur with the approach to the analysis, or if you have any comments, by Friday, April 22. Please also let me know if you agree no further consultation is required if the completed analysis predicts the design concentrations are less than the relevant NAAQS.

Thank you,

Patrick

Patrick Lentlie
Environmental Specialist 2, Environmental Science Bureau

New York State Department of Transportation
50 Wolf Rd, POD 4-1, Albany, NY 12232
(518) 457-0212 | Patrick.Lentlie@dot.ny.gov
www.dot.ny.gov



From: Lentlie, Patrick (DOT)
Sent: Monday, April 18, 2022 5:58 PM
To: Sheehan, Michael P (DEC) <michael.sheehan@dec.ny.gov>; gautam.mani@dot.gov; anna.price@dot.gov; Daniel.moser@dot.gov; laurita.matthew@epa.gov; Black, Lily <Black.Lily@epa.gov>; Burns, Donald (FTA) <Donald.Burns@dot.gov>; Anukwe, Uzoma (FTA) <uzoma.anukwe@dot.gov>
Cc: Smith, Terry (DOT) <Terry.Smith@dot.ny.gov>; Leslie, Catherine S. (DOT) <Catherine.Leslie@dot.ny.gov>; Nelson, Debra (DOT) <Debra.Nelson@dot.ny.gov>; Neerackal, George (DOT) <George.Neerackal@dot.ny.gov>; Savage, Laura E (DOT) <Laura.Savage@dot.ny.gov>
Subject: CBDTP Air Quality ICG Meeting: Presentation and proposed methodology

NYS ICG for air quality conformity,

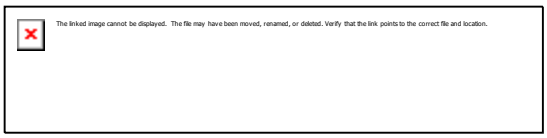
The MTA presentation and proposed methodology for considering the local effects of the Central Business District Tolling Program on air quality are attached for your information and review.

Thanks,

Patrick

Patrick Lentlie
Environmental Specialist 2, Environmental Science Bureau

New York State Department of Transportation
50 Wolf Rd, POD 4-1, Albany, NY 12232
(518) 457-0212 | Patrick.Lentlie@dot.ny.gov
www.dot.ny.gov



Confidentiality Note: This e-mail, and any attachment to it, may contain privileged and confidential information and is intended for the use of the individual(s) or entity named on the e-mail. Unauthorized disclosure of this message is prohibited. If you have received this message in error, please notify the sender immediately by return e-mail and destroy this message and all copies thereof, including all attachments.

Appendix D

Analysis Results

(Electronic MOVES/AERMOD Files Available Upon Request)

Table 1 - Predicted 24-hour PM_{10} Design Value Concentrations

Site	Alternative	Background Concentration ($\mu g/m^3$)	Modeled Concentration ($\mu g/m^3$)	Total Concentration* ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
I-95 west of the GWB	No Build	43	62	105	150
	Scenario C		64	107	
Cross Bronx at Macombs Road	No Build		65	108	
	Scenario B		66	109	
RFK Bridge Queens Approach	No Build		64	107	
	Scenario E		79	122	

* Total concentrations = modeled results + 24-hour PM_{10} background
$\mu g/m^3$ = micrograms per cubic meter

Table 2 - Predicted 24-hour $PM_{2.5}$ Design Value Concentrations

Site	Alternative	Background Concentration ($\mu g/m^3$)	Modeled Concentration ($\mu g/m^3$)	Total Concentration* ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
I-95 West of the GWB	No Build	22.0	7.5	29.5	35.0
	Scenario C		7.7	29.7	
Cross Bronx at Macombs Road	No Build		5.5	27.5	
	Scenario B		5.7	27.7	
RFK Bridge Queens Approach	No Build		3.2	25.2	
	Scenario E		5.7	27.7	

* Total concentrations = modeled results + 24-hour $PM_{2.5}$ background
$\mu g/m^3$ = micrograms per cubic meter

Table 3 - Predicted Annual $PM_{2.5}$ Design Value Concentrations

Site	Alternative	Background Concentration ($\mu g/m^3$)	Modeled Concentration ($\mu g/m^3$)	Total Concentration* ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
I-95 West of the GWB	No Build	8.7	2.4	11.1	12.0
	Scenario C		2.5	11.2	
Cross Bronx at Macombs Road	No Build		2.2	10.9	
	Scenario B		2.3	11.0	
RFK Bridge Queens Approach	No Build		1.1	9.8	
	Scenario E		1.9	10.6	

* Total concentrations = modeled results + Annual $PM_{2.5}$ background
$\mu g/m^3$ = micrograms per cubic meter

Figure 1 – AERMOD Model Screenshot, I-95 west of GWB

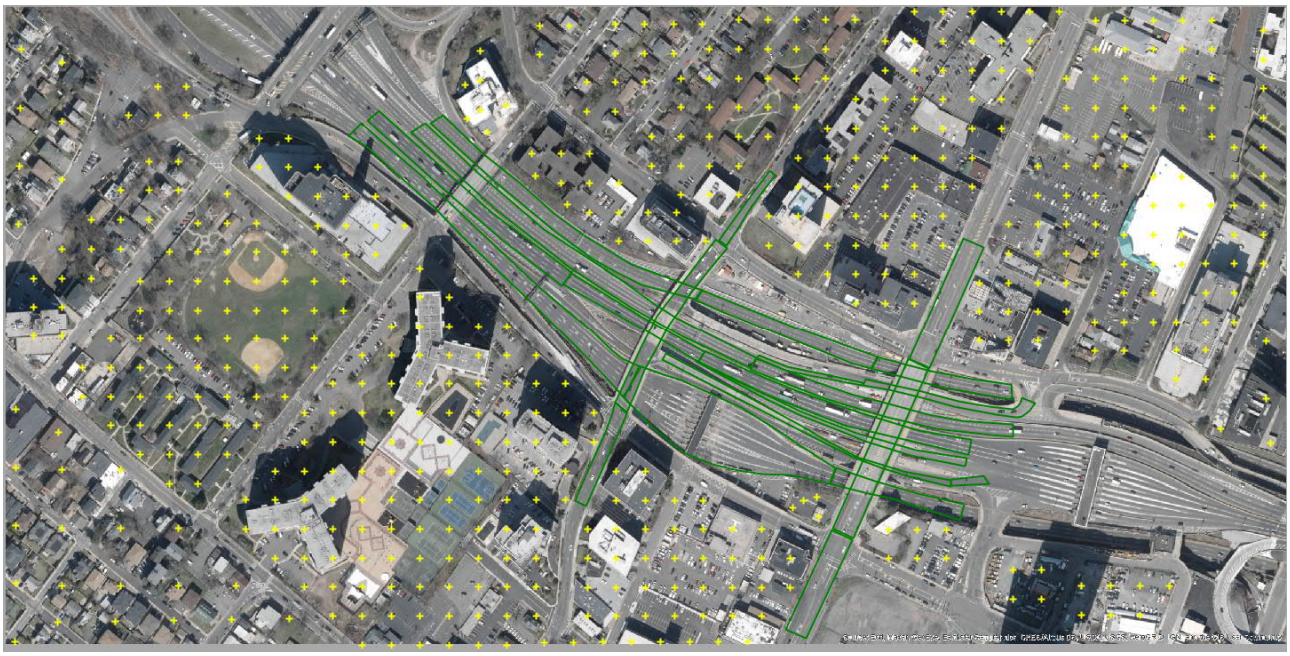


Figure 2 – 24-Hour PM_{10} No Build Contours (µg/m^3), I-95 west of GWB

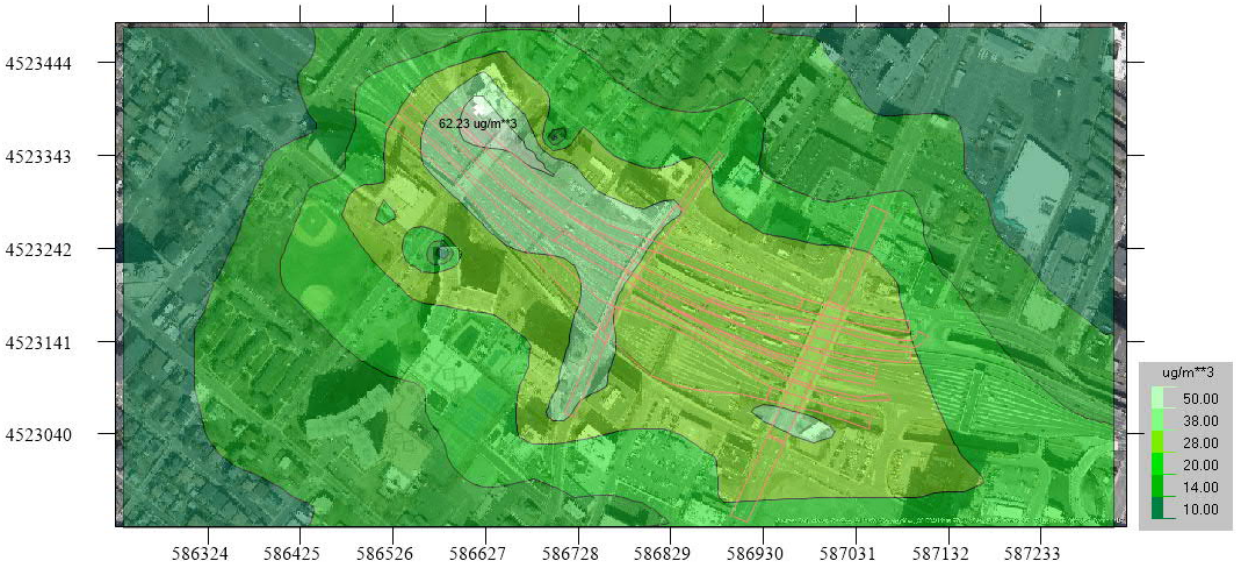


Figure 3 – 24-Hour PM_{10} Scenario C Contours (µg/m^3), I-95 west of GWB

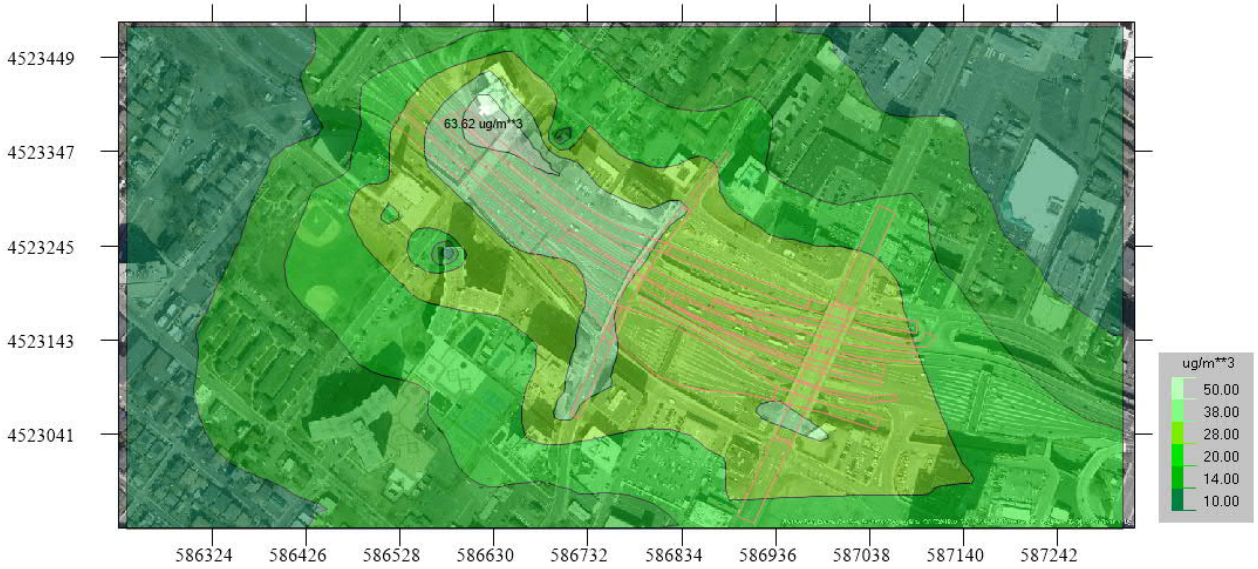


Figure 4 – 24-Hour $PM_{2.5}$ No Build Contours (µg/m^3), I-95 west of GWB

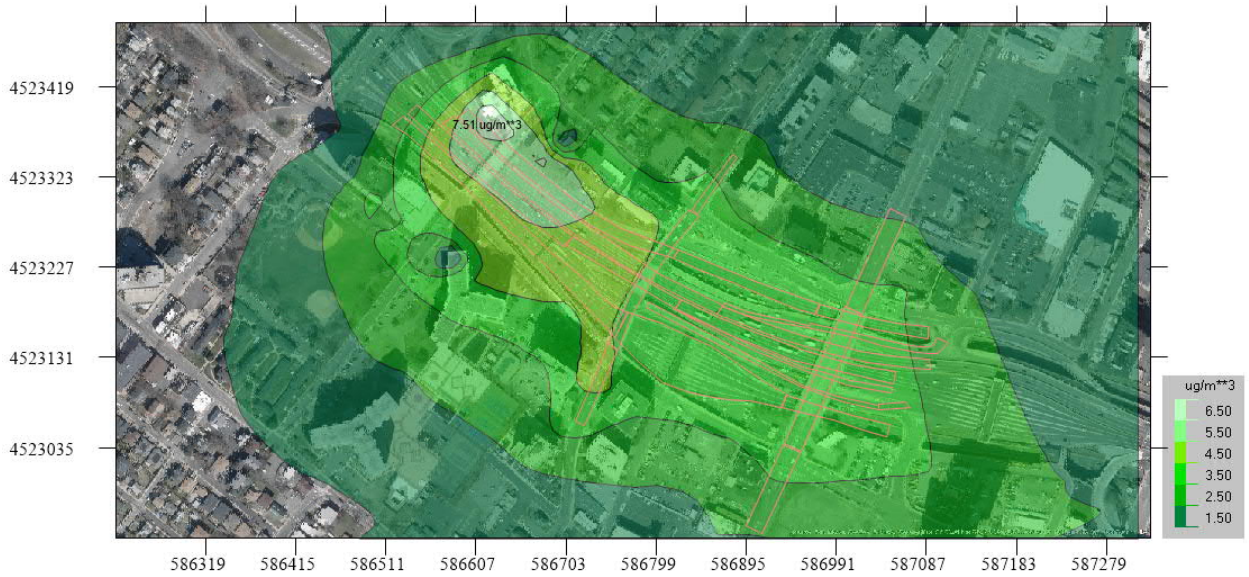


Figure 5 – 24-Hour $PM_{2.5}$ Scenario C Contours (µg/m^3), I-95 west of GWB

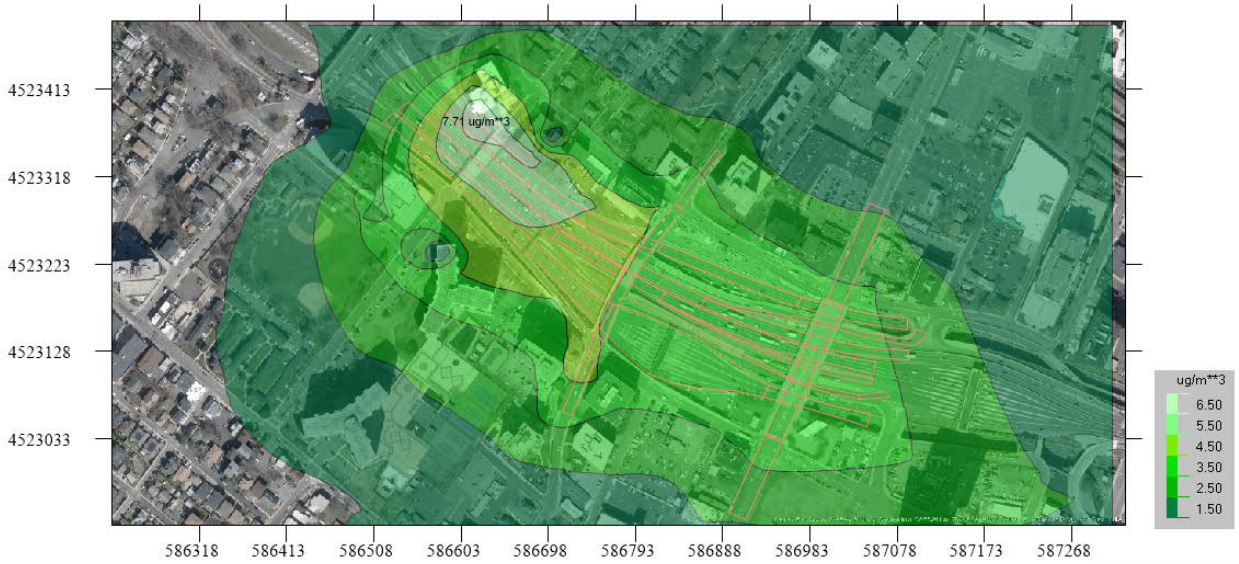


Figure 6 – Annual $PM_{2.5}$ No Build Contours (µg/m^3), I-95 west of GWB

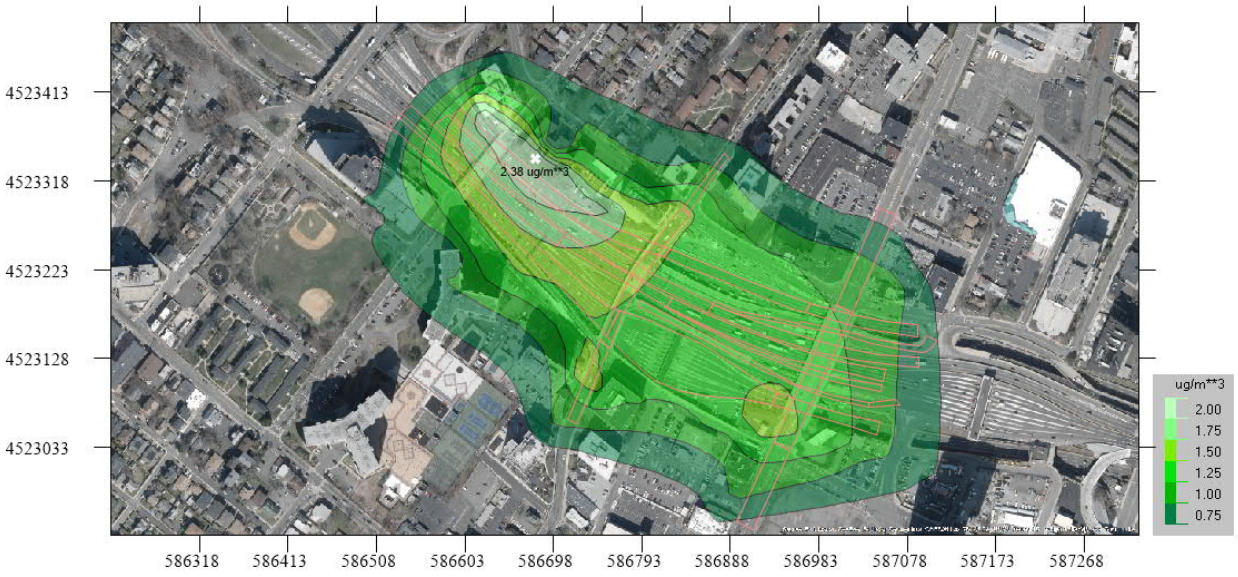


Figure 7 – Annual $PM_{2.5}$ Scenario C Contours (µg/m^3), I-95 west of GWB

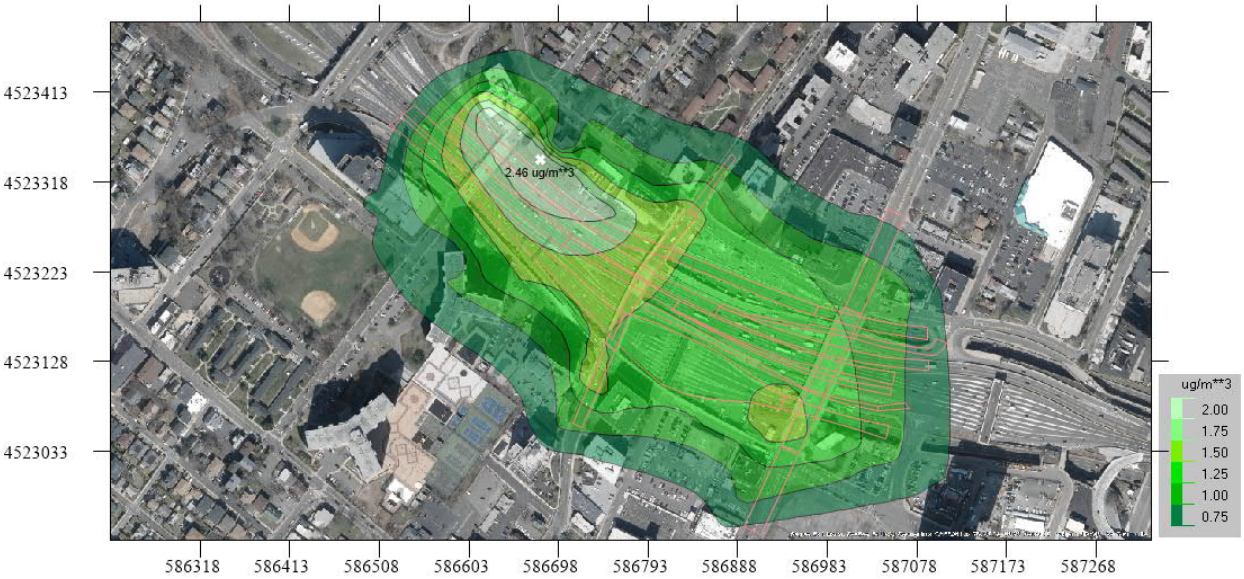


Figure 8 – AERMOD Model Screenshot, Cross Bronx at Macombs



Figure 9 – 24-Hour PM_{10} No Build Contours (µg/m^3), Cross Bronx at Macombs

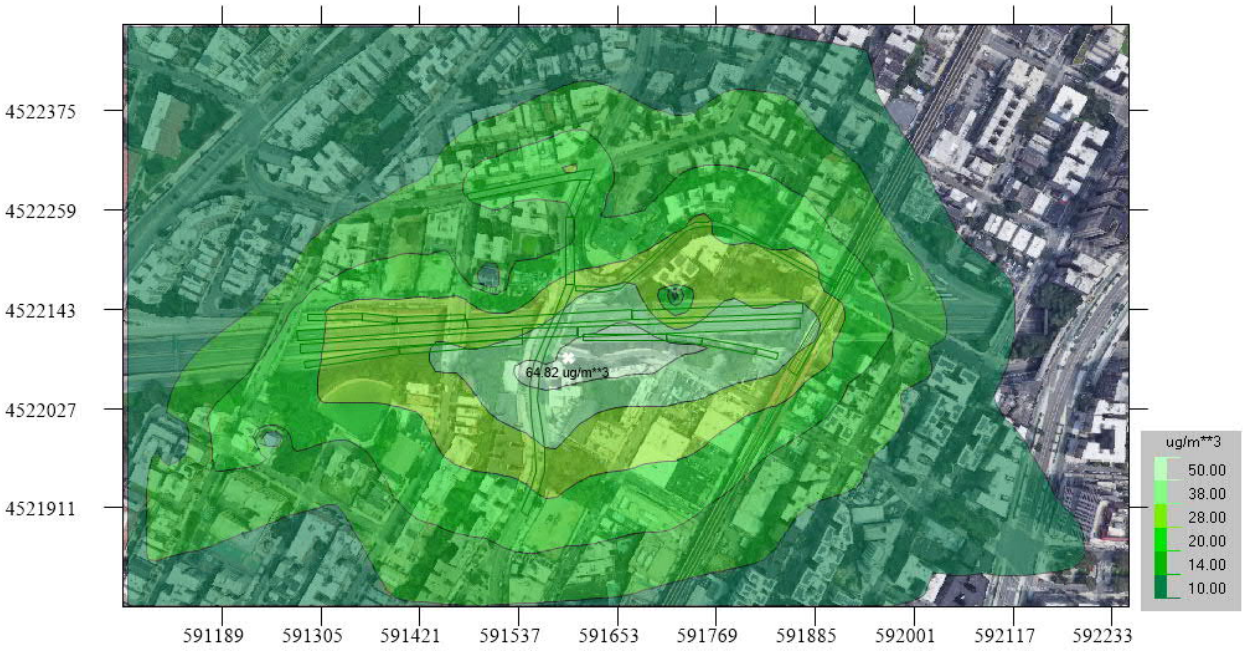


Figure 10 – 24-Hour PM_{10} Scenario B Contours (µg/m^3), Cross Bronx at Macombs

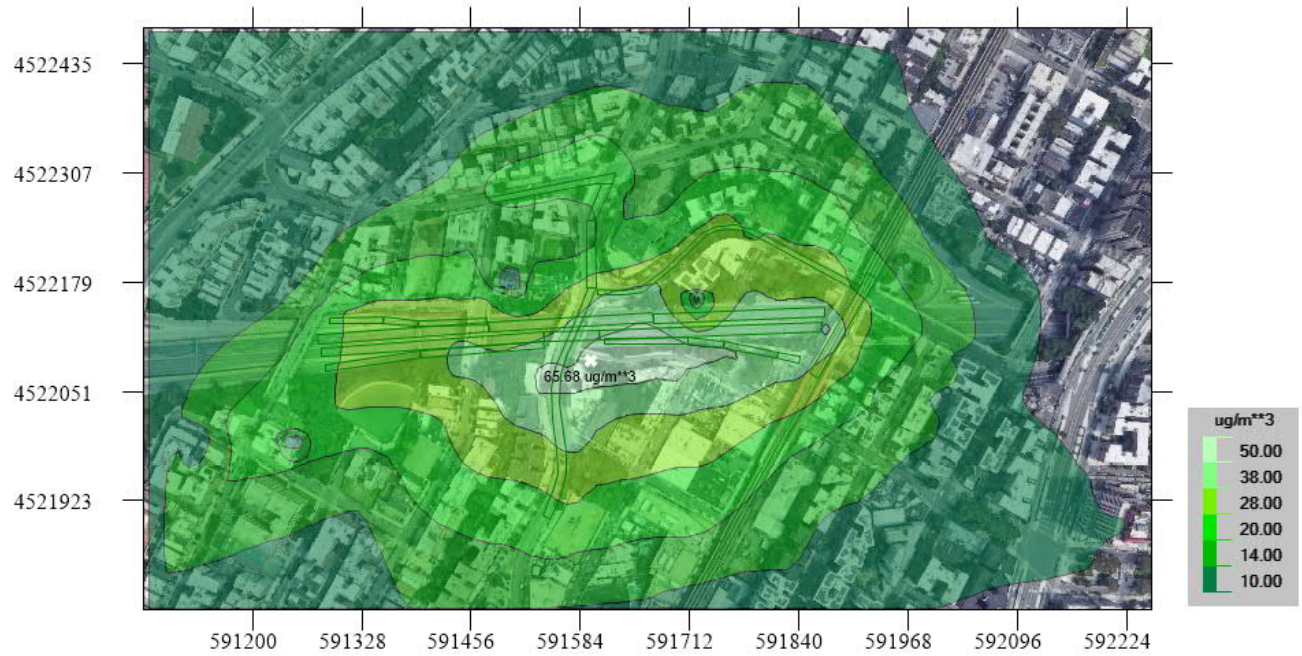


Figure 11 – 24-Hour $PM_{2.5}$ No Build Contours (µg/m^3), Cross Bronx at Macombs

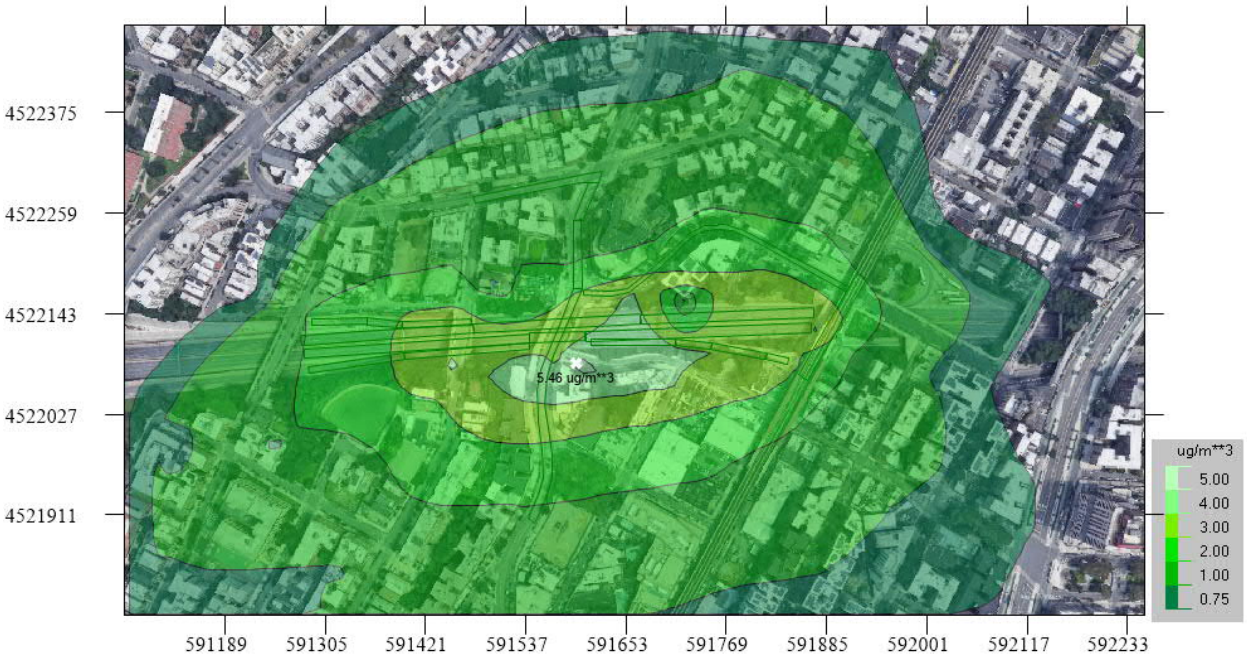


Figure 12 – 24-Hour $PM_{2.5}$ Scenario B Contours (µg/m^3), Cross Bronx at Macombs

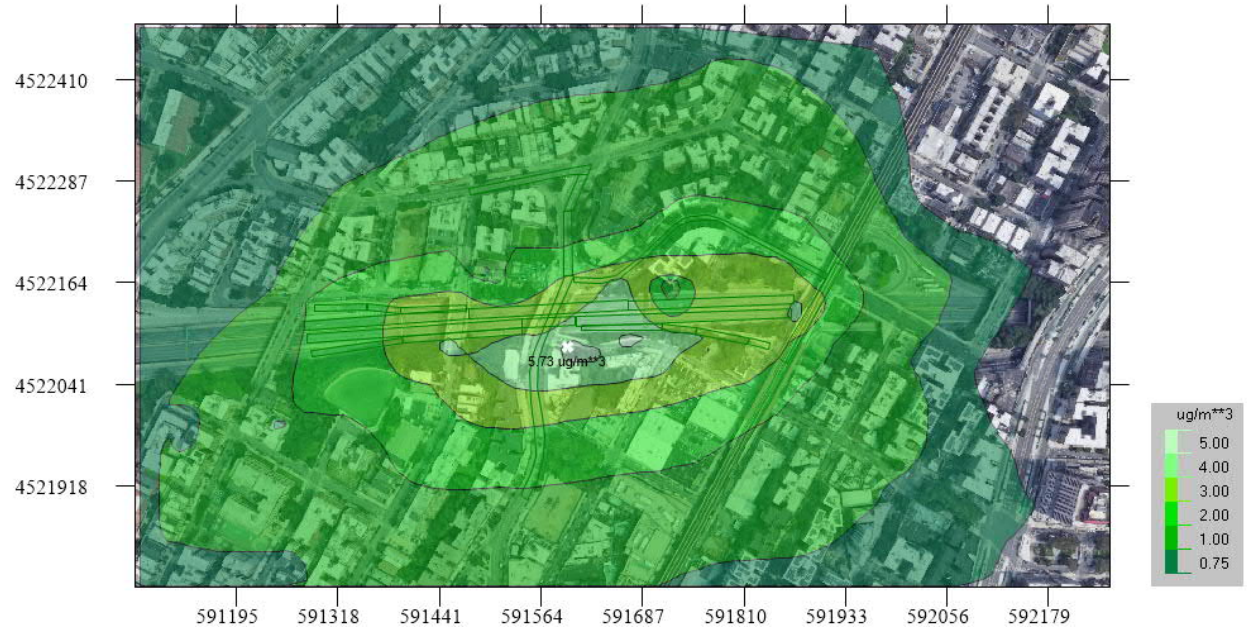


Figure 13 – Annual $PM_{2.5}$ No Build Contours (µg/m^3), Cross Bronx at Macombs

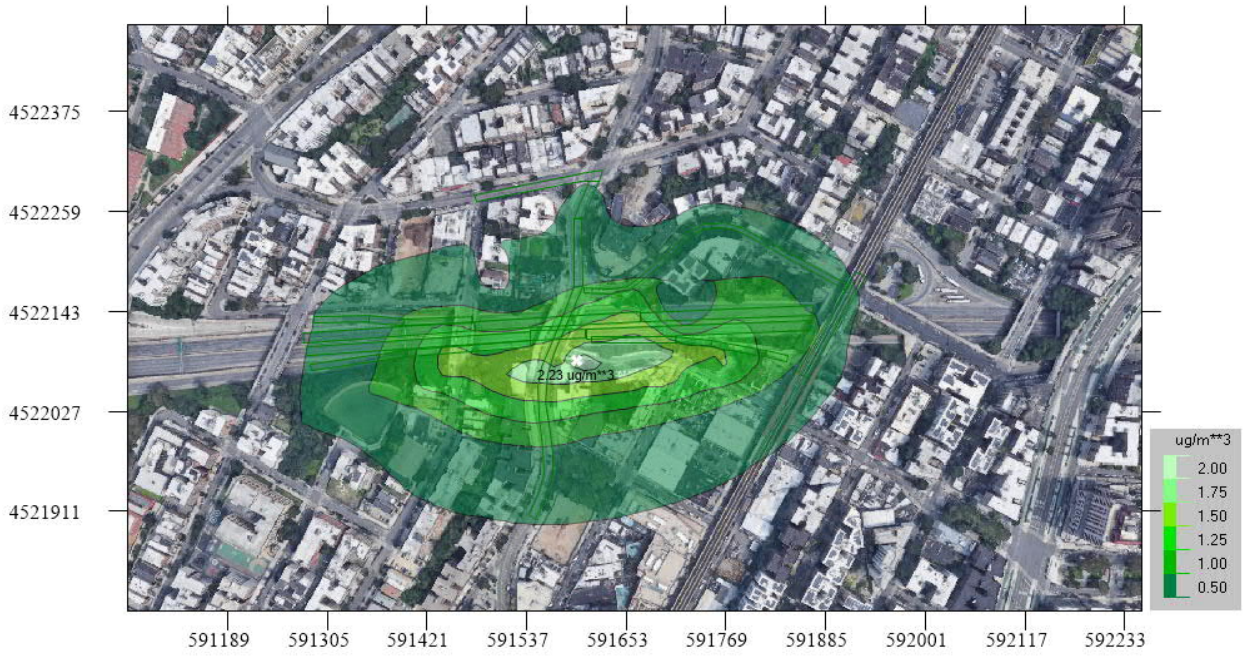


Figure 14 – Annual $PM_{2.5}$ Scenario B Contours (µg/m^3), Cross Bronx at Macombs

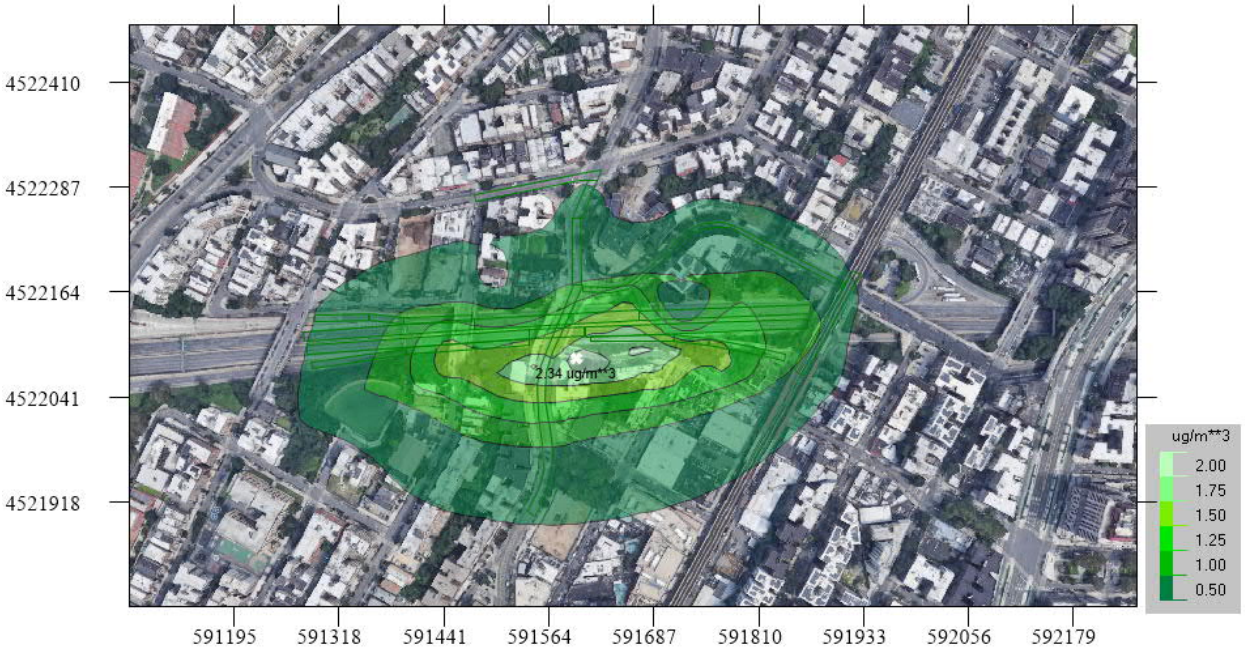


Figure 15 – AERMOD Model Screenshot, RFK Queens Approach



Figure 16 – 24-Hour PM_{10} No Build Contours (µg/m^3), RFK Queens Approach

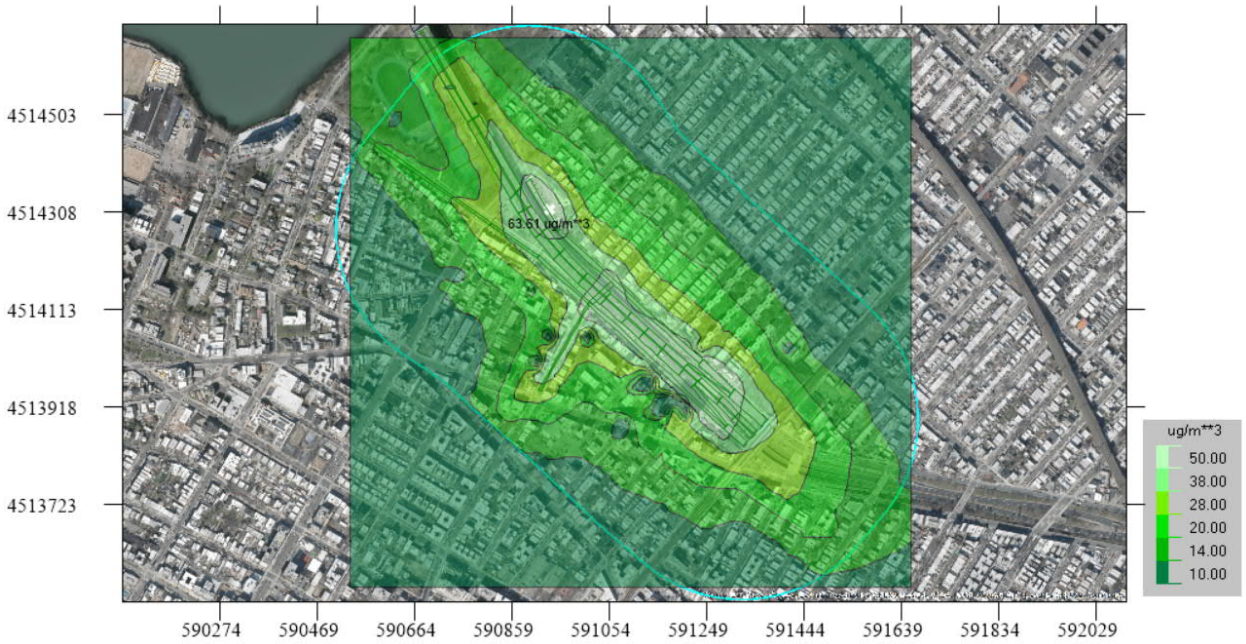


Figure 17 – 24-Hour PM_{10} Scenario E Contours (µg/m^3), RFK Queens Approach

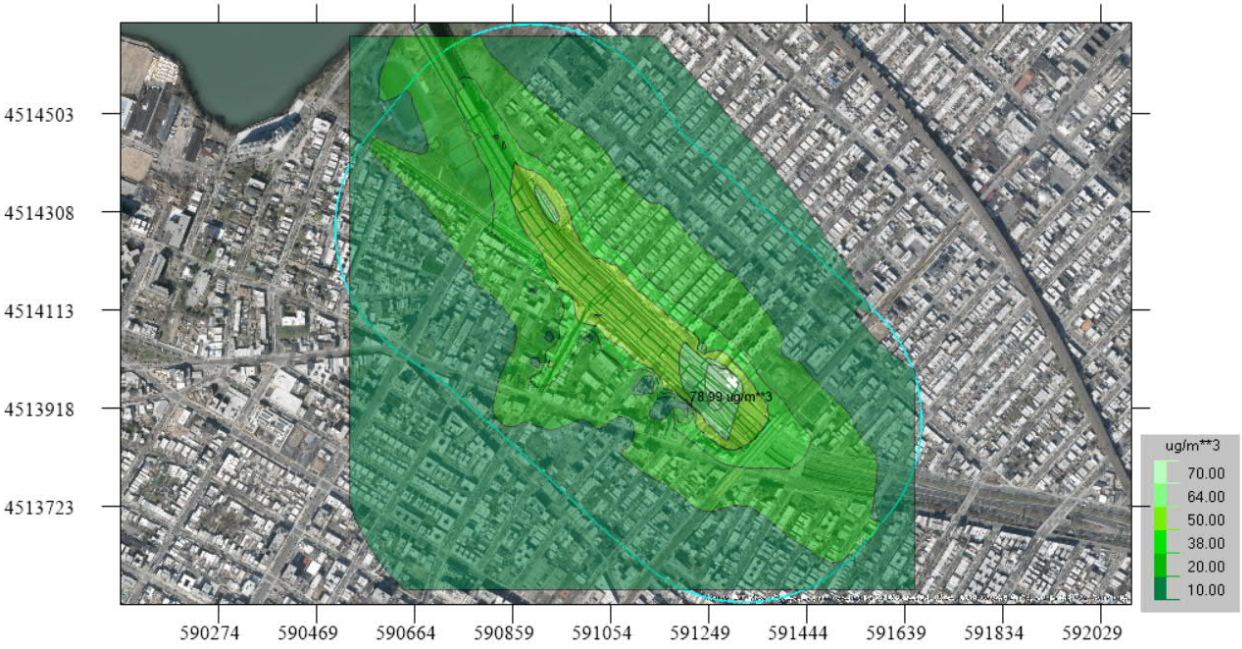


Figure 18 – 24-Hour $PM_{2.5}$ No Build Contours (µg/m^3), RFK Queens Approach



Figure 19 – 24-Hour $PM_{2.5}$ Scenario E Contours (µg/m^3), RFK Queens Approach

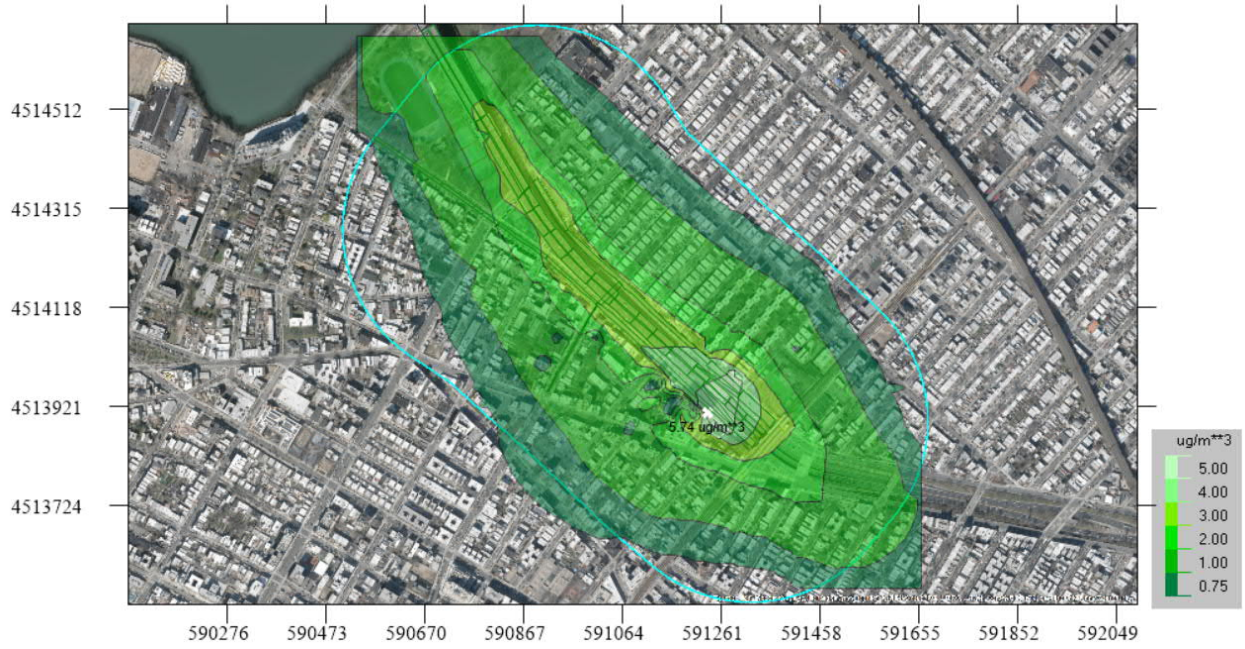


Figure 20 – Annual $PM_{2.5}$ No Build Contours (µg/m^3), RFK Queens Approach



Figure 21 – Annual $PM_{2.5}$ Scenario E Contours (µg/m^3), RFK Queens Approach



10D, Changes in Annual Average Daily Traffic (AADT)

Figure 10D-1. Changes in 2023 Annual Average Daily Traffic (AADT): Manhattan (New York County) and the Bronx (New York City Counties)

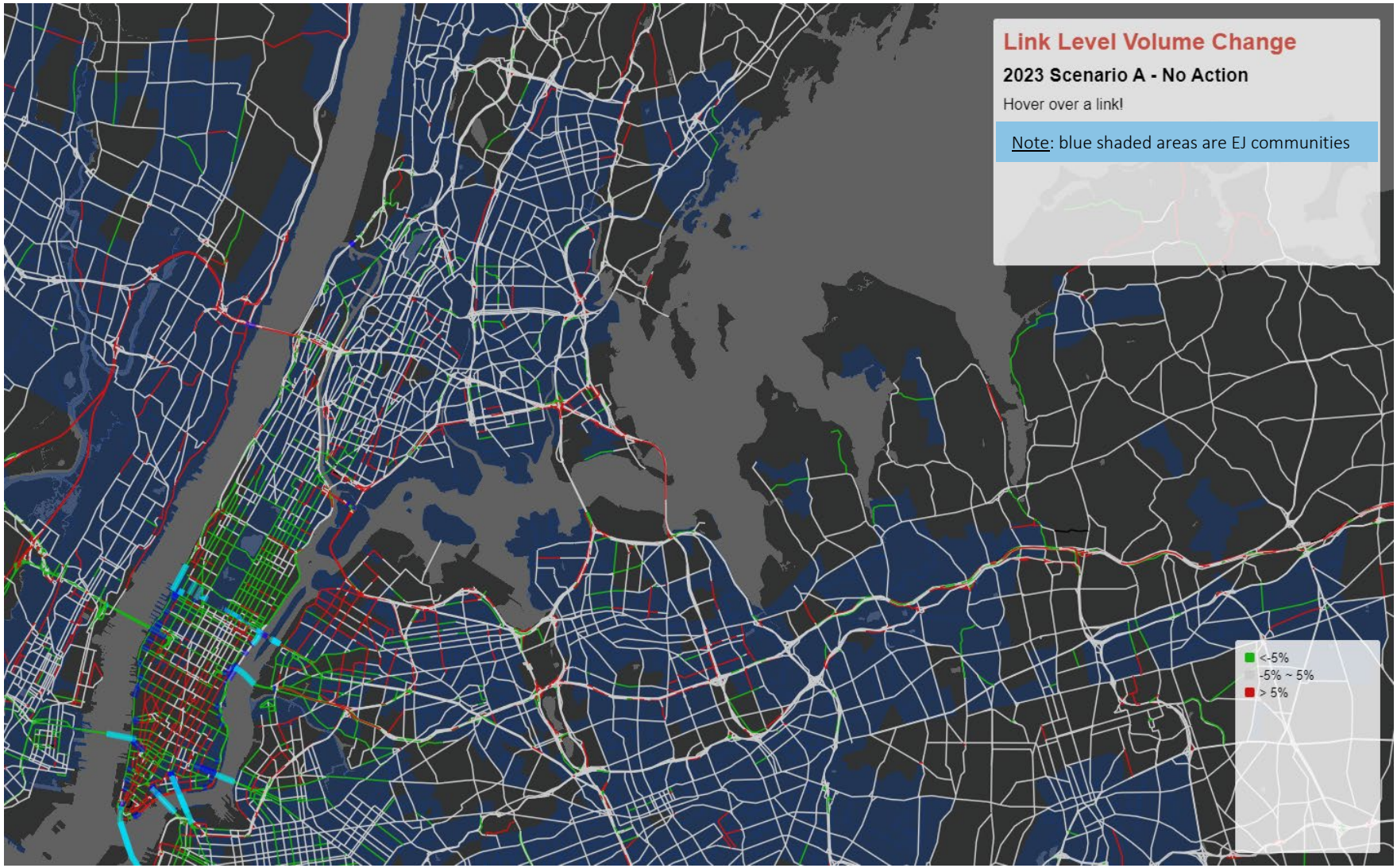


Figure 10D-2. Changes in 2023 Annual Average Daily Traffic (AADT): Brooklyn (Kings County) and Queens (New York City Counties)

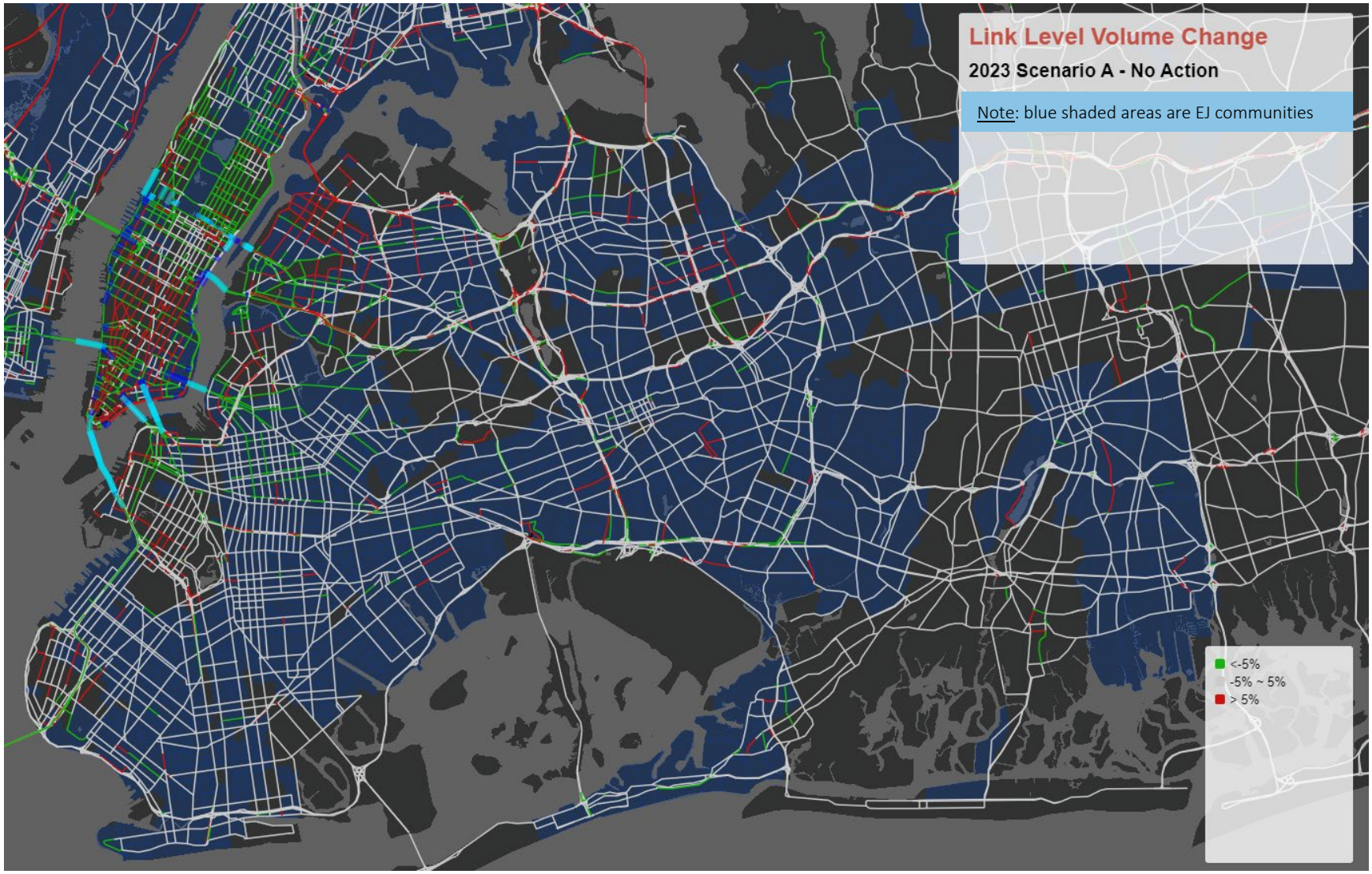


Figure 10D-3. Changes in 2023 Annual Average Daily Traffic (AADT): Nassau and Suffolk Counties (Long Island Counties, New York)

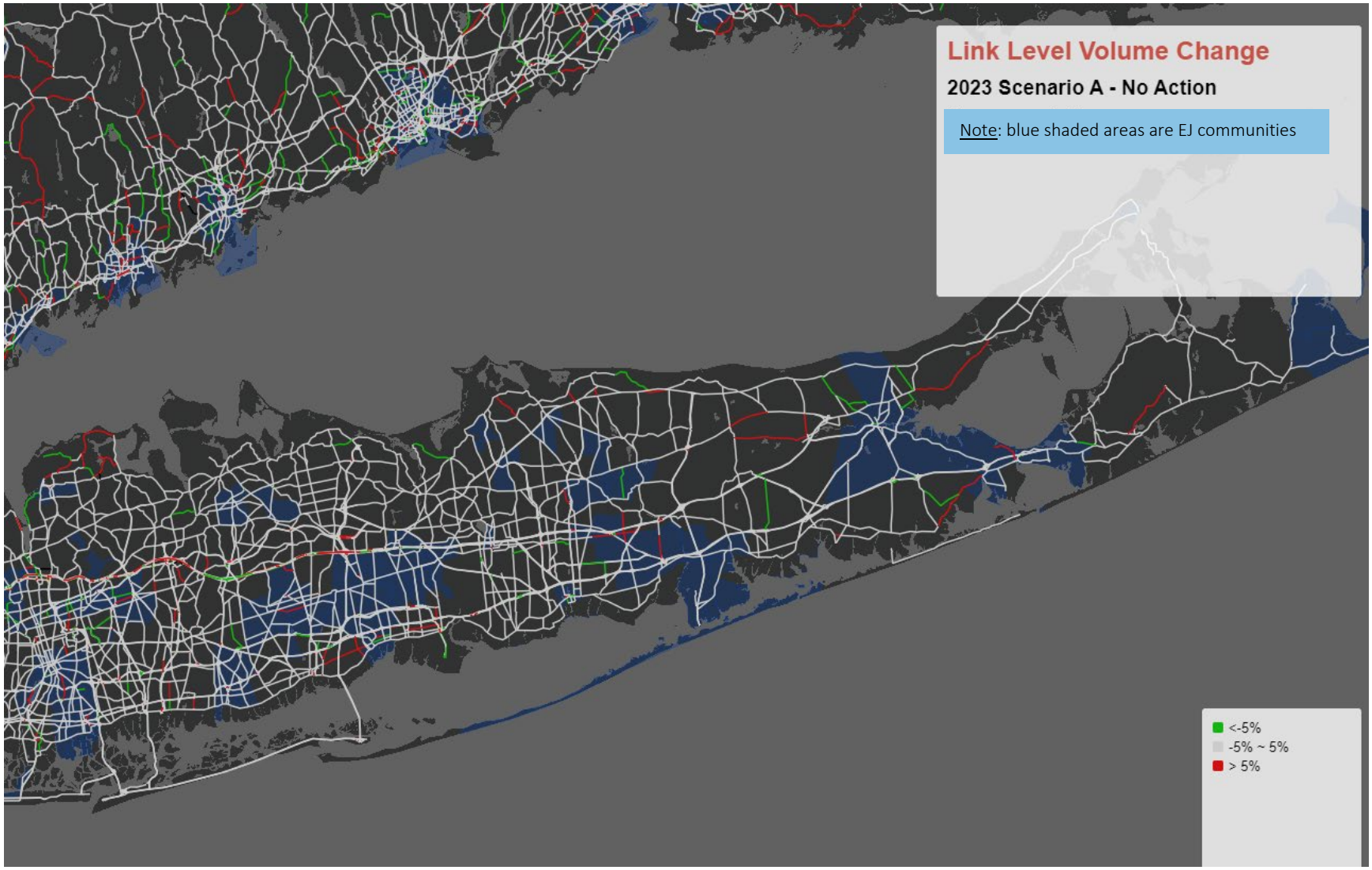


Figure 10D-4. Changes in 2023 Annual Average Daily Traffic (AADT): Staten Island (Richmond County, New York)

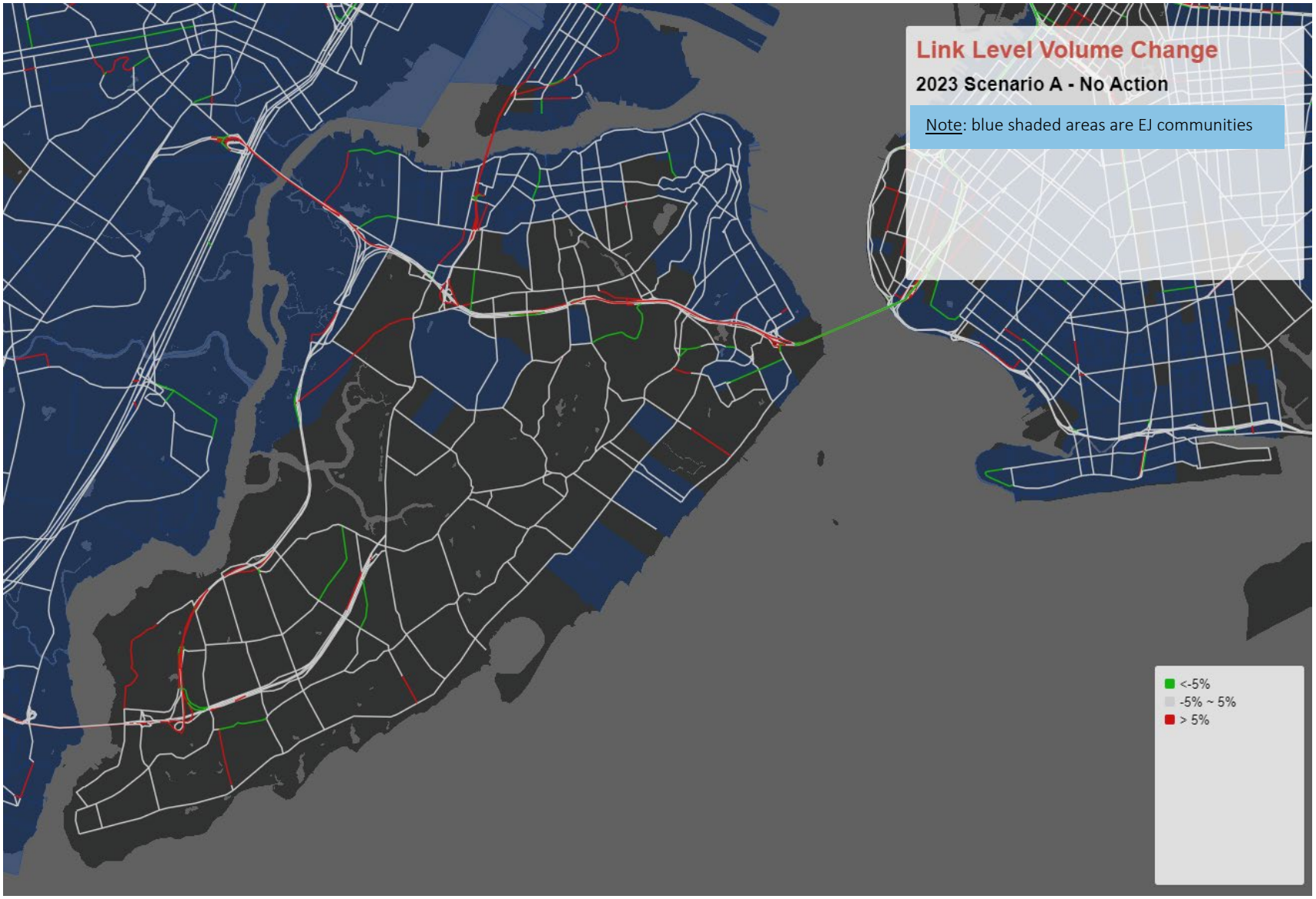


Figure 10D-5. Changes in 2023 Annual Average Daily Traffic (AADT): Westchester and Putnam Counties (New York Counties North of NYC)

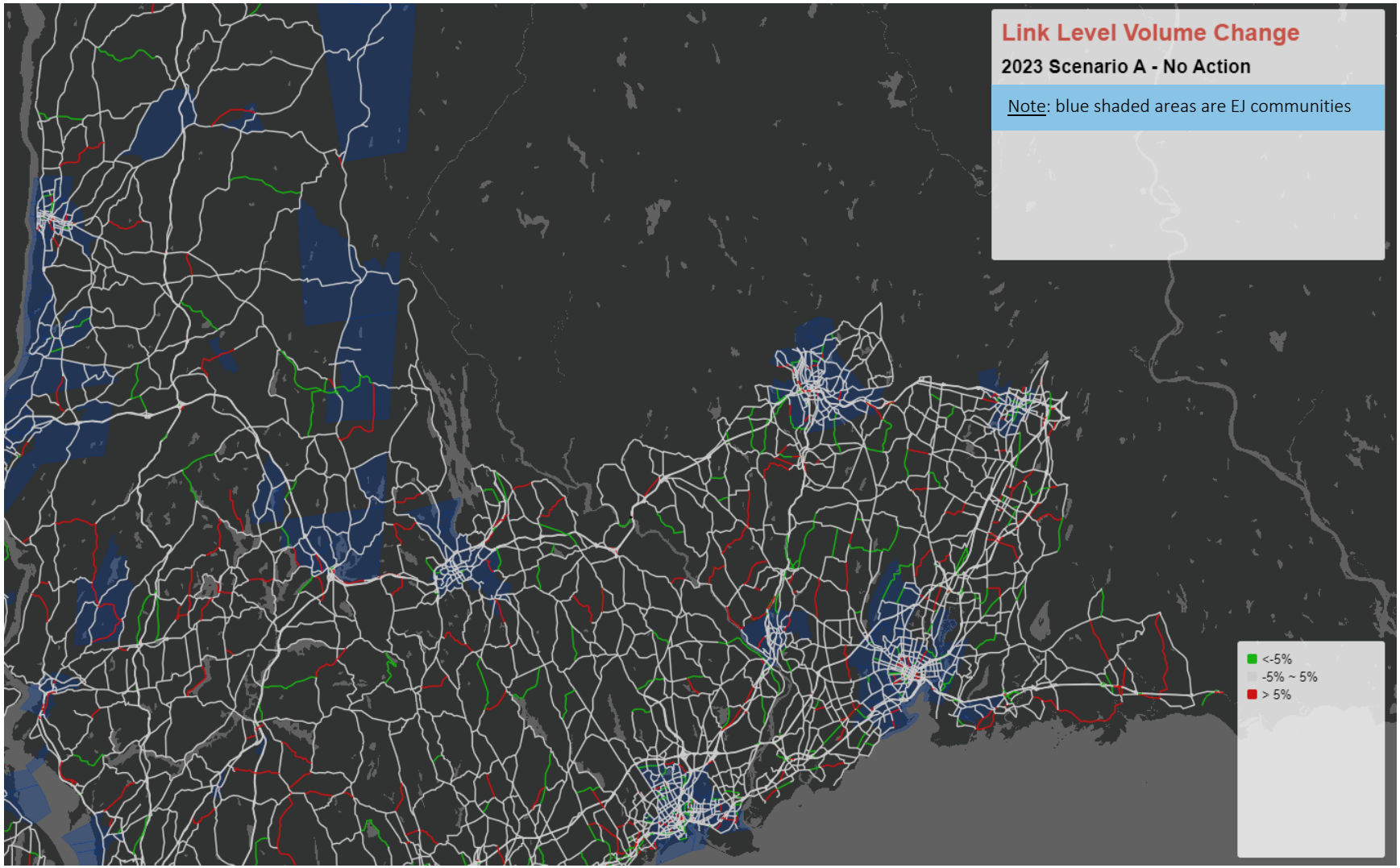
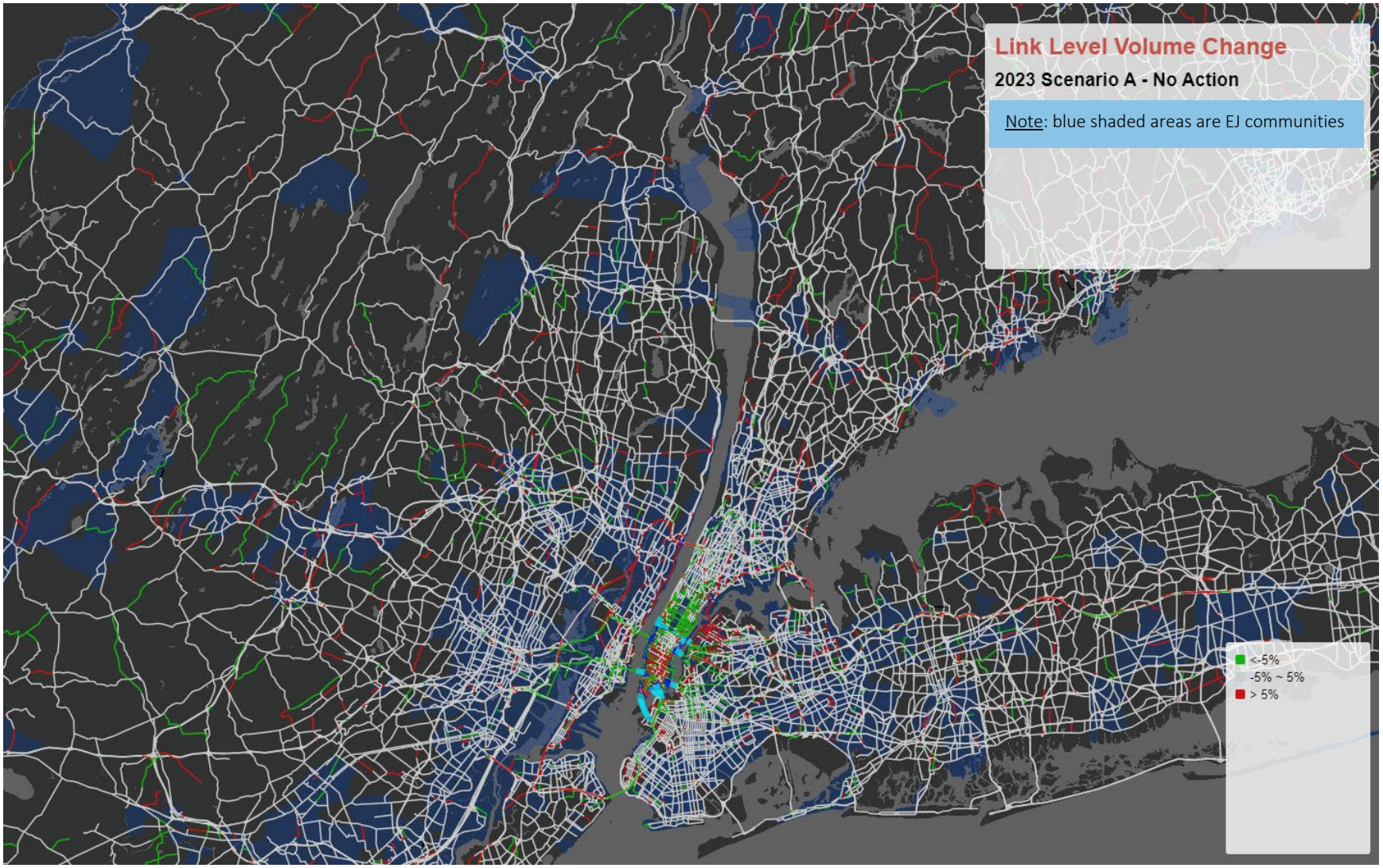


Figure 10D-6. Changes in 2023 Annual Average Daily Traffic (AADT): Rockland, Bergen, and Hudson Counties (New Jersey Counties)



CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 12, Noise

August 2022

Contents

Appendix 12. Noise 12-1
12.1 LOCAL STREET NOISE ASSESSMENT 12-1
12.2 RECEPTOR LOCATION DATA COLLECTION AND SUMMARY 12-23

Figures

Figure 12-1. Queens–Midtown Tunnel—Long-Term Noise Measurement Site R1 12-24
Figure 12-2. Hugh L. Carey Tunnel—Long-Term Noise Measurement Site R2 12-25

Tables

Table 12-1. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Long Island City Traffic Analysis Area 12-1
Table 12-2. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Lower Manhattan Traffic Analysis Area 12-4
Table 12-3. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Queens-Midtown Tunnel Traffic Analysis Area 12-6
Table 12-4. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Red Hook Brooklyn Traffic Analysis Area 12-7
Table 12-5. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Upper East Side Traffic Analysis Area 12-8
Table 12-6. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Lincoln Tunnel Traffic Analysis Area 12-11
Table 12-7. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: West Side Highway/Route 9A Traffic Analysis Area 12-13
Table 12-8. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario C) PCE Divided by No Action Alternative PCE: Downtown Brooklyn Analysis Area 12-14

Table 12-9. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Robert F. Kennedy Bridge Traffic Analysis Area 12-15
Table 12-10. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Upper West Side Traffic Analysis Area 12-17
Table 12-11. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Little Dominican Republic (Washington Heights) Analysis Area 12-20
Table 12-12. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Lower East Side Analysis Area 12-21
Table 12-13. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Jersey City, NJ, Analysis Area 12-22
Table 12-14. Queens-Midtown Tunnel—Long-Term Noise Measurements Collected at Site R1..... 12-27
Table 12-15. Hugh L. Carey Tunnel—Long-Term Noise Measurements Collected at Site R2..... 12-28

Appendix 12. Noise

12.1 LOCAL STREET NOISE ASSESSMENT

Table 12-1. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Long Island City Traffic Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE AM	PCE MD	PCE PM
1a	Pulaski Bridge/11th Street and Jackson Avenue	NB	LT	L	0.0	-0.1	0.0
			T	T	-0.1	-0.1	-0.3
			R	R	0.1	0.4	0.0
		SB	T	T	0.0	0.0	-0.1
			TR	R	0.1	0.5	0.2
		EB	LT	L	-0.5	1.2	2.4
			T	T	-0.4	1.1	2.1
		WB	L	L	-0.1	-0.6	-0.3
			T	T	0.0	0.0	0.0
1b	11th Street and 48th Avenue	NB	L	L	0.0	0.0	0.0
			T	T	-0.1	0.0	0.1
		SB	T	L	0.0	0.1	-0.1
			TR	T	0.0	0.0	0.0
		WB	LTR	T	0.0	0.0	0.0
2	50th Avenue @ Vernon Boulevard	NB	T	T	-0.1	0.3	0.8
			R	R	0.2	1.6	1.5
		SB	LT	T	0.6	1.1	0.4
				L	0.0	-0.1	0.0
		EB	LTR	L	0.0	0.0	0.0
				T	0.4	1.6	0.8
				R	0.0	0.0	0.0
3	Greene Street and McGuinness Boulevard	NB	T	T	-0.1	0.0	-0.3
			TR	R	0.0	-0.1	0.0
		SB	L	L	0.0	-0.5	-0.1
			T	T	-0.1	-0.5	-0.2
		EB	LTR	L	0.0	0.1	-0.1
				T	0.0	0.0	0.0
				R	0.0	0.0	-0.1
4	McGuinness Boulevard and Freeman Street	NB	T	T	-0.1	0.0	-0.3
		SB	T	T	0.0	-0.4	-0.2
			TR	R	0.0	0.0	0.0
		WB	R	R	-0.5	-1.7	-1.3

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE AM	PCE MD	PCE PM
5	21st Street and 49th Avenue	NB	LTR	L	0.0	0.0	0.0
				T	0.0	0.0	0.0
				R	0.0	0.0	0.0
		SB	LTR	L	0.0	-0.4	-0.1
				T	-0.1	-0.4	-0.1
				R	0.0	-0.5	-0.1
		EB	LTR	L	-0.1	0.6	1.0
				T	-0.1	0.6	1.0
				R	0.0	0.7	1.1
		WB	LT	L	0.0	0.0	0.0
				T	0.0	0.0	0.0
			R	R	0.0	0.0	0.0
7	11th Street and Borden Avenue	NB	LTR	L	0.0	-1.0	-0.9
				T	0.0	-0.6	-0.3
				R	-1.3	-1.1	-4.3
		SB	LTR	L	-0.4	1.5	2.3
				T	0.0	1.8	2.2
				R	-0.4	1.6	2.3
		EB	LTR	L	0.1	0.2	0.2
				T	0.0	-0.1	-0.3
				R	-1.2	-0.1	-3.0
		WB	LTR	L	0.0	0.0	0.0
				T	0.0	-0.1	-0.3
				R	-1.1	0.1	-2.4
8a	Vandam Street and Queens–Midtown Tunnel Expressway	NB	LT	L	-0.1	-0.1	-1.2
			T	T	0.0	-0.2	-0.4
		SB	T	T	-0.5	-1.2	-1.0
			TR	R	-0.1	-0.4	-1.1
		WB	T	T	-0.2	0.0	-0.2
			TR	R	0.0	0.3	-0.4
8b	Vandam Street and Borden Avenue	NB	T	T	-0.1	-0.2	-0.4
			TR	R	0.0	0.0	0.0
		SB	LT	L	-0.3	-1.4	-0.8
			T	L	-0.5	-0.7	-1.0
		EB	LTR	L	-0.2	0.0	-0.1
				T	0.0	0.0	0.0
				R	0.0	0.0	0.0

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE AM	PCE MD	PCE PM
9	Jackson Avenue/Northern Boulevard and Queens Plaza	NB	T	T	0.0	0.0	0.0
			TR	R	0.7	0.4	0.9
		SB	LT	L	0.0	0.1	0.0
			R	T	0.1	0.1	0.0
		EB	T	L	-0.6	-3.7	-3.0
			R	T	-0.6	-3.7	-3.0
		WB	LT	L	0.0	-0.1	0.0
			T	T	-0.1	-0.1	-0.1
			TR	R	0.0	0.0	0.0
10	Thomson Avenue and Vandam Street	NB	L	L	1.0	0.8	0.8
			T	T	0.0	0.0	0.0
			TR	R	0.0	0.0	0.0
		SB	T	L	0.5	0.0	0.0
			R	T	0.5	0.0	0.0
		EB	T	T	-0.1	0.0	0.0
			R	R	-0.1	0.0	0.0
		WB	T	T	0.0	0.0	0.0
11a	Thomson Avenue and Dutch Kills Street	SB	L	L	0.0	-0.1	0.0
			LR	R	0.0	-0.2	0.0
		EB	T	T	-0.2	-0.4	0.2
		WB	T	T	0.0	0.0	0.0
			R	R	0.0	0.0	0.0
11b	Thomson Avenue and Dutch Kills Street	WB	T	T	0.0	0.0	0.0
			TR	R	-0.8	0.0	0.0
		EB	EBT	T	-0.2	-0.2	0.0
12	21st Street and Queens Plaza N	NB	LT	T	0.0	0.0	0.0
			T	R	0.5	-0.1	-0.1
		SB	T	L	0.0	0.0	0.0
			RT	T	-0.7	0.3	-0.8
		WB	LTR	L	-0.1	-0.6	-0.2
				T	-0.9	-0.3	-1.1
				R	0.0	-0.6	-0.3

Table 12-2. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Lower Manhattan Traffic Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE AM	PCE MD	PCE PM
1	Trinity Place and Edgar Street	NB	LT	L	0.0	-10.4	0.0
			T	T	-1.1	-10.0	0.0
		EB	L	L	0.0	2.5	0.1
2	Trinity Place and Rector Street	NB	T	T	-0.7	1.1	-0.2
			R2	R2	0.0	0.0	0.0
		EB	LT	L	-0.2	-1.3	-1.1
				T	-0.1	0.0	0.0
3a	Hugh L. Carey Tunnel Entrance/Exit and West Street	NB	T	T	-0.1	-0.3	-0.2
			R2	R2	0.2	1.0	0.7
		SB	T	T	-0.1	-0.4	-0.3
		WB	L	L	0.1	0.6	-0.1
3b	Hugh L. Carey Tunnel Exit and West Street and West Thames Street	NB	T	T	-0.1	-0.3	-0.2
		SB	T	T	-0.1	-0.4	-0.3
			R	R	0.0	0.0	0.0
		EB	R	R	0.0	0.0	0.0
		WB	R	R	0.2	0.7	0.0
4	Chambers Street and Centre Street	NB	L	L	-0.2	-1.1	-0.5
			T	T	-0.2	-1.1	-0.5
		SB	TR	T	-0.6	-3.2	-2.1
				R	-0.6	-1.1	-1.3
		EB	R	R	-0.1	-1.6	-0.7
5a	Canal Street and Hudson Street/Holland Tunnel On-Ramp	NB	LTR	L	0.0	0.0	0.0
				T	0.0	0.0	0.0
				R	-1.2	-1.6	-0.1
			R2	R2	0.0	-1.6	-3.0
		EB	L2L	L2	0.0	0.0	0.0
				L	-1.2	-1.6	-0.2
			T	T	-0.1	-0.4	-0.4
		WB	T	T	-0.7	-4.0	0.0
			R	R	-1.1	-4.3	0.0
5b	Canal Street and Holland Tunnel On-Ramp	EB	T	T	-0.3	-0.7	-0.4
		WB	T	T	-0.8	-4.0	0.0
			R	R	0.0	0.0	0.0
7a	Canal Street and West Street	NB	T	T	0.0	0.1	-0.1
			R	R	-0.2	-1.2	0.0
		SB	L	L	-0.3	-1.7	-0.6
			T	T	-0.1	0.3	-0.1

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE AM	PCE MD	PCE PM
9	West Street and Albany Street	NB	T	T	-0.1	0.1	-0.2
			TR	R	0.0	0.5	-0.2
		SB	T	T	0.1	0.3	0.1
			R	R	-0.1	-0.1	-0.1
		EB	T	T	0.0	0.0	0.0
10	West Street and Vesey Street	NB	T	T	0.0	0.2	0.0
		SB	T	T	0.0	0.3	0.1
			R	R	-0.1	-0.1	-0.1
		EB	L	L	0.0	-0.1	0.0
			R	R	0.0	0.3	0.3
		WB	LT	L	0.0	0.0	0.0
				T	0.0	0.0	0.0
			R	R	0.0	0.0	0.0
11	West Street and Chambers Street	NB	T	T	-0.1	-0.1	-0.2
			TR	T	0.0	-0.1	-0.1
		SB	L	L	-0.1	-0.2	-0.4
			T	T	0.0	0.1	0.0
			R	R	0.0	-0.1	-0.2
		EB	LTR	L	-0.1	-0.1	0.0
				T	0.0	0.0	0.0
				R	0.0	0.2	0.0
		WB	LT	L	0.0	0.3	0.2
				T	0.0	0.0	0.0
			R	R	0.0	-0.1	0.0
14	Canal Street/Manhattan Bridge and Bowery	EB	T	T	-0.5	-2.3	-1.5
			R	R	0.0	-0.2	-0.3
		WB	T	T	-0.7	-2.2	-2.2
		NB	T	T	0.0	-0.2	-0.2
			R	R	-0.4	-2.4	-1.4
		SB	L	L	-0.8	-3.4	-2.6
			TR	T	-0.3	-1.6	-5.5
				R	-0.5	-0.7	-1.0
15	Manhattan Bridge and Bowery	NB	T	T	0.0	-0.2	-0.1
		SB	T	T	-0.7	-2.4	-2.8
		WB	R	R	-1.8	-11.1	-3.1
18	Sixth Avenue and Watts Street	WB	TR	T	-0.3	-0.6	-0.6
				R	0.0	-0.1	0.0
		NB	LT	L	-0.6	-1.1	-0.7
				T	-0.3	-0.8	-0.7
19	Canal Street and Sixth Avenue/ Laight Street	NEB	R	R	-0.2	-0.9	-0.6
		NB	LTR	L	-0.2	-0.7	-0.6
				T	-0.2	-0.6	-0.5
				R	0.0	-1.2	-1.2
		EB	T	T	-0.2	-0.3	-0.5
		WB	TR	T	-0.3	-0.7	-0.4
				R	-0.3	-0.6	-0.5

Table 12-3. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Queens-Midtown Tunnel Traffic Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
1	E. 37th Street and Third Avenue	NB	LT	L	-0.7	-1.2	-0.2	-1.0
				T	-0.3	-0.6	-0.4	-0.8
		WB	TR	T	0.1	0.4	0.1	1.0
				R	0.1	0.7	0.3	1.4
2	E. 36th Street and Second Avenue	SB	L	L	-0.2	0.1	0.7	1.8
			T	T	-0.1	-0.2	-0.2	-0.1
		EB	T	T	-0.3	0.2	0.6	1.5
			TR	R	-0.1	-0.2	-0.1	-0.7
		WB	L	L	0.0	0.0	0.0	0.0
3	E. 34th Street and Third Avenue	NB	LT	L	-0.3	-0.1	-0.3	-0.3
			T	T	-0.2	-0.5	-0.4	-0.7
			R	R	-0.1	-0.3	-0.1	-0.2
		EB	T	T	-0.4	-0.8	-0.8	-0.7
		WB	T	T	-0.2	0.0	-0.3	0.3
			R	R	-0.1	0.1	-0.2	0.5
4	E. 35th Street and Third Avenue	NB	LT	L	-0.1	-0.3	-0.3	-0.6
			T	T	-0.2	-0.5	-0.4	-0.6
		WB	T	T	-0.3	-0.2	-0.5	-0.3
			TR	R	-0.2	-0.1	-0.6	-0.1
5	E. 34th Street and Second Avenue	SB	L	L	0.0	0.0	-0.1	-0.2
			T	T	-0.1	-0.2	-0.2	-0.1
			TR	R	-0.1	-0.1	-0.2	-1.1
		EB	T	T	-0.1	-0.1	0.0	0.0
			TR	R	0.0	0.0	-0.2	-0.1
		WB	T	T	0.0	-0.4	-0.4	-2.1
6	E. 35th Street and Second Avenue	SB	T	T	-0.1	-0.2	-0.2	-0.1
			TR	R	0.0	0.0	-0.1	0.1
		EB	R	R	0.0	-0.1	0.0	-0.3
		WB	LT	T	0.0	-0.1	0.0	-1.6
			L	L	0.0	0.0	0.0	-1.4

Table 12-4. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Red Hook Brooklyn Traffic Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
1	Hamilton Avenue, Clinton Street and West 9th Street	EB	TR	T	0.0	0.0	0.0	0.6
				R	0.0	0.0	0.0	0.0
		NB	LT	L	0.0	0.0	0.0	0.0
				T	-0.1	0.1	-0.1	-0.3
		SB (at W9th)	RT	T	0.1	0.4	0.2	0.9
				R	0.3	0.3	0.1	0.7
		SB (at Clinton St)	LT	L	0.1	0.5	0.3	1.2
				T	0.1	0.3	0.3	0.9
			L	L	0.0	0.8	0.1	0.8
		WB	T	T	0.0	0.0	0.0	0.0
			L	L	0.0	0.0	0.0	0.0
2	Hamilton Avenue NB and West 9th Street	NB	T	T	-0.1	0.1	-0.2	-0.7
		WB	R	R	0.0	0.0	-0.2	-0.3

Table 12-5. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Upper East Side Traffic Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
1	E. 60th Street and Queensboro Bridge Exit	NB	LTR	L	-1.1	-1.4	-4.7	-0.6
				T	-1.2	-1.2	-2.9	-0.6
				R	-1.3	-1.2	-2.9	-0.6
		EB	LT	L	0.0	0.0	0.0	0.0
				T	0.0	-1.3	-10.5	-4.8
2	E. 60th Street and Third Avenue	NB	L	L	-1.5	-2.1	-1.6	-0.6
			T	T	-1.5	-1.8	-1.8	-0.7
		WB	T	T	0.4	0.0	-2.1	-3.1
			R	R	0.1	0.0	-1.8	-7.8
3	E. 60th Street and York Avenue	NB	T	T	0.0	0.0	0.0	0.0
		SB	T	T	-1.6	-1.9	-2.1	-3.6
		EB	L	L	-3.9	-2.7	-9.3	-0.3
			LT	T	0.0	0.0	0.0	0.0
			R	R	0.0	0.0	0.0	-3.5
		WB	L	L	0.0	0.0	0.0	0.0
			T	T	0.0	0.0	0.0	0.0
			R	R	0.0	0.0	0.0	0.0
4	E. 59th Street and Second Avenue	EB	T	T	-1.5	-8.8	-9.3	-8.2
			RR2	R	-1.3	-2.0	-4.4	-4.2
				R2	-0.2	-0.2	-0.7	-1.0
		SB	L2	L2	-1.7	-9.7	-11.6	-9.2
			L2L	L	-1.0	-3.0	0.0	-10.6
			T	T	-0.2	-0.6	-1.6	-3.0
5	E. 60th Street and Second Avenue	NWB	L2	L2	0.3	0.0	-2.2	-4.9
			L	L	0.4	0.0	-2.1	-5.2
		SB	L2	L2	0.0	-1.1	-1.5	-9.4
			TR	T	-2.1	-5.1	-6.7	-5.0
				R	-1.1	-2.5	-3.4	-0.2
		WB	LT	L	-4.9	-2.2	-3.1	0.0
				T	0.0	0.0	0.0	0.0
6	E. 60th Street and First Avenue	NB	T	T	-1.4	-1.8	-2.2	-0.8
			TR	R	-1.9	-1.8	-2.3	-1.0
		EB	L	L	0.0	0.0	-0.7	-1.3
			T	T	-3.2	-2.4	-5.5	-0.6
7	E. 60th Street and Lexington Avenue	SB	T	T	-1.2	-1.7	-2.3	-2.6
			TR	R	-0.7	-1.3	-1.9	-2.1
		WB	L	L	0.0	-0.1	-4.2	-5.5
			T	T	0.0	-0.3	-1.6	-1.3
8a	E. 60th Street and Park Avenue NB	NB	LT	L	-0.7	-1.0	-1.6	-0.2
			T	T	-0.9	-1.1	-1.5	-0.3
		SB	T	T	-2.6	-4.7	-4.5	-3.7
			TR	R	-2.1	-1.2	-1.1	0.0

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
8b	E. 60th Street and Park Avenue NB	SB	T	T	-0.1	-0.3	-0.3	-0.8
			TR	R	-0.1	-0.2	-0.2	-0.8
		WB	L	L	0.0	0.0	-2.1	-0.5
			T	T	-0.2	-1.3	-2.1	-2.1
9	E. 60th Street and Madison Avenue	NB	L	L	-0.9	-0.7	-1.0	-0.4
			T	T	-1.1	-1.3	-1.3	-0.6
		WB	T	T	-0.1	0.0	-0.6	-0.9
			TR	R	-0.5	-8.1	-6.1	-5.7
10	E. 62nd Street and Queensboro Bridge Exit	NB	T	T	-1.5	-0.2	-2.9	0.5
			R	R	-1.4	-0.2	-2.9	0.5
		EB	LT	L	-0.3	0.0	0.0	-2.2
			T	T	-1.2	-1.3	-2.3	-2.2
11	E. 60th Street and Fifth Avenue	SB	T	T	-1.1	-1.7	-2.1	-2.5
			R	R	-1.2	-1.5	-2.1	-2.4
		WB	L	L	0.0	0.0	-1.0	-0.5
			T	T	-0.4	-0.6	-1.0	-0.8
12	E. 63rd Street and York Avenue	NB	T	T	-0.6	-0.7	-1.8	-1.1
			TR	R	-0.9	-1.3	-2.5	-2.0
		SB	L	L	-0.2	-0.5	-0.6	-0.8
			T	T	-0.4	-0.4	-0.4	-0.9
			TR	R	0.0	0.0	0.0	-0.1
		WB	L	L	-0.8	-1.7	-1.3	-2.9
			LT	T	-0.8	-1.6	-0.9	-2.2
			TR	R	-0.4	-1.7	-0.6	-1.7
13	E. 53rd Street and FDR Drive	SB	R	R	-0.3	-0.6	-0.7	-1.4
		SWB	R	R	-0.4	-0.7	-0.8	-0.9
14	E. 61st Street and Fifth Ave	SB	T	T	-1.2	-1.5	-1.1	-2.1
		WB	L	L	-1.0	-2.0	-15.3	-6.1
15	E. 65th Street and Fifth Avenue	SB	LT	L	-0.4	-0.3	-0.3	-0.6
			T	T	-0.5	-0.5	-0.4	-0.6
		EB	T	T	-0.2	-0.3	-0.3	-0.1
			R	R	-0.1	-0.3	-0.2	-0.1
16	E. 66th Street and Fifth Avenue	SB	T	T	-0.6	-0.5	-0.3	-0.6
			TR	R	-0.2	-0.3	-0.1	-0.4
		WB	LT	L	-0.3	-0.7	-0.4	-0.3
			T	T	-0.5	-0.5	-0.6	-0.5
17	E. 79th Street and Fifth Avenue	SB	LT	L	-0.4	-0.1	-0.1	-0.3
			T	T	-0.4	-0.3	-0.1	-0.4
			TR	R	-0.8	-0.5	-0.2	-0.5
		EB	T	T	-0.2	-0.4	-0.5	-0.4
			R	R	-0.2	-0.3	-0.4	-0.3
		WB	L	L	-0.3	-0.1	-0.3	-0.6
			T	T	-0.5	-0.4	-0.6	-0.8

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
18	E. 71st Street and York Avenue	NB	LT	L	-0.4	-0.5	-1.0	-0.4
			T	T	-1.1	-1.5	-3.8	-1.1
			TR	R	0.0	0.0	0.0	0.0
		SB	LT	L	0.0	0.0	0.0	0.0
			LTR	T	-1.3	-0.8	-2.6	-1.3
			TR	R	-0.9	-0.6	-1.8	-0.9
		WB	L	L	-0.1	-0.2	-0.2	-0.1
			TR	T	0.0	0.0	0.0	0.0
				R	-0.4	-0.6	-1.4	-0.4

Table 12-6. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Lincoln Tunnel Traffic Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE PM	PCE MD	PCE PM
1	Ninth Avenue and W. 33rd Street	SB	T	T	-0.1	-0.2	-0.3
			R	R	-0.7	-0.6	-0.6
		WB	L	L	0.0	0.0	0.0
			T	T	-0.1	-0.7	-0.3
2	Dyer Avenue and W. 34th Street	SB	L	L	-0.1	-0.3	-0.1
			R	R	-0.1	-0.3	0.0
		EB	L	L	0.0	0.0	0.0
			T	T	-0.1	-0.3	-0.3
		WB	T	T	0.0	0.1	0.0
			R	R	0.0	0.0	0.0
3	Twelfth Avenue and W. 34th Street	NB	T	T	0.0	-0.1	-0.1
			R	R	0.0	0.0	-0.2
		SB	L	L	-0.4	-0.3	-0.2
			T	T	-0.2	-0.3	-0.4
		WB	L	L	-0.1	0.1	-0.1
			R	R	0.0	0.0	0.0
4	Eleventh Avenue and W. 42nd Street	SB	L	L	-0.1	-0.1	-0.5
			T	T	-0.4	-1.1	-1.2
			R	R	-0.2	-0.2	-0.4
		EB	T	T	-0.2	-0.3	-0.1
			R	R	-0.1	-0.8	-0.4
		WB	L	L	0.0	0.0	0.0
			T	T	0.0	0.0	0.0
5	Twelfth Avenue and W 34th Street	NB	TR	T	-0.5	-0.6	-1.1
				R	0.0	0.0	-1.0
		SB	L	L	-0.1	-0.3	-0.1
			T	T	-0.1	-0.6	-0.1
			R	R	0.0	-0.5	-0.1
		EB	LTR	L	0.0	0.0	0.0
				T	-0.2	-0.6	-0.4
				R	0.0	0.0	0.0
		WB	R	R	0.0	0.0	0.0
6	Tenth Avenue and W 33rd Street	NB	LT	L	0.0	0.0	0.0
				T	-0.1	-0.2	-0.1
		WB	TR	T	0.0	-3.5	-0.7
				R	-0.1	-0.3	-0.0
7	Eleventh Avenue and W 34th Street	SB	LTR	L	-0.1	-0.1	-0.7
				T	-0.1	-0.2	-0.6
				R	0.0	0.0	-0.5
		EB	L	L	0.0	-0.2	-0.3
			T	T	-0.2	-0.2	-0.2
			R	R	0.0	0.0	0.0
		WB	L	L	0.0	0.0	0.0

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE PM	PCE MD	PCE PM
			TR	T	0.0	0.0	-0.1
				R	0.0	0.0	-0.0
8	Tenth Avenue and W 41st Street	NB	LT	L	-0.6	-1.7	-4.1
				T	0.0	-0.1	-0.1
		WB	T	T	-0.6	-1.7	-5.2
			R	R	-0.1	0.0	-0.4
9	Twelfth Avenue and W 42nd Street	NB	T	T	0.0	0.0	-0.1
			R	R	0.0	-0.3	-0.3
		SB	L	L	-0.2	-0.6	-0.3
			T	T	-0.2	-0.3	-0.3
		EB	LTR	L	0.0	0.0	0.0
				T	0.0	0.0	0.0
				R	0.0	0.0	0.0
		WB	L	L	0.0	0.0	-0.1
			R	R	-0.1	0.0	-0.1

Table 12-7. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: West Side Highway/Route 9A Traffic Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	MOVEMENT	LANE GROUP	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
1	W 24th Street and Twelfth Avenue	NB	NBT	T	-0.0	0.0	-0.1	-0.4
			NBR	TR	0.0	0.0	0.0	-0.1
		SB	SBL	L	-0.1	-0.4	-0.2	-0.6
			SBT	T	-0.3	-0.4	-0.4	-0.7
		WB	WBL	LR	0.0	0.0	0.0	0.0
			WBR	R	0.0	0.0	0.0	0.0

Table 12-8. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario C) PCE Divided by No Action Alternative PCE: Downtown Brooklyn Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	MOVEMENT	LANE GROUP	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
1	Flatbush Avenue and Tillary Street	NB	NBL	L	0.0	0.0	0.0	0.0
			NBT	T	-1.0	-2.3	-2.1	-6.1
			NBR	R	0.0	0.0	-0.1	-0.3
		SB	SBT	T	-0.3	-2.4	-1.4	-1.8
			SBR	R	-0.2	-2.5	-1.2	-1.1
		EB	EBL	L	-0.9	-3.7	-2.6	-9.5
			EBT	T	0.0	-0.6	-0.5	-0.9
			EBR	R	0.0	-0.5	-0.4	-0.3
		WB	WBL	L	-0.1	-0.1	0.0	0.0
			WBT	T	0.0	-0.2	-0.1	0.0
			WBR	R	-1.0	-2.6	-2.1	-7.1
2	Adams Street and Tillary Street	NB	NBL	L	0.0	0.0	0.0	0.0
			NBT	T	-0.1	-0.7	-0.5	-2.0
			NBR	R	0.0	0.0	0.0	0.0
		SB	SBL	L	0.0	-1.1	-0.6	-0.9
			SBT	T	0.0	-1.1	-0.6	-1.0
			SBR	R	0.0	-0.6	-0.7	0.0
		EB	EBL	L	0.0	0.0	0.0	0.0
			EBT	T	-0.2	-0.3	-0.3	-2.6
			EBR	R	0.0	0.0	0.0	0.0
		WB	WBL	L	0.0	-0.3	-0.1	-0.2
			WBT	T	0.0	-0.2	-0.1	-0.1
			WBR	R	0.0	0.0	0.0	0.0
3	Old Fulton Street and Vine Street	NB	NBL	L	0.0	-0.6	-0.2	-0.4
			NBT	T	0.0	-0.8	-0.1	-0.2
		SB	SBT SBR	T	0.0	-0.5	-0.3	-1.7

Table 12-9. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Robert F. Kennedy Bridge Traffic Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
1	E. 126th Street and Second Avenue	NW	L	L	0.0	0.0	0.0	0.0
			R	R	0.0	0.0	0.0	0.0
		SB	LT	L	0.0	0.0	0.0	0.0
				T	-0.3	-0.5	-0.7	-2.2
		WB	L	L	-0.2	-0.6	-0.9	-2.0
			T	T	-0.2	-0.3	-0.6	0.0
			R	R	-0.1	-0.2	-0.5	-0.1
2	E. 125th Street and Second Avenue	SB	L	L	0.0	-0.1	-0.6	-0.5
			TR	T	-0.4	-0.6	-0.8	-2.4
				R	-0.5	-0.5	-0.9	-2.4
		SW	L	L	0.7	0.1	2.1	0.6
			R	R	0.0	0.1	2.1	0.6
		EB	TR	T	0.3	0.4	0.3	1.2
				R	0.0	0.0	0.0	0.0
		WB	LT	L	0.0	-3.4	-4.9	-3.5
				T	0.0	-5.8	-4.6	-12.4
11	E. 134th Street and St. Ann's Avenue	NB	TR	T	0.0	0.0	0.0	0.0
				R	0.0	0.0	0.0	0.0
		SB	LT	L	0.0	0.0	0.0	0.0
				T	0.0	0.0	0.0	0.0
		EB	LTR	L	0.0	0.0	0.0	0.0
				T	0.0	0.0	0.0	0.0
				R	0.0	0.0	0.0	0.0
22	St. Ann's Avenue and Bruckner Boulevard	NB	LTR	L	0.0	0.0	0.0	0.0
				T	0.0	0.0	0.0	0.0
				R	0.0	0.0	0.0	0.0
		SB	LTR	L	0.0	0.0	0.0	0.0
				T	0.0	0.0	0.0	0.0
				R	0.0	0.0	0.0	0.0
		EB	LTR	L	0.0	0.0	0.0	0.0
				T	0.0	0.0	0.0	0.0
				R	0.0	0.0	0.0	0.0
		WB	LT	L	0.0	0.0	0.0	0.0
				T	0.0	0.0	0.0	0.0
			TR	T	0.0	0.0	0.0	0.0
				R	0.0	0.0	0.0	0.0
17	31st Street and Astoria Boulevard	NB	T	T	-0.9	-6.3	-7.8	-7.1
			R	R	-0.7	0.0	-2.2	-3.4
		SB	T	T	0.0	0.0	-0.4	-0.4
			R	R	0.0	0.0	-0.3	-0.4
		EB	L	L	0.4	0.1	0.0	0.0
			T	T	0.2	0.2	0.2	0.5
			R	R	0.2	0.1	0.1	0.5

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
24	Hoyt Avenue N and 31st Street	NB	L	L	-0.8	-3.6	-6.3	-8.2
			T	T	-1.2	-7.7	-2.2	-3.1
		SB	T	T	0.0	0.0	-2.3	-1.3
			R	R	0.0	0.0	-0.1	-0.2
		WB	L	L	0.0	0.0	0.0	0.0
			T	T	0.0	0.0	-0.2	-0.2
			R	R	0.0	0.0	0.0	0.0
3	Hoyt Avenue S and 31st Street	NB	T	T	-0.7	-5.3	-3.3	-6.5
			R	R	-1.1	1.0	-2.2	1.0
		SB	L	L	0.0	0.0	0.0	0.0
			T	T	0.0	0.0	-0.3	-0.4
		EB	L	L	0.2	0.9	0.0	0.8
			T	T	0.3	0.3	0.1	0.7
			R	R	0.5	0.0	-0.1	-0.5

Table 12-10. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Upper West Side Traffic Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
1	W 72nd Street and West End Avenue	NB	NBL	L	-0.3	-0.2	-0.2	-0.4
			NBT	T	-0.3	-0.3	-0.4	-0.4
			NBR	R	-0.2	-0.1	-0.4	-0.4
		SB	SBT	T	0.0	-0.2	-0.5	-0.3
			SBR	TR	0.0	0.0	0.0	0.0
		EB	EBL	LT	-1.0	-0.8	-1.9	-1.0
			EBT	TR	-1.1	-1.0	-1.9	-1.1
			EBR		-0.9	-1.6	-2.6	-1.4
		WB	WBL	LT	-0.3	-1.0	-1.3	-0.9
			WBT	TR	-0.4	-0.4	-0.4	-1.0
			WBR		-0.2	-0.5	-0.4	-1.0
2	W 61st Street and West End Avenue	NB	NBL	LT	-0.3	-1.0	-0.4	-1.5
			NBT	TR	-1.3	-1.6	-1.7	-2.4
			NBR		-1.2	-1.4	-1.1	-2.3
		SB	SBL	L	0.0	0.0	0.0	0.0
			SBT	T	-1.0	-1.7	-1.6	-2.2
			SBR	TR	0.0	0.0	0.0	0.0
		EB	EBL	LTR	0.0	0.0	-0.2	-0.2
			EBT		-1.3	0.0	0.0	0.0
			EBR		0.0	0.0	0.0	0.0
3a	W 79th Street and Riverside Drive	NB	NBL	LTR	-0.2	-0.1	-0.5	-0.2
			NBT		0.0	0.0	0.0	0.0
			NBR		0.0	0.0	0.0	0.0
		SB	SBL	LTR	0.0	0.0	0.0	0.0
			SBT		0.0	0.0	0.0	0.0
			SBR		-0.3	-0.2	-0.4	-0.3
		EB	EBL	LT	-0.3	-0.4	-0.7	-1.0
			EBT		-0.5	-0.7	-0.8	-1.1
			EBR	TR	-0.5	-0.7	-0.7	-1.1
		WB	WBL	LT	0.0	0.0	0.0	-0.2
			WBT		-0.4	-0.4	-0.8	-0.4
			WBR	TR	0.0	0.0	-0.1	-0.1
4a	W 56th Street and Twelfth Avenue	NB	NBT	T	-0.1	-0.1	-0.2	-0.7
			NBR	TR	-0.2	0.0	-0.1	-0.5
		EB	EBL	LT	0.0	-0.1	0.0	-0.2
			EBT	T	0.0	0.0	-0.1	-0.1
4b	W 56th Street and West Side Highway	NB	NBT	T	0.0	-0.1	-0.1	-0.1
		SB	SBL	L	0.0	-0.1	-0.1	-0.1
			SBT	T	0.0	-0.1	-0.1	-0.2

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
5a	W 55th Street and West Side Highway	NB	NBL	L	0.0	0.0	0.0	0.0
			NBT	T	0.0	0.0	0.0	-0.1
		SB	SBT	TR	0.0	-0.1	-0.1	-0.2
			SBR		0.0	0.0	0.0	0.0
		WB	WBL	LT	0.0	-0.1	-0.3	-0.6
			WBT		0.0	-0.1	0.0	-1.0
			WBR	R	-0.1	-0.2	-0.3	-0.6
5b	W 55th Street and Twelfth Avenue	NB	NBL	L	0.0	0.0	0.0	0.0
			NBT	T	-0.1	-0.1	-0.2	-0.6
		SB	SBT	TR	0.0	0.0	0.0	0.0
			SBR		0.0	0.0	0.0	0.0
		WB	WBL	LT	0.0	0.0	0.0	0.0
			WBT		-0.1	-0.1	-0.2	-0.6
			WBR	R	-0.1	-0.2	-0.2	-0.5
5c	W 55th Street and West Side Highway Arterial	SB	SBT	T	0.0	0.0	0.0	0.0
		WB	WBL	L	0.0	0.0	0.0	-0.2
6	W 60th Street and Broadway	NB	NBL	L	-0.1	-0.2	-0.3	-0.2
			NBT	T	-0.2	-0.2	-0.2	-0.3
		SB	SBT	TR	-0.9	-1.5	-1.4	-2.3
			SBR		-0.9	-1.3	-1.2	-1.4
7	W 60th Street and Columbus Avenue	SB	SBT	TR	-1.1	-1.8	-2.4	-3.4
			SBR		-0.7	-1.9	-2.2	-3.1
		WB	WBL	L	-0.4	-0.8	-0.7	-1.0
			WBT	T	-0.2	0.0	-0.3	-0.0
8	W 60th Street and Amsterdam Avenue	NB	NBL	LT	-0.6	-1.4	-1.5	-0.7
			NBT		-1.2	-1.5	-1.6	-0.8
		WB	WBT	T	-0.7	-1.0	-0.8	-0.7
			WBR	R	0.0	0.0	-1.0	-0.9
9	W 60th Street and West End Avenue	NB	NBL	L	-0.5	-0.5	-1.5	-2.2
			NBT	T	-1.4	-2.3	-1.8	-3.2
		SB	SBT	TR	-1.0	-1.7	-1.8	-2.1
			SBR		-1.5	-2.6	-1.5	-2.2
		EB	EBL	LTR	0.0	0.0	0.0	0.0
			EBT		0.0	0.0	0.0	0.0
			EBR		0.0	0.0	0.0	0.0
		WB	WBL	LTR	0.0	0.0	-0.4	-0.2
10	W 61st Street and Amsterdam Avenue	NB	NBT	T	-1.2	-1.4	-1.6	-0.9
			NBR	TR	-1.0	-1.0	-2.3	-0.6
		EB	EBL	LT	-0.6	-0.9	-2.1	-0.7
			EBT		-0.5	-1.0	-2.8	0.0
		WB	WBR	R	0.0	0.0	-0.2	-0.1
11	W 61st Street and Columbus Avenue	SB	SBL	L	-0.5	-0.7	-1.2	-0.7
			SBT	T	-1.2	-1.8	-2.4	-3.1

INTERSECTION #	INTERSECTION NAME	APPROACH	LANE GROUP	MOVEMENT	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)			
					PCE AM	PCE MD	PCE PM	PCE LN
12	W 61st Street and Broadway	NB	NBT	T	-0.2	0.0	-0.2	-0.3
			NBR	R	0.0	-9.0	0.0	0.0
		SB	SBL	L	0.0	-9.9	-11.1	0.0
			SBT	T	-0.8	-1.5	-1.5	-2.8
		EB	EBL	LTR	-0.5	-0.4	-1.1	-0.3
			EBT		-0.3	-0.4	-1.2	-1.0
			EBR		-0.5	-0.8	-1.5	-0.8
13	W 61st Street and Columbus Avenue	NB	NBT	T	-0.2	-0.3	-0.3	-0.5
		EB	EBL	L	-1.7	-2.1	-3.7	-3.3
14	W 81st Street and Central Park West	NB	NBL	LT	-0.3	-0.1	-0.2	-0.1
			NBT	TR	-0.1	-0.1	-0.1	0.0
			NBR		-0.1	-0.1	-0.2	-0.2
		SB	SBL	LT	-0.1	-0.3	-0.2	-0.9
			SBT	TR	-0.1	-0.2	-0.1	-0.4
			SBR		-0.2	-0.4	-0.4	-1.0
		EB	EBL	L	-0.6	-0.3	-0.8	-0.3
			EBT	TR	-0.5	-0.5	-0.8	-0.5
			EBR		-0.5	-0.3	-0.8	-0.3
		WB	WBL	L	-0.6	-0.4	-0.4	-0.9
			WBT	T	-0.9	-0.8	-0.7	-1.1
			WBR	R	-0.4	-0.5	-0.5	-0.8
15	W 66th Street and Central Park West	NB	NBL	LT	-0.1	-0.1	-0.1	-0.1
			NBT	T	-0.2	-0.2	-0.2	-0.1
		SB	SBT	T	-0.3	-0.5	-0.5	-1.0
			SBR	TR	-0.1	-0.1	-0.2	-0.1
		WB	WBL	L	-0.2	-0.4	-0.8	-2.0
			WBT	T	-0.4	-0.5	-0.6	-0.9
			WBR	R	-0.6	-0.5	-0.6	-0.9
16	W 65th Street and Central Park West	NB	NBT	T	-0.2	-0.2	-0.1	-0.1
			NBR	TR	0.0	0.0	0.0	0.0
		SB	SBL	TL	-0.4	-0.5	-0.6	-1.3
			SBT	T	-0.4	-0.4	-0.6	-1.3
		EB	EBL	L	-0.1	-0.3	-0.2	-0.2
			EBT	TR	-0.4	-0.6	-0.6	-0.2
			EBR		-0.4	-0.1	-0.4	-0.1

Table 12-11. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Little Dominican Republic (Washington Heights) Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	MOVEMENT	LANE GROUP	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE AM	PCE MD	PCE PM
1	W 179th St & Broadway	NB	NBL	L	0.0	0.0	0.0
			NBT	T	0.0	0.0	0.0
		SB	SBT	T	0.0	0.0	0.0
			SBTR	R	0.0	0.0	0.0
		WB	TR	L	0.0	0.0	0.0
				T	0.3	1.2	0.5
				R	0.0	0.0	0.0

Table 12-12. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Lower East Side Analysis Area

INTERSECTION #	INTERSECTION NAME	APPROACH	MOVEMENT	LANE GROUP	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE AM	PCE MD	PCE PM
1	Park Row/Chatham Square & Worth/Oliver St. & Mott St.	NB	NLT	L	0.0	0.0	0.0
				T	0.0	0.0	0.0
			NR	R2	-0.2	-0.7	-0.8
		SB	ST	T	-0.7	-0.9	-0.8
			STR	T	0.0	0.0	0.0
				R	0.0	0.0	0.0
		EB	ETR	T	0.0	0.0	0.0
				R	0.0	0.0	0.0
		WB	WL	L	-0.6	-5.4	-3.9
			WT	T	0.0	0.0	0.0
			WTR	R	-0.5	-4.3	-2.7
		SWB	SLR	L2	0.0	0.0	0.0
				L	0.0	0.0	0.0
				R	0.0	0.0	0.0
2	Chatham Square & East Broadway	NB	NL	L	0.0	0.0	0.0
			NR	R	0.0	0.0	0.0
		EB	ET	T	-0.4	-1.2	-1.3
			ER	R	0.0	0.0	0.0
		WB	WL	L	0.0	0.0	0.0
			WT	T	-0.7	-8.3	-5.1
3	Chatham Square/Bowery & Division St.	NB	NL	L	0.0	0.0	0.0
			NT	T	0.0	0.0	0.0
		EB	ET	T	0.0	0.0	0.0
			ETR	R2	-0.3	-1.1	-1.1
		WB	WLT	L	0.0	0.0	0.0
			WT	T	0.0	0.0	0.0

Table 12-13. Passenger Car Equivalent Analysis Noise Level Change (dB(A)) Findings – CBD Tolling Alternative (Tolling Scenario D) PCE Divided by No Action Alternative PCE: Jersey City, NJ, Analysis Area

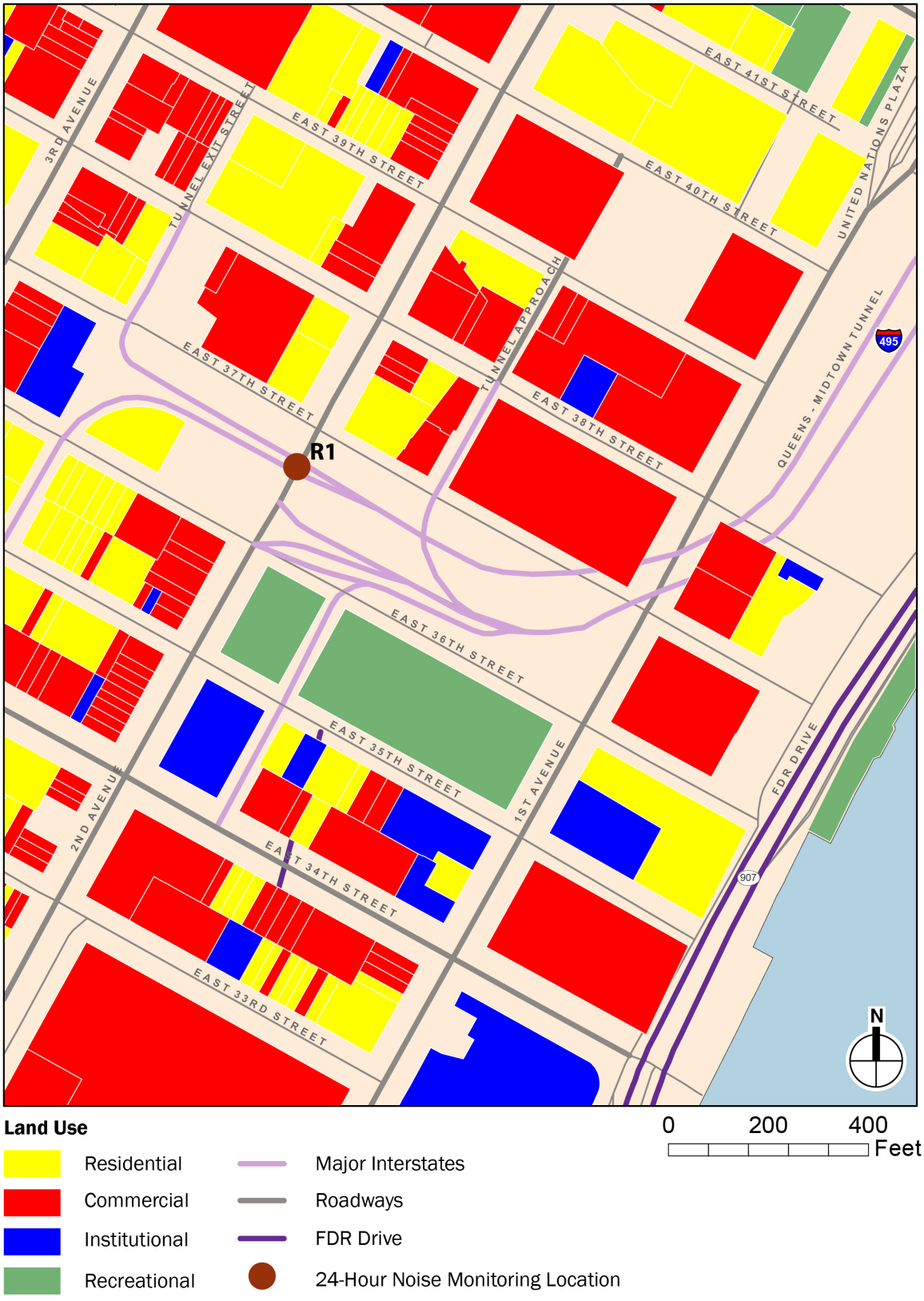
INTERSECTION #	INTERSECTION NAME	APPROACH	MOVEMENT	LANE GROUP	PASSENGER CAR EQUIVALENT NOISE LEVEL CHANGES (DB(A)) (NO MITIGATION)		
					PCE AM	PCE MD	PCE PM
1	14th Street/Holland Tunnel (E-W) & Marin Boulevard (N-S)	WB	TR	T	0.0	0.0	0.0
				R	0.0	0.0	0.0
		WB2	TR	T	0.0	0.0	0.0
				R	0.0	0.0	0.0
		NB	L	L	0.0	0.0	0.0
			T	T	0.0	0.0	0.0
		SB	TR	T	0.0	0.0	0.0
				R	0.0	0.0	0.0
4	14th Street (E-W) & Jersey Avenue (N-S)	WB	L	L	0.0	0.0	0.0
			TR	T	-0.5	-1.0	0.0
				R	0.0	0.0	0.0
		NB	L	L	0.0	0.0	0.0
			T	T	0.0	0.0	0.0
		SB	TR	T	0.0	0.0	0.0
			R	R	0.0	0.0	0.0
5	12th Street (E-W) & Jersey Avenue (N-S)	SE	L	L	0.0	0.0	0.0
			T	T	0.0	0.0	0.0
		EB	L	R	0.0	0.0	0.0
			T	L	0.0	0.0	0.0
			R	T	0.0	0.0	0.0
		SB	L	R	0.0	0.0	0.0
			T	L	0.0	0.0	0.0
8	12th Street/Holland Tunnel (E-W) & Marin Boulevard (N-S)	EB	L	L	0.0	0.0	0.0
			TR	T	0.0	0.0	0.0
				R	0.0	0.0	0.0
		NB	T	T	0.0	0.0	0.0
			R	R	0.0	0.0	0.0
		WB	T	T	0.0	0.0	0.0

12.2 RECEPTOR LOCATION DATA COLLECTION AND SUMMARY

Analysis presented in **Subchapter 4B, "Transportation: Highways and Local Intersections,"** shows that the largest increases in traffic generation would occur under Tolling Scenario D in Manhattan at locations near the Queens–Midtown Tunnel and the Hugh L. Carey Tunnel. Accordingly, 24-hour, long-term noise measurements were collected at representative receptor sites identified near these two locations. The selected noise measurement locations are identified as receptor Sites R1 and R2 on **Figure 12-1 and Figure 12-2**, respectively. Site R1 was located near the portal of the Queens–Midtown Tunnel at Second Avenue and East 37th Street, and Site R2 was located adjacent to the Manhattan portal near West Street at the Hugh L. Carey Tunnel. These two locations were selected for monitoring because they represent areas with some of the highest existing ambient noise levels in New York City and are projected to experience among the highest traffic diversions. Perceptible noise increases generated from Project traffic movements would be most likely to occur at these locations and could potentially worsen traffic noise conditions at sensitive receptors within these adjacent communities. If projected traffic increases would not result in perceptible increases in noise levels, then there would be no anticipated adverse effect at noise sensitive receptor locations within the adjacent communities.

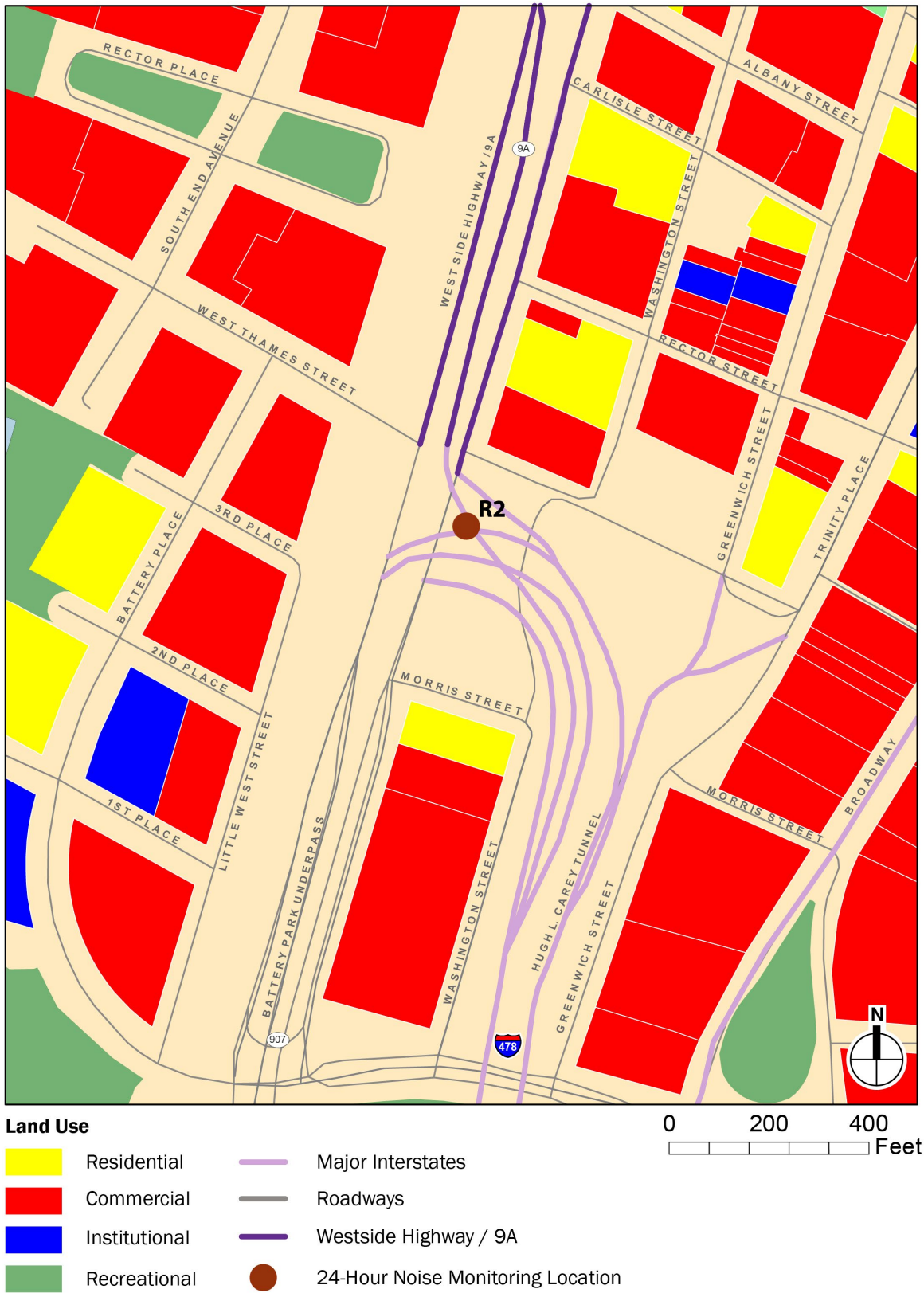
Noise measurements were collected using laboratory-certified noise monitoring equipment that complies with the American National Standards Institute requirements for Type II precision sound level meters. Two Larson Davis Model 720 noise level meters were deployed outdoors on MTA right-of-way property near major roadways leading to the Queens–Midtown Tunnel and the Hugh L. Carey Tunnel. The noise meters were configured to sample and record noise levels in one-hour intervals, with a new reading starting at the beginning of each hour. Hourly monitoring data consisted of A-weighted levels of the L_{eq}, L_{max}, L_{min}, L_1, L_{10}, L_{50}, and L_{90} noise descriptors. At each measurement location, the noise meter was calibrated before monitoring began and after monitoring ended. Noise measurements were collected from October 3, 2019, through October 7, 2019—prior to the COVID-19 pandemic—and reflect traffic patterns and ambient noise exposure conditions that are considered a reasonable estimate of the affected environment and the 2023 No Action Alternative. All noise measurement data collected during weekends or during periods of precipitation were excluded from the measurement survey findings.

Figure 12-1. Queens–Midtown Tunnel—Long-Term Noise Measurement Site R1



Source: ESRI, NYC Open Data, NYMTC 2020 TransCAD Highway Network

Figure 12-2. Hugh L. Carey Tunnel—Long-Term Noise Measurement Site R2



Source: ESRI, NYC Open Data, NYMTC 2020 TransCAD Highway Network

In general, the loudest traffic hour typically experienced at a receptor site consists of a convergence of various factors, such as the total volume of traffic as it passes by the receptor site, its travel speed, and the proportion of the vehicle mix made up of heavy trucks. Table 12-14 provides the noise measurement data collected at Site R1 near the Queens-Midtown Tunnel, and Table 12-15 provides the noise measurement data collected at Site R2 near the Hugh L. Carey Tunnel. Each table presents the L_{eq} data, and the L_{10} levels are approximately 3 dB(A) higher. At each monitoring location, the loudest (worst case) traffic noise hour was determined by averaging all the readings collected during that hour. The average hourly noise levels reported in Table 12-14 and Table 12-15 were derived from measurements collected during each hour over two or more days. Near the Queens-Midtown Tunnel (Site R1), the loudest noise hour occurred from 12:00 to 1:00 p.m., reaching 80.0 dB(A). At Site R2 near the Hugh L. Carey Tunnel, the peak noise hour occurred from 3:00 to 4:00 p.m., reaching 82.4 dB(A) near the tunnel portal. At both long-term monitoring locations, existing ambient noise levels were found to reach 75 dB(A) or higher for the majority of the long-term measurement sampling times. Noise levels below 70 dB(A) occurred only during the early morning hours. The corresponding L_{10} levels for the L_{eq} readings shown in Table 12-14 and Table 12-15 would be approximately 3 dB(A) higher. For Receptor Categories 1, 2, and 3 shown for the External Noise Exposure Standards (Chapter 12, "Noise," Table 12-3), existing ambient levels near these two monitoring locations exceeded the CEQR 60 to 70 dB(A) L_{10} Marginally Acceptable range for nearly all 24 hours of the day.

Table 12-14. Queens-Midtown Tunnel—Long-Term Noise Measurements Collected at Site R1

HOUR OF DAY	DAY 1 (L_{eq} 1-hr.) dB(A) (10/03/19)	DAY 2 (L_{eq} 1-hr.) dB(A) (10/04/19)	DAY 3 (L_{eq} 1-hr.) dB(A) (10/07/19)	AVERAGE L_{eq} (1-hr.) dB(A) Noise Level
12 AM to 1 AM	70.8	66.8	75.1	72.1
1 AM to 2 AM	N/A (Rain)	64.0	74.6	72.0
2 AM to 3 AM	N/A (Rain)	63.9	75.0	72.3
3 AM to 4 AM	N/A (Rain)	64.0	74.5	71.9
4 AM to 5 AM	N/A (Rain)	65.4	74.7	72.2
5 AM to 6 AM	N/A (Rain)	66.3	75.4	72.9
6 AM to 7 AM	N/A (Rain)	67.2	76.6	74.1
7 AM to 8 AM	N/A (Rain)	71.4	76.6	74.7
8 AM to 9 AM	N/A (Rain)	74.1	77.7	76.2
9 AM to 10 AM	N/A (Rain)	74.1	78.3	76.6
10 AM to 11 AM	N/A (Rain)	77.1	79.6	78.5
11 AM to 12 PM	N/A (Rain)	76.5	80.0	78.6
12 PM to 1 PM	N/A (Rain)	79.8	80.3	80.0
1 PM to 2 PM	N/A (Rain)	77.7	80.6	79.2
2 PM to 3 PM	N/A (Rain)	77.3	78.2	77.8
3 PM to 4 PM	N/A (Rain)	77.9	N/A (Rain)	77.9
4 PM to 5 PM	N/A (Rain)	79.2	N/A (Rain)	79.2
5 PM to 6 PM	N/A (Rain)	78.3	N/A (Rain)	78.3
6 PM to 7 PM	N/A (Rain)	76.1	N/A (Rain)	76.1
7 PM to 8 PM	N/A (Rain)	76.8	N/A (Rain)	76.8
8 PM to 9 PM	N/A (Rain)	78.2	N/A (Rain)	78.2
9 PM to 10 PM	N/A (Rain)	76.1	N/A (Rain)	76.1
10 PM to 11 PM	N/A (Rain)	75.9	N/A (Rain)	75.9
11 PM to 12 AM	N/A (Rain)	76.2	N/A (Rain)	76.2

Source: WSP, October 2019
N/A – Not Applicable. No measurement collected due to rain.

Table 12-15. Hugh L. Carey Tunnel—Long-Term Noise Measurements Collected at Site R2

HOUR OF DAY	DAY 1 (L_{eq} 1-hr.) dB(A) (10/03/19)	DAY 2 (L_{EQ} 1-HR.) dB(A) (10/04/19)	DAY 3 (L_{EQ} 1-HR.) dB(A) (10/07/19)	AVERAGE L_{eq} (1-hr.) dB(A) Noise Level
12 AM to 1 AM	73.1	73.9	68.0	72.3
1 AM to 2 AM	N/A (Rain)	72.4	67.2	70.5
2 AM to 3 AM	N/A (Rain)	66.9	71.5	69.8
3 AM to 4 AM	N/A (Rain)	64.7	65.5	65.1
4 AM to 5 AM	N/A (Rain)	68.0	66.0	67.1
5 AM to 6 AM	N/A (Rain)	73.2	71.4	72.4
6 AM to 7 AM	N/A (Rain)	77.3	76.8	77.1
7 AM to 8 AM	N/A (Rain)	81.7	78.5	80.4
8 AM to 9 AM	N/A (Rain)	80.5	79.5	80.0
9 AM to 10 AM	N/A (Rain)	79.3	78.2	78.8
10 AM to 11 AM	N/A (Rain)	82.3	76.1	80.2
11 AM to 12 PM	N/A (Rain)	81.2	75.2	79.1
12 AM to 1 PM	N/A (Rain)	80.7	75.6	78.9
1 PM to 2 PM	N/A (Rain)	80.9	N/A (Rain)	80.9
2 PM to 3 PM	N/A (Rain)	79.5	N/A (Rain)	79.5
3 PM to 4 PM	N/A (Rain)	82.4	N/A (Rain)	82.4
4 PM to 5 PM	N/A (Rain)	78.4	N/A (Rain)	78.4
5 PM to 6 PM	N/A (Rain)	80.0	N/A (Rain)	80.0
6 PM to 7 PM	N/A (Rain)	78.2	N/A (Rain)	78.2
7 PM to 8 PM	N/A (Rain)	76.3	N/A (Rain)	76.3
8 PM to 9 PM	N/A (Rain)	75.6	N/A (Rain)	75.6
9 PM to 10 PM	N/A (Rain)	76.7	N/A (Rain)	76.7
10 PM to 11 PM	N/A (Rain)	73.9	N/A (Rain)	73.9
11 PM to 12 AM	N/A (Rain)	78.9	N/A (Rain)	78.9

Source: WSP, October 2019
N/A – Not Applicable. No measurement collected due to rain.

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 13, Natural Resources

August 2022

CONTENTS

13A, Natural Resources Correspondence

13B, Coastal Zone Consistency Assessments

- New York State Coastal Assessment Form
- New York City Waterfront Revitalization Program Consistency Assessment Form
- New York City Waterfront Revitalization Program Consistency Assessment Form: Supporting Information

13A, Natural Resources Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
Phone: (631) 286-0485 Fax: (631) 286-4003

In Reply Refer To: May 24, 2022
Project Code: 2022-0046568
Project Name: Central Business District Tolling Program

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
(631) 286-0485

Project Summary

Project Code: 2022-0046568
Event Code: None
Project Name: Central Business District Tolling Program
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The Project purpose is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into FHWA's VPPP. The Manhattan CBD consists of the geographic area of Manhattan south of and inclusive of 60th Street to the extent practicable but does not include the Franklin D. Roosevelt (FDR) Drive and the West Side Highway/Route 9A, including the Battery Park underpass and any surface roadway portion of the Hugh L. Carey Tunnel that connects to West Street (the West Side Highway/Route 9A).

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.738039,-73.99135179419619,14z



Counties: New York County, New York

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: New York State Department of Transportation
Name: Daniel Nierenberg
Address: 50 Wolf Road
Address Line 2: POD 4-1
City: Albany
State: NY
Zip: 12232
Email daniel.nierenberg@dot.ny.gov
Phone: 5184735089

Lead Agency Contact Information

Lead Agency: Federal Highway Administration

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 40º 43' 50" N, Longitude = 74º 1' 56" W
Decimal Degrees: Latitude = 40.731, Longitude = -73.968

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** W A R N I N G ***

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Winter Flounder	Eggs Juvenile Larvae/Adult	New England	Amendment 14 to the Northeast Multispecies FMP
		Little Skate	Juvenile Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
		Atlantic Herring	Juvenile Adult Larvae	New England	Amendment 3 to the Atlantic Herring FMP
		Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Windowpane Flounder	Adult Larvae Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Clearnose Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Longfin Inshore Squid	Eggs	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
		Atlantic Butterfish	Larvae	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Summer Flounder	Larvae Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

HAPCs

Link	Data Caveats	HAPC Name	Management Council
		Summer Flounder	Mid-Atlantic

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

All spatial data is currently available for the Mid-Atlantic and New England councils,
Secretarial EFH,
Bigeye Sand Tiger Shark,
Bigeye Sixgill Shark,
Caribbean Sharpnose Shark,
Galapagos Shark,
Narrowtooth Shark,
Sevengill Shark,
Sixgill Shark,
Smooth Hammerhead Shark,
Smalltail Shark

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 40º 44' 5" N, Longitude = 75º 59' 1" W
Decimal Degrees: Latitude = 40.735, Longitude = -74.017

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** W A R N I N G ***

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Winter Flounder	Eggs Juvenile Larvae/Adult	New England	Amendment 14 to the Northeast Multispecies FMP
		Little Skate	Juvenile Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
		Atlantic Herring	Juvenile Adult Larvae	New England	Amendment 3 to the Atlantic Herring FMP
		Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Windowpane Flounder	Adult Larvae Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Clearnose Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Longfin Inshore Squid	Eggs	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
		Atlantic Butterfish	Larvae	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Summer Flounder	Larvae Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

HAPCs

Link	Data Caveats	HAPC Name	Management Council
		Summer Flounder	Mid-Atlantic

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

All spatial data is currently available for the Mid-Atlantic and New England councils,
Secretarial EFH,
Bigeye Sand Tiger Shark,
Bigeye Sixgill Shark,
Caribbean Sharpnose Shark,
Galapagos Shark,
Narrowtooth Shark,
Sevengill Shark,
Sixgill Shark,
Smooth Hammerhead Shark,
Smalltail Shark

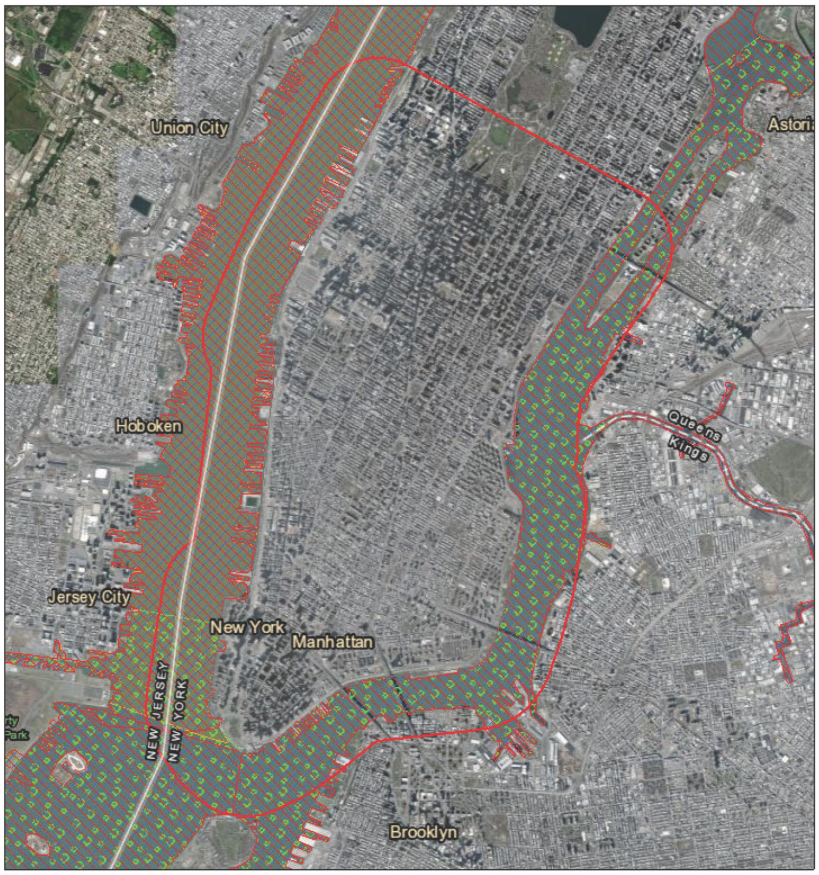
5/24/22, 1:34 PM

Drawn Action Area & Overlapping S7 Consultation Areas

Area of Interest (AOI) Information

Area : 10,544.7 acres

May 24 2022 13:30:36 Eastern Daylight Time



Atlantic Sturgeon
Shortnose Sturgeon
Sea Turtles
In or Near Critical Habitat

1:72,224

0 0.47 0.95 1.9 mi
0 0.75 1.5 3 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1/3

5/24/22, 1:34 PM

Central Business District Tolling Program - The Project purpose is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into FHWA's VPPP. The Manhattan CBD consists of the geographic area of Manhattan south of and inclusive of 60th Street to the extent practicable but does not include the Franklin D. Roosevelt (FDR) Drive and the West Side Highway/Route 9A, including the Battery Park underpass and any surface roadway portion of the Hugh L. Carey Tunnel that connects to West Street (the West Side Highway/Route 9A).

Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	7	8,873.46	N/A
Shortnose Sturgeon	5	7,047.19	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	4	8,571.67	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	1	1,736.97	N/A

Atlantic Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	ANS_C50_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	N/A
2	ANS_C50_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	N/A
3	ANS_EAS_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	East River
4	ANS_EAS_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	East River
5	ANS_HUD_JUV_MAF	Atlantic sturgeon	Juvenile	Migrating & Foraging	Hudson River
6	ANS_HUD_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	Hudson River
7	ANS_HUD_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	Hudson River

#	From	Until	From (2)	Until (2)	Area(acres)
1	01/01	12/31	N/A	N/A	179.43
2	01/01	12/31	N/A	N/A	179.43
3	01/01	12/31	N/A	N/A	1,646.82
4	01/01	12/31	N/A	N/A	1,646.82
5	1/1	12/31	N/A	N/A	1,740.32
6	4/1	11/30	N/A	N/A	1,740.32
7	4/1	11/30	N/A	N/A	1,740.32

Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone
1	SNS_C50_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	N/A
2	SNS_EAS_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	East River
3	SNS_HUD_JUV_MAF	Shortnose sturgeon	Juvenile	Migrating & Foraging	Hudson River
4	SNS_HUD_JUV_WIN	Shortnose sturgeon	Juvenile	Overwintering	Hudson River
5	SNS_HUD_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	Hudson River

2/3

5/24/22, 1:34 PM

#	From	Until	From (2)	Until (2)	Area(acres)
1	04/01	11/30	N/A	N/A	179.41
2	04/01	11/30	N/A	N/A	1,646.82
3	01/01	12/31	N/A	N/A	1,740.32
4	09/1	03/31	N/A	N/A	1,740.32
5	01/01	12/31	N/A	N/A	1,740.32

Sea Turtles

#	Feature ID	Species	Life Stage	Behavior	Zone
1	GRN_STS_AJV_MAF	Green sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
2	KMP_STS_AJV_MAF	Kemp's ridley sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
3	LTR_STS_AJV_MAF	Leatherback sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia
4	LOG_STS_AJV_MAF	Loggerhead sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia

#	From	Until	From (2)	Until (2)	Area(acres)
1	5/1	11/30	*No Data*	*No Data*	2,142.92
2	5/1	11/30	*No Data*	*No Data*	2,142.92
3	5/1	11/30	*No Data*	*No Data*	2,142.92
4	5/1	11/30	*No Data*	*No Data*	2,142.92

In or Near Critical Habitat

#	Species	In or Near Critical Habitat Unit	Area(acres)
1	Atlantic Sturgeon	New York Bight Unit 3: Hudson River	1,736.97

DISCLAIMER: Use of this App does NOT replace the Endangered Species Act (ESA) Section 7 consultation process; it is a first step in determining if a proposed Federal action overlaps with listed species or critical habitat presence. Because the data provided through this App are updated regularly, reporting results must include the date they were generated. The report outputs (map/tables) depend on the options picked by the user, including the shape and size of the action area drawn, the layers marked as visible or selectable, and the buffer distance specified when using the "Draw your Action Area" function. Area calculations represent the size of overlap between the user-drawn Area of Interest (with buffer) and the specified S7 Consultation Area. Summary table areas represent the sum of these overlapping areas for each species group.

3/3

13B, Coastal Zone Consistency Assessments

NEW YORK STATE COASTAL ASSESSMENT FORM

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Coastal Assessment Form

A. INSTRUCTIONS (Please print or type all answers)

1. State agencies shall complete this CAF for proposed actions which are subject to Part 600 of Title 19 of the NYCRR. This assessment is intended to supplement other information used by a state agency in making a determination of significance pursuant to the State Environmental Quality Review Act (see 6 NYCRR, Part 617). If it is determined that a proposed action will not have a significant effect on the environment, this assessment is intended to assist a state agency in complying with the certification requirements of 19 NYCRR Section 600.4.

2. If any question in Section C on this form is answered "yes", then the proposed action may affect the achievement of the coastal policies contained in Article 42 of the Executive Law. Thus, the action should be analyzed in more detail and, if necessary, modified prior to either (a) making a certification of consistency pursuant to 19 NYCRR Part 600 or, (b) making the findings required under SEQR, 6 NYCRR, Section 617.11, if the action is one for which an environmental impact statement is being prepared. If an action cannot be certified as consistent with the coastal policies, it shall not be undertaken.

3. Before answering the questions in Section C, the preparer of this form should review the coastal policies contained in 19 NYCRR Section 600.5. A proposed action should be evaluated as to its significant beneficial and adverse effects upon the coastal area.

B. DESCRIPTION OF PROPOSED ACTION

1. Type of state agency action (check appropriate response):

(a) Directly undertaken (e.g. capital construction, planning activity, agency regulation, land transaction) X
(b) Financial assistance (e.g. grant, loan, subsidy) ____
(c) Permit, license, certification ____

2. Describe nature and extent of action: The proposed action is a program to toll vehicles entering or remaining in the Manhattan Central Business District (CBD); generally defined as the geographic area south and inclusive of 60th Street and exclusive of the West Side Highway/Route 9A and Franklin D. Roosevelt (FDR) Drive. The proposed action would require limited construction to install tolling infrastructure and supporting utilities. See Section E Additional Information.

3. Location of action:

New York	New York	Multiple locations, see Section E
County	City, Town or Village	Street or Site Description

4. If an application for the proposed action has been filed with the state agency, the following information shall be provided:

(a) Name of applicant: Metropolitan Transportation Authority, Allison L. C. de Cerreño, Ph.D., Deputy Chief Operating Officer
(b) Mailing address: 2 Broadway, 23rd floor, New York, NY 10004
(c) Telephone Number: Area Code (646) 252-7750
(d) State agency application number:

5. Will the action be directly undertaken, require funding, or approval by a federal agency?

Yes X No _____ If yes, which federal agency? Federal Highway Administration

C. COASTAL ASSESSMENT (Check either "YES" or "NO" for each of the following questions)

	YES	NO
1. Will the proposed activity be located in, or contiguous to, or have a significant effect upon any of the resource areas identified on the coastal area map:		
(a) Significant fish or wildlife habitats?	X	
(b) Scenic resources of statewide significance?		X
(c) Important agricultural lands?		X
2. Will the proposed activity have a significant effect upon:		
(a) Commercial or recreational use of fish and wildlife resources?		X
(b) Scenic quality of the coastal environment?		X
(c) Development of future, or existing water dependent uses?		X
(d) Operation of the State's major ports?		X
(e) Land and water uses within the State's small harbors?		X
(f) Existing or potential public recreation opportunities?		X
(g) Structures, sites or districts of historic, archeological or cultural significance to the State or nation?		X

-1-

3. Will the proposed activity involve or result in any of the following:

(a) Physical alteration of two (2) acres or more of land along the shoreline, land under water or coastal waters?		X
(b) Physical alteration of five (5) acres or more of land located elsewhere in the coastal area?		X
(c) Expansion of existing public services of infrastructure in undeveloped or low density areas of the coastal area?		X
(d) Energy facility not subject to Article VII or VIII of the Public Service Law?		X
(e) Mining, excavation, filling or dredging in coastal waters?		X
(f) Reduction of existing or potential public access to or along the shore?		X
(g) Sale or change in use of state-owned lands located on the shoreline or under water?		X
(h) Development within a designated flood or erosion hazard area?	X	
(i) Development on a beach, dune, barrier island or other natural feature that provides protection against flooding or erosion?		X

4. Will the proposed action be located in or have a significant effect upon an area included in an approved Local Waterfront Revitalization Program? X

D. SUBMISSION REQUIREMENTS

If any question in Section C is answered "Yes", AND either of the following two conditions is met:

Section B.1(a) or B.1(b) is checked; or
Section B.1(c) is checked AND B.5 is answered "Yes",

THEN a copy of this completed Coastal Assessment Form shall be submitted to:

New York State Department of State
Office of Coastal, Local Government and Community Sustainability
One Commerce Plaza
99 Washington Avenue, Suite 1010
Albany, New York 12231-0001

If assistance or further information is needed to complete this form, please call the Department of State at (518) 474-6000.

The proposed activity, the Central Business District (CBD) Tolling Program (the Project) is a program to toll vehicles entering or remaining in the Manhattan CBD in New York, NY. The Manhattan CBD is generally defined as the geographic area of Manhattan south and inclusive of 60th Street and exclusive of the West Side Highway/Route 9A and Franklin D. Roosevelt (FDR) Drive; see Figure 1. The Triborough Bridge and Tunnel Authority (TBTA) would collect tolls from vehicles entering the Manhattan CBD via a cashless tolling system. The CBD Tolling Program would require limited construction to install tolling infrastructure, tolling system equipment, and supporting utilities. The proposed tolling infrastructure and tolling system equipment, including signage, would be placed on existing infrastructure or infrastructure comparable in form to existing streetlight poles, signal poles, sign poles, or overhead sign structures on city streets and sidewalks.

The Project would affect an area adjacent to a New York State-designated significant coastal fish and wildlife habitat, the Lower Hudson Reach; however, the Project would not encroach on or otherwise affect the Lower Hudson Reach. Project elements would be located within existing roadways and sidewalks close to the Lower Hudson Reach, and construction of the proposed project would take place entirely within those roadways and sidewalks, and would not require disturbance of the Lower Hudson Reach significant coastal fish and wildlife habitat.

The Project would involve development within the 100-year flood zone; see Figure 2. However, the proposed activity would not create new buildings and is limited to installing tolling infrastructure and tolling system equipment.

The Project would be located in an area included in an approved Local Waterfront Revitalization Program (LWRP), the New York City Waterfront Revitalization Program. As discussed in the attached New York City Waterfront Revitalization Program Consistency Assessment Form, the Project would not adversely affect the economic, environmental, and cultural characteristics of New York City's waterfront. Coastal areas adjacent to the locations where tolling infrastructure and tolling system equipment are proposed are developed, urban areas, where similar infrastructure is already present and is typical of neighborhood character. Therefore, the Project would be consistent with the New York City Waterfront Revitalization Program.

Preparer's Name: Allison L. C. de Cerreño, Ph.D. (Please print)

Title: Deputy Chief Operating Officer Agency: Metropolitan Transportation Authority

Telephone Number: (646) 252-7750 Date: July 29, 2022

CAF revised 11/08

-2-

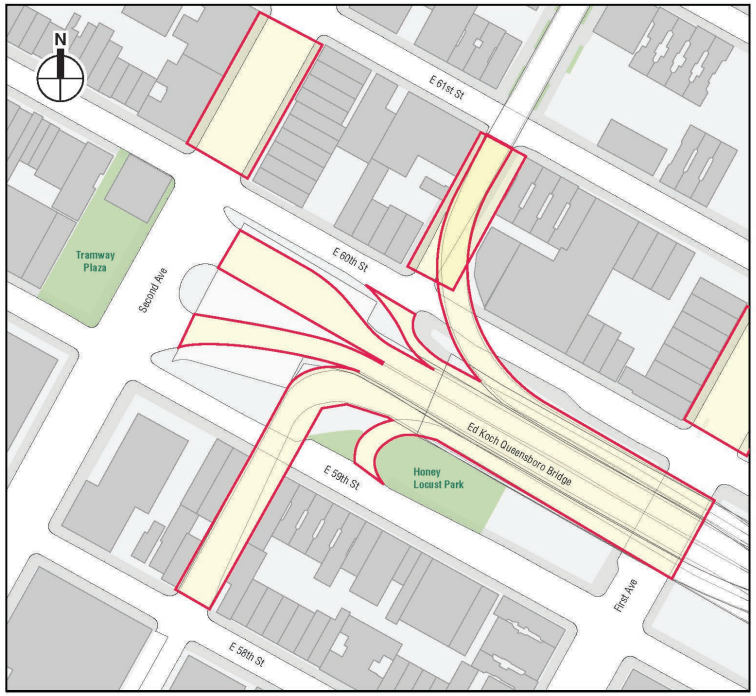


Local Study Area for Tolling Infrastructure and Tolling System Equipment

CBD TOLLING PROGRAM

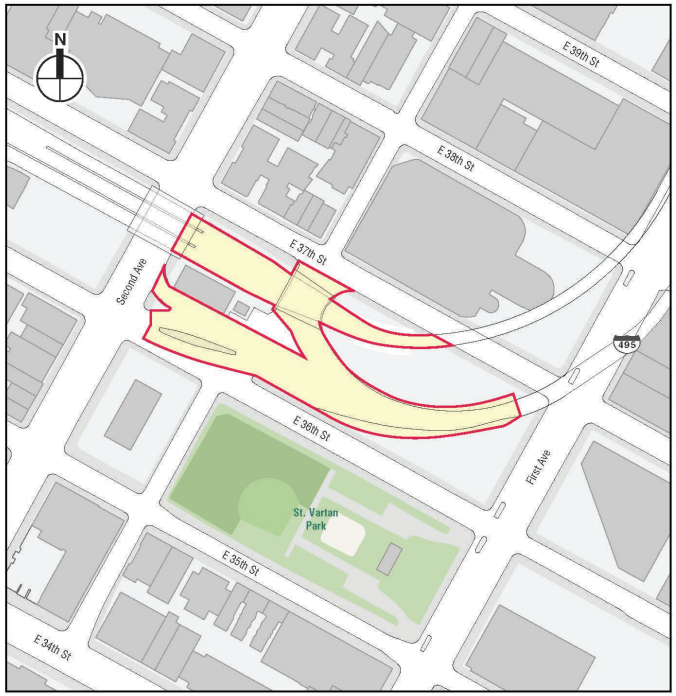
Figure 1a

4.23.20



Ed Koch Queensboro Bridge

0 100 200 300 FEET



Queens-Midtown Tunnel

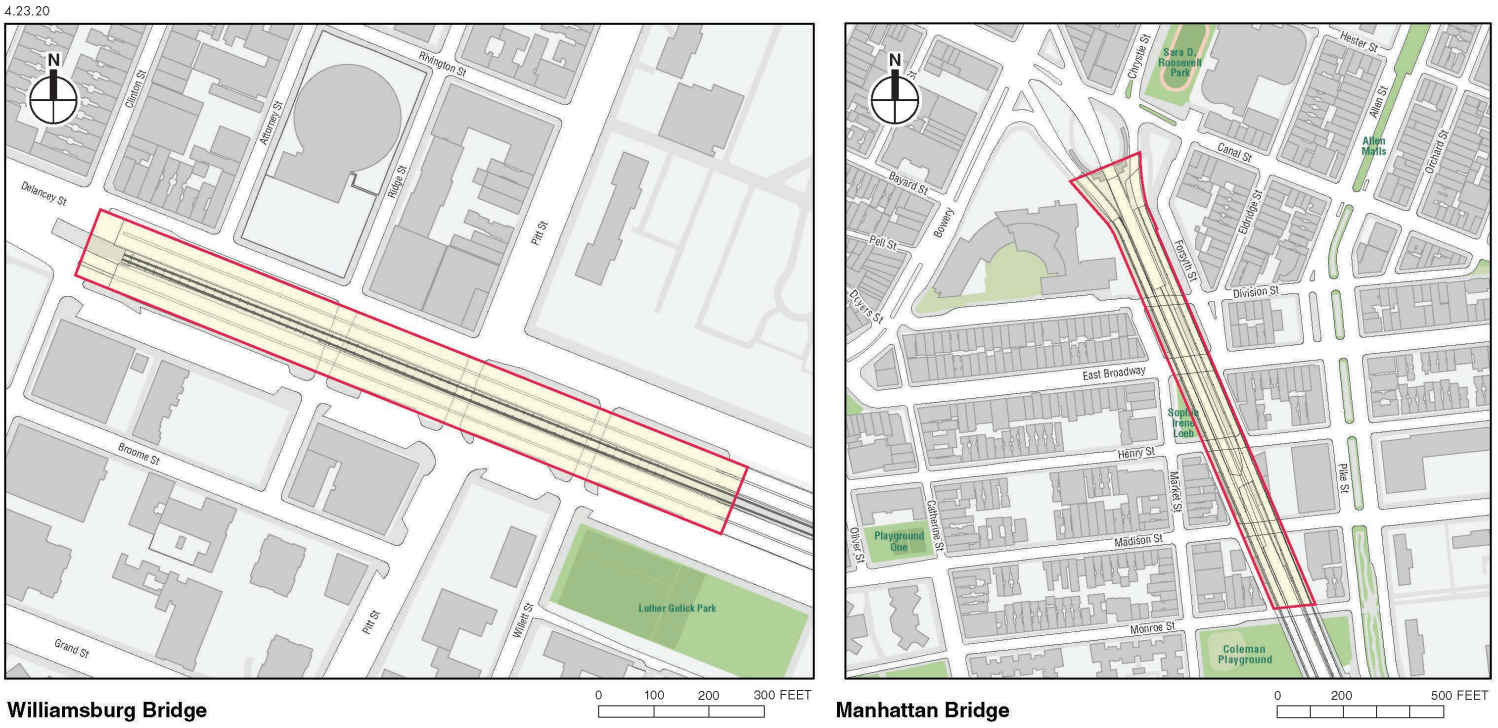
0 200 400 FEET

Local Study Area for Tolling Infrastructure and Tolling System Equipment

Local Study Area for Tolling Infrastructure
and Tolling System Equipment:
Ed Koch Queensboro Bridge and Queens-Midtown Tunnel

CBD TOLLING PROGRAM

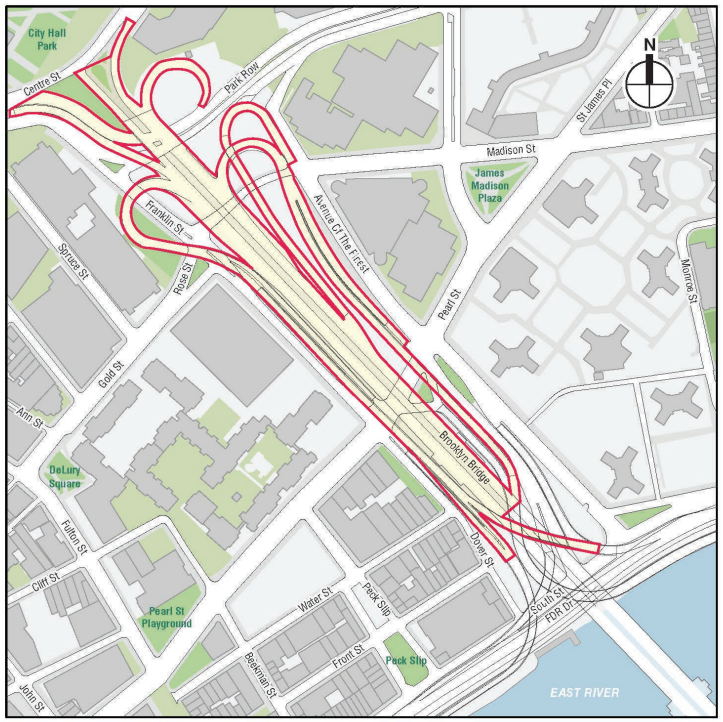
Figure 1b



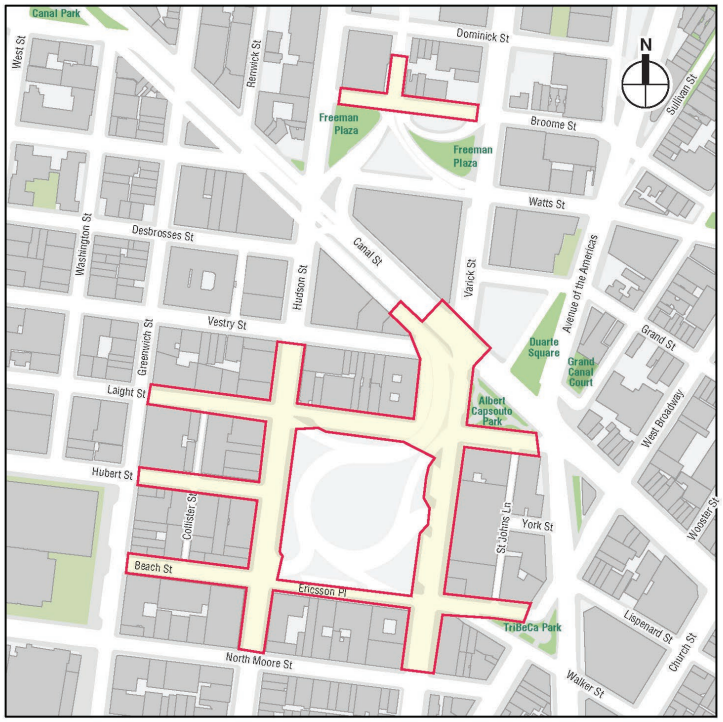
Local Study Area for Tolling Infrastructure
and Tolling System Equipment:
Williamsburg Bridge and Manhattan Bridge
Figure 1c

CBD TOLLING PROGRAM

10.20.21



Brooklyn Bridge



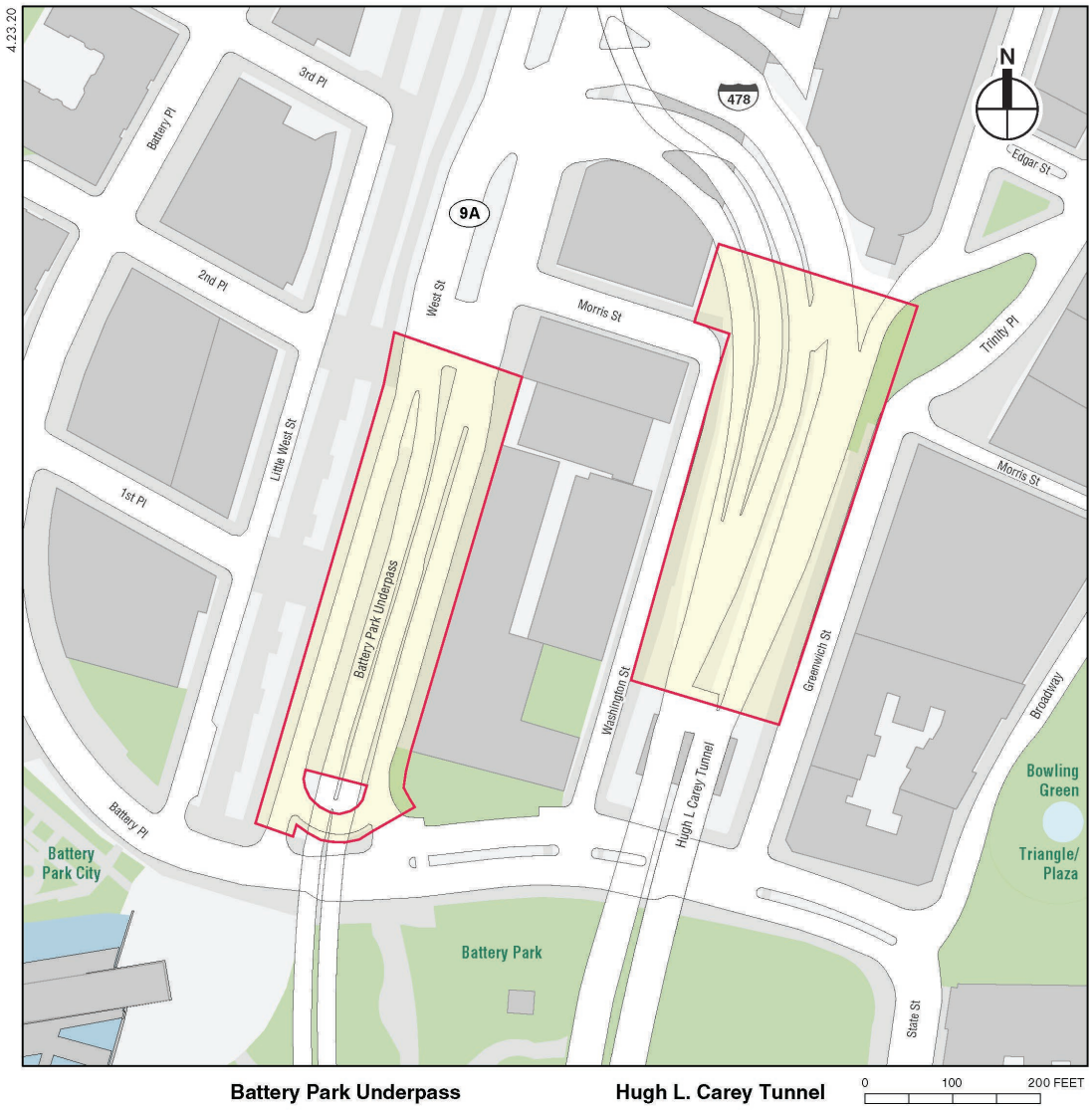
Holland Tunnel

Local Study Area for Tolling Infrastructure and Tolling System Equipment

Local Study Area for Tolling Infrastructure and Tolling System Equipment: Brooklyn Bridge and Holland Tunnel

Figure 1d

CBD TOLLING PROGRAM



Local Study Area for Tolling Infrastructure and Tolling System Equipment: Battery Park Underpass and Hugh L. Carey Tunnel

CBD TOLLING PROGRAM

Figure 1e



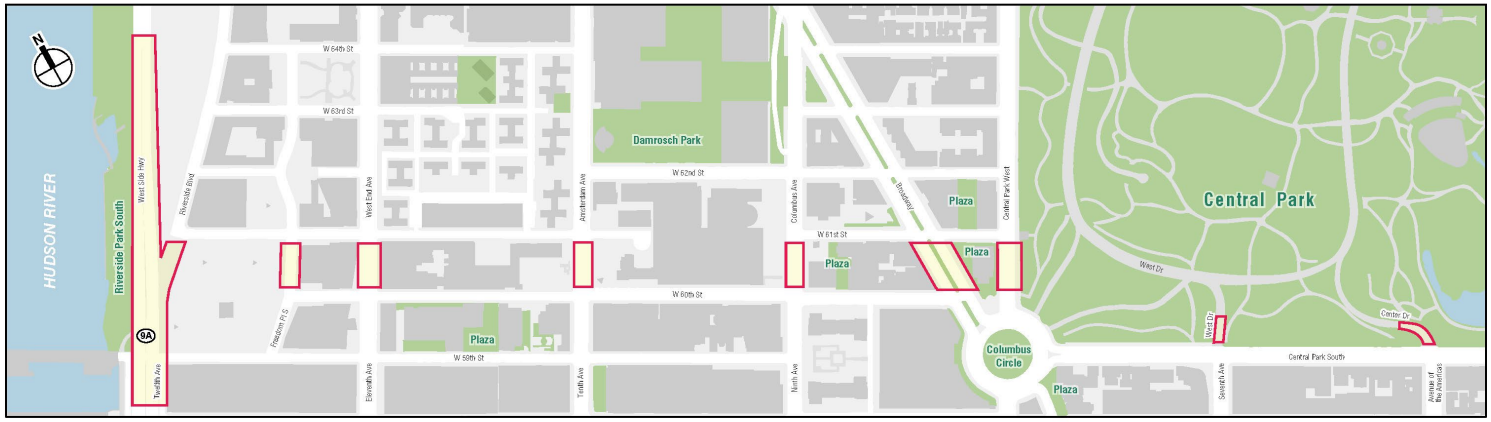
Local Study Area for Tolling Infrastructure and Tolling System Equipment: Lincoln Tunnel

CBD TOLLING PROGRAM

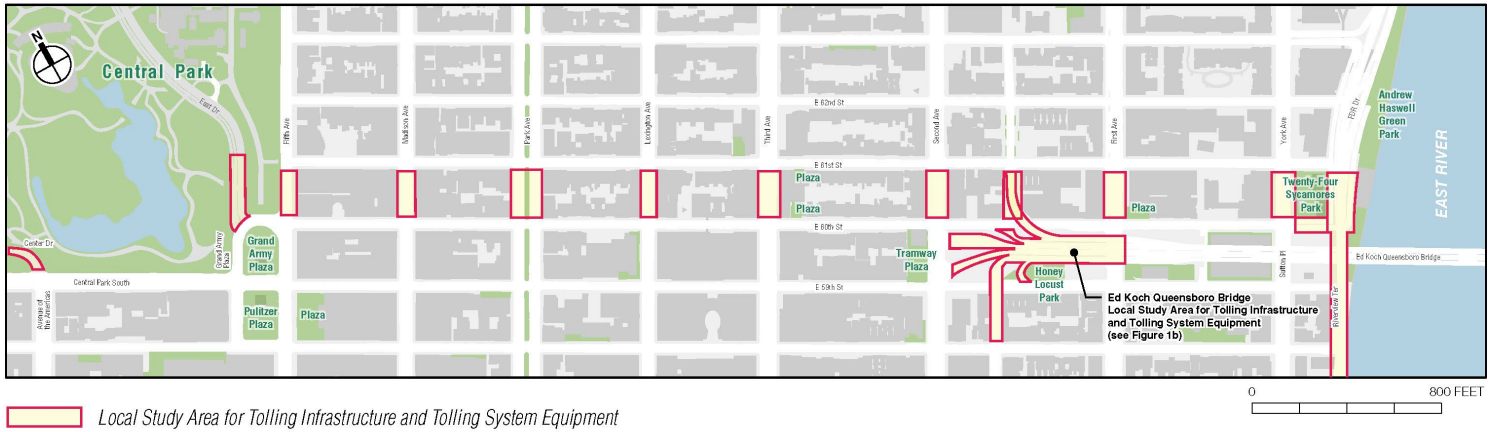
Figure 1f

5.14.20

60th Street - Western Portion



60th Street - Eastern Portion

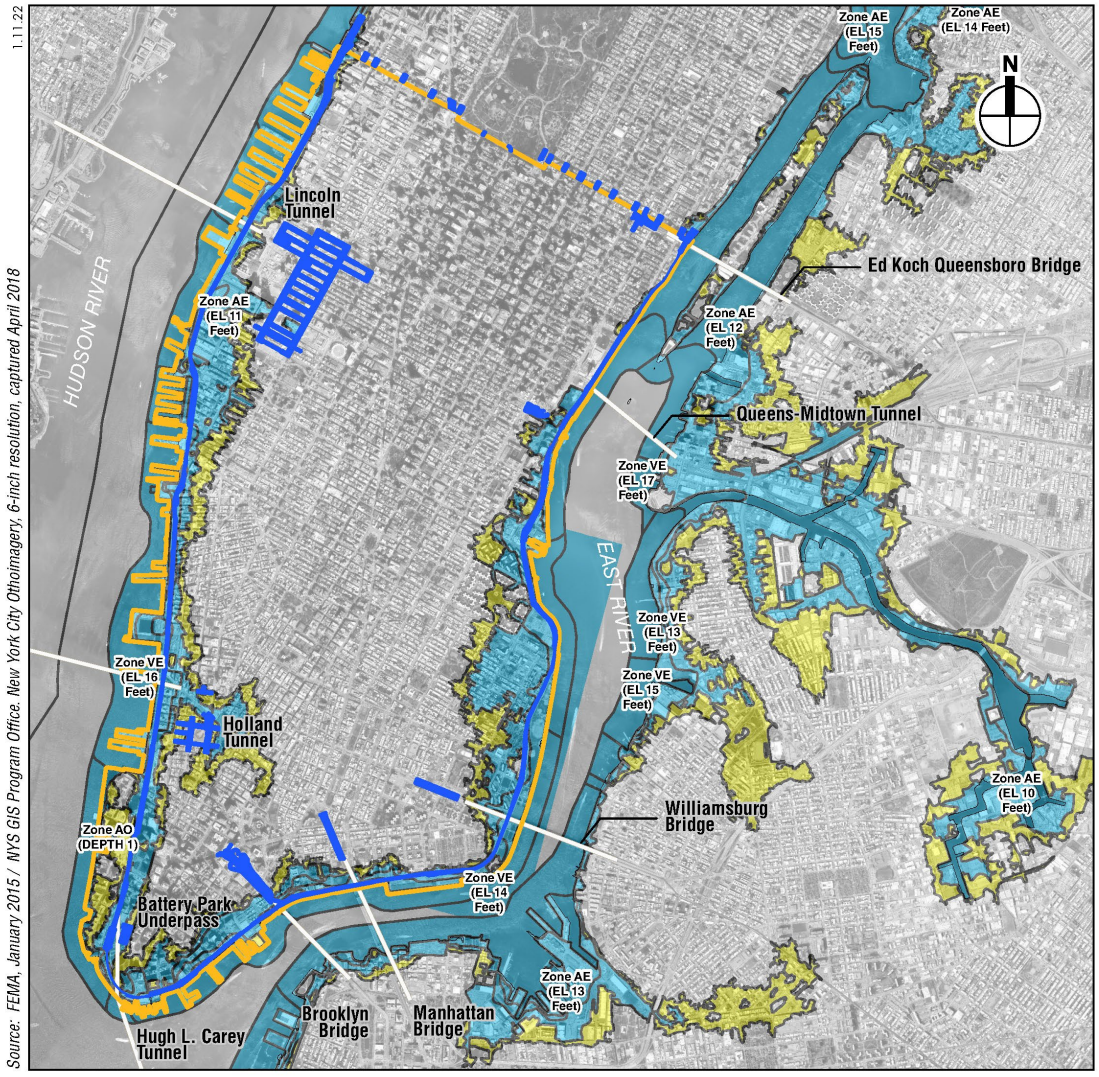


Local Study Area for Tolling Infrastructure and Tolling System Equipment

Local Study Area for Tolling Infrastructure and Tolling System Equipment: 60th Street

CBD TOLLING PROGRAM

Figure 1g



Federal Emergency Management Agency
2015 Preliminary Flood Insurance Risk Map

CBD TOLLING PROGRAM

Figure 2

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM CONSISTENCY ASSESSMENT FORM

FOR INTERNAL USE ONLY	WRP No. _____
Date Received: _____	DOS No. _____

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM
Consistency Assessment Form

Proposed actions that are subject to CEQR, ULURP or other local, state or federal discretionary review procedures, and that are within New York City's Coastal Zone, must be reviewed and assessed for their consistency with the *New York City Waterfront Revitalization Program (WRP)* which has been approved as part of the State's Coastal Management Program.

This form is intended to assist an applicant in certifying that the proposed activity is consistent with the WRP. It should be completed when the local, state, or federal application is prepared. The completed form and accompanying information will be used by the New York State Department of State, the New York City Department of City Planning, or other city or state agencies in their review of the applicant's certification of consistency.

A. APPLICANT INFORMATION

Name of Applicant: Metropolitan Transportation Authority

Name of Applicant Representative: Allison L. C. de Cerreño, Ph.D., Deputy Chief Operating Officer

Address: 2 Broadway, 23rd Floor, New York, NY 10004

Telephone: (646) 252-7750 Email: allison.cdecerreno@mtahq.org

Project site owner (if different than above): NYCDOT, TBTA, NYC Parks

B. PROPOSED ACTIVITY

If more space is needed, include as an attachment.

1. Brief description of activity

The Central Business District (CBD) Tolling Program (the Project) is a program to toll vehicles entering or remaining in the Manhattan CBD. The Manhattan CBD is generally defined as the geographic area south of and inclusive of 60th Street and exclusive of the West Side Highway/Route 9A and the Franklin D. Roosevelt (FDR) Drive. The Triborough Bridge and Tunnel Authority (TBTA) would collect tolls from vehicles entering the Manhattan CBD via a cashless tolling system. The Project would require limited construction to install tolling infrastructure, tolling system equipment, and supporting utilities. The proposed tolling infrastructure and tolling system equipment, including signage, would be placed on existing infrastructure or infrastructure comparable in form to existing streetlight poles, signal poles, sign poles, or overhead sign structures on city streets and sidewalks.

2. Purpose of activity

The Project purpose is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements, pursuant to acceptance into the Federal Highway Administration's Value Pricing Pilot Program (VPPP).

C. PROJECT LOCATION

Borough: Manhattan Tax Block/Lot(s): Multiple locations; see Figure 1

Street Address: Multiple locations; see Figure 1

Name of water body (if located on the waterfront): New York Harbor, East River, Hudson River

D. REQUIRED ACTIONS OR APPROVALS

Check all that apply.

City Actions/Approvals/Funding

City Planning Commission ☐ Yes ☑ No

- ☐ City Map Amendment
- ☐ Zoning Map Amendment
- ☐ Zoning Text Amendment
- ☐ Site Selection – Public Facility
- ☐ Housing Plan & Project
- ☐ Special Permit
  (if appropriate, specify type: ☐ Modification ☐ Renewal ☐ other) Expiration Date: _____
- ☐ Zoning Certification
- ☐ Zoning Authorizations
- ☐ Acquisition – Real Property
- ☐ Disposition – Real Property
- ☐ Other, explain: _____
- ☐ Concession
- ☐ UDAAP
- ☐ Revocable Consent
- ☐ Franchise

Board of Standards and Appeals ☐ Yes ☑ No

- ☐ Variance (use)
- ☐ Variance (bulk)
- ☐ Special Permit
  (if appropriate, specify type: ☐ Modification ☐ Renewal ☐ other) Expiration Date: _____

Other City Approvals

- ☐ Legislation
- ☐ Rulemaking
- ☐ Construction of Public Facilities
- ☐ 384 (b) (4) Approval
- ☑ Other, explain: NYCDOT OCMC permits; NYC Parks permits for work adjacent to street trees
- ☐ Funding for Construction, specify: _____
- ☐ Policy or Plan, specify: _____
- ☐ Funding of Program, specify: _____
- ☐ Permits, specify: _____

State Actions/Approvals/Funding

- ☐ State permit or license, specify Agency: _____ Permit type and number: _____
- ☐ Funding for Construction, specify: _____
- ☐ Funding of a Program, specify: _____
- ☑ Other, explain: Compliance with New York State MTA Reform and Traffic Mobility Act

Federal Actions/Approvals/Funding

- ☐ Federal permit or license, specify Agency: FHWA Permit type and number: _____
- ☐ Funding for Construction, specify: _____
- ☐ Funding of a Program, specify: _____
- ☑ Other, explain: Approval of tolling program as part of the Variable Pricing Pilot Program

Is this being reviewed in conjunction with a Joint Application for Permits? ☐ Yes ☑ No

E. LOCATION QUESTIONS

1.	Does the project require a waterfront site?	☑ Yes	☐ No
2.	Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land under water or coastal waters?	☐ Yes	☑ No
3.	Is the project located on publicly owned land or receiving public assistance?	☑ Yes	☐ No
4.	Is the project located within a FEMA 1% annual chance floodplain? *(6.2)*	☑ Yes	☐ No
5.	Is the project located within a FEMA 0.2% annual chance floodplain? *(6.2)*	☑ Yes	☐ No
6.	Is the project located adjacent to or within a special area designation? *See Maps – Part III of the NYC WRP. If so, check appropriate boxes below and evaluate policies noted in parentheses as part of WRP Policy Assessment (Section F).*	☑ Yes	☐ No

- ☐ Significant Maritime and Industrial Area (SMIA) (*2.1*)
- ☐ Special Natural Waterfront Area (SNWA) (*4.1*)
- ☑ Priority Maritime Activity Zone (PMAZ) (*3.5*)
- ☑ Recognized Ecological Complex (REC) (*4.4*)
- ☐ West Shore Ecologically Sensitive Maritime and Industrial Area (ESMIA) (*2.2, 4.2*)

F. WRP POLICY ASSESSMENT

Review the project or action for consistency with the WRP policies. For each policy, check Promote, Hinder *or* Not Applicable (N/A). *For more information about consistency review process and determination, see* ***Part I*** *of the NYC Waterfront Revitalization Program. When assessing each policy, review the full policy language, including all sub-policies, contained within* ***Part II*** *of the WRP. The relevance of each applicable policy may vary depending upon the project type and where it is located (i.e. if it is located within one of the special area designations).*

For those policies checked Promote *or* Hinder, *provide a written statement on a separate page that assesses the effects of the proposed activity on the relevant policies or standards. If the project or action promotes a policy, explain how the action would be consistent with the goals of the policy. If it hinders a policy, consideration should be given toward any practical means of altering or modifying the project to eliminate the hindrance. Policies that would be advanced by the project should be balanced against those that would be hindered by the project. If reasonable modifications to eliminate the hindrance are not possible, consideration should be given as to whether the hindrance is of such a degree as to be substantial, and if so, those adverse effects should be mitigated to the extent practicable.*

		Promote	Hinder	N/A
1	**Support and facilitate commercial and residential redevelopment in areas well-suited to such development.**	☐	☐	☑
1.1	Encourage commercial and residential redevelopment in appropriate Coastal Zone areas.	☐	☐	☑
1.2	Encourage non-industrial development with uses and design features that enliven the waterfront and attract the public.	☐	☐	☑
1.3	Encourage redevelopment in the Coastal Zone where public facilities and infrastructure are adequate or will be developed.	☐	☐	☑
1.4	In areas adjacent to SMIAs, ensure new residential development maximizes compatibility with existing adjacent maritime and industrial uses.	☐	☐	☑
1.5	Integrate consideration of climate change and sea level rise into the planning and design of waterfront residential and commercial development, pursuant to WRP Policy 6.2.	☐	☐	☑

		Promote	Hinder	N/A
2	**Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.**	☐	☐	☑
2.1	Promote water-dependent and industrial uses in Significant Maritime and Industrial Areas.	☐	☐	☑
2.2	Encourage a compatible relationship between working waterfront uses, upland development and natural resources within the Ecologically Sensitive Maritime and Industrial Area.	☐	☐	☑
2.3	Encourage working waterfront uses at appropriate sites outside the Significant Maritime and Industrial Areas or Ecologically Sensitive Maritime Industrial Area.	☐	☐	☑
2.4	Provide infrastructure improvements necessary to support working waterfront uses.	☐	☐	☑
2.5	Incorporate consideration of climate change and sea level rise into the planning and design of waterfront industrial development and infrastructure, pursuant to WRP Policy 6.2.	☐	☐	☑
3	**Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation.**	☐	☐	☑
3.1.	Support and encourage in-water recreational activities in suitable locations.	☐	☐	☑
3.2	Support and encourage recreational, educational and commercial boating in New York City's maritime centers.	☐	☐	☑
3.3	Minimize conflicts between recreational boating and commercial ship operations.	☐	☐	☑
3.4	Minimize impact of commercial and recreational boating activities on the aquatic environment and surrounding land and water uses.	☐	☐	☑
3.5	In Priority Marine Activity Zones, support the ongoing maintenance of maritime infrastructure for water-dependent uses.	☐	☐	☑
4	**Protect and restore the quality and function of ecological systems within the New York City coastal area.**	☐	☐	☑
4.1	Protect and restore the ecological quality and component habitats and resources within the Special Natural Waterfront Areas.	☐	☐	☑
4.2	Protect and restore the ecological quality and component habitats and resources within the Ecologically Sensitive Maritime and Industrial Area.	☐	☐	☑
4.3	Protect designated Significant Coastal Fish and Wildlife Habitats.	☐	☐	☑
4.4	Identify, remediate and restore ecological functions within Recognized Ecological Complexes.	☐	☐	☑
4.5	Protect and restore tidal and freshwater wetlands.	☐	☐	☑
4.6	In addition to wetlands, seek opportunities to create a mosaic of habitats with high ecological value and function that provide environmental and societal benefits. Restoration should strive to incorporate multiple habitat characteristics to achieve the greatest ecological benefit at a single location.	☐	☐	☑
4.7	Protect vulnerable plant, fish and wildlife species, and rare ecological communities. Design and develop land and water uses to maximize their integration or compatibility with the identified ecological community.	☐	☐	☑
4.8	Maintain and protect living aquatic resources.	☐	☐	☑

NYC WRP CONSISTENCY ASSESSMENT FORM – 2016

4

		Promote	Hinder	N/A
5	**Protect and improve water quality in the New York City coastal area.**	☐	☐	☑
5.1	Manage direct or indirect discharges to waterbodies.	☐	☐	☑
5.2	Protect the quality of New York City's waters by managing activities that generate nonpoint source pollution.	☐	☐	☑
5.3	Protect water quality when excavating or placing fill in navigable waters and in or near marshes, estuaries, tidal marshes, and wetlands.	☐	☐	☑
5.4	Protect the quality and quantity of groundwater, streams, and the sources of water for wetlands.	☐	☐	☑
5.5	Protect and improve water quality through cost-effective grey-infrastructure and in-water ecological strategies.	☐	☐	☑
6	**Minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and increase resilience to future conditions created by climate change.**	☑	☐	☐
6.1	Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the site, the use of the property to be protected, and the surrounding area.	☑	☐	☐
6.2	Integrate consideration of the latest New York City projections of climate change and sea level rise (as published in *New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms*) into the planning and design of projects in the city's Coastal Zone.	☑	☐	☐
6.3	Direct public funding for flood prevention or erosion control measures to those locations where the investment will yield significant public benefit.	☐	☐	☑
6.4	Protect and preserve non-renewable sources of sand for beach nourishment.	☐	☐	☑
7	**Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to the environment and public health and safety.**	☑	☐	☐
7.1	Manage solid waste material, hazardous wastes, toxic pollutants, substances hazardous to the environment, and the unenclosed storage of industrial materials to protect public health, control pollution and prevent degradation of coastal ecosystems.	☑	☐	☐
7.2	Prevent and remediate discharge of petroleum products.	☐	☐	☑
7.3	Transport solid waste and hazardous materials and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.	☑	☐	☐
8	**Provide public access to, from, and along New York City's coastal waters.**	☐	☐	☑
8.1	Preserve, protect, maintain, and enhance physical, visual and recreational access to the waterfront.	☐	☐	☑
8.2	Incorporate public access into new public and private development where compatible with proposed land use and coastal location.	☐	☐	☑
8.3	Provide visual access to the waterfront where physically practical.	☐	☐	☑
8.4	Preserve and develop waterfront open space and recreation on publicly owned land at suitable locations.	☐	☐	☑

NYC WRP CONSISTENCY ASSESSMENT FORM – 2016

5

		Promote	Hinder	N/A
8.5	Preserve the public interest in and use of lands and waters held in public trust by the State and City.	☐	☐	☑
8.6	Design waterfront public spaces to encourage the waterfront's identity and encourage stewardship.	☐	☐	☑
9	**Protect scenic resources that contribute to the visual quality of the New York City coastal area.**	☑	☐	☐
9.1	Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront.	☑	☐	☐
9.2	Protect and enhance scenic values associated with natural resources.	☐	☐	☑
10	**Protect, preserve, and enhance resources significant to the historical, archaeological, architectural, and cultural legacy of the New York City coastal area.**	☑	☐	☐
10.1	Retain and preserve historic resources, and enhance resources significant to the coastal culture of New York City.	☑	☐	☐
10.2	Protect and preserve archaeological resources and artifacts.	☑	☐	☐

G. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification can be made, complete this Section.

"The proposed activity complies with New York State's approved Coastal Management Program as expressed in New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program, and will be conducted in a manner consistent with such program."

Applicant/Agent's Name: Metropolitan Transportation Authority, Allison L. C. de Cerreño, Ph.D., Deputy Chief Operating Officer

Address: 2 Broadway, 23rd floor, New York, NY 10004

Telephone: (646) 252-7750 Email: allison.cdecerreno@mtahq.org

Applicant/Agent's Signature: Allison L. C. de Cerreño

Date: July 29, 2022

NYC WRP CONSISTENCY ASSESSMENT FORM – 2016

6

Submission Requirements

For all actions requiring City Planning Commission approval, materials should be submitted to the Department of City Planning.

For local actions not requiring City Planning Commission review, the applicant or agent shall submit materials to the Lead Agency responsible for environmental review. A copy should also be sent to the Department of City Planning.

For State actions or funding, the Lead Agency responsible for environmental review should transmit its WRP consistency assessment to the Department of City Planning.

For Federal direct actions, funding, or permits applications, including Joint Applicants for Permits, the applicant or agent shall also submit a copy of this completed form along with his/her application to the NYS Department of State Office of Planning and Development and other relevant state and federal agencies. A copy of the application should be provided to the NYC Department of City Planning.

The Department of City Planning is also available for consultation and advisement regarding WRP consistency procedural matters.

New York City Department of City Planning
Waterfront and Open Space Division
120 Broadway, 31st Floor
New York, New York 10271
212-720-3696
wrp@planning.nyc.gov
www.nyc.gov/wrp

New York State Department of State
Office of Planning and Development
Suite 1010
One Commerce Place, 99 Washington Avenue
Albany, New York 12231-0001
518-474-6000
www.dos.ny.gov/opd/programs/consistency

Applicant Checklist

- [X] Copy of original signed NYC Consistency Assessment Form
- [X] Attachment with consistency assessment statements for all relevant policies
- [ ] For Joint Applications for Permits, one (1) copy of the complete application package
- [X] Environmental Review documents
- [X] Drawings (plans, sections, elevations), surveys, photographs, maps, or other information or materials which would support the certification of consistency and are not included in other documents submitted. All drawings should be clearly labeled and at a scale that is legible.
- [ ] Policy 6.2 Flood Elevation worksheet, if applicable. For guidance on applicability, refer to the WRP Policy 6.2 Guidance document available at www.nyc.gov/wrp

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM CONSISTENCY ASSESSMENT FORM: Supporting Information

Policy 3: Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation.

> *Policy 3.5: In Priority Maritime Activity Zones, support the ongoing maintenance of maritime infrastructure for water-dependent uses.*

The Central Business District (CBD) Tolling Program (the Project) would affect the Manhattan CBD, defined as the geographic area of Manhattan south and inclusive of 60th Street, but not including Franklin D. Roosevelt (FDR) Drive, West Side Highway/Route 9A, the Battery Park underpass, and any surface roadway portion of the Hugh L. Carey Tunnel connecting to West Street (the West Side Highway/Route 9A). The CBD is adjacent to Priority Maritime Activity Zones (PMAZs) at piers along the shoreline of the Manhattan CBD; however, the PMAZs would not be affected by construction or operation of the Project. The Project's construction would consist of installing tolling infrastructure and tolling system equipment in existing roadways adjacent to PMAZs. Therefore, Policy 3 is not applicable to the Project, including Policy 3.5.

Policy 4: Protect and restore the quality and function of ecological systems within the New York City coastal area.

> *Policy 4.4: Identify, remediate and restore ecological functions within Recognized Ecological Complexes.*

The Project would affect an area adjacent to the Recognized Ecological Complex (REC) at Stuyvesant Cove; however, the REC would not be affected by construction or operation of the Project. The Project would consist of installing tolling infrastructure and tolling system equipment in existing roadways adjacent to the REC. Therefore, Policy 4 is not applicable to the Project, including Policy 4.4.

Policy 6: Minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and increase resilience to future conditions created by climate change.

> *Policy 6.1: Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the site, the use of the property to be protected, and the surrounding area.*

As discussed below for Policy 6.2, some of the locations where tolling infrastructure and tolling system equipment would be installed are within the current 1 percent annual chance floodplain and would continue to be within the floodplain in the future. The Project must be located within the floodplain so that the tolling infrastructure and tolling system equipment can be installed on existing roadways that are located there. However, the new tolling infrastructure and tolling system equipment would be installed using new and existing infrastructure such as streetlight poles, traffic signal poles, signposts, and overhead sign structures and pedestrian bridges and other than the poles themselves would be elevated above both the current and projected base flood elevation (BFE). The Project would not introduce new vulnerable, critical, or hazardous features that could pose a risk to the surrounding areas during flood

events. No grading or site elevation changes would be completed as part of the Project, and the Project would not result in increased coastal flooding. Therefore, the Project would promote this policy.

Policy 6.2: Integrate consideration of the latest New York City projections of climate change and sea level rise (as published in New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms) into the planning and design of projects in the city's Coastal Zone.

Step 1(a): Assess the project area's exposure to current and future flood risk.

Within the Manhattan CBD, the tolling infrastructure and tolling system equipment would be installed in specific places so as to allow vehicles entering the CBD to be tolled. These areas where infrastructure and equipment would be installed are collectively considered the local study area for the Project (see **Figure 1**). Much of the local study area at the outer edges of Manhattan, which generally follows the West Side Highway/Route 9A and the FDR Drive, is within the current 1 percent annual chance floodplain (Zone AE) with base flood elevations ranging from +11 to +13 NAVD88 (**Figure 2**).[1] At the southernmost point of Lower Manhattan, a portion of the local study area is within the limit of moderate wave action (LiMWA), which indicates the potential for coastal hazards such as those associated with waves, debris, and high velocity flow. Between the Brooklyn Bridge and Manhattan Bridge, the FDR Drive is within Zone VE with a BFE of +14 feet NAVD88. Farther inland, the local study area is currently outside of both the 1 percent and 0.2 percent annual chance floodplains, and would not be located within the 90th percentile projected floodplain through 2100.

Some of the locations proposed for tolling infrastructure and tolling system equipment are within the existing and projected 1 percent annual chance floodplain. Certain upland areas of the local study area would be within the 1 percent annual chance floodplain by the 2050s under the 90th percentile projected conditions (**Figure 3**). However, in all cases, the tolling system equipment would be elevated such that it is higher than the BFE under both current and projected conditions throughout its design life.

Step 1(b): Identify if the project or action would facilitate the development of any vulnerable, critical, or potentially hazardous features…within areas exposed to flooding from Mean Higher High Water or 1% Annual Chance Flood by the 2050s under the 90th percentile of sea level rise projections.

While some of the new tolling infrastructure and tolling system equipment would be installed at locations within the current and projected 1 percent annual chance floodplain, this would not facilitate the development of any vulnerable, critical, or potentially hazardous features.

Step 2: Assess how applicable codes and regulations, planned flood damage reduction elements and adaptive measures, or likely future infrastructure investments (beyond the scope of the proposed project), would or would not reduce potential flood damage for any proposed vulnerable, critical, or potentially hazardous features.

[1] NYC Flood Hazard Mapper, available at www1.nyc.gov/site/planning/data-maps/flood-hazard-mapper.page

The Project would install tolling infrastructure and tolling system equipment along existing roadways in the Manhattan CBD. Since the infrastructure and equipment must be on existing roadways, it must be in the floodplain. However, the tolling system equipment would be mounted at heights above the level of the current and projected BFE. It would also be designed to be water resistant since it would be located outdoors.

Step 3: Assess policy consistency.

The Project involves the installation of tolling infrastructure and tolling system equipment throughout the local study area. While portions of the study area are located within the current 1 percent annual chance floodplain in both Zones AE and VE, the Project would not introduce any vulnerable, critical, or potentially hazardous features. The tolling system equipment would be elevated above the flood elevations on existing infrastructure and new infrastructure similar in form to existing streetlight poles, traffic signal poles, signposts, and overhead sign structures and pedestrian bridges and would remain above the projected flood elevations throughout its design life, based on NPCC 90th percentile projections. Therefore, the Project would promote this policy.

Policy 7: Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to the environmental and public health and safety.

Policy 7.1: Manage solid waste material, hazardous wastes, toxic pollutants, substances hazardous to the environment, and the unenclosed storage of industrial materials to protect public health, control pollution and prevent degradation of coastal ecosystems.

Policy 7.3: Transport solid waste and hazardous materials and site solid hazardous waste facilities in a manner that minimized degradation of coastal resources.

Well-established procedures address the contaminated materials that could be encountered during construction for the CBD Tolling Program.

The Triborough Bridge and Tunnel Authority (TBTA) will require the contractor for construction of the Project to implement specific plans and adhere to specific protocols, developed to be consistent with applicable Federal, State of New York, and City of New York regulations and requirements. Prior to starting the work, TBTA will require the contractor to develop a Waste Handling Plan, an Emergency Response Plan, and a Contingency Plan detailing procedures to be followed in the event of an accident, emergency situation, or release or spill of hazardous wastes. TBTA will oversee the contractor's compliance with these plans. TBTA will require the contractor to sample any paint to be disturbed by construction work for lead and other heavy metals, or presume that the paint is lead-based paint, and to remove lead-based paint in accordance with applicable standards and the contract requirements. TBTA will require the contractor to perform an asbestos survey of any suspect asbestos-containing materials to be disturbed by the construction activities in accordance with applicable requirements, and to perform asbestos abatement and waste disposal in accordance with applicable safety and health codes and all

applicable Federal and State of New York regulations. TBTA will oversee the contractor's compliance with lead paint sampling and abatement and asbestos testing and abatement.

With these measures in place, Project construction would not result in adverse effects associated with hazardous waste and contaminated materials. Once operational, there would be no human exposure pathways to any residual hazardous materials, so operation of the CBD Tolling Program would also not result in adverse effects related to contaminated or hazardous materials. Therefore, the Project would promote Policy 7, including Policy 7.1 and Policy 7.3.

Policy 9: Protect scenic resources that contribute to the visual quality of the New York City coastal area.

> *Policy 9.1: Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront.*

The Project would place new tolling infrastructure and tolling system equipment within existing roadways adjacent to coastal waters. The surrounding areas are densely developed urban areas, and the new tolling infrastructure and tolling system equipment would be typical of infrastructure found throughout waterfront areas of New York City. The tolling infrastructure and tolling system equipment would therefore be consistent with the existing visual character of the waterfront, and the Project would promote Policy 9, including Policy 9.1.

Policy 10: Protect, preserve, and enhance resources significant to the historical, archaeological, architectural, and cultural legacy of the New York City coastal area.

> *Policy 10.1: Retain and preserve historic resources, and enhance resources significant to the coastal culture of New York City.*

> *Policy 10.2: Protect and preserve archaeological resources and artifacts.*

The Project's potential effects on historic and archaeological resources were evaluated as part of its environmental review, in consultation with the New York State Historic Preservation Office (SHPO). The review was conducted in accordance with Section 106 of the National Historic Preservation Act in consultation with consulting parties. In consultation with SHPO and consulting parties, the Federal Highway Administration (FHWA) determined that the Project would result in no adverse effect on historic properties. Therefore, the Project would promote Policy 10, including Policy 10.1 and Policy 10.2.



Local Study Area for Tolling Infrastructure and Tolling System Equipment

CBD TOLLING PROGRAM

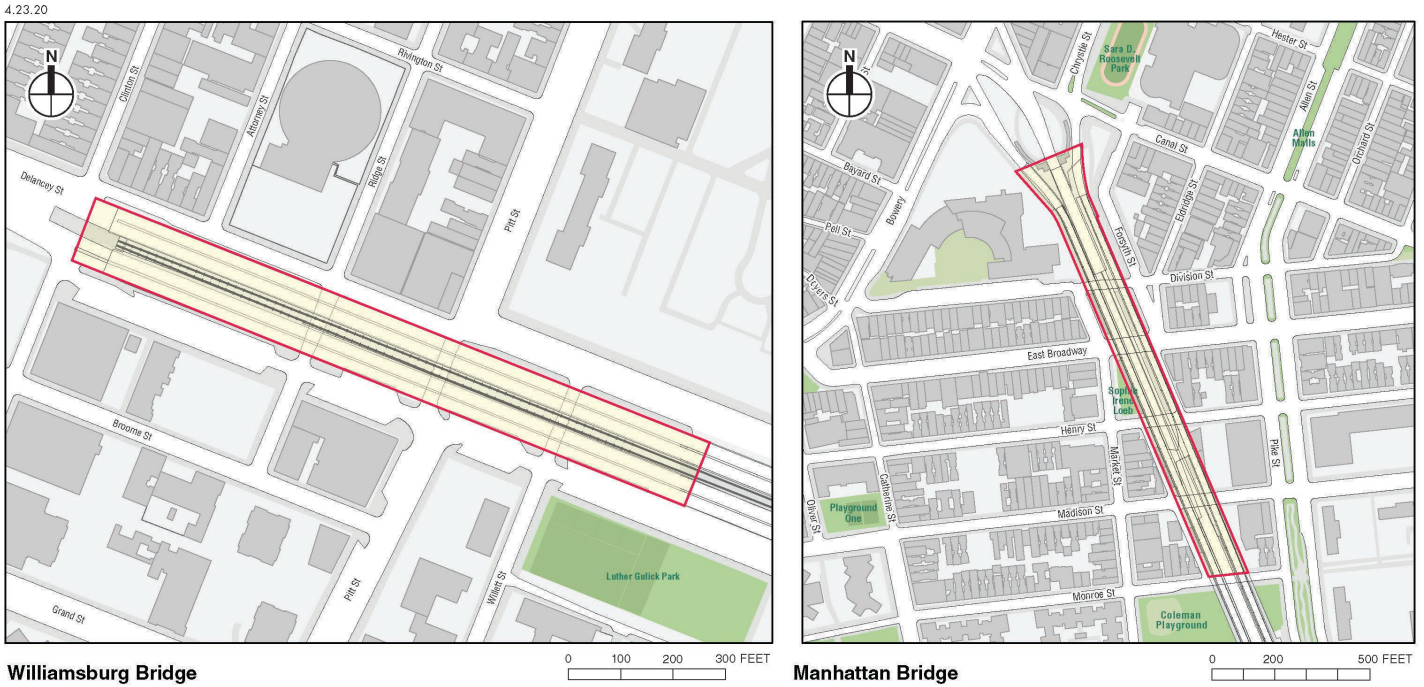
Figure 1a



Local Study Area for Tolling Infrastructure
and Tolling System Equipment:
Ed Koch Queensboro Bridge and Queens-Midtown Tunnel

CBD TOLLING PROGRAM

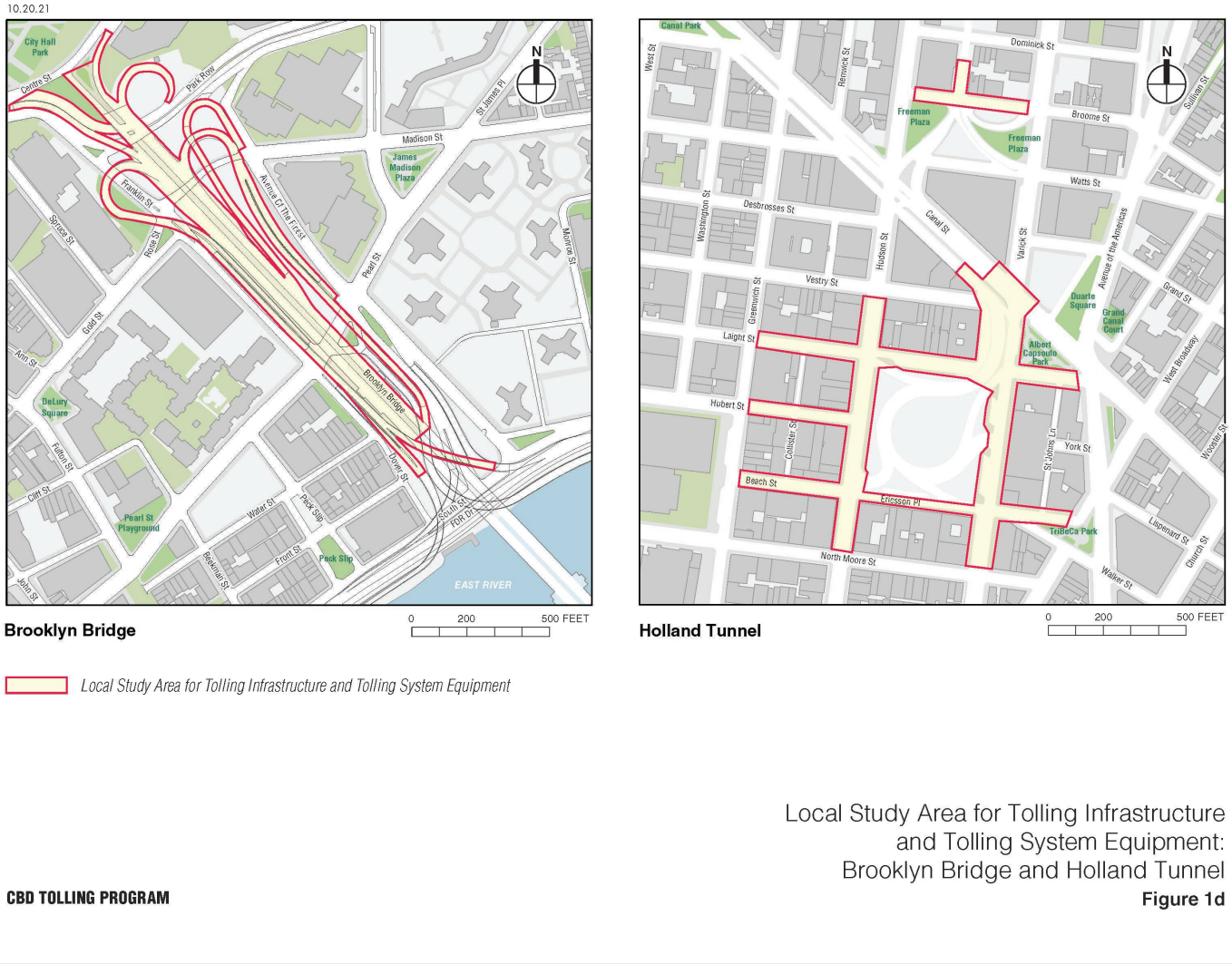
Figure 1b



Local Study Area for Tolling Infrastructure
and Tolling System Equipment:
Williamsburg Bridge and Manhattan Bridge

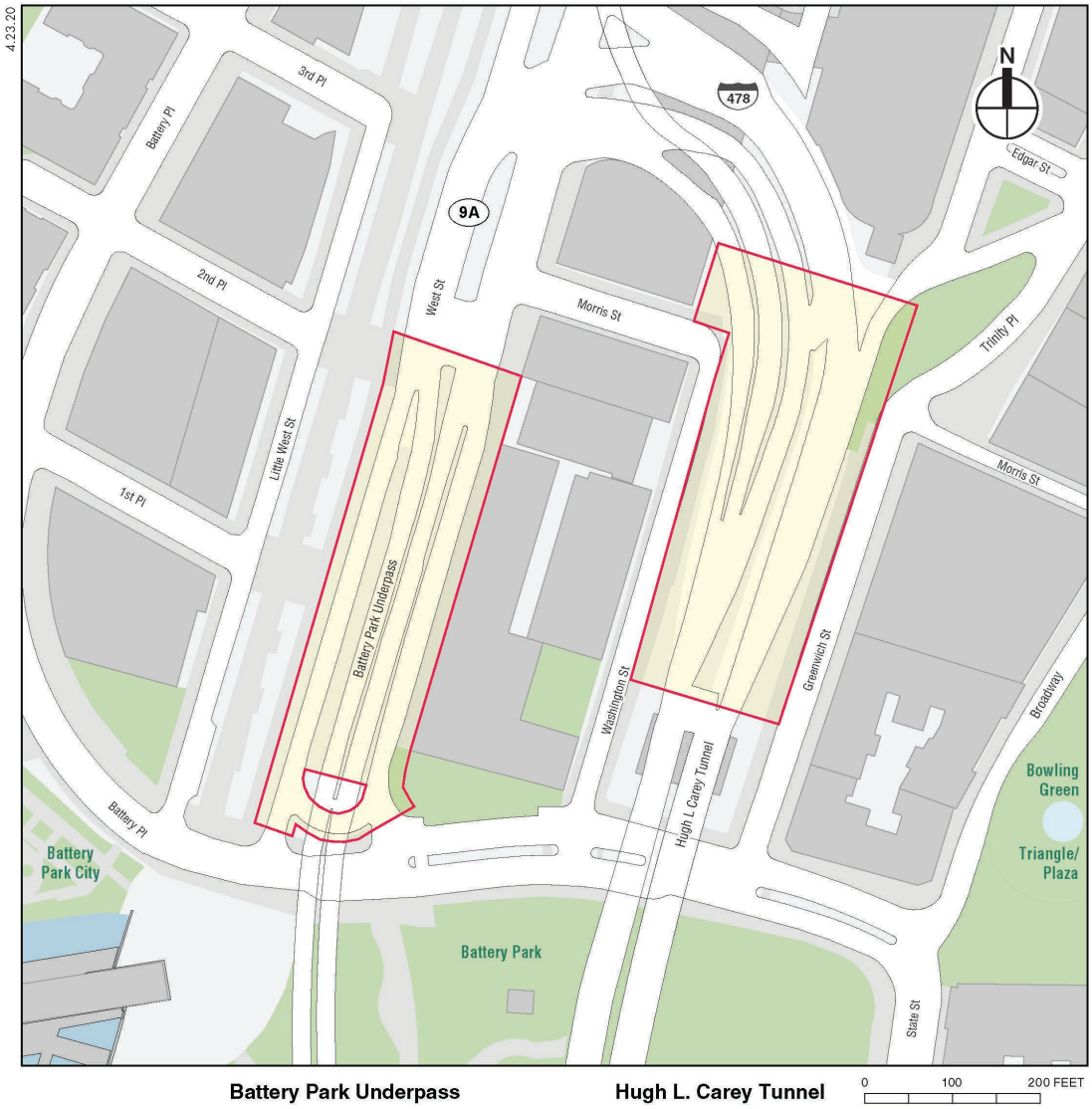
CBD TOLLING PROGRAM

Figure 1c



Local Study Area for Tolling Infrastructure
and Tolling System Equipment:
Brooklyn Bridge and Holland Tunnel
Figure 1d

CBD TOLLING PROGRAM



Local Study Area for Tolling Infrastructure and Tolling System Equipment: Battery Park Underpass and Hugh L. Carey Tunnel

CBD TOLLING PROGRAM

Figure 1e



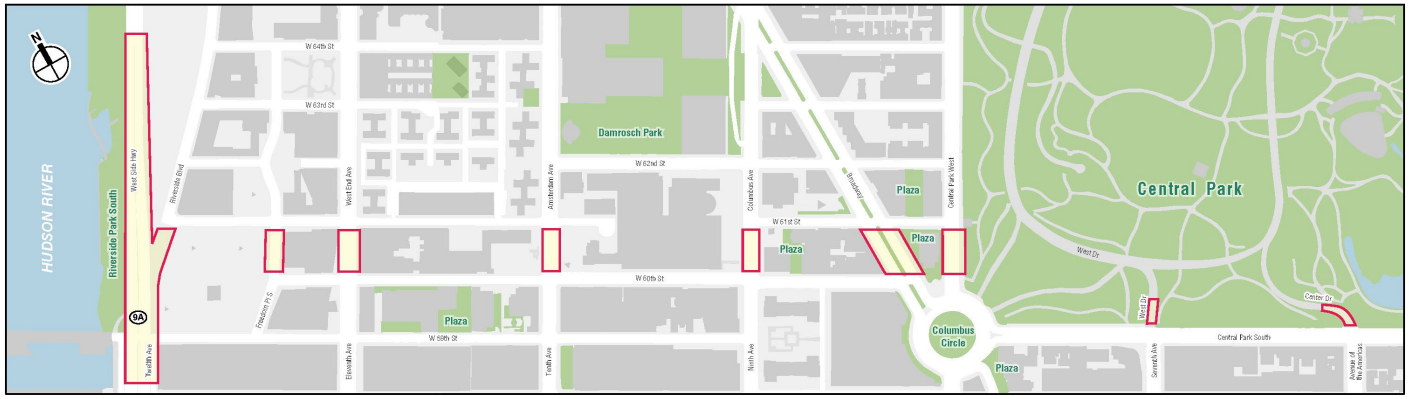
Local Study Area for Tolling Infrastructure and Tolling System Equipment: Lincoln Tunnel

CBD TOLLING PROGRAM

Figure 1f

5.14.20

60th Street - Western Portion



60th Street - Eastern Portion

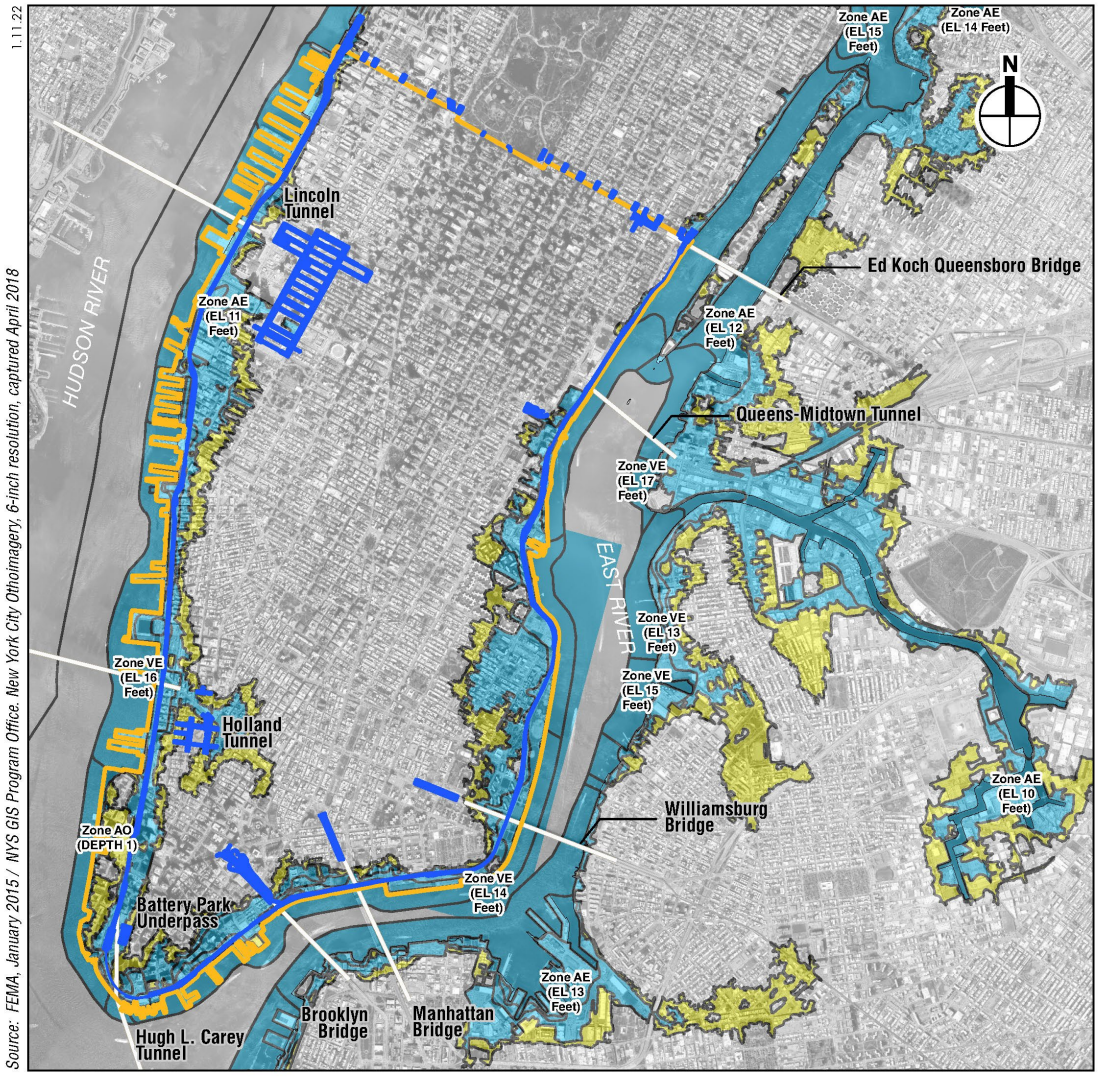


Local Study Area for Tolling Infrastructure and Tolling System Equipment

Local Study Area for Tolling Infrastructure and Tolling System Equipment: 60th Street

CBD TOLLING PROGRAM

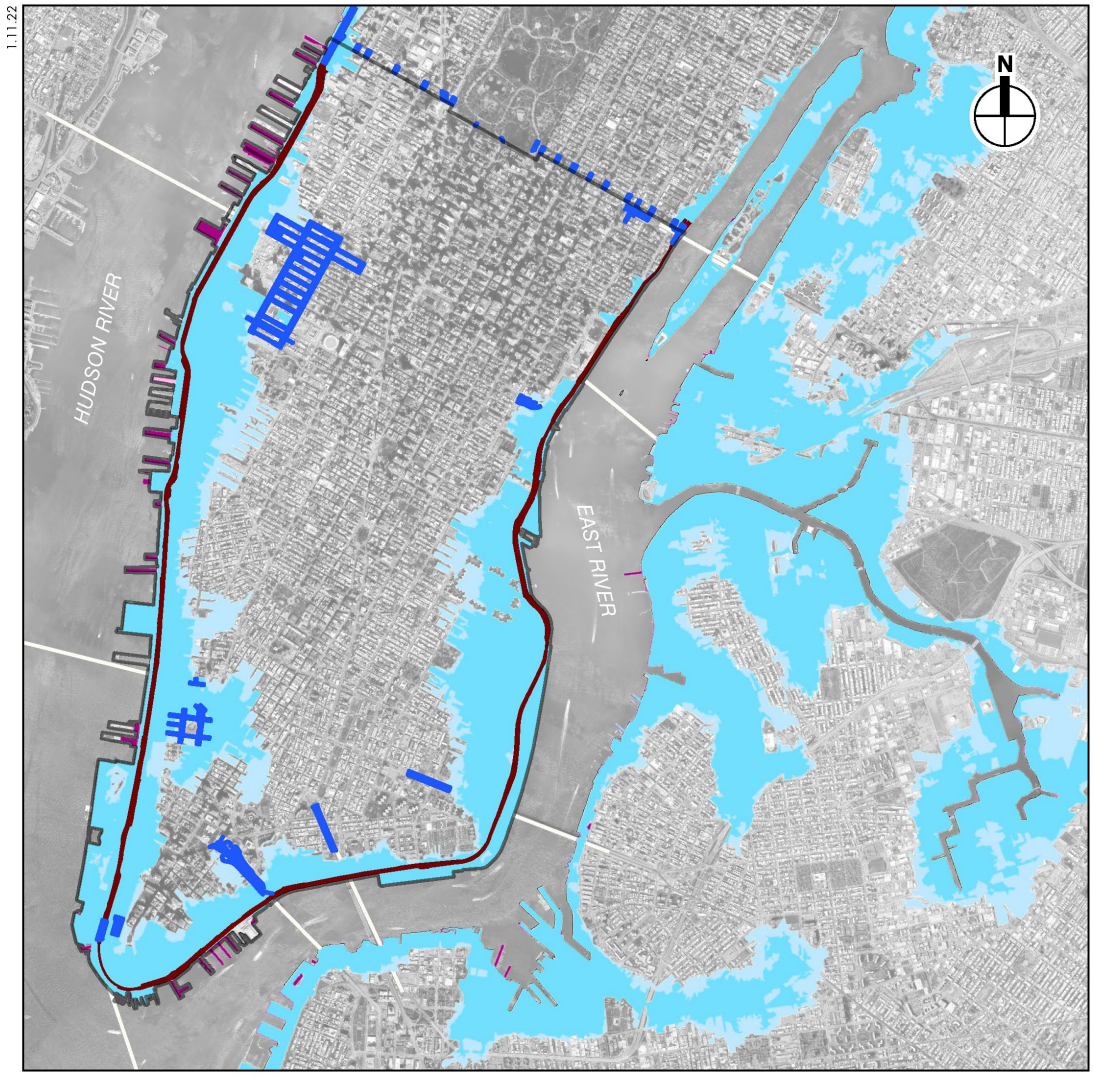
Figure 1g



Federal Emergency Management Agency
2015 Preliminary Flood Insurance Rate Map

CBD TOLLING PROGRAM

Figure 2


1.11.22
HUDSON RIVER
EAST RIVER
N
0
5,000 FEET
Manhattan CBD (as defined by the MTA Reform and Traffic Mobility Act)
Local Study Area for Tolling Infrastructure and Tolling System Equipment
Future Floodplain in 2050s
1% Annual Chance Floodplain
0.2% Annual Chance Floodplain
High Tide 2050s
Low Estimate (8 inches SLR)
Low-Mid Estimate (11 inches SLR)
Middle Estimate (16 inches SLR)
Mid-High Estimate (21 inches SLR)
High Estimate (30 inches SLR)
Future Floodplain and MHHW - 2050s
CBD TOLLING PROGRAM
Figure 3

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 17, Environmental Justice

CONTENTS

17A, Methodology

17B, Environmental Justice Profile of Study Areas: Maps

17C, Environmental Justice Profile of Study Areas: Tables

17A, Methodology

Contents

17A.1 Introduction 17A-1
17A.2 Overview of Methodology 17A-1
17A.3 Data Sources 17A-2
17A.4 Methodology for Identifying Study Areas 17A-3
17A.4.1 TYPES OF STUDY AREAS 17A-3
17A.4.2 REVIEW OF EFFECTS OF CBD TOLLING ALTERNATIVE TO IDENTIFY ENVIRONMENTAL JUSTICE STUDY AREAS 17A-4
17A.5 Methodology for Identifying Minority Populations 17A-4
17A.5.1 DEFINITIONS 17A-4
17A.5.2 MINORITY POPULATIONS IN LOCAL (NEIGHBORHOOD) STUDY AREA 17A-5
17A.5.3 MINORITY POPULATIONS IN REGIONAL STUDY AREA 17A-5
17A.6 Methodology for Identifying Low-Income Populations 17A-7
17A.6.1 DEFINITIONS 17A-7
17A.6.2 LOW-INCOME POPULATIONS IN LOCAL (NEIGHBORHOOD) STUDY AREA 17A-8
17A.6.2.1 Approach 17A-8
17A.6.2.2 Rationale for Low-Income Threshold for Census Tracts 17A-8
Relationship to Federal Poverty Threshold 17A-9
Guidance from Federal, State, and Local Agencies Related to Populations in Poverty 17A-10
U.S. Environmental Protection Agency EJSCREEN 17A-10
Guidance Related to Justice40 Initiative 17A-10
New York State Environmental Justice Policy 17A-11
New Jersey Environmental Justice Screen 17A-11
New York City Local Poverty Threshold 17A-11
New York City Environmental Justice Initiative 17A-12
New York City Fair Fares Program 17A-13
Summary 17A-13
Data Readily Available from the U.S. Census 17A-13
17A.6.2.3 Rationale for Reference Area for Census Tracts 17A-13
17A.6.3 LOW-INCOME POPULATIONS IN REGIONAL STUDY AREA 17A-14
17A.6.3.1 Approach 17A-14
17A.6.3.2 Rationale for Methodology to Identify Low-Income Commuters 17A-14

Tables

Table 17A-1. Estimating Minority Workers Who Drive to the Manhattan CBD 17A-6
Table 17A-2. 2019 Federal Poverty Threshold by Family Size 17A-9
Table 17A-3. Comparison of New York City and Federal Poverty Thresholds for 2019 ..... 17A-12
Table 17A-4. Comparison of New York City "Near Poverty" Threshold and Federal Poverty Threshold for 2019 ..... 17A-12

Acronyms

ACS ..... American Community Survey
CBD ..... Central Business District
CEQ ..... Council on Environmental Quality
CP-29 ..... Commissioner Policy 29
CTPP ..... Census Transportation Planning Package
EA ..... Environmental Assessment
EJ ..... Environmental Justice
FHWA ..... Federal Highway Administration
HHS ..... U.S. Department of Health and Human Services
NJDEP ..... New Jersey Department of Environmental Protection
NYSDEC ..... New York State Department of Environmental Conservation
NEPA ..... National Environmental Policy Act
SNAP ..... Supplemental Nutrition Assistance Program
USDOT ..... U.S. Department of Transportation
USEPA ..... U.S. Environmental Protection Agency

17A.1 INTRODUCTION

Appendix 17 to the Environmental Assessment (EA) for the Central Business District (CBD) Tolling Program (the Project) presents supplemental information related to the environmental justice analysis conducted for the Project and summarized in **Chapter 17, "Environmental Justice,"** of the EA. Specifically, **Appendix 17A** provides more detailed information on the methodology used for the analysis. **Appendix 17B** provides detailed maps illustrating the locations of minority and low-income populations in the study areas and **Appendix 17C** includes tables with related census information for all census tracts in the study area.

This part of Appendix 17 (Appendix 17A) provides an overview of the methodology used for the environmental justice analysis and the data sources used **(Sections 17A.2 and 17A.3**), followed by information on the methodology for identifying study areas for the analysis (**Section 17A.4**), the methodology for identifying minority populations (**Section 17A.5**), and the methodology for identifying low-income populations (**Section 17A.6**).

17A.2 OVERVIEW OF METHODOLOGY

The environmental justice analysis evaluates the potential for disproportionately high and adverse effects to environmental justice populations, consistent with FHWA's 2011 *Guidance on Environmental Justice and the National Environmental Policy Act (NEPA)*, U.S. Department of Transportation (USDOT) Order 5610.2C, and FHWA Order 6640.23A. The following Federal regulatory and guidance documents were used for the environmental justice analysis:

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 1994)[1]
- USDOT Order 5610.2C, Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (May 2021)[2]
- USDOT, Environmental Justice Strategy (November 2016)[3]
- FHWA Order 6640.23A, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (June 2012)[4]
- FHWA, Guidance on Environmental Justice and NEPA (December 2011)[5]
- FHWA, Environmental Justice Reference Guide (April 2015)[6]

1 https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf.
2 https://www.transportation.gov/sites/dot.gov/files/Final-for-OST-C-210312-003-signed.pdf.
3 https://www.transportation.gov/transportation-policy/environmental-justice/environmental-justice-strategy.
4 https://www.fhwa.dot.gov/legsregs/directives/orders/664023a.cfm.
5 https://www.environment.fhwa.dot.gov/env_topics/ej/guidance_ejustice-nepa.aspx.
6 https://www.fhwa.dot.gov/environment/environmental_justice/publications/reference_guide_2015/index.cfm.

- Federal Interagency Working Group on Environmental Justice & NEPA Committee, Promising Practices for Environmental Justice Methodologies in NEPA Reviews (March 2016)[7]

The following methodology was used to conduct the environmental justice analysis:

1. Review Project effects to identify appropriate study areas for analysis of environmental justice.
2. Identify existing minority and low-income (environmental justice) populations in the study areas.
3. Determine whether the Project would result in beneficial and/or adverse effects on the identified environmental justice populations. This includes consideration of measures to avoid, minimize, and/or mitigate any adverse effects of the Project as well as potential offsetting benefits to the affected environmental justice populations. Input from environmental justice populations regarding potential issues of concern and mitigation measures is an important part of this step.
4. If adverse effects would remain after implementation of measures to avoid, minimize, or otherwise mitigate adverse effects, and taking into account offsetting benefits, identify whether those effects would be predominately borne by environmental justice populations or are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effect suffered by the non-minority or non-low-income population (these are considered disproportionately high and adverse effects).
5. If no disproportionately high and adverse effects are identified, the environmental justice evaluation is complete. If disproportionately high and adverse effects on environmental justice populations are anticipated, evaluate whether there is a further practicable mitigation measure or practicable alternative that would avoid or reduce the disproportionately high and adverse effects. As noted in FHWA's 2011 guidance, if there is a disproportionately high and adverse effect on an environmental justice population after taking benefits and mitigation into account, "FHWA will approve the proposed action only if it determines that no such practicable measures exist." In addition, FHWA will not approve the proposed action unless it determines "that there is a substantial need for a project, based on the overall public interest; and alternatives that would have less adverse effects on protected populations have either (a) adverse social, economic, environmental, or human health impacts that are more severe; or (b) would involve increased costs of an extraordinary magnitude."
6. In addition to assessing the potential for disproportionately high and adverse effects on environmental justice populations, the Project Sponsors must provide meaningful opportunities for environmental justice populations to provide input on the Project.

17A.3 DATA SOURCES

The environmental justice analysis is based on the conclusions of the other chapters of this EA, in combination with supplemental data on environmental conditions and information from the U.S. Census

[7] The Project Sponsors reviewed this document in developing the analysis but used the guidance set forth in FHWA's 2011 Environmental Justice and NEPA. https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf.

Bureau. These conclusions were informed, in part, by concerns raised by the public during early public outreach for the Project in fall 2021.

Areas where residents are minority and/or low-income were identified using data from the U.S. Census Bureau 2015-2019 American Community Survey (ACS) 5-Year Estimates to identify census tracts that are low-income and/or minority. The 2015–2019 ACS 5-Year Estimates are the most current full set of demographic information, including racial and ethnic characteristics and household income and poverty status, available from the U.S. Census Bureau at the census tract level. The 2020 Census information now available does not include a full set of information.

Socioeconomic characteristics of the traveling public, including minority and low-income populations, were based on data from the U.S. Census Bureau's Census Transportation Planning Package (CTPP). The analysis of travel patterns in the regional study area focuses on low-income and minority people who travel to and from the Manhattan CBD to evaluate the effects of changing travel patterns on those people. The CTPP provides special tabulations, based on the U.S. Census Bureau ACS 5-Year Estimates, that are useful for transportation planning, including commuter flow data at varying geographic scales by mode of commute and household income. The CTPP data include information on commuter patterns for a range of income levels. The most recent CTPP is based on the 2012-2016 ACS 5-Year Estimates and has not been updated to reflect more recent ACS data.

Conclusions about the effects of the CBD Tolling Alternative on low-income and/or minority populations and potential measures to avoid, minimize, or mitigate those effects were informed by the early environmental justice public outreach for the Project in fall 2021. That outreach included public webinars to engage with environmental justice populations throughout the 28-county region, coordination with an Environmental Justice Technical Advisory Group, and meetings with an Environmental Justice Stakeholder Working Group.

17A.4 METHODOLOGY FOR IDENTIFYING STUDY AREAS

17A.4.1 Types of Study Areas

The environmental justice analysis evaluates two types of potential effects of the CBD Tolling Program, neighborhood effects and regional effects:

- **Local (Neighborhood) Effects:** These are effects on local communities. The potential neighborhood effects would be primarily related to diverted trips and changes in traffic patterns, and the potential resulting effects in terms of traffic congestion, air emissions, and noise.
- **Regional Effects:** These are effects on regional mobility. The analysis considers how implementation of the CBD Tolling Alternative would affect the regional population in terms of increased costs (tolls), changes in trip time, and changes in transit conditions.

To evaluate both types of effects of the CBD Tolling Program on environmental justice populations, two different study areas were used:

- **Local (Neighborhood) Study Area:** Based on a review of Project effects identified in other portions of the EA, this study area encompasses locations where localized effects (such as changes in traffic volumes, air emissions, or noise) would occur with the Project.
- **Regional Study Area:** The regional study area encompasses the 28-county study area that is the main catchment area for trips to and from the Manhattan CBD and the area where changes in travel patterns and mobility would occur.

17A.4.2 Review of Effects of CBD Tolling Alternative to Identify Environmental Justice Study Areas

Chapter 16, "Summary of Effects," of the EA provides a summary of the CBD Tolling Alternative's effects both locally and regionally. FHWA and the Project Sponsors reviewed those conclusions as well as concerns raised during public outreach for the Project to adjust the environmental analyses conducted for this EA and determine what Project effects have the potential to affect environmental justice populations. This informed selection of study areas for the environmental justice analysis and the topics to be considered in the analysis.

The information presented in **Chapters 4 through 15** of this EA describe the effects of implementation of the CBD Tolling Alternative on the general population and identify potential adverse effects and measures to avoid, minimize, or mitigate those effects.

In addition, during environmental justice public outreach conducted for the Project in fall 2021, members of the public raised a number of concerns related to the Project's potential for effects on environmental justice populations, and FHWA and the Project Sponsors reviewed those concerns and included them in the analysis of environmental justice. **Table 16-1 in Chapter 16, "Summary of Effects,"** of the EA identifies the overall effects of the Project, compares the effects of the range of tolling scenarios analyzed in the EA, and identifies the potential for adverse effects on the overall population. FHWA and the Project Sponsors reviewed those conclusions as well as concerns raised during public outreach for the Project to determine what Project effects have the potential to affect environmental justice populations. This informed selection of study areas for the environmental justice analysis and the topics to be considered in the analysis.

17A.5 METHODOLOGY FOR IDENTIFYING MINORITY POPULATIONS

17A.5.1 Definitions

USDOT Order 5610.2C and FHWA Order 6640.23A include the following definitions related to minority populations:

- Minority: a person who is Black or African American (not Hispanic), American Indian and Alaskan Native, Asian American, Native Hawaiian or other Pacific Islander, and Hispanic or Latino.
- Minority population: Any readily identifiable groups of minority persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons, who will be similarly affected by a proposed FHWA program, policy, or activity.

This analysis also includes people who identified themselves as "some other race" or "two or more races" in the U.S. Census Bureau 2015–2019 ACS 5-Year Estimates.

17A.5.2 Minority Populations in Local (Neighborhood) Study Area

Census tracts were considered to be minority if either: (1) at least 50 percent of the census tract's population identifies as minority; or (2) the percentage of population identifying as minority in the census block group exceeds the share of minority population in the county where that census tract is located.

17A.5.3 Minority Populations in Regional Study Area

The environmental justice analysis considers the Project's potential for effects on minority-population commuters, travelers, or individuals in specific industries, businesses, or other groups that could be affected by increased cost associated with accessing the Manhattan CBD. To identify minority populations among these groups, the Project Sponsors used worker flow information from the CTPP.

Data is available in the CTPP regarding mode of travel by racial/ethnic group, and this data was used to identify overall travel patterns for minority people who work in the Manhattan CBD. However, the CTPP does not have data on minority commuters' travel modes that also identifies the locations from which they travel. For this information, the Project Sponsors estimated the general locations from which minority commuters drive to the Manhattan CBD using a several-step process. For each census tract, information is available regarding travel modes for people who travel to work in Manhattan. The analysis assumed that the travel modes for all workers traveling to Manhattan from the tract also apply to the minority population in those tracts who are traveling to Manhattan for work. Using that assumption, the Project Sponsors estimated the number of minority people who commute to work in the Manhattan CBD by travel mode from each tract.

This methodology used data sets available in the CTPP in the first four steps before estimating in the final, fifth step:

1. Identify all census tracts in the 28-county region that are origins for minority people who work in the Manhattan CBD: the result is 4,311 census tracts.
2. For all tracts identified in step 1, identify all tracts that are origins for workers who drive to work in the Manhattan CBD: the result is 3,427 census tracts.

3. For all tracts identified in step 2, identify tracts that do not have any minority workers who drive to work, regardless of destination. The result is 25 tracts, which are then subtracted from those identified in step 2, leaving 3,402 census tracts with minority people who work in the Manhattan CBD and potentially could drive.
4. For the tracts identified in Step 3, identify tracts where all workers who commute to the Manhattan CBD drive. There are 31 such tracts, with 470 minority workers. Therefore those 470 minority workers drive to the Manhattan CBD. Similarly, identify tracts where all workers are minority or all drivers are minority. The result of this step is 8,764 minority auto commuters in 345 tracts.
5. For the remaining 3,060 census tracts, identify the percent of all workers who commute by car to the Manhattan CBD and identify the number of minority people who commute to the Manhattan CBD from the tract. Apply the auto share percentage to the minority workers, assuming that the same percentage of minority workers drives as the percentage of overall workers.

Table 17A-1 provides a summary of the results using this approach.

Table 17A-1. Estimating Minority Workers Who Drive to the Manhattan CBD

STEP	SOURCE	RESULT
1. Census tracts that are the origin for minority people who work in the Manhattan CBD	CTPP data on worker flows between census tracts, by race	Total minority workers in the Manhattan CBD Identification of all census tracts as origins
2. Census tracts that are origins for all workers who drive to the Manhattan CBD	CTPP data on worker flows between census tracts, by mode	Identification of specific census tracts from which people drive to work to the Manhattan CBD
3. Census tracts where no minority workers drive to work	CTPP data on worker origins and mode to work, by race (no destinations)	Identification of specific census tracts from which no minority workers can drive to work in the Manhattan CBD
4. Census tracts where all workers commute to the Manhattan CBD by driving, all workers are minority, or all drivers are minority.	CTPP data on worker flows, by race and/or by mode	Total minority commuters to the Manhattan CBD who drive from specific identified census tracts
5. For remaining census tracts, apply overall worker mode share to the Manhattan CBD to minority people who work in the Manhattan CBD.	CTPP data on worker flows by mode applied to CTPP data on worker flows by race	Estimated number of minority workers who drive to the Manhattan CBD from remaining tracts
RESULTING TOTAL:		**Estimated total of minority workers who drive to the Manhattan CBD and from which specific census tracts**

17A.6 METHODOLOGY FOR IDENTIFYING LOW-INCOME POPULATIONS

17A.6.1 Definitions

USDOT Order 5610.2C and FHWA Order 6640.23A include the following definitions related to minority populations:

- **Low-Income:** A person whose household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines.
- **Low-Income Population:** Any readily identifiable groups of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed FHWA program, policy, or activity.

The U.S. Census Bureau identifies households and household income. According to the U.S. Census Bureau, a household "includes all the persons who occupy a housing unit as their usual place of residence."[8]

The analysis for this Project used information on the number of households living in poverty from the U.S. Census Bureau 2015–2019 ACS 5-Year Estimates. The HHS poverty guidelines are based on annual statistical poverty thresholds from the U.S. Census Bureau.[9] The U.S. Census Bureau poverty thresholds are used to identify the population living in poverty for statistical purposes, while the HHS poverty guidelines are used to determine eligibility for Federal programs. Poverty thresholds vary by family size and composition, while poverty guidelines vary by household size and geographic location and both are updated annually.[10]

The environmental justice analysis used information from the U.S. Census Bureau's 2015-2019 ACS 5-Year Estimates to identify low-income census tracts in the study area. Information on the population with household incomes below the poverty thresholds as defined by the U.S. Census Bureau is available at a local (census tract) level, whereas information on the HHS poverty guideline is not. However, as the HHS poverty guidelines are based on the Census Bureau threshold, the latter is commonly used as a proxy for the former.

Based on a review of potential methodologies and consideration of a number of critical factors, the Project Sponsors in consultation with FHWA identified income thresholds to be used in identifying low-income populations that are appropriate for identifying low-income populations in the Project study area and reflect local conditions and cost of living in the study area.

8 https://www.census.gov/quickfacts/fact/note/US/HSD410219.
9 https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty.
10 This approach is recommended in the Federal Interagency Working Group on Environmental Justice & NEPA Committee's *Promising Practices for Environmental Justice Methodologies in NEPA Reviews* (2016).

17A.6.2 Low-Income Populations in Local (Neighborhood) Study Area

17A.6.2.1 Approach

The Project Sponsors identified census tracts with low-income populations using a low-income threshold of twice the Federal poverty threshold. (More specifically, the Project Sponsors used data from the U.S. Census on the number of individuals in each census tract with household incomes up to 1.99 times the Federal poverty threshold. For simplicity, this analysis refers to that information as twice the Federal poverty threshold.) This income level was used to identify low-income census tracts as follows:

1. The percentage of individuals with household incomes up to twice the Federal poverty threshold in each census tract was identified and compared to that percentage for a larger reference area. Census tracts with a higher percentage of population with household incomes at or below twice the Federal poverty threshold were considered low-income.
2. The reference area for comparison was the regional 28-county study area.

The rationale for those two steps is described below.

17A.6.2.2 Rationale for Low-Income Threshold for Census Tracts

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), directs Federal agencies to identify and address, as appropriate, disproportionately high and adverse effects of Federal actions on minority and low-income populations. That document does not define "low-income." While the USDOT Order 5610.2C and FHWA Order 6640.23A define low-income populations as people living below the HHS poverty guideline, the 2011 FHWA guidance document notes that Project Sponsors may adopt a more inclusive threshold for low-income as long as it is inclusive of all persons at or below the Federal poverty guidelines.[11] The Project Sponsors used a threshold for identifying populations living in poverty that is specific to the Project context, recognizing that the level of income that constitutes poverty is higher in the New York metropolitan region than it is nationwide, given the higher cost of many items, and particularly housing, in the New York City area.

In identifying the low-income threshold of twice the Federal poverty threshold, the Project Sponsors considered the following factors, to ensure that the approach reflects the local context for the Project and employs an appropriate methodological approach:

- The threshold used for identifying low-income census tracts should relate to the Federal poverty threshold, rather than to a specific household income level. The Federal poverty threshold incorporates consideration of household size and composition, which is important in identifying a household's economic strength.

[11] The U.S. Census Bureau has established poverty thresholds to identify the population living in poverty, which are updated each year. These can be used to identify the population living in poverty in a specific location, such as a census tract. The HHS poverty guidelines are a simplified version of those Federal poverty thresholds that are used for administrative purposes—for instance, determining financial eligibility for certain Federal programs. https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty.

- The threshold used for identifying low-income census tracts should be consistent with relevant guidance developed by Federal, state, and local agencies.
- The threshold used for identifying low-income census tracts should be based on data that is readily available at a census tract level from the U.S. Census, without adjustments and estimations that might make the results difficult to explain or less clearly reliable.

These considerations are described below.

Relationship to Federal Poverty Threshold

An important consideration in selecting the threshold for identifying low-income census tracts is that it should relate to the Federal poverty threshold, rather than to a specific household income level. The Federal poverty threshold incorporates consideration of household size and composition, which is important in identifying a household's economic strength.

The Federal poverty threshold varies by family size, number of children, and number of people over age 65. As shown Table 17A-2, for 2019, the poverty threshold ranged from a household income of $13,011 for a one-person household to $52,875 for a family of nine people or more.[12] The values shown in this table from the U.S. Census Bureau are weighted averages for the actual more detailed thresholds, which account for the age of the head of household and number of children in the family.

Table 17A-2. 2019 Federal Poverty Threshold by Family Size

SIZE OF FAMILY UNIT	WEIGHTED AVERAGE THRESHOLD
One person	$13,011
Two people	$16,521
Three people	$20,335
Four people	$26,172
Five people	$31,021
Six people	$35,129
Seven people	$40,016
Eight people	$44,461
Nine people or more	$52,875

Source: U.S. Census Bureau.
Note: The poverty thresholds for each family size include specific amounts that vary depending on the age of the primary householder (under age 65 or over age 65) and the number of related children under 18 years old in the family.

Based on the information in Table 17A-2, identifying an income threshold that is not tied to household size and composition would not adequately represent the economic strength of households in a specific census tract.

[12] Please note that the Project Sponsors used 2019 census data in the EA, since 2019 is the most recent year for which full sets of census data are available.

Guidance from Federal, State, and Local Agencies Related to Populations in Poverty

The Project Sponsors reviewed a range of different Federal, state, and local programs, guidance, and policies related to identifying low-income populations and populations in poverty. Methodologies and approaches vary, depending on the purpose of the specific program or policy. A number of key programs and guidance documents support the use of twice the Federal poverty threshold in identifying low-income populations, including those described below.

U.S. Environmental Protection Agency EJSCREEN

The U.S. Environmental Protection Agency (USEPA) has developed an environmental justice mapping and screening tool, EJSCREEN, that uses demographic information and environmental indicators to identify geographic areas of concern in environmental justice analyses for projects subject to approval by EPA (https://www.epa.gov/ejscreen). To identify low-income populations, the EPA screening tool identifies the percent of a census block group's population with household income less than or equal to twice the Federal poverty threshold.

The technical documentation for EPA's environmental justice screening tool explains the rationale for using twice the Federal poverty level (see Appendix B of the EJSCREEN Technical Documentation).[13] The explanation provided includes the following:

- "The effects of income on baseline health and probably on other aspects of susceptibility are not limited to those below the poverty thresholds—those from 1x to 2x poverty also have worse health overall than those with higher incomes . . . , and asthma rates, for example, begin to increase as income falls below twice the poverty threshold."
- "Many studies in various fields use 2x times poverty, and many others use 1x poverty; the same is true for prior EPA screening tools. There is precedent for both. However, a rationale often mentioned is that today's poverty thresholds are too low to adequately capture the populations adversely affected by low income levels, especially in high-cost areas. Some analysts have concluded that the amount of income actually required for basic living costs without government support is far higher than the current Federal poverty thresholds."

Guidance Related to Justice40 Initiative

On January 27, 2021, President Biden signed Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, which established an environmental justice initiative known as "Justice40." The Executive Order established a goal that for the Federal government's investments in certain areas, 40 percent of the overall benefits of these investments should benefit disadvantaged communities.

As part of the government-wide Justice40 initiative, the Council on Environmental Quality (CEQ), in partnership with the U.S. Digital Service, developed a geospatial Climate and Economic Justice Screening Tool. That screening tool includes interactive maps to assist agencies in defining and identifying disadvantaged communities at the census tract level. A preliminary version of the screening tool is currently

[13] https://www.epa.gov/sites/default/files/2021-04/documents/ejscreen_technical_document.pdf.

available for public comment (https://screeningtool.geoplatform.gov/en/about). One of the factors the Climate and Economic Justice Screening Tool uses for identifying disadvantaged communities is related to low-income status, where the low-income population is defined as the percent of a census tract's population where household income is at or below twice the Federal poverty level.[14]

New York State Environmental Justice Policy

In 2003, the New York State Department of Environmental Conservation (NYSDEC) issued a policy statement related to incorporating environmental justice concerns in the agency's permitting processes. That policy statement, *Commissioner Policy 29 (CP-29), Environmental Justice and Permitting,* is still in effect today. CP-29 identifies a low-income population to be a population with annual income less than the Federal poverty threshold.

New Jersey Environmental Justice Screen

In 2020, New Jersey Governor Phil Murphy signed a statewide Environmental Justice Law, which requires the New Jersey Department of Environmental Protection (NJDEP) to evaluate the environmental and public health impacts of certain facilities on overburdened communities when reviewing certain permit applications. That law defines an overburdened community based on the percentage of low-income households, the percentage of minority residents, and/or the percentage of households with limited English proficiency. Low-income households are defined as those at or below twice the Federal poverty threshold as determined by the U.S. Census Bureau.[15]

New York City Local Poverty Threshold

The City of New York produces and publishes each year its own poverty measure, which considers the higher cost of living in New York City relative to many other areas of the U.S. This information is available at https://www1.nyc.gov/site/opportunity/poverty-in-nyc/poverty-measure.page.

The New York City poverty measure is based on national data on family spending for necessities (food, clothing, shelter, and utilities), but is adjusted for family size and the higher cost of housing in New York City. It also reflects many factors that are in place to address local poverty, including nutrition assistance (the Federal Supplemental Nutrition Assistance Program [SNAP], free school meals, and the Special Supplemental Nutrition Program for Women, Infants, and Children), housing assistance (including public, subsidized, and rent-regulated apartments), and home heating assistance. It also reflects nondiscretionary spending, such as child-care and transit costs and out-of-pocket medical expenses.

Like the Federal threshold, the New York City poverty threshold varies depending on the size of the family and the number of children in the family. The annual report published in 2021, which presents poverty data for 2019 (the most recent report for which detailed appendices are available) presents a comparison of the Federal poverty threshold and New York City poverty threshold. That information is presented in Table 17A-3.

[14] https://screeningtool.geoplatform.gov/en/methodology.
[15] https://www.nj.gov/dep/ej/policy.html.

Table 17A-3. Comparison of New York City and Federal Poverty Thresholds for 2019

FAMILY SIZE	2019 NEW YORK CITY POVERTY THRESHOLD	2019 FEDERAL POVERTY THRESHOLD	RATIO OF NEW YORK CITY TO FEDERAL THRESHOLD
One Adult, No Children	$16,806	$13,300	1.26
Two Adults, No Children	$23,697	$17,120	1.38
One Adult, One Child	$25,360	$17,622	1.44
One Adult, Two Children	$30,108	$20,598	1.46
One Adult, Three Children	$34,552	$26,107	1.33
Two Adults, One Child	$31,917	$20,578	1.55
Two Adults, Two Children	$36,262	$25,926	1.40
Two Adults, Three Children	$40,394	$30,510	1.32

Sources: U.S. Census Bureau and Office of the Mayor, New York City Government Poverty Measures 2019, Appendix B, Defining a Poverty Threshold for New York City, Table B.3. https://www1.nyc.gov/site/opportunity/poverty-in-nyc/poverty-measure.page.

As defined in the report, the poverty threshold represents "the minimal socially acceptable measure of resources necessary for a family of a particular size." New York City also defines a "near-poverty" threshold for families that have incomes within 150 percent of the New York City poverty threshold. Table 17A-4 presents the near-poverty thresholds as defined by New York City and their resulting ratio to the Federal poverty threshold for 2019. Based on the information from Table 17A-2, this near-poverty threshold aligns with the use of twice the Federal poverty threshold for identifying low-income households.

Table 17A-4. Comparison of New York City "Near Poverty" Threshold and Federal Poverty Threshold for 2019

FAMILY SIZE	2019 NEW YORK CITY NEAR POVERTY THRESHOLD	2019 FEDERAL POVERTY THRESHOLD	RATIO OF NEW YORK CITY TO FEDERAL THRESHOLD
One Adult, No Children	$25,209	$13,300	1.90
Two Adults, No Children	$35,545	$17,120	2.08
One Adult, One Child	$38,041	$17,622	2.16
One Adult, Two Children	$45,161	$20,598	2.19
One Adult, Three Children	$51,829	$26,107	1.99
Two Adults, One Child	$47,876	$20,578	2.33
Two Adults, Two Children	$54,393	$25,926	2.10
Two Adults, Three Children	$60,591	$30,510	1.99

Source: U.S. Census Bureau and Office of the Mayor, New York City Government Poverty Measures 2018, Appendix B, Defining a Poverty Threshold for New York City, Table B.7. https://www1.nyc.gov/site/opportunity/poverty-in-nyc/poverty-measure.page.

New York City Environmental Justice Initiative

In addition to the local poverty measure that the City of New York developed and updates annually, in 2017 then-Mayor Bill de Blasio signed into law Local Law 60, which required that a citywide study of environmental justice be conducted and summarized in a report, the *Environmental Justice for All Report*. The law also required the creation of an online environmental justice portal with a mapping tool for environmental justice data.

In December 2021, the City published the proposed scope of work for the *Environmental Justice for All Report* for public review and comment (https://www1.nyc.gov/assets/sustainability/downloads/pdf/EJ-Report-Scope.pdf). As outlined in that scope, environmental justice areas will be identified in that report based on the presence of low-income or minority populations. Low-income populations are defined as populations with annual incomes less than the poverty threshold established by the U.S. Census Bureau.

New York City Fair Fares Program

Also relevant for the analysis as a policy related to ability to pay for costs of travel, is New York City's "Fair Fares" program, a program developed by the City of New York to provide low-income New York City residents with half-price transit fares. This program provides a 50 percent discount for subway and local bus fares as well as the cost of Access-A-Ride paratransit trips. The Fair Fares program is available to eligible New York City residents with incomes at or below the Federal poverty level.

Summary

A number of different programs for identifying economically disadvantaged populations for purposes of evaluating and addressing environmental justice and transportation equity support identifying low-income populations as people in households with incomes up to twice the Federal poverty threshold. At the Federal level, these include EPA's EJSCREEN and the preliminary guidance and screening tools developed for the Justice40 initiative. At the state level, they include New York State environmental justice thresholds for permitting and New Jersey's Environmental Justice Law. In New York City, a locally developed poverty measure reflecting the specific cost of living factors in the city is also consistent with a threshold at twice the Federal poverty level.

Data Readily Available from the U.S. Census

Using twice the Federal poverty threshold as an indicator of low-income population is consistent with a goal of using a threshold that is based on data that is readily available at a census tract level from the U.S. Census, without adjustments and estimations that might make the results difficult to explain or less clearly reliable. The U.S. Census includes information on the number of individuals with household incomes at or below the Federal poverty threshold at the census tract level. It also includes information about the number of individuals with household incomes of up to twice (1.99 times) the Federal poverty threshold, as well as other multiples of the poverty threshold. This information reflects the family size and composition of each individual as well as their household income in identifying their income status relative to the poverty threshold.

17A.6.2.3 Rationale for Reference Area for Census Tracts

The methodology for identifying low-income census tracts involves comparing the percent of the population in each tract at or below the selected indicator (in this case, a threshold of twice the Federal poverty threshold) to the percent in a reference area. This ensures that the results reflect the local context, by determining whether the census tract has more people living below the indicator than the general population of the area. Reference areas are typically larger than the area where a project is proposed, so that they can reasonably represent the general population. The Federal Interagency Working Group on

Environmental Justice & NEPA Committee's publication, *Promising Practices for Methodologies in NEPA Reviews* (March 2016), lists as examples of reference areas the county or state where a project is proposed.

Consistent with this approach, the EPA's EJSCREEN provides information on the percent of population in a given census block group in comparison to the percent in the state where that tract is located. Information is presented as percentiles, showing how much the census tract differs from the state level—the percentiles illustrate what percent of the state population has a higher value than the census tract.

For the CBD Tolling Program, given the Project's potential wide-ranging effects across a 28-county study area, a large reference area is appropriate. This avoids the potential of missing low-income populations, which might occur if a smaller area with a higher proportion of low-income people were selected. For this reason, the Project Sponsors used the 28-county region as the reference area. The proportion of low-income populations in the 28-county region was calculated as (1) the sum of individuals living in households with incomes up to twice (1.99 times) the Federal poverty rate in each of the 28 counties in the region divided by (2) the sum of individuals for whom poverty status has been determined in those same counties.

17A.6.3 Low-Income Populations in Regional Study Area

Similar to the approach for minority-population commuters, the environmental justice analysis also considers the Project's potential for effects on low-income-population commuters, travelers, or individuals in specific industries, businesses, or other groups that could be affected by increased costs associated with accessing the Manhattan CBD.

17A.6.3.1 Approach

To identify low-income commuters to the Manhattan CBD, data from the CTPP related to worker flows by income and mode was used. Information available from the CTPP that aligns as closely as possible with the threshold for census tracts was used to identify low-income drivers. A household income threshold of $50,000 was used to identify low-income drivers. The rationale for this threshold is described below.

17A.6.3.2 Rationale for Methodology to Identify Low-Income Commuters

In identifying the low-income threshold for travelers in the regional study area, the Project Sponsors considered the following factors, to ensure that the approach reflects the local context for the Project and employs an appropriate methodological approach:

- The threshold used for identifying low-income commuters (and other travelers) should align, to the extent practicable, with the threshold used for identifying low-income census tracts.
- The threshold used for identifying low-income commuters (and other travelers) should be based on data that is readily available from the U.S. Census, without adjustments and estimations that might make the results difficult to explain or less clearly reliable.

Information on workers who travel to and from the Manhattan CBD for work is available from the CTPP, a product prepared by the U.S. Census Bureau. The CTPP provides information on flows of workers between

their home census tracts and work destinations. That information is available by travel mode for a range of household incomes. For travel mode by household income, data are available for the following household income categories:

- Up to $34,999
- $35,000-$49,999
- $50,000-$74,999
- $75,000 or more

However, the CTPP does not include information on the household size and composition for these commuters, so it is not possible to determine whether they have household incomes that are at or below twice the Federal poverty level, which is the low-income threshold for identifying low-income census tracts. Instead, a single household income threshold must be defined to identify low-income commuters. For this Project, the income threshold to define low-income travelers was based on the income threshold used to define low-income census tracts, twice the Federal poverty level, assuming the average household size in the Project study area.

As noted earlier and presented in Table 17A-2 above, the Federal poverty threshold varies by family size, number of children, and number of people over age 65. The average household size for the Project study area is 2.8 people per household, based on the following average household sizes in 2019:

- 28-county regional study area: 2.78 persons per household
- 10-county study area consisting of New York City and the immediately surrounding areas: 2.82 persons per household
- New York City: 2.81 persons per household

Consequently, the Federal poverty threshold for the average-size family in the Project study area was approximately $20,335 in 2019 (see Table 17A-2), and twice the Federal poverty threshold was approximately $41,000.

Using the household income ranges available from the CTPP, the environmental justice analysis considered all workers with household incomes up to $50,000 as low-income. This is approximately equivalent to, although higher than, the low-income threshold of twice the Federal poverty threshold for a three-person family, which is the average household size for the Project study area. Using this threshold allowed the Project Sponsors to use data directly available from the CTPP, without the need for adjustments or estimations.

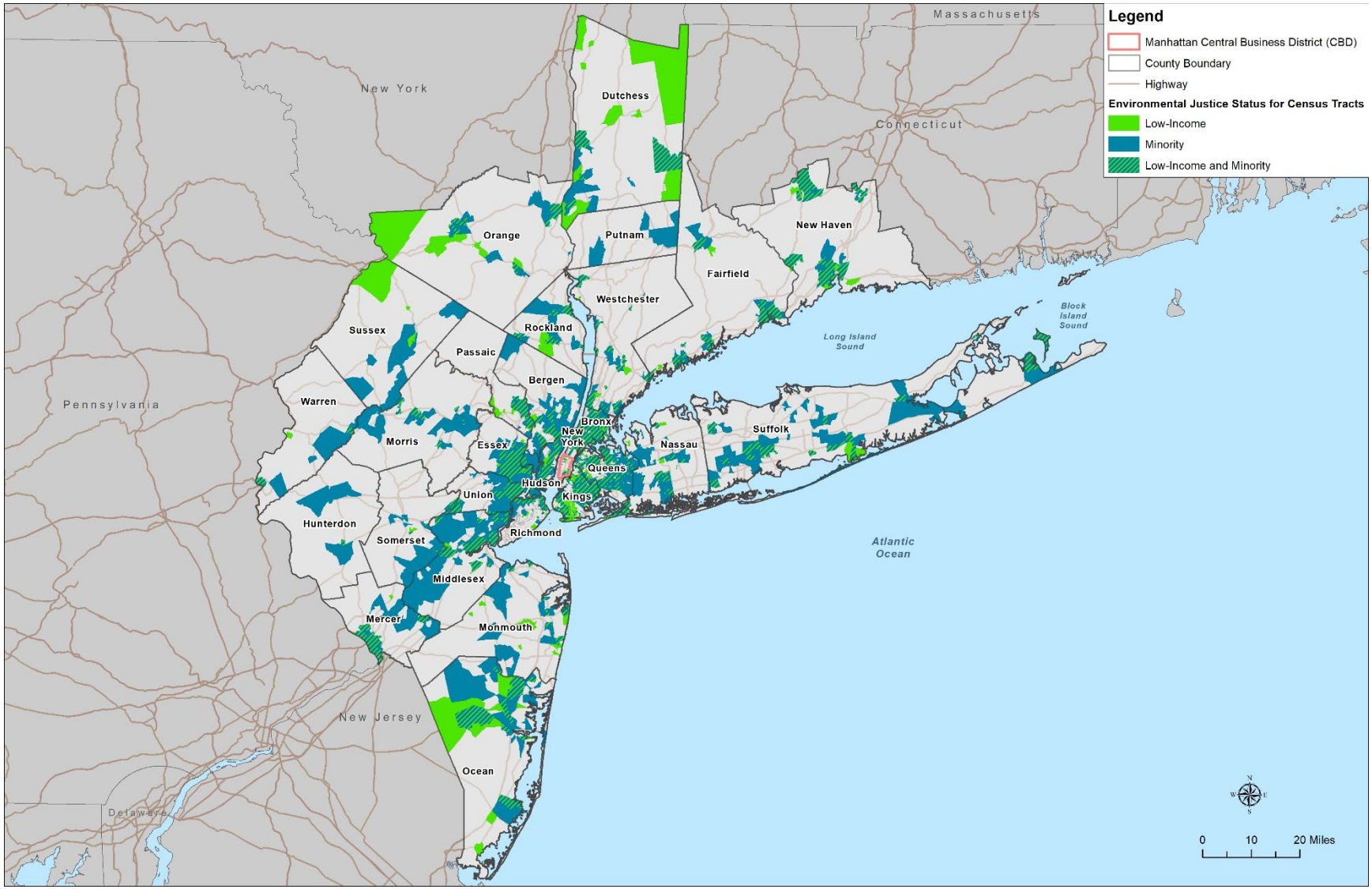
17B, Environmental Justice Profile of Study Areas: Maps

- Local Study Area Neighborhoods
  - Overview of Local Study Area
  - Central Business District, New York County (Manhattan), NY
  - Outside Central Business District, New York County (Manhattan), NY
  - Bronx County, NY
  - Kings County (Brooklyn), NY
  - Queens County, NY
  - Richmond County, NY
  - Nassau County, NY
  - Bergen County, NJ
  - Essex County and Union County, NJ
  - Hudson County, NJ

- Regional Study Area Neighborhoods Outside Local Study Area
  - Overview of Regional Study Area
  - Connecticut Counties: Fairfield and New Haven Counties
  - New Jersey Northern Counties: Hunterdon, Morris, Passaic, Somerset, Sussex, and Warren Counties
  - New Jersey Southern Counties: Mercer, Middlesex, Monmouth, and Ocean Counties
  - New York Counties North of New York City: Dutchess, Putnam, Orange, Rockland, and Westchester Counties
  - Long Island County: Suffolk County, NY

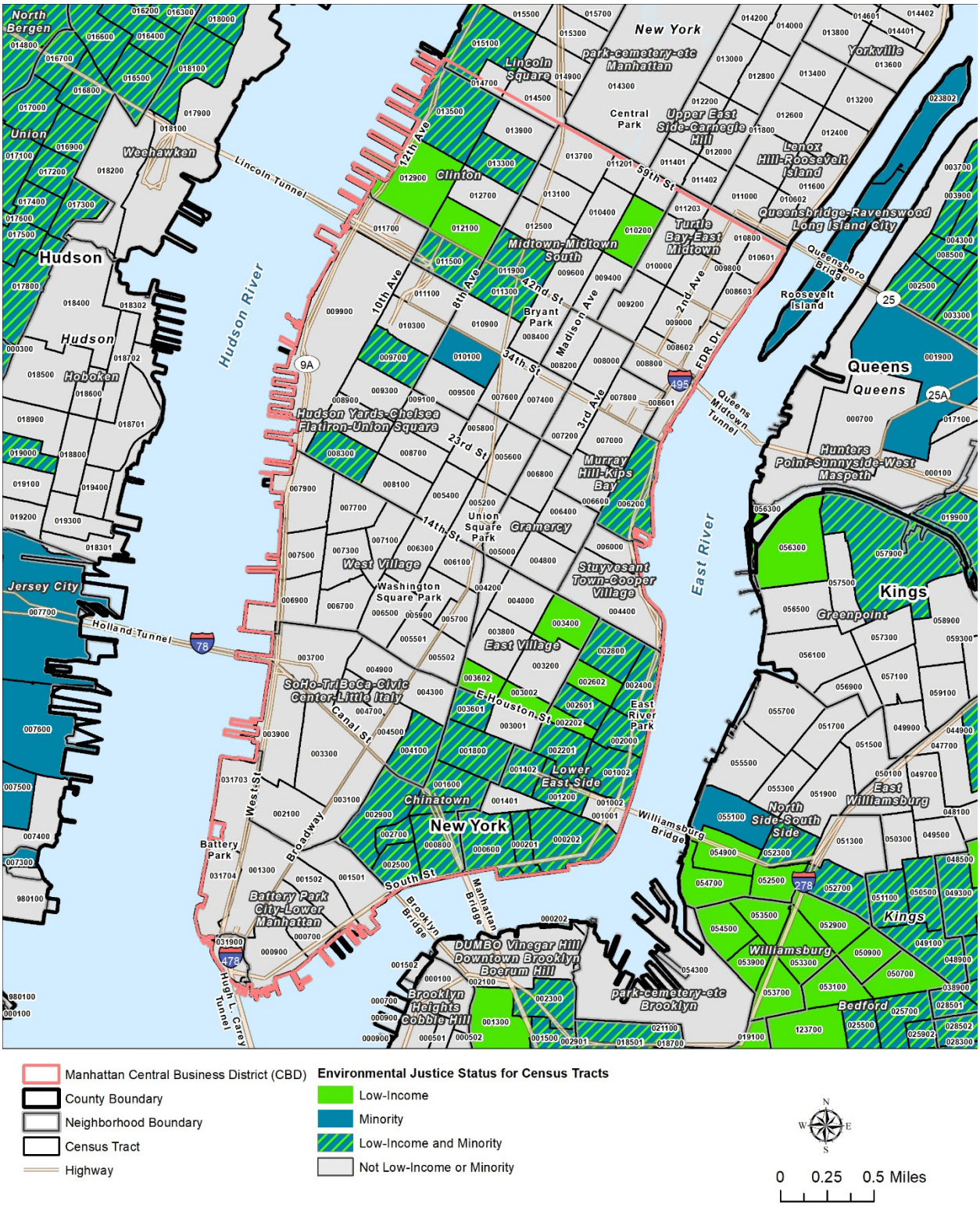
LOCAL STUDY AREA NEIGHBORHOODS

Figure 17B-1. Overview of Local Study Area



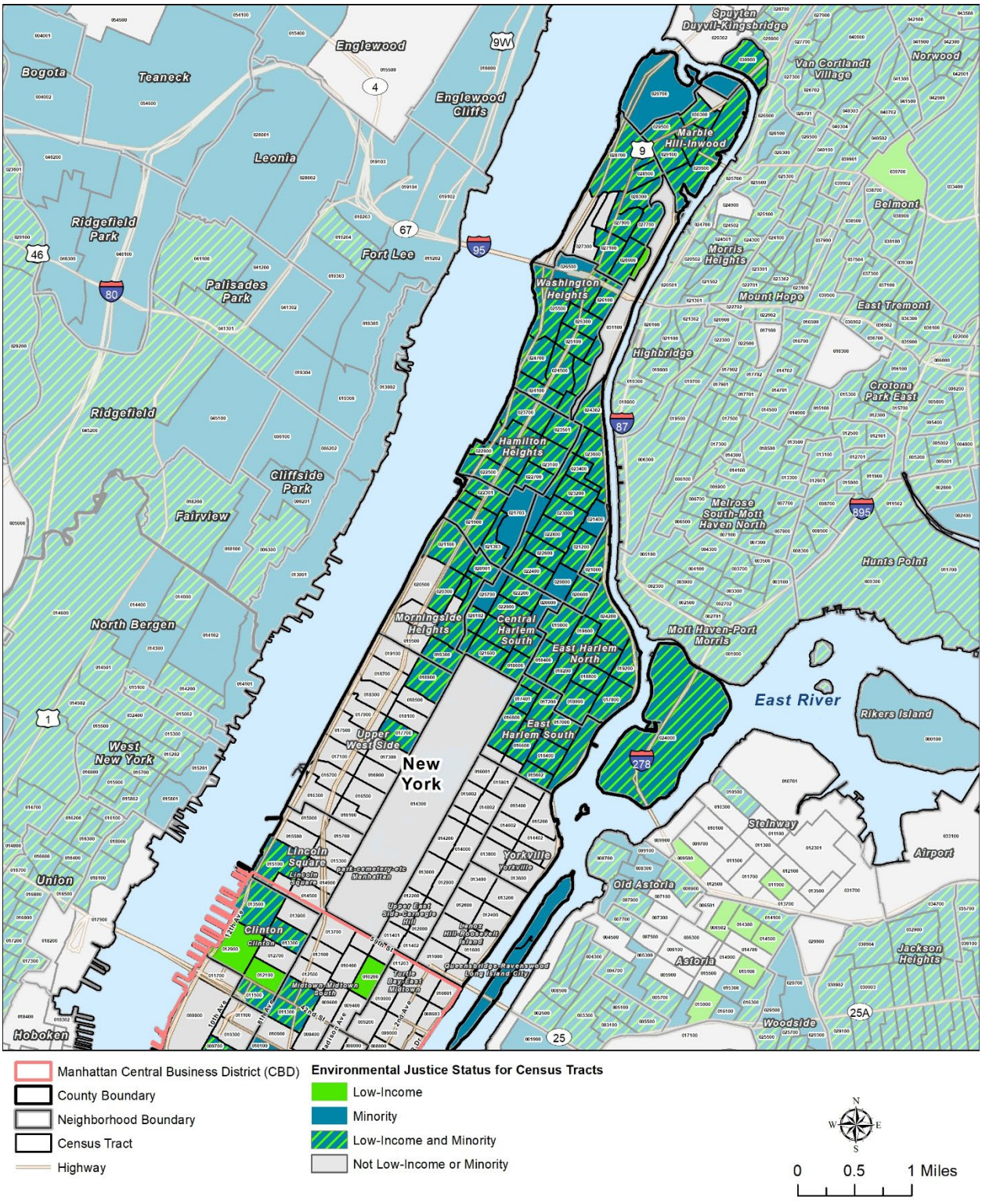
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-2. Central Business District, New York County (Manhattan), NY



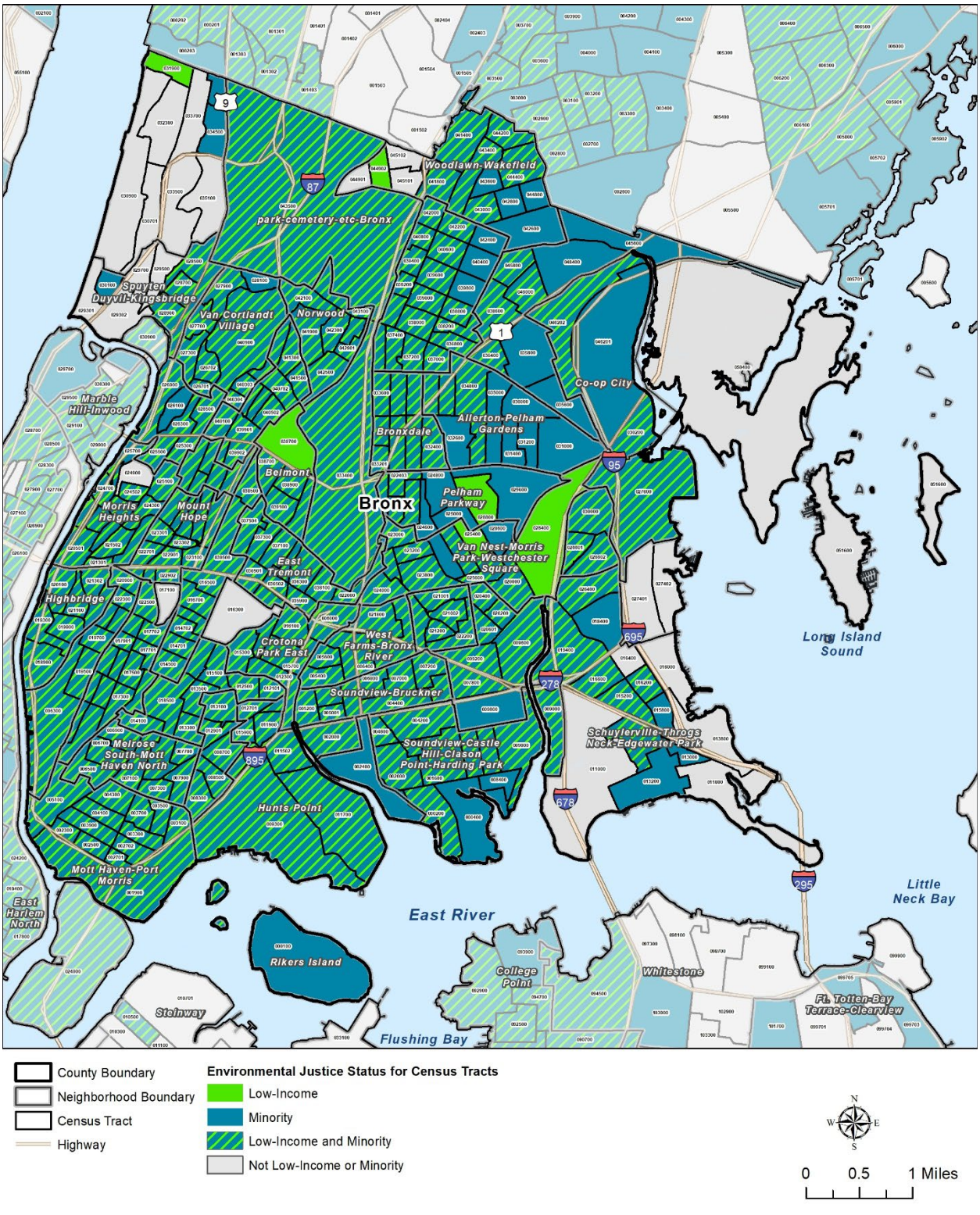
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-3. Outside Central Business District, New York County (Manhattan), NY



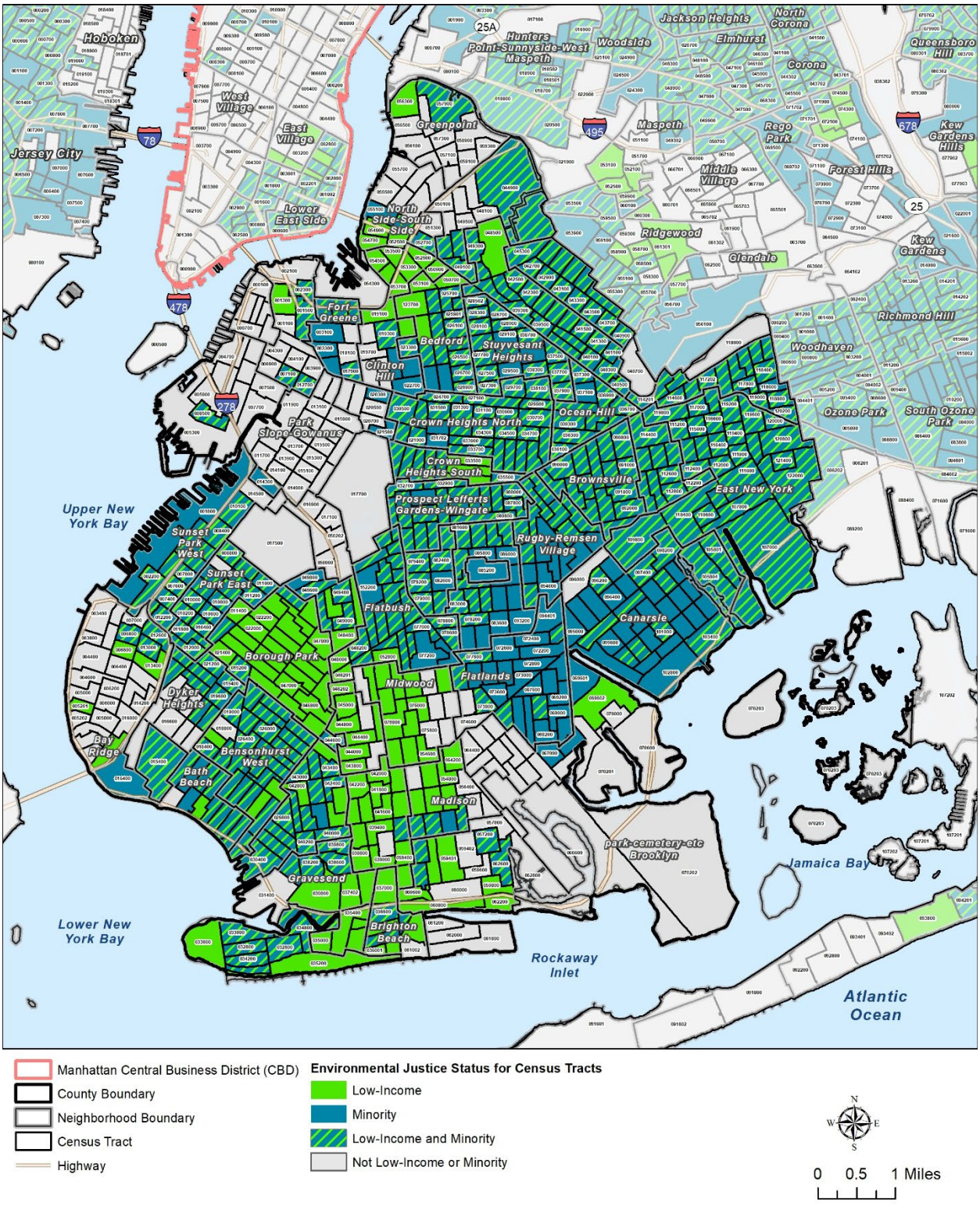
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-4. Bronx County, NY



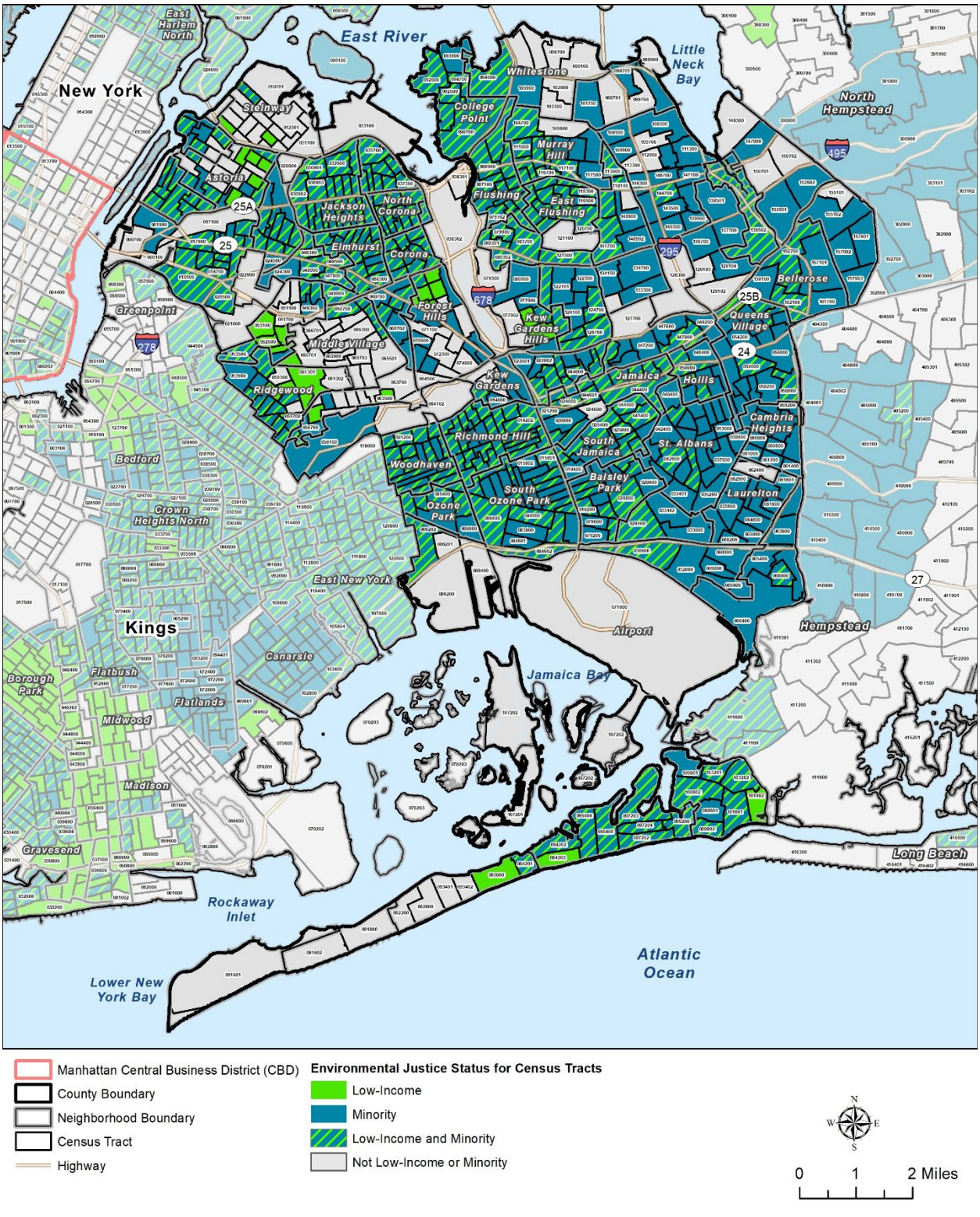
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-5. Kings County (Brooklyn), NY



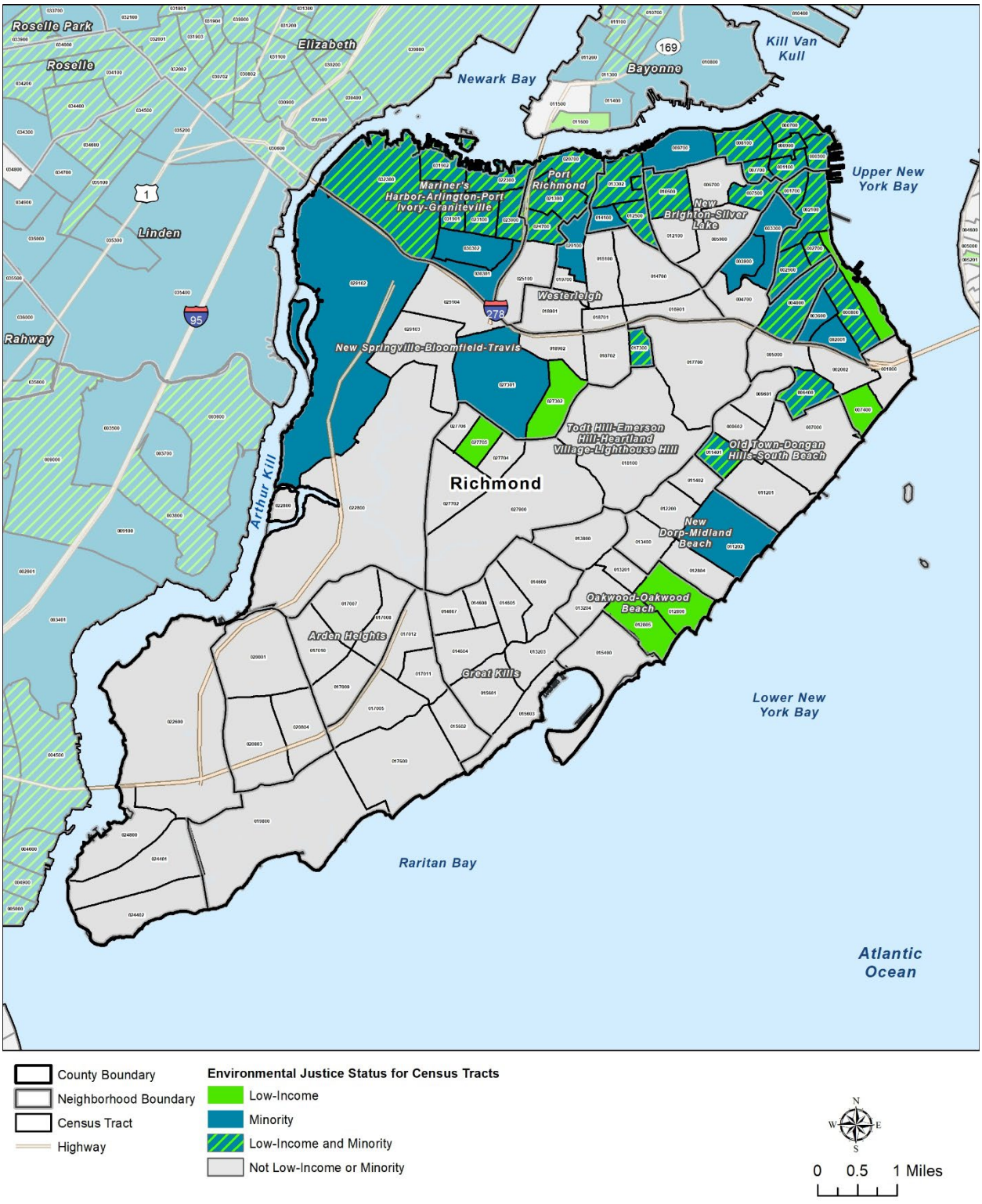
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-6. Queens County, NY



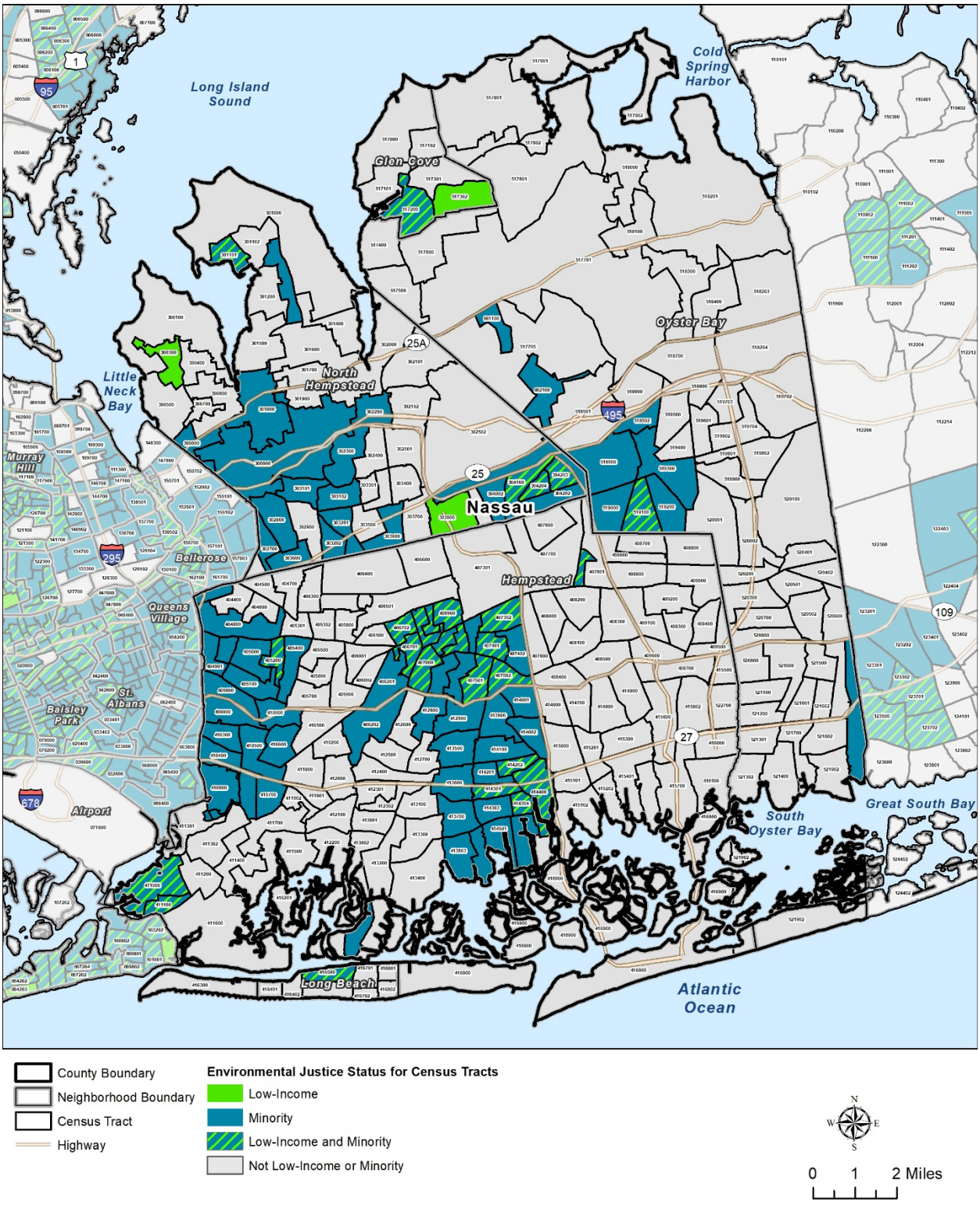
Source: U.S. Census Bureau American Community 2015–2019 Survey 5-Year Estimates.

Figure 17B-7. Richmond County, NY



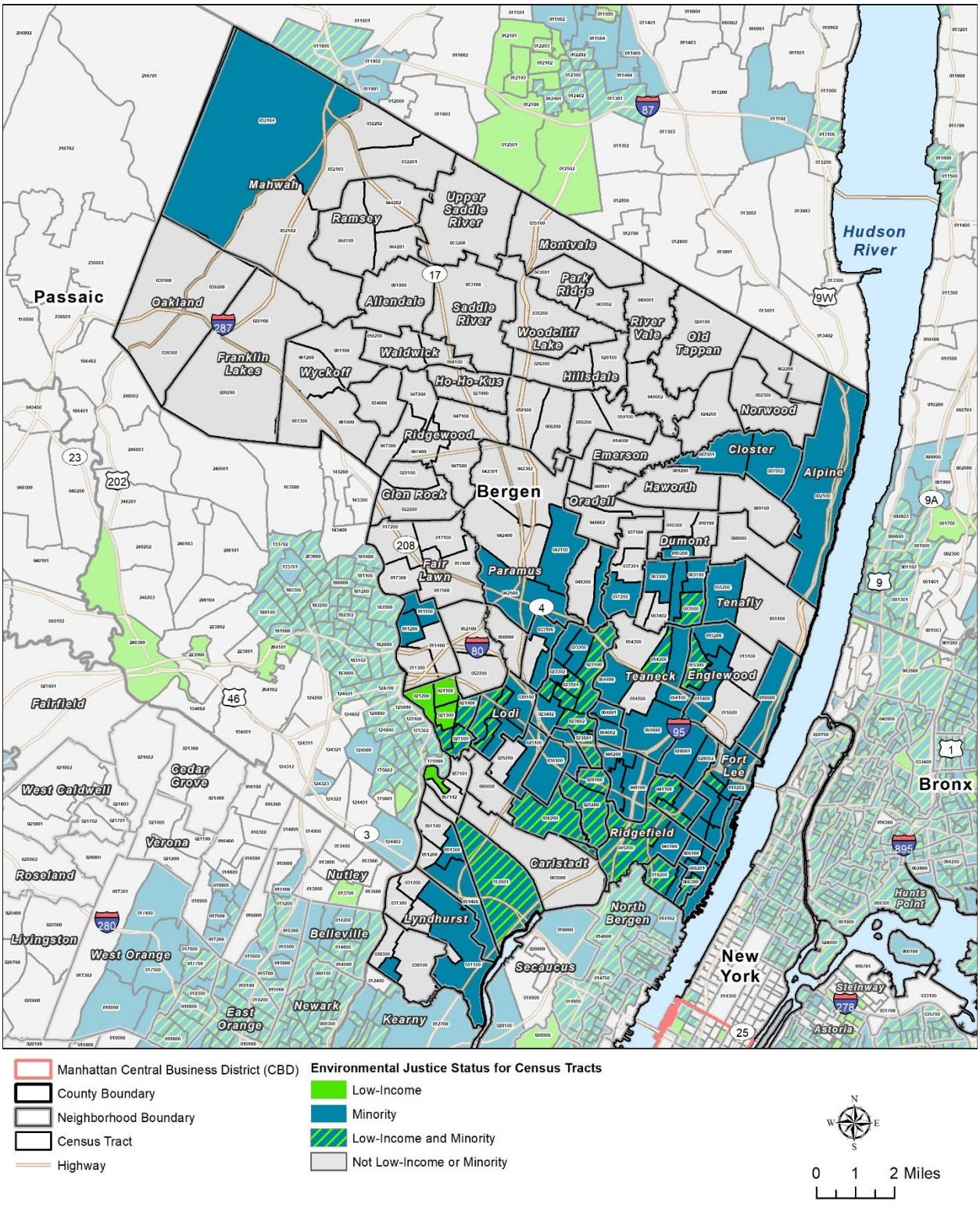
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-8. Nassau County, NY



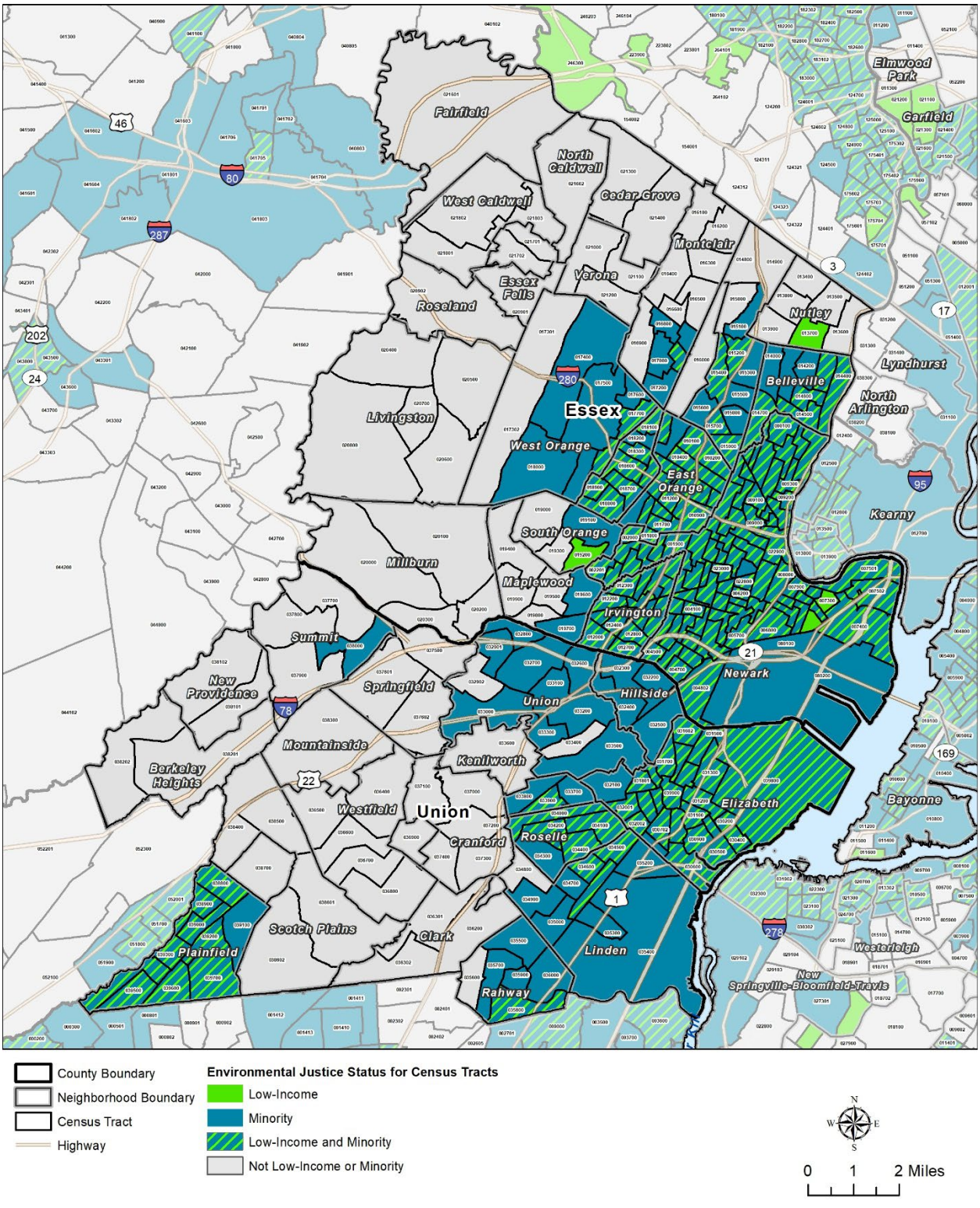
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-9. Bergen County, NJ



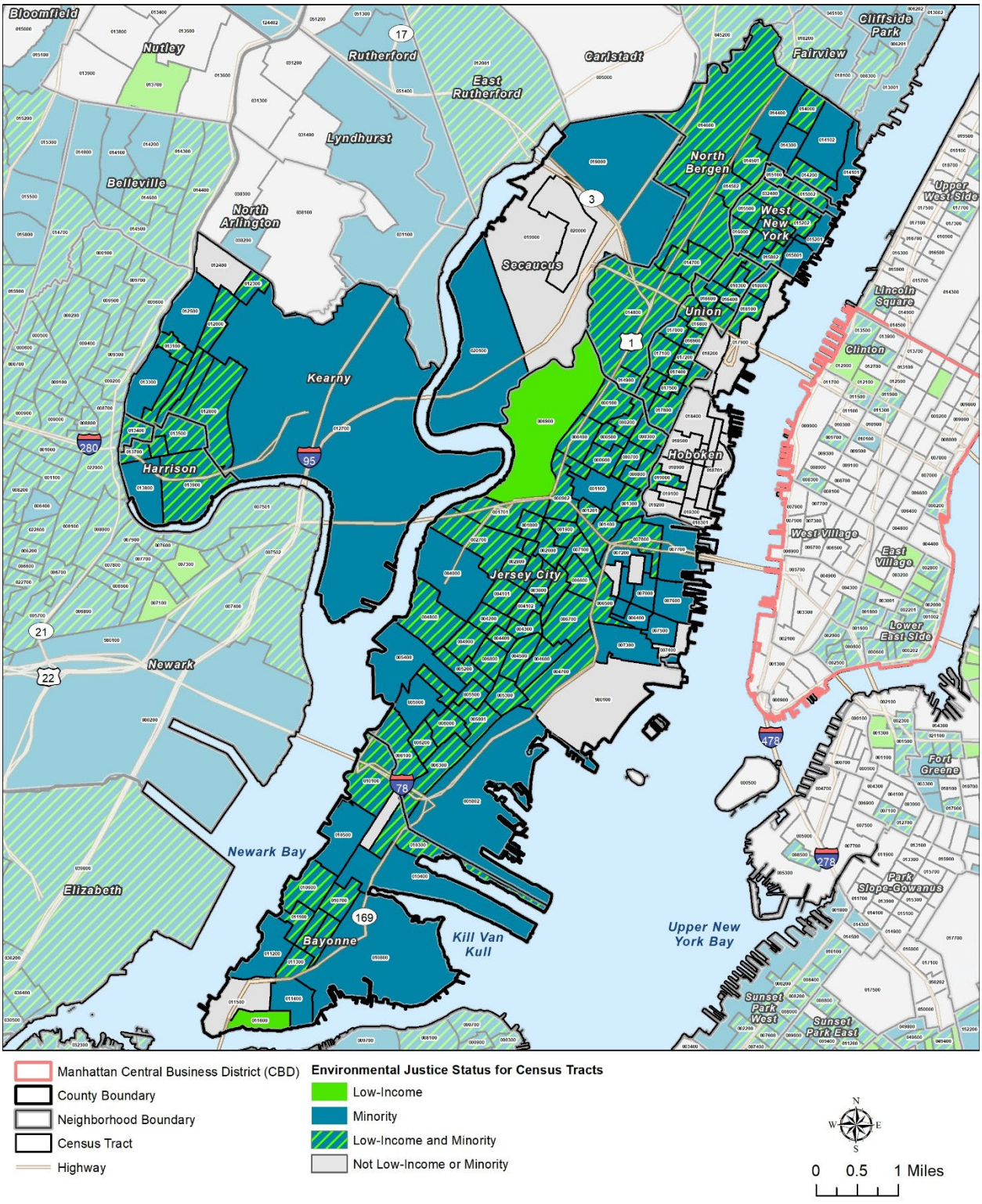
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-10. Essex County and Union County, NJ



Source: U.S. Census Bureau American Community 2015–2019 Survey 5-Year Estimates.

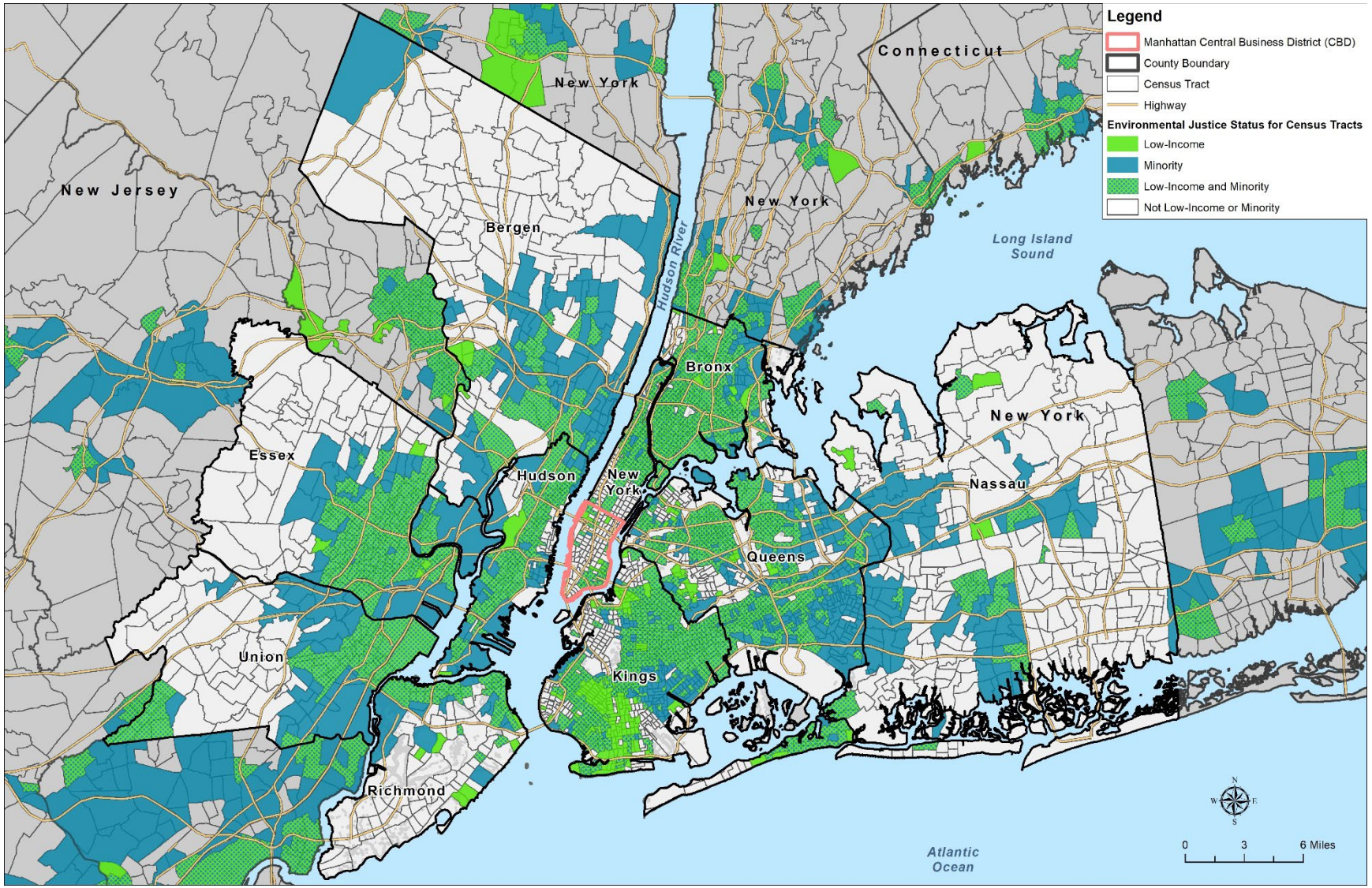
Figure 17B-11. Hudson County, NJ



Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

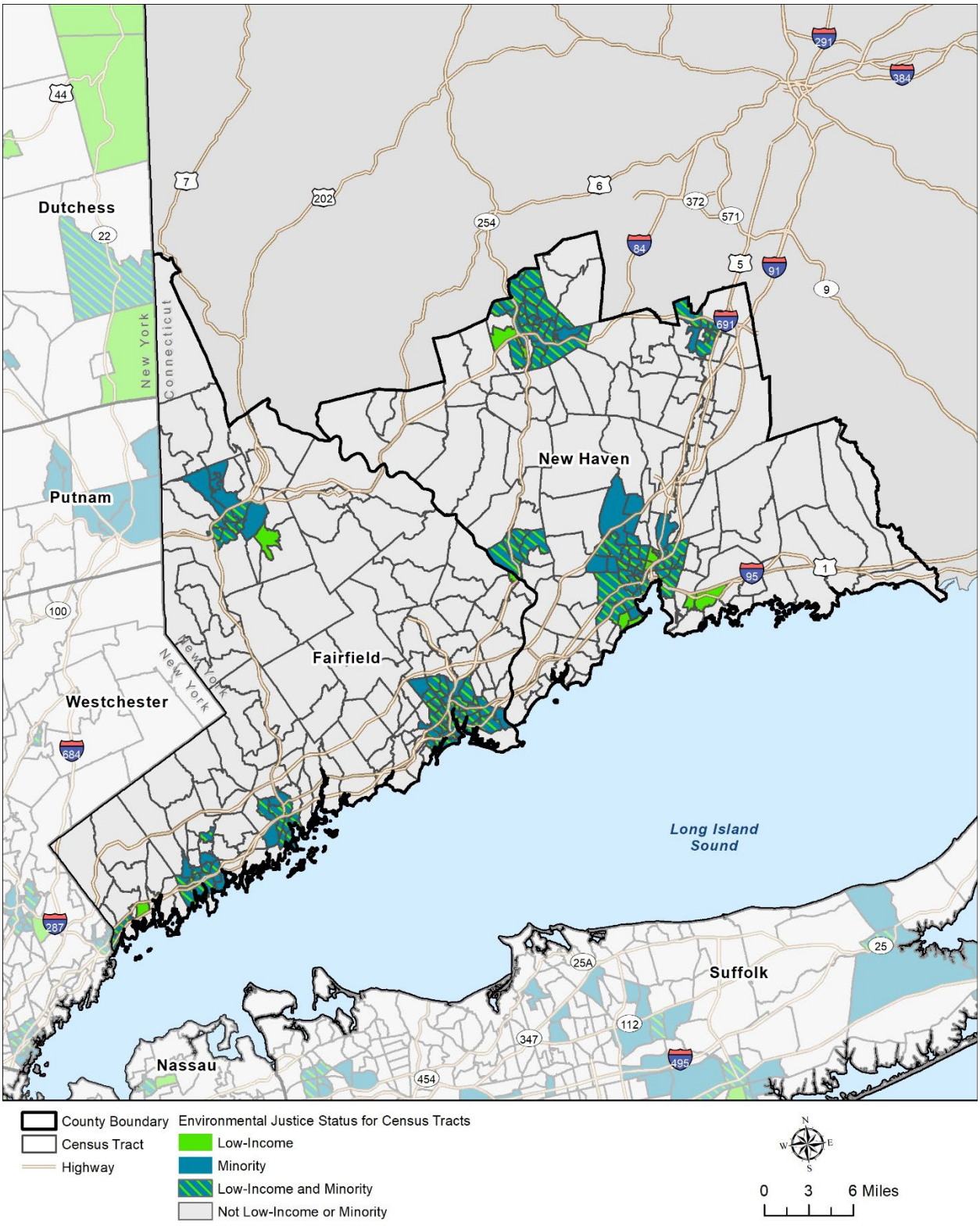
REGIONAL STUDY AREA NEIGHBORHOODS OUTSIDE LOCAL STUDY AREA

Figure 17B-12. Overview of Regional Study Area



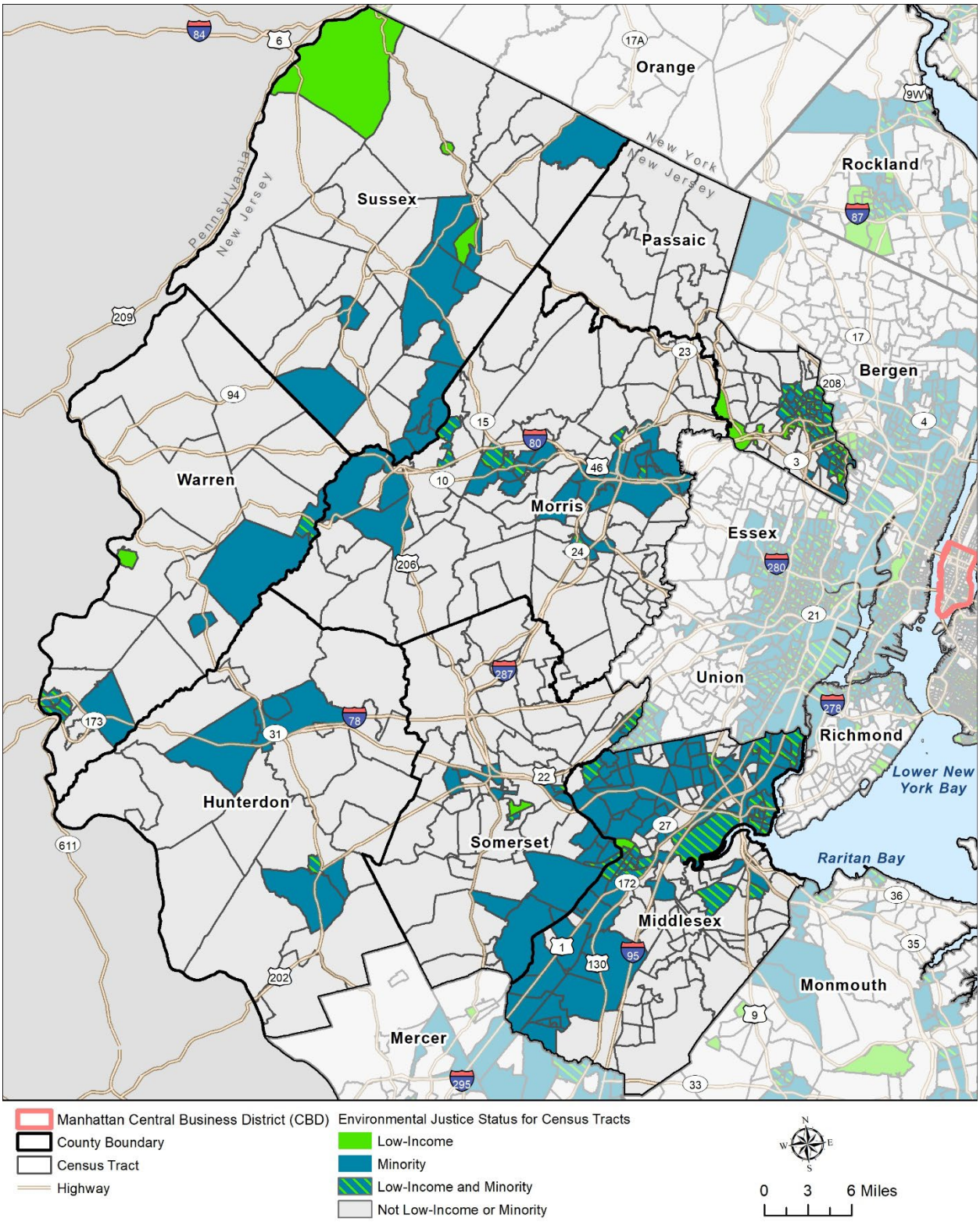
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-13. Connecticut Counties: Fairfield and New Haven Counties



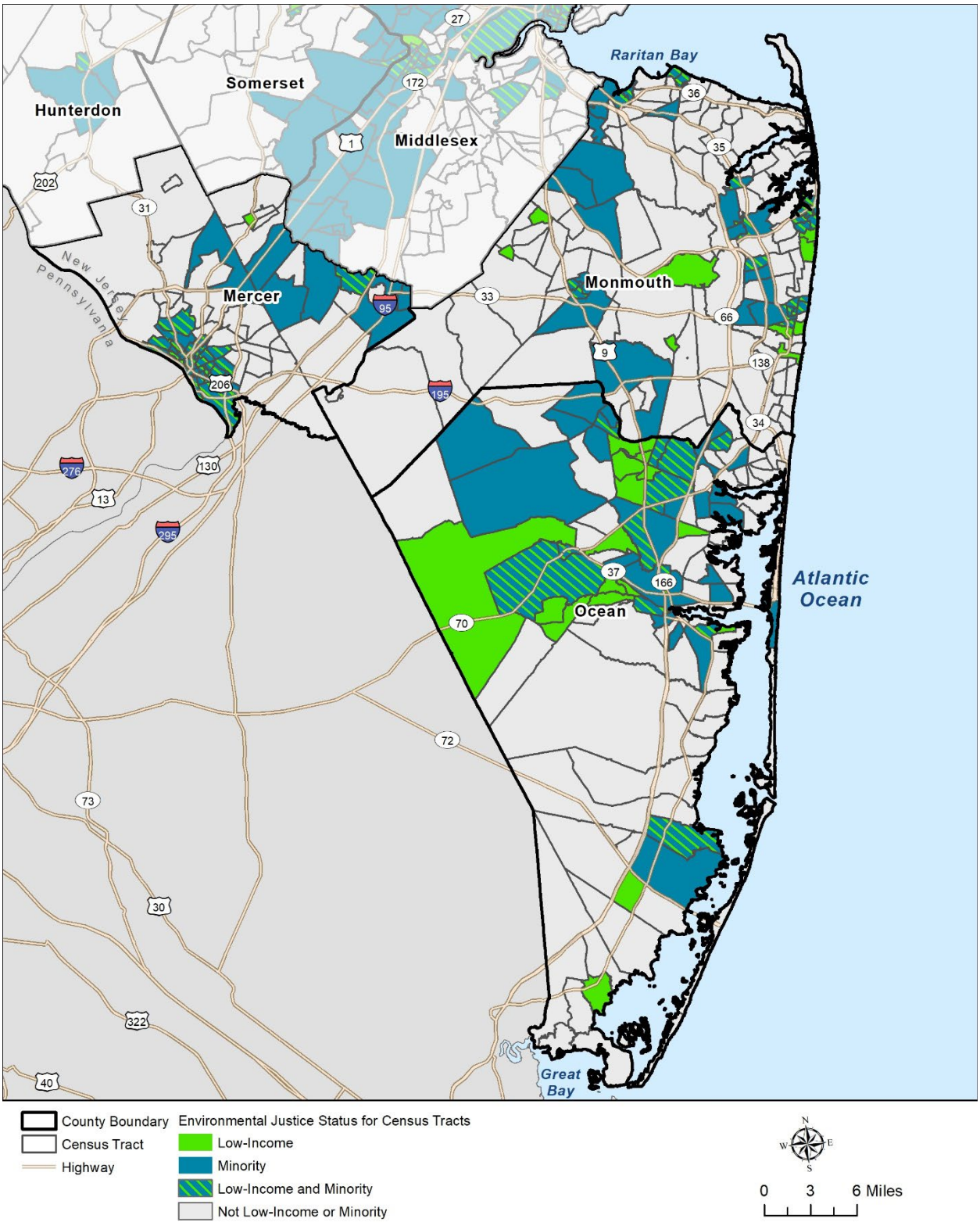
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-14. New Jersey Northern Counties: Hunterdon, Morris, Passaic, Somerset, Sussex, and Warren Counties



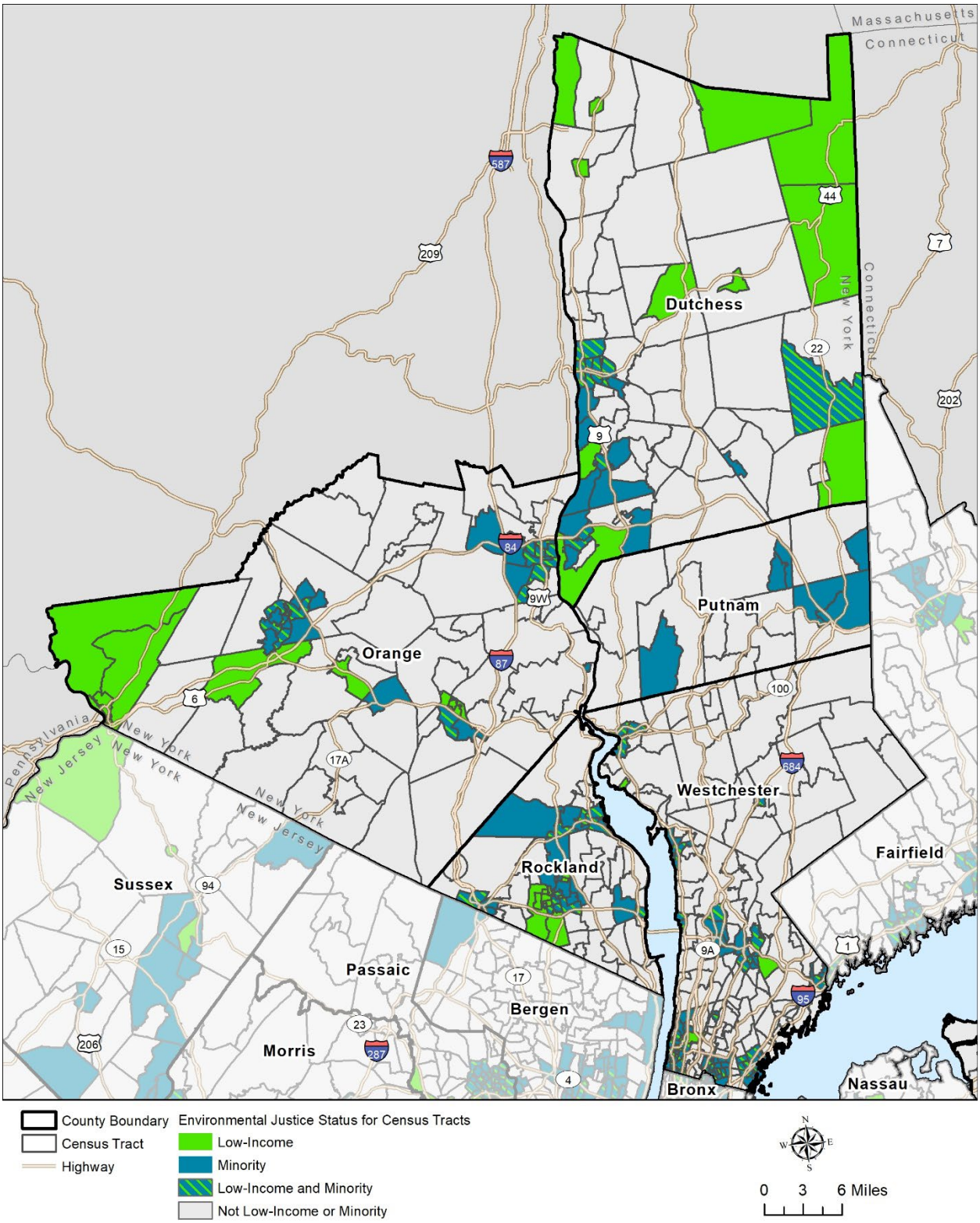
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-15. New Jersey Southern Counties: Mercer, Middlesex, Monmouth, and Ocean Counties



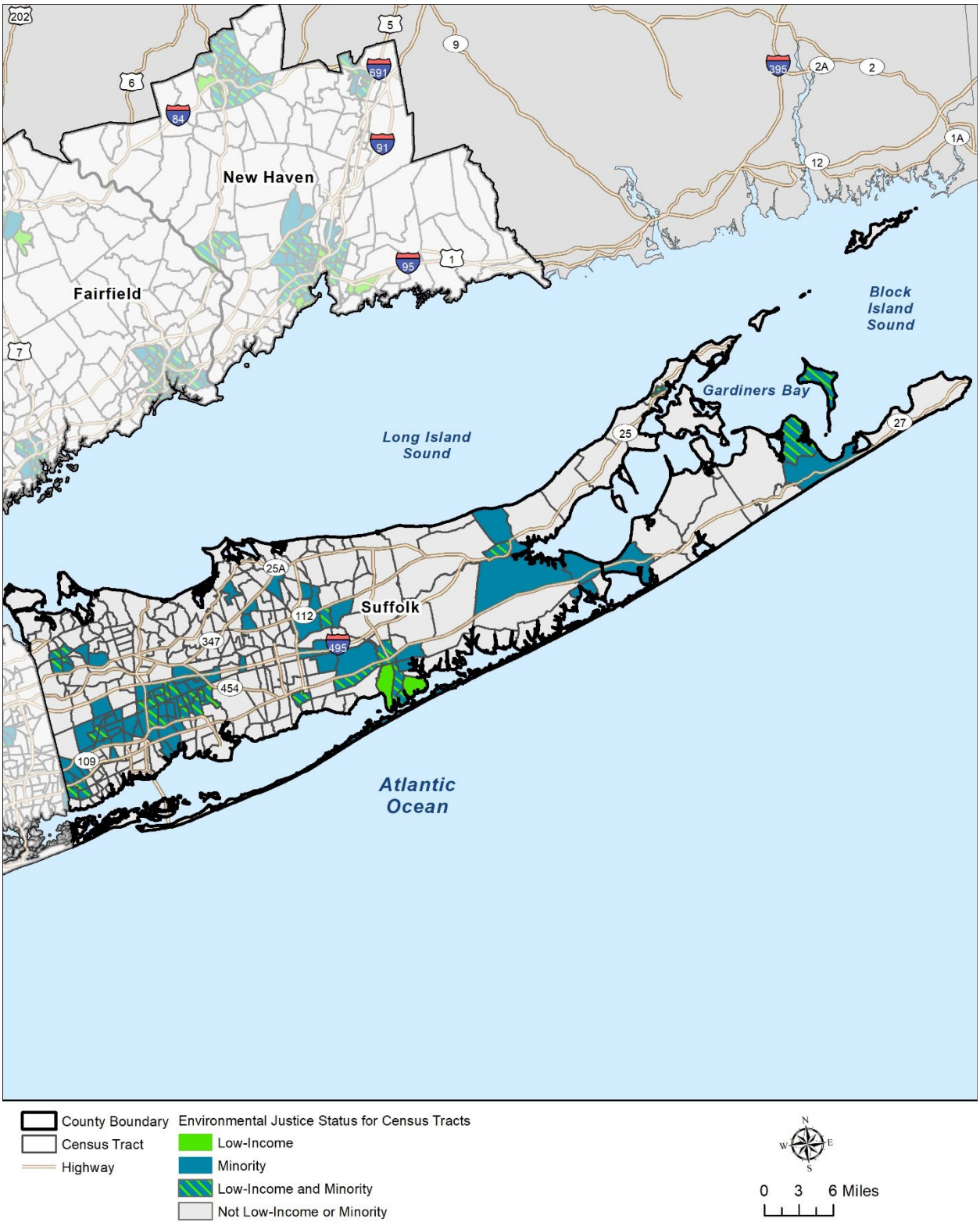
Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-16. New York Counties North of New York City: Dutchess, Putnam, Orange, Rockland, and Westchester Counties



Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

Figure 17B-17. Long Island County: Suffolk County, NY



Source: U.S. Census Bureau American Community Survey 2015–2019 5-Year Estimates.

17C, Environmental Justice Profile of Study Areas: Tables

- Local Study Area Neighborhoods
  - Central Business District, New York County (Manhattan), NY
  - Outside Central Business District, New York County (Manhattan), NY
  - Bronx County, NY
  - Kings County (Brooklyn), NY
  - Queens County, NY
  - Richmond County, NY
  - Nassau County, NY
  - Bergen County, NJ
  - Essex County, NJ
  - Hudson County, NJ
  - Union County, NJ
- Regional Study Area Neighborhoods Outside Local Study Area
  - Fairfield County, CT
  - New Haven County, CT
  - Hunterdon County, NJ
  - Mercer County, NJ
  - Middlesex County, NJ
  - Monmouth County, NJ
  - Morris County, NJ
  - Ocean County, NJ
  - Passaic County, NJ
  - Somerset County, NJ
  - Sussex County, NJ
  - Warren County, NJ
  - Dutchess County, NY
  - Orange County, NY
  - Putnam County, NY
  - Rockland County, NY
  - Suffolk County, NY
  - Westchester County, NY

LOCAL STUDY AREA NEIGHBORHOODS

17C, Environmental Justice Profile of Study Areas: Tables

- Local Study Area Neighborhoods
  - Central Business District, New York County (Manhattan), NY
  - Outside Central Business District, New York County (Manhattan), NY
  - Bronx County, NY
  - Kings County (Brooklyn), NY
  - Queens County, NY
  - Richmond County, NY
  - Nassau County, NY
  - Bergen County, NJ
  - Essex County, NJ
  - Hudson County, NJ
  - Union County, NJ
- Regional Study Area Neighborhoods Outside Local Study Area
  - Fairfield County, CT
  - New Haven County, CT
  - Hunterdon County, NJ
  - Mercer County, NJ
  - Middlesex County, NJ
  - Monmouth County, NJ
  - Morris County, NJ
  - Ocean County, NJ
  - Passaic County, NJ
  - Somerset County, NJ
  - Sussex County, NJ
  - Warren County, NJ
  - Dutchess County, NY
  - Orange County, NY
  - Putnam County, NY
  - Rockland County, NY
  - Suffolk County, NY
  - Westchester County, NY

LOCAL STUDY AREA NEIGHBORHOODS

Table 17C-1

Environmental Justice Populations: Central Business District, New York County (Manhattan), NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
New York County, New York, Central Business District										
Battery Park City-Lower Manhattan										
Census Tract 7	8,501	2,289	26.9%		No	8,501	963	11.3%		No
Census Tract 9	1,796	652	36.3%		No	1,796	174	9.7%		No
Census Tract 15.01	7,398	2,964	40.1%		No	6,906	1,299	18.8%		No
Census Tract 15.02	8,309	2,319	27.9%		No	7,800	1,016	13.0%		No
Census Tract 13	4,455	1,666	37.4%		No	4,455	300	6.7%		No
Census Tract 317.03	5,783	1,798	31.1%		No	5,783	437	7.6%		No
Census Tract 317.04	10,224	3,591	35.1%		No	10,224	783	7.7%		No
TOTAL Battery Park City-Lower Manhattan	**46,466**	**15,279**	**32.9%**	**-**	**7**	**45,465**	**4,972**	**10.9%**	**-**	**7**
Chinatown										
Census Tract 8	9,315	8,633	92.7%	Yes		9,315	5,506	59.1%	Yes	
Census Tract 16	6,968	5,804	83.3%	Yes		6,949	3,578	51.5%	Yes	
Census Tract 18	6,788	4,835	71.2%	Yes		6,420	2,882	44.9%	Yes	
Census Tract 25	5,483	5,389	98.3%	Yes		5,470	3,773	69.0%	Yes	
Census Tract 27	1,341	1,116	83.2%	Yes		1,337	545	40.8%	Yes	
Census Tract 29	5,924	5,010	84.6%	Yes		4,461	2,194	49.2%	Yes	
Census Tract 30.01	3,815	1,731	45.4%		No	3,813	858	22.5%		No
Census Tract 36.01	3,132	2,416	77.1%	Yes		3,132	1,272	40.6%	Yes	
TOTAL Chinatown	**42,766**	**34,934**	**81.7%**	**7**	**1**	**40,897**	**20,608**	**50.4%**	**7**	**1**
Clinton										
Census Tract 115	3,663	2,460	67.2%	Yes		3,663	1,021	27.9%	Yes	
Census Tract 121	7,763	3,134	40.4%		No	7,746	2,208	28.5%	Yes	
Census Tract 127	6,707	3,072	45.8%		No	6,707	1,670	24.9%		No
Census Tract 129	8,351	3,782	45.3%		No	8,351	2,290	27.4%	Yes	
Census Tract 133	6,228	3,634	58.3%	Yes		6,220	1,752	28.2%	Yes	
Census Tract 135	9,705	5,782	59.6%	Yes		9,610	3,564	37.1%	Yes	
Census Tract 139	10,524	4,170	39.6%		No	10,520	2,058	19.6%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
TOTAL Clinton	**52,941**	**26,034**	**49.2%**	**3**	**4**	**52,817**	**14,563**	**27.6%**	**5**	**2**
East Village										
Census Tract 30.02	2,939	1,331	45.3%		No	2,939	1,079	36.7%	Yes	
Census Tract 32	7,814	2,196	28.1%		No	7,814	1,802	23.1%		No
Census Tract 34	6,569	2,675	40.7%		No	6,569	2,428	37.0%	Yes	
Census Tract 36.02	3,212	1,216	37.9%		No	2,903	995	34.3%	Yes	
Census Tract 38	8,927	3,602	40.3%		No	8,526	2,043	24.0%		No
Census Tract 40	8,105	2,510	31.0%		No	6,567	1,477	22.5%		No
Census Tract 42	5,384	2,181	40.5%		No	2,768	483	17.4%		No
TOTAL East Village	**42,950**	**15,711**	**36.6%**	**-**	**7**	**38,086**	**10,307**	**27.1%**	**3**	**4**
Gramercy										
Census Tract 48	6,230	1,758	28.2%		No	5,093	572	11.2%		No
Census Tract 50	4,748	1,105	23.3%		No	4,689	539	11.5%		No
Census Tract 64	7,643	2,090	27.3%		No	7,280	1,051	14.4%		No
Census Tract 68	7,876	3,083	39.1%		No	6,661	928	13.9%		No
TOTAL Gramercy	**26,497**	**8,036**	**30.3%**	**-**	**4**	**23,723**	**3,090**	**13.0%**	**-**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Hudson Yards-Chelsea-Flatiron-Union Square										
Census Tract 52	3,321	934	28.1%		No	2,553	254	9.9%		No
Census Tract 54	4,768	1,143	24.0%		No	4,608	423	9.2%		No
Census Tract 81	7,481	2,175	29.1%		No	7,412	1,208	16.3%		No
Census Tract 83	3,686	2,004	54.4%	Yes		3,686	1,049	28.5%	Yes	
Census Tract 89	5,413	2,079	38.4%		No	4,988	943	18.9%		No
Census Tract 99	5,981	2,163	36.2%		No	5,965	1,123	18.8%		No
Census Tract 56	4,250	1,090	25.6%		No	4,245	960	22.6%		No
Census Tract 58	4,315	1,482	34.3%		No	4,295	338	7.9%		No
Census Tract 87	6,556	1,692	25.8%		No	6,556	576	8.8%		No
Census Tract 91	6,298	1,688	26.8%		No	6,298	1,119	17.8%		No
Census Tract 93	9,440	4,325	45.8%		No	9,417	2,452	26.0%		No
Census Tract 97	4,968	2,593	52.2%	Yes		4,945	1,473	29.8%	Yes	
Census Tract 103	2,065	813	39.4%		No	2,065	435	21.1%		No
Census Tract 111	4,757	2,323	48.8%		No	4,757	1,031	21.7%		No
Census Tract 117	4,191	1,939	46.3%		No	4,191	443	10.6%		No
TOTAL Hudson Yards-Chelsea-Flatiron-Union Square	**77,490**	**28,443**	**36.7%**	**2**	**13**	**75,981**	**13,827**	**18.2%**	**2**	**13**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Lower East Side										
Census Tract 2.01	2,750	2,462	89.5%	Yes		2,750	1,860	67.6%	Yes	
Census Tract 2.02	7,773	6,230	80.1%	Yes		7,771	3,736	48.1%	Yes	
Census Tract 6	9,838	9,378	95.3%	Yes		9,692	6,978	72.0%	Yes	
Census Tract 10.01	1,546	471	30.5%		No	1,546	292	18.9%		No
Census Tract 10.02	5,157	5,063	98.2%	Yes		5,148	3,350	65.1%	Yes	
Census Tract 12	4,168	2,112	50.7%	Yes		4,112	1,220	29.7%	Yes	
Census Tract 14.01	3,024	961	31.8%		No	2,997	394	13.1%		No
Census Tract 14.02	2,941	2,116	71.9%	Yes		2,941	1,691	57.5%	Yes	
Census Tract 20	4,586	4,489	97.9%	Yes		4,586	3,594	78.4%	Yes	
Census Tract 22.01	6,565	5,180	78.9%	Yes		6,537	3,216	49.2%	Yes	
Census Tract 22.02	2,099	799	38.1%		No	2,099	666	31.7%	Yes	
Census Tract 24	4,192	4,149	99.0%	Yes		4,192	3,143	75.0%	Yes	
Census Tract 26.01	3,488	2,614	74.9%	Yes		3,465	1,777	51.3%	Yes	
Census Tract 26.02	3,946	1,634	41.4%		No	3,917	1,226	31.3%	Yes	
Census Tract 28	6,765	4,531	67.0%	Yes		6,742	2,951	43.8%	Yes	
TOTAL Lower East Side	**68,838**	**52,189**	**75.8%**	**11**	**4**	**68,495**	**36,094**	**52.7%**	**13**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Midtown-Midtown South										
Census Tract 74	4,528	1,342	29.6%		No	3,932	338	8.6%		No
Census Tract 76	2,092	1,039	49.7%		No	2,092	417	19.9%		No
Census Tract 84	1,746	828	47.4%		No	1,746	420	24.1%		No
Census Tract 94	71	5	7.0%		No	71	5	7.0%		No
Census Tract 95	3,142	720	22.9%		No	2,198	240	10.9%		No
Census Tract 96	177	59	33.3%		No	177	8	4.5%		No
Census Tract 101	1,373	811	59.1%	Yes		1,373	365	26.6%		No
Census Tract 102	122	55	45.1%		No	122	43	35.2%	Yes	
Census Tract 104	811	300	37.0%		No	809	118	14.6%		No
Census Tract 109	172	57	33.1%		No	172	31	18.0%		No
Census Tract 112.01	843	199	23.6%		No	843	90	10.7%		No
Census Tract 112.02	415	74	17.8%		No	415	78	18.8%		No
Census Tract 113	98	83	84.7%	Yes		98	52	53.1%	Yes	
Census Tract 119	1,071	714	66.7%	Yes		1,071	760	71.0%	Yes	
Census Tract 125	2,311	1,073	46.4%		No	2,286	480	21.0%		No
Census Tract 131	2,788	1,163	41.7%		No	2,788	681	24.4%		No
Census Tract 137	5,994	1,754	29.3%		No	5,994	625	10.4%		No
TOTAL Midtown-Midtown South	**27,754**	**10,276**	**37.0%**	**3**	**14**	**26,187**	**4,751**	**18.1%**	**3**	**14**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Murray Hill-Kips Bay										
Census Tract 62	4,444	2,570	57.8%	Yes		3,618	1,062	29.4%	Yes	
Census Tract 66	11,839	5,796	49.0%		No	11,525	2,693	23.4%		No
Census Tract 70	8,301	2,804	33.8%		No	8,139	1,013	12.4%		No
Census Tract 72	7,642	2,437	31.9%		No	7,410	1,347	18.2%		No
Census Tract 78	9,422	3,849	40.9%		No	9,422	1,401	14.9%		No
Census Tract 80	4,964	1,200	24.2%		No	4,861	469	9.6%		No
Census Tract 82	3,241	1,233	38.0%		No	3,241	316	9.8%		No
TOTAL Murray Hill-Kips Bay	**49,853**	**19,889**	**39.9%**	**1**	**6**	**48,216**	**8,301**	**17.2%**	**1**	**6**
SoHo-TriBeCa-Civic Center-Little Italy										
Census Tract 31	2,525	1,155	45.7%		No	1,418	257	18.1%		No
Census Tract 33	5,224	1,228	23.5%		No	5,224	281	5.4%		No
Census Tract 47	2,474	738	29.8%		No	2,450	265	10.8%		No
Census Tract 21	6,666	1,862	27.9%		No	6,598	329	5.0%		No
Census Tract 37	2,666	472	17.7%		No	2,632	343	13.0%		No
Census Tract 39	6,931	1,551	22.4%		No	6,909	597	8.6%		No
Census Tract 41	7,997	5,276	66.0%	Yes		7,621	2,233	29.3%	Yes	
Census Tract 43	3,968	1,798	45.3%		No	3,956	1,029	26.0%		No
Census Tract 45	980	354	36.1%		No	980	177	18.1%		No
Census Tract 49	4,404	956	21.7%		No	4,404	697	15.8%		No
TOTAL SoHo-TriBeCa-Civic Center-Little Italy	**43,835**	**15,390**	**35.1%**	**1**	**9**	**42,192**	**6,208**	**14.7%**	**1**	**9**
Stuyvesant Town-Cooper Village										
Census Tract 44	16,594	4,507	27.2%		No	16,594	2,245	13.5%		No
Census Tract 60	5,741	1,708	29.8%		No	5,741	656	11.4%		No
TOTAL Stuyvesant Town-Cooper Village	**22,335**	**6,215**	**27.8%**	**-**	**2**	**22,335**	**2,901**	**13.0%**	**-**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Turtle Bay-East Midtown										
Census Tract 86.01	2,915	942	32.3%		No	2,915	166	5.7%		No
Census Tract 86.02	-	-	0.0%		No	-	-	0.0%		No
Census Tract 86.03	4,400	1,080	24.5%		No	4,400	364	8.3%		No
Census Tract 88	7,416	2,548	34.4%		No	7,416	764	10.3%		No
Census Tract 90	7,633	2,486	32.6%		No	7,633	944	12.4%		No
Census Tract 92	1,474	488	33.1%		No	1,474	140	9.5%		No
Census Tract 98	7,302	1,792	24.5%		No	7,302	974	13.3%		No
Census Tract 100	1,741	591	33.9%		No	1,741	241	13.8%		No
Census Tract 106.01	7,091	959	13.5%		No	7,091	487	6.9%		No
Census Tract 108	9,046	1,733	19.2%		No	8,535	465	5.4%		No
Census Tract 112.03	1,103	317	28.7%		No	1,103	136	12.3%		No
TOTAL Turtle Bay-East Midtown	**50,121**	**12,936**	**25.8%**	**-**	**11**	**49,610**	**4,681**	**9.4%**	**-**	**11**
West Village										
Census Tract 67	5,431	899	16.6%		No	5,431	469	8.6%		No
Census Tract 73	5,759	723	12.6%		No	5,759	587	10.2%		No
Census Tract 77	5,971	1,070	17.9%		No	5,971	868	14.5%		No
Census Tract 69	2,485	552	22.2%		No	2,159	164	7.6%		No
Census Tract 75	3,603	821	22.8%		No	3,603	302	8.4%		No
Census Tract 79	4,425	701	15.8%		No	4,425	711	16.1%		No
Census Tract 55.01	4,727	1,624	34.4%		No	4,223	604	14.3%		No
Census Tract 55.02	1,825	322	17.6%		No	1,825	366	20.1%		No
Census Tract 57	2,756	382	13.9%		No	2,756	112	4.1%		No
Census Tract 59	5,404	1,099	20.3%		No	4,578	419	9.2%		No
Census Tract 61	4,747	1,567	33.0%		No	3,429	197	5.7%		No
Census Tract 63	6,393	1,034	16.2%		No	6,189	735	11.9%		No
Census Tract 65	6,337	1,498	23.6%		No	5,369	976	18.2%		No
Census Tract 71	5,530	976	17.6%		No	5,315	619	11.6%		No
TOTAL West Village	**65,393**	**13,268**	**20.3%**	**-**	**-**	**61,032**	**7,129**	**-**	**-**	**-**
TOTAL New York County, New York, Central Business Dist	***617,239***	***258,600***	***41.9%***	***28***	***96***	***595,036***	***137,432***	***23.1%***	***35***	***89***

Table 17C-2

Environmental Justice Populations: Outside Central Business District, New York County (Manhattan), NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
New York County, New York, outside Central Business District										
Central Harlem North-Polo Grounds										
Census Tract 206	3,432	2,911	84.8%	Yes		3,377	1,607	47.6%	Yes	
Census Tract 208	5,432	4,671	86.0%	Yes		5,429	1,427	26.3%		No
Census Tract 212	4,112	3,738	90.9%	Yes		3,884	1,332	34.3%	Yes	
Census Tract 214	3,373	3,087	91.5%	Yes		3,373	871	25.8%		No
Census Tract 215	4,396	3,982	90.6%	Yes		4,387	2,091	47.7%	Yes	
Census Tract 221.02	2,605	2,053	78.8%	Yes		2,605	462	17.7%		No
Census Tract 224	7,586	6,657	87.8%	Yes		7,542	4,310	57.1%	Yes	
Census Tract 226	4,954	4,099	82.7%	Yes		4,885	1,705	34.9%	Yes	
Census Tract 228	6,162	5,240	85.0%	Yes		6,147	2,404	39.1%	Yes	
Census Tract 230	8,717	7,983	91.6%	Yes		8,673	4,112	47.4%	Yes	
Census Tract 232	9,069	8,388	92.5%	Yes		9,063	5,139	56.7%	Yes	
Census Tract 234	5,072	4,538	89.5%	Yes		5,072	2,401	47.3%	Yes	
Census Tract 235.02	1,986	1,740	87.6%	Yes		1,986	875	44.1%	Yes	
Census Tract 236	7,761	7,605	98.0%	Yes		7,761	3,620	46.6%	Yes	
Census Tract 243.02	7,756	7,726	99.6%	Yes		7,750	5,433	70.1%	Yes	
Census Tract 259	3,731	3,103	83.2%	Yes		3,731	1,315	35.2%	Yes	
TOTAL Central Harlem North-Polo Grounds	**86,144**	**77,521**	**90.0%**	**16**	**-**	**85,665**	**39,104**	**45.6%**	**13**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Central Harlem South										
Census Tract 186	6,909	6,461	93.5%	Yes		6,638	3,916	59.0%	Yes	
Census Tract 190	3,734	3,044	81.5%	Yes		3,651	1,396	38.2%	Yes	
Census Tract 200	3,606	2,893	80.2%	Yes		3,606	737	20.4%		No
Census Tract 218	6,236	4,956	79.5%	Yes		6,175	2,786	45.1%	Yes	
Census Tract 220	6,078	4,731	77.8%	Yes		6,078	1,679	27.6%	Yes	
Census Tract 222	3,369	2,285	67.8%	Yes		3,324	1,492	44.9%	Yes	
Census Tract 197.02	2,478	1,838	74.2%	Yes		2,478	837	33.8%	Yes	
Census Tract 201.02	4,137	3,002	72.6%	Yes		4,137	1,267	30.6%	Yes	
Census Tract 216	8,773	6,601	75.2%	Yes		8,773	2,733	31.2%	Yes	
Census Tract 257	4,625	3,022	65.3%	Yes		4,615	988	21.4%		No
TOTAL Central Harlem South	**49,945**	**38,833**	**77.8%**	**10**	**-**	**49,475**	**17,831**	**36.0%**	**8**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
East Harlem North										
Census Tract 178	3,987	3,328	83.5%	Yes		3,968	1,858	46.8%	Yes	
Census Tract 180	7,422	6,744	90.9%	Yes		7,422	4,692	63.2%	Yes	
Census Tract 182	7,902	7,374	93.3%	Yes		7,902	5,464	69.1%	Yes	
Census Tract 184	7,116	6,291	88.4%	Yes		7,002	4,238	60.5%	Yes	
Census Tract 188	5,437	4,611	84.8%	Yes		5,416	2,820	52.1%	Yes	
Census Tract 192	3,802	3,657	96.2%	Yes		3,802	2,825	74.3%	Yes	
Census Tract 194	6,166	5,784	93.8%	Yes		6,094	4,034	66.2%	Yes	
Census Tract 196	4,310	3,963	91.9%	Yes		4,012	2,534	63.2%	Yes	
Census Tract 198	2,645	2,123	80.3%	Yes		2,597	826	31.8%	Yes	
Census Tract 210	7,540	7,489	99.3%	Yes		7,540	4,483	59.5%	Yes	
Census Tract 242	5,003	4,773	95.4%	Yes		4,965	3,054	61.5%	Yes	
Census Tract 156.02	2,433	1,941	79.8%	Yes		2,356	846	35.9%	Yes	
Census Tract 158.02	4,353	2,112	48.5%		No	3,262	578	17.7%		No
Census Tract 162	9,412	8,717	92.6%	Yes		9,396	5,169	55.0%	Yes	
Census Tract 164	7,474	6,645	88.9%	Yes		7,474	4,668	62.5%	Yes	
Census Tract 166	6,377	4,806	75.4%	Yes		6,233	3,410	54.7%	Yes	
Census Tract 168	5,115	4,304	84.1%	Yes		4,527	2,857	63.1%	Yes	
Census Tract 170	7,829	7,018	89.6%	Yes		7,801	2,998	38.4%	Yes	
Census Tract 160.02	3,421	1,172	34.3%		No	2,816	230	8.2%		No
Census Tract 172	5,130	4,462	87.0%	Yes		5,130	2,943	57.4%	Yes	
Census Tract 174.01	4,634	4,096	88.4%	Yes		4,511	3,237	71.8%	Yes	
Census Tract 174.02	2,375	1,987	83.7%	Yes		2,365	1,004	42.5%	Yes	
TOTAL East Harlem South	**119,883**	**103,397**	**86.2%**	**20**	**2**	**116,591**	**64,768**	**55.6%**	**20**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Hamilton Heights										
Census Tract 227	5,218	4,130	79.1%	Yes		5,216	2,136	41.0%	Yes	
Census Tract 229	9,205	7,390	80.3%	Yes		9,205	4,561	49.5%	Yes	
Census Tract 231	6,807	5,777	84.9%	Yes		6,742	2,569	38.1%	Yes	
Census Tract 233	7,220	5,550	76.9%	Yes		7,157	3,197	44.7%	Yes	
Census Tract 235.01	7,044	5,727	81.3%	Yes		7,038	2,949	41.9%	Yes	
Census Tract 237	6,682	5,436	81.4%	Yes		6,675	3,550	53.2%	Yes	
Census Tract 225	10,334	8,368	81.0%	Yes		10,322	4,464	43.2%	Yes	
TOTAL Hamilton Heights	**52,510**	**42,378**	**80.7%**	**7**	**-**	**52,355**	**23,426**	**44.7%**	**7**	**-**
Lenox Hill-Roosevelt Island										
Census Tract 132	10,999	4,874	44.3%		No	10,999	809	7.4%		No
Census Tract 238.02	6,086	3,819	62.8%	Yes		4,648	695	15.0%		No
Census Tract 106.02	4,859	1,310	27.0%		No	4,853	421	8.7%		No
Census Tract 110	7,499	2,367	31.6%		No	7,498	780	10.4%		No
Census Tract 116	3,540	1,033	29.2%		No	3,419	139	4.1%		No
Census Tract 118	8,986	1,791	19.9%		No	8,964	1,092	12.2%		No
Census Tract 124	9,782	2,380	24.3%		No	9,277	807	8.7%		No
Census Tract 126	12,620	2,135	16.9%		No	12,619	1,260	10.0%		No
Census Tract 134	11,360	2,059	18.1%		No	11,360	1,615	14.2%		No
Census Tract 238.01	6,354	3,948	62.1%	Yes		6,244	813	13.0%		No
TOTAL Lenox Hill-Roosevelt Island	**82,085**	**25,716**	**31.3%**	**2**	**8**	**79,881**	**8,431**	**10.6%**	**-**	**10**
Lincoln Square										
Census Tract 145	6,153	2,314	37.6%		No	5,299	870	16.4%		No
Census Tract 147	3,475	1,656	47.7%		No	3,465	215	6.2%		No
Census Tract 149	4,992	1,197	24.0%		No	4,649	707	15.2%		No
Census Tract 151	10,143	6,636	65.4%	Yes		10,143	3,776	37.2%	Yes	
Census Tract 153	9,764	2,022	20.7%		No	9,764	574	5.9%		No
Census Tract 155	10,290	2,107	20.5%		No	10,290	999	9.7%		No
Census Tract 157	9,586	2,068	21.6%		No	9,189	1,151	12.5%		No
Census Tract 159	9,517	2,299	24.2%		No	9,517	1,366	14.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
TOTAL Lincoln Square	**63,920**	**20,299**	**31.8%**	**1**	**7**	**62,316**	**9,658**	**15.5%**	**1**	**7**
Manhattanville										
Census Tract 213.03	6,283	5,322	84.7%	Yes		6,251	3,270	52.3%	Yes	
Census Tract 217.03	11	6	54.5%	Yes		11	-	0.0%		No
Census Tract 219	6,008	5,575	92.8%	Yes		5,971	4,377	73.3%	Yes	
Census Tract 223.01	8,292	6,880	83.0%	Yes		8,276	3,540	42.8%	Yes	
Census Tract 223.02	3,175	2,919	91.9%	Yes		3,168	1,829	57.7%	Yes	
TOTAL Manhattanville	**23,769**	**20,702**	**87.1%**	**5**	**-**	**23,677**	**13,016**	**55.0%**	**4**	**1**
Marble Hill-Inwood										
Census Tract 291	12,165	11,396	93.7%	Yes		12,040	5,484	45.5%	Yes	
Census Tract 293	9,397	8,742	93.0%	Yes		9,397	4,785	50.9%	Yes	
Census Tract 295	8,182	5,334	65.2%	Yes		8,158	2,685	32.9%	Yes	
Census Tract 299	3,737	3,637	97.3%	Yes		3,737	2,469	66.1%	Yes	
Census Tract 303	4,535	2,911	64.2%	Yes		4,535	1,542	34.0%	Yes	
Census Tract 307	3,920	1,804	46.0%		No	3,892	894	23.0%		No
Census Tract 309	10,593	10,078	95.1%	Yes		10,578	5,550	52.5%	Yes	
TOTAL Marble Hill-Inwood	**52,529**	**43,902**	**83.6%**	**6**	**1**	**52,337**	**23,409**	**44.7%**	**6**	**1**
Morningside Heights										
Census Tract 193	10,255	6,770	66.0%	Yes		10,097	4,278	42.4%	Yes	
Census Tract 195	7,167	3,138	43.8%		No	7,008	1,643	23.4%		No
Census Tract 197.01	639	398	62.3%	Yes		634	287	45.3%	Yes	
Census Tract 199	8,786	3,452	39.3%		No	6,568	1,584	24.1%		No
Census Tract 201.01	1,854	744	40.1%		No	697	127	18.2%		No
Census Tract 203	3,607	1,898	52.6%	Yes		843	432	51.2%	Yes	
Census Tract 205	5,117	1,861	36.4%		No	2,516	336	13.4%		No
Census Tract 207.01	3,041	1,672	55.0%	Yes		2,390	947	39.6%	Yes	
Census Tract 209.01	3,511	3,293	93.8%	Yes		3,511	1,742	49.6%	Yes	
Census Tract 211	10,824	6,804	62.9%	Yes		10,114	4,251	42.0%	Yes	
TOTAL Morningside Heights	**54,801**	**30,030**	**54.8%**	**6**	**4**	**44,378**	**15,627**	**35.2%**	**6**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
park-cemetery-etc-Manhattan										
Census Tract 5	-	-	0.0%		No	-	-	0.0%		No
Census Tract 319	-	-	0.0%		No	-	-	0.0%		No
Census Tract 240	2,009	1,633	81.3%	Yes		1,447	1,430	98.8%	Yes	
Census Tract 143	2	2	100.0%	Yes		2	2	100.0%	Yes	
Census Tract 297	22	18	81.8%	Yes		-	-	0.0%		No
Census Tract 311	-	-	0.0%		No	-	-	0.0%		No
Census Tract 1	-	-	0.0%		No	-	-	0.0%		No
TOTAL park-cemetery-etc-Manhattan	**2,033**	**1,653**	**81.3%**	**3**	**4**	**1,449**	**1,432**	**98.8%**	**2**	**5**
Upper East Side-Carnegie Hill										
Census Tract 158.01	5,099	1,021	20.0%		No	4,850	226	4.7%		No
Census Tract 114.01	1,173	177	15.1%		No	1,169	116	9.9%		No
Census Tract 114.02	1,880	392	20.9%		No	1,880	166	8.8%		No
Census Tract 120	3,144	489	15.6%		No	3,144	295	9.4%		No
Census Tract 122	2,473	260	10.5%		No	2,473	148	6.0%		No
Census Tract 128	5,384	856	15.9%		No	5,378	518	9.6%		No
Census Tract 130	3,314	420	12.7%		No	3,314	142	4.3%		No
Census Tract 140	7,194	962	13.4%		No	7,184	695	9.7%		No
Census Tract 142	5,110	696	13.6%		No	5,110	255	5.0%		No
Census Tract 148.01	2,810	567	20.2%		No	2,810	192	6.8%		No
Census Tract 148.02	6,504	1,767	27.2%		No	6,504	691	10.6%		No
Census Tract 150.01	2,285	344	15.1%		No	2,285	153	6.7%		No
Census Tract 150.02	4,578	723	15.8%		No	4,578	321	7.0%		No
Census Tract 160.01	3,465	624	18.0%		No	3,465	227	6.6%		No
TOTAL Upper East Side-Carnegie Hill	**54,413**	**9,298**	**17.1%**	**-**	**14**	**54,144**	**4,145**	**7.7%**	**-**	**14**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Upper West Side										
Census Tract 161	6,281	1,615	25.7%		No	6,281	884	14.1%		No
Census Tract 163	7,267	1,008	13.9%		No	7,257	838	11.5%		No
Census Tract 165	6,512	1,282	19.7%		No	6,512	711	10.9%		No
Census Tract 167	6,189	1,541	24.9%		No	6,189	746	12.1%		No
Census Tract 169	8,375	1,967	23.5%		No	8,299	1,045	12.6%		No
Census Tract 171	8,694	1,365	15.7%		No	8,581	1,203	14.0%		No
Census Tract 173	7,580	2,262	29.8%		No	7,580	996	13.1%		No
Census Tract 175	10,558	2,168	20.5%		No	10,044	1,291	12.9%		No
Census Tract 177	9,265	4,740	51.2%	Yes		9,265	2,780	30.0%	Yes	
Census Tract 179	8,267	2,965	35.9%		No	8,267	1,791	21.7%		No
Census Tract 181	8,496	3,189	37.5%		No	8,496	1,434	16.9%		No
Census Tract 183	7,827	1,950	24.9%		No	7,816	1,128	14.4%		No
Census Tract 185	4,893	1,461	29.9%		No	4,893	560	11.4%		No
Census Tract 187	8,608	2,622	30.5%		No	8,592	1,154	13.4%		No
Census Tract 189	11,654	8,905	76.4%	Yes		11,132	5,848	52.5%	Yes	
Census Tract 191	9,757	4,171	42.7%		No	9,725	2,129	21.9%		No
TOTAL Upper West Side	**130,223**	**43,211**	**33.2%**	**2**	**14**	**128,929**	**24,538**	**19.0%**	**2**	**14**
Washington Heights North										
Census Tract 267	1,994	908	45.5%		No	1,495	679	45.4%	Yes	
Census Tract 269	8,986	8,276	92.1%	Yes		8,809	4,361	49.5%	Yes	
Census Tract 271	8,806	5,836	66.3%	Yes		8,777	3,427	39.0%	Yes	
Census Tract 273	6,925	2,477	35.8%		No	6,925	1,174	17.0%		No
Census Tract 275	3,370	1,041	30.9%		No	3,346	388	11.6%		No
Census Tract 277	6,538	5,541	84.8%	Yes		5,406	3,736	69.1%	Yes	
Census Tract 279	12,053	9,878	82.0%	Yes		12,003	5,912	49.3%	Yes	
Census Tract 281	3,416	1,062	31.1%		No	3,218	365	11.3%		No
Census Tract 283	7,949	6,412	80.7%	Yes		7,802	2,848	36.5%	Yes	
Census Tract 285	7,907	7,220	91.3%	Yes		7,884	3,406	43.2%	Yes	
Census Tract 287	4,231	2,871	67.9%	Yes		4,231	1,620	38.3%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
TOTAL Washington Heights North	**72,175**	**51,522**	**71.4%**	**7**	**4**	**69,896**	**27,916**	**39.9%**	**8**	**3**
Washington Heights South										
Census Tract 239	2,781	2,391	86.0%	Yes		2,781	1,322	47.5%	Yes	
Census Tract 241	8,680	7,063	81.4%	Yes		8,680	2,918	33.6%	Yes	
Census Tract 243.01	4,658	4,146	89.0%	Yes		4,517	2,149	47.6%	Yes	
Census Tract 245	14,717	13,453	91.4%	Yes		14,611	6,310	43.2%	Yes	
Census Tract 247	7,303	5,958	81.6%	Yes		7,303	2,457	33.6%	Yes	
Census Tract 249	1,047	894	85.4%	Yes		1,028	419	40.8%	Yes	
Census Tract 251	2,835	2,530	89.2%	Yes		2,730	1,631	59.7%	Yes	
Census Tract 253	13,572	11,828	87.2%	Yes		13,430	6,198	46.2%	Yes	
Census Tract 255	5,999	4,397	73.3%	Yes		5,354	1,785	33.3%	Yes	
Census Tract 261	13,145	12,690	96.5%	Yes		13,068	5,936	45.4%	Yes	
Census Tract 263	9,177	8,253	89.9%	Yes		9,177	4,786	52.2%	Yes	
Census Tract 265	7,951	5,441	68.4%	Yes		7,940	2,052	25.8%		No
TOTAL Washington Heights South	**91,865**	**79,044**	**86.0%**	**12**	**-**	**90,619**	**37,963**	**41.9%**	**11**	**1**
Yorkville										
Census Tract 136	15,487	2,859	18.5%		No	15,487	1,424	9.2%		No
Census Tract 144.01	4,720	868	18.4%		No	4,720	315	6.7%		No
Census Tract 144.02	6,946	1,213	17.5%		No	6,946	573	8.2%		No
Census Tract 146.01	4,182	1,425	34.1%		No	4,180	299	7.2%		No
Census Tract 146.02	7,831	1,391	17.8%		No	7,831	813	10.4%		No
Census Tract 152	7,816	3,808	48.7%		No	7,816	2,028	25.9%		No
Census Tract 154	14,134	4,152	29.4%		No	14,134	2,147	15.2%		No
Census Tract 156.01	5,130	1,937	37.8%		No	5,117	661	12.9%		No
Census Tract 138	12,213	2,607	21.3%		No	11,714	1,008	8.6%		No
TOTAL Yorkville	**78,459**	**20,260**	**25.8%**	**-**	**9**	**77,945**	**9,268**	**11.9%**	**-**	**9**
TOTAL New York County, outside Central Business Distric	***1,014,754***	***607,766***	***59.9%***	***97***	***67***	***989,657***	***320,532***	***32.4%***	***88***	***76***

Table 17C-3

Environmental Justice Populations: Bronx County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Bronx County, New York										
Allerton-Pelham Gardens										
Census Tract 312	1,678	1,115	66.4%	Yes		1,677	210	12.5%		No
Census Tract 360	3,271	2,883	88.1%	Yes		3,075	779	25.3%		No
Census Tract 314	2,079	1,341	64.5%	Yes		1,892	301	15.9%		No
Census Tract 316	1,900	1,222	64.3%	Yes		1,900	373	19.6%		No
Census Tract 318	2,179	1,549	71.1%	Yes		2,008	546	27.2%	Yes	
Census Tract 326	3,407	2,098	61.6%	Yes		3,212	665	20.7%		No
Census Tract 342	1,888	1,725	91.4%	Yes		1,888	632	33.5%	Yes	
Census Tract 344	2,172	2,110	97.1%	Yes		2,164	763	35.3%	Yes	
Census Tract 348	5,707	5,554	97.3%	Yes		5,693	2,042	35.9%	Yes	
Census Tract 350	2,063	1,946	94.3%	Yes		2,051	525	25.6%		No
Census Tract 310	4,753	3,385	71.2%	Yes		3,876	674	17.4%		No
TOTAL Allerton-Pelham Gardens	**31,097**	**24,928**	**80.2%**	**11**	**-**	**29,436**	**7,510**	**25.5%**	**4**	**7**
Bedford Park-Fordham North										
Census Tract 237.02	1,180	1,169	99.1%	Yes		1,180	669	56.7%	Yes	
Census Tract 399.01	5,618	5,457	97.1%	Yes		5,564	3,962	71.2%	Yes	
Census Tract 399.02	5,646	5,432	96.2%	Yes		5,646	3,788	67.1%	Yes	
Census Tract 401	4,478	4,390	98.0%	Yes		4,467	3,012	67.4%	Yes	
Census Tract 403.02	4,192	4,115	98.2%	Yes		4,181	2,442	58.4%	Yes	
Census Tract 405.01	4,399	4,311	98.0%	Yes		4,368	2,663	61.0%	Yes	
Census Tract 405.02	7,264	7,177	98.8%	Yes		7,250	4,372	60.3%	Yes	
Census Tract 407.02	7,023	6,672	95.0%	Yes		7,016	3,625	51.7%	Yes	
Census Tract 411	3,510	3,173	90.4%	Yes		3,483	1,734	49.8%	Yes	
Census Tract 413	8,677	8,020	92.4%	Yes		8,574	3,509	40.9%	Yes	
Census Tract 415	6,367	5,869	92.2%	Yes		6,308	3,361	53.3%	Yes	
TOTAL Bedford Park-Fordham North	**58,354**	**55,785**	**95.6%**	**11**	**-**	**58,037**	**33,137**	**57.1%**	**11**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Belmont										
Census Tract 387	3,823	3,242	84.8%	Yes		3,798	2,545	67.0%	Yes	
Census Tract 389	5,521	4,239	76.8%	Yes		5,431	3,547	65.3%	Yes	
Census Tract 391	7,544	7,007	92.9%	Yes		7,544	5,294	70.2%	Yes	
Census Tract 393	8,330	8,029	96.4%	Yes		8,316	5,534	66.5%	Yes	
Census Tract 397	3,744	1,617	43.2%		No	1,109	501	45.2%	Yes	
TOTAL Belmont	**28,962**	**24,134**	**83.3%**	**4**	**1**	**26,198**	**17,421**	**66.5%**	**5**	**-**
Bronxdale										
Census Tract 324	3,177	2,815	88.6%	Yes		3,098	2,208	71.3%	Yes	
Census Tract 328	3,839	3,323	86.6%	Yes		3,838	2,341	61.0%	Yes	
Census Tract 330	5,776	3,270	56.6%	Yes		5,742	2,922	50.9%	Yes	
Census Tract 332.01	5,564	4,727	85.0%	Yes		5,544	2,583	46.6%	Yes	
Census Tract 332.02	4,033	3,526	87.4%	Yes		3,588	1,345	37.5%	Yes	
Census Tract 336	6,714	6,499	96.8%	Yes		6,694	3,225	48.2%	Yes	
Census Tract 338	4,105	3,871	94.3%	Yes		4,088	1,572	38.5%	Yes	
Census Tract 340	5,606	5,301	94.6%	Yes		5,563	2,872	51.6%	Yes	
TOTAL Bronxdale	**38,814**	**33,332**	**85.9%**	**8**	**-**	**38,155**	**19,068**	**50.0%**	**8**	**-**
Claremont-Bathgate										
Census Tract 145	7,436	7,203	96.9%	Yes		7,173	5,566	77.6%	Yes	
Census Tract 147.01	7,003	6,949	99.2%	Yes		6,866	5,829	84.9%	Yes	
Census Tract 147.02	5,435	5,371	98.8%	Yes		5,435	3,539	65.1%	Yes	
Census Tract 165	965	965	100.0%	Yes		965	661	68.5%	Yes	
Census Tract 167	3,695	3,663	99.1%	Yes		3,491	2,342	67.1%	Yes	
Census Tract 169	1,633	1,628	99.7%	Yes		1,572	952	60.6%	Yes	
Census Tract 385	4,766	4,738	99.4%	Yes		4,760	3,439	72.2%	Yes	
Census Tract 395	4,257	4,226	99.3%	Yes		4,211	2,591	61.5%	Yes	
TOTAL Claremont-Bathgate	**35,190**	**34,743**	**98.7%**	**8**	**-**	**34,473**	**24,919**	**72.3%**	**8**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Co-op City										
Census Tract 302	8,704	8,262	94.9%	Yes		8,702	2,351	27.0%	Yes	
Census Tract 462.01	28,109	26,126	92.9%	Yes		26,914	6,894	25.6%		No
Census Tract 462.02	9,912	9,798	98.8%	Yes		9,124	3,890	42.6%	Yes	
TOTAL Co-op City	**46,725**	**44,186**	**94.6%**	**3**	**-**	**44,740**	**13,135**	**29.4%**	**2**	**1**
Crotona Park East										
Census Tract 60	1,386	1,377	99.4%	Yes		1,386	845	61.0%	Yes	
Census Tract 123	4,268	4,217	98.8%	Yes		4,237	2,237	52.8%	Yes	
Census Tract 153	4,474	4,460	99.7%	Yes		4,425	2,771	62.6%	Yes	
Census Tract 155	2,927	2,927	100.0%	Yes		2,927	2,198	75.1%	Yes	
Census Tract 157	4,704	4,650	98.9%	Yes		4,682	2,871	61.3%	Yes	
Census Tract 161	4,650	4,623	99.4%	Yes		4,650	3,375	72.6%	Yes	
TOTAL Crotona Park East	**22,409**	**22,254**	**99.3%**	**6**	**-**	**22,307**	**14,297**	**64.1%**	**6**	**-**
East Concourse-Concourse Village										
Census Tract 59.02	2,751	2,618	95.2%	Yes		2,751	1,684	61.2%	Yes	
Census Tract 61	3,720	3,607	97.0%	Yes		3,720	1,060	28.5%	Yes	
Census Tract 183.01	4,320	4,073	94.3%	Yes		4,320	1,770	41.0%	Yes	
Census Tract 177.02	5,423	5,315	98.0%	Yes		5,423	3,180	58.6%	Yes	
Census Tract 143	1,482	1,469	99.1%	Yes		1,464	1,207	82.4%	Yes	
Census Tract 173	5,746	5,583	97.2%	Yes		5,733	3,732	65.1%	Yes	
Census Tract 175	6,536	6,351	97.2%	Yes		6,433	4,166	64.8%	Yes	
Census Tract 177.01	4,650	4,588	98.7%	Yes		4,236	2,436	57.5%	Yes	
Census Tract 179.01	4,831	4,770	98.7%	Yes		4,831	2,827	58.5%	Yes	
Census Tract 179.02	4,032	4,014	99.6%	Yes		4,032	2,091	51.9%	Yes	
Census Tract 181.01	3,351	3,340	99.7%	Yes		3,350	1,832	54.7%	Yes	
Census Tract 181.02	5,294	5,199	98.2%	Yes		5,061	3,382	66.8%	Yes	
Census Tract 183.02	3,824	3,723	97.4%	Yes		3,824	2,038	53.3%	Yes	
Census Tract 225	8,499	8,187	96.3%	Yes		8,153	5,191	63.7%	Yes	
TOTAL East Concourse-Concourse Village	**64,459**	**62,837**	**97.5%**	**14**	**-**	**63,331**	**36,596**	**57.8%**	**14**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
East Tremont										
Census Tract 359	2,053	2,042	99.5%	Yes		2,040	1,370	67.2%	Yes	
Census Tract 361	5,576	5,551	99.6%	Yes		5,553	3,865	69.6%	Yes	
Census Tract 365.02	2,620	2,586	98.7%	Yes		2,581	1,450	56.2%	Yes	
Census Tract 367	2,395	2,350	98.1%	Yes		2,179	1,373	63.0%	Yes	
Census Tract 369.02	2,074	2,038	98.3%	Yes		2,074	1,433	69.1%	Yes	
Census Tract 363	7,517	7,294	97.0%	Yes		7,478	5,001	66.9%	Yes	
Census Tract 365.01	3,901	3,889	99.7%	Yes		3,887	2,311	59.5%	Yes	
Census Tract 369.01	2,101	2,098	99.9%	Yes		2,089	1,490	71.3%	Yes	
Census Tract 371	4,226	4,172	98.7%	Yes		4,220	2,685	63.6%	Yes	
Census Tract 373	6,373	6,321	99.2%	Yes		6,339	3,493	55.1%	Yes	
Census Tract 375.04	3,323	3,232	97.3%	Yes		3,103	2,361	76.1%	Yes	
Census Tract 220	2,007	1,977	98.5%	Yes		1,894	1,236	65.3%	Yes	
TOTAL East Tremont	**44,166**	**43,550**	**98.6%**	**12**	**-**	**43,437**	**28,068**	**64.6%**	**12**	**-**
Eastchester-Edenwald-Baychester										
Census Tract 356	2,254	2,221	98.5%	Yes		2,229	559	25.1%		No
Census Tract 358	8,172	7,766	95.0%	Yes		8,053	1,850	23.0%		No
Census Tract 460	3,246	3,135	96.6%	Yes		3,006	1,246	41.5%	Yes	
Census Tract 364	2,565	2,564	100.0%	Yes		2,565	766	29.9%	Yes	
Census Tract 386	8,889	8,886	100.0%	Yes		8,872	3,953	44.6%	Yes	
Census Tract 458	5,744	5,720	99.6%	Yes		5,644	4,541	80.5%	Yes	
Census Tract 456	3,220	2,773	86.1%	Yes		3,195	776	24.3%		No
Census Tract 484	4,277	4,175	97.6%	Yes		4,203	819	19.5%		No
TOTAL Eastchester-Edenwald-Baychester	**38,367**	**37,240**	**97.1%**	**8**	**-**	**37,767**	**14,510**	**38.4%**	**4**	**4**
Fordham South										
Census Tract 237.03	5,574	5,503	98.7%	Yes		5,448	3,109	57.1%	Yes	
Census Tract 237.04	3,803	3,789	99.6%	Yes		3,802	3,295	86.7%	Yes	
Census Tract 239	7,873	7,873	100.0%	Yes		7,836	4,951	63.2%	Yes	
Census Tract 383.01	5,084	5,013	98.6%	Yes		5,057	2,885	57.0%	Yes	
Census Tract 383.02	6,032	5,999	99.5%	Yes		6,008	4,696	78.2%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
TOTAL Fordham South	**28,366**	**28,177**	**99.3%**	**5**	**-**	**28,151**	**18,936**	**67.3%**	**5**	**-**
Highbridge										
Census Tract 189	8,210	7,870	95.9%	Yes		8,066	5,177	64.2%	Yes	
Census Tract 193	6,350	6,329	99.7%	Yes		6,350	4,767	75.1%	Yes	
Census Tract 199	8,338	8,195	98.3%	Yes		8,338	4,183	50.2%	Yes	
Census Tract 201	3,993	3,861	96.7%	Yes		3,943	2,528	64.1%	Yes	
Census Tract 211	5,343	5,303	99.3%	Yes		5,299	3,437	64.9%	Yes	
Census Tract 213.02	5,513	5,495	99.7%	Yes		5,513	3,442	62.4%	Yes	
Census Tract 219	882	849	96.3%	Yes		872	424	48.6%	Yes	
TOTAL Highbridge	**38,629**	**37,902**	**98.1%**	**7**	**-**	**38,381**	**23,958**	**62.4%**	**7**	**-**
Hunts Point										
Census Tract 89	3,218	3,170	98.5%	Yes		3,215	1,981	61.6%	Yes	
Census Tract 93	6,154	6,015	97.7%	Yes		5,461	3,652	66.9%	Yes	
Census Tract 115.02	4,582	4,549	99.3%	Yes		4,394	3,005	68.4%	Yes	
Census Tract 117	1,443	1,427	98.9%	Yes		1,443	1,059	73.4%	Yes	
Census Tract 119	5,440	5,241	96.3%	Yes		5,437	3,705	68.1%	Yes	
Census Tract 121.02	1,447	1,442	99.7%	Yes		1,447	1,059	73.2%	Yes	
Census Tract 127.01	1,928	1,892	98.1%	Yes		1,918	1,233	64.3%	Yes	
Census Tract 159	1,969	1,955	99.3%	Yes		1,959	1,400	71.5%	Yes	
TOTAL Hunts Point	**26,181**	**25,691**	**98.1%**	**8**	**-**	**25,274**	**17,094**	**67.6%**	**8**	**-**
Kingsbridge Heights										
Census Tract 253	6,199	6,175	99.6%	Yes		6,145	3,966	64.5%	Yes	
Census Tract 255	7,674	7,441	97.0%	Yes		7,647	4,466	58.4%	Yes	
Census Tract 261	2,097	1,998	95.3%	Yes		2,027	195	9.6%		No
Census Tract 263	6,218	5,674	91.3%	Yes		5,692	3,993	70.2%	Yes	
Census Tract 265	7,851	7,607	96.9%	Yes		7,666	4,958	64.7%	Yes	
Census Tract 269	3,703	3,696	99.8%	Yes		3,703	1,973	53.3%	Yes	
TOTAL Kingsbridge Heights	**33,742**	**32,591**	**96.6%**	**6**	**-**	**32,880**	**19,551**	**59.5%**	**5**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Longwood										
Census Tract 83	6,713	6,578	98.0%	Yes		6,706	4,202	62.7%	Yes	
Census Tract 85	5,631	5,565	98.8%	Yes		5,349	3,176	59.4%	Yes	
Census Tract 87	6,127	6,011	98.1%	Yes		5,968	4,434	74.3%	Yes	
Census Tract 129.01	4,419	4,300	97.3%	Yes		4,406	2,973	67.5%	Yes	
Census Tract 131	5,084	4,980	98.0%	Yes		5,080	2,863	56.4%	Yes	
TOTAL Longwood	**27,974**	**27,434**	**98.1%**	**5**	**-**	**27,509**	**17,648**	**64.2%**	**5**	**-**
Melrose South-Mott Haven North										
Census Tract 65	5,377	5,079	94.5%	Yes		5,328	3,666	68.8%	Yes	
Census Tract 75	6,692	6,631	99.1%	Yes		6,681	3,919	58.7%	Yes	
Census Tract 77	2,022	1,960	96.9%	Yes		2,011	1,260	62.7%	Yes	
Census Tract 79	7,188	7,178	99.9%	Yes		7,163	5,056	70.6%	Yes	
Census Tract 67	6,705	6,687	99.7%	Yes		6,705	4,259	63.5%	Yes	
Census Tract 69	7,801	7,488	96.0%	Yes		7,747	4,442	57.3%	Yes	
Census Tract 71	2,795	2,743	98.1%	Yes		2,732	1,266	46.3%	Yes	
Census Tract 73	4,297	4,225	98.3%	Yes		4,276	3,167	74.1%	Yes	
TOTAL Melrose South-Mott Haven North	**42,877**	**41,991**	**97.9%**	**8**	**-**	**42,643**	**27,035**	**63.4%**	**8**	**-**
Morrisania-Melrose										
Census Tract 121.01	3,070	2,994	97.5%	Yes		2,983	1,516	50.8%	Yes	
Census Tract 125	3,860	3,807	98.6%	Yes		3,858	2,058	53.3%	Yes	
Census Tract 133	6,000	5,949	99.2%	Yes		5,966	3,057	51.2%	Yes	
Census Tract 135	3,590	3,590	100.0%	Yes		3,590	2,165	60.3%	Yes	
Census Tract 149	4,419	4,328	97.9%	Yes		4,201	2,451	58.3%	Yes	
Census Tract 151	5,309	5,235	98.6%	Yes		5,261	3,456	65.7%	Yes	
Census Tract 185	9,001	8,944	99.4%	Yes		8,922	5,552	62.2%	Yes	
Census Tract 141	5,851	5,746	98.2%	Yes		5,835	3,590	61.5%	Yes	
TOTAL Morrisania-Melrose	**41,100**	**40,593**	**98.8%**	**8**	**-**	**40,616**	**23,845**	**58.7%**	**8**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Mott Haven-Port Morris										
Census Tract 23	4,302	4,301	100.0%	Yes		4,301	3,013	70.1%	Yes	
Census Tract 25	5,610	5,390	96.1%	Yes		5,577	3,445	61.8%	Yes	
Census Tract 39	6,260	5,740	91.7%	Yes		6,152	4,014	65.2%	Yes	
Census Tract 41	5,942	5,840	98.3%	Yes		5,907	4,155	70.3%	Yes	
Census Tract 51	5,737	5,737	100.0%	Yes		5,728	3,957	69.1%	Yes	
Census Tract 31	1,689	1,665	98.6%	Yes		1,689	743	44.0%	Yes	
Census Tract 35	3,907	3,890	99.6%	Yes		3,887	2,417	62.2%	Yes	
Census Tract 19	3,141	2,801	89.2%	Yes		2,983	1,560	52.3%	Yes	
Census Tract 27.01	2,608	2,608	100.0%	Yes		2,608	2,047	78.5%	Yes	
Census Tract 27.02	4,560	4,524	99.2%	Yes		4,423	3,225	72.9%	Yes	
Census Tract 33	3,277	3,185	97.2%	Yes		3,246	2,392	73.7%	Yes	
Census Tract 37	250	229	91.6%	Yes		250	123	49.2%	Yes	
Census Tract 43	5,552	5,488	98.8%	Yes		5,534	3,891	70.3%	Yes	
TOTAL Mott Haven-Port Morris	**52,835**	**51,398**	**97.3%**	**13**	**-**	**52,285**	**34,982**	**66.9%**	**13**	**-**
Mount Hope										
Census Tract 229.02	3,614	3,582	99.1%	Yes		3,603	2,328	64.6%	Yes	
Census Tract 227.02	1,607	1,607	100.0%	Yes		1,607	927	57.7%	Yes	
Census Tract 227.03	1,688	1,614	95.6%	Yes		1,688	779	46.1%	Yes	
Census Tract 229.01	5,743	5,655	98.5%	Yes		5,743	3,317	57.8%	Yes	
Census Tract 231	1,537	1,497	97.4%	Yes		1,445	1,011	70.0%	Yes	
Census Tract 233.01	3,956	3,956	100.0%	Yes		3,948	2,013	51.0%	Yes	
Census Tract 233.02	3,706	3,659	98.7%	Yes		3,661	2,173	59.4%	Yes	
Census Tract 235.01	3,184	3,163	99.3%	Yes		3,184	1,881	59.1%	Yes	
Census Tract 235.02	4,153	4,136	99.6%	Yes		4,127	2,298	55.7%	Yes	
Census Tract 241	6,621	6,316	95.4%	Yes		6,597	3,641	55.2%	Yes	
Census Tract 379	5,469	5,453	99.7%	Yes		5,354	3,613	67.5%	Yes	
Census Tract 381	7,647	7,621	99.7%	Yes		7,647	4,460	58.3%	Yes	
Census Tract 227.01	5,151	5,073	98.5%	Yes		5,073	3,036	59.8%	Yes	
TOTAL Mount Hope	**54,076**	**53,332**	**98.6%**	**13**	**-**	**53,677**	**31,477**	**58.6%**	**13**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
North Riverdale-Fieldston-Riverdale										
Census Tract 335	2,048	632	30.9%		No	1,535	313	20.4%		No
Census Tract 351	3,740	1,709	45.7%		No	2,690	437	16.2%		No
Census Tract 307.01	5,726	1,622	28.3%		No	5,726	585	10.2%		No
Census Tract 319	633	313	49.4%		No	72	59	81.9%	Yes	
Census Tract 323	4,575	1,766	38.6%		No	4,498	656	14.6%		No
Census Tract 337	2,521	971	38.5%		No	2,521	391	15.5%		No
Census Tract 343	1,665	1,052	63.2%	Yes		1,469	315	21.4%		No
Census Tract 345	3,540	1,874	52.9%	Yes		3,343	899	26.9%		No
Census Tract 309	3,709	1,175	31.7%		No	2,812	312	11.1%		No
TOTAL North Riverdale-Fieldston-Riverdale	**28,157**	**11,114**	**39.5%**	**2**	**7**	**24,666**	**3,967**	**16.1%**	**1**	**8**
Norwood										
Census Tract 419	6,035	5,410	89.6%	Yes		5,993	3,431	57.3%	Yes	
Census Tract 421	5,661	5,176	91.4%	Yes		5,648	3,391	60.0%	Yes	
Census Tract 425	6,175	5,415	87.7%	Yes		6,173	3,646	59.1%	Yes	
Census Tract 423	4,313	3,705	85.9%	Yes		4,313	2,048	47.5%	Yes	
Census Tract 429.01	3,561	3,271	91.9%	Yes		3,554	2,045	57.5%	Yes	
Census Tract 429.02	4,041	3,843	95.1%	Yes		3,929	2,071	52.7%	Yes	
Census Tract 431	10,246	9,656	94.2%	Yes		9,814	5,699	58.1%	Yes	
TOTAL Norwood	**40,032**	**36,476**	**91.1%**	**7**	**-**	**39,424**	**22,331**	**56.6%**	**7**	**-**
park-cemetery-etc-Bronx										
Census Tract 24	155	90	58.1%	Yes		155	-	0.0%		No
Census Tract 163	-	-	0.0%		No	-	-	0.0%		No
Census Tract 171	-	-	0.0%		No	-	-	0.0%		No
Census Tract 435	499	483	96.8%	Yes		499	302	60.5%	Yes	
Census Tract 334	15	15	100.0%	Yes		15	5	33.3%	Yes	
Census Tract 276	24	24	100.0%	Yes		24	24	100.0%	Yes	
Census Tract 504	-	-	0.0%		No	-	-	0.0%		No
TOTAL park-cemetery-etc-Bronx	**693**	**612**	**88.3%**	**4**	**3**	**693**	**331**	**47.8%**	**3**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Parkchester										
Census Tract 210.01	8,930	8,735	97.8%	Yes		8,930	2,893	32.4%	Yes	
Census Tract 210.02	7,613	7,527	98.9%	Yes		7,613	2,705	35.5%	Yes	
Census Tract 212	4,850	4,782	98.6%	Yes		4,850	1,447	29.8%	Yes	
Census Tract 216.02	5,632	5,419	96.2%	Yes		5,614	2,018	35.9%	Yes	
Census Tract 222	3,293	3,112	94.5%	Yes		3,272	1,475	45.1%	Yes	
TOTAL Parkchester	**30,318**	**29,575**	**97.5%**	**5**	**-**	**30,279**	**10,538**	**34.8%**	**5**	**-**
Pelham Bay-Country Club-City Island										
Br N Census Tract 274.01	4,693	1,426	30.4%		No	4,693	743	15.8%		No
Br N Census Tract 274.02	3,481	1,204	34.6%		No	3,277	618	18.9%		No
Br N Census Tract 266.01	3,452	2,569	74.4%	Yes		3,452	982	28.4%	Yes	
Br N Census Tract 266.02	5,084	3,313	65.2%	Yes		5,084	1,631	32.1%	Yes	
Br N Census Tract 300	6,021	4,114	68.3%	Yes		5,998	2,023	33.7%	Yes	
Br N Census Tract 516	4,531	2,152	47.5%		No	4,531	830	18.3%		No
TOTAL Pelham Bay-Country Club-City Island	**27,262**	**14,778**	**54.2%**	**3**	**3**	**27,035**	**6,827**	**25.3%**	**3**	**3**
Pelham Parkway										
Census Tract 224.01	2,498	2,298	92.0%	Yes		2,492	1,010	40.5%	Yes	
Census Tract 224.03	3,194	2,563	80.2%	Yes		3,194	1,207	37.8%	Yes	
Census Tract 224.04	4,203	3,457	82.3%	Yes		4,203	1,446	34.4%	Yes	
Census Tract 228	6,128	5,040	82.2%	Yes		6,128	2,125	34.7%	Yes	
Census Tract 246	2,011	1,156	57.5%	Yes		2,007	458	22.8%		No
Census Tract 248	3,078	1,593	51.8%	Yes		2,765	578	20.9%		No
Census Tract 250	2,591	1,321	51.0%	Yes		2,589	553	21.4%		No
Census Tract 288	3,330	1,627	48.9%		No	3,330	930	27.9%	Yes	
Census Tract 296	1,575	1,210	76.8%	Yes		1,484	363	24.5%		No
TOTAL Pelham Parkway	**28,608**	**20,265**	**70.8%**	**8**	**1**	**28,192**	**8,670**	**30.8%**	**5**	**4**
Rikers Island										
Census Tract 1	6,864	6,261	91.2%	Yes		-	-	0.0%		
TOTAL Rikers Island	**6,864**	**6,261**	**91.2%**	**1**	**-**	**-**	**-**	**0.0%**	**-**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Schuylerville-Throgs Neck-Edgewater Park										
Census Tract 110	-	-	0.0%		No	-	-	0.0%		No
Census Tract 130	1,476	818	55.4%	Yes		1,476	163	11.0%		No
Census Tract 132	7,272	5,229	71.9%	Yes		7,257	779	10.7%		No
Census Tract 138	2,588	1,227	47.4%		No	2,588	689	26.6%		No
Census Tract 144	5,138	5,038	98.1%	Yes		5,055	2,998	59.3%	Yes	
Census Tract 152	2,481	1,691	68.2%	Yes		2,481	869	35.0%	Yes	
Census Tract 158	1,314	782	59.5%	Yes		1,311	347	26.5%		No
Census Tract 160	3,666	1,703	46.5%		No	3,662	794	21.7%		No
Census Tract 162	1,870	1,279	68.4%	Yes		1,675	525	31.3%	Yes	
Census Tract 164	1,046	335	32.0%		No	1,046	156	14.9%		No
Census Tract 166	2,244	1,764	78.6%	Yes		2,244	623	27.8%	Yes	
Census Tract 184	3,793	2,254	59.4%	Yes		3,793	836	22.0%		No
Census Tract 194	2,375	2,017	84.9%	Yes		2,375	1,080	45.5%	Yes	
Census Tract 264	4,868	3,254	66.8%	Yes		4,868	1,331	27.3%	Yes	
Census Tract 118	5,503	2,398	43.6%		No	4,106	731	17.8%		No
TOTAL Schuylerville-Throgs Neck-Edgewater Park	**45,634**	**29,789**	**65.3%**	**10**	**5**	**43,937**	**11,921**	**27.1%**	**6**	**9**
Soundview-Bruckner										
Census Tract 40.01	1,475	1,347	91.3%	Yes		1,475	457	31.0%	Yes	
Census Tract 44	4,401	4,107	93.3%	Yes		4,209	3,128	74.3%	Yes	
Census Tract 48	4,563	4,535	99.4%	Yes		4,534	2,391	52.7%	Yes	
Census Tract 50.01	4,604	4,562	99.1%	Yes		4,431	2,832	63.9%	Yes	
Census Tract 50.02	5,592	5,532	98.9%	Yes		5,552	3,824	68.9%	Yes	
Census Tract 52	1,956	1,956	100.0%	Yes		1,956	1,292	66.1%	Yes	
Census Tract 68	3,230	3,230	100.0%	Yes		3,230	1,601	49.6%	Yes	
Census Tract 70	4,378	4,227	96.6%	Yes		4,362	2,471	56.6%	Yes	
Census Tract 72	6,255	5,882	94.0%	Yes		6,211	3,250	52.3%	Yes	
TOTAL Soundview-Bruckner	**36,454**	**35,378**	**97.0%**	**9**	**-**	**35,960**	**21,246**	**59.1%**	**9**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Soundview-Castle Hill-Clason Point-Harding Park										
Census Tract 90	3,459	3,404	98.4%	Yes		3,434	2,289	66.7%	Yes	
Census Tract 2	4,532	4,499	99.3%	Yes		4,532	1,903	42.0%	Yes	
Census Tract 4	5,516	5,129	93.0%	Yes		5,503	1,168	21.2%		No
Census Tract 16	5,825	5,612	96.3%	Yes		5,603	3,300	58.9%	Yes	
Census Tract 20	9,040	9,019	99.8%	Yes		8,984	5,951	66.2%	Yes	
Census Tract 28	5,151	5,100	99.0%	Yes		5,121	1,409	27.5%	Yes	
Census Tract 38	1,350	1,350	100.0%	Yes		1,328	572	43.1%	Yes	
Census Tract 42	7,697	7,288	94.7%	Yes		7,660	3,438	44.9%	Yes	
Census Tract 46	1,961	1,866	95.2%	Yes		1,946	1,272	65.4%	Yes	
Census Tract 74	3,634	3,555	97.8%	Yes		3,634	1,514	41.7%	Yes	
Census Tract 84	2,899	2,834	97.8%	Yes		2,878	708	24.6%		No
Census Tract 86	3,936	3,871	98.3%	Yes		3,833	2,603	67.9%	Yes	
TOTAL Soundview-Castle Hill-Clason Point-Harding Park	**55,000**	**53,527**	**97.3%**	**12**	**-**	**54,456**	**26,127**	**48.0%**	**10**	**2**
Spuyten Duyvil-Kingsbridge										
Census Tract 293.01	1,806	584	32.3%		No	1,620	130	8.0%		No
Census Tract 283	2,489	2,192	88.1%	Yes		2,487	1,586	63.8%	Yes	
Census Tract 285	3,523	1,910	54.2%	Yes		3,495	1,164	33.3%	Yes	
Census Tract 287	3,153	2,389	75.8%	Yes		3,153	1,017	32.3%	Yes	
Census Tract 289	4,807	3,992	83.0%	Yes		4,623	1,857	40.2%	Yes	
Census Tract 295	4,564	1,935	42.4%		No	4,564	430	9.4%		No
Census Tract 293.02	5,569	2,181	39.2%		No	5,435	984	18.1%		No
Census Tract 297	3,799	1,308	34.4%		No	3,552	323	9.1%		No
Census Tract 301	1,413	713	50.5%	Yes		1,043	175	16.8%		No
TOTAL Spuyten Duyvil-Kingsbridge	**31,123**	**17,204**	**55.3%**	**5**	**4**	**29,972**	**7,666**	**25.6%**	**4**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
University Heights-Morris Heights										
Census Tract 53	4,888	4,832	98.9%	Yes		4,867	4,036	82.9%	Yes	
Census Tract 205.01	6,976	6,903	99.0%	Yes		6,955	4,669	67.1%	Yes	
Census Tract 205.02	2,160	2,124	98.3%	Yes		2,160	1,201	55.6%	Yes	
Census Tract 213.01	1,267	1,197	94.5%	Yes		1,267	699	55.2%	Yes	
Census Tract 251	7,360	7,296	99.1%	Yes		7,340	4,464	60.8%	Yes	
Census Tract 215.01	4,565	4,509	98.8%	Yes		4,396	2,438	55.5%	Yes	
Census Tract 215.02	6,532	6,513	99.7%	Yes		6,344	4,513	71.1%	Yes	
Census Tract 217	5,124	5,023	98.0%	Yes		5,078	2,860	56.3%	Yes	
Census Tract 243	5,737	5,663	98.7%	Yes		5,737	3,467	60.4%	Yes	
Census Tract 245.01	4,871	4,803	98.6%	Yes		4,871	3,572	73.3%	Yes	
Census Tract 245.02	3,677	3,649	99.2%	Yes		3,577	2,271	63.5%	Yes	
Census Tract 247	2,058	2,030	98.6%	Yes		2,058	946	46.0%	Yes	
Census Tract 249	-	-	0.0%		No	-	-	0.0%		No
Census Tract 257	1,999	1,963	98.2%	Yes		1,999	817	40.9%	Yes	
TOTAL University Heights-Morris Heights	**57,214**	**56,505**	**98.8%**	**13**	**1**	**56,649**	**35,953**	**63.5%**	**13**	**1**
Van Cortlandt Village										
Census Tract 267.01	4,185	4,068	97.2%	Yes		4,185	2,198	52.5%	Yes	
Census Tract 267.02	7,895	7,659	97.0%	Yes		7,815	5,308	67.9%	Yes	
Census Tract 273	7,778	7,332	94.3%	Yes		7,557	4,096	54.2%	Yes	
Census Tract 277	4,660	4,120	88.4%	Yes		4,660	2,324	49.9%	Yes	
Census Tract 279	7,379	6,299	85.4%	Yes		6,923	2,770	40.0%	Yes	
Census Tract 281	3,954	2,739	69.3%	Yes		3,679	934	25.4%		No
Census Tract 403.03	4,900	4,850	99.0%	Yes		4,872	2,860	58.7%	Yes	
Census Tract 403.04	3,593	3,556	99.0%	Yes		3,570	2,237	62.7%	Yes	
Census Tract 407.01	3,120	3,016	96.7%	Yes		3,120	1,580	50.6%	Yes	
Census Tract 409	3,194	2,538	79.5%	Yes		3,185	1,094	34.3%	Yes	
TOTAL Van Cortlandt Village	**50,658**	**46,177**	**91.2%**	**10**	**-**	**49,566**	**25,401**	**51.2%**	**9**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Van Nest-Morris Park-Westchester Square										
Census Tract 238	2,241	1,832	81.7%	Yes		2,227	839	37.7%	Yes	
Census Tract 240	3,903	3,494	89.5%	Yes		3,878	1,781	45.9%	Yes	
Census Tract 284	554	235	42.4%		No	109	109	100.0%	Yes	
Census Tract 200	4,711	4,581	97.2%	Yes		4,700	2,842	60.5%	Yes	
Census Tract 230	2,802	2,269	81.0%	Yes		2,802	1,538	54.9%	Yes	
Census Tract 232	2,476	1,772	71.6%	Yes		2,464	986	40.0%	Yes	
Census Tract 236	1,816	1,252	68.9%	Yes		1,754	763	43.5%	Yes	
Census Tract 244	2,146	1,398	65.1%	Yes		2,146	569	26.5%		No
Census Tract 252	2,787	1,684	60.4%	Yes		2,780	939	33.8%	Yes	
Census Tract 254	1,997	805	40.3%		No	1,997	667	33.4%	Yes	
Census Tract 256	1,696	1,432	84.4%	Yes		1,625	647	39.8%	Yes	
Census Tract 286	1,085	601	55.4%	Yes		1,085	237	21.8%		No
TOTAL Van Nest-Morris Park-Westchester Square	**28,214**	**21,355**	**75.7%**	**10**	**2**	**27,567**	**11,917**	**43.2%**	**10**	**2**
West Concourse										
Census Tract 63	4,582	4,120	89.9%	Yes		4,571	2,227	48.7%	Yes	
Census Tract 195	7,060	6,918	98.0%	Yes		6,994	4,039	57.7%	Yes	
Census Tract 197	7,561	7,485	99.0%	Yes		7,527	4,615	61.3%	Yes	
Census Tract 209	4,287	4,123	96.2%	Yes		4,287	2,624	61.2%	Yes	
Census Tract 221.01	4,133	4,122	99.7%	Yes		4,122	2,544	61.7%	Yes	
Census Tract 221.02	5,411	5,356	99.0%	Yes		5,411	4,125	76.2%	Yes	
Census Tract 223	5,278	5,152	97.6%	Yes		5,143	3,205	62.3%	Yes	
TOTAL West Concourse	**38,312**	**37,276**	**97.3%**	**7**	**-**	**38,055**	**23,379**	**61.4%**	**7**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
West Farms-Bronx River										
Census Tract 54	5,324	5,246	98.5%	Yes		5,324	3,094	58.1%	Yes	
Census Tract 56	2,279	2,224	97.6%	Yes		2,279	1,263	55.4%	Yes	
Census Tract 62	7,233	7,116	98.4%	Yes		7,233	5,581	77.2%	Yes	
Census Tract 64	3,932	3,738	95.1%	Yes		3,855	2,011	52.2%	Yes	
Census Tract 76	5,311	5,103	96.1%	Yes		5,266	3,046	57.8%	Yes	
Census Tract 216.01	4,720	4,521	95.8%	Yes		4,720	2,637	55.9%	Yes	
Census Tract 218	6,520	6,377	97.8%	Yes		6,507	3,720	57.2%	Yes	
TOTAL West Farms-Bronx River	**35,319**	**34,325**	**97.2%**	**7**	**-**	**35,184**	**21,352**	**60.7%**	**7**	**-**
Westchester-Unionport										
Census Tract 78	7,415	7,195	97.0%	Yes		7,390	3,800	51.4%	Yes	
Census Tract 92	5,848	5,590	95.6%	Yes		5,820	2,653	45.6%	Yes	
Census Tract 96	2,792	2,613	93.6%	Yes		2,590	1,205	46.5%	Yes	
Census Tract 98	4,756	4,589	96.5%	Yes		4,687	1,205	25.7%		No
Census Tract 202	2,385	2,281	95.6%	Yes		2,348	1,260	53.7%	Yes	
Census Tract 204	3,011	2,742	91.1%	Yes		3,005	1,210	40.3%	Yes	
Census Tract 206.01	2,237	2,158	96.5%	Yes		2,237	1,134	50.7%	Yes	
TOTAL Westchester-Unionport	**28,444**	**27,168**	**95.5%**	**7**	**-**	**28,077**	**12,467**	**44.4%**	**6**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Williamsbridge-Olinville										
Census Tract 368	2,109	2,052	97.3%	Yes		2,000	749	37.5%	Yes	
Census Tract 370	2,416	2,378	98.4%	Yes		2,416	1,030	42.6%	Yes	
Census Tract 372	2,132	2,114	99.2%	Yes		2,130	784	36.8%	Yes	
Census Tract 374	3,861	3,787	98.1%	Yes		3,847	2,213	57.5%	Yes	
Census Tract 376	2,197	1,980	90.1%	Yes		2,168	748	34.5%	Yes	
Census Tract 378	2,900	2,870	99.0%	Yes		2,882	1,131	39.2%	Yes	
Census Tract 380	5,239	5,031	96.0%	Yes		5,191	2,952	56.9%	Yes	
Census Tract 382	3,100	3,051	98.4%	Yes		3,085	1,438	46.6%	Yes	
Census Tract 388	2,763	2,714	98.2%	Yes		2,763	930	33.7%	Yes	
Census Tract 390	2,861	2,792	97.6%	Yes		2,861	1,303	45.5%	Yes	
Census Tract 392	1,602	1,582	98.8%	Yes		1,602	432	27.0%	Yes	
Census Tract 394	5,647	5,586	98.9%	Yes		5,421	2,684	49.5%	Yes	
Census Tract 396	5,022	4,981	99.2%	Yes		5,015	2,604	51.9%	Yes	
Census Tract 398	3,842	3,831	99.7%	Yes		3,816	742	19.4%		No
Census Tract 404	3,600	3,567	99.1%	Yes		3,600	516	14.3%		No
Census Tract 406	3,547	3,545	99.9%	Yes		3,543	1,337	37.7%	Yes	
Census Tract 408	4,826	4,365	90.4%	Yes		4,811	2,438	50.7%	Yes	
Census Tract 420	4,206	4,071	96.8%	Yes		4,121	2,158	52.4%	Yes	
Census Tract 422	3,285	3,176	96.7%	Yes		3,285	964	29.3%	Yes	
Census Tract 424	2,569	2,484	96.7%	Yes		2,322	467	20.1%		No
TOTAL Williamsbridge-Olinville	**67,724**	**65,957**	**97.4%**	**20**	**-**	**66,879**	**27,620**	**41.3%**	**17**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Woodlawn-Wakefield										
Census Tract 426	6,729	6,312	93.8%	Yes		6,627	1,770	26.7%		No
Census Tract 448	2,075	2,013	97.0%	Yes		2,067	421	20.4%		No
Census Tract 428	2,120	2,065	97.4%	Yes		2,120	566	26.7%		No
Census Tract 430	3,499	3,439	98.3%	Yes		3,499	1,298	37.1%	Yes	
Census Tract 444	4,295	4,173	97.2%	Yes		4,278	1,208	28.2%	Yes	
Census Tract 414	5,158	4,989	96.7%	Yes		5,131	1,892	36.9%	Yes	
Census Tract 418	3,876	3,777	97.4%	Yes		3,804	1,618	42.5%	Yes	
Census Tract 434	3,710	3,592	96.8%	Yes		3,710	1,395	37.6%	Yes	
Census Tract 436	2,020	1,884	93.3%	Yes		2,020	445	22.0%		No
Census Tract 442	4,019	4,007	99.7%	Yes		4,009	1,379	34.4%	Yes	
Census Tract 449.01	1,763	403	22.9%		No	1,756	283	16.1%		No
Census Tract 449.02	2,041	588	28.8%		No	2,026	603	29.8%	Yes	
Census Tract 451.01	1,455	343	23.6%		No	1,451	252	17.4%		No
Census Tract 451.02	1,955	503	25.7%		No	1,955	232	11.9%		No
TOTAL Woodlawn-Wakefield	**44,715**	**38,088**	**85.2%**	**10**	**4**	**44,453**	**13,362**	**30.1%**	**7**	**7**
TOTAL Bronx County	***1,435,068***	***1,303,928***	***90.9%***	***308***	***31***	***1,400,341***	***714,262***	***51.0%***	***275***	***63***

Table 17C-4

Environmental Justice Populations: Kings County (Brooklyn), NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Kings County, New York										
Bath Beach										
Census Tract 178	3,073	2,323	75.6%	Yes		2,859	1,132	39.6%	Yes	
Census Tract 180	3,518	2,376	67.5%	Yes		3,518	1,183	33.6%	Yes	
Census Tract 280	1,829	1,117	61.1%	Yes		1,829	585	32.0%	Yes	
Census Tract 282	3,762	2,641	70.2%	Yes		3,762	1,485	39.5%	Yes	
Census Tract 168	1,905	914	48.0%		No	1,905	398	20.9%		No
Census Tract 170	3,484	2,143	61.5%	Yes		3,484	1,002	28.8%	Yes	
Census Tract 172	3,262	2,223	68.1%	Yes		3,262	713	21.9%		No
Census Tract 174	2,191	1,096	50.0%	Yes		2,191	513	23.4%		No
Census Tract 176	2,413	1,067	44.2%		No	2,413	835	34.6%	Yes	
Census Tract 286	5,110	2,708	53.0%	Yes		5,110	2,764	54.1%	Yes	
Census Tract 292	3,033	1,754	57.8%	Yes		3,033	1,151	37.9%	Yes	
TOTAL Bath Beach	**33,580**	**20,362**	**60.6%**	**9**	**2**	**33,366**	**11,761**	**35.2%**	**8**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Bay Ridge										
Census Tract 36	3,500	1,439	41.1%		No	3,498	770	22.0%		No
Census Tract 38	1,371	457	33.3%		No	1,371	349	25.5%		No
Census Tract 44	2,518	484	19.2%		No	2,518	239	9.5%		No
Census Tract 46	1,301	304	23.4%		No	1,301	170	13.1%		No
Census Tract 50	2,260	507	22.4%		No	2,260	148	6.5%		No
Census Tract 52.01	1,707	599	35.1%		No	1,707	606	35.5%	Yes	
Census Tract 52.02	2,442	347	14.2%		No	2,431	646	26.6%		No
Census Tract 54	3,185	995	31.2%		No	3,171	819	25.8%		No
Census Tract 56.01	2,447	702	28.7%		No	2,447	516	21.1%		No
Census Tract 56.02	1,687	617	36.6%		No	1,687	320	19.0%		No
Census Tract 58	2,827	972	34.4%		No	2,820	728	25.8%		No
Census Tract 60	3,148	1,562	49.6%		No	3,148	661	21.0%		No
Census Tract 62	2,676	1,008	37.7%		No	2,669	630	23.6%		No
Census Tract 64	3,042	765	25.1%		No	3,040	604	19.9%		No
Census Tract 66	3,542	1,253	35.4%		No	3,541	1,148	32.4%	Yes	
Census Tract 68	4,900	2,880	58.8%	Yes		4,848	2,209	45.6%	Yes	
Census Tract 126	2,838	2,079	73.3%	Yes		2,838	1,524	53.7%	Yes	
Census Tract 130	4,615	2,336	50.6%	Yes		4,602	2,012	43.7%	Yes	
Census Tract 134	4,117	1,611	39.1%		No	4,115	1,264	30.7%	Yes	
Census Tract 136	3,609	921	25.5%		No	3,607	795	22.0%		No
Census Tract 138	3,169	1,214	38.3%		No	3,163	709	22.4%		No
Census Tract 142	3,051	1,219	40.0%		No	3,051	668	21.9%		No
Census Tract 160	3,965	1,851	46.7%		No	3,955	944	23.9%		No
Census Tract 162	2,294	868	37.8%		No	2,294	670	29.2%	Yes	
Census Tract 164	1,264	792	62.7%	Yes		1,074	31	2.9%		No
Census Tract 30	1,718	743	43.2%		No	1,718	309	18.0%		No
Census Tract 34	3,161	1,514	47.9%		No	3,119	760	24.4%		No
Census Tract 70	2,538	1,167	46.0%		No	2,511	466	18.6%		No
TOTAL Bay Ridge	**78,892**	**31,206**	**39.6%**	**4**	**24**	**78,504**	**20,715**	**26.4%**	**7**	**21**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Bedford										
Census Tract 243	4,122	2,779	67.4%	Yes		4,095	1,486	36.3%	Yes	
Census Tract 245	4,491	3,267	72.7%	Yes		4,491	1,145	25.5%		No
Census Tract 249	4,018	2,677	66.6%	Yes		4,008	1,058	26.4%		No
Census Tract 251	3,741	2,865	76.6%	Yes		3,741	1,714	45.8%	Yes	
Census Tract 265	4,118	3,241	78.7%	Yes		4,075	1,310	32.1%	Yes	
Census Tract 267	4,055	2,901	71.5%	Yes		3,927	1,158	29.5%	Yes	
Census Tract 269	3,147	2,673	84.9%	Yes		3,128	949	30.3%	Yes	
Census Tract 233	5,884	4,171	70.9%	Yes		5,864	2,227	38.0%	Yes	
Census Tract 241	2,765	1,195	43.2%		No	2,658	1,282	48.2%	Yes	
Census Tract 253	3,496	2,437	69.7%	Yes		3,496	1,682	48.1%	Yes	
Census Tract 255	5,598	5,533	98.8%	Yes		5,582	4,331	77.6%	Yes	
Census Tract 257	2,476	1,813	73.2%	Yes		2,470	983	39.8%	Yes	
Census Tract 259.01	2,257	1,621	71.8%	Yes		2,257	1,059	46.9%	Yes	
Census Tract 259.02	3,533	3,533	100.0%	Yes		3,508	3,230	92.1%	Yes	
Census Tract 261	4,497	3,601	80.1%	Yes		4,495	1,947	43.3%	Yes	
Census Tract 263	2,015	1,533	76.1%	Yes		2,007	955	47.6%	Yes	
Census Tract 507	3,063	721	23.5%		No	3,063	2,206	72.0%	Yes	
Census Tract 531	8,833	383	4.3%		No	8,833	6,130	69.4%	Yes	
Census Tract 1237	6,966	910	13.1%		No	6,966	4,802	68.9%	Yes	
TOTAL Bedford	**79,075**	**47,854**	**60.5%**	**15**	**4**	**78,664**	**39,654**	**50.4%**	**17**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Bensonhurst East										
Census Tract 298	3,794	2,348	61.9%	Yes		3,782	1,645	43.5%	Yes	
Census Tract 300	4,207	3,004	71.4%	Yes		4,207	1,991	47.3%	Yes	
Census Tract 302	4,448	2,879	64.7%	Yes		4,448	1,425	32.0%	Yes	
Census Tract 304	4,189	2,641	63.0%	Yes		4,182	1,882	45.0%	Yes	
Census Tract 400	3,003	1,783	59.4%	Yes		2,978	940	31.6%	Yes	
Census Tract 402	2,988	2,024	67.7%	Yes		2,988	1,091	36.5%	Yes	
Census Tract 404	2,459	1,373	55.8%	Yes		2,443	783	32.1%	Yes	
Census Tract 406	3,692	2,611	70.7%	Yes		3,692	1,995	54.0%	Yes	
Census Tract 408	3,646	2,586	70.9%	Yes		3,646	826	22.7%		No
Census Tract 410	2,048	706	34.5%		No	2,029	1,006	49.6%	Yes	
Census Tract 412	3,328	1,537	46.2%		No	3,328	1,191	35.8%	Yes	
Census Tract 424	3,480	1,870	53.7%	Yes		3,480	1,428	41.0%	Yes	
Census Tract 426	4,302	2,776	64.5%	Yes		4,276	1,782	41.7%	Yes	
Census Tract 428	3,785	1,679	44.4%		No	3,785	1,291	34.1%	Yes	
Census Tract 430	3,283	1,834	55.9%	Yes		3,283	1,969	60.0%	Yes	
Census Tract 432	4,341	2,851	65.7%	Yes		4,341	1,702	39.2%	Yes	
Census Tract 434	3,537	1,967	55.6%	Yes		3,505	1,502	42.9%	Yes	
Census Tract 436	5,059	2,518	49.8%		No	5,059	1,633	32.3%	Yes	
TOTAL Bensonhurst East	**65,589**	**38,987**	**59.4%**	**14**	**4**	**65,452**	**26,082**	**39.8%**	**17**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Bensonhurst West										
Census Tract 182	3,501	2,411	68.9%	Yes		3,501	1,390	39.7%	Yes	Yes
Census Tract 184	2,617	1,465	56.0%	Yes		2,608	771	29.6%	Yes	Yes
Census Tract 186	2,155	1,007	46.7%		No	2,155	992	46.0%	Yes	
Census Tract 188	2,836	1,359	47.9%		No	2,836	690	24.3%		No
Census Tract 190	4,763	3,386	71.1%	Yes		4,754	2,040	42.9%	Yes	
Census Tract 248	2,653	1,695	63.9%	Yes		2,653	955	36.0%	Yes	
Census Tract 250	1,853	1,628	87.9%	Yes		1,848	906	49.0%	Yes	
Census Tract 252	5,299	3,435	64.8%	Yes		5,277	2,023	38.3%	Yes	
Census Tract 254	3,413	2,062	60.4%	Yes		3,406	1,602	47.0%	Yes	
Census Tract 256	3,199	2,461	76.9%	Yes		3,190	1,776	55.7%	Yes	
Census Tract 258	4,354	2,504	57.5%	Yes		4,331	2,026	46.8%	Yes	
Census Tract 260	3,214	2,102	65.4%	Yes		3,214	1,391	43.3%	Yes	
Census Tract 262	2,425	1,679	69.2%	Yes		2,425	803	33.1%	Yes	
Census Tract 264	4,594	3,324	72.4%	Yes		4,587	1,896	41.3%	Yes	
Census Tract 266	3,517	2,782	79.1%	Yes		3,517	1,600	45.5%	Yes	
Census Tract 268	3,965	2,362	59.6%	Yes		3,960	1,845	46.6%	Yes	
Census Tract 270	2,139	856	40.0%		No	2,139	1,036	48.4%	Yes	
Census Tract 272	3,755	2,479	66.0%	Yes		3,755	1,368	36.4%	Yes	
Census Tract 274	3,602	2,282	63.4%	Yes		3,543	1,292	36.5%	Yes	
Census Tract 276	3,646	2,680	73.5%	Yes		3,609	1,861	51.6%	Yes	
Census Tract 278	3,118	1,896	60.8%	Yes		3,118	888	28.5%	Yes	
Census Tract 284	3,532	2,062	58.4%	Yes		3,532	1,278	36.2%	Yes	
Census Tract 288	3,836	2,452	63.9%	Yes		3,792	1,693	44.6%	Yes	
Census Tract 290	3,580	1,389	38.8%		No	3,580	1,588	44.4%	Yes	
Census Tract 294	2,474	1,251	50.6%	Yes		2,105	1,014	48.2%	Yes	
Census Tract 296	5,849	3,091	52.8%	Yes		5,849	2,583	44.2%	Yes	
TOTAL Bensonhurst West	**89,889**	**56,100**	**62.4%**	**22**	**4**	**89,284**	**37,307**	**41.8%**	**25**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Borough Park										
Census Tract 116	3,594	3,178	88.4%	Yes		3,594	2,313	64.4%	Yes	
Census Tract 214	2,187	1,034	47.3%		No	2,181	1,188	54.5%	Yes	
Census Tract 192	2,934	1,850	63.1%	Yes		2,921	1,641	56.2%	Yes	
Census Tract 216	4,022	771	19.2%		No	3,931	2,359	60.0%	Yes	
Census Tract 218	3,128	373	11.9%		No	3,128	2,138	68.4%	Yes	
Census Tract 234	4,563	230	5.0%		No	4,512	3,192	70.7%	Yes	
Census Tract 236	5,549	379	6.8%		No	5,549	4,069	73.3%	Yes	
Census Tract 238	3,634	171	4.7%		No	3,634	2,195	60.4%	Yes	
Census Tract 240	4,823	578	12.0%		No	4,745	3,307	69.7%	Yes	
Census Tract 242	2,868	320	11.2%		No	2,868	1,329	46.3%	Yes	
Census Tract 244	3,609	745	20.6%		No	3,564	1,660	46.6%	Yes	
Census Tract 246	2,880	1,338	46.5%		No	2,879	1,068	37.1%	Yes	
Census Tract 446	2,092	1,302	62.2%	Yes		2,090	830	39.7%	Yes	
Census Tract 464	2,638	351	13.3%		No	2,622	1,300	49.6%	Yes	
Census Tract 468	2,168	96	4.4%		No	2,168	1,161	53.6%	Yes	
Census Tract 470	2,603	243	9.3%		No	2,603	1,133	43.5%	Yes	
Census Tract 472	2,769	58	2.1%		No	2,731	1,667	61.0%	Yes	
Census Tract 474	2,385	48	2.0%		No	2,385	1,524	63.9%	Yes	
Census Tract 476	3,385	161	4.8%		No	3,361	1,684	50.1%	Yes	
Census Tract 478	3,666	835	22.8%		No	3,666	1,945	53.1%	Yes	
Census Tract 114	3,796	1,880	49.5%		No	3,285	2,176	66.2%	Yes	
Census Tract 220	4,776	960	20.1%		No	4,742	3,625	76.4%	Yes	
Census Tract 222	4,008	263	6.6%		No	4,008	2,852	71.2%	Yes	
Census Tract 224	5,785	1,605	27.7%		No	5,785	3,947	68.2%	Yes	
Census Tract 226	2,233	1,334	59.7%	Yes		2,233	1,375	61.6%	Yes	
Census Tract 228	3,627	1,253	34.5%		No	3,537	2,155	60.9%	Yes	
Census Tract 230	4,251	680	16.0%		No	4,251	2,891	68.0%	Yes	
Census Tract 232	5,561	1,093	19.7%		No	5,533	3,704	66.9%	Yes	
TOTAL Borough Park	**99,534**	**23,129**	**23.2%**	**4**	**24**	**98,506**	**60,428**	**61.3%**	**28**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Brighton Beach										
Census Tract 360.01	3,155	265	8.4%		No	3,155	1,637	51.9%	Yes	
Census Tract 360.02	4,074	393	9.6%		No	4,069	2,495	61.3%	Yes	
Census Tract 362	3,855	2,010	52.1%	Yes		3,832	2,096	54.7%	Yes	
Census Tract 364	2,443	811	33.2%		No	2,443	1,006	41.2%	Yes	
Census Tract 366	4,268	2,226	52.2%	Yes		3,970	1,996	50.3%	Yes	
Census Tract 370	4,231	1,509	35.7%		No	4,215	1,283	30.4%	Yes	
Census Tract 610.02	4,898	94	1.9%		No	4,898	888	18.1%		No
Census Tract 610.03	1,669	1,136	68.1%	Yes		1,669	1,025	61.4%	Yes	
Census Tract 610.04	6,221	1,210	19.5%		No	6,221	3,090	49.7%	Yes	
TOTAL Brighton Beach	**34,814**	**9,654**	**27.7%**	**3**	**6**	**34,472**	**15,516**	**45.0%**	**8**	**1**
Brooklyn Heights-Cobble Hill										
Census Tract 1	4,405	1,494	33.9%		No	4,364	766	17.6%		No
Census Tract 3.01	3,924	637	16.2%		No	3,908	658	16.8%		No
Census Tract 5.01	4,308	1,340	31.1%		No	3,042	395	13.0%		No
Census Tract 5.02	2,697	554	20.5%		No	2,598	159	6.1%		No
Census Tract 7	3,906	769	19.7%		No	3,861	382	9.9%		No
Census Tract 9	4,518	1,321	29.2%		No	4,102	328	8.0%		No
TOTAL Brooklyn Heights-Cobble Hill	**23,758**	**6,115**	**25.7%**	**-**	**6**	**21,875**	**2,688**	**12.3%**	**-**	**6**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Brownsville										
Census Tract 892	3,265	3,204	98.1%	Yes		3,254	2,119	65.1%	Yes	
Census Tract 900	3,912	3,903	99.8%	Yes		3,873	2,412	62.3%	Yes	
Census Tract 910	4,196	4,196	100.0%	Yes		4,183	3,296	78.8%	Yes	
Census Tract 920	2,523	2,512	99.6%	Yes		2,523	1,458	57.8%	Yes	
Census Tract 894	3,254	3,130	96.2%	Yes		3,226	1,617	50.1%	Yes	
Census Tract 896	3,160	3,144	99.5%	Yes		3,160	1,385	43.8%	Yes	
Census Tract 898	1,820	1,762	96.8%	Yes		1,820	592	32.5%	Yes	
Census Tract 902	3,309	3,225	97.5%	Yes		3,269	2,015	61.6%	Yes	
Census Tract 906	3,295	3,270	99.2%	Yes		3,295	2,634	79.9%	Yes	
Census Tract 908	5,992	5,882	98.2%	Yes		5,669	5,001	88.2%	Yes	
Census Tract 912	5,589	5,580	99.8%	Yes		5,589	4,453	79.7%	Yes	
Census Tract 916	3,481	3,455	99.3%	Yes		3,463	2,372	68.5%	Yes	
Census Tract 918	2,250	2,246	99.8%	Yes		2,229	1,389	62.3%	Yes	
Census Tract 922	2,537	2,502	98.6%	Yes		2,537	1,094	43.1%	Yes	
Census Tract 924	2,653	2,647	99.8%	Yes		2,592	1,660	64.0%	Yes	
TOTAL Brownsville	**51,236**	**50,658**	**98.9%**	**15**	**-**	**50,682**	**33,497**	**66.1%**	**15**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Bushwick North										
Census Tract 427	4,896	3,536	72.2%	Yes		4,896	2,437	49.8%	Yes	
Census Tract 429	5,441	4,189	77.0%	Yes		5,441	2,906	53.4%	Yes	
Census Tract 431	4,694	3,314	70.6%	Yes		4,694	2,582	55.0%	Yes	
Census Tract 445	4,729	3,879	82.0%	Yes		4,729	2,023	42.8%	Yes	
Census Tract 447	2,545	1,918	75.4%	Yes		2,493	1,332	53.4%	Yes	
Census Tract 453	2,578	1,897	73.6%	Yes		2,572	1,649	64.1%	Yes	
Census Tract 409	3,836	3,406	88.8%	Yes		3,836	1,994	52.0%	Yes	
Census Tract 433	3,628	3,358	92.6%	Yes		3,592	2,084	58.0%	Yes	
Census Tract 435	5,115	4,725	92.4%	Yes		5,074	1,897	37.4%	Yes	
Census Tract 437	5,696	4,618	81.1%	Yes		5,658	2,480	43.8%	Yes	
Census Tract 439	3,515	3,237	92.1%	Yes		3,503	1,726	49.3%	Yes	
Census Tract 441	5,124	4,270	83.3%	Yes		5,020	2,406	47.9%	Yes	
Census Tract 443	4,587	3,540	77.2%	Yes		4,587	1,894	41.3%	Yes	
TOTAL Bushwick North	**56,384**	**45,887**	**81.4%**	**13**	**-**	**56,095**	**27,410**	**48.9%**	**13**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Bushwick South										
Census Tract 285.01	454	352	77.5%	Yes		432	193	44.7%	Yes	
Census Tract 389	2,837	1,933	68.1%	Yes		2,822	999	35.4%	Yes	
Census Tract 391	3,239	2,402	74.2%	Yes		3,239	1,338	41.3%	Yes	
Census Tract 393	3,890	2,868	73.7%	Yes		3,866	1,667	43.1%	Yes	
Census Tract 395	3,858	2,915	75.6%	Yes		3,791	1,787	47.1%	Yes	
Census Tract 397	3,553	2,907	81.8%	Yes		3,553	1,794	50.5%	Yes	
Census Tract 419	3,623	3,167	87.4%	Yes		3,623	1,608	44.4%	Yes	
Census Tract 421	4,259	3,478	81.7%	Yes		4,259	2,215	52.0%	Yes	
Census Tract 423	3,978	2,739	68.9%	Yes		3,735	1,349	36.1%	Yes	
Census Tract 425	3,338	2,453	73.5%	Yes		3,327	1,443	43.4%	Yes	
Census Tract 485	2,289	1,027	44.9%		No	2,289	727	31.8%	Yes	
Census Tract 489	3,617	3,523	97.4%	Yes		3,580	2,334	65.2%	Yes	
Census Tract 493	7,292	6,072	83.3%	Yes		7,292	4,502	61.7%	Yes	
Census Tract 401	3,162	2,600	82.2%	Yes		3,138	1,426	45.4%	Yes	
Census Tract 403	3,529	3,081	87.3%	Yes		3,521	1,456	41.4%	Yes	
Census Tract 405	1,513	1,307	86.4%	Yes		1,513	526	34.8%	Yes	
Census Tract 411	3,034	2,411	79.5%	Yes		3,022	1,417	46.9%	Yes	
Census Tract 399	3,873	3,406	87.9%	Yes		3,838	1,632	42.5%	Yes	
Census Tract 413	3,986	3,361	84.3%	Yes		3,986	1,509	37.9%	Yes	
Census Tract 415	4,353	3,864	88.8%	Yes		4,353	1,579	36.3%	Yes	
Census Tract 417	3,132	2,775	88.6%	Yes		3,132	1,831	58.5%	Yes	
TOTAL Bushwick South	**72,809**	**58,641**	**80.5%**	**20**	**1**	**72,311**	**33,332**	**46.1%**	**21**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Canarsie										
Census Tract 1004	2,677	2,558	95.6%	Yes		2,677	750	28.0%	Yes	
Census Tract 1006	2,610	2,414	92.5%	Yes		2,604	890	34.2%	Yes	
Census Tract 1008	2,250	2,007	89.2%	Yes		2,240	581	25.9%		No
Census Tract 1024	2,255	2,161	95.8%	Yes		2,255	378	16.8%		No
Census Tract 1026	3,023	2,914	96.4%	Yes		3,017	507	16.8%		No
Census Tract 1028	1,680	1,644	97.9%	Yes		1,673	262	15.7%		No
Census Tract 1034	4,294	4,209	98.0%	Yes		4,294	2,487	57.9%	Yes	
Census Tract 956	4,507	4,123	91.5%	Yes		4,507	1,663	36.9%	Yes	
Census Tract 994	2,126	2,002	94.2%	Yes		2,126	415	19.5%		No
Census Tract 996	3,761	3,593	95.5%	Yes		3,761	804	21.4%		No
Census Tract 998	3,588	3,321	92.6%	Yes		3,588	506	14.1%		No
Census Tract 966	2,634	2,557	97.1%	Yes		2,623	790	30.1%	Yes	
Census Tract 968	1,713	1,679	98.0%	Yes		1,698	343	20.2%		No
Census Tract 974	2,743	2,578	94.0%	Yes		2,486	1,018	40.9%	Yes	
Census Tract 982	4,532	4,532	100.0%	Yes		4,532	3,539	78.1%	Yes	
Census Tract 984	1,998	1,920	96.1%	Yes		1,984	358	18.0%		No
Census Tract 986	2,856	2,792	97.8%	Yes		2,856	798	27.9%	Yes	
Census Tract 988	3,365	3,157	93.8%	Yes		3,082	613	19.9%		No
Census Tract 990	1,744	1,562	89.6%	Yes		1,734	307	17.7%		No
Census Tract 992	2,311	2,258	97.7%	Yes		2,311	446	19.3%		No
Census Tract 1010	2,284	2,199	96.3%	Yes		2,255	621	27.5%	Yes	
Census Tract 1012	2,288	2,229	97.4%	Yes		2,288	604	26.4%		No
Census Tract 1014	2,178	2,110	96.9%	Yes		2,157	499	23.1%		No
Census Tract 1016	1,715	1,640	95.6%	Yes		1,701	83	4.9%		No
Census Tract 1018	2,295	2,251	98.1%	Yes		2,295	354	15.4%		No
Census Tract 1020	2,217	2,137	96.4%	Yes		2,172	182	8.4%		No
Census Tract 1022	2,171	1,998	92.0%	Yes		2,171	475	21.9%		No
Census Tract 950	2,751	2,590	94.1%	Yes		2,751	620	22.5%		No
Census Tract 954	4,289	4,265	99.4%	Yes		4,289	1,001	23.3%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 958	3,345	3,188	95.3%	Yes		3,345	663	19.8%		No
Census Tract 960	-	-	0.0%		No	-	-	0.0%		No
Census Tract 962	1,838	1,745	94.9%	Yes		1,791	498	27.8%	Yes	
Census Tract 964	1,978	1,908	96.5%	Yes		1,970	393	19.9%		No
Census Tract 970	2,868	2,657	92.6%	Yes		2,855	679	23.8%		No
TOTAL Canarsie	**88,884**	**84,898**	**95.5%**	**33**	**1**	**88,088**	**24,127**	**27.4%**	**10**	**24**
Carroll Gardens-Columbia Street-Red Hook										
Census Tract 51	2,744	755	27.5%		No	2,716	336	12.4%		No
Census Tract 53	2,167	913	42.1%		No	2,167	565	26.1%		No
Census Tract 59	1,213	491	40.5%		No	1,196	276	23.1%		No
Census Tract 85	7,793	7,727	99.2%	Yes		7,793	6,705	86.0%	Yes	
Census Tract 47	1,877	771	41.1%		No	1,877	230	12.3%		No
Census Tract 49	2,612	1,098	42.0%		No	2,186	216	9.9%		No
Census Tract 63	1,866	398	21.3%		No	1,866	183	9.8%		No
Census Tract 65	5,976	999	16.7%		No	5,975	701	11.7%		No
Census Tract 67	3,886	666	17.1%		No	3,855	282	7.3%		No
Census Tract 75	4,969	1,297	26.1%		No	4,969	494	9.9%		No
Census Tract 77	5,159	1,719	33.3%		No	5,139	863	16.8%		No
Census Tract 45	3,385	734	21.7%		No	3,385	321	9.5%		No
TOTAL Carroll Gardens-Columbia Street-Red Hook	**43,647**	**17,568**	**40.3%**	**1**	**11**	**43,124**	**11,172**	**25.9%**	**1**	**11**
Clinton Hill										
Census Tract 227	3,794	2,348	61.9%	Yes		3,792	718	18.9%		No
Census Tract 229	3,675	2,151	58.5%	Yes		3,668	894	24.4%		No
Census Tract 199	3,432	1,571	45.8%		No	3,426	606	17.7%		No
Census Tract 201	3,945	1,684	42.7%		No	3,908	535	13.7%		No
Census Tract 231	3,696	2,178	58.9%	Yes		3,694	673	18.2%		No
Census Tract 235	4,694	1,859	39.6%		No	4,694	2,411	51.4%	Yes	
Census Tract 191	2,972	1,473	49.6%		No	2,926	982	33.6%	Yes	
Census Tract 193	5,882	3,848	65.4%	Yes		4,467	1,685	37.7%	Yes	
Census Tract 195	3,441	1,594	46.3%		No	3,441	455	13.2%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 197	3,714	1,684	45.3%		No	3,702	544	14.7%		No
TOTAL Clinton Hill	**39,245**	**20,390**	**52.0%**	**4**	**6**	**37,718**	**9,503**	**25.2%**	**3**	**7**
Crown Heights North										
Census Tract 219	3,557	2,540	71.4%	Yes		3,557	1,073	30.2%	Yes	
Census Tract 221	3,976	2,517	63.3%	Yes		3,969	1,585	39.9%	Yes	
Census Tract 247	2,672	2,134	79.9%	Yes		2,664	1,507	56.6%	Yes	
Census Tract 271	3,103	2,726	87.9%	Yes		3,093	1,109	35.9%	Yes	
Census Tract 297	4,253	3,591	84.4%	Yes		4,220	1,258	29.8%	Yes	
Census Tract 299	2,941	2,750	93.5%	Yes		2,762	1,064	38.5%	Yes	
Census Tract 307	5,954	5,679	95.4%	Yes		5,923	4,398	74.3%	Yes	
Census Tract 309	2,405	2,364	98.3%	Yes		2,359	1,021	43.3%	Yes	
Census Tract 311	2,924	2,688	91.9%	Yes		2,924	1,525	52.2%	Yes	
Census Tract 313	5,055	4,230	83.7%	Yes		5,024	1,853	36.9%	Yes	
Census Tract 315	4,970	3,227	64.9%	Yes		4,964	1,683	33.9%	Yes	
Census Tract 317.01	3,805	2,604	68.4%	Yes		3,784	741	19.6%		No
Census Tract 317.02	3,315	2,142	64.6%	Yes		3,315	748	22.6%		No
Census Tract 337	3,856	2,218	57.5%	Yes		3,763	1,675	44.5%	Yes	
Census Tract 339	4,538	3,661	80.7%	Yes		4,489	1,810	40.3%	Yes	
Census Tract 341	3,056	2,463	80.6%	Yes		2,728	1,017	37.3%	Yes	
Census Tract 343	5,163	4,617	89.4%	Yes		5,154	3,152	61.2%	Yes	
Census Tract 345	3,108	2,661	85.6%	Yes		3,070	1,233	40.2%	Yes	
Census Tract 347	3,350	3,276	97.8%	Yes		3,336	1,403	42.1%	Yes	
Census Tract 349	6,145	5,666	92.2%	Yes		6,126	2,962	48.4%	Yes	
Census Tract 351	4,650	3,576	76.9%	Yes		4,650	2,226	47.9%	Yes	
Census Tract 353	5,407	4,403	81.4%	Yes		5,396	2,550	47.3%	Yes	
Census Tract 357	2,328	2,280	97.9%	Yes		2,321	1,372	59.1%	Yes	
Census Tract 359	5,593	5,368	96.0%	Yes		5,550	3,322	59.9%	Yes	
Census Tract 381	5,397	4,747	88.0%	Yes		5,397	2,452	45.4%	Yes	
Census Tract 217	3,733	2,913	78.0%	Yes		3,733	1,441	38.6%	Yes	
Census Tract 305	6,528	3,557	54.5%	Yes		6,215	1,695	27.3%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
TOTAL Crown Heights North	**111,782**	**90,598**	**81.0%**	**27**	**-**	**110,486**	**47,875**	**43.3%**	**25**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Crown Heights South										
Census Tract 319	3,141	1,687	53.7%	Yes		3,128	964	30.8%	Yes	
Census Tract 321	5,488	4,340	79.1%	Yes		5,472	2,088	38.2%	Yes	
Census Tract 323	3,506	2,681	76.5%	Yes		3,482	1,016	29.2%	Yes	
Census Tract 325	6,076	5,556	91.4%	Yes		6,076	2,548	41.9%	Yes	
Census Tract 331	4,058	1,572	38.7%		No	4,020	1,875	46.6%	Yes	
Census Tract 333	4,547	1,306	28.7%		No	4,547	2,486	54.7%	Yes	
Census Tract 335	3,034	888	29.3%		No	2,709	1,036	38.2%	Yes	
Census Tract 355	5,631	4,567	81.1%	Yes		5,607	2,266	40.4%	Yes	
Census Tract 213	4,113	3,357	81.6%	Yes		4,113	1,357	33.0%	Yes	
TOTAL Crown Heights South	**39,594**	**25,954**	**65.6%**	**6**	**3**	**39,154**	**15,636**	**39.9%**	**9**	**-**
Cypress Hills-City Line										
Census Tract 1142.01	1,554	1,515	97.5%	Yes		1,533	686	44.7%	Yes	
Census Tract 1142.02	3,011	2,900	96.3%	Yes		3,011	883	29.3%	Yes	
Census Tract 1146	2,852	2,741	96.1%	Yes		2,852	1,479	51.9%	Yes	
Census Tract 1172.01	2,745	2,683	97.7%	Yes		2,711	1,009	37.2%	Yes	
Census Tract 1172.02	3,756	3,579	95.3%	Yes		3,683	1,149	31.2%	Yes	
Census Tract 1174	4,143	4,106	99.1%	Yes		4,143	1,575	38.0%	Yes	
Census Tract 1176.01	3,203	3,018	94.2%	Yes		3,203	1,410	44.0%	Yes	
Census Tract 1176.02	2,841	2,682	94.4%	Yes		2,834	1,317	46.5%	Yes	
Census Tract 1178	1,694	1,675	98.9%	Yes		1,656	663	40.0%	Yes	
Census Tract 1182.01	2,868	2,727	95.1%	Yes		2,868	925	32.3%	Yes	
Census Tract 1184	5,105	4,935	96.7%	Yes		5,086	2,407	47.3%	Yes	
Census Tract 1186	2,960	2,839	95.9%	Yes		2,944	788	26.8%		No
Census Tract 1188	4,536	4,198	92.5%	Yes		4,496	2,285	50.8%	Yes	
Census Tract 1190	2,220	2,175	98.0%	Yes		2,214	1,187	53.6%	Yes	
Census Tract 1202	1,933	1,892	97.9%	Yes		1,933	1,128	58.4%	Yes	
Census Tract 1182.02	3,317	3,262	98.3%	Yes		3,317	1,596	48.1%	Yes	
TOTAL Cypress Hills-City Line	**48,738**	**46,927**	**96.3%**	**16**	**-**	**48,484**	**20,487**	**42.3%**	**15**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
DUMBO-Vinegar Hill-Downtown Brooklyn-Boerum Hill										
Census Tract 39	2,262	1,010	44.7%		No	2,262	211	9.3%		No
Census Tract 41	3,654	1,136	31.1%		No	3,377	415	12.3%		No
Census Tract 69	3,591	721	20.1%		No	3,581	300	8.4%		No
Census Tract 71	5,050	4,143	82.0%	Yes		5,044	2,482	49.2%	Yes	
Census Tract 127	4,318	2,910	67.4%	Yes		4,289	2,138	49.8%	Yes	
Census Tract 11	1,468	603	41.1%		No	1,468	178	12.1%		No
Census Tract 13	1,917	743	38.8%		No	1,917	542	28.3%	Yes	
Census Tract 15	9,011	6,442	71.5%	Yes		8,995	3,063	34.1%	Yes	
Census Tract 21	5,106	1,325	25.9%		No	5,096	283	5.6%		No
Census Tract 23	4,219	4,187	99.2%	Yes		4,145	3,189	76.9%	Yes	
Census Tract 37	2,250	846	37.6%		No	2,163	230	10.6%		No
Census Tract 43	3,727	1,465	39.3%		No	3,603	511	14.2%		No
TOTAL DUMBO-Vinegar Hill-Downtown Brooklyn-Boerum H	**46,573**	**25,531**	**54.8%**	**4**	**8**	**45,940**	**13,542**	**29.5%**	**5**	**7**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Dyker Heights										
Census Tract 128.01	2,293	1,609	70.2%	Yes		2,293	1,491	65.0%	Yes	
Census Tract 196	4,214	2,773	65.8%	Yes		4,180	1,963	47.0%	Yes	
Census Tract 198	1,926	1,141	59.2%	Yes		1,909	689	36.1%	Yes	
Census Tract 212	4,334	3,390	78.2%	Yes		4,292	2,638	61.5%	Yes	
Census Tract 132	2,372	1,592	67.1%	Yes		2,368	1,216	51.4%	Yes	
Census Tract 140	1,986	755	38.0%		No	1,979	530	26.8%		No
Census Tract 148	1,213	361	29.8%		No	1,213	244	20.1%		No
Census Tract 150	1,598	536	33.5%		No	1,585	265	16.7%		No
Census Tract 152	2,499	1,075	43.0%		No	2,365	457	19.3%		No
Census Tract 166	1,791	329	18.4%		No	1,791	227	12.7%		No
Census Tract 200	2,417	1,387	57.4%	Yes		2,405	779	32.4%	Yes	
Census Tract 202	1,963	835	42.5%		No	1,944	501	25.8%		No
Census Tract 204	1,837	586	31.9%		No	1,837	400	21.8%		No
Census Tract 206	2,311	964	41.7%		No	2,311	530	22.9%		No
Census Tract 208	3,092	2,184	70.6%	Yes		3,086	1,237	40.1%	Yes	
Census Tract 210	3,967	2,854	71.9%	Yes		3,967	2,000	50.4%	Yes	
Census Tract 194	4,027	3,211	79.7%	Yes		4,023	2,435	60.5%	Yes	
TOTAL Dyker Heights	**43,840**	**25,582**	**58.4%**	**9**	**8**	**43,548**	**17,602**	**40.4%**	**9**	**8**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
East Flatbush-Farragut										
Census Tract 780	2,161	2,106	97.5%	Yes		2,159	319	14.8%		No
Census Tract 784	2,386	2,250	94.3%	Yes		2,360	616	26.1%		No
Census Tract 782	4,923	4,880	99.1%	Yes		4,923	1,784	36.2%	Yes	
Census Tract 814	2,770	2,712	97.9%	Yes		2,763	1,180	42.7%	Yes	
Census Tract 816	2,653	2,483	93.6%	Yes		2,626	1,263	48.1%	Yes	
Census Tract 830	6,306	6,229	98.8%	Yes		6,306	2,510	39.8%	Yes	
Census Tract 832	2,127	2,125	99.9%	Yes		2,125	700	32.9%	Yes	
Census Tract 834	1,745	1,745	100.0%	Yes		1,722	621	36.1%	Yes	
Census Tract 836	2,017	2,017	100.0%	Yes		2,017	503	24.9%		No
Census Tract 838	2,073	2,071	99.9%	Yes		2,060	473	23.0%		No
Census Tract 840	2,520	2,487	98.7%	Yes		2,493	584	23.4%		No
Census Tract 850	1,489	1,489	100.0%	Yes		1,489	342	23.0%		No
Census Tract 854	1,966	1,906	96.9%	Yes		1,958	632	32.3%	Yes	
Census Tract 856	3,384	3,279	96.9%	Yes		3,384	1,099	32.5%	Yes	
Census Tract 858	2,107	2,101	99.7%	Yes		2,107	427	20.3%		No
Census Tract 860	3,627	3,616	99.7%	Yes		3,623	941	26.0%		No
Census Tract 870	3,125	2,999	96.0%	Yes		3,125	1,440	46.1%	Yes	
Census Tract 872	3,130	2,955	94.4%	Yes		3,120	1,263	40.5%	Yes	
Census Tract 932	1,124	1,098	97.7%	Yes		1,124	158	14.1%		No
TOTAL East Flatbush-Farragut	**51,633**	**50,548**	**97.9%**	**19**	**-**	**51,484**	**16,855**	**32.7%**	**10**	**9**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
East New York										
Census Tract 1070	2,330	2,257	96.9%	Yes		2,330	847	36.4%	Yes	
Census Tract 1078	4,662	4,594	98.5%	Yes		4,658	1,366	29.3%	Yes	
Census Tract 1098	2,359	2,234	94.7%	Yes		2,353	1,032	43.9%	Yes	
Census Tract 1104	4,407	4,353	98.8%	Yes		4,370	1,735	39.7%	Yes	
Census Tract 1106	4,191	4,191	100.0%	Yes		4,191	2,947	70.3%	Yes	
Census Tract 1110	2,986	2,853	95.5%	Yes		2,986	1,853	62.1%	Yes	
Census Tract 1116	3,624	3,526	97.3%	Yes		3,306	1,761	53.3%	Yes	
Census Tract 1118	3,639	3,505	96.3%	Yes		3,583	1,873	52.3%	Yes	
Census Tract 1120	3,105	3,095	99.7%	Yes		3,105	1,380	44.4%	Yes	
Census Tract 1124	3,054	3,007	98.5%	Yes		3,054	1,457	47.7%	Yes	
Census Tract 1150	2,557	2,532	99.0%	Yes		2,557	1,358	53.1%	Yes	
Census Tract 1152	3,122	2,962	94.9%	Yes		3,112	1,464	47.0%	Yes	
Census Tract 1160	2,324	2,298	98.9%	Yes		2,315	1,180	51.0%	Yes	
Census Tract 1162	2,429	2,429	100.0%	Yes		2,391	1,230	51.4%	Yes	
Census Tract 1164	3,596	3,596	100.0%	Yes		3,585	1,592	44.4%	Yes	
Census Tract 1166	3,128	2,999	95.9%	Yes		3,117	1,155	37.1%	Yes	
Census Tract 1168	2,028	1,999	98.6%	Yes		2,028	681	33.6%	Yes	
Census Tract 1170	1,791	1,779	99.3%	Yes		1,791	945	52.8%	Yes	
Census Tract 1192	3,090	3,051	98.7%	Yes		3,090	1,182	38.3%	Yes	
Census Tract 1194	4,892	4,730	96.7%	Yes		4,871	2,897	59.5%	Yes	
Census Tract 1196	4,993	4,784	95.8%	Yes		4,976	2,612	52.5%	Yes	
Census Tract 1198	3,671	3,456	94.1%	Yes		3,426	1,715	50.1%	Yes	
Census Tract 1200	2,630	2,585	98.3%	Yes		2,619	1,494	57.0%	Yes	
Census Tract 1208	10,413	10,116	97.1%	Yes		10,278	4,199	40.9%	Yes	
Census Tract 1210	4,196	4,196	100.0%	Yes		4,196	2,843	67.8%	Yes	
Census Tract 1214	4,820	4,820	100.0%	Yes		4,820	3,719	77.2%	Yes	
Census Tract 1220	5,945	5,895	99.2%	Yes		5,945	3,284	55.2%	Yes	
TOTAL East New York	**99,982**	**97,842**	**97.9%**	**27**	**-**	**99,053**	**49,801**	**50.3%**	**27**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
East New York (Pennsylvania Ave)										
Census Tract 1122	3,168	3,143	99.2%	Yes		3,134	1,467	46.8%	Yes	
Census Tract 1126	3,237	3,202	98.9%	Yes		3,134	1,371	43.7%	Yes	
Census Tract 1128	3,764	3,458	91.9%	Yes		3,722	1,783	47.9%	Yes	
Census Tract 1130	3,699	3,655	98.8%	Yes		3,699	1,542	41.7%	Yes	
Census Tract 1132	1,973	1,924	97.5%	Yes		1,963	653	33.3%	Yes	
Census Tract 1134	3,105	3,055	98.4%	Yes		3,049	2,178	71.4%	Yes	
Census Tract 1144	2,545	2,428	95.4%	Yes		2,517	1,289	51.2%	Yes	
Census Tract 1156	3,924	3,924	100.0%	Yes		3,924	2,545	64.9%	Yes	
Census Tract 1158	2,878	2,825	98.2%	Yes		2,877	1,314	45.7%	Yes	
TOTAL East New York (Pennsylvania Ave)	**28,293**	**27,614**	**97.6%**	**9**	**-**	**28,019**	**14,142**	**50.5%**	**9**	**-**
East Williamsburg										
Census Tract 449	3,210	2,722	84.8%	Yes		3,189	2,323	72.8%	Yes	
Census Tract 477	3,835	818	21.3%		No	3,815	459	12.0%		No
Census Tract 481	2,967	1,398	47.1%		No	2,967	710	23.9%		No
Census Tract 491	7,069	5,686	80.4%	Yes		7,069	2,623	37.1%	Yes	
Census Tract 495	2,600	1,076	41.4%		No	2,575	654	25.4%		No
Census Tract 497	2,717	936	34.4%		No	2,717	480	17.7%		No
Census Tract 501	3,177	925	29.1%		No	3,177	677	21.3%		No
Census Tract 503	2,670	1,076	40.3%		No	2,670	558	20.9%		No
Census Tract 505	4,009	2,986	74.5%	Yes		4,009	1,741	43.4%	Yes	
Census Tract 511	4,333	2,831	65.3%	Yes		4,319	2,063	47.8%	Yes	
TOTAL East Williamsburg	**36,587**	**20,454**	**55.9%**	**4**	**6**	**36,507**	**12,288**	**33.7%**	**4**	**6**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Erasmus										
Census Tract 818	4,528	4,127	91.1%	Yes		4,228	1,270	30.0%	Yes	
Census Tract 824	4,910	4,805	97.9%	Yes		4,910	1,365	27.8%	Yes	
Census Tract 826	4,911	4,495	91.5%	Yes		4,911	1,232	25.1%		No
Census Tract 828	3,706	3,456	93.3%	Yes		3,693	1,502	40.7%	Yes	
Census Tract 790	5,096	4,971	97.5%	Yes		5,086	1,848	36.3%	Yes	
Census Tract 792	3,488	3,112	89.2%	Yes		3,488	1,130	32.4%	Yes	
Census Tract 794	1,716	1,581	92.1%	Yes		1,716	906	52.8%	Yes	
TOTAL Erasmus	**28,355**	**26,547**	**93.6%**	**7**	**-**	**28,032**	**9,253**	**33.0%**	**6**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Flatbush										
Census Tract 772	3,114	1,905	61.2%	Yes		3,099	758	24.5%		No
Census Tract 774	3,250	2,691	82.8%	Yes		3,250	693	21.3%		No
Census Tract 786	4,753	4,314	90.8%	Yes		4,753	1,998	42.0%	Yes	
Census Tract 460	3,131	1,570	50.1%	Yes		3,119	1,419	45.5%	Yes	
Census Tract 462.01	2,281	444	19.5%		No	2,281	1,454	63.7%	Yes	
Census Tract 480	3,675	1,613	43.9%		No	3,675	2,221	60.4%	Yes	
Census Tract 482	4,885	2,679	54.8%	Yes		4,885	2,234	45.7%	Yes	
Census Tract 528	1,799	725	40.3%		No	1,783	482	27.0%	Yes	
Census Tract 764	3,602	2,528	70.2%	Yes		3,558	1,112	31.3%	Yes	
Census Tract 766	2,103	1,846	87.8%	Yes		2,081	603	29.0%	Yes	
Census Tract 516.01	5,252	4,849	92.3%	Yes		5,240	2,080	39.7%	Yes	
Census Tract 516.02	3,895	3,580	91.9%	Yes		3,787	1,372	36.2%	Yes	
Census Tract 788	3,528	3,484	98.8%	Yes		3,473	1,774	51.1%	Yes	
Census Tract 506	5,205	4,192	80.5%	Yes		5,177	2,123	41.0%	Yes	
Census Tract 508.01	4,075	3,639	89.3%	Yes		4,075	1,901	46.7%	Yes	
Census Tract 508.03	2,522	2,026	80.3%	Yes		2,520	1,269	50.4%	Yes	
Census Tract 508.04	6,083	4,904	80.6%	Yes		6,083	2,502	41.1%	Yes	
Census Tract 510.01	4,092	3,792	92.7%	Yes		4,092	2,009	49.1%	Yes	
Census Tract 510.02	4,858	4,309	88.7%	Yes		4,845	2,064	42.6%	Yes	
Census Tract 512	5,936	4,589	77.3%	Yes		5,925	2,046	34.5%	Yes	
Census Tract 514	7,834	6,654	84.9%	Yes		7,834	2,887	36.9%	Yes	
Census Tract 518	3,328	2,385	71.7%	Yes		3,318	1,135	34.2%	Yes	
Census Tract 520	3,874	2,349	60.6%	Yes		3,874	1,385	35.8%	Yes	
Census Tract 526	4,491	2,648	59.0%	Yes		4,470	1,763	39.4%	Yes	
Census Tract 770	2,820	2,459	87.2%	Yes		2,629	1,170	44.5%	Yes	
Census Tract 1522	3,717	2,183	58.7%	Yes		3,700	885	23.9%		No
Census Tract 650	1,642	1,261	76.8%	Yes		1,637	526	32.1%	Yes	
Census Tract 672	1,640	1,426	87.0%	Yes		1,640	292	17.8%		No
Census Tract 674	1,920	1,651	86.0%	Yes		1,920	516	26.9%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 676	1,760	1,646	93.5%	Yes		1,754	327	18.6%		No
Census Tract 678	2,852	2,618	91.8%	Yes		2,839	529	18.6%		No
Census Tract 680	2,185	2,049	93.8%	Yes		2,185	769	35.2%	Yes	
Census Tract 682	2,832	2,347	82.9%	Yes		2,815	389	13.8%		No
Census Tract 690	2,082	1,775	85.3%	Yes		2,077	402	19.4%		No
Census Tract 692	2,734	2,571	94.0%	Yes		2,714	258	9.5%		No
Census Tract 720	2,019	1,896	93.9%	Yes		2,019	327	16.2%		No
Census Tract 722	2,881	2,791	96.9%	Yes		2,881	586	20.3%		No
Census Tract 724	1,979	1,923	97.2%	Yes		1,979	512	25.9%		No
Census Tract 726	2,343	2,287	97.6%	Yes		2,343	301	12.8%		No
Census Tract 728	3,946	3,845	97.4%	Yes		3,946	626	15.9%		No
Census Tract 730	2,278	2,181	95.7%	Yes		2,278	390	17.1%		No
Census Tract 732	2,195	2,157	98.3%	Yes		2,164	435	20.1%		No
Census Tract 734	1,776	1,738	97.9%	Yes		1,776	251	14.1%		No
Census Tract 736	3,198	3,043	95.2%	Yes		3,176	847	26.7%		No
Census Tract 738	3,977	2,743	69.0%	Yes		3,977	2,045	51.4%	Yes	
Census Tract 740	3,598	3,212	89.3%	Yes		3,588	879	24.5%		No
Census Tract 742	3,136	1,685	53.7%	Yes		3,122	963	30.8%	Yes	
Census Tract 744	2,777	482	17.4%		No	2,777	415	14.9%		No
Census Tract 746	2,577	879	34.1%		No	2,501	523	20.9%		No
Census Tract 776	3,732	3,498	93.7%	Yes		3,732	1,198	32.1%	Yes	
Census Tract 944.02	3,248	3,190	98.2%	Yes		3,248	2,451	75.5%	Yes	
Census Tract 944.01	3,534	3,457	97.8%	Yes		3,516	860	24.5%		No
Census Tract 688	1,719	1,326	77.1%	Yes		1,709	207	12.1%		No
TOTAL Flatlands	**174,663**	**138,034**	**79.0%**	**48**	**5**	**173,839**	**59,163**	**34.0%**	**29**	**24**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Fort Greene										
Census Tract 35	1,907	1,017	53.3%	Yes		1,904	405	21.3%		No
Census Tract 179	4,348	3,401	78.2%	Yes		4,002	1,393	34.8%	Yes	
Census Tract 181	3,691	1,638	44.4%		No	3,685	498	13.5%		No
Census Tract 29.01	4,447	4,340	97.6%	Yes		4,386	2,992	68.2%	Yes	
Census Tract 31	3,259	1,924	59.0%	Yes		2,350	209	8.9%		No
Census Tract 33	4,202	2,342	55.7%	Yes		4,190	643	15.3%		No
Census Tract 183	2,675	907	33.9%		No	2,671	375	14.0%		No
Census Tract 185.01	4,153	3,823	92.1%	Yes		4,144	3,023	72.9%	Yes	
Census Tract 187	1,488	838	56.3%	Yes		1,478	489	33.1%	Yes	
Census Tract 211	2,206	1,815	82.3%	Yes		2,186	743	34.0%	Yes	
TOTAL Fort Greene	**32,376**	**22,045**	**68.1%**	**8**	**2**	**30,996**	**10,770**	**34.7%**	**5**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Georgetown-Marine Park-Bergen Beach-Mill Basin										
Census Tract 636	1,289	501	38.9%		No	1,289	172	13.3%		No
Census Tract 640	1,742	453	26.0%		No	1,737	132	7.6%		No
Census Tract 644	2,855	1,035	36.3%		No	2,850	599	21.0%		No
Census Tract 646	2,190	409	18.7%		No	2,190	358	16.3%		No
Census Tract 648	2,194	791	36.1%		No	2,194	257	11.7%		No
Census Tract 652	1,094	170	15.5%		No	1,094	106	9.7%		No
Census Tract 654	1,437	323	22.5%		No	1,437	245	17.0%		No
Census Tract 656	1,725	530	30.7%		No	1,725	145	8.4%		No
Census Tract 658	1,798	640	35.6%		No	1,798	302	16.8%		No
Census Tract 660	2,050	522	25.5%		No	2,045	93	4.5%		No
Census Tract 662	1,501	490	32.6%		No	1,501	206	13.7%		No
Census Tract 670	2,934	2,384	81.3%	Yes		2,934	498	17.0%		No
Census Tract 706	3,137	616	19.6%		No	3,137	464	14.8%		No
Census Tract 686	1,718	872	50.8%	Yes		1,707	202	11.8%		No
Census Tract 696.01	3,248	1,879	57.9%	Yes		3,248	721	22.2%		No
Census Tract 696.02	5,812	1,907	32.8%		No	5,812	1,754	30.2%	Yes	
Census Tract 700	1,604	116	7.2%		No	1,604	260	16.2%		No
Census Tract 702.01	6,402	956	14.9%		No	6,402	1,026	16.0%		No
Census Tract 698	1,449	587	40.5%		No	1,449	219	15.1%		No
TOTAL Georgetown-Marine Park-Bergen Beach-Mill Basin	**46,179**	**15,181**	**32.9%**	**3**	**16**	**46,153**	**7,759**	**16.8%**	**1**	**18**
Gravesend										
Census Tract 306	1,736	1,082	62.3%	Yes		1,724	712	41.3%	Yes	
Census Tract 308	1,980	729	36.8%		No	1,971	826	41.9%	Yes	
Census Tract 314	4,978	1,695	34.0%		No	4,967	1,212	24.4%		No
Census Tract 374.01	4,376	1,353	30.9%		No	4,364	1,351	31.0%	Yes	
Census Tract 374.02	4,937	2,199	44.5%		No	4,937	2,749	55.7%	Yes	
Census Tract 382	5,740	5,586	97.3%	Yes		5,738	4,044	70.5%	Yes	
Census Tract 386	3,669	2,361	64.4%	Yes		3,669	1,108	30.2%	Yes	
Census Tract 398	2,878	2,062	71.6%	Yes		2,851	1,154	40.5%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
TOTAL Gravesend	**30,294**	**17,067**	**56.3%**	**4**	**4**	**30,221**	**13,156**	**43.5%**	**7**	**1**
Greenpoint										
Census Tract 499	1,785	392	22.0%		No	1,785	280	15.7%		No
Census Tract 569	1,691	335	19.8%		No	1,691	298	17.6%		No
Census Tract 571	4,038	691	17.1%		No	4,038	953	23.6%		No
Census Tract 573	2,457	583	23.7%		No	2,457	592	24.1%		No
Census Tract 575	3,983	839	21.1%		No	3,973	792	19.9%		No
Census Tract 579	1,165	621	53.3%	Yes		1,165	465	39.9%	Yes	
Census Tract 589	1,691	281	16.6%		No	1,691	225	13.3%		No
Census Tract 591	3,638	756	20.8%		No	3,605	592	16.4%		No
Census Tract 593	2,022	524	25.9%		No	2,022	418	20.7%		No
Census Tract 561	3,538	884	25.0%		No	3,508	593	16.9%		No
Census Tract 563	5,390	2,350	43.6%		No	5,389	1,477	27.4%	Yes	
Census Tract 565	3,156	778	24.7%		No	3,130	511	16.3%		No
TOTAL Greenpoint	**34,554**	**9,034**	**26.1%**	**1**	**11**	**34,454**	**7,196**	**20.9%**	**2**	**10**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Homecrest										
Census Tract 388	4,094	1,339	32.7%		No	4,085	1,476	36.1%	Yes	
Census Tract 390	2,397	316	13.2%		No	2,386	874	36.6%	Yes	
Census Tract 392	2,880	390	13.5%		No	2,880	729	25.3%		No
Census Tract 394	2,338	484	20.7%		No	2,338	899	38.5%	Yes	
Census Tract 396	2,058	368	17.9%		No	2,058	676	32.8%	Yes	
Census Tract 414.01	1,541	322	20.9%		No	1,525	700	45.9%	Yes	
Census Tract 414.02	1,824	217	11.9%		No	1,824	739	40.5%	Yes	
Census Tract 416	2,338	410	17.5%		No	2,338	964	41.2%	Yes	
Census Tract 418	2,960	607	20.5%		No	2,944	1,648	56.0%	Yes	
Census Tract 420	1,837	194	10.6%		No	1,837	810	44.1%	Yes	
Census Tract 422	3,535	1,433	40.5%		No	3,535	1,433	40.5%	Yes	
Census Tract 554	4,328	1,347	31.1%		No	4,313	1,940	45.0%	Yes	
Census Tract 556	3,397	708	20.8%		No	3,384	1,268	37.5%	Yes	
Census Tract 582	2,542	1,287	50.6%	Yes		2,542	962	37.8%	Yes	
Census Tract 584	3,479	1,217	35.0%		No	3,479	999	28.7%	Yes	
Census Tract 588	3,269	969	29.6%		No	3,262	927	28.4%	Yes	
TOTAL Homecrest	**44,817**	**11,608**	**25.9%**	**1**	**15**	**44,730**	**17,044**	**38.1%**	**15**	**1**
Kensington-Ocean Parkway										
Census Tract 484	5,574	2,047	36.7%		No	5,522	2,921	52.9%	Yes	Yes
Census Tract 486	3,200	2,226	69.6%	Yes		3,200	1,717	53.7%	Yes	Yes
Census Tract 488	3,896	1,942	49.8%		No	3,896	1,794	46.0%	Yes	Yes
Census Tract 490	5,601	2,885	51.5%	Yes		5,588	2,159	38.6%	Yes	Yes
Census Tract 492	2,688	1,203	44.8%		No	2,647	1,245	47.0%	Yes	Yes
Census Tract 494	5,707	2,927	51.3%	Yes		5,564	1,967	35.4%	Yes	Yes
Census Tract 496	4,093	2,594	63.4%	Yes		4,004	1,578	39.4%	Yes	Yes
Census Tract 498	4,139	2,377	57.4%	Yes		4,139	1,074	25.9%		
TOTAL Kensington-Ocean Parkway	**34,898**	**18,201**	**52.2%**	**5**	**3**	**34,560**	**14,455**	**41.8%**	**7**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Madison										
Census Tract 548	2,090	174	8.3%		No	2,074	621	29.9%	Yes	Yes
Census Tract 550	3,382	898	26.6%		No	3,371	1,070	31.7%	Yes	Yes
Census Tract 560	3,482	419	12.0%		No	3,481	1,074	30.9%	Yes	Yes
Census Tract 562	1,655	205	12.4%		No	1,655	584	35.3%	Yes	Yes
Census Tract 564	2,523	714	28.3%		No	2,517	512	20.3%		
Census Tract 566	2,749	1,313	47.8%		No	2,749	528	19.2%		
Census Tract 568	1,455	581	39.9%		No	1,455	289	19.9%		
Census Tract 574	2,858	1,618	56.6%	Yes		2,847	850	29.9%	Yes	Yes
Census Tract 576	3,041	1,844	60.6%	Yes		3,035	778	25.6%		
Census Tract 578	3,260	1,741	53.4%	Yes		3,240	1,473	45.5%	Yes	Yes
Census Tract 638	2,023	761	37.6%		No	2,014	293	14.5%		
Census Tract 642	2,227	562	25.2%		No	2,227	606	27.2%	Yes	Yes
Census Tract 552	3,477	1,131	32.5%		No	3,452	908	26.3%		
Census Tract 558	2,492	961	38.6%		No	2,480	737	29.7%	Yes	Yes
Census Tract 580	4,402	2,809	63.8%	Yes		4,402	1,664	37.8%	Yes	Yes
TOTAL Madison	**41,116**	**15,731**	**38.3%**	**4**	**11**	**40,999**	**11,987**	**29.2%**	**9**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Midwood										
Census Tract 546	4,782	1,263	26.4%		No	4,772	2,346	49.2%	Yes	
Census Tract 748	1,957	480	24.5%		No	1,957	469	24.0%		No
Census Tract 750	2,857	714	25.0%		No	2,856	957	33.5%	Yes	
Census Tract 752	1,031	18	1.7%		No	1,031	39	3.8%		No
Census Tract 754	1,294	14	1.1%		No	1,294	172	13.3%		No
Census Tract 756	2,150	442	20.6%		No	2,150	264	12.3%		No
Census Tract 758	1,653	233	14.1%		No	1,653	356	21.5%		No
Census Tract 456	2,170	1,029	47.4%		No	2,170	1,148	52.9%	Yes	
Census Tract 458	1,324	211	15.9%		No	1,324	172	13.0%		No
Census Tract 530	4,060	1,733	42.7%		No	4,058	2,067	50.9%	Yes	
Census Tract 532	2,789	1,130	40.5%		No	2,789	1,022	36.6%	Yes	
Census Tract 534	4,232	1,795	42.4%		No	4,039	2,240	55.5%	Yes	
Census Tract 538	5,180	1,765	34.1%		No	5,124	1,678	32.7%	Yes	
Census Tract 542	4,008	661	16.5%		No	4,008	1,571	39.2%	Yes	
Census Tract 544	3,487	914	26.2%		No	3,487	1,405	40.3%	Yes	
Census Tract 760	2,930	348	11.9%		No	2,930	999	34.1%	Yes	
Census Tract 762	4,285	1,693	39.5%		No	4,261	1,967	46.2%	Yes	
Census Tract 768	3,219	651	20.2%		No	3,179	1,460	45.9%	Yes	
TOTAL Midwood	**53,408**	**15,094**	**28.3%**	**-**	**18**	**53,082**	**20,332**	**38.3%**	**12**	**6**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
North Side-South Side										
Census Tract 513	5,397	2,634	48.8%		No	5,397	1,413	26.2%		No
Census Tract 515	2,443	829	33.9%		No	2,443	183	7.5%		No
Census Tract 517	2,581	666	25.8%		No	2,581	444	17.2%		No
Census Tract 519	5,066	1,426	28.1%		No	5,066	723	14.3%		No
Census Tract 523	4,854	2,959	61.0%	Yes		4,854	1,895	39.0%	Yes	
Census Tract 525	3,270	1,460	44.6%		No	3,270	2,220	67.9%	Yes	
Census Tract 527	6,490	4,848	74.7%	Yes		6,481	2,508	38.7%	Yes	
Census Tract 547	5,724	1,541	26.9%		No	5,693	3,443	60.5%	Yes	
Census Tract 549	4,171	1,479	35.5%		No	4,150	1,246	30.0%	Yes	
Census Tract 551	5,361	3,209	59.9%	Yes		5,361	1,195	22.3%		No
Census Tract 553	2,740	700	25.5%		No	2,717	609	22.4%		No
Census Tract 555	7,696	3,012	39.1%		No	7,696	1,086	14.1%		No
Census Tract 557	1,981	774	39.1%		No	1,981	447	22.6%		No
TOTAL North Side-South Side	**57,774**	**25,537**	**44.2%**	**3**	**10**	**57,690**	**17,412**	**30.2%**	**5**	**8**
Ocean Hill										
Census Tract 301	2,963	2,768	93.4%	Yes		2,953	1,264	42.8%	Yes	
Census Tract 303	4,914	4,816	98.0%	Yes		4,827	2,300	47.6%	Yes	
Census Tract 361	2,787	2,629	94.3%	Yes		2,676	1,568	58.6%	Yes	
Census Tract 363	5,044	4,843	96.0%	Yes		5,044	2,757	54.7%	Yes	
Census Tract 365.01	3,417	3,409	99.8%	Yes		3,402	1,838	54.0%	Yes	
Census Tract 365.02	1,415	1,365	96.5%	Yes		1,410	747	53.0%	Yes	
Census Tract 367	1,281	1,208	94.3%	Yes		1,281	345	26.9%	Yes	
Census Tract 369	5,787	5,320	91.9%	Yes		5,761	3,089	53.6%	Yes	
Census Tract 371	4,711	4,248	90.2%	Yes		4,711	1,230	26.1%		No
Census Tract 373	4,486	3,789	84.5%	Yes		4,454	2,327	52.2%	Yes	
TOTAL Ocean Hill	**36,805**	**34,395**	**93.5%**	**10**	**-**	**36,519**	**17,465**	**47.8%**	**9**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Ocean Parkway South										
Census Tract 438	2,620	579	22.1%		No	2,616	1,299	49.7%	Yes	
Census Tract 440	2,809	591	21.0%		No	2,809	1,235	44.0%	Yes	
Census Tract 442	2,945	438	14.9%		No	2,945	762	25.9%		No
Census Tract 444	3,589	573	16.0%		No	3,589	1,352	37.7%	Yes	
Census Tract 448	1,698	317	18.7%		No	1,676	599	35.7%	Yes	
Census Tract 450	566	47	8.3%		No	566	269	47.5%	Yes	
Census Tract 452	2,514	144	5.7%		No	2,508	584	23.3%		No
Census Tract 454	1,681	322	19.2%		No	1,681	713	42.4%	Yes	
Census Tract 462.02	1,942	277	14.3%		No	1,936	907	46.8%	Yes	
TOTAL Ocean Parkway South	**20,364**	**3,288**	**16.1%**	**-**	**9**	**20,326**	**7,720**	**38.0%**	**7**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Park Slope-Gowanus										
Census Tract 117	2,677	1,251	46.7%		No	2,665	614	23.0%		No
Census Tract 119	1,322	477	36.1%		No	1,322	322	24.4%		No
Census Tract 121	1,962	927	47.2%		No	1,962	464	23.6%		No
Census Tract 129.01	2,387	913	38.2%		No	2,379	542	22.8%		No
Census Tract 129.02	2,554	1,075	42.1%		No	2,538	465	18.3%		No
Census Tract 131	4,155	1,744	42.0%		No	4,123	836	20.3%		No
Census Tract 133	4,454	1,443	32.4%		No	4,454	381	8.6%		No
Census Tract 135	4,014	1,014	25.3%		No	4,014	594	14.8%		No
Census Tract 137	3,554	1,376	38.7%		No	3,538	620	17.5%		No
Census Tract 139	3,650	1,269	34.8%		No	3,551	417	11.7%		No
Census Tract 141	2,766	1,168	42.2%		No	2,766	547	19.8%		No
Census Tract 143	3,672	1,871	51.0%	Yes		3,672	492	13.4%		No
Census Tract 149	5,859	1,961	33.5%		No	5,846	795	13.6%		No
Census Tract 151	4,240	1,348	31.8%		No	4,199	261	6.2%		No
Census Tract 153	2,622	772	29.4%		No	2,526	248	9.8%		No
Census Tract 155	3,993	977	24.5%		No	3,993	264	6.6%		No
Census Tract 157	4,111	1,148	27.9%		No	4,111	449	10.9%		No
Census Tract 159	4,804	1,094	22.8%		No	4,732	490	10.4%		No
Census Tract 165	5,919	1,339	22.6%		No	5,919	430	7.3%		No
Census Tract 167	5,422	1,118	20.6%		No	5,387	364	6.8%		No
TOTAL Park Slope-Gowanus	**74,137**	**24,285**	**32.8%**	**1**	**19**	**73,697**	**9,595**	**13.0%**	**-**	**20**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
park-cemetery-etc-Brooklyn										
Census Tract 154	11	11	100.0%	Yes		11	11	100.0%	Yes	
Census Tract 852	26	26	100.0%	Yes		26	-	0.0%		No
Census Tract 175	-	-	0.0%		No	-	-	0.0%		No
Census Tract 177	-	-	0.0%		No	-	-	0.0%		No
Census Tract 543	283	105	37.1%		No	283	62	21.9%		No
Census Tract 702.02	8	-	0.0%		No	8	-	0.0%		No
Census Tract 702.03	-	-	0.0%		No	-	-	0.0%		No
Census Tract 666	-	-	0.0%		No	-	-	0.0%		No
Census Tract 407	-	-	0.0%		No	-	-	0.0%		No
Census Tract 1180	-	-	0.0%		No	-	-	0.0%		No
TOTAL park-cemetery-etc-Brooklyn	**328**	**142**	**43.3%**	**2**	**8**	**328**	**73**	**22.3%**	**1**	**9**
Prospect Heights										
Census Tract 161	3,595	1,520	42.3%			3,573	551	15.4%		
Census Tract 163	3,388	997	29.4%			3,388	620	18.3%		
Census Tract 203	1,826	1,146	62.8%	Yes		1,826	299	16.4%		
Census Tract 205	3,128	1,433	45.8%			3,128	429	13.7%		
Census Tract 207	4,726	1,940	41.0%			4,726	649	13.7%		
Census Tract 215	5,638	3,352	59.5%	Yes		5,638	1,466	26.0%		
TOTAL Prospect Heights	**22,301**	**10,388**	**46.6%**	**2**	**-**	**22,279**	**4,014**	**18.0%**	**-**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Prospect Lefferts Gardens-Wingate										
Census Tract 327	2,544	2,126	83.6%	Yes		2,544	878	34.5%	Yes	Yes
Census Tract 329	6,105	3,861	63.2%	Yes		6,105	3,127	51.2%	Yes	Yes
Census Tract 804	3,191	2,855	89.5%	Yes		3,191	1,048	32.8%	Yes	Yes
Census Tract 806	3,355	2,238	66.7%	Yes		3,355	1,451	43.2%	Yes	Yes
Census Tract 808	1,326	1,209	91.2%	Yes		752	554	73.7%	Yes	Yes
Census Tract 810	2,322	1,903	82.0%	Yes		2,240	763	34.1%	Yes	Yes
Census Tract 820	5,175	4,969	96.0%	Yes		5,166	2,751	53.3%	Yes	Yes
Census Tract 874.01	3,759	3,485	92.7%	Yes		3,722	1,778	47.8%	Yes	Yes
Census Tract 876	1,709	1,360	79.6%	Yes		1,696	566	33.4%	Yes	Yes
Census Tract 878	2,647	2,610	98.6%	Yes		2,164	821	37.9%	Yes	Yes
Census Tract 880	2,725	2,508	92.0%	Yes		2,725	736	27.0%	Yes	Yes
Census Tract 796.01	4,536	3,449	76.0%	Yes		4,536	1,705	37.6%	Yes	Yes
Census Tract 796.02	4,797	4,177	87.1%	Yes		4,775	1,597	33.4%	Yes	Yes
Census Tract 798.01	2,869	1,921	67.0%	Yes		2,869	803	28.0%	Yes	Yes
Census Tract 798.02	5,441	3,988	73.3%	Yes		5,441	1,879	34.5%	Yes	Yes
Census Tract 800	3,689	2,747	74.5%	Yes		3,679	668	18.2%		
Census Tract 802	4,578	3,916	85.5%	Yes		4,528	1,528	33.7%	Yes	Yes
Census Tract 822	7,170	6,286	87.7%	Yes		7,062	2,760	39.1%	Yes	Yes
TOTAL Prospect Lefferts Gardens-Wingate	**67,938**	**55,608**	**81.9%**	**18**	**-**	**66,550**	**25,413**	**38.2%**	**17**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Rugby-Remsen Village										
Census Tract 846	2,023	1,941	95.9%	Yes		2,023	598	29.6%	Yes	
Census Tract 848	1,701	1,696	99.7%	Yes		1,690	300	17.8%		No
Census Tract 862	2,821	2,685	95.2%	Yes		2,821	1,053	37.3%	Yes	
Census Tract 864	2,343	2,331	99.5%	Yes		2,343	578	24.7%		No
Census Tract 866	3,145	3,046	96.9%	Yes		3,122	988	31.6%	Yes	
Census Tract 868	3,413	3,340	97.9%	Yes		3,378	1,500	44.4%	Yes	
Census Tract 882	6,353	6,273	98.7%	Yes		6,353	2,887	45.4%	Yes	
Census Tract 884	4,401	4,318	98.1%	Yes		4,401	1,557	35.4%	Yes	
Census Tract 886	4,089	4,015	98.2%	Yes		4,065	1,937	47.7%	Yes	
Census Tract 936	1,692	1,679	99.2%	Yes		1,692	418	24.7%		No
Census Tract 938	2,476	2,462	99.4%	Yes		2,476	447	18.1%		No
Census Tract 946	1,947	1,917	98.5%	Yes		1,947	409	21.0%		No
Census Tract 888	4,086	4,077	99.8%	Yes		4,086	1,332	32.6%	Yes	
Census Tract 890	5,912	5,777	97.7%	Yes		5,263	2,671	50.8%	Yes	
Census Tract 928	3,022	2,956	97.8%	Yes		3,022	711	23.5%		No
Census Tract 930	3,068	3,050	99.4%	Yes		3,050	743	24.4%		No
Census Tract 934	2,464	2,407	97.7%	Yes		2,464	501	20.3%		No
TOTAL Rugby-Remsen Village	**54,956**	**53,970**	**98.2%**	**17**	**-**	**54,196**	**18,630**	**34.4%**	**9**	**8**
Seagate-Coney Island										
Census Tract 336	4,443	1,108	24.9%		No	4,419	1,458	33.0%	Yes	
Census Tract 326	6,730	5,845	86.8%	Yes		6,730	4,359	64.8%	Yes	
Census Tract 328	2,688	2,310	85.9%	Yes		2,688	1,247	46.4%	Yes	
Census Tract 330	5,006	4,185	83.6%	Yes		4,996	3,587	71.8%	Yes	
Census Tract 340	2,050	1,324	64.6%	Yes		1,481	1,033	69.8%	Yes	
Census Tract 342	6,064	3,961	65.3%	Yes		6,038	4,919	81.5%	Yes	
Census Tract 348	2,885	2,170	75.2%	Yes		2,862	1,707	59.6%	Yes	
Census Tract 352	1,254	488	38.9%		No	992	701	70.7%	Yes	
TOTAL Seagate-Coney Island	**31,120**	**21,391**	**68.7%**	**6**	**2**	**30,206**	**19,011**	**62.9%**	**8**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Sheepshead Bay-Gerritsen Beach-Manhattan Beach										
Census Tract 570	3,529	1,529	43.3%		No	3,417	585	17.1%		
Census Tract 572	5,522	4,764	86.3%	Yes		5,522	3,609	65.4%	Yes	Yes
Census Tract 592	4,152	1,936	46.6%		No	4,152	1,331	32.1%	Yes	Yes
Census Tract 594.01	7,396	3,351	45.3%		No	7,386	2,351	31.8%	Yes	Yes
Census Tract 594.02	5,399	1,587	29.4%		No	5,382	1,126	20.9%		
Census Tract 596	2,442	615	25.2%		No	2,442	638	26.1%		
Census Tract 598	3,606	977	27.1%		No	3,606	1,072	29.7%	Yes	Yes
Census Tract 600	6,277	1,315	20.9%		No	6,276	1,479	23.6%		
Census Tract 608	3,545	1,011	28.5%		No	3,529	1,339	37.9%	Yes	Yes
Census Tract 612	1,065	55	5.2%		No	1,065	286	26.9%		
Census Tract 616	1,465	148	10.1%		No	1,207	235	19.5%		
Census Tract 620	1,816	70	3.9%		No	1,816	337	18.6%		
Census Tract 622	2,715	621	22.9%		No	2,503	737	29.4%	Yes	Yes
Census Tract 626	2,869	1,617	56.4%	Yes		2,869	853	29.7%	Yes	Yes
Census Tract 628	4,418	866	19.6%		No	4,418	709	16.0%		
Census Tract 632	1,534	357	23.3%		No	1,534	258	16.8%		
Census Tract 586	2,772	2,153	77.7%	Yes		2,763	873	31.6%	Yes	Yes
Census Tract 590	1,834	1,041	56.8%	Yes		1,834	681	37.1%	Yes	Yes
Census Tract 606	2,811	904	32.2%		No	2,761	760	27.5%	Yes	Yes
TOTAL Sheepshead Bay-Gerritsen Beach-Manhattan Beach	**65,167**	**24,917**	**38.2%**	**4**	**15**	**64,482**	**19,259**	**29.9%**	**10**	**-**
Starrett City										
Census Tract 1058.01	5,809	4,573	78.7%	Yes		5,789	3,077	53.2%	Yes	
Census Tract 1058.04	6,744	5,387	79.9%	Yes		6,720	3,148	46.8%	Yes	
TOTAL Starrett City	**12,553**	**9,960**	**79.3%**	**2**	**-**	**12,509**	**6,225**	**49.8%**	**2**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Stuyvesant Heights										
Census Tract 273	3,431	2,959	86.2%	Yes		3,427	1,157	33.8%	Yes	
Census Tract 275	4,438	3,731	84.1%	Yes		4,401	1,295	29.4%	Yes	
Census Tract 277	4,582	4,054	88.5%	Yes		4,580	1,985	43.3%	Yes	
Census Tract 293	3,437	3,042	88.5%	Yes		3,437	1,449	42.2%	Yes	
Census Tract 295	4,160	3,237	77.8%	Yes		4,160	1,110	26.7%		No
Census Tract 377	4,541	3,992	87.9%	Yes		4,541	1,693	37.3%	Yes	
Census Tract 379	4,660	4,206	90.3%	Yes		4,602	1,699	36.9%	Yes	
Census Tract 383	4,720	4,132	87.5%	Yes		4,720	1,421	30.1%	Yes	
Census Tract 385	3,963	3,342	84.3%	Yes		3,963	944	23.8%		No
Census Tract 279	3,660	3,126	85.4%	Yes		3,658	1,316	36.0%	Yes	
Census Tract 281	4,764	4,140	86.9%	Yes		4,755	2,981	62.7%	Yes	
Census Tract 283	3,863	3,257	84.3%	Yes		3,675	2,229	60.7%	Yes	
Census Tract 285.02	3,205	3,205	100.0%	Yes		3,205	2,005	62.6%	Yes	
Census Tract 287	3,093	2,615	84.5%	Yes		3,091	1,632	52.8%	Yes	
Census Tract 289	3,619	3,180	87.9%	Yes		3,619	1,975	54.6%	Yes	
Census Tract 291	2,991	2,478	82.8%	Yes		2,986	761	25.5%		No
Census Tract 375	3,229	2,596	80.4%	Yes		3,227	1,042	32.3%	Yes	
Census Tract 387	3,882	3,044	78.4%	Yes		3,850	1,525	39.6%	Yes	
TOTAL Stuyvesant Heights	**70,238**	**60,336**	**85.9%**	**18**	**-**	**69,897**	**28,219**	**40.4%**	**15**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Sunset Park East										
Census Tract 118	2,105	2,013	95.6%	Yes		2,105	1,004	47.7%	Yes	
Census Tract 120	1,213	1,181	97.4%	Yes		1,213	649	53.5%	Yes	
Census Tract 86	-	-	0.0%		No	-	-	0.0%		No
Census Tract 96	6,079	5,202	85.6%	Yes		6,029	3,942	65.4%	Yes	
Census Tract 98	6,479	6,185	95.5%	Yes		6,417	4,441	69.2%	Yes	
Census Tract 100	6,035	5,470	90.6%	Yes		6,014	2,818	46.9%	Yes	
Census Tract 102	4,698	4,563	97.1%	Yes		4,666	2,364	50.7%	Yes	
Census Tract 104	4,805	4,420	92.0%	Yes		4,734	2,816	59.5%	Yes	
Census Tract 106	4,417	4,136	93.6%	Yes		4,417	2,869	65.0%	Yes	
Census Tract 108	3,866	3,563	92.2%	Yes		3,866	2,531	65.5%	Yes	
Census Tract 88	2,235	1,355	60.6%	Yes		2,235	632	28.3%	Yes	
Census Tract 90	3,000	2,729	91.0%	Yes		2,994	1,377	46.0%	Yes	
Census Tract 92	5,322	4,755	89.3%	Yes		5,202	3,017	58.0%	Yes	
Census Tract 94	5,066	4,548	89.8%	Yes		5,018	3,146	62.7%	Yes	
Census Tract 110	2,662	1,650	62.0%	Yes		2,630	1,678	63.8%	Yes	
Census Tract 112	6,188	3,538	57.2%	Yes		6,188	3,965	64.1%	Yes	
TOTAL Sunset Park East	**64,170**	**55,308**	**86.2%**	**15**	**1**	**63,728**	**37,249**	**58.4%**	**15**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Sunset Park West										
Census Tract 2	1,167	1,021	87.5%	Yes		1,163	623	53.6%	Yes	
Census Tract 78	5,246	4,770	90.9%	Yes		5,196	3,264	62.8%	Yes	
Census Tract 80	3,615	2,950	81.6%	Yes		3,615	1,028	28.4%	Yes	
Census Tract 82	3,594	3,021	84.1%	Yes		3,536	1,643	46.5%	Yes	
Census Tract 84	3,621	3,048	84.2%	Yes		3,621	2,072	57.2%	Yes	
Census Tract 18	1,897	1,572	82.9%	Yes		-	-	0.0%		No
Census Tract 20	1,412	1,385	98.1%	Yes		1,412	921	65.2%	Yes	
Census Tract 22	4,698	3,857	82.1%	Yes		4,504	2,255	50.1%	Yes	
Census Tract 72	1,900	1,746	91.9%	Yes		1,900	1,098	57.8%	Yes	
Census Tract 74	5,259	4,572	86.9%	Yes		5,170	3,357	64.9%	Yes	
Census Tract 76	5,151	4,431	86.0%	Yes		5,151	3,128	60.7%	Yes	
Census Tract 122	5,482	5,051	92.1%	Yes		5,482	3,539	64.6%	Yes	
Census Tract 101	4,001	2,987	74.7%	Yes		3,871	1,144	29.6%	Yes	
Census Tract 145	3,815	1,707	44.7%		No	3,815	809	21.2%		No
Census Tract 147	2,408	1,182	49.1%		No	2,385	542	22.7%		No
TOTAL Sunset Park West	**53,266**	**43,300**	**81.3%**	**13**	**2**	**50,821**	**25,423**	**50.0%**	**12**	**3**
West Brighton										
Census Tract 350	3,124	113	3.6%		No	3,124	1,003	32.1%	Yes	
Census Tract 354	5,765	558	9.7%		No	5,765	1,847	32.0%	Yes	
Census Tract 356.01	2,834	343	12.1%		No	2,834	1,233	43.5%	Yes	
Census Tract 356.02	5,529	526	9.5%		No	5,529	1,708	30.9%	Yes	
TOTAL West Brighton	**17,252**	**1,540**	**8.9%**	**-**	**4**	**17,252**	**5,791**	**33.6%**	**4**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Williamsburg										
Census Tract 509	5,440	339	6.2%		No	5,440	3,829	70.4%	Yes	
Census Tract 529	3,443	101	2.9%		No	3,441	2,504	72.8%	Yes	
Census Tract 533	6,754	206	3.1%		No	6,754	5,085	75.3%	Yes	
Census Tract 535	3,708	454	12.2%		No	3,708	3,027	81.6%	Yes	
Census Tract 537	3,862	122	3.2%		No	3,673	2,718	74.0%	Yes	
Census Tract 539	2,483	541	21.8%		No	2,483	1,911	77.0%	Yes	
Census Tract 545	8,138	2,608	32.0%		No	7,982	5,801	72.7%	Yes	
TOTAL Williamsburg	**33,828**	**4,371**	**12.9%**	**-**	**7**	**33,481**	**24,875**	**74.3%**	**7**	**-**
Windsor Terrace										
Census Tract 169	4,822	1,276	26.5%		No	4,809	746	15.5%		No
Census Tract 171	4,069	1,017	25.0%		No	4,045	386	9.5%		No
Census Tract 500	3,953	1,771	44.8%		No	3,942	463	11.7%		No
Census Tract 502.02	2,523	536	21.2%		No	2,523	434	17.2%		No
Census Tract 504	4,741	2,175	45.9%		No	4,741	1,049	22.1%		No
Census Tract 1502	2,651	557	21.0%		No	2,636	484	18.4%		No
TOTAL Windsor Terrace	**22,759**	**7,332**	**32.2%**	**-**	**6**	**22,696**	**3,562**	**15.7%**	**-**	**6**
TOTAL Kings County	***2,589,974***	***1,647,109***	***63.6%***	***470***	***286***	***2,564,539***	***1,002,471***	***39.1%***	***500***	***237***

Table 17C-5

Environmental Justice Populations: Queens County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Queens County, New York										
Airport										
Census Tract 716	-	-	0.0%		No	-	-	0.0%		No
Census Tract 331	-	-	0.0%		No	-	-	0.0%		No
TOTAL Airport	**-**	**-**	**-**	**-**	**2**	**-**	**-**	**-**	**-**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Astoria										
Census Tract 45	3,194	1,426	44.6%		No	3,194	621	19.4%		No
Census Tract 47	3,665	2,708	73.9%	Yes		3,646	1,704	46.7%	Yes	
Census Tract 53	5,092	2,835	55.7%	Yes		5,092	1,164	22.9%		No
Census Tract 57	4,212	2,679	63.6%	Yes		4,198	1,592	37.9%	Yes	
Census Tract 59	4,057	1,665	41.0%		No	4,057	970	23.9%		No
Census Tract 61	5,548	2,528	45.6%		No	5,491	1,246	22.7%		No
Census Tract 63	5,690	2,533	44.5%		No	5,690	1,444	25.4%		No
Census Tract 75	3,959	1,719	43.4%		No	3,933	719	18.3%		No
Census Tract 77	1,856	1,106	59.6%	Yes		1,856	517	27.9%	Yes	
Census Tract 157	1,305	909	69.7%	Yes		1,305	345	26.4%		No
Census Tract 65.01	3,450	1,444	41.9%		No	3,450	924	26.8%		No
Census Tract 65.02	3,494	1,434	41.0%		No	3,494	1,044	29.9%	Yes	
Census Tract 141	1,636	876	53.5%	Yes		1,636	555	33.9%	Yes	
Census Tract 143	3,772	1,686	44.7%		No	3,772	1,162	30.8%	Yes	
Census Tract 145	2,412	861	35.7%		No	2,412	769	31.9%	Yes	
Census Tract 147	2,768	825	29.8%		No	2,767	600	21.7%		No
Census Tract 149	1,842	704	38.2%		No	1,842	437	23.7%		No
Census Tract 151	2,613	922	35.3%		No	2,608	750	28.8%	Yes	
Census Tract 153	1,933	1,050	54.3%	Yes		1,856	437	23.5%		No
Census Tract 155	2,358	981	41.6%		No	2,358	548	23.2%		No
Census Tract 159	3,422	1,219	35.6%		No	3,422	1,345	39.3%	Yes	
Census Tract 161	2,297	1,425	62.0%	Yes		2,297	580	25.3%		No
Census Tract 163	3,519	2,954	83.9%	Yes		3,519	2,089	59.4%	Yes	
TOTAL Astoria	**74,094**	**36,489**	**49.2%**	**9**	**14**	**73,895**	**21,562**	**29.2%**	**10**	**13**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Auburndale										
Census Tract 1139	3,356	2,045	60.9%	Yes		3,356	1,233	36.7%	Yes	
Census Tract 1181	1,530	943	61.6%	Yes		1,530	518	33.9%	Yes	
Census Tract 1409.02	2,787	2,161	77.5%	Yes		2,787	602	21.6%		No
Census Tract 1417	4,871	3,468	71.2%	Yes		4,871	1,326	27.2%	Yes	
Census Tract 1429	3,760	2,171	57.7%	Yes		3,742	769	20.6%		No
Census Tract 1451.01	1,127	545	48.4%		No	1,125	189	16.8%		No
Census Tract 1459	2,809	1,865	66.4%	Yes		2,809	819	29.2%	Yes	
TOTAL Auburndale	**20,240**	**13,198**	**65.2%**	**6**	**1**	**20,220**	**5,456**	**27.0%**	**4**	**3**
Baisley Park										
Census Tract 182	2,499	2,451	98.1%	Yes		2,485	948	38.1%	Yes	
Census Tract 184.01	2,114	2,114	100.0%	Yes		2,100	797	38.0%	Yes	
Census Tract 184.02	2,431	2,335	96.1%	Yes		2,425	594	24.5%		No
Census Tract 186	1,869	1,837	98.3%	Yes		1,846	774	41.9%	Yes	
Census Tract 188	1,449	1,431	98.8%	Yes		1,449	572	39.5%	Yes	
Census Tract 190	2,455	2,397	97.6%	Yes		2,424	423	17.5%		No
Census Tract 192	1,969	1,943	98.7%	Yes		1,969	382	19.4%		No
Census Tract 272	1,970	1,953	99.1%	Yes		1,970	445	22.6%		No
Census Tract 274	1,718	1,718	100.0%	Yes		1,718	449	26.1%		No
Census Tract 276	1,342	1,296	96.6%	Yes		1,337	589	44.1%	Yes	
Census Tract 278	2,339	2,328	99.5%	Yes		2,339	1,151	49.2%	Yes	
Census Tract 284	4,166	4,148	99.6%	Yes		4,055	834	20.6%		No
Census Tract 288	4,616	4,576	99.1%	Yes		4,616	1,280	27.7%	Yes	
Census Tract 788	1,865	1,780	95.4%	Yes		1,842	523	28.4%	Yes	
Census Tract 790	2,633	2,624	99.7%	Yes		2,621	560	21.4%		No
Census Tract 792	2,414	2,407	99.7%	Yes		2,397	471	19.6%		No
TOTAL Baisley Park	**37,849**	**37,338**	**98.6%**	**16**	**-**	**37,593**	**10,792**	**28.7%**	**8**	**8**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Bayside-Bayside Hills										
Census Tract 1085	2,337	1,341	57.4%	Yes		2,328	470	20.2%		No
Census Tract 1093	2,937	1,713	58.3%	Yes		2,929	627	21.4%		No
Census Tract 1097	1,598	719	45.0%		No	1,584	148	9.3%		No
Census Tract 1099	3,058	1,837	60.1%	Yes		3,058	808	26.4%		No
Census Tract 1113	2,526	1,324	52.4%	Yes		2,523	503	19.9%		No
Census Tract 1123	2,058	1,348	65.5%	Yes		2,058	378	18.4%		No
Census Tract 1129	2,085	878	42.1%		No	2,085	393	18.8%		No
Census Tract 1133	1,603	765	47.7%		No	1,603	163	10.2%		No
Census Tract 1399	1,666	1,105	66.3%	Yes		1,659	300	18.1%		No
Census Tract 1403	2,344	1,600	68.3%	Yes		2,344	269	11.5%		No
Census Tract 1409.01	990	784	79.2%	Yes		979	202	20.6%		No
Census Tract 1435	2,452	1,653	67.4%	Yes		2,452	325	13.3%		No
Census Tract 1441	2,662	1,774	66.6%	Yes		2,651	457	17.2%		No
Census Tract 1447	3,109	2,738	88.1%	Yes		3,075	897	29.2%	Yes	
Census Tract 1451.02	2,464	1,934	78.5%	Yes		2,448	560	22.9%		No
Census Tract 1463	2,979	1,735	58.2%	Yes		2,618	574	21.9%		No
Census Tract 1467	2,619	1,417	54.1%	Yes		2,619	436	16.6%		No
Census Tract 1471	3,231	1,739	53.8%	Yes		3,223	744	23.1%		No
TOTAL Bayside-Bayside Hills	**42,718**	**26,404**	**61.8%**	**15**	**3**	**42,236**	**8,254**	**19.5%**	**1**	**17**
Bellerose										
Census Tract 1617	4,762	3,055	64.2%	Yes		4,752	770	16.2%		No
Census Tract 1301	4,204	2,923	69.5%	Yes		4,204	609	14.5%		No
Census Tract 1571.01	8,406	6,249	74.3%	Yes		8,395	1,434	17.1%		No
Census Tract 1571.02	2,294	1,929	84.1%	Yes		2,287	574	25.1%		No
Census Tract 1621	6,363	5,214	81.9%	Yes		6,345	1,752	27.6%	Yes	
Census Tract 1567	1,614	1,308	81.0%	Yes		1,091	582	53.3%	Yes	
TOTAL Bellerose	**27,643**	**20,678**	**74.8%**	**6**	**-**	**27,074**	**5,721**	**21.1%**	**2**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Breezy Point-Belle Harbor-Rockaway Park-Broad Channel										
Census Tract 934.02	4,403	1,211	27.5%		No	4,370	920	21.1%		No
Census Tract 922	2,020	162	8.0%		No	2,020	132	6.5%		No
Census Tract 928	3,594	148	4.1%		No	3,594	317	8.8%		No
Census Tract 934.01	3,734	532	14.2%		No	3,495	473	13.5%		No
Census Tract 916.01	3,674	328	8.9%		No	3,674	246	6.7%		No
Census Tract 938	5,023	1,750	34.8%		No	4,275	1,608	37.6%	Yes	
Census Tract 942.01	3,236	2,358	72.9%	Yes		3,158	1,092	34.6%	Yes	
Census Tract 1072.01	2,320	383	16.5%		No	2,318	441	19.0%		No
TOTAL Breezy Point-Belle Harbor-Rockaway Park-Broad C	**28,004**	**6,872**	**24.5%**	**1**	**7**	**26,904**	**5,229**	**19.4%**	**2**	**6**
Briarwood-Jamaica Hills										
Census Tract 214	6,984	6,451	92.4%	Yes		6,984	2,749	39.4%	Yes	
Census Tract 220.01	6,272	4,396	70.1%	Yes		6,134	1,452	23.7%		No
Census Tract 220.02	7,128	4,988	70.0%	Yes		7,128	1,492	20.9%		No
Census Tract 230	2,054	1,477	71.9%	Yes		2,036	569	27.9%	Yes	
Census Tract 232	5,644	4,704	83.3%	Yes		5,240	1,443	27.5%	Yes	
Census Tract 236	3,143	2,831	90.1%	Yes		3,122	1,046	33.5%	Yes	
Census Tract 448	2,809	2,641	94.0%	Yes		2,796	1,355	48.5%	Yes	
Census Tract 450	2,167	1,762	81.3%	Yes		2,167	415	19.2%		No
Census Tract 452	1,335	1,135	85.0%	Yes		966	209	21.6%		No
Census Tract 454	4,779	4,510	94.4%	Yes		4,779	2,108	44.1%	Yes	
Census Tract 456	1,446	1,388	96.0%	Yes		1,446	406	28.1%	Yes	
TOTAL Briarwood-Jamaica Hills	**43,761**	**36,283**	**82.9%**	**11**	**-**	**42,798**	**13,244**	**30.9%**	**7**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Cambria Heights										
Census Tract 614	1,414	1,411	99.8%	Yes		1,414	132	9.3%		No
Census Tract 534.01	2,125	2,090	98.4%	Yes		2,119	412	19.4%		No
Census Tract 590	1,466	1,444	98.5%	Yes		1,466	318	21.7%		No
Census Tract 592	1,516	1,516	100.0%	Yes		1,507	100	6.6%		No
Census Tract 594	1,768	1,756	99.3%	Yes		1,768	149	8.4%		No
Census Tract 596	1,272	1,255	98.7%	Yes		1,272	256	20.1%		No
Census Tract 598	1,798	1,774	98.7%	Yes		1,790	236	13.2%		No
Census Tract 600	1,102	1,094	99.3%	Yes		1,102	89	8.1%		No
Census Tract 606	1,351	1,345	99.6%	Yes		1,351	93	6.9%		No
Census Tract 608	1,564	1,506	96.3%	Yes		1,557	174	11.2%		No
Census Tract 610	1,551	1,542	99.4%	Yes		1,551	172	11.1%		No
Census Tract 612	2,022	2,022	100.0%	Yes		2,022	28	1.4%		No
Census Tract 622	2,083	2,068	99.3%	Yes		2,077	270	13.0%		No
TOTAL Cambria Heights	**21,032**	**20,823**	**99.0%**	**13**	**-**	**20,996**	**2,429**	**11.6%**	**-**	**13**
College Point										
Census Tract 907	1,434	1,025	71.5%	Yes		1,421	456	32.1%	Yes	
Census Tract 947	2,202	1,353	61.4%	Yes		2,202	652	29.6%	Yes	
Census Tract 919	5,309	4,399	82.9%	Yes		4,710	2,142	45.5%	Yes	
Census Tract 925	3,470	2,837	81.8%	Yes		3,469	1,428	41.2%	Yes	
Census Tract 929	7,036	5,877	83.5%	Yes		6,993	1,932	27.6%	Yes	
Census Tract 939	5,299	3,720	70.2%	Yes		5,269	1,166	22.1%		No
TOTAL College Point	**24,750**	**19,211**	**77.6%**	**6**	**-**	**24,064**	**7,776**	**32.3%**	**5**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Corona										
Census Tract 437.01	2,686	2,344	87.3%	Yes		2,294	944	41.2%	Yes	
Census Tract 437.02	7,125	6,556	92.0%	Yes		7,052	3,998	56.7%	Yes	
Census Tract 443.02	4,076	3,961	97.2%	Yes		4,076	2,016	49.5%	Yes	
Census Tract 455	14,284	12,794	89.6%	Yes		14,186	6,656	46.9%	Yes	
Census Tract 399	3,862	3,816	98.8%	Yes		3,786	1,586	41.9%	Yes	
Census Tract 411	3,775	3,743	99.2%	Yes		3,768	1,714	45.5%	Yes	
Census Tract 413	4,696	4,626	98.5%	Yes		4,589	2,778	60.5%	Yes	
Census Tract 415	4,358	4,060	93.2%	Yes		4,236	2,133	50.4%	Yes	
Census Tract 427	4,955	4,763	96.1%	Yes		4,859	2,418	49.8%	Yes	
Census Tract 439	3,610	3,454	95.7%	Yes		3,600	2,019	56.1%	Yes	
Census Tract 443.01	3,719	3,571	96.0%	Yes		3,718	1,986	53.4%	Yes	
TOTAL Corona	**57,146**	**53,688**	**93.9%**	**11**	**-**	**56,164**	**28,248**	**50.3%**	**11**	**-**
Douglas Manor-Douglaston-Little Neck										
Census Tract 1479	4,526	2,695	59.5%	Yes		4,504	814	18.1%		No
Census Tract 1483	2,900	1,150	39.7%		No	2,892	315	10.9%		No
Census Tract 1507.01	3,036	1,480	48.7%		No	3,032	307	10.1%		No
Census Tract 1507.02	3,067	1,282	41.8%		No	2,954	433	14.7%		No
Census Tract 1529.01	6,916	4,683	67.7%	Yes		6,884	1,393	20.2%		No
Census Tract 1529.02	4,955	2,872	58.0%	Yes		4,955	912	18.4%		No
TOTAL Douglas Manor-Douglaston-Little Neck	**25,400**	**14,162**	**55.8%**	**3**	**3**	**25,221**	**4,174**	**16.5%**	**-**	**6**
East Elmhurst										
Census Tract 353	2,273	2,153	94.7%	Yes		2,243	919	41.0%	Yes	
Census Tract 357	3,710	3,175	85.6%	Yes		3,200	1,153	36.0%	Yes	
Census Tract 361	2,238	2,165	96.7%	Yes		2,229	1,159	52.0%	Yes	
Census Tract 363	1,771	1,705	96.3%	Yes		1,751	689	39.3%	Yes	
Census Tract 365	2,992	2,921	97.6%	Yes		2,978	1,422	47.8%	Yes	
Census Tract 367	2,178	2,098	96.3%	Yes		2,147	986	45.9%	Yes	
Census Tract 371	1,335	1,316	98.6%	Yes		1,335	454	34.0%	Yes	
Census Tract 373	2,255	2,191	97.2%	Yes		2,249	850	37.8%	Yes	
TOTAL East Elmhurst	**18,752**	**17,724**	**94.5%**	**8**	**-**	**18,132**	**7,632**	**42.1%**	**8**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
East Flushing										
Census Tract 861	2,032	1,875	92.3%	Yes		2,020	828	41.0%	Yes	
Census Tract 1185	1,978	1,838	92.9%	Yes		1,978	975	49.3%	Yes	
Census Tract 1187	2,484	2,195	88.4%	Yes		2,484	1,010	40.7%	Yes	
Census Tract 1189	2,050	1,721	84.0%	Yes		2,045	653	31.9%	Yes	
Census Tract 1191	2,985	2,681	89.8%	Yes		2,984	1,455	48.8%	Yes	
Census Tract 1193	1,978	1,606	81.2%	Yes		1,978	754	38.1%	Yes	
Census Tract 1195	1,453	1,004	69.1%	Yes		1,453	331	22.8%		No
Census Tract 1199	1,517	1,269	83.7%	Yes		1,506	579	38.4%	Yes	
Census Tract 1201	1,559	1,367	87.7%	Yes		1,559	614	39.4%	Yes	
Census Tract 1203	1,573	1,383	87.9%	Yes		1,573	687	43.7%	Yes	
Census Tract 1205	2,568	2,405	93.7%	Yes		2,543	1,531	60.2%	Yes	
Census Tract 1207	3,097	2,266	73.2%	Yes		3,088	967	31.3%	Yes	
TOTAL East Flushing	**25,274**	**21,610**	**85.5%**	**12**	**-**	**25,211**	**10,384**	**41.2%**	**11**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Elmhurst										
Census Tract 457	3,281	3,042	92.7%	Yes		3,206	928	28.9%	Yes	
Census Tract 459	3,719	3,625	97.5%	Yes		3,698	907	24.5%		No
Census Tract 473	4,328	3,625	83.8%	Yes		4,279	1,478	34.5%	Yes	
Census Tract 475	4,301	4,014	93.3%	Yes		4,301	1,346	31.3%	Yes	
Census Tract 499	5,260	4,523	86.0%	Yes		5,260	1,813	34.5%	Yes	
Census Tract 683	3,970	3,512	88.5%	Yes		3,953	1,217	30.8%	Yes	
Census Tract 267	5,353	4,958	92.6%	Yes		5,337	2,236	41.9%	Yes	
Census Tract 269.01	4,965	4,746	95.6%	Yes		4,907	1,717	35.0%	Yes	
Census Tract 269.02	3,603	3,406	94.5%	Yes		3,553	1,500	42.2%	Yes	
Census Tract 271	8,428	8,075	95.8%	Yes		8,428	3,435	40.8%	Yes	
Census Tract 461	2,464	2,274	92.3%	Yes		2,442	942	38.6%	Yes	
Census Tract 463	3,836	3,769	98.3%	Yes		3,828	1,708	44.6%	Yes	
Census Tract 465	4,172	4,136	99.1%	Yes		4,094	1,721	42.0%	Yes	
Census Tract 467	5,895	5,738	97.3%	Yes		5,788	3,379	58.4%	Yes	
Census Tract 469	8,207	8,120	98.9%	Yes		8,207	3,869	47.1%	Yes	
Census Tract 471	4,320	4,230	97.9%	Yes		4,320	2,302	53.3%	Yes	
Census Tract 481	6,434	5,996	93.2%	Yes		6,160	3,043	49.4%	Yes	
TOTAL Elmhurst	**82,536**	**77,789**	**94.2%**	**17**	**-**	**81,761**	**33,541**	**41.0%**	**16**	**1**
Elmhurst-Maspeth										
Census Tract 243	5,088	3,746	73.6%	Yes		5,049	1,204	23.8%		No
Census Tract 479	5,115	4,664	91.2%	Yes		5,104	2,281	44.7%	Yes	
Census Tract 485	4,366	4,028	92.3%	Yes		4,366	1,563	35.8%	Yes	
Census Tract 489	1,610	1,469	91.2%	Yes		1,610	461	28.6%	Yes	
Census Tract 265	3,722	3,437	92.3%	Yes		3,722	1,155	31.0%	Yes	
Census Tract 483	3,888	3,640	93.6%	Yes		3,888	1,718	44.2%	Yes	
TOTAL Elmhurst-Maspeth	**23,789**	**20,984**	**88.2%**	**6**	**-**	**23,739**	**8,382**	**35.3%**	**5**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Far Rockaway-Bayswater										
Census Tract 998.01	8,592	8,179	95.2%	Yes		8,395	2,150	25.6%		No
Census Tract 998.02	6,422	5,138	80.0%	Yes		6,422	3,373	52.5%	Yes	
Census Tract 1008.01	2,525	1,573	62.3%	Yes		2,525	459	18.2%		No
Census Tract 1008.02	8,976	6,352	70.8%	Yes		8,947	2,671	29.9%	Yes	
Census Tract 1032.01	6,509	6,295	96.7%	Yes		6,509	3,491	53.6%	Yes	
Census Tract 1010.01	12,253	9,338	76.2%	Yes		10,966	5,036	45.9%	Yes	
Census Tract 1010.02	4,359	1,353	31.0%		No	4,339	1,780	41.0%	Yes	
Census Tract 1032.02	8,121	4,566	56.2%	Yes		7,746	4,101	52.9%	Yes	
TOTAL Far Rockaway-Bayswater	**57,757**	**42,794**	**74.1%**	**7**	**1**	**55,849**	**23,061**	**41.3%**	**6**	**2**
Flushing										
Census Tract 797.01	6,676	6,245	93.5%	Yes		6,674	4,224	63.3%	Yes	
Census Tract 797.02	4,502	4,096	91.0%	Yes		4,496	2,959	65.8%	Yes	
Census Tract 845	4,863	4,595	94.5%	Yes		4,854	2,079	42.8%	Yes	
Census Tract 849	6,909	6,858	99.3%	Yes		6,909	4,058	58.7%	Yes	
Census Tract 853	5,563	5,401	97.1%	Yes		5,562	3,237	58.2%	Yes	
Census Tract 855	6,772	6,239	92.1%	Yes		6,753	3,756	55.6%	Yes	
Census Tract 857	5,171	4,814	93.1%	Yes		4,853	2,330	48.0%	Yes	
Census Tract 859	5,492	4,965	90.4%	Yes		5,480	1,936	35.3%	Yes	
Census Tract 865	4,311	3,785	87.8%	Yes		4,311	2,122	49.2%	Yes	
Census Tract 869	1,771	1,732	97.8%	Yes		1,771	1,209	68.3%	Yes	
Census Tract 871	2,643	2,560	96.9%	Yes		2,632	1,256	47.7%	Yes	
Census Tract 889.01	9,626	8,601	89.4%	Yes		9,485	4,503	47.5%	Yes	
Census Tract 1161	4,301	3,813	88.7%	Yes		3,796	2,206	58.1%	Yes	
TOTAL Flushing	**68,600**	**63,704**	**92.9%**	**13**	**-**	**67,576**	**35,875**	**53.1%**	**13**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Forest Hills										
Census Tract 737	1,930	910	47.2%		No	1,929	294	15.2%		No
Census Tract 749	1,429	435	30.4%		No	1,429	162	11.3%		No
Census Tract 757.02	4,898	2,441	49.8%		No	4,729	838	17.7%		No
Census Tract 769.01	4,407	2,365	53.7%	Yes		4,407	547	12.4%		No
Census Tract 645	1,927	881	45.7%		No	1,915	426	22.2%		No
Census Tract 707	2,547	1,321	51.9%	Yes		2,538	360	14.2%		No
Census Tract 709	2,869	1,582	55.1%	Yes		2,858	335	11.7%		No
Census Tract 711	6,448	3,207	49.7%		No	6,355	591	9.3%		No
Census Tract 713.03	5,431	2,251	41.4%		No	5,431	718	13.2%		No
Census Tract 713.04	6,054	2,680	44.3%		No	6,054	1,981	32.7%	Yes	
Census Tract 713.05	4,862	2,464	50.7%	Yes		4,862	730	15.0%		No
Census Tract 713.06	6,361	3,434	54.0%	Yes		6,361	927	14.6%		No
Census Tract 719	2,438	1,315	53.9%	Yes		2,438	725	29.7%	Yes	
Census Tract 721	4,579	1,990	43.5%		No	4,531	1,535	33.9%	Yes	
Census Tract 723	2,050	940	45.9%		No	2,050	244	11.9%		No
Census Tract 729	1,437	792	55.1%	Yes		1,428	160	11.2%		No
Census Tract 731	1,507	564	37.4%		No	1,507	198	13.1%		No
Census Tract 739	5,425	2,917	53.8%	Yes		5,266	667	12.7%		No
Census Tract 741	3,060	1,407	46.0%		No	3,051	618	20.3%		No
Census Tract 743	4,082	1,998	48.9%		No	4,082	1,116	27.3%	Yes	
Census Tract 745	4,014	1,577	39.3%		No	4,014	1,443	35.9%	Yes	
Census Tract 747	3,705	2,804	75.7%	Yes		3,705	943	25.5%		No
Census Tract 757.01	5,022	2,792	55.6%	Yes		5,022	627	12.5%		No
Census Tract 769.02	1,186	690	58.2%	Yes		1,186	281	23.7%		No
TOTAL Forest Hills	**87,668**	**43,757**	**49.9%**	**11**	**13**	**87,148**	**16,466**	**18.9%**	**5**	**19**
Fresh Meadows-Utopia										
Census Tract 1333	3,896	2,089	53.6%	Yes		3,896	939	24.1%		No
Census Tract 1339	1,302	537	41.2%		No	1,302	185	14.2%		No
Census Tract 1341	3,358	2,482	73.9%	Yes		3,358	902	26.9%		No
Census Tract 1347	10,944	8,931	81.6%	Yes		10,941	2,872	26.2%		No
TOTAL Fresh Meadows-Utopia	**19,500**	**14,039**	**72.0%**	**3**	**1**	**19,497**	**4,898**	**25.1%**	**-**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Ft. Totten-Bay Terrace-Clearview										
Census Tract 997.01	2,922	997	34.1%		No	2,922	279	9.5%		No
Census Tract 997.03	3,746	2,025	54.1%	Yes		3,728	322	8.6%		No
Census Tract 997.04	6,847	2,778	40.6%		No	6,834	1,162	17.0%		No
Census Tract 997.05	2,470	1,421	57.5%	Yes		2,470	201	8.1%		No
Census Tract 999	-	-	0.0%		No	-	-	0.0%		No
Census Tract 1017	6,005	3,171	52.8%	Yes		6,005	1,117	18.6%		No
TOTAL Ft. Totten-Bay Terrace-Clearview	**21,990**	**10,392**	**47.3%**	**3**	**3**	**21,959**	**3,081**	**14.0%**	**-**	**6**
Glen Oaks-Floral Park-New Hyde Park										
Census Tract 1579.03	4,741	3,319	70.0%	Yes		4,741	1,071	22.6%		No
Census Tract 1551.01	1,759	68	3.9%		No	1,759	340	19.3%		No
Census Tract 1551.02	8,929	5,025	56.3%	Yes		8,001	1,040	13.0%		No
Census Tract 1579.01	5,073	3,606	71.1%	Yes		5,069	794	15.7%		No
Census Tract 1579.02	4,129	2,959	71.7%	Yes		4,070	764	18.8%		No
TOTAL Glen Oaks-Floral Park-New Hyde Park	**24,631**	**14,977**	**60.8%**	**4**	**1**	**23,640**	**4,009**	**17.0%**	**-**	**5**
Glendale										
Census Tract 565	1,569	1,227	78.2%	Yes		1,569	516	32.9%	Yes	
Census Tract 567	5,175	3,612	69.8%	Yes		5,167	543	10.5%		No
Census Tract 577	4,169	1,808	43.4%		No	4,169	1,236	29.6%	Yes	
Census Tract 579	1,643	722	43.9%		No	1,643	408	24.8%		No
Census Tract 623	2,246	918	40.9%		No	2,246	335	14.9%		No
Census Tract 625	2,692	1,085	40.3%		No	2,692	343	12.7%		No
Census Tract 627	2,944	1,491	50.6%	Yes		2,944	723	24.6%		No
Census Tract 629	3,034	1,268	41.8%		No	3,031	521	17.2%		No
Census Tract 633.01	1,704	521	30.6%		No	1,704	321	18.8%		No
Census Tract 633.02	1,475	290	19.7%		No	1,457	177	12.1%		No
Census Tract 635	2,551	820	32.1%		No	2,547	782	30.7%	Yes	
Census Tract 637	3,432	1,165	33.9%		No	3,432	488	14.2%		No
Census Tract 639	3,043	1,454	47.8%		No	3,043	393	12.9%		No
TOTAL Glendale	**35,677**	**16,381**	**45.9%**	**3**	**10**	**35,644**	**6,786**	**19.0%**	**3**	**10**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Hammels-Arverne-Edgemere										
Census Tract 942.02	4,806	3,907	81.3%	Yes		4,806	2,362	49.1%	Yes	
Census Tract 942.03	6,602	3,172	48.0%		No	6,508	2,079	31.9%	Yes	
Census Tract 954	6,045	5,402	89.4%	Yes		5,842	2,195	37.6%	Yes	
Census Tract 964	6,573	5,790	88.1%	Yes		6,257	1,767	28.2%	Yes	
Census Tract 972.02	3,060	2,987	97.6%	Yes		3,055	1,847	60.5%	Yes	
Census Tract 972.03	7,356	7,087	96.3%	Yes		7,356	4,879	66.3%	Yes	
Census Tract 972.04	3,884	3,532	90.9%	Yes		3,327	1,542	46.3%	Yes	
Census Tract 992	4,339	3,912	90.2%	Yes		4,228	2,326	55.0%	Yes	
TOTAL Hammels-Arverne-Edgemere	**42,665**	**35,789**	**83.9%**	**7**	**1**	**41,379**	**18,997**	**45.9%**	**8**	**-**
Hollis										
Census Tract 482	1,427	1,356	95.0%	Yes		1,358	424	31.2%	Yes	
Census Tract 484	5,140	5,052	98.3%	Yes		5,140	622	12.1%		No
Census Tract 500	4,279	4,137	96.7%	Yes		3,914	1,325	33.9%	Yes	
Census Tract 502.01	1,384	1,384	100.0%	Yes		1,384	385	27.8%	Yes	
Census Tract 502.02	1,421	1,401	98.6%	Yes		1,404	371	26.4%		No
Census Tract 504	1,818	1,767	97.2%	Yes		1,810	470	26.0%		No
Census Tract 506	1,421	1,421	100.0%	Yes		1,421	401	28.2%	Yes	
Census Tract 508	2,008	1,958	97.5%	Yes		1,999	383	19.2%		No
Census Tract 510	1,816	1,769	97.4%	Yes		1,797	350	19.5%		No
TOTAL Hollis	**20,714**	**20,245**	**97.7%**	**9**	**-**	**20,227**	**4,731**	**23.4%**	**4**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Hunters Point-Sunnyside-West Maspeth										
Census Tract 185.01	3,182	1,919	60.3%	Yes		3,174	1,277	40.2%	Yes	
Census Tract 187	3,069	2,107	68.7%	Yes		3,025	986	32.6%	Yes	
Census Tract 189	3,136	2,226	71.0%	Yes		3,136	879	28.0%	Yes	
Census Tract 199	697	583	83.6%	Yes		347	217	62.5%	Yes	
Census Tract 205	1,176	1,080	91.8%	Yes		1,176	339	28.8%	Yes	
Census Tract 1	9,505	4,318	45.4%		No	9,487	1,010	10.6%		No
Census Tract 7	6,336	3,009	47.5%		No	6,307	917	14.5%		No
Census Tract 19	4,358	2,615	60.0%	Yes		4,358	625	14.3%		No
Census Tract 171	51	24	47.1%		No	49	9	18.4%		No
Census Tract 179	1,019	754	74.0%	Yes		1,019	410	40.2%	Yes	
Census Tract 181.01	3,497	2,297	65.7%	Yes		3,497	1,043	29.8%	Yes	
Census Tract 181.02	3,311	1,661	50.2%	Yes		3,303	661	20.0%		No
Census Tract 183	6,064	3,405	56.2%	Yes		6,016	1,370	22.8%		No
Census Tract 185.02	3,367	1,797	53.4%	Yes		3,358	1,085	32.3%	Yes	
Census Tract 219	-	-	0.0%		No	-	-	0.0%		No
Census Tract 235	7,766	6,837	88.0%	Yes		7,766	2,506	32.3%	Yes	
Census Tract 169	5,683	3,379	59.5%	Yes		5,671	1,862	32.8%	Yes	
Census Tract 253.01	4,386	2,762	63.0%	Yes		4,374	1,412	32.3%	Yes	
Census Tract 253.02	3,046	2,282	74.9%	Yes		3,046	969	31.8%	Yes	
TOTAL Hunters Point-Sunnyside-West Maspeth	**69,649**	**43,055**	**61.8%**	**15**	**4**	**69,109**	**17,577**	**25.4%**	**12**	**7**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Jackson Heights										
Census Tract 273	7,116	6,966	97.9%	Yes		7,073	3,652	51.6%	Yes	
Census Tract 275	6,820	6,474	94.9%	Yes		6,657	2,883	43.3%	Yes	
Census Tract 277	7,747	7,158	92.4%	Yes		7,734	2,747	35.5%	Yes	
Census Tract 279	6,220	5,130	82.5%	Yes		6,185	2,128	34.4%	Yes	
Census Tract 281	5,013	3,434	68.5%	Yes		5,013	1,482	29.6%	Yes	
Census Tract 283	7,508	5,923	78.9%	Yes		7,508	2,374	31.6%	Yes	
Census Tract 285	4,987	3,160	63.4%	Yes		4,952	1,817	36.7%	Yes	
Census Tract 287	6,293	4,423	70.3%	Yes		6,293	1,840	29.2%	Yes	
Census Tract 289	5,158	3,819	74.0%	Yes		5,158	1,844	35.8%	Yes	
Census Tract 291	6,368	5,687	89.3%	Yes		6,073	2,211	36.4%	Yes	
Census Tract 309.02	6,590	5,387	81.7%	Yes		6,547	2,738	41.8%	Yes	
Census Tract 309.03	5,722	5,163	90.2%	Yes		5,699	1,559	27.4%	Yes	
Census Tract 309.04	3,179	2,219	69.8%	Yes		3,179	1,008	31.7%	Yes	
Census Tract 327	3,702	3,331	90.0%	Yes		3,668	1,454	39.6%	Yes	
Census Tract 329	3,244	2,829	87.2%	Yes		3,237	1,010	31.2%	Yes	
Census Tract 337	2,999	2,836	94.6%	Yes		2,999	910	30.3%	Yes	
Census Tract 339	2,677	2,147	80.2%	Yes		2,672	1,301	48.7%	Yes	
Census Tract 347	2,966	2,696	90.9%	Yes		2,783	929	33.4%	Yes	
Census Tract 351	3,737	3,237	86.6%	Yes		3,737	1,550	41.5%	Yes	
TOTAL Jackson Heights	**98,046**	**82,019**	**83.7%**	**19**	**-**	**97,167**	**35,437**	**36.5%**	**19**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Jamaica										
Census Tract 204	2,350	2,252	95.8%	Yes		2,324	1,026	44.1%	Yes	
Census Tract 206	1,855	1,686	90.9%	Yes		1,855	680	36.7%	Yes	
Census Tract 208	3,136	2,769	88.3%	Yes		3,119	824	26.4%		No
Census Tract 212	2,434	2,240	92.0%	Yes		2,359	1,225	51.9%	Yes	
Census Tract 238	4,516	4,424	98.0%	Yes		4,486	2,273	50.7%	Yes	
Census Tract 240	6,826	6,677	97.8%	Yes		6,776	3,908	57.7%	Yes	
Census Tract 246	-	-	0.0%		No	-	-	0.0%		No
Census Tract 444	3,529	3,393	96.1%	Yes		3,526	1,778	50.4%	Yes	
Census Tract 446.01	3,361	3,335	99.2%	Yes		3,360	1,408	41.9%	Yes	
Census Tract 446.02	4,961	4,855	97.9%	Yes		4,757	2,923	61.4%	Yes	
Census Tract 460	6,049	5,969	98.7%	Yes		6,049	2,939	48.6%	Yes	
Census Tract 462	6,907	6,770	98.0%	Yes		6,589	2,712	41.2%	Yes	
Census Tract 468	3,340	3,302	98.9%	Yes		3,340	1,021	30.6%	Yes	
Census Tract 470	3,197	3,163	98.9%	Yes		3,197	1,071	33.5%	Yes	
Census Tract 480	2,293	2,232	97.3%	Yes		2,293	658	28.7%	Yes	
TOTAL Jamaica	**54,754**	**53,067**	**96.9%**	**14**	**1**	**54,030**	**24,446**	**45.2%**	**13**	**2**
Jamaica Estates-Holliswood										
Census Tract 458	2,348	2,066	88.0%	Yes		2,348	656	27.9%	Yes	
Census Tract 464	1,999	1,723	86.2%	Yes		1,630	345	21.2%		No
Census Tract 466	3,882	3,482	89.7%	Yes		3,882	1,040	26.8%		No
Census Tract 472	3,664	2,845	77.6%	Yes		3,299	605	18.3%		No
Census Tract 476	1,419	978	68.9%	Yes		1,419	109	7.7%		No
Census Tract 478	4,925	4,105	83.4%	Yes		4,923	1,351	27.4%	Yes	
Census Tract 492	5,444	5,080	93.3%	Yes		5,437	1,005	18.5%		No
Census Tract 1277	3,615	823	22.8%		No	3,579	435	12.2%		No
TOTAL Jamaica Estates-Holliswood	**27,296**	**21,102**	**77.3%**	**7**	**1**	**26,517**	**5,546**	**20.9%**	**2**	**6**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Kew Gardens										
Census Tract 773	2,093	940	44.9%		No	2,093	437	20.9%		No
Census Tract 134	4,678	2,649	56.6%	Yes		4,662	1,745	37.4%	Yes	
Census Tract 136	1,874	710	37.9%		No	1,874	410	21.9%		No
Census Tract 138	3,608	2,312	64.1%	Yes		3,606	721	20.0%		No
Census Tract 140	3,766	1,950	51.8%	Yes		3,707	851	23.0%		No
Census Tract 216	4,123	2,706	65.6%	Yes		4,092	1,032	25.2%		No
Census Tract 775	2,234	698	31.2%		No	2,234	269	12.0%		No
TOTAL Kew Gardens	**22,376**	**11,965**	**53.5%**	**4**	**3**	**22,268**	**5,465**	**24.5%**	**1**	**6**
Kew Gardens Hills										
Census Tract 779.02	4,829	921	19.1%		No	4,829	990	20.5%		No
Census Tract 779.03	3,166	1,368	43.2%		No	3,164	531	16.8%		No
Census Tract 779.04	5,781	2,565	44.4%		No	5,700	1,997	35.0%	Yes	
Census Tract 779.05	2,626	1,731	65.9%	Yes		2,497	407	16.3%		No
Census Tract 779.06	3,388	1,698	50.1%	Yes		3,369	849	25.2%		No
Census Tract 779.07	3,500	880	25.1%		No	3,330	1,474	44.3%	Yes	
Census Tract 779.08	3,760	2,781	74.0%	Yes		3,494	1,947	55.7%	Yes	
Census Tract 809	7,240	4,149	57.3%	Yes		6,750	1,765	26.1%		No
Census Tract 1257	3,248	2,735	84.2%	Yes		3,119	1,178	37.8%	Yes	
TOTAL Kew Gardens Hills	**37,538**	**18,828**	**50.2%**	**5**	**4**	**36,252**	**11,138**	**30.7%**	**4**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Laurelton										
Census Tract 328	2,769	2,742	99.0%	Yes		2,711	461	17.0%		No
Census Tract 358	4,179	4,110	98.3%	Yes		4,173	630	15.1%		No
Census Tract 616.01	2,145	2,104	98.1%	Yes		2,145	235	11.0%		No
Census Tract 618	1,796	1,731	96.4%	Yes		1,747	209	12.0%		No
Census Tract 620	1,431	1,406	98.3%	Yes		1,425	66	4.6%		No
Census Tract 626	2,805	2,774	98.9%	Yes		2,799	576	20.6%		No
Census Tract 630	1,503	1,478	98.3%	Yes		1,503	103	6.9%		No
Census Tract 632	2,601	2,562	98.5%	Yes		2,593	364	14.0%		No
Census Tract 646	2,976	2,959	99.4%	Yes		2,969	633	21.3%		No
Census Tract 650	2,742	2,666	97.2%	Yes		2,726	358	13.1%		No
Census Tract 682	994	984	99.0%	Yes		975	132	13.5%		No
TOTAL Laurelton	**25,941**	**25,516**	**98.4%**	**11**	**-**	**25,766**	**3,767**	**14.6%**	**-**	**11**
Lindenwood-Howard Beach										
Census Tract 62.01	5,593	2,226	39.8%		No	5,593	1,136	20.3%		No
Census Tract 62.02	6,459	3,529	54.6%	Yes		6,459	2,616	40.5%	Yes	
Census Tract 892	7,916	1,098	13.9%		No	7,721	1,200	15.5%		No
Census Tract 884	8,345	1,774	21.3%		No	8,304	1,859	22.4%		No
TOTAL Lindenwood-Howard Beach	**28,313**	**8,627**	**30.5%**	**1**	**3**	**28,077**	**6,811**	**24.3%**	**1**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Maspeth										
Census Tract 493.01	2,209	1,441	65.2%	Yes		2,209	643	29.1%	Yes	
Census Tract 493.02	3,068	1,960	63.9%	Yes		2,833	614	21.7%		No
Census Tract 495	1,515	509	33.6%		No	1,503	228	15.2%		No
Census Tract 497	3,131	2,060	65.8%	Yes		3,131	873	27.9%	Yes	
Census Tract 511	2,290	1,021	44.6%		No	2,290	436	19.0%		No
Census Tract 513	2,439	992	40.7%		No	2,439	493	20.2%		No
Census Tract 515	3,446	1,275	37.0%		No	3,446	731	21.2%		No
Census Tract 517	2,007	698	34.8%		No	2,000	479	24.0%		No
Census Tract 521	2,253	745	33.1%		No	2,244	669	29.8%	Yes	
Census Tract 599	1,255	382	30.4%		No	1,250	346	27.7%	Yes	
Census Tract 601	2,324	1,185	51.0%	Yes		2,310	572	24.8%		No
Census Tract 525	2,543	1,136	44.7%		No	2,543	798	31.4%	Yes	
Census Tract 531	3,417	1,453	42.5%		No	3,398	1,090	32.1%	Yes	
Census Tract 535	1,432	1,008	70.4%	Yes		1,432	494	34.5%	Yes	
TOTAL Maspeth	**33,329**	**15,865**	**47.6%**	**5**	**9**	**33,028**	**8,466**	**25.6%**	**7**	**7**
Middle Village										
Census Tract 505	1,529	856	56.0%	Yes		1,529	500	32.7%	Yes	
Census Tract 507	4,102	2,263	55.2%	Yes		4,102	1,598	39.0%	Yes	
Census Tract 603	2,095	869	41.5%		No	2,088	611	29.3%	Yes	
Census Tract 607.01	14	-	0.0%		No	14	-	0.0%		No
Census Tract 619	2,683	615	22.9%		No	2,683	445	16.6%		No
Census Tract 621	2,896	1,321	45.6%		No	2,886	645	22.3%		No
Census Tract 655.01	-	-	0.0%		No	-	-	0.0%		No
Census Tract 657.02	1,802	557	30.9%		No	1,791	347	19.4%		No
Census Tract 657.03	2,746	564	20.5%		No	2,745	422	15.4%		No
Census Tract 659	1,884	399	21.2%		No	1,884	196	10.4%		No
Census Tract 661	1,647	271	16.5%		No	1,628	244	15.0%		No
Census Tract 663	2,771	686	24.8%		No	2,771	162	5.8%		No
Census Tract 665.01	4,149	934	22.5%		No	4,148	611	14.7%		No
Census Tract 667.01	2,800	758	27.1%		No	2,800	621	22.2%		No
Census Tract 669	1,642	250	15.2%		No	1,636	343	21.0%		No
Census Tract 671	2,455	808	32.9%		No	2,429	246	10.1%		No
Census Tract 677	1,883	368	19.5%		No	1,883	223	11.8%		No
Census Tract 679	4,344	2,425	55.8%	Yes		3,964	1,851	46.7%	Yes	
TOTAL Middle Village	**41,442**	**13,944**	**33.6%**	**3**	**15**	**40,981**	**9,065**	**22.1%**	**4**	**14**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Murray Hill										
Census Tract 863	6,613	6,105	92.3%	Yes		6,613	3,505	53.0%	Yes	
Census Tract 1047	6,755	4,761	70.5%	Yes		6,755	2,312	34.2%	Yes	
Census Tract 1059	3,907	1,706	43.7%		No	3,906	866	22.2%		No
Census Tract 1141	2,362	1,346	57.0%	Yes		2,356	425	18.0%		No
Census Tract 1147	1,726	964	55.9%	Yes		1,726	228	13.2%		No
Census Tract 1151	915	464	50.7%	Yes		907	243	26.8%		No
Census Tract 1155	2,150	1,772	82.4%	Yes		2,150	1,108	51.5%	Yes	
Census Tract 1157	3,207	2,653	82.7%	Yes		3,207	1,195	37.3%	Yes	
Census Tract 1159	4,256	3,854	90.6%	Yes		4,255	1,507	35.4%	Yes	
Census Tract 1163	9,346	8,507	91.0%	Yes		8,665	5,948	68.6%	Yes	
Census Tract 1167	1,676	1,646	98.2%	Yes		1,659	943	56.8%	Yes	
Census Tract 1171	2,359	1,743	73.9%	Yes		2,359	759	32.2%	Yes	
Census Tract 1175	4,830	3,122	64.6%	Yes		4,822	1,294	26.8%		No
TOTAL Murray Hill	**50,102**	**38,643**	**77.1%**	**12**	**1**	**49,380**	**20,333**	**41.2%**	**8**	**5**
North Corona										
Census Tract 375	4,116	4,023	97.7%	Yes		4,105	1,942	47.3%	Yes	
Census Tract 377	3,620	3,603	99.5%	Yes		3,553	1,188	33.4%	Yes	
Census Tract 379	6,851	6,788	99.1%	Yes		6,794	3,430	50.5%	Yes	
Census Tract 381	7,216	7,037	97.5%	Yes		7,119	3,852	54.1%	Yes	
Census Tract 401	7,686	7,662	99.7%	Yes		7,616	4,289	56.3%	Yes	
Census Tract 403	7,324	7,283	99.4%	Yes		7,324	3,586	49.0%	Yes	
Census Tract 405	3,377	3,347	99.1%	Yes		3,241	1,515	46.7%	Yes	
Census Tract 407	9,109	8,869	97.4%	Yes		8,901	5,110	57.4%	Yes	
Census Tract 409	5,560	5,492	98.8%	Yes		5,511	2,837	51.5%	Yes	
TOTAL North Corona	**54,859**	**54,104**	**98.6%**	**9**	**-**	**54,164**	**27,749**	**51.2%**	**9**	**-**
Oakland Gardens										
Census Tract 1291.02	3,912	1,735	44.4%		No	3,912	386	9.9%		No
Census Tract 1291.03	3,887	1,654	42.6%		No	3,887	806	20.7%		No
Census Tract 1367	5,846	4,140	70.8%	Yes		5,846	1,523	26.1%		No
Census Tract 1385.01	4,617	3,088	66.9%	Yes		4,617	1,115	24.1%		No
Census Tract 1291.04	4,455	2,659	59.7%	Yes		4,455	829	18.6%		No
Census Tract 1377	7,123	5,620	78.9%	Yes		7,046	1,480	21.0%		No
TOTAL Oakland Gardens	**29,840**	**18,896**	**63.3%**	**4**	**2**	**29,763**	**6,139**	**20.6%**	**-**	**6**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Old Astoria										
Census Tract 69	3,699	1,922	52.0%	Yes		3,431	1,158	33.8%	Yes	
Census Tract 71	3,344	1,467	43.9%		No	3,344	700	20.9%		No
Census Tract 73	3,933	1,873	47.6%		No	3,933	1,014	25.8%		No
Census Tract 79	2,685	1,422	53.0%	Yes		2,685	1,021	38.0%	Yes	
Census Tract 81	1,269	783	61.7%	Yes		1,262	320	25.4%		No
Census Tract 83	2,409	1,617	67.1%	Yes		2,409	639	26.5%		No
Census Tract 87	4,052	3,657	90.3%	Yes		4,052	3,076	75.9%	Yes	
Census Tract 91	2,303	1,156	50.2%	Yes		2,303	535	23.2%		No
TOTAL Old Astoria	**23,694**	**13,897**	**58.7%**	**6**	**2**	**23,419**	**8,463**	**36.1%**	**3**	**5**
Oyster Bay										
Census Tract 9901	-	-	0.0%		No	-	-	0.0%		No
TOTAL Oyster Bay	**-**	**-**	**0.0%**	**-**	**1**	**-**	**-**	**0.0%**	**-**	**1**
Ozone Park										
Census Tract 40.02	1,459	1,296	88.8%	Yes		1,450	586	40.4%	Yes	
Census Tract 86	2,846	2,040	71.7%	Yes		2,840	781	27.5%	Yes	
Census Tract 88	3,663	2,327	63.5%	Yes		3,663	837	22.9%		No
Census Tract 44.01	3,732	3,439	92.1%	Yes		3,732	1,709	45.8%	Yes	
Census Tract 50	49	40	81.6%	Yes		49	40	81.6%	Yes	
Census Tract 54	5,862	4,927	84.0%	Yes		5,829	1,818	31.2%	Yes	
Census Tract 58	6,355	4,756	74.8%	Yes		6,355	1,470	23.1%		No
TOTAL Ozone Park	**23,966**	**18,825**	**78.5%**	**7**	**-**	**23,918**	**7,241**	**30.3%**	**5**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
park-cemetery-etc-Queens										
Census Tract 99	-	-	0.0%		No	-	-	0.0%		No
Census Tract 916.02	-	-	0.0%		No	-	-	0.0%		No
Census Tract 918	11	-	0.0%		No	11	-	0.0%		No
Census Tract 561	17	17	100.0%	Yes		17	-	0.0%		No
Census Tract 641.02	-	-	0.0%		No	-	-	0.0%		No
Census Tract 229	-	-	0.0%		No	-	-	0.0%		No
Census Tract 793	-	-	0.0%		No	-	-	0.0%		No
Census Tract 1283	-	-	0.0%		No	-	-	0.0%		No
Census Tract 383.01	-	-	0.0%		No	-	-	0.0%		No
Census Tract 383.02	-	-	0.0%		No	-	-	0.0%		No
Census Tract 299	-	-	0.0%		No	-	-	0.0%		No
Census Tract 1211	-	-	0.0%		No	-	-	0.0%		No
Census Tract 624	-	-	0.0%		No	-	-	0.0%		No
Census Tract 1385.02	39	24	61.5%	Yes		39	24	61.5%	Yes	
Census Tract 1072.02	-	-	0.0%		No	-	-	0.0%		No
TOTAL park-cemetery-etc-Queens	**67**	**41**	**61.2%**	**2**	**13**	**67**	**24**	**35.8%**	**1**	**14**
Pomonok-Flushing Heights-Hillcrest										
Census Tract 1223	3,438	2,486	72.3%	Yes		3,438	819	23.8%		No
Census Tract 1227.01	11,356	8,272	72.8%	Yes		11,317	2,913	25.7%		No
Census Tract 1227.02	7,519	6,231	82.9%	Yes		7,519	4,641	61.7%	Yes	
Census Tract 1241	3,666	2,530	69.0%	Yes		3,659	833	22.8%		No
Census Tract 1247	3,508	1,969	56.1%	Yes		3,508	1,237	35.3%	Yes	
Census Tract 1265	1,743	1,172	67.2%	Yes		1,743	576	33.0%	Yes	
Census Tract 1267	4,716	3,153	66.9%	Yes		2,491	1,129	45.3%	Yes	
TOTAL Pomonok-Flushing Heights-Hillcrest	**35,946**	**25,813**	**71.8%**	**7**	**-**	**33,675**	**12,148**	**36.1%**	**4**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Queens Village										
Census Tract 496	3,146	3,053	97.0%	Yes		3,146	555	17.6%		No
Census Tract 512	2,512	2,503	99.6%	Yes		2,481	473	19.1%		No
Census Tract 516	2,183	2,171	99.5%	Yes		2,175	563	25.9%		No
Census Tract 532	1,996	1,985	99.4%	Yes		1,973	495	25.1%		No
Census Tract 536.01	2,099	2,073	98.8%	Yes		2,099	290	13.8%		No
Census Tract 538	1,781	1,774	99.6%	Yes		1,781	395	22.2%		No
Census Tract 540	4,290	4,260	99.3%	Yes		4,264	1,248	29.3%	Yes	
Census Tract 542	4,737	4,348	91.8%	Yes		4,731	864	18.3%		No
Census Tract 548	2,354	2,324	98.7%	Yes		2,354	465	19.8%		No
Census Tract 552	2,955	2,800	94.8%	Yes		2,880	1,000	34.7%	Yes	
Census Tract 554	2,530	2,128	84.1%	Yes		2,530	743	29.4%	Yes	
Census Tract 556	2,282	2,103	92.2%	Yes		2,246	501	22.3%		No
Census Tract 558	1,702	1,481	87.0%	Yes		1,702	248	14.6%		No
Census Tract 560	1,809	1,521	84.1%	Yes		1,809	599	33.1%	Yes	
Census Tract 562	1,631	1,343	82.3%	Yes		1,631	404	24.8%		No
Census Tract 564	1,178	1,012	85.9%	Yes		1,178	215	18.3%		No
Census Tract 566	1,316	1,189	90.3%	Yes		1,316	255	19.4%		No
Census Tract 568	5,039	4,777	94.8%	Yes		4,996	1,126	22.5%		No
Census Tract 580	4,140	4,106	99.2%	Yes		4,067	1,182	29.1%	Yes	
Census Tract 582	4,838	4,725	97.7%	Yes		4,774	1,130	23.7%		No
TOTAL Queens Village	**54,518**	**51,676**	**94.8%**	**20**	**-**	**54,133**	**12,751**	**23.6%**	**5**	**15**
Queensboro Hill										
Census Tract 799	3,101	2,883	93.0%	Yes		3,088	1,239	40.1%	Yes	
Census Tract 803.01	3,859	3,363	87.1%	Yes		3,849	1,935	50.3%	Yes	
Census Tract 803.02	3,476	2,840	81.7%	Yes		3,476	1,139	32.8%	Yes	
Census Tract 837	5,283	4,943	93.6%	Yes		5,271	2,113	40.1%	Yes	
Census Tract 1215	4,447	3,645	82.0%	Yes		4,419	1,460	33.0%	Yes	
TOTAL Queensboro Hill	**20,166**	**17,674**	**87.6%**	**5**	**-**	**20,103**	**7,886**	**39.2%**	**5**	**-**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Queensbridge-Ravenswood-Long Island City										
Census Tract 25	6,802	6,581	96.8%	Yes		6,802	5,037	74.1%	Yes	
Census Tract 31	1,144	798	69.8%	Yes		1,143	375	32.8%	Yes	
Census Tract 33	3,569	2,458	68.9%	Yes		3,568	1,101	30.9%	Yes	
Census Tract 37	-	-	0.0%		No	-	-	0.0%		No
Census Tract 39	1,439	981	68.2%	Yes		1,439	701	48.7%	Yes	
Census Tract 43	2,283	2,197	96.2%	Yes		2,266	1,577	69.6%	Yes	
Census Tract 51	1,866	1,359	72.8%	Yes		1,866	1,051	56.3%	Yes	
Census Tract 55	952	716	75.2%	Yes		952	290	30.5%	Yes	
Census Tract 85	883	551	62.4%	Yes		878	511	58.2%	Yes	
TOTAL Queensbridge-Ravenswood-Long Island City	**18,938**	**15,641**	**82.6%**	**8**	**1**	**18,914**	**10,643**	**56.3%**	**8**	**1**
Rego Park										
Census Tract 687	4,188	2,673	63.8%	Yes		4,188	1,113	26.6%		No
Census Tract 693	3,151	2,129	67.6%	Yes		3,151	955	30.3%	Yes	
Census Tract 695	2,211	1,193	54.0%	Yes		2,196	613	27.9%	Yes	
Census Tract 697.01	4,322	2,632	60.9%	Yes		4,322	1,079	25.0%		No
Census Tract 697.02	3,518	2,052	58.3%	Yes		3,518	522	14.8%		No
Census Tract 703	2,103	1,145	54.4%	Yes		2,103	444	21.1%		No
Census Tract 717.01	4,805	2,649	55.1%	Yes		4,805	1,717	35.7%	Yes	
Census Tract 717.02	3,915	2,730	69.7%	Yes		3,915	1,031	26.3%		No
TOTAL Rego Park	**28,213**	**17,203**	**61.0%**	**8**	**-**	**28,198**	**7,474**	**26.5%**	**3**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Richmond Hill										
Census Tract 112	2,279	1,746	76.6%	Yes		2,259	734	32.5%	Yes	
Census Tract 114	1,303	1,041	79.9%	Yes		1,303	720	55.3%	Yes	
Census Tract 26	2,272	1,916	84.3%	Yes		2,272	807	35.5%	Yes	
Census Tract 116	1,980	1,785	90.2%	Yes		1,969	622	31.6%	Yes	
Census Tract 126.01	2,750	2,575	93.6%	Yes		2,745	736	26.8%		No
Census Tract 126.02	2,792	2,405	86.1%	Yes		2,792	1,018	36.5%	Yes	
Census Tract 128	2,380	1,782	74.9%	Yes		2,364	715	30.2%	Yes	
Census Tract 130	1,688	1,048	62.1%	Yes		1,682	585	34.8%	Yes	
Census Tract 24	2,382	2,175	91.3%	Yes		2,382	776	32.6%	Yes	
Census Tract 28	3,573	3,079	86.2%	Yes		3,560	1,255	35.3%	Yes	
Census Tract 110	3,234	2,848	88.1%	Yes		3,234	887	27.4%	Yes	
Census Tract 108	3,364	3,228	96.0%	Yes		3,334	1,295	38.8%	Yes	
Census Tract 118	2,522	2,472	98.0%	Yes		2,522	868	34.4%	Yes	
Census Tract 120	2,365	2,251	95.2%	Yes		2,365	985	41.6%	Yes	
Census Tract 122	3,128	3,011	96.3%	Yes		3,107	1,158	37.3%	Yes	
Census Tract 124	3,374	3,087	91.5%	Yes		3,370	821	24.4%		No
Census Tract 132	2,265	1,441	63.6%	Yes		2,265	805	35.5%	Yes	
Census Tract 142.01	4,334	4,079	94.1%	Yes		4,334	1,348	31.1%	Yes	
Census Tract 142.02	2,856	2,683	93.9%	Yes		2,555	1,160	45.4%	Yes	
Census Tract 144	1,915	1,802	94.1%	Yes		1,886	841	44.6%	Yes	
Census Tract 148	1,719	1,674	97.4%	Yes		1,708	652	38.2%	Yes	
Census Tract 150	2,899	2,860	98.7%	Yes		2,899	801	27.6%	Yes	
Census Tract 152	2,822	2,717	96.3%	Yes		2,819	1,098	39.0%	Yes	
Census Tract 154	2,170	2,103	96.9%	Yes		2,159	636	29.5%	Yes	
Census Tract 156	2,908	2,805	96.5%	Yes		2,902	793	27.3%	Yes	
TOTAL Richmond Hill	**65,274**	**58,613**	**89.8%**	**25**	**-**	**64,787**	**22,116**	**34.1%**	**23**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Ridgewood										
Census Tract 555	2,335	1,837	78.7%	Yes		2,295	853	37.2%	Yes	
Census Tract 557	4,275	3,030	70.9%	Yes		4,275	1,610	37.7%	Yes	
Census Tract 559	1,184	974	82.3%	Yes		1,179	544	46.1%	Yes	
Census Tract 581	3,048	1,431	46.9%		No	3,048	1,081	35.5%	Yes	
Census Tract 583	3,736	1,659	44.4%		No	3,736	764	20.4%		No
Census Tract 585	4,464	2,254	50.5%	Yes		4,464	1,346	30.2%	Yes	
Census Tract 587	3,550	1,059	29.8%		No	3,550	1,127	31.7%	Yes	
Census Tract 593	4,217	1,517	36.0%		No	4,215	1,026	24.3%		No
Census Tract 613.01	5,742	2,686	46.8%		No	5,726	1,612	28.2%	Yes	
Census Tract 613.02	-	-	0.0%		No	-	-	0.0%		No
Census Tract 539	4,433	3,032	68.4%	Yes		4,420	998	22.6%		No
Census Tract 545	4,039	3,077	76.2%	Yes		4,039	1,608	39.8%	Yes	
Census Tract 547	5,048	3,963	78.5%	Yes		5,005	2,057	41.1%	Yes	
Census Tract 549	6,437	5,038	78.3%	Yes		6,409	2,405	37.5%	Yes	
Census Tract 551	4,244	2,522	59.4%	Yes		4,242	1,327	31.3%	Yes	
Census Tract 553	2,786	2,274	81.6%	Yes		2,786	1,208	43.4%	Yes	
Census Tract 589	5,296	2,568	48.5%		No	5,227	2,107	40.3%	Yes	
Census Tract 591	5,736	3,123	54.4%	Yes		5,736	1,101	19.2%		No
Census Tract 595	5,533	2,887	52.2%	Yes		5,531	1,576	28.5%	Yes	
TOTAL Ridgewood	**76,103**	**44,931**	**59.0%**	**12**	**7**	**75,883**	**24,350**	**32.1%**	**14**	**5**
Rosedale										
Census Tract 616.02	1,118	1,094	97.9%	Yes		1,118	54	4.8%		No
Census Tract 638	3,516	3,408	96.9%	Yes		3,515	684	19.5%		No
Census Tract 654	3,782	3,746	99.0%	Yes		3,718	785	21.1%		No
Census Tract 656	4,966	4,768	96.0%	Yes		4,952	1,198	24.2%		No
Census Tract 660	3,318	3,196	96.3%	Yes		3,317	1,130	34.1%	Yes	
Census Tract 664	9,980	9,605	96.2%	Yes		9,888	1,257	12.7%		No
TOTAL Rosedale	**26,680**	**25,817**	**96.8%**	**6**	**-**	**26,508**	**5,108**	**19.3%**	**1**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
South Jamaica										
Census Tract 194	2,892	2,854	98.7%	Yes		2,892	674	23.3%		No
Census Tract 196	3,050	3,020	99.0%	Yes		3,027	682	22.5%		No
Census Tract 198	2,917	2,882	98.8%	Yes		2,905	1,008	34.7%	Yes	
Census Tract 202	1,762	1,751	99.4%	Yes		1,736	493	28.4%	Yes	
Census Tract 254	10,118	9,857	97.4%	Yes		10,055	5,528	55.0%	Yes	
Census Tract 258	2,261	2,253	99.6%	Yes		2,261	695	30.7%	Yes	
Census Tract 260	2,757	2,719	98.6%	Yes		2,757	850	30.8%	Yes	
Census Tract 262	1,270	1,261	99.3%	Yes		1,270	301	23.7%		No
Census Tract 264	2,501	2,489	99.5%	Yes		2,468	1,029	41.7%	Yes	
Census Tract 266	1,745	1,721	98.6%	Yes		1,745	884	50.7%	Yes	
Census Tract 270	2,190	2,105	96.1%	Yes		2,181	516	23.7%		No
Census Tract 414	4,551	4,416	97.0%	Yes		4,543	1,977	43.5%	Yes	
Census Tract 434	1,795	1,729	96.3%	Yes		1,795	226	12.6%		No
Census Tract 440	3,980	3,922	98.5%	Yes		3,974	1,146	28.8%	Yes	
TOTAL South Jamaica	**43,789**	**42,979**	**98.2%**	**14**	**-**	**43,609**	**16,009**	**36.7%**	**9**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
South Ozone Park										
Census Tract 94	2,769	2,523	91.1%	Yes		2,760	1,056	38.3%	Yes	
Census Tract 96	3,522	3,200	90.9%	Yes		3,516	598	17.0%		No
Census Tract 98	2,705	2,682	99.1%	Yes		2,705	972	35.9%	Yes	
Census Tract 100	3,686	3,315	89.9%	Yes		3,686	918	24.9%		No
Census Tract 102	2,817	2,611	92.7%	Yes		2,795	993	35.5%	Yes	
Census Tract 104	3,014	2,824	93.7%	Yes		3,014	711	23.6%		No
Census Tract 106	3,733	3,644	97.6%	Yes		3,727	1,141	30.6%	Yes	
Census Tract 158.02	4,872	4,714	96.8%	Yes		4,862	1,031	21.2%		No
Census Tract 164	3,786	3,722	98.3%	Yes		3,769	887	23.5%		No
Census Tract 166	3,984	3,855	96.8%	Yes		3,970	956	24.1%		No
Census Tract 168	3,257	3,176	97.5%	Yes		3,231	834	25.8%		No
Census Tract 170	2,622	2,585	98.6%	Yes		2,622	910	34.7%	Yes	
Census Tract 172	1,913	1,884	98.5%	Yes		1,905	565	29.7%	Yes	
Census Tract 174	2,285	2,261	98.9%	Yes		2,285	457	20.0%		No
Census Tract 176	2,135	2,013	94.3%	Yes		2,135	570	26.7%		No
Census Tract 178	2,257	2,213	98.1%	Yes		2,249	708	31.5%	Yes	
Census Tract 180	1,328	1,205	90.7%	Yes		1,322	435	32.9%	Yes	
Census Tract 814	4,117	4,117	100.0%	Yes		4,090	1,028	25.1%		No
Census Tract 818	3,909	3,703	94.7%	Yes		3,856	1,451	37.6%	Yes	
Census Tract 838	5,260	4,820	91.6%	Yes		5,260	836	15.9%		No
Census Tract 840	6,027	5,610	93.1%	Yes		6,008	1,999	33.3%	Yes	
Census Tract 846.01	3,268	2,861	87.5%	Yes		3,257	734	22.5%		No
Census Tract 846.02	925	830	89.7%	Yes		921	583	63.3%	Yes	
Census Tract 864	2,727	2,362	86.6%	Yes		2,727	924	33.9%	Yes	
Census Tract 158.01	3,746	3,736	99.7%	Yes		3,673	1,146	31.2%	Yes	
TOTAL South Ozone Park	**80,664**	**76,466**	**94.8%**	**25**	**-**	**80,345**	**22,443**	**27.9%**	**13**	**12**
Springfield Gardens North										
Census Tract 294	7,000	6,896	98.5%	Yes		6,774	2,060	30.4%	Yes	
Census Tract 330	7,192	7,119	99.0%	Yes		7,162	1,579	22.0%		No
Census Tract 334.02	12,854	12,783	99.4%	Yes		12,854	2,912	22.7%		No
TOTAL Springfield Gardens North	**27,046**	**26,798**	**99.1%**	**3**	**-**	**26,790**	**6,551**	**24.5%**	**1**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Springfield Gardens South-Brookville										
Census Tract 306	4,760	4,603	96.7%	Yes		4,581	1,429	31.2%	Yes	
Census Tract 320	4,930	4,825	97.9%	Yes		4,201	1,080	25.7%		No
Census Tract 690	3,752	3,638	97.0%	Yes		3,741	804	21.5%		No
Census Tract 680	5,299	5,285	99.7%	Yes		5,294	824	15.6%		No
Census Tract 694	3,455	3,331	96.4%	Yes		3,427	829	24.2%		No
TOTAL Springfield Gardens South-Brookville	**22,196**	**21,682**	**97.7%**	**5**	**-**	**21,244**	**4,966**	**23.4%**	**1**	**4**
St. Albans										
Census Tract 282	1,894	1,865	98.5%	Yes		1,894	388	20.5%		No
Census Tract 334.01	3,767	3,743	99.4%	Yes		3,681	692	18.8%		No
Census Tract 352	2,780	2,604	93.7%	Yes		2,774	697	25.1%		No
Census Tract 366	2,731	2,714	99.4%	Yes		2,722	803	29.5%	Yes	
Census Tract 368	2,495	2,473	99.1%	Yes		2,495	483	19.4%		No
Census Tract 376	6,121	6,081	99.3%	Yes		6,121	918	15.0%		No
Census Tract 280	1,670	1,656	99.2%	Yes		1,670	286	17.1%		No
Census Tract 394	2,986	2,969	99.4%	Yes		2,979	730	24.5%		No
Census Tract 398	1,675	1,651	98.6%	Yes		1,675	276	16.5%		No
Census Tract 400	1,529	1,517	99.2%	Yes		1,500	280	18.7%		No
Census Tract 402	1,640	1,631	99.5%	Yes		1,640	446	27.2%	Yes	
Census Tract 404	4,138	4,099	99.1%	Yes		4,105	1,025	25.0%		No
Census Tract 424	2,414	2,403	99.5%	Yes		2,319	507	21.9%		No
Census Tract 426	477	307	64.4%	Yes		128	128	100.0%	Yes	
Census Tract 432	1,244	1,244	100.0%	Yes		1,227	231	18.8%		No
Census Tract 520	1,410	1,393	98.8%	Yes		1,393	179	12.9%		No
Census Tract 522	1,760	1,760	100.0%	Yes		1,760	239	13.6%		No
Census Tract 524	1,988	1,988	100.0%	Yes		1,985	366	18.4%		No
Census Tract 526	1,933	1,791	92.7%	Yes		1,933	409	21.2%		No
Census Tract 528	1,434	1,434	100.0%	Yes		1,434	281	19.6%		No
Census Tract 384	2,411	2,398	99.5%	Yes		2,343	516	22.0%		No
Census Tract 518	2,181	2,180	100.0%	Yes		2,181	277	12.7%		No
Census Tract 530	2,473	2,441	98.7%	Yes		2,473	420	17.0%		No
TOTAL St. Albans	**53,151**	**52,342**	**98.5%**	**23**	**-**	**52,432**	**10,577**	**20.2%**	**3**	**20**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Steinway										
Census Tract 95	2,276	826	36.3%		No	2,262	650	28.7%	Yes	
Census Tract 107.01	-	-	0.0%		No	-	-	0.0%		No
Census Tract 121	2,034	581	28.6%		No	2,034	367	18.0%		No
Census Tract 123.01	2,782	951	34.2%		No	2,782	594	21.4%		No
Census Tract 135	1,306	203	15.5%		No	1,306	213	16.3%		No
Census Tract 317	5,568	1,495	26.8%		No	5,544	1,219	22.0%		No
Census Tract 97	3,693	1,150	31.1%		No	3,693	400	10.8%		No
Census Tract 101	2,382	597	25.1%		No	2,371	472	19.9%		No
Census Tract 103	4,136	1,673	40.4%		No	4,136	905	21.9%		No
Census Tract 105	4,522	2,388	52.8%	Yes		4,522	1,751	38.7%	Yes	
Census Tract 111	3,116	1,321	42.4%		No	3,085	804	26.1%		No
Census Tract 113	4,463	2,120	47.5%		No	4,455	1,013	22.7%		No
Census Tract 115	2,438	790	32.4%		No	2,438	330	13.5%		No
Census Tract 117	3,574	928	26.0%		No	3,574	741	20.7%		No
Census Tract 119	1,409	550	39.0%		No	1,409	388	27.5%	Yes	
Census Tract 125	1,762	743	42.2%		No	1,762	436	24.7%		No
Census Tract 137	1,773	437	24.6%		No	1,773	295	16.6%		No
TOTAL Steinway	**47,234**	**16,753**	**35.5%**	**1**	**16**	**47,146**	**10,578**	**22.4%**	**3**	**14**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Whitestone										
Census Tract 945	3,654	1,883	51.5%	Yes		3,654	1,112	30.4%	Yes	
Census Tract 973	1,763	497	28.2%		No	1,756	195	11.1%		No
Census Tract 981	2,236	759	33.9%		No	2,227	321	14.4%		No
Census Tract 987	2,434	478	19.6%		No	2,434	453	18.6%		No
Census Tract 991	7,204	1,862	25.8%		No	7,194	993	13.8%		No
Census Tract 1029	3,598	1,238	34.4%		No	3,431	695	20.3%		No
Census Tract 1033	4,577	2,033	44.4%		No	4,577	966	21.1%		No
Census Tract 1039	6,283	3,661	58.3%	Yes		6,283	1,536	24.4%		No
TOTAL Whitestone	**31,749**	**12,411**	**39.1%**	**2**	**6**	**31,556**	**6,271**	**19.9%**	**1**	**7**
Woodhaven										
Census Tract 6	4,107	3,823	93.1%	Yes		4,075	1,210	29.7%	Yes	
Census Tract 8	3,193	2,828	88.6%	Yes		3,156	907	28.7%	Yes	
Census Tract 32	1,764	1,566	88.8%	Yes		1,757	558	31.8%	Yes	
Census Tract 34	2,612	2,313	88.6%	Yes		2,607	1,062	40.7%	Yes	
Census Tract 36	3,584	3,297	92.0%	Yes		3,572	823	23.0%		No
Census Tract 38	2,757	2,536	92.0%	Yes		2,756	1,158	42.0%	Yes	
Census Tract 40.01	2,365	1,704	72.1%	Yes		2,364	734	31.0%	Yes	
Census Tract 42	4,016	3,585	89.3%	Yes		3,998	1,880	47.0%	Yes	
Census Tract 52	2,817	2,524	89.6%	Yes		2,808	1,028	36.6%	Yes	
Census Tract 2	3,019	2,622	86.9%	Yes		3,002	1,025	34.1%	Yes	
Census Tract 4	4,476	4,293	95.9%	Yes		4,465	1,942	43.5%	Yes	
Census Tract 10	4,618	4,060	87.9%	Yes		4,597	1,374	29.9%	Yes	
Census Tract 12	3,578	2,842	79.4%	Yes		3,578	987	27.6%	Yes	
Census Tract 14	4,308	3,508	81.4%	Yes		4,289	1,504	35.1%	Yes	
Census Tract 16	2,420	2,168	89.6%	Yes		2,418	488	20.2%		No
Census Tract 18	2,796	2,408	86.1%	Yes		2,775	916	33.0%	Yes	
Census Tract 20	1,721	1,497	87.0%	Yes		1,721	346	20.1%		No
Census Tract 22	2,314	1,884	81.4%	Yes		2,312	627	27.1%	Yes	
Census Tract 30	1,524	1,134	74.4%	Yes		1,506	421	28.0%	Yes	
Census Tract 641.01	2,388	907	38.0%		No	2,388	340	14.2%		No
TOTAL Woodhaven	**60,377**	**51,499**	**85.3%**	**19**	**1**	**60,144**	**19,330**	**32.1%**	**16**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Woodside										
Census Tract 245	4,422	2,344	53.0%	Yes		4,422	1,056	23.9%		No
Census Tract 247	1,466	1,252	85.4%	Yes		1,460	448	30.7%	Yes	
Census Tract 259	3,486	2,907	83.4%	Yes		3,486	1,143	32.8%	Yes	
Census Tract 261	6,508	6,060	93.1%	Yes		6,498	2,610	40.2%	Yes	
Census Tract 263	5,857	5,087	86.9%	Yes		5,857	2,142	36.6%	Yes	
Census Tract 293	1,090	984	90.3%	Yes		1,090	253	23.2%		No
Census Tract 297	2,038	1,478	72.5%	Yes		2,011	500	24.9%		No
Census Tract 249	4,838	3,945	81.5%	Yes		4,605	1,568	34.0%	Yes	
Census Tract 251	5,611	3,711	66.1%	Yes		5,602	1,790	32.0%	Yes	
Census Tract 255	1,524	1,212	79.5%	Yes		1,524	423	27.8%	Yes	
Census Tract 257	1,500	1,181	78.7%	Yes		1,490	445	29.9%	Yes	
Census Tract 295	3,602	2,301	63.9%	Yes		3,594	604	16.8%		No
TOTAL Woodside	**41,942**	**32,462**	**77.4%**	**12**	**-**	**41,639**	**12,982**	**31.2%**	**8**	**4**
TOTAL Queens County	**2,287,388**	**1,714,485**	**75.0%**	**519**	**150**	**2,259,939**	**700,578**	**31.0%**	**336**	**333**

Table 17C-6

Environmental Justice Populations: Richmond County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Richmond County, New York										
Annadale-Huguenot-Prince's Bay-Eltingville										
Census Tract 176	4,849	337	6.9%		No	4,849	570	11.8%		No
Census Tract 198	7,410	1,324	17.9%		No	7,407	915	12.4%		No
Census Tract 170.05	5,114	1,005	19.7%		No	5,114	507	9.9%		No
Census Tract 170.11	4,865	778	16.0%		No	4,824	993	20.6%		No
Census Tract 170.12	4,321	942	21.8%		No	4,321	822	19.0%		No
Census Tract 156.02	3,242	278	8.6%		No	3,222	327	10.1%		No
TOTAL Annadale-Huguenot-Prince's Bay-Eltingville	**29,801**	**4,664**	**15.7%**	**-**	**6**	**29,737**	**4,134**	**13.9%**	**-**	**6**
Arden Heights										
Census Tract 170.07	5,547	2,110	38.0%		No	5,547	1,153	20.8%		No
Census Tract 170.08	7,795	816	10.5%		No	7,795	515	6.6%		No
Census Tract 170.09	4,485	589	13.1%		No	4,485	796	17.7%		No
Census Tract 170.1	9,060	2,708	29.9%		No	8,979	1,619	18.0%		No
TOTAL Arden Heights	**26,887**	**6,223**	**23.1%**	**-**	**4**	**26,806**	**4,083**	**15.2%**	**-**	**4**
Charleston-Richmond Valley-Tottenville										
Census Tract 244.01	6,228	1,045	16.8%		No	6,189	731	11.8%		No
Census Tract 244.02	4,426	441	10.0%		No	4,426	466	10.5%		No
Census Tract 248	5,039	936	18.6%		No	4,936	974	19.7%		No
Census Tract 226	8,141	1,099	13.5%		No	8,117	509	6.3%		No
TOTAL Charleston-Richmond Valley-Tottenville	**23,834**	**3,521**	**14.8%**	**-**	**4**	**23,668**	**2,680**	**11.3%**	**-**	**4**
Grasmere-Arrochar-Ft. Wadsworth										
Census Tract 18	588	233	39.6%		No	548	68	12.4%		No
Census Tract 20.02	3,473	943	27.2%		No	3,419	872	25.5%		No
Census Tract 50	4,004	1,522	38.0%		No	3,993	1,014	25.4%		No
Census Tract 64	3,450	1,537	44.6%	Yes		3,431	1,381	40.3%	Yes	
Census Tract 74	4,902	2,011	41.0%		No	4,837	1,383	28.6%	Yes	
TOTAL Grasmere-Arrochar-Ft. Wadsworth	**16,417**	**6,246**	**38.0%**	**1**	**4**	**16,228**	**4,718**	**29.1%**	**2**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Great Kills										
Census Tract 132.03	5,729	1,063	18.6%		No	5,728	764	13.3%		No
Census Tract 146.05	3,853	399	10.4%		No	3,844	476	12.4%		No
Census Tract 146.06	5,963	700	11.7%		No	5,963	522	8.8%		No
Census Tract 156.01	6,391	749	11.7%		No	6,391	674	10.5%		No
Census Tract 156.03	4,844	941	19.4%		No	4,844	872	18.0%		No
Census Tract 146.04	6,866	1,326	19.3%		No	6,866	771	11.2%		No
Census Tract 146.07	4,601	848	18.4%		No	4,601	701	15.2%		No
Census Tract 146.08	3,477	622	17.9%		No	3,477	319	9.2%		No
TOTAL Great Kills	**41,724**	**6,648**	**15.9%**	**-**	**8**	**41,714**	**5,099**	**12.2%**	**-**	**8**
Grymes Hill-Clifton-Fox Hills										
Census Tract 33	3,751	2,204	58.8%	Yes		3,744	785	21.0%		No
Census Tract 39	2,376	1,160	48.8%	Yes		2,030	408	20.1%		No
Census Tract 47	2,805	759	27.1%		No	2,221	385	17.3%		No
Census Tract 40	12,548	11,518	91.8%	Yes		12,336	5,359	43.4%	Yes	
TOTAL Grymes Hill-Clifton-Fox Hills	**21,480**	**15,641**	**72.8%**	**3**	**1**	**20,331**	**6,937**	**34.1%**	**1**	**3**
Mariner's Harbor-Arlington-Port Ivory-Graniteville										
Census Tract 323	1,073	887	82.7%	Yes		1,073	361	33.6%	Yes	
Census Tract 239	3,853	2,914	75.6%	Yes		3,834	1,303	34.0%	Yes	
Census Tract 231	5,276	4,371	82.8%	Yes		5,237	1,832	35.0%	Yes	
Census Tract 303.01	4,972	3,110	62.6%	Yes		4,957	939	18.9%		No
Census Tract 303.02	6,702	4,716	70.4%	Yes		6,640	1,639	24.7%		No
Census Tract 319.01	2,816	2,403	85.3%	Yes		2,801	1,503	53.7%	Yes	
Census Tract 319.02	5,343	4,780	89.5%	Yes		5,321	2,306	43.3%	Yes	
Census Tract 223	2,745	2,305	84.0%	Yes		2,745	1,263	46.0%	Yes	
TOTAL Mariner's Harbor-Arlington-Port Ivory-Graniteville	**32,780**	**25,486**	**77.7%**	**8**	**-**	**32,608**	**11,146**	**34.2%**	**6**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
New Brighton-Silver Lake										
Census Tract 59	3,067	840	27.4%		No	3,056	770	25.2%		No
Census Tract 67	2,468	383	15.5%		No	2,457	242	9.8%		No
Census Tract 75	4,299	2,524	58.7%	Yes		3,714	1,691	45.5%	Yes	
Census Tract 105	4,372	2,524	57.7%	Yes		4,300	1,498	34.8%	Yes	
Census Tract 121	3,143	763	24.3%		No	3,143	529	16.8%		No
TOTAL New Brighton-Silver Lake	**17,349**	**7,034**	**40.5%**	**2**	**3**	**16,670**	**4,730**	**28.4%**	**2**	**3**
New Dorp-Midland Beach										
Census Tract 112.02	5,731	2,800	48.9%	Yes		5,731	1,444	25.2%		No
Census Tract 114.02	3,398	921	27.1%		No	3,398	500	14.7%		No
Census Tract 122	3,938	730	18.5%		No	3,937	526	13.4%		No
Census Tract 128.04	4,042	977	24.2%		No	4,042	910	22.5%		No
Census Tract 134	4,099	837	20.4%		No	4,099	791	19.3%		No
TOTAL New Dorp-Midland Beach	**21,208**	**6,265**	**29.5%**	**1**	**4**	**21,207**	**4,171**	**19.7%**	**-**	**5**
New Springville-Bloomfield-Travis										
Census Tract 228	23	5	21.7%		No	23	-	0.0%		No
Census Tract 291.02	3,006	1,425	47.4%	Yes		3,006	494	16.4%		No
Census Tract 291.03	8,266	2,829	34.2%		No	8,266	971	11.7%		No
Census Tract 173	2,343	1,620	69.1%	Yes		2,343	931	39.7%	Yes	
Census Tract 187.02	7,947	3,156	39.7%		No	7,234	1,401	19.4%		No
Census Tract 189.02	5,504	2,334	42.4%		No	5,504	1,381	25.1%		No
Census Tract 273.01	3,782	1,717	45.4%	Yes		3,782	881	23.3%		No
Census Tract 273.02	4,060	1,063	26.2%		No	4,050	1,126	27.8%	Yes	
Census Tract 291.04	7,229	2,768	38.3%		No	7,229	1,275	17.6%		No
TOTAL New Springville-Bloomfield-Travis	**42,160**	**16,917**	**40.1%**	**3**	**6**	**41,437**	**8,460**	**20.4%**	**2**	**7**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Oakwood-Oakwood Beach										
Census Tract 128.05	2,605	531	20.4%		No	2,573	714	27.7%	Yes	
Census Tract 128.06	5,445	2,158	39.6%		No	5,428	1,883	34.7%	Yes	
Census Tract 132.01	1,480	309	20.9%		No	1,480	154	10.4%		No
Census Tract 132.04	4,863	850	17.5%		No	4,863	829	17.0%		No
Census Tract 138	6,092	1,383	22.7%		No	6,092	1,335	21.9%		No
TOTAL Oakwood-Oakwood Beach	**20,485**	**5,231**	**25.5%**	**-**	**5**	**20,436**	**4,915**	**24.1%**	**2**	**3**
Old Town-Dongan Hills-South Beach										
Census Tract 96.01	4,489	1,113	24.8%		No	4,257	741	17.4%		No
Census Tract 96.02	3,149	888	28.2%		No	3,149	426	13.5%		No
Census Tract 112.01	6,358	1,868	29.4%		No	6,329	1,278	20.2%		No
Census Tract 114.01	2,971	1,667	56.1%	Yes		2,971	998	33.6%	Yes	
Census Tract 70	9,480	3,600	38.0%		No	9,142	2,249	24.6%		No
TOTAL Old Town-Dongan Hills-South Beach	**26,447**	**9,136**	**34.5%**	**1**	**4**	**25,848**	**5,692**	**22.0%**	**1**	**4**
park-cemetery-etc-Staten Island										
Census Tract 154	-	-	0.0%		No	-	-	0.0%		No
TOTAL park-cemetery-etc-Staten Island	**-**	**-**	**0.0%**	**-**	**-**	**-**	**-**	**0.0%**	**-**	**-**
Port Richmond										
Census Tract 213	4,681	3,083	65.9%	Yes		4,634	1,821	39.3%	Yes	
Census Tract 247	2,994	2,245	75.0%	Yes		2,987	900	30.1%	Yes	
Census Tract 251	6,119	2,133	34.9%		No	6,119	620	10.1%		No
Census Tract 207	5,499	5,030	91.5%	Yes		5,484	2,463	44.9%	Yes	
TOTAL Port Richmond	**19,293**	**12,491**	**64.7%**	**3**	**1**	**19,224**	**5,804**	**30.2%**	**3**	**1**
Rossville-Woodrow										
Census Tract 208.01	8,498	1,281	15.1%		No	8,453	1,503	17.8%		No
Census Tract 208.03	7,381	832	11.3%		No	7,360	1,379	18.7%		No
Census Tract 208.04	5,991	827	13.8%		No	5,991	931	15.5%		No
TOTAL Rossville-Woodrow	**21,870**	**2,940**	**13.4%**	**-**	**3**	**21,804**	**3,813**	**17.5%**	**-**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Stapleton-Rosebank										
Census Tract 6	2,311	981	42.4%		No	2,277	658	28.9%	Yes	
Census Tract 8	5,238	2,595	49.5%	Yes		5,238	1,439	27.5%	Yes	
Census Tract 17	1,475	944	64.0%	Yes		1,475	682	46.2%	Yes	
Census Tract 20.01	2,502	1,303	52.1%	Yes		2,502	513	20.5%		No
Census Tract 21	4,469	3,467	77.6%	Yes		4,343	1,590	36.6%	Yes	
Census Tract 27	1,751	1,213	69.3%	Yes		1,133	785	69.3%	Yes	
Census Tract 29	4,702	4,304	91.5%	Yes		4,692	2,735	58.3%	Yes	
Census Tract 36	2,833	1,550	54.7%	Yes		2,833	433	15.3%		No
TOTAL Stapleton-Rosebank	**25,281**	**16,357**	**64.7%**	**7**	**1**	**24,493**	**8,835**	**36.1%**	**6**	**2**
Todt Hill-Emerson Hill-Heartland Village-Lighthouse Hill										
Census Tract 177	5,983	1,101	18.4%		No	5,983	626	10.5%		No
Census Tract 181	3,055	510	16.7%		No	2,846	580	20.4%		No
Census Tract 277.04	4,629	1,272	27.5%		No	4,622	984	21.3%		No
Census Tract 279	2,219	444	20.0%		No	1,754	225	12.8%		No
Census Tract 277.02	6,893	2,620	38.0%		No	6,891	1,814	26.3%		No
Census Tract 277.05	5,809	2,384	41.0%		No	5,773	1,640	28.4%	Yes	
Census Tract 277.06	3,489	1,450	41.6%		No	3,476	643	18.5%		No
TOTAL Todt Hill-Emerson Hill-Heartland Village-Lighthouse	**32,077**	**9,781**	**30.5%**	**-**	**7**	**31,345**	**6,512**	**20.8%**	**1**	**6**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
West New Brighton-New Brighton-St. George										
Census Tract 125	3,047	1,762	57.8%	Yes		3,040	926	30.5%	Yes	
Census Tract 133.01	1,095	1,055	96.3%	Yes		1,089	834	76.6%	Yes	
Census Tract 141	2,287	1,521	66.5%	Yes		2,265	518	22.9%		No
Census Tract 77	1,526	1,372	89.9%	Yes		1,525	577	37.8%	Yes	
Census Tract 81	4,313	2,975	69.0%	Yes		3,911	1,323	33.8%	Yes	
Census Tract 97	4,535	2,816	62.1%	Yes		4,535	848	18.7%		No
Census Tract 133.02	3,096	2,920	94.3%	Yes		3,096	1,450	46.8%	Yes	
Census Tract 3	2,004	1,033	51.5%	Yes		1,963	576	29.3%	Yes	
Census Tract 7	4,557	3,707	81.3%	Yes		4,557	2,115	46.4%	Yes	
Census Tract 9	1,510	1,146	75.9%	Yes		1,510	804	53.2%	Yes	
Census Tract 11	3,314	2,794	84.3%	Yes		3,308	1,682	50.8%	Yes	
TOTAL West New Brighton-New Brighton-St. George	**31,284**	**23,101**	**73.8%**	**11**	**-**	**30,799**	**11,653**	**37.8%**	**9**	**2**
Westerleigh										
Census Tract 147	3,124	515	16.5%		No	3,124	310	9.9%		No
Census Tract 151	5,374	1,397	26.0%		No	5,354	1,204	22.5%		No
Census Tract 169.01	3,808	1,070	28.1%		No	3,808	547	14.4%		No
Census Tract 187.01	1,874	725	38.7%		No	1,858	406	21.9%		No
Census Tract 189.01	5,057	1,669	33.0%		No	5,039	1,100	21.8%		No
Census Tract 197	1,755	258	14.7%		No	1,755	242	13.8%		No
Census Tract 201	3,524	1,826	51.8%	Yes		3,517	572	16.3%		No
TOTAL Westerleigh	**24,516**	**7,460**	**30.4%**	**1**	**6**	**24,455**	**4,381**	**17.9%**	**-**	**7**
TOTAL Richmond County	**474,893**	**185,142**	**39.0%**	**41**	**68**	**468,810**	**107,763**	**23.0%**	**35**	**74**

Table 17C-7
Environmental Justice Populations: Nassau County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Nassau County, New York										
Glen Cove										
Census Tract 5170	3,543	1,184	33.4%		No	3,179	478	15.0%		No
Census Tract 5171.01	5,092	2,184	42.9%		No	5,081	1,323	26.0%		No
Census Tract 5171.02	2,412	927	38.4%		No	2,198	148	6.7%		No
Census Tract 5172	7,715	5,037	65.3%	Yes		7,715	3,168	41.1%	Yes	
Census Tract 5173.01	3,213	1,036	32.2%		No	3,193	652	20.4%		No
Census Tract 5173.02	5,257	1,958	37.2%		No	5,235	1,424	27.2%	Yes	
TOTAL Glen Cove	**27,232**	**12,326**	**45.3%**	**1**	**5**	**26,601**	**7,193**	**27.0%**	**2**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Hempstead										
Census Tract 4114	6,669	1,282	19.2%		No	6,464	505	7.8%		No
Census Tract 4115	2,653	327	12.3%		No	2,653	117	4.4%		No
Census Tract 4116	6,480	251	3.9%		No	6,480	725	11.2%		No
Census Tract 4110	5,579	3,449	61.8%	Yes		5,565	1,686	30.3%	Yes	
Census Tract 4111	4,377	3,508	80.1%	Yes		4,377	1,854	42.4%	Yes	
Census Tract 4112	6,642	711	10.7%		No	6,641	848	12.8%		No
Census Tract 4163	3,206	371	11.6%		No	3,206	487	15.2%		No
Census Tract 4122	5,008	822	16.4%		No	5,008	732	14.6%		No
Census Tract 4130.02	4,193	925	22.1%		No	4,193	835	19.9%		No
Census Tract 4132	5,745	1,322	23.0%		No	5,745	741	12.9%		No
Census Tract 4134	5,498	728	13.2%		No	5,498	319	5.8%		No
Census Tract 4138.03	3,948	2,640	66.9%	Yes		3,938	287	7.3%		No
Census Tract 4138.04	3,675	1,809	49.2%	Yes		3,645	433	11.9%		No
Census Tract 4162.02	4,835	2,177	45.0%	Yes		4,670	1,005	21.5%		No
Census Tract 4098	5,718	5,400	94.4%	Yes		5,689	970	17.1%		No
Census Tract 4099	8,617	7,438	86.3%	Yes		8,586	1,298	15.1%		No
Census Tract 4100	4,326	2,988	69.1%	Yes		4,262	313	7.3%		No
Census Tract 4101	5,683	1,098	19.3%		No	5,683	387	6.8%		No
Census Tract 4103	6,756	5,508	81.5%	Yes		6,756	692	10.2%		No
Census Tract 4105	7,306	5,549	76.0%	Yes		7,306	1,286	17.6%		No
Census Tract 4106	7,489	5,376	71.8%	Yes		7,447	1,418	19.0%		No
Census Tract 4107	6,755	4,146	61.4%	Yes		6,755	876	13.0%		No
Census Tract 4108	4,665	2,545	54.6%	Yes		4,657	415	8.9%		No
Census Tract 4117	6,802	2,112	31.0%		No	6,802	1,071	15.7%		No
Census Tract 4118	6,051	1,109	18.3%		No	6,022	688	11.4%		No
Census Tract 4119.01	3,663	1,280	34.9%		No	3,663	650	17.7%		No
Census Tract 4119.02	3,702	1,253	33.8%		No	3,702	183	4.9%		No
Census Tract 4104	4,606	3,780	82.1%	Yes		4,564	626	13.7%		No
Census Tract 4109	6,775	4,642	68.5%	Yes		6,769	1,460	21.6%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 4113.01	3,717	654	17.6%		No	3,717	230	6.2%		No
Census Tract 4113.02	7,084	295	4.2%		No	7,048	732	10.4%		No
Census Tract 4043	3,299	1,815	55.0%	Yes		3,299	447	13.5%		No
Census Tract 4044	5,266	907	17.2%		No	5,266	248	4.7%		No
Census Tract 4045	3,928	954	24.3%		No	3,922	596	15.2%		No
Census Tract 4046	4,391	812	18.5%		No	4,391	201	4.6%		No
Census Tract 4047	6,250	2,555	40.9%		No	6,250	789	12.6%		No
Census Tract 4048	6,065	4,900	80.8%	Yes		5,984	839	14.0%		No
Census Tract 4049.02	5,312	4,923	92.7%	Yes		5,266	1,257	23.9%		No
Census Tract 4050	5,670	4,786	84.4%	Yes		5,670	1,242	21.9%		No
Census Tract 4051	8,730	7,692	88.1%	Yes		8,695	930	10.7%		No
Census Tract 4052	6,808	5,339	78.4%	Yes		6,808	1,895	27.8%	Yes	
Census Tract 4053.01	3,686	1,332	36.1%		No	3,686	491	13.3%		No
Census Tract 4053.02	4,608	1,545	33.5%		No	4,608	728	15.8%		No
Census Tract 4054	9,031	5,180	57.4%	Yes		9,003	1,715	19.0%		No
Census Tract 4055	5,313	1,598	30.1%		No	5,168	733	14.2%		No
Census Tract 4056	4,486	1,115	24.9%		No	4,486	458	10.2%		No
Census Tract 4057	4,931	1,561	31.7%		No	4,931	245	5.0%		No
Census Tract 4063	3,617	550	15.2%		No	3,617	269	7.4%		No
Census Tract 4049.01	5,238	4,933	94.2%	Yes		5,178	448	8.7%		No
Census Tract 4058	4,250	641	15.1%		No	4,250	484	11.4%		No
Census Tract 4059	5,460	1,920	35.2%		No	5,432	483	8.9%		No
Census Tract 4060.01	4,685	1,715	36.6%		No	4,685	730	15.6%		No
Census Tract 4060.02	3,524	1,346	38.2%		No	3,524	707	20.1%		No
Census Tract 4061	2,983	972	32.6%		No	2,978	474	15.9%		No
Census Tract 4062.01	3,212	2,232	69.5%	Yes		3,212	423	13.2%		No
Census Tract 4062.02	6,131	5,970	97.4%	Yes		6,078	1,066	17.5%		No
Census Tract 4064	6,639	551	8.3%		No	6,639	238	3.6%		No
Census Tract 4065.01	7,085	1,067	15.1%		No	7,085	477	6.7%		No
Census Tract 4066	4,149	558	13.4%		No	4,149	199	4.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 4067.01	2,859	2,456	85.9%	Yes		2,859	989	34.6%	Yes	
Census Tract 4067.02	4,424	3,618	81.8%	Yes		4,424	2,270	51.3%	Yes	
Census Tract 4068.01	4,855	4,642	95.6%	Yes		4,837	2,103	43.5%	Yes	
Census Tract 4068.02	4,823	4,770	98.9%	Yes		4,761	1,988	41.8%	Yes	
Census Tract 4069	7,205	6,878	95.5%	Yes		7,127	3,081	43.2%	Yes	
Census Tract 4070	7,913	7,735	97.8%	Yes		7,642	4,205	55.0%	Yes	
Census Tract 4071.01	5,073	4,732	93.3%	Yes		4,897	1,176	24.0%		No
Census Tract 4071.02	6,819	6,584	96.6%	Yes		6,819	726	10.6%		No
Census Tract 4072.01	5,527	5,489	99.3%	Yes		5,490	2,985	54.4%	Yes	
Census Tract 4072.03	3,241	3,128	96.5%	Yes		3,211	955	29.7%	Yes	
Census Tract 4072.04	2,561	2,299	89.8%	Yes		2,323	440	18.9%		No
Census Tract 4073.01	7,230	2,685	37.1%		No	3,619	619	17.1%		No
Census Tract 4073.02	4,795	4,352	90.8%	Yes		4,740	1,465	30.9%	Yes	
Census Tract 4074.01	5,955	5,272	88.5%	Yes		5,891	2,058	34.9%	Yes	
Census Tract 4075.01	5,006	4,801	95.9%	Yes		4,921	1,758	35.7%	Yes	
Census Tract 4102	3,574	1,048	29.3%		No	3,574	284	7.9%		No
Census Tract 4120	6,108	2,596	42.5%		No	6,092	327	5.4%		No
Census Tract 4121	6,358	1,390	21.9%		No	6,269	827	13.2%		No
Census Tract 4123.01	3,514	1,142	32.5%		No	3,514	604	17.2%		No
Census Tract 4123.02	3,617	876	24.2%		No	3,597	397	11.0%		No
Census Tract 4124	5,590	2,047	36.6%		No	5,388	1,351	25.1%		No
Census Tract 4125	4,003	216	5.4%		No	4,003	130	3.2%		No
Census Tract 4126	3,692	251	6.8%		No	3,667	77	2.1%		No
Census Tract 4127	4,076	525	12.9%		No	4,076	158	3.9%		No
Census Tract 4128	3,184	1,481	46.5%	Yes		3,161	269	8.5%		No
Census Tract 4129	6,113	5,228	85.5%	Yes		6,101	740	12.1%		No
Census Tract 4130.01	3,665	685	18.7%		No	3,573	754	21.1%		No
Census Tract 4131	5,246	1,352	25.8%		No	5,145	442	8.6%		No
Census Tract 4133	6,257	796	12.7%		No	6,187	1,091	17.6%		No
Census Tract 4135	7,566	5,023	66.4%	Yes		7,566	1,093	14.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 4136	5,901	3,116	52.8%	Yes		5,901	893	15.1%		No
Census Tract 4137	5,147	2,700	52.5%	Yes		5,107	987	19.3%		No
Census Tract 4139	7,480	7,392	98.8%	Yes		7,435	1,793	24.1%		No
Census Tract 4141	6,818	6,238	91.5%	Yes		6,791	1,087	16.0%		No
Census Tract 4142.01	5,180	4,119	79.5%	Yes		5,180	998	19.3%		No
Census Tract 4143.01	4,123	3,307	80.2%	Yes		3,871	1,210	31.3%	Yes	
Census Tract 4143.03	4,862	3,261	67.1%	Yes		4,765	1,102	23.1%		No
Census Tract 4145.01	5,445	2,805	51.5%	Yes		5,445	508	9.3%		No
Census Tract 9801	1,009	345	34.2%		No	-	-	0.0%		No
Census Tract 4145.02	4,094	1,810	44.2%	Yes		4,094	538	13.1%		No
Census Tract 4074.02	3,694	3,372	91.3%	Yes		3,156	774	24.5%		No
Census Tract 4075.02	5,327	5,057	94.9%	Yes		5,223	1,553	29.7%	Yes	
Census Tract 4077	5,023	1,722	34.3%		No	5,023	688	13.7%		No
Census Tract 4078.02	1,727	1,045	60.5%	Yes		487	134	27.5%	Yes	
Census Tract 4079	5,839	1,800	30.8%		No	5,582	892	16.0%		No
Census Tract 4080	6,347	2,066	32.6%		No	6,327	846	13.4%		No
Census Tract 4081	6,884	2,657	38.6%		No	6,677	936	14.0%		No
Census Tract 4082	6,471	2,546	39.3%		No	6,471	664	10.3%		No
Census Tract 4083	6,753	2,848	42.2%		No	6,753	581	8.6%		No
Census Tract 4084	3,900	1,075	27.6%		No	3,900	129	3.3%		No
Census Tract 4085	6,544	1,422	21.7%		No	6,544	642	9.8%		No
Census Tract 4086	4,651	1,583	34.0%		No	4,595	605	13.2%		No
Census Tract 4087	4,908	1,649	33.6%		No	4,908	886	18.1%		No
Census Tract 4088	6,835	1,503	22.0%		No	6,835	450	6.6%		No
Census Tract 4089	5,997	1,850	30.8%		No	5,907	899	15.2%		No
Census Tract 4091	4,977	1,381	27.7%		No	4,977	371	7.5%		No
Census Tract 4092	6,014	1,453	24.2%		No	6,013	1,157	19.2%		No
Census Tract 4093	4,258	962	22.6%		No	4,258	500	11.7%		No
Census Tract 4096	5,182	910	17.6%		No	5,182	572	11.0%		No
Census Tract 4097	4,084	592	14.5%		No	4,084	299	7.3%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 4140.01	4,219	4,105	97.3%	Yes		4,185	906	21.6%		No
Census Tract 4140.02	5,200	5,170	99.4%	Yes		5,186	1,220	23.5%		No
Census Tract 4142.02	4,110	3,789	92.2%	Yes		4,110	1,184	28.8%	Yes	
Census Tract 4143.04	3,444	2,635	76.5%	Yes		3,435	1,528	44.5%	Yes	
Census Tract 4144	5,002	4,511	90.2%	Yes		5,002	1,887	37.7%	Yes	
Census Tract 4146	3,622	710	19.6%		No	3,622	183	5.1%		No
Census Tract 4147	4,648	637	13.7%		No	4,648	346	7.4%		No
Census Tract 4148	6,885	1,252	18.2%		No	6,885	782	11.4%		No
Census Tract 4149	7,289	1,759	24.1%		No	7,196	601	8.4%		No
Census Tract 4150	5,622	779	13.9%		No	5,622	656	11.7%		No
Census Tract 4151.01	2,533	506	20.0%		No	2,527	204	8.1%		No
Census Tract 4151.02	4,751	549	11.6%		No	4,751	254	5.3%		No
Census Tract 4152.01	3,195	532	16.7%		No	3,173	179	5.6%		No
Census Tract 4152.02	4,029	404	10.0%		No	4,022	120	3.0%		No
Census Tract 4153	6,016	1,122	18.7%		No	6,016	386	6.4%		No
Census Tract 4154.01	5,158	572	11.1%		No	5,158	554	10.7%		No
Census Tract 4154.02	4,194	336	8.0%		No	4,177	273	6.5%		No
Census Tract 4156	5,413	526	9.7%		No	5,413	375	6.9%		No
Census Tract 4157	5,952	668	11.2%		No	5,952	526	8.8%		No
Census Tract 4090	5,842	1,820	31.2%		No	5,799	443	7.6%		No
Census Tract 4094	4,222	646	15.3%		No	4,198	369	8.8%		No
Census Tract 4095	3,930	703	17.9%		No	3,930	216	5.5%		No
Census Tract 4155	2,454	321	13.1%		No	2,450	95	3.9%		No
Census Tract 4158.02	6,550	509	7.8%		No	6,530	293	4.5%		No
Census Tract 4160	4,184	371	8.9%		No	4,184	184	4.4%		No
Census Tract 4161	6,124	693	11.3%		No	6,115	251	4.1%		No
Census Tract 5227	4,732	293	6.2%		No	4,716	449	9.5%		No
Census Tract 4076	5,563	2,243	40.3%		No	5,547	381	6.9%		No
Census Tract 4078.01	5,555	1,986	35.8%		No	5,542	572	10.3%		No
Census Tract 4162.01	3,630	754	20.8%		No	3,615	621	17.2%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 4169	4,056	240	5.9%		No	4,032	255	6.3%		No
TOTAL Hempstead	**767,417**	**352,788**	**46.0%**	**59**	**91**	**756,474**	**117,030**	**15.5%**	**20**	**130**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Long Beach										
Census Tract 4164.01	4,148	377	9.1%		No	4,148	406	9.8%		No
Census Tract 4164.02	2,930	418	14.3%		No	2,488	164	6.6%		No
Census Tract 4166	5,567	935	16.8%		No	5,404	1,025	19.0%		No
Census Tract 4165	6,139	3,788	61.7%	Yes		5,918	1,872	31.6%	Yes	
Census Tract 4167.01	4,550	1,324	29.1%		No	4,331	800	18.5%		No
Census Tract 4167.02	4,363	1,083	24.8%		No	4,363	861	19.7%		No
Census Tract 4168.01	2,087	315	15.1%		No	2,087	383	18.4%		No
Census Tract 4168.02	3,723	745	20.0%		No	3,723	674	18.1%		No
TOTAL Long Beach	**33,507**	**8,985**	**26.8%**	**1**	**7**	**32,462**	**6,185**	**19.1%**	**1**	**7**
North Hempstead										
Census Tract 3026	2,418	912	37.7%		No	2,418	185	7.7%		No
Census Tract 3030	5,790	3,656	63.1%	Yes		5,790	567	9.8%		No
Census Tract 3006	6,492	2,310	35.6%		No	6,492	967	14.9%		No
Census Tract 3009	8,915	4,018	45.1%	Yes		8,409	558	6.6%		No
Census Tract 3010	5,606	884	15.8%		No	5,526	500	9.0%		No
Census Tract 3011.01	6,628	3,175	47.9%	Yes		6,628	2,376	35.8%	Yes	
Census Tract 3012	5,941	862	14.5%		No	5,941	547	9.2%		No
Census Tract 3013	4,711	2,285	48.5%	Yes		4,555	938	20.6%		No
Census Tract 3015	2,935	479	16.3%		No	2,935	114	3.9%		No
Census Tract 3016	4,832	1,323	27.4%		No	4,832	350	7.2%		No
Census Tract 3017	2,722	548	20.1%		No	2,718	228	8.4%		No
Census Tract 3018	5,015	2,416	48.2%	Yes		4,567	778	17.0%		No
Census Tract 3019	2,970	660	22.2%		No	2,970	101	3.4%		No
Census Tract 3027	4,464	2,717	60.9%	Yes		4,464	609	13.6%		No
Census Tract 3028	6,513	3,644	55.9%	Yes		6,513	475	7.3%		No
Census Tract 3029	4,103	1,245	30.3%		No	4,103	162	3.9%		No
Census Tract 3031.01	3,615	2,247	62.2%	Yes		3,615	232	6.4%		No
Census Tract 3001	5,223	577	11.0%		No	4,585	616	13.4%		No
Census Tract 3003	4,095	1,038	25.3%		No	4,095	1,215	29.7%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 3004	6,110	1,285	21.0%		No	6,110	1,111	18.2%		No
Census Tract 3005	5,365	1,055	19.7%		No	5,352	908	17.0%		No
Census Tract 3007	6,098	1,982	32.5%		No	5,909	693	11.7%		No
Census Tract 3008	4,182	2,202	52.7%	Yes		4,182	286	6.8%		No
Census Tract 3014	2,063	491	23.8%		No	2,063	138	6.7%		No
Census Tract 3020	4,907	942	19.2%		No	4,662	502	10.8%		No
Census Tract 3021.01	4,509	1,030	22.8%		No	4,509	457	10.1%		No
Census Tract 3021.02	3,702	614	16.6%		No	3,702	155	4.2%		No
Census Tract 3022	3,818	1,922	50.3%	Yes		3,813	797	20.9%		No
Census Tract 3023	4,593	2,402	52.3%	Yes		4,593	372	8.1%		No
Census Tract 3024	5,225	1,867	35.7%		No	5,225	486	9.3%		No
Census Tract 3025.01	2,745	933	34.0%		No	2,736	181	6.6%		No
Census Tract 3025.02	2,724	1,008	37.0%		No	2,724	319	11.7%		No
Census Tract 3031.02	4,122	2,419	58.7%	Yes		4,122	379	9.2%		No
Census Tract 3032.01	3,862	2,541	65.8%	Yes		3,862	330	8.5%		No
Census Tract 3032.02	4,473	2,858	63.9%	Yes		4,473	811	18.1%		No
Census Tract 3033.01	3,046	860	28.2%		No	3,046	392	12.9%		No
Census Tract 3033.02	4,231	1,152	27.2%		No	4,231	264	6.2%		No
Census Tract 3034	2,572	540	21.0%		No	2,572	208	8.1%		No
Census Tract 3035	4,970	1,330	26.8%		No	4,953	355	7.2%		No
Census Tract 3036	7,297	3,253	44.6%	Yes		7,255	713	9.8%		No
Census Tract 3037	6,919	2,323	33.6%		No	6,919	870	12.6%		No
Census Tract 3038	5,131	1,693	33.0%		No	5,131	1,443	28.1%	Yes	
Census Tract 3039	3,994	2,613	65.4%	Yes		3,994	504	12.6%		No
Census Tract 3040.01	2,406	454	18.9%		No	2,389	200	8.4%		No
Census Tract 3040.02	4,528	2,303	50.9%	Yes		4,504	786	17.5%		No
Census Tract 3011.02	4,580	1,019	22.2%		No	4,556	719	15.8%		No
Census Tract 3041	4,504	3,938	87.4%	Yes		4,504	1,674	37.2%	Yes	
Census Tract 3042.02	3,725	3,126	83.9%	Yes		3,705	773	20.9%		No
Census Tract 3042.03	6,326	6,130	96.9%	Yes		6,122	2,547	41.6%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 3042.04	4,816	4,593	95.4%	Yes		4,753	2,260	47.5%	Yes	
TOTAL North Hempstead	**230,531**	**95,874**	**41.6%**	**21**	**29**	**227,827**	**33,151**	**14.6%**	**6**	**44**
Oyster Bay										
Census Tract 5175	3,936	676	17.2%		No	3,936	376	9.6%		No
Census Tract 5176	5,053	973	19.3%		No	5,043	562	11.1%		No
Census Tract 9811	1,053	476	45.2%	Yes		9	-	0.0%		No
Census Tract 5174	5,038	698	13.9%		No	4,977	717	14.4%		No
Census Tract 5178.02	3,481	664	19.1%		No	3,433	477	13.9%		No
Census Tract 5202	3,290	929	28.2%		No	3,290	60	1.8%		No
Census Tract 5203	5,685	1,130	19.9%		No	5,685	459	8.1%		No
Census Tract 5204.01	4,448	1,162	26.1%		No	4,415	657	14.9%		No
Census Tract 5204.02	4,454	1,024	23.0%		No	4,298	795	18.5%		No
Census Tract 5205.01	3,775	890	23.6%		No	3,775	246	6.5%		No
Census Tract 5205.02	5,489	584	10.6%		No	5,489	542	9.9%		No
Census Tract 5206	5,965	1,694	28.4%		No	5,954	811	13.6%		No
Census Tract 5207	4,876	371	7.6%		No	4,876	426	8.7%		No
Census Tract 5208	4,092	324	7.9%		No	4,092	277	6.8%		No
Census Tract 5209	4,796	343	7.2%		No	4,781	526	11.0%		No
Census Tract 5210	4,741	421	8.9%		No	4,700	418	8.9%		No
Census Tract 5211	4,622	321	6.9%		No	4,604	312	6.8%		No
Census Tract 5212	2,935	189	6.4%		No	2,935	316	10.8%		No
Census Tract 5213.01	2,221	177	8.0%		No	2,221	244	11.0%		No
Census Tract 5213.02	5,493	680	12.4%		No	5,493	506	9.2%		No
Census Tract 5214	6,513	253	3.9%		No	6,457	273	4.2%		No
Census Tract 5215	5,063	907	17.9%		No	5,051	574	11.4%		No
Census Tract 5216.01	4,324	262	6.1%		No	4,324	565	13.1%		No
Census Tract 5216.02	3,291	254	7.7%		No	3,291	257	7.8%		No
Census Tract 5217	4,515	502	11.1%		No	4,515	370	8.2%		No
Census Tract 5218.01	3,633	610	16.8%		No	3,633	567	15.6%		No
Census Tract 5218.02	4,141	502	12.1%		No	3,984	216	5.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 5220	5,812	3,165	54.5%	Yes		5,812	696	12.0%		No
Census Tract 5177.01	7,708	2,284	29.6%		No	7,696	683	8.9%		No
Census Tract 5177.05	3,076	759	24.7%		No	3,076	269	8.7%		No
Census Tract 5183	5,987	2,602	43.5%		No	5,987	493	8.2%		No
Census Tract 5185.01	6,954	2,477	35.6%		No	6,954	902	13.0%		No
Census Tract 5185.02	2,830	1,549	54.7%	Yes		2,830	413	14.6%		No
Census Tract 5186	4,241	1,496	35.3%		No	4,231	308	7.3%		No
Census Tract 5187	5,699	2,027	35.6%		No	5,699	404	7.1%		No
Census Tract 5189	6,850	4,134	60.4%	Yes		6,850	842	12.3%		No
Census Tract 5190	6,876	3,259	47.4%	Yes		6,876	812	11.8%		No
Census Tract 5191	5,781	2,628	45.5%	Yes		5,743	1,556	27.1%	Yes	
Census Tract 5192	6,395	2,979	46.6%	Yes		6,395	764	11.9%		No
Census Tract 5193	6,035	3,156	52.3%	Yes		6,017	911	15.1%		No
Census Tract 5194	4,359	1,547	35.5%		No	4,359	196	4.5%		No
Census Tract 5195	6,413	2,523	39.3%		No	6,403	495	7.7%		No
Census Tract 9821	1,290	702	54.4%	Yes		23	-	0.0%		No
Census Tract 5182.03	4,572	1,069	23.4%		No	3,622	230	6.4%		No
Census Tract 5182.04	4,280	792	18.5%		No	4,280	462	10.8%		No
Census Tract 5184	4,347	1,439	33.1%		No	4,246	349	8.2%		No
Census Tract 5188	3,420	1,214	35.5%		No	3,420	213	6.2%		No
Census Tract 5196.01	4,297	1,010	23.5%		No	4,297	309	7.2%		No
Census Tract 5196.02	1,962	450	22.9%		No	1,962	59	3.0%		No
Census Tract 5197.02	5,518	891	16.1%		No	5,513	538	9.8%		No
Census Tract 5197.03	3,674	1,010	27.5%		No	3,674	120	3.3%		No
Census Tract 5197.04	3,092	882	28.5%		No	3,087	471	15.3%		No
Census Tract 5198.01	2,524	635	25.2%		No	2,524	325	12.9%		No
Census Tract 5198.02	5,386	1,105	20.5%		No	5,297	410	7.7%		No
Census Tract 5199	5,490	869	15.8%		No	5,490	355	6.5%		No
Census Tract 5200.01	7,471	1,603	21.5%		No	7,471	792	10.6%		No
Census Tract 5200.02	4,666	1,229	26.3%		No	4,666	672	14.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 5201	5,283	776	14.7%		No	5,283	551	10.4%		No
Census Tract 5178.01	3,837	448	11.7%		No	3,821	186	4.9%		No
Census Tract 5179.01	4,795	320	6.7%		No	4,795	527	11.0%		No
Census Tract 5180	5,836	1,280	21.9%		No	5,836	1,061	18.2%		No
Census Tract 5181	2,959	455	15.4%		No	2,917	239	8.2%		No
Census Tract 5182.01	4,382	676	15.4%		No	4,379	313	7.1%		No
Census Tract 5219.02	4,036	129	3.2%		No	4,036	140	3.5%		No
Census Tract 5179.02	2,766	268	9.7%		No	2,766	351	12.7%		No
TOTAL Oyster Bay	**297,822**	**72,853**	**24.5%**	**9**	**56**	**293,594**	**29,966**	**10.2%**	**1**	**64**
TOTAL Nassau County	**1,356,509**	**542,826**	**40.0%**	**91**	**188**	**1,336,958**	**193,525**	**14.5%**	**30**	**249**

Table 17C-8

Environmental Justice Populations: Bergen County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Bergen County, New Jersey										
Allendale Borough										
Census Tract 10	6,765	1,156	17.1%		No	6,667	329	4.9%		No
TOTAL Allendale Borough	**6,765**	**1,156**	**17.1%**	**-**	**1**	**6,667**	**329**	**4.9%**	**-**	**1**
Alpine Borough										
Census Tract 21	1,547	733	47.4%	Yes		1,547	186	12.0%		No
TOTAL Alpine Borough	**1,547**	**733**	**47.4%**	**1**	**-**	**1,547**	**186**	**12.0%**	**-**	**1**
Bergenfield Borough										
Census Tract 33	6,601	4,551	68.9%	Yes		6,601	697	10.6%		No
Census Tract 34.01	2,802	1,123	40.1%		No	2,802	316	11.3%		No
Census Tract 34.02	3,559	1,454	40.9%		No	3,559	255	7.2%		No
Census Tract 31	5,545	3,583	64.6%	Yes		5,545	671	12.1%		No
Census Tract 32	4,978	3,656	73.4%	Yes		4,978	1,014	20.4%		No
Census Tract 35	3,888	3,194	82.2%	Yes		3,888	1,183	30.4%	Yes	
TOTAL Bergenfield Borough	**27,373**	**17,561**	**64.2%**	**4**	**2**	**27,373**	**4,136**	**15.1%**	**1**	**5**
Bogota Borough										
Census Tract 40.01	3,212	2,126	66.2%	Yes		3,203	535	16.7%		No
Census Tract 40.02	5,148	3,196	62.1%	Yes		5,148	975	18.9%		No
TOTAL Bogota Borough	**8,360**	**5,322**	**63.7%**	**2**	**-**	**8,351**	**1,510**	**18.1%**	**-**	**2**
Carlstadt Borough										
Census Tract 50	6,178	2,269	36.7%		No	6,178	1,047	16.9%		No
TOTAL Carlstadt Borough	**6,178**	**2,269**	**36.7%**	**-**	**1**	**6,178**	**1,047**	**16.9%**	**-**	**1**
Cliffside Park Borough										
Census Tract 61	6,982	3,496	50.1%	Yes		6,948	1,806	26.0%		No
Census Tract 62.01	4,335	2,119	48.9%	Yes		4,335	1,145	26.4%		No
Census Tract 62.02	5,060	2,332	46.1%	Yes		5,060	898	17.7%		No
Census Tract 63	8,749	5,736	65.6%	Yes		8,749	2,620	29.9%	Yes	
TOTAL Cliffside Park Borough	**25,126**	**13,683**	**54.5%**	**4**	**-**	**25,092**	**6,469**	**25.8%**	**1**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Closter Borough										
Census Tract 70.02	4,619	2,140	46.3%	Yes		4,619	226	4.9%		No
Census Tract 70.01	3,946	2,091	53.0%	Yes		3,892	544	14.0%		No
TOTAL Closter Borough	**8,565**	**4,231**	**49.4%**	**2**	**-**	**8,511**	**770**	**9.0%**	**-**	**2**
Cresskill Borough										
Census Tract 80	8,699	3,318	38.1%		No	8,629	1,031	11.9%		No
TOTAL Cresskill Borough	**8,699**	**3,318**	**38.1%**	**-**	**1**	**8,629**	**1,031**	**11.9%**	**-**	**1**
Demarest Borough										
Census Tract 91	4,942	2,014	40.8%		No	4,942	365	7.4%		No
TOTAL Demarest Borough	**4,942**	**2,014**	**40.8%**	**-**	**1**	**4,942**	**365**	**7.4%**	**-**	**1**
Dumont Borough										
Census Tract 101	5,815	1,931	33.2%		No	5,815	520	8.9%		No
Census Tract 102	4,466	2,240	50.2%	Yes		4,457	538	12.1%		No
Census Tract 103	7,343	2,936	40.0%		No	7,343	961	13.1%		No
TOTAL Dumont Borough	**17,624**	**7,107**	**40.3%**	**1**	**2**	**17,615**	**2,019**	**11.5%**	**-**	**3**
East Rutherford Borough										
Census Tract 120.01	6,333	3,361	53.1%	Yes		6,333	1,832	28.9%	Yes	
Census Tract 120.02	3,251	1,303	40.1%		No	3,233	486	15.0%		No
TOTAL East Rutherford Borough	**9,584**	**4,664**	**48.7%**	**1**	**1**	**9,566**	**2,318**	**24.2%**	**1**	**1**
Edgewater Borough										
Census Tract 130.01	6,924	4,561	65.9%	Yes		6,924	822	11.9%		No
Census Tract 130.02	5,479	2,780	50.7%	Yes		5,474	734	13.4%		No
TOTAL Edgewater Borough	**12,403**	**7,341**	**59.2%**	**2**	**-**	**12,398**	**1,556**	**12.6%**	**-**	**2**
Elmwood Park Borough										
Census Tract 111	4,410	2,725	61.8%	Yes		4,386	968	22.1%		No
Census Tract 112	4,830	2,656	55.0%	Yes		4,830	1,263	26.1%		No
Census Tract 113	4,325	1,704	39.4%		No	4,316	823	19.1%		No
Census Tract 114	6,494	2,088	32.2%		No	6,494	1,002	15.4%		No
TOTAL Elmwood Park Borough	**20,059**	**9,173**	**45.7%**	**2**	**2**	**20,026**	**4,056**	**20.3%**	**-**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Emerson Borough										
Census Tract 140	7,596	2,014	26.5%		No	7,384	502	6.8%		No
TOTAL Emerson Borough	**7,596**	**2,014**	**26.5%**	**-**	**1**	**7,384**	**502**	**6.8%**	**-**	**1**
Englewood										
Census Tract 151	2,566	636	24.8%		No	2,559	200	7.8%		No
Census Tract 152	6,753	5,578	82.6%	Yes		6,645	1,555	23.4%		No
Census Tract 153	5,659	5,386	95.2%	Yes		5,640	1,670	29.6%	Yes	
Census Tract 154	7,180	4,852	67.6%	Yes		7,180	1,900	26.5%		No
Census Tract 155	6,195	2,681	43.3%		No	6,133	710	11.6%		No
TOTAL Englewood	**28,353**	**19,133**	**67.5%**	**3**	**2**	**28,157**	**6,035**	**21.4%**	**1**	**4**
Englewood Cliffs Borough										
Census Tract 160	5,371	3,017	56.2%	Yes		5,371	570	10.6%		No
TOTAL Englewood Cliffs Borough	**5,371**	**3,017**	**56.2%**	**1**	**-**	**5,371**	**570**	**10.6%**	**-**	**1**
Fair Lawn Borough										
Census Tract 171	6,993	1,089	15.6%		No	6,993	622	8.9%		No
Census Tract 172	6,102	2,262	37.1%		No	6,102	843	13.8%		No
Census Tract 173	6,129	1,533	25.0%		No	6,129	603	9.8%		No
Census Tract 174	5,398	1,467	27.2%		No	5,249	378	7.2%		No
Census Tract 175	8,395	3,374	40.2%		No	8,395	1,168	13.9%		No
TOTAL Fair Lawn Borough	**33,017**	**9,725**	**29.5%**	**-**	**5**	**32,868**	**3,614**	**11.0%**	**-**	**5**
Fairview Borough										
Census Tract 182	6,565	4,483	68.3%	Yes		6,565	2,503	38.1%	Yes	
Census Tract 181	7,693	5,735	74.5%	Yes		7,692	1,700	22.1%		No
TOTAL Fairview Borough	**14,258**	**10,218**	**71.7%**	**2**	**-**	**14,257**	**4,203**	**29.5%**	**1**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Fort Lee Borough										
Census Tract 193.04	2,652	1,552	58.5%	Yes		2,652	511	19.3%		No
Census Tract 193.05	6,534	2,986	45.7%	Yes		6,534	732	11.2%		No
Census Tract 193.06	2,033	931	45.8%	Yes		2,033	192	9.4%		No
Census Tract 191.02	3,150	2,036	64.6%	Yes		3,150	656	20.8%		No
Census Tract 191.03	4,519	3,162	70.0%	Yes		4,519	872	19.3%		No
Census Tract 191.04	4,053	2,443	60.3%	Yes		4,053	992	24.5%		No
Census Tract 192.02	2,245	1,562	69.6%	Yes		2,245	527	23.5%		No
Census Tract 192.03	3,159	1,692	53.6%	Yes		3,159	787	24.9%		No
Census Tract 192.04	3,527	2,217	62.9%	Yes		3,527	1,206	34.2%	Yes	
Census Tract 193.03	5,558	3,599	64.8%	Yes		5,558	1,028	18.5%		No
TOTAL Fort Lee Borough	**37,430**	**22,180**	**59.3%**	**10**	**-**	**37,430**	**7,503**	**20.0%**	**1**	**9**
Franklin Lakes Borough										
Census Tract 201	4,189	903	21.6%		No	4,189	111	2.6%		No
Census Tract 202	6,757	1,150	17.0%		No	6,757	325	4.8%		No
TOTAL Franklin Lakes Borough	**10,946**	**2,053**	**18.8%**	**-**	**2**	**10,946**	**436**	**4.0%**	**-**	**2**
Garfield										
Census Tract 211	6,589	1,918	29.1%		No	6,544	2,105	32.2%	Yes	
Census Tract 212	5,743	2,326	40.5%		No	5,743	1,606	28.0%	Yes	
Census Tract 213	4,600	1,748	38.0%		No	4,600	1,424	31.0%	Yes	
Census Tract 214	4,932	2,293	46.5%	Yes		4,879	1,598	32.8%	Yes	
Census Tract 215	5,300	3,458	65.2%	Yes		5,295	2,239	42.3%	Yes	
Census Tract 216	4,481	3,052	68.1%	Yes		4,481	1,737	38.8%	Yes	
TOTAL Garfield	**31,645**	**14,795**	**46.8%**	**3**	**3**	**31,542**	**10,709**	**34.0%**	**6**	**-**
Glen Rock Borough										
Census Tract 221	3,877	785	20.2%		No	3,877	312	8.0%		No
Census Tract 222	7,903	2,126	26.9%		No	7,903	322	4.1%		No
TOTAL Glen Rock Borough	**11,780**	**2,911**	**24.7%**	**-**	**2**	**11,780**	**634**	**5.4%**	**-**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Hackensack										
Census Tract 231	3,453	2,699	78.2%	Yes		3,453	1,476	42.7%	Yes	
Census Tract 232	6,489	4,792	73.8%	Yes		6,489	1,304	20.1%		No
Census Tract 233.01	2,750	1,514	55.1%	Yes		2,750	464	16.9%		No
Census Tract 233.02	5,267	2,969	56.4%	Yes		5,267	883	16.8%		No
Census Tract 234.01	3,796	2,921	76.9%	Yes		3,796	1,101	29.0%	Yes	
Census Tract 234.02	5,899	4,598	77.9%	Yes		5,760	1,526	26.5%		No
Census Tract 235.01	3,710	3,278	88.4%	Yes		3,496	1,094	31.3%	Yes	
Census Tract 235.02	5,222	4,292	82.2%	Yes		5,222	1,834	35.1%	Yes	
Census Tract 236.01	2,868	2,042	71.2%	Yes		2,868	774	27.0%	Yes	
Census Tract 236.02	4,885	4,206	86.1%	Yes		4,270	1,930	45.2%	Yes	
TOTAL Hackensack	**44,339**	**33,311**	**75.1%**	**10**	**-**	**43,371**	**12,386**	**28.6%**	**6**	**4**
Harrington Park Borough										
Census Tract 242	4,753	1,367	28.8%		No	4,753	579	12.2%		No
TOTAL Harrington Park Borough	**4,753**	**1,367**	**28.8%**	**-**	**1**	**4,753**	**579**	**12.2%**	**-**	**1**
Hasbrouck Heights Borough										
Census Tract 251	6,590	3,277	49.7%	Yes		6,551	1,704	26.0%		No
Census Tract 252	5,492	1,410	25.7%		No	5,492	531	9.7%		No
TOTAL Hasbrouck Heights Borough	**12,082**	**4,687**	**38.8%**	**1**	**1**	**12,043**	**2,235**	**18.6%**	**-**	**2**
Haworth Borough										
Census Tract 92	3,418	769	22.5%		No	3,418	264	7.7%		No
TOTAL Haworth Borough	**3,418**	**769**	**22.5%**	**-**	**1**	**3,418**	**264**	**7.7%**	**-**	**1**
Hillsdale Borough										
Census Tract 261	4,647	886	19.1%			4,634	465	10.0%		No
Census Tract 262	5,699	1,265	22.2%		No	5,654	598	10.6%		No
TOTAL Hillsdale Borough	**10,346**	**2,151**	**20.8%**	**-**	**1**	**10,288**	**1,063**	**10.3%**	**-**	**2**
Ho-Ho-Kus Borough										
Census Tract 270	4,094	783	19.1%		No	4,094	72	1.8%		No
TOTAL Ho-Ho-Kus Borough	**4,094**	**783**	**19.1%**	**-**	**1**	**4,094**	**72**	**1.8%**	**-**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Leonia Borough										
Census Tract 280.01	5,249	3,357	64.0%	Yes		5,239	913	17.4%		No
Census Tract 280.02	3,837	2,272	59.2%	Yes		3,813	553	14.5%		No
TOTAL Leonia Borough	**9,086**	**5,629**	**62.0%**	**2**	**-**	**9,052**	**1,466**	**16.2%**	**-**	**2**
Little Ferry Borough										
Census Tract 292	6,367	3,142	49.3%	Yes		6,367	1,877	29.5%	Yes	
Census Tract 291	4,415	2,883	65.3%	Yes		4,415	1,323	30.0%	Yes	
TOTAL Little Ferry Borough	**10,782**	**6,025**	**55.9%**	**2**	**-**	**10,782**	**3,200**	**29.7%**	**2**	**-**
Lodi Borough										
Census Tract 302	7,424	3,988	53.7%	Yes		7,395	2,375	32.1%	Yes	
Census Tract 303	4,443	2,520	56.7%	Yes		4,365	1,578	36.2%	Yes	
Census Tract 301	5,686	3,148	55.4%	Yes		5,686	1,239	21.8%		No
Census Tract 304	6,877	3,943	57.3%	Yes		6,654	1,361	20.5%		No
TOTAL Lodi Borough	**24,430**	**13,599**	**55.7%**	**4**	**-**	**24,100**	**6,553**	**27.2%**	**2**	**2**
Lyndhurst Township										
Census Tract 311	6,413	3,240	50.5%	Yes		6,413	1,331	20.8%		No
Census Tract 312	4,862	1,312	27.0%		No	4,845	1,266	26.1%		No
Census Tract 313	5,582	1,835	32.9%		No	5,582	1,100	19.7%		No
Census Tract 314	5,441	1,056	19.4%		No	5,441	736	13.5%		No
TOTAL Lyndhurst Township	**22,298**	**7,443**	**33.4%**	**1**	**3**	**22,281**	**4,433**	**19.9%**	**-**	**4**
Mahwah Township										
Census Tract 321.02	6,026	1,316	21.8%		No	5,995	529	8.8%		No
Census Tract 322.01	5,750	1,330	23.1%		No	5,700	196	3.4%		No
Census Tract 322.02	5,098	1,344	26.4%		No	5,096	985	19.3%		No
Census Tract 321.03	5,154	1,435	27.8%		No	5,154	908	17.6%		No
Census Tract 321.04	4,247	1,851	43.6%	Yes		2,084	511	24.5%		No
TOTAL Mahwah Township	**26,275**	**7,276**	**27.7%**	**1**	**4**	**24,029**	**3,129**	**13.0%**	**-**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Maywood Borough										
Census Tract 331	3,879	1,725	44.5%	Yes		3,859	330	8.6%		No
Census Tract 332	2,217	726	32.7%		No	2,217	367	16.6%		No
Census Tract 333	3,565	1,894	53.1%	Yes		3,565	871	24.4%		No
TOTAL Maywood Borough	**9,661**	**4,345**	**45.0%**	**2**	**1**	**9,641**	**1,568**	**16.3%**	**-**	**3**
Midland Park Borough										
Census Tract 340	7,244	1,249	17.2%		No	7,228	689	9.5%		
TOTAL Midland Park Borough	**7,244**	**1,249**	**17.2%**	**-**	**1**	**7,228**	**689**	**9.5%**	**-**	**-**
Montvale Borough										
Census Tract 351	8,489	2,268	26.7%		No	8,489	655	7.7%		
TOTAL Montvale Borough	**8,489**	**2,268**	**26.7%**	**-**	**1**	**8,489**	**655**	**7.7%**	**-**	**-**
Moonachie Borough										
Census Tract 362	2,716	1,416	52.1%	Yes		2,716	793	29.2%	Yes	Yes
TOTAL Moonachie Borough	**2,716**	**1,416**	**52.1%**	**1**	**-**	**2,716**	**793**	**29.2%**	**1**	**-**
New Milford Borough										
Census Tract 371	5,453	2,249	41.2%		No	5,443	887	16.3%		No
Census Tract 372.01	3,879	1,294	33.4%		No	3,879	437	11.3%		No
Census Tract 372.02	7,213	3,359	46.6%	Yes		7,015	1,096	15.6%		No
TOTAL New Milford Borough	**16,545**	**6,902**	**41.7%**	**1**	**2**	**16,337**	**2,420**	**14.8%**	**-**	**3**
North Arlington Borough										
Census Tract 381	5,554	2,232	40.2%		No	5,554	1,478	26.6%		No
Census Tract 382	4,248	2,227	52.4%	Yes		4,248	1,133	26.7%		No
Census Tract 383	5,875	1,888	32.1%		No	5,875	533	9.1%		No
TOTAL North Arlington Borough	**15,677**	**6,347**	**40.5%**	**1**	**2**	**15,677**	**3,144**	**20.1%**	**-**	**3**
Northvale Borough										
Census Tract 22	5,487	2,219	40.4%		No	5,135	676	13.2%		No
TOTAL Northvale Borough	**5,487**	**2,219**	**40.4%**	**-**	**1**	**5,135**	**676**	**13.2%**	**-**	**1**
Norwood Borough										
Census Tract 23	5,812	2,157	37.1%		No	5,632	675	12.0%		No
TOTAL Norwood Borough	**5,812**	**2,157**	**37.1%**	**-**	**1**	**5,632**	**675**	**12.0%**	**-**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Oakland Borough										
Census Tract 391	4,134	620	15.0%		No	4,123	433	10.5%		No
Census Tract 392	5,973	908	15.2%		No	5,973	465	7.8%		No
Census Tract 393	2,865	304	10.6%		No	2,651	209	7.9%		No
TOTAL Oakland Borough	**12,972**	**1,832**	**14.1%**	**-**	**3**	**12,747**	**1,107**	**8.7%**	**-**	**3**
Old Tappan Borough										
Census Tract 241	5,914	1,848	31.2%		No	5,888	411	7.0%		No
TOTAL Old Tappan Borough	**5,914**	**1,848**	**31.2%**	**-**	**1**	**5,888**	**411**	**7.0%**	**-**	**1**
Oradell Borough										
Census Tract 400.01	3,543	932	26.3%		No	3,391	206	6.1%		No
Census Tract 400.02	4,598	1,443	31.4%		No	4,598	447	9.7%		No
TOTAL Oradell Borough	**8,141**	**2,375**	**29.2%**	**-**	**2**	**7,989**	**653**	**8.2%**	**-**	**2**
Palisades Park Borough										
Census Tract 413.01	5,805	4,826	83.1%	Yes		5,765	1,974	34.2%	Yes	
Census Tract 411	5,915	4,973	84.1%	Yes		5,915	2,161	36.5%	Yes	
Census Tract 412	4,798	3,829	79.8%	Yes		4,798	1,107	23.1%		No
Census Tract 413.02	4,086	3,252	79.6%	Yes		4,086	986	24.1%		No
TOTAL Palisades Park Borough	**20,604**	**16,880**	**81.9%**	**4**	**-**	**20,564**	**6,228**	**30.3%**	**2**	**2**
Paramus Borough										
Census Tract 421	7,413	3,372	45.5%	Yes		7,337	540	7.4%		No
Census Tract 424	4,455	1,853	41.6%		No	4,455	450	10.1%		No
Census Tract 425	4,505	2,540	56.4%	Yes		4,481	525	11.7%		No
Census Tract 423.01	4,471	1,582	35.4%		No	4,349	394	9.1%		No
Census Tract 423.02	5,659	2,158	38.1%		No	4,287	170	4.0%		No
TOTAL Paramus Borough	**26,503**	**11,505**	**43.4%**	**-**	**3**	**24,909**	**2,079**	**8.3%**	**-**	**5**
Park Ridge Borough										
Census Tract 430.01	4,160	955	23.0%		No	4,151	409	9.9%		No
Census Tract 430.02	4,606	932	20.2%		No	4,351	381	8.8%		No
TOTAL Park Ridge Borough	**8,766**	**1,887**	**21.5%**	**-**	**2**	**8,502**	**790**	**9.3%**	**-**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Ramsey Borough										
Census Tract 442.01	3,790	451	11.9%		No	3,790	153	4.0%		No
Census Tract 441	6,015	541	9.0%		No	6,015	314	5.2%		No
Census Tract 442.02	5,135	1,152	22.4%		No	5,135	691	13.5%		No
TOTAL Ramsey Borough	**14,940**	**2,144**	**14.4%**	**-**	**3**	**14,940**	**1,158**	**7.8%**	**-**	**3**
Ridgefield Borough										
Census Tract 452	2,790	1,927	69.1%	Yes		2,774	841	30.3%	Yes	
Census Tract 451	8,437	4,913	58.2%	Yes		8,437	2,228	26.4%		No
Census Tract 461	4,386	2,661	60.7%	Yes		4,386	752	17.1%		No
Census Tract 462	3,990	2,265	56.8%	Yes		3,990	659	16.5%		No
Census Tract 463	4,546	3,048	67.0%	Yes		4,546	948	20.9%		No
TOTAL Ridgefield Park Village	**24,149**	**14,814**	**61.3%**	**-**	**-**	**24,133**	**5,428**	**22.5%**	**-**	**4**
Ridgewood Village										
Census Tract 471	6,028	2,184	36.2%		No	5,941	517	8.7%		No
Census Tract 472	4,530	921	20.3%		No	4,530	293	6.5%		No
Census Tract 473	3,092	604	19.5%		No	3,092	100	3.2%		No
Census Tract 474	4,553	1,247	27.4%		No	4,536	423	9.3%		No
Census Tract 475	6,976	2,006	28.8%		No	6,886	488	7.1%		No
TOTAL Ridgewood Village	**25,179**	**6,962**	**27.7%**	**-**	**5**	**24,985**	**1,821**	**7.3%**	**-**	**5**
River Edge Borough										
Census Tract 481	3,832	1,927	50.3%	Yes		3,832	643	16.8%		No
Census Tract 482	7,668	2,446	31.9%		No	7,668	204	2.7%		No
TOTAL River Edge Borough	**11,500**	**4,373**	**38.0%**	**1**	**1**	**11,500**	**847**	**7.4%**	**-**	**2**
River Vale Township										
Census Tract 490.01	4,498	544	12.1%		No	4,498	148	3.3%		No
Census Tract 490.02	5,497	1,151	20.9%		No	5,441	361	6.6%		No
TOTAL River Vale Township	**9,995**	**1,695**	**17.0%**	**-**	**2**	**9,939**	**509**	**5.1%**	**-**	**2**
Rochelle Park Township										
Census Tract 500	5,597	2,421	43.3%		No	5,413	854	15.8%		No
TOTAL Rochelle Park Township	**5,597**	**2,421**	**43.3%**	**-**	**1**	**5,413**	**854**	**15.8%**	**-**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Rutherford Borough										
Census Tract 511	6,245	2,413	38.6%		No	6,013	826	13.7%		No
Census Tract 512	2,547	762	29.9%		No	2,537	235	9.3%		No
Census Tract 513	4,575	2,409	52.7%	Yes		4,575	822	18.0%		No
Census Tract 514	5,031	2,208	43.9%	Yes		5,031	515	10.2%		No
TOTAL Rutherford Borough	**18,398**	**7,792**	**42.4%**	**2**	**2**	**18,156**	**2,398**	**13.2%**	**-**	**4**
Saddle Brook Township										
Census Tract 521	7,554	1,845	24.4%		No	7,554	1,181	15.6%		No
Census Tract 522	6,291	2,416	38.4%		No	6,291	780	12.4%		No
TOTAL Saddle Brook Township	**13,845**	**4,261**	**30.8%**	**-**	**2**	**13,845**	**1,961**	**14.2%**	**-**	**2**
Saddle River Borough										
Census Tract 531	3,192	1,176	36.8%		No	3,183	163	5.1%		No
TOTAL Saddle River Borough	**3,192**	**1,176**	**36.8%**	**-**	**1**	**3,183**	**163**	**5.1%**	**-**	**1**
Teaneck Township										
Census Tract 542	4,789	3,555	74.2%	Yes		4,689	1,533	32.7%	Yes	
Census Tract 546	8,481	5,202	61.3%	Yes		8,416	897	10.7%		No
Census Tract 543	6,672	527	7.9%		No	6,672	469	7.0%		No
Census Tract 544	7,434	3,952	53.2%	Yes		6,669	1,194	17.9%		No
Census Tract 545	4,831	1,923	39.8%		No	4,802	352	7.3%		No
Census Tract 541	8,251	6,866	83.2%	Yes		8,090	1,208	14.9%		No
TOTAL Teaneck Township	**40,458**	**22,025**	**54.4%**	**4**	**2**	**39,338**	**5,653**	**14.4%**	**1**	**5**
Tenafly Borough										
Census Tract 551	6,725	2,093	31.1%		No	6,663	415	6.2%		No
Census Tract 552	7,907	3,849	48.7%	Yes		7,907	891	11.3%		No
TOTAL Tenafly Borough	**14,632**	**5,942**	**40.6%**	**1**	**1**	**14,570**	**1,306**	**9.0%**	**-**	**2**
Teterboro Borough										
Census Tract 361	2,677	1,521	56.8%	Yes		2,677	712	26.6%		No
TOTAL Teterboro Borough	**2,677**	**1,521**	**56.8%**	**1**	**-**	**2,677**	**712**	**26.6%**	**-**	**1**
Upper Saddle River Borough										
Census Tract 532	8,227	2,482	30.2%		No	8,212	475	5.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
TOTAL Upper Saddle River Borough	**8,227**	**2,482**	**30.2%**	**-**	**1**	**8,212**	**475**	**5.8%**	**-**	**1**
Waldwick Borough										
Census Tract 561	5,096	1,001	19.6%		No	5,096	271	5.3%		No
Census Tract 562	4,890	956	19.6%		No	4,890	660	13.5%		No
TOTAL Waldwick Borough	**9,986**	**1,957**	**19.6%**	**-**	**2**	**9,986**	**931**	**9.3%**	**-**	**2**
Wallington Borough										
Census Tract 571.01	4,365	1,473	33.7%		No	4,351	902	20.7%		No
Census Tract 571.02	3,572	760	21.3%		No	3,549	639	18.0%		No
Census Tract 572	3,603	779	21.6%		No	3,603	970	26.9%	Yes	
TOTAL Wallington Borough	**11,540**	**3,012**	**26.1%**	**-**	**3**	**11,503**	**2,511**	**21.8%**	**1**	**2**
Washington Township										
Census Tract 581	3,739	789	21.1%		No	3,730	197	5.3%		No
Census Tract 582	5,498	770	14.0%		No	5,498	210	3.8%		No
TOTAL Washington Township	**9,237**	**1,559**	**16.9%**	**-**	**2**	**9,228**	**407**	**4.4%**	**-**	**2**
Westwood Borough										
Census Tract 591	5,143	1,768	34.4%		No	5,092	519	10.2%		No
Census Tract 592	5,972	1,918	32.1%		No	5,972	662	11.1%		No
TOTAL Westwood Borough	**11,115**	**3,686**	**33.2%**	**-**	**2**	**11,064**	**1,181**	**10.7%**	**-**	**2**
Woodcliff Lake Borough										
Census Tract 352	5,832	665	11.4%		No	5,743	314	5.5%		No
TOTAL Woodcliff Lake Borough	**5,832**	**665**	**11.4%**	**-**	**1**	**5,743**	**314**	**5.5%**	**-**	**1**
Wood-Ridge Borough										
Census Tract 600	8,819	2,918	33.1%		No	8,819	1,059	12.0%		No
TOTAL Wood-Ridge Borough	**8,819**	**2,918**	**33.1%**	**-**	**1**	**8,819**	**1,059**	**12.0%**	**-**	**1**
Wyckoff Township										
Census Tract 614	5,131	664	12.9%		No	5,131	134	2.6%		No
Census Tract 611	4,728	380	8.0%		No	4,719	285	6.0%		No
Census Tract 612	3,241	182	5.6%		No	3,241	116	3.6%		No
Census Tract 613	3,917	630	16.1%		No	3,426	318	9.3%		No
TOTAL Wyckoff Township	**17,017**	**1,856**	**10.9%**	**-**	**4**	**16,517**	**853**	**5.2%**	**-**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
TOTAL Bergen County	**930,390**	**404,149**	**43.4%**	**84**	**94**	**920,046**	**147,807**	**16.1%**	**28**	**149**

Table 17C-9

Environmental Justice Populations: Essex County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Essex County, New Jersey										
Belleville Township										
Census Tract 140	3,817	1,966	51.5%	Yes		3,817	345	9.0%		No
Census Tract 147	6,392	4,563	71.4%	Yes		6,372	1,886	29.6%	Yes	
Census Tract 143	5,755	4,202	73.0%	Yes		5,755	1,665	28.9%	Yes	
Census Tract 144	3,488	2,699	77.4%	Yes		3,488	1,234	35.4%	Yes	
Census Tract 141	3,511	2,138	60.9%	Yes		3,511	732	20.8%		No
Census Tract 142	4,094	2,944	71.9%	Yes		4,094	221	5.4%		No
Census Tract 145	4,221	3,349	79.3%	Yes		4,221	1,598	37.9%	Yes	
Census Tract 146	4,903	3,815	77.8%	Yes		4,903	1,563	31.9%	Yes	
TOTAL Belleville Township	**36,181**	**25,676**	**71.0%**	**8**	**-**	**36,161**	**9,244**	**25.6%**	**5**	**3**
Bloomfield Township										
Census Tract 148	3,344	1,277	38.2%		No	3,300	388	11.8%		No
Census Tract 149	4,652	1,600	34.4%		No	4,644	306	6.6%		No
Census Tract 150	3,311	1,115	33.7%		No	3,295	779	23.6%		No
Census Tract 151	4,542	2,460	54.2%	Yes		4,495	542	12.1%		No
Census Tract 152	4,370	2,669	61.1%	Yes		4,370	1,262	28.9%	Yes	
Census Tract 153	2,569	1,694	65.9%	Yes		2,569	332	12.9%		No
Census Tract 154	5,195	2,791	53.7%	Yes		4,735	1,300	27.5%	Yes	
Census Tract 155	4,417	2,630	59.5%	Yes		4,417	417	9.4%		No
Census Tract 156	4,440	2,947	66.4%	Yes		4,440	803	18.1%		No
Census Tract 157	2,596	2,025	78.0%	Yes		2,539	1,071	42.2%	Yes	
Census Tract 158	4,164	2,943	70.7%	Yes		4,164	1,053	25.3%		No
Census Tract 159	5,660	4,852	85.7%	Yes		5,628	2,042	36.3%	Yes	
TOTAL Bloomfield Township	**49,260**	**29,003**	**58.9%**	**9**	**3**	**48,596**	**10,295**	**21.2%**	**4**	**8**
Caldwell Borough										
Census Tract 217.01	3,758	703	18.7%		No	3,758	620	16.5%		No
Census Tract 217.02	4,211	983	23.3%		No	3,699	502	13.6%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
TOTAL Caldwell Borough	**7,969**	**1,686**	**21.2%**	**-**	**2**	**7,457**	**1,122**	**15.0%**	**-**	**2**
Cedar Grove Township										
Census Tract 213	5,931	1,364	23.0%		No	5,472	318	5.8%		No
Census Tract 214	6,585	1,037	15.7%		No	6,225	498	8.0%		No
TOTAL Cedar Grove Township	**12,516**	**2,401**	**19.2%**	**-**	**2**	**11,697**	**816**	**7.0%**	**-**	**2**
City of Orange Township										
Census Tract 181	2,057	1,982	96.4%	Yes		2,057	864	42.0%	Yes	
Census Tract 182	4,176	4,096	98.1%	Yes		4,176	1,108	26.5%		No
Census Tract 183	4,307	4,281	99.4%	Yes		4,307	2,346	54.5%	Yes	
Census Tract 184	1,925	1,888	98.1%	Yes		1,917	779	40.6%	Yes	
Census Tract 186	4,555	4,291	94.2%	Yes		4,342	2,277	52.4%	Yes	
Census Tract 187	5,228	5,162	98.7%	Yes		5,221	3,020	57.8%	Yes	
Census Tract 188	4,464	4,229	94.7%	Yes		4,290	1,257	29.3%	Yes	
Census Tract 189	3,772	3,657	97.0%	Yes		3,752	1,685	44.9%	Yes	
TOTAL City of Orange Township	**30,484**	**29,586**	**97.1%**	**8**	**-**	**30,062**	**13,336**	**44.4%**	**7**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
East Orange										
Census Tract 99	2,348	2,328	99.1%	Yes		2,348	948	40.4%	Yes	
Census Tract 100	2,983	2,887	96.8%	Yes		2,941	525	17.9%		No
Census Tract 101	2,668	2,626	98.4%	Yes		2,650	882	33.3%	Yes	
Census Tract 102	4,594	4,513	98.2%	Yes		4,375	1,628	37.2%	Yes	
Census Tract 103	3,171	3,077	97.0%	Yes		2,920	1,137	38.9%	Yes	
Census Tract 104	4,740	4,666	98.4%	Yes		4,644	2,079	44.8%	Yes	
Census Tract 105	4,763	4,696	98.6%	Yes		4,696	2,155	45.9%	Yes	
Census Tract 106	4,331	4,230	97.7%	Yes		4,286	2,603	60.7%	Yes	
Census Tract 107	3,561	3,513	98.7%	Yes		3,377	1,910	56.6%	Yes	
Census Tract 108	2,978	2,978	100.0%	Yes		2,932	1,544	52.7%	Yes	
Census Tract 109	2,265	2,239	98.9%	Yes		2,241	857	38.2%	Yes	
Census Tract 111	3,921	3,863	98.5%	Yes		3,908	1,991	50.9%	Yes	
Census Tract 112	2,952	2,894	98.0%	Yes		2,952	1,638	55.5%	Yes	
Census Tract 113	4,124	4,090	99.2%	Yes		4,117	1,485	36.1%	Yes	
Census Tract 114	4,369	4,111	94.1%	Yes		4,244	1,040	24.5%		No
Census Tract 115	2,230	2,213	99.2%	Yes		2,218	792	35.7%	Yes	
Census Tract 116	3,213	3,173	98.8%	Yes		3,193	1,758	55.1%	Yes	
Census Tract 117	2,813	2,629	93.5%	Yes		2,682	1,078	40.2%	Yes	
Census Tract 118	2,350	2,314	98.5%	Yes		2,332	753	32.3%	Yes	
TOTAL East Orange	**64,374**	**63,040**	**97.9%**	**19**	**-**	**63,056**	**26,803**	**42.5%**	**17**	**2**
Essex Fells Borough										
Census Tract 209.01	2,110	275	13.0%		No	2,110	62	2.9%		No
TOTAL Essex Fells Borough	**2,110**	**275**	**13.0%**	**-**	**1**	**2,110**	**62**	**2.9%**	**-**	**1**
Fairfield Township										
Census Tract 216.01	7,486	1,156	15.4%		No	7,486	562	7.5%		No
TOTAL Fairfield Township	**7,486**	**1,156**	**15.4%**	**-**	**1**	**7,486**	**562**	**7.5%**	**-**	**1**
Glen Ridge Borough										
Census Tract 160	7,584	1,792	23.6%		No	7,584	519	6.8%		No
TOTAL Glen Ridge Borough	**7,584**	**1,792**	**23.6%**	**-**	**1**	**7,584**	**519**	**6.8%**	**-**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Irvington Township										
Census Tract 119	1,629	1,570	96.4%	Yes		1,629	710	43.6%	Yes	
Census Tract 120	6,126	6,029	98.4%	Yes		5,944	2,386	40.1%	Yes	
Census Tract 121	3,991	3,934	98.6%	Yes		3,991	1,609	40.3%	Yes	
Census Tract 122	5,326	5,069	95.2%	Yes		5,326	2,395	45.0%	Yes	
Census Tract 123	4,598	4,493	97.7%	Yes		4,576	1,750	38.2%	Yes	
Census Tract 124	4,424	4,244	95.9%	Yes		4,424	2,392	54.1%	Yes	
Census Tract 125	3,928	3,894	99.1%	Yes		3,928	1,610	41.0%	Yes	
Census Tract 126	3,064	3,027	98.8%	Yes		3,043	1,473	48.4%	Yes	
Census Tract 127	4,080	3,942	96.6%	Yes		4,080	1,673	41.0%	Yes	
Census Tract 128	3,464	3,341	96.4%	Yes		3,464	1,272	36.7%	Yes	
Census Tract 129	3,652	3,652	100.0%	Yes		3,623	2,070	57.1%	Yes	
Census Tract 130	1,884	1,853	98.4%	Yes		1,884	423	22.5%		No
Census Tract 131	2,185	2,180	99.8%	Yes		2,185	1,213	55.5%	Yes	
Census Tract 132	2,156	2,126	98.6%	Yes		2,156	1,291	59.9%	Yes	
Census Tract 133	3,572	3,558	99.6%	Yes		3,572	1,995	55.9%	Yes	
TOTAL Irvington Township	**54,079**	**52,912**	**97.8%**	**15**	**-**	**53,825**	**24,262**	**45.1%**	**14**	**1**
Livingston Township										
Census Tract 204	5,298	1,533	28.9%		No	5,298	184	3.5%		No
Census Tract 205	7,643	2,793	36.5%		No	7,643	183	2.4%		No
Census Tract 206	5,088	1,720	33.8%		No	4,988	455	9.1%		No
Census Tract 207	4,473	1,799	40.2%		No	4,473	552	12.3%		No
Census Tract 208	7,344	2,245	30.6%		No	7,088	454	6.4%		No
TOTAL Livingston Township	**29,846**	**10,090**	**33.8%**	**-**	**5**	**29,490**	**1,828**	**6.2%**	**-**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Maplewood Township										
Census Tract 195	3,810	913	24.0%		No	3,810	130	3.4%		No
Census Tract 196	6,139	4,144	67.5%	Yes		6,119	1,484	24.3%		No
Census Tract 197	6,586	5,431	82.5%	Yes		6,542	793	12.1%		No
Census Tract 198	2,743	1,091	39.8%		No	2,743	242	8.8%		No
Census Tract 199	2,561	549	21.4%		No	2,561	236	9.2%		No
Census Tract 194	2,945	610	20.7%		No	2,945	162	5.5%		No
TOTAL Maplewood Township	**24,784**	**12,738**	**51.4%**	**2**	**4**	**24,720**	**3,047**	**12.3%**	**-**	**6**
Millburn Township										
Census Tract 202	4,851	1,746	36.0%		No	4,851	253	5.2%		No
Census Tract 203	4,580	2,143	46.8%		No	4,554	798	17.5%		No
Census Tract 200	5,760	1,826	31.7%		No	5,760	356	6.2%		No
Census Tract 201	4,957	1,794	36.2%		No	4,957	276	5.6%		No
TOTAL Millburn Township	**20,148**	**7,509**	**37.3%**	**-**	**4**	**20,122**	**1,683**	**8.4%**	**-**	**4**
Montclair Township										
Census Tract 163	3,584	541	15.1%		No	3,584	255	7.1%		No
Census Tract 164	3,628	699	19.3%		No	3,560	322	9.0%		No
Census Tract 165	3,740	1,214	32.5%		No	3,703	464	12.5%		No
Census Tract 166	3,141	1,282	40.8%		No	3,141	642	20.4%		No
Census Tract 167	2,704	1,707	63.1%	Yes		2,704	681	25.2%		No
Census Tract 168	3,591	1,802	50.2%	Yes		3,582	613	17.1%		No
Census Tract 169	2,920	809	27.7%		No	2,920	101	3.5%		No
Census Tract 170	2,688	1,420	52.8%	Yes		2,631	265	10.1%		No
Census Tract 171	2,299	2,074	90.2%	Yes		2,285	1,059	46.3%	Yes	
Census Tract 172	3,310	2,371	71.6%	Yes		3,302	649	19.7%		No
Census Tract 161	3,557	876	24.6%		No	3,449	353	10.2%		No
Census Tract 162	3,265	437	13.4%		No	3,265	128	3.9%		No
TOTAL Montclair Township	**38,427**	**15,232**	**39.6%**	**5**	**7**	**38,126**	**5,532**	**14.5%**	**1**	**11**
Newark										
Census Tract 22.01	8,704	8,081	92.8%	Yes		8,704	4,405	50.6%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 22.02	3,385	3,375	99.7%	Yes		3,382	1,647	48.7%	Yes	
Census Tract 23	4,917	4,879	99.2%	Yes		4,917	1,619	32.9%	Yes	
Census Tract 28	1,898	1,898	100.0%	Yes		1,856	1,062	57.2%	Yes	
Census Tract 31	2,092	2,089	99.9%	Yes		2,066	1,364	66.0%	Yes	
Census Tract 35	2,270	2,258	99.5%	Yes		2,270	997	43.9%	Yes	
Census Tract 37	1,874	1,806	96.4%	Yes		1,874	943	50.3%	Yes	
Census Tract 38	2,218	2,204	99.4%	Yes		2,218	1,127	50.8%	Yes	
Census Tract 39	1,296	1,296	100.0%	Yes		1,296	896	69.1%	Yes	
Census Tract 41	3,332	3,332	100.0%	Yes		3,250	2,310	71.1%	Yes	
Census Tract 42	2,214	2,180	98.5%	Yes		2,212	1,318	59.6%	Yes	
Census Tract 43	2,679	2,679	100.0%	Yes		2,679	1,578	58.9%	Yes	
Census Tract 44	1,313	1,298	98.9%	Yes		1,313	745	56.7%	Yes	
Census Tract 45	2,981	2,959	99.3%	Yes		2,981	1,378	46.2%	Yes	
Census Tract 46	2,977	2,953	99.2%	Yes		2,977	1,584	53.2%	Yes	
Census Tract 47	4,981	4,907	98.5%	Yes		4,970	1,515	30.5%	Yes	
Census Tract 48.01	2,279	2,263	99.3%	Yes		2,279	1,186	52.0%	Yes	
Census Tract 48.02	2,670	2,565	96.1%	Yes		2,627	2,017	76.8%	Yes	
Census Tract 49	3,276	3,252	99.3%	Yes		3,276	1,692	51.6%	Yes	
Census Tract 50	2,774	2,737	98.7%	Yes		2,774	1,697	61.2%	Yes	
Census Tract 51	2,171	2,158	99.4%	Yes		2,171	1,101	50.7%	Yes	
Census Tract 52	1,307	1,296	99.2%	Yes		1,306	803	61.5%	Yes	
Census Tract 53	2,290	2,224	97.1%	Yes		2,273	1,189	52.3%	Yes	
Census Tract 54	4,178	4,155	99.4%	Yes		4,140	3,161	76.4%	Yes	
Census Tract 57	2,225	1,838	82.6%	Yes		2,225	988	44.4%	Yes	
Census Tract 62	1,696	1,654	97.5%	Yes		1,696	1,019	60.1%	Yes	
Census Tract 64	1,154	1,079	93.5%	Yes		1,154	278	24.1%		No
Census Tract 66	1,481	1,454	98.2%	Yes		1,481	751	50.7%	Yes	
Census Tract 67	3,955	3,819	96.6%	Yes		3,804	2,199	57.8%	Yes	
Census Tract 68	5,811	4,411	75.9%	Yes		5,811	2,284	39.3%	Yes	
Census Tract 80	2,356	1,793	76.1%	Yes		2,356	1,336	56.7%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 81	3,714	3,552	95.6%	Yes		3,714	2,215	59.6%	Yes	
Census Tract 82	2,289	2,130	93.1%	Yes		1,964	1,510	76.9%	Yes	
Census Tract 227	2,648	2,515	95.0%	Yes		2,648	1,508	56.9%	Yes	
Census Tract 228	1,964	1,878	95.6%	Yes		1,964	1,399	71.2%	Yes	
Census Tract 230	3,179	3,160	99.4%	Yes		3,037	2,300	75.7%	Yes	
Census Tract 231	2,396	2,365	98.7%	Yes		2,388	1,150	48.2%	Yes	
Census Tract 232	3,413	3,386	99.2%	Yes		3,382	2,212	65.4%	Yes	
Census Tract 71	4,428	2,212	50.0%		No	4,360	1,697	38.9%	Yes	
Census Tract 72	3,849	2,236	58.1%	Yes		3,849	1,470	38.2%	Yes	
Census Tract 73	5,438	2,626	48.3%		No	5,425	2,150	39.6%	Yes	
Census Tract 74	5,388	3,739	69.4%	Yes		2,818	1,221	43.3%	Yes	
Census Tract 75.01	4,665	3,408	73.1%	Yes		4,653	3,515	75.5%	Yes	
Census Tract 75.02	2,573	2,168	84.3%	Yes		2,564	1,447	56.4%	Yes	
Census Tract 76	3,508	2,489	71.0%	Yes		3,489	1,701	48.8%	Yes	
Census Tract 69	4,908	3,302	67.3%	Yes		4,908	2,175	44.3%	Yes	
Census Tract 70	3,765	2,067	54.9%	Yes		3,765	1,821	48.4%	Yes	
Census Tract 77	2,701	1,786	66.1%	Yes		2,701	1,286	47.6%	Yes	
Census Tract 78	3,600	2,307	64.1%	Yes		3,600	1,920	53.3%	Yes	
Census Tract 79	3,659	2,312	63.2%	Yes		3,643	1,637	44.9%	Yes	
Census Tract 9801	2,594	2,126	82.0%	Yes		-	-	0.0%		No
Census Tract 9802	1,391	1,223	87.9%	Yes		-	-	0.0%		No
Census Tract 2	3,378	3,161	93.6%	Yes		3,361	1,956	58.2%	Yes	
Census Tract 3	3,893	3,642	93.6%	Yes		3,852	2,556	66.4%	Yes	
Census Tract 4	2,104	1,908	90.7%	Yes		2,094	1,031	49.2%	Yes	
Census Tract 5	1,970	1,832	93.0%	Yes		1,970	1,084	55.0%	Yes	
Census Tract 6	3,721	3,255	87.5%	Yes		3,721	1,505	40.4%	Yes	
Census Tract 7	6,165	5,919	96.0%	Yes		6,165	3,258	52.8%	Yes	
Census Tract 8	4,672	4,525	96.9%	Yes		4,671	2,723	58.3%	Yes	
Census Tract 9	3,392	3,353	98.9%	Yes		3,392	2,323	68.5%	Yes	
Census Tract 10	3,503	3,248	92.7%	Yes		2,760	1,680	60.9%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 11	3,154	2,254	71.5%	Yes		1,645	762	46.3%	Yes	
Census Tract 13	1,629	1,393	85.5%	Yes		1,574	686	43.6%	Yes	
Census Tract 14	2,816	2,765	98.2%	Yes		2,816	1,520	54.0%	Yes	
Census Tract 15	1,942	1,884	97.0%	Yes		1,913	1,554	81.2%	Yes	
Census Tract 16	1,832	1,732	94.5%	Yes		1,815	1,225	67.5%	Yes	
Census Tract 17	2,156	2,156	100.0%	Yes		2,156	1,360	63.1%	Yes	
Census Tract 18	2,188	2,188	100.0%	Yes		2,188	1,326	60.6%	Yes	
Census Tract 19	1,955	1,914	97.9%	Yes		1,955	1,346	68.8%	Yes	
Census Tract 20	4,231	4,231	100.0%	Yes		4,231	1,691	40.0%	Yes	
Census Tract 21	3,185	3,101	97.4%	Yes		3,185	1,226	38.5%	Yes	
Census Tract 24	2,979	2,822	94.7%	Yes		2,979	1,273	42.7%	Yes	
Census Tract 25	4,590	4,520	98.5%	Yes		4,559	2,302	50.5%	Yes	
Census Tract 26	1,564	1,564	100.0%	Yes		1,483	834	56.2%	Yes	
Census Tract 87	3,564	3,391	95.1%	Yes		3,543	1,684	47.5%	Yes	
Census Tract 88	1,852	1,845	99.6%	Yes		1,832	1,002	54.7%	Yes	
Census Tract 89	2,035	1,988	97.7%	Yes		2,035	1,106	54.3%	Yes	
Census Tract 90	1,787	1,672	93.6%	Yes		1,704	868	50.9%	Yes	
Census Tract 91	3,116	2,884	92.6%	Yes		3,116	1,836	58.9%	Yes	
Census Tract 94	5,973	5,084	85.1%	Yes		5,973	2,798	46.8%	Yes	
Census Tract 229	4,255	3,590	84.4%	Yes		3,195	1,637	51.2%	Yes	
Census Tract 1	6,296	5,681	90.2%	Yes		6,296	2,677	42.5%	Yes	
Census Tract 92	3,062	2,767	90.4%	Yes		2,574	1,497	58.2%	Yes	
Census Tract 93	5,017	4,859	96.9%	Yes		5,017	2,995	59.7%	Yes	
Census Tract 95	5,514	4,820	87.4%	Yes		5,514	2,708	49.1%	Yes	
Census Tract 96	5,443	5,162	94.8%	Yes		5,443	3,415	62.7%	Yes	
Census Tract 97	5,297	5,234	98.8%	Yes		5,297	2,725	51.4%	Yes	
TOTAL Newark	**281,054**	**250,223**	**89.0%**	**85**	**2**	**269,234**	**142,692**	**53.0%**	**84**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
North Caldwell Borough										
Census Tract 216.02	6,615	1,048	15.8%		No	6,615	285	4.3%		No
TOTAL North Caldwell Borough	**6,615**	**1,048**	**15.8%**	**-**	**1**	**6,615**	**285**	**4.3%**	**-**	**1**
Nutley Township										
Census Tract 139	4,922	1,694	34.4%		No	4,922	811	16.5%		No
Census Tract 135	4,296	1,092	25.4%		No	4,296	249	5.8%		No
Census Tract 136	6,541	2,963	45.3%		No	6,541	1,054	16.1%		No
Census Tract 134	3,776	880	23.3%		No	3,776	280	7.4%		No
Census Tract 137	4,550	1,533	33.7%		No	4,518	1,531	33.9%	Yes	
Census Tract 138	4,393	1,348	30.7%		No	4,393	258	5.9%		No
TOTAL Nutley Township	**28,478**	**9,510**	**33.4%**	**-**	**6**	**28,446**	**4,183**	**14.7%**	**1**	**5**
Roseland Borough										
Census Tract 209.02	5,834	922	15.8%		No	5,834	557	9.5%		No
TOTAL Roseland Borough	**5,834**	**922**	**15.8%**	**-**	**1**	**5,834**	**557**	**9.5%**	**-**	**1**
South Orange Village Township										
Census Tract 190	4,292	1,430	33.3%		No	4,292	340	7.9%		No
Census Tract 193	3,447	1,280	37.1%		No	3,372	723	21.4%		No
Census Tract 191	4,140	2,205	53.3%	Yes		4,042	194	4.8%		No
Census Tract 192	4,642	1,717	37.0%		No	2,799	861	30.8%	Yes	
TOTAL South Orange Village Township	**16,521**	**6,632**	**40.1%**	**1**	**3**	**14,505**	**2,118**	**14.6%**	**1**	**3**
Verona Township										
Census Tract 210	5,417	679	12.5%		No	5,417	572	10.6%		No
Census Tract 211	4,464	792	17.7%		No	4,464	254	5.7%		No
Census Tract 212	3,556	593	16.7%		No	3,556	387	10.9%		No
TOTAL Verona Township	**13,437**	**2,064**	**15.4%**	**-**	**3**	**13,437**	**1,213**	**9.0%**	**-**	**3**
West Caldwell Township										
Census Tract 218.01	2,704	345	12.8%		No	2,704	135	5.0%		No
Census Tract 218.02	3,506	584	16.7%		No	3,287	214	6.5%		No
Census Tract 218.03	4,648	579	12.5%		No	4,648	561	12.1%		No
TOTAL West Caldwell Township	**10,858**	**1,508**	**13.9%**	**-**	**3**	**10,639**	**910**	**8.6%**	**-**	**3**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
West Orange Township										
Census Tract 173.01	5,369	1,947	36.3%		No	5,207	129	2.5%		No
Census Tract 173.02	7,790	3,813	48.9%		No	7,204	1,016	14.1%		No
Census Tract 174	5,554	2,928	52.7%	Yes		5,554	242	4.4%		No
Census Tract 179	3,705	1,899	51.3%	Yes		3,705	301	8.1%		No
Census Tract 180	6,178	3,236	52.4%	Yes		6,062	338	5.6%		No
Census Tract 175	6,060	3,265	53.9%	Yes		6,060	676	11.2%		No
Census Tract 176	4,880	3,710	76.0%	Yes		4,880	1,203	24.7%		No
Census Tract 177	4,811	4,130	85.8%	Yes		4,811	2,289	47.6%	Yes	
Census Tract 178	3,012	2,508	83.3%	Yes		2,982	1,010	33.9%	Yes	
TOTAL West Orange Township	**47,359**	**27,436**	**57.9%**	**7**	**2**	**46,465**	**7,204**	**15.5%**	**2**	**7**
TOTAL Essex County	***795,404***	***552,439***	***69.5%***	***159***	***1***	***775,667***	***258,273***	***33.3%***	***136***	***6***

Table 17C-10

Environmental Justice Populations: Hudson County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Hudson County, New Jersey										
Bayonne										
Census Tract 101	7,133	4,528	63.5%	Yes		7,133	3,001	42.1%	Yes	
Census Tract 102	2,908	1,397	48.0%		No	2,908	598	20.6%		No
Census Tract 103	3,147	1,989	63.2%	Yes		3,147	1,685	53.5%	Yes	
Census Tract 104	4,184	2,354	56.3%	Yes		4,173	998	23.9%		No
Census Tract 105	5,503	2,917	53.0%	Yes		5,484	867	15.8%		No
Census Tract 106	7,383	4,175	56.5%	Yes		7,383	2,726	36.9%	Yes	
Census Tract 107	3,723	2,077	55.8%	Yes		3,723	1,743	46.8%	Yes	
Census Tract 108	3,471	2,245	64.7%	Yes		3,471	915	26.4%		No
Census Tract 109	2,174	1,113	51.2%	Yes		2,174	985	45.3%	Yes	
Census Tract 110	2,069	1,445	69.8%	Yes		2,069	695	33.6%	Yes	
Census Tract 111	4,487	2,806	62.5%	Yes		4,475	2,032	45.4%	Yes	
Census Tract 112	6,269	3,194	50.9%	Yes		6,247	745	11.9%		No
Census Tract 113	2,593	1,568	60.5%	Yes		2,593	1,021	39.4%	Yes	
Census Tract 114	3,583	1,884	52.6%	Yes		3,583	798	22.3%		No
Census Tract 115	2,601	844	32.4%		No	2,601	476	18.3%		No
Census Tract 116	3,863	1,699	44.0%		No	3,863	1,723	44.6%	Yes	
TOTAL Bayonne	**65,091**	**36,235**	**55.7%**	**13**	**3**	**65,027**	**21,008**	**32.3%**	**9**	**7**
East Newark Borough										
Census Tract 134	2,644	2,116	80.0%	Yes		2,618	1,029	39.3%	Yes	
TOTAL East Newark Borough	**2,644**	**2,116**	**80.0%**	**1**	**-**	**2,618**	**1,029**	**39.3%**	**1**	**-**
Guttenberg										
Census Tract 150.02	6,325	5,067	80.1%	Yes		6,218	2,359	37.9%	Yes	
Census Tract 151	3,017	2,542	84.3%	Yes		3,017	887	29.4%	Yes	
Census Tract 150.01	1,975	1,115	56.5%	Yes		1,975	235	11.9%		No
TOTAL Guttenberg	**11,317**	**8,724**	**77.1%**	**3**	**-**	**11,210**	**3,481**	**31.1%**	**2**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Harrison										
Census Tract 135	5,274	3,765	71.4%	Yes		5,274	2,130	40.4%	Yes	
Census Tract 139	3,781	2,455	64.9%	Yes		3,781	1,168	30.9%	Yes	
Census Tract 136	2,220	1,725	77.7%	Yes		2,220	1,070	48.2%	Yes	
Census Tract 137	2,737	2,230	81.5%	Yes		2,737	1,266	46.3%	Yes	
Census Tract 138	3,201	2,379	74.3%	Yes		3,201	626	19.6%		No
TOTAL Harrison	**17,213**	**12,554**	**72.9%**	**5**	**-**	**17,213**	**6,260**	**36.4%**	**4**	**1**
Hoboken										
Census Tract 191	3,369	972	28.9%		No	3,369	323	9.6%		No
Census Tract 192	3,972	1,011	25.5%		No	3,972	127	3.2%		No
Census Tract 193	2,876	840	29.2%		No	2,876	371	12.9%		No
Census Tract 194	2,775	711	25.6%		No	2,775	611	22.0%		No
Census Tract 183.01	2,637	661	25.1%		No	2,637	58	2.2%		No
Census Tract 183.02	4,418	1,298	29.4%		No	4,418	122	2.8%		No
Census Tract 184	5,681	1,712	30.1%		No	5,657	871	15.4%		No
Census Tract 185	6,923	2,087	30.1%		No	6,889	1,143	16.6%		No
Census Tract 186	2,487	603	24.2%		No	2,487	229	9.2%		No
Census Tract 187.01	2,614	737	28.2%		No	1,327	267	20.1%		No
Census Tract 187.02	4,056	1,155	28.5%		No	4,056	645	15.9%		No
Census Tract 188	3,147	875	27.8%		No	3,147	443	14.1%		No
Census Tract 189	3,550	863	24.3%		No	3,550	460	13.0%		No
Census Tract 190	4,688	2,770	59.1%	Yes		4,514	2,355	52.2%	Yes	
TOTAL Hoboken	**53,193**	**16,295**	**30.6%**	**1**	**13**	**51,674**	**8,025**	**15.5%**	**1**	**13**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Jersey City										
Census Tract 40	5,411	4,968	91.8%	Yes		5,411	1,145	21.2%		No
Census Tract 48	3,868	3,163	81.8%	Yes		3,868	1,342	34.7%	Yes	
Census Tract 54	7,302	6,515	89.2%	Yes		7,289	1,741	23.9%		No
Census Tract 56	4,371	4,067	93.0%	Yes		4,332	1,687	38.9%	Yes	
Census Tract 59	7,590	6,292	82.9%	Yes		7,386	1,531	20.7%		No
Census Tract 60	4,069	4,019	98.8%	Yes		4,069	2,120	52.1%	Yes	
Census Tract 61	7,249	5,630	77.7%	Yes		7,232	2,547	35.2%	Yes	
Census Tract 62	3,852	3,636	94.4%	Yes		3,797	1,597	42.1%	Yes	
Census Tract 63	4,576	4,287	93.7%	Yes		4,500	2,149	47.8%	Yes	
Census Tract 58.02	1,642	851	51.8%	Yes		1,603	142	8.9%		No
Census Tract 12.01	2,147	1,932	90.0%	Yes		2,147	752	35.0%	Yes	
Census Tract 12.02	1,377	1,207	87.7%	Yes		1,362	565	41.5%	Yes	
Census Tract 13	2,898	2,169	74.8%	Yes		2,723	783	28.8%	Yes	
Census Tract 14	4,058	3,228	79.5%	Yes		3,851	1,527	39.7%	Yes	
Census Tract 17.01	4,533	3,811	84.1%	Yes		4,533	2,169	47.8%	Yes	
Census Tract 18	3,874	3,129	80.8%	Yes		3,874	2,238	57.8%	Yes	
Census Tract 19	1,722	1,475	85.7%	Yes		1,722	607	35.2%	Yes	
Census Tract 20	3,990	3,195	80.1%	Yes		3,967	1,602	40.4%	Yes	
Census Tract 22	1,737	724	41.7%		No	1,737	288	16.6%		No
Census Tract 23	2,461	1,404	57.1%	Yes		2,461	284	11.5%		No
Census Tract 24	2,562	1,017	39.7%		No	2,562	162	6.3%		No
Census Tract 27	5,503	4,572	83.1%	Yes		5,475	2,126	38.8%	Yes	
Census Tract 28	5,502	3,452	62.7%	Yes		5,166	2,331	45.1%	Yes	
Census Tract 29	3,744	2,470	66.0%	Yes		3,432	1,374	40.0%	Yes	
Census Tract 30	2,631	1,985	75.4%	Yes		2,604	1,146	44.0%	Yes	
Census Tract 31	5,705	4,306	75.5%	Yes		5,508	1,955	35.5%	Yes	
Census Tract 35	2,107	1,203	57.1%	Yes		2,107	469	22.3%		No
Census Tract 41.01	6,242	5,000	80.1%	Yes		6,242	1,990	31.9%	Yes	
Census Tract 41.02	3,211	2,812	87.6%	Yes		3,211	1,367	42.6%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 42	5,455	5,027	92.2%	Yes		5,455	2,592	47.5%	Yes	
Census Tract 43	2,405	1,968	81.8%	Yes		2,384	783	32.8%	Yes	
Census Tract 44	2,532	2,475	97.7%	Yes		2,508	1,650	65.8%	Yes	
Census Tract 45	4,486	4,129	92.0%	Yes		4,458	2,281	51.2%	Yes	
Census Tract 46	2,770	2,519	90.9%	Yes		2,770	1,588	57.3%	Yes	
Census Tract 47	2,487	1,708	68.7%	Yes		2,456	967	39.4%	Yes	
Census Tract 49	3,961	3,670	92.7%	Yes		3,961	1,202	30.3%	Yes	
Census Tract 52	4,570	3,868	84.6%	Yes		4,360	2,287	52.5%	Yes	
Census Tract 53	3,412	3,274	96.0%	Yes		3,412	1,365	40.0%	Yes	
Census Tract 55	2,941	2,729	92.8%	Yes		2,898	1,741	60.1%	Yes	
Census Tract 58.01	5,437	5,251	96.6%	Yes		5,424	2,925	53.9%	Yes	
Census Tract 64	2,837	1,427	50.3%	Yes		2,819	391	13.9%		No
Census Tract 65	2,102	1,392	66.2%	Yes		2,102	603	28.7%	Yes	
Census Tract 66	1,377	1,210	87.9%	Yes		1,377	376	27.3%	Yes	
Census Tract 67	3,155	2,858	90.6%	Yes		3,155	1,878	59.5%	Yes	
Census Tract 68	3,854	3,679	95.5%	Yes		3,854	1,698	44.1%	Yes	
Census Tract 70	4,772	3,366	70.5%	Yes		4,763	967	20.3%		No
Census Tract 71	2,883	2,130	73.9%	Yes		2,751	755	27.4%	Yes	
Census Tract 72	2,445	1,360	55.6%	Yes		2,177	202	9.3%		No
Census Tract 73	2,940	1,581	53.8%	Yes		2,940	212	7.2%		No
Census Tract 74	5,118	2,420	47.3%		No	5,118	200	3.9%		No
Census Tract 75	6,264	3,923	62.6%	Yes		6,264	886	14.1%		No
Census Tract 76	8,444	5,440	64.4%	Yes		8,444	617	7.3%		No
Census Tract 77	9,134	7,298	79.9%	Yes		9,134	1,792	19.6%		No
Census Tract 78	2,245	1,358	60.5%	Yes		2,245	977	43.5%	Yes	
Census Tract 9801	-	-	0.0%		No	-	-	0.0%		No
Census Tract 1	6,029	4,810	79.8%	Yes		5,950	2,100	35.3%	Yes	
Census Tract 2	5,207	4,363	83.8%	Yes		5,207	2,546	48.9%	Yes	
Census Tract 3	4,132	3,150	76.2%	Yes		4,126	1,591	38.6%	Yes	
Census Tract 4	3,669	3,044	83.0%	Yes		3,608	1,209	33.5%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 5	4,016	3,194	79.5%	Yes		3,966	1,477	37.2%	Yes	
Census Tract 6	5,272	3,350	63.5%	Yes		5,272	1,533	29.1%	Yes	
Census Tract 7	3,032	2,164	71.4%	Yes		3,032	895	29.5%	Yes	
Census Tract 8	3,508	2,177	62.1%	Yes		3,508	1,009	28.8%	Yes	
Census Tract 9.02	6,007	4,555	75.8%	Yes		6,007	1,951	32.5%	Yes	
Census Tract 10	2,060	1,623	78.8%	Yes		2,060	614	29.8%	Yes	
Census Tract 11	4,980	3,465	69.6%	Yes		4,980	1,333	26.8%		No
Census Tract 69	68	26	38.2%		No	68	26	38.2%	Yes	
TOTAL Jersey City	**261,940**	**204,500**	**78.1%**	**62**	**5**	**259,184**	**86,955**	**33.5%**	**49**	**18**
Kearny										
Census Tract 123	2,454	1,673	68.2%	Yes		2,454	748	30.5%	Yes	
Census Tract 124	2,796	1,099	39.3%		No	2,775	232	8.4%		No
Census Tract 125	3,815	1,983	52.0%	Yes		3,770	714	18.9%		No
Census Tract 126	3,681	2,048	55.6%	Yes		3,681	1,022	27.8%	Yes	
Census Tract 127	6,350	3,844	60.5%	Yes		4,777	984	20.6%		No
Census Tract 128	4,805	3,375	70.2%	Yes		4,805	1,733	36.1%	Yes	
Census Tract 129	3,824	2,719	71.1%	Yes		3,705	1,333	36.0%	Yes	
Census Tract 130	4,038	3,448	85.4%	Yes		4,038	1,350	33.4%	Yes	
Census Tract 131	2,318	1,407	60.7%	Yes		2,318	900	38.8%	Yes	
Census Tract 132	4,279	2,969	69.4%	Yes		4,267	1,939	45.4%	Yes	
Census Tract 133	3,052	1,937	63.5%	Yes		2,946	658	22.3%		No
TOTAL Kearny	**41,412**	**26,502**	**64.0%**	**10**	**1**	**39,536**	**11,613**	**29.4%**	**7**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
North Bergen Township										
Census Tract 147	5,749	4,821	83.9%	Yes		5,749	2,053	35.7%	Yes	
Census Tract 148	6,104	4,609	75.5%	Yes		6,048	1,906	31.5%	Yes	
Census Tract 149	3,331	2,883	86.6%	Yes		3,327	911	27.4%	Yes	
Census Tract 140	5,032	4,093	81.3%	Yes		5,026	1,571	31.3%	Yes	
Census Tract 142	5,994	5,382	89.8%	Yes		5,994	1,848	30.8%	Yes	
Census Tract 143	4,980	4,095	82.2%	Yes		4,980	1,233	24.8%		No
Census Tract 144	7,752	6,269	80.9%	Yes		7,745	1,520	19.6%		No
Census Tract 145.01	6,230	5,395	86.6%	Yes		6,230	2,569	41.2%	Yes	
Census Tract 145.02	3,329	2,667	80.1%	Yes		3,329	2,359	70.9%	Yes	
Census Tract 146	3,820	2,922	76.5%	Yes		3,820	1,049	27.5%	Yes	
Census Tract 141.01	4,202	2,530	60.2%	Yes		3,641	610	16.8%		No
Census Tract 141.02	5,096	3,791	74.4%	Yes		5,096	622	12.2%		No
TOTAL North Bergen Township	**61,619**	**49,457**	**80.3%**	**12**	**-**	**60,985**	**18,251**	**29.9%**	**8**	**4**
Secaucus										
Census Tract 199	5,474	2,479	45.3%		No	5,474	1,020	18.6%		No
Census Tract 200	4,959	2,332	47.0%		No	4,442	860	19.4%		No
Census Tract 201	2,583	2,063	79.9%	Yes		2,583	502	19.4%		No
Census Tract 198	7,109	4,052	57.0%	Yes		7,066	785	11.1%		No
TOTAL Secaucus	**20,125**	**10,926**	**54.3%**	**2**	**2**	**19,565**	**3,167**	**16.2%**	**-**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Union City										
Census Tract 161	3,960	3,298	83.3%	Yes		3,960	2,155	54.4%	Yes	
Census Tract 162	4,286	3,598	83.9%	Yes		4,286	2,249	52.5%	Yes	
Census Tract 163	4,517	3,883	86.0%	Yes		4,508	1,793	39.8%	Yes	
Census Tract 164	3,566	3,039	85.2%	Yes		3,566	1,457	40.9%	Yes	
Census Tract 165	4,989	4,231	84.8%	Yes		4,858	1,695	34.9%	Yes	
Census Tract 166	4,043	3,301	81.6%	Yes		3,983	2,033	51.0%	Yes	
Census Tract 167	1,590	1,272	80.0%	Yes		1,590	786	49.4%	Yes	
Census Tract 168	3,687	3,052	82.8%	Yes		3,662	1,705	46.6%	Yes	
Census Tract 169	2,992	2,270	75.9%	Yes		2,975	1,801	60.5%	Yes	
Census Tract 170	5,200	4,194	80.7%	Yes		4,976	2,778	55.8%	Yes	
Census Tract 171	5,017	4,363	87.0%	Yes		5,005	2,161	43.2%	Yes	
Census Tract 172	3,297	2,719	82.5%	Yes		3,286	1,500	45.6%	Yes	
Census Tract 173	2,520	1,749	69.4%	Yes		2,520	816	32.4%	Yes	
Census Tract 174	2,489	2,152	86.5%	Yes		2,489	1,251	50.3%	Yes	
Census Tract 175	4,520	4,088	90.4%	Yes		4,508	2,413	53.5%	Yes	
Census Tract 176	3,381	2,919	86.3%	Yes		3,354	1,807	53.9%	Yes	
Census Tract 177	1,758	1,386	78.8%	Yes		1,758	1,007	57.3%	Yes	
Census Tract 178	6,414	5,305	82.7%	Yes		6,414	1,920	29.9%	Yes	
TOTAL Union City	**68,226**	**56,819**	**83.3%**	**18**	**-**	**67,698**	**31,327**	**46.3%**	**18**	**-**
Weehawken Township										
Census Tract 179	3,526	1,580	44.8%		No	3,526	213	6.0%		No
Census Tract 180	3,942	2,377	60.3%	Yes		3,901	1,289	33.0%	Yes	
Census Tract 181	2,708	1,780	65.7%	Yes		2,708	764	28.2%	Yes	
Census Tract 182	4,428	1,974	44.6%		No	4,404	730	16.6%		No
TOTAL Weehawken Township	**14,604**	**7,711**	**52.8%**	**2**	**2**	**14,539**	**2,996**	**20.6%**	**2**	**2**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
West New York										
Census Tract 152.01	2,939	1,662	56.5%	Yes		2,939	278	9.5%		No
Census Tract 152.02	6,325	5,292	83.7%	Yes		6,233	2,466	39.6%	Yes	
Census Tract 153	4,010	3,572	89.1%	Yes		4,010	1,606	40.0%	Yes	
Census Tract 156	4,572	4,152	90.8%	Yes		4,521	2,308	51.1%	Yes	
Census Tract 157	4,209	4,133	98.2%	Yes		4,208	2,126	50.5%	Yes	
Census Tract 158.01	2,982	1,630	54.7%	Yes		2,982	556	18.6%		No
Census Tract 155	4,946	4,454	90.1%	Yes		4,928	2,051	41.6%	Yes	
Census Tract 158.02	6,649	6,149	92.5%	Yes		6,633	3,528	53.2%	Yes	
Census Tract 159	6,054	5,340	88.2%	Yes		6,045	3,235	53.5%	Yes	
Census Tract 160	3,416	3,022	88.5%	Yes		3,416	1,351	39.5%	Yes	
Census Tract 324	6,560	5,921	90.3%	Yes		6,417	3,291	51.3%	Yes	
TOTAL West New York	**52,662**	**45,327**	**86.1%**	**11**	**-**	**52,332**	**22,796**	**43.6%**	**9**	**2**
TOTAL Hudson County	**670,046**	**477,166**	**71.2%**	**140**	**26**	**661,581**	**216,908**	**32.8%**	**110**	**56**

Table 17C-11

Environmental Justice Populations: Union County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Union County, New Jersey										
Berkeley Heights Township										
Census Tract 382.02	7,060	1,268	18.0%		No	7,031	326	4.6%		No
Census Tract 382.01	6,250	1,842	29.5%		No	5,969	437	7.3%		No
TOTAL Berkeley Heights Township	**13,310**	**3,110**	**23.4%**	**-**	**2**	**13,000**	**763**	**5.9%**	**-**	**2**
Clark Township										
Census Tract 363.02	3,990	238	6.0%		No	3,990	381	9.5%		No
Census Tract 362	6,461	1,213	18.8%		No	6,448	755	11.7%		No
Census Tract 363.01	5,297	1,246	23.5%		No	5,164	445	8.6%		No
TOTAL Clark Township	**15,748**	**2,697**	**17.1%**	**-**	**3**	**15,602**	**1,581**	**10.1%**	**-**	**3**
Cranford Township										
Census Tract 370	5,985	1,042	17.4%		No	5,824	75	1.3%		No
Census Tract 371	4,306	268	6.2%		No	4,306	166	3.9%		No
Census Tract 372	4,496	1,127	25.1%		No	4,406	777	17.6%		No
Census Tract 373	4,563	774	17.0%		No	4,563	466	10.2%		No
Census Tract 374	4,664	1,108	23.8%		No	4,664	314	6.7%		No
TOTAL Cranford Township	**24,014**	**4,319**	**18.0%**	**-**	**5**	**23,763**	**1,798**	**7.6%**	**-**	**5**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Elizabeth										
Census Tract 302	3,170	3,105	97.9%	Yes		3,153	1,820	57.7%	Yes	
Census Tract 304	5,644	5,396	95.6%	Yes		5,644	3,448	61.1%	Yes	
Census Tract 305	5,083	4,671	91.9%	Yes		5,041	2,146	42.6%	Yes	
Census Tract 306	3,533	3,051	86.4%	Yes		3,533	1,562	44.2%	Yes	
Census Tract 307.01	1,874	1,410	75.2%	Yes		1,850	465	25.1%		No
Census Tract 307.02	7,851	7,186	91.5%	Yes		7,823	3,788	48.4%	Yes	
Census Tract 308.02	3,205	2,757	86.0%	Yes		3,019	1,091	36.1%	Yes	
Census Tract 309	6,193	5,539	89.4%	Yes		6,165	3,123	50.7%	Yes	
Census Tract 310	3,588	3,500	97.5%	Yes		3,588	1,890	52.7%	Yes	
Census Tract 311	5,899	5,422	91.9%	Yes		5,899	3,517	59.6%	Yes	
Census Tract 312	6,418	5,823	90.7%	Yes		6,195	3,346	54.0%	Yes	
Census Tract 313	7,031	5,936	84.4%	Yes		7,031	3,302	47.0%	Yes	
Census Tract 314	5,470	5,242	95.8%	Yes		5,452	2,750	50.4%	Yes	
Census Tract 315	5,465	3,962	72.5%	Yes		5,465	1,703	31.2%	Yes	
Census Tract 316.01	3,787	3,481	91.9%	Yes		3,787	1,990	52.5%	Yes	
Census Tract 316.02	5,260	4,420	84.0%	Yes		5,255	2,268	43.2%	Yes	
Census Tract 317	5,639	5,225	92.7%	Yes		5,626	2,640	46.9%	Yes	
Census Tract 318.01	5,255	4,733	90.1%	Yes		5,255	2,692	51.2%	Yes	
Census Tract 318.02	3,316	3,091	93.2%	Yes		3,230	1,492	46.2%	Yes	
Census Tract 319.03	6,629	5,984	90.3%	Yes		6,405	3,158	49.3%	Yes	
Census Tract 319.04	2,822	2,633	93.3%	Yes		2,822	1,452	51.5%	Yes	
Census Tract 320.01	7,741	7,019	90.7%	Yes		7,692	2,785	36.2%	Yes	
Census Tract 320.02	3,849	3,151	81.9%	Yes		3,638	1,080	29.7%	Yes	
Census Tract 321	6,977	4,330	62.1%	Yes		6,977	1,189	17.0%		No
Census Tract 399	1,747	1,550	88.7%	Yes		1,255	885	70.5%	Yes	
Census Tract 398	4,887	4,044	82.8%	Yes		4,694	2,966	63.2%	Yes	
TOTAL Elizabeth	**128,333**	**112,661**	**87.8%**	**26**	**-**	**126,494**	**58,548**	**46.3%**	**24**	**2**
Fanwood Borough										
Census Tract 387	7,660	1,647	21.5%		No	7,513	709	9.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
TOTAL Fanwood Borough	**7,660**	**1,647**	**21.5%**	**-**	**1**	**7,513**	**709**	**9.4%**	**-**	**1**
Garwood Borough										
Census Tract 369	4,338	916	21.1%		No	4,311	276	6.4%		No
TOTAL Garwood Borough	**4,338**	**916**	**21.1%**	**-**	**1**	**4,311**	**276**	**6.4%**	**-**	**1**
Hillside Township										
Census Tract 322	5,844	5,737	98.2%	Yes		5,793	1,331	23.0%		No
Census Tract 323	2,636	2,382	90.4%	Yes		2,624	428	16.3%		No
Census Tract 324	7,240	5,500	76.0%	Yes		7,196	1,821	25.3%		No
Census Tract 325	6,208	4,105	66.1%	Yes		6,208	1,239	20.0%		No
TOTAL Hillside Township	**21,928**	**17,724**	**80.8%**	**4**	**-**	**21,821**	**4,819**	**22.1%**	**-**	**4**
Kenilworth Borough										
Census Tract 336	8,161	3,307	40.5%		No	8,161	1,590	19.5%		No
TOTAL Kenilworth Borough	**8,161**	**3,307**	**40.5%**	**-**	**1**	**8,161**	**1,590**	**19.5%**	**-**	**1**
Linden										
Census Tract 349	6,064	3,387	55.9%	Yes		6,064	1,499	24.7%		No
Census Tract 350	3,087	1,966	63.7%	Yes		3,087	507	16.4%		No
Census Tract 347	4,029	3,016	74.9%	Yes		4,014	780	19.4%		No
Census Tract 348	4,801	2,264	47.2%		No	4,801	612	12.7%		No
Census Tract 351	4,169	3,195	76.6%	Yes		4,160	1,670	40.1%	Yes	
Census Tract 353	5,729	3,896	68.0%	Yes		5,530	1,332	24.1%		No
Census Tract 354	2,808	1,452	51.7%	Yes		2,736	634	23.2%		No
Census Tract 345	4,430	3,429	77.4%	Yes		4,430	1,328	30.0%	Yes	
Census Tract 346	4,524	4,318	95.4%	Yes		4,524	1,447	32.0%	Yes	
Census Tract 352	2,581	1,969	76.3%	Yes		2,581	519	20.1%		No
TOTAL Linden	**42,222**	**28,892**	**68.4%**	**9**	**1**	**41,927**	**10,328**	**24.6%**	**3**	**7**
Mountainside Borough										
Census Tract 383	6,826	1,332	19.5%		No	6,616	267	4.0%		No
TOTAL Mountainside Borough	**6,826**	**1,332**	**19.5%**	**-**	**1**	**6,616**	**267**	**4.0%**	**-**	**1**
New Providence Borough										
Census Tract 381.01	4,144	987	23.8%		No	4,139	107	2.6%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 381.02	8,905	2,554	28.7%		No	8,814	691	7.8%		No
TOTAL New Providence Borough	**13,049**	**3,541**	**27.1%**	**-**	**2**	**12,953**	**798**	**6.2%**	**-**	**2**
Plainfield										
Census Tract 393	6,378	6,270	98.3%	Yes		6,301	4,058	64.4%	Yes	
Census Tract 394	4,714	4,621	98.0%	Yes		4,689	2,192	46.7%	Yes	
Census Tract 395	5,748	5,592	97.3%	Yes		5,727	2,500	43.7%	Yes	
Census Tract 396	4,645	4,198	90.4%	Yes		4,631	2,400	51.8%	Yes	
Census Tract 389	5,893	5,527	93.8%	Yes		5,717	2,573	45.0%	Yes	
Census Tract 390	3,885	3,513	90.4%	Yes		3,774	1,532	40.6%	Yes	
Census Tract 391	3,163	1,923	60.8%	Yes		3,163	383	12.1%		No
Census Tract 392	5,726	5,023	87.7%	Yes		5,726	2,349	41.0%	Yes	
Census Tract 397	5,434	4,701	86.5%	Yes		5,186	1,763	34.0%	Yes	
Census Tract 388	4,776	4,505	94.3%	Yes		4,652	1,952	42.0%	Yes	
TOTAL Plainfield	**50,362**	**45,873**	**91.1%**	**10**	**-**	**49,566**	**21,702**	**43.8%**	**9**	**1**
Rahway										
Census Tract 355	7,085	4,605	65.0%	Yes		7,085	1,491	21.0%		No
Census Tract 356	3,692	1,275	34.5%		No	3,692	375	10.2%		No
Census Tract 357	5,698	3,375	59.2%	Yes		5,698	850	14.9%		No
Census Tract 358	3,861	3,166	82.0%	Yes		3,829	1,476	38.5%	Yes	
Census Tract 359	3,950	2,837	71.8%	Yes		3,950	820	20.8%		No
Census Tract 360	5,257	4,397	83.6%	Yes		5,143	851	16.5%		No
TOTAL Rahway	**29,543**	**19,655**	**66.5%**	**5**	**1**	**29,397**	**5,863**	**19.9%**	**1**	**5**
Roselle Borough										
Census Tract 340	6,076	5,158	84.9%	Yes		6,076	2,420	39.8%	Yes	
Census Tract 342	3,901	3,377	86.6%	Yes		3,882	1,217	31.3%	Yes	
Census Tract 343	3,828	3,160	82.5%	Yes		3,828	406	10.6%		No
Census Tract 344	4,523	4,338	95.9%	Yes		4,523	1,999	44.2%	Yes	
Census Tract 341	3,309	2,787	84.2%	Yes		3,303	1,183	35.8%	Yes	
TOTAL Roselle Borough	**21,637**	**18,820**	**87.0%**	**5**	**-**	**21,612**	**7,225**	**33.4%**	**4**	**1**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Roselle Park Borough										
Census Tract 337	4,663	2,474	53.1%	Yes		4,656	767	16.5%		No
Census Tract 338	5,720	3,004	52.5%	Yes		5,702	890	15.6%		No
Census Tract 339	3,198	1,985	62.1%	Yes		3,198	948	29.6%	Yes	
TOTAL Roselle Park Borough	**13,581**	**7,463**	**55.0%**	**3**	**-**	**13,556**	**2,605**	**19.2%**	**1**	**2**
Scotch Plains Township										
Census Tract 386.01	8,021	1,986	24.8%		No	7,911	1,009	12.8%		No
Census Tract 386.02	4,137	1,124	27.2%		No	4,133	185	4.5%		No
Census Tract 384	6,272	2,564	40.9%		No	6,272	665	10.6%		No
Census Tract 385	5,775	1,292	22.4%		No	5,759	229	4.0%		No
TOTAL Scotch Plains Township	**24,205**	**6,966**	**28.8%**	**-**	**4**	**24,075**	**2,088**	**8.7%**	**-**	**4**
Springfield Township										
Census Tract 376.01	4,417	1,069	24.2%		No	4,417	392	8.9%		No
Census Tract 375	6,005	2,673	44.5%		No	6,005	1,042	17.4%		No
Census Tract 376.02	6,984	2,227	31.9%		No	6,983	941	13.5%		No
TOTAL Springfield Township	**17,406**	**5,969**	**34.3%**	**-**	**3**	**17,405**	**2,375**	**13.6%**	**-**	**3**
Summit										
Census Tract 377	4,780	880	18.4%		No	4,780	312	6.5%		No
Census Tract 378	5,854	1,823	31.1%		No	5,854	437	7.5%		No
Census Tract 379	5,476	1,064	19.4%		No	5,453	352	6.5%		No
Census Tract 380	5,803	3,051	52.6%	Yes		5,687	1,032	18.1%		No
TOTAL Summit	**21,913**	**6,818**	**31.1%**	**1**	**3**	**21,774**	**2,133**	**9.8%**	**-**	**4**

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Union Township										
Census Tract 326	5,376	4,751	88.4%	Yes		5,376	968	18.0%		No
Census Tract 327	8,242	5,623	68.2%	Yes		8,220	661	8.0%		No
Census Tract 328	4,894	4,485	91.6%	Yes		4,894	1,278	26.1%		No
Census Tract 329.01	4,052	2,355	58.1%	Yes		3,852	423	11.0%		No
Census Tract 329.02	5,063	2,088	41.2%		No	5,051	567	11.2%		No
Census Tract 330	4,480	2,464	55.0%	Yes		4,480	696	15.5%		No
Census Tract 331	6,081	4,218	69.4%	Yes		6,073	1,045	17.2%		No
Census Tract 332	3,784	2,244	59.3%	Yes		3,747	425	11.3%		No
Census Tract 333	4,318	2,458	56.9%	Yes		4,301	272	6.3%		No
Census Tract 334	3,548	1,436	40.5%		No	3,548	360	10.1%		No
Census Tract 335	8,459	4,588	54.2%	Yes		7,151	1,178	16.5%		No
TOTAL Union Township	**58,297**	**36,710**	**63.0%**	**9**	**2**	**56,693**	**7,873**	**13.9%**	**-**	**11**
Westfield										
Census Tract 368	7,486	1,472	19.7%		No	7,282	523	7.2%		No
Census Tract 364	6,936	961	13.9%		No	6,888	305	4.4%		No
Census Tract 365	5,720	851	14.9%		No	5,713	129	2.3%		No
Census Tract 366	4,126	1,685	40.8%		No	4,126	567	13.7%		No
Census Tract 367	5,609	1,426	25.4%		No	5,609	376	6.7%		No
TOTAL Westfield	**29,877**	**6,395**	**21.4%**	**-**	**5**	**29,618**	**1,900**	**6.4%**	**-**	**5**
Winfield Township										
Census Tract 361	1,623	362	22.3%		No	1,623	343	21.1%		No
TOTAL Winfield Township	**1,623**	**362**	**22.3%**	**-**	**1**	**1,623**	**343**	**21.1%**	**-**	**1**
TOTAL Union County	**554,033**	**335,177**	**60.5%**	**72**	**36**	**547,480**	**135,584**	**24.8%**	**42**	**66**

REGIONAL STUDY AREA NEIGHBORHOODS OUTSIDE LOCAL STUDY AREA

August 2022

Table 17C-12

Environmental Justice Populations: Fairfield County, CT

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Fairfield County, Connecticut										
Census Tract 103	3,780	631	16.7%		No	3,772	245	6.5%		No
Census Tract 104	5,799	1,192	20.6%		No	5,799	725	12.5%		No
Census Tract 105	5,880	2,787	47.4%	Yes		5,880	1,593	27.1%	Yes	
Census Tract 106	2,062	703	34.1%		No	2,050	409	20.0%		No
Census Tract 107	3,605	1,253	34.8%		No	3,605	1,117	31.0%	Yes	
Census Tract 108	3,551	825	23.2%		No	3,532	520	14.7%		No
Census Tract 112	1,716	450	26.2%		No	1,716	274	16.0%		No
Census Tract 113	3,416	2,113	61.9%	Yes		3,416	1,022	29.9%	Yes	
Census Tract 101.01	4,155	540	13.0%		No	3,884	437	11.3%		No
Census Tract 101.02	4,351	766	17.6%		No	4,337	237	5.5%		No
Census Tract 102.01	3,486	641	18.4%		No	3,304	290	8.8%		No
Census Tract 102.02	5,338	1,217	22.8%		No	5,314	553	10.4%		No
Census Tract 202	3,544	701	19.8%		No	3,544	183	5.2%		No
Census Tract 109	5,285	1,810	34.2%		No	5,285	290	5.5%		No
Census Tract 110	5,554	1,111	20.0%		No	5,544	310	5.6%		No
Census Tract 111	4,609	946	20.5%		No	4,609	508	11.0%		No
Census Tract 214	7,258	5,701	78.5%	Yes		7,224	3,244	44.9%	Yes	
Census Tract 215	6,470	5,778	89.3%	Yes		6,441	3,232	50.2%	Yes	
Census Tract 219	6,185	3,410	55.1%	Yes		6,185	955	15.4%		No
Census Tract 221	8,149	5,883	72.2%	Yes		7,946	3,574	45.0%	Yes	
Census Tract 222	6,568	3,791	57.7%	Yes		6,560	2,237	34.1%	Yes	
Census Tract 223	5,264	4,033	76.6%	Yes		5,264	2,009	38.2%	Yes	
Census Tract 224	2,144	272	12.7%		No	2,144	112	5.2%		No
Census Tract 201	5,436	2,804	51.6%	Yes		5,436	1,753	32.2%	Yes	
Census Tract 203	6,990	1,339	19.2%		No	6,856	347	5.1%		No
Census Tract 204	3,554	1,024	28.8%		No	3,554	215	6.0%		No
Census Tract 205	4,886	997	20.4%		No	4,722	202	4.3%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 206	5,199	1,688	32.5%		No	5,199	168	3.2%		No
Census Tract 207	4,079	781	19.1%		No	4,079	326	8.0%		No
Census Tract 208	2,659	552	20.8%		No	2,617	91	3.5%		No
Census Tract 209	4,694	2,166	46.1%	Yes		4,678	1,336	28.6%	Yes	
Census Tract 210	3,327	858	25.8%		No	3,297	380	11.5%		No
Census Tract 211	6,516	3,466	53.2%	Yes		6,516	1,491	22.9%		No
Census Tract 212	4,221	1,371	32.5%		No	4,212	475	11.3%		No
Census Tract 213	4,349	2,130	49.0%	Yes		4,348	404	9.3%		No
Census Tract 216	7,606	4,835	63.6%	Yes		7,606	2,511	33.0%	Yes	
Census Tract 217	7,430	4,190	56.4%	Yes		7,430	1,677	22.6%		No
Census Tract 218.01	4,600	2,392	52.0%	Yes		4,574	1,234	27.0%	Yes	
Census Tract 218.02	5,267	3,734	70.9%	Yes		5,114	1,689	33.0%	Yes	
Census Tract 220	2,914	1,655	56.8%	Yes		2,914	777	26.7%		No
Census Tract 301	3,622	337	9.3%		No	3,622	84	2.3%		No
Census Tract 302	3,594	456	12.7%		No	3,594	175	4.9%		No
Census Tract 303	4,290	291	6.8%		No	4,290	81	1.9%		No
Census Tract 304	4,262	643	15.1%		No	4,262	390	9.2%		No
Census Tract 305	5,974	958	16.0%		No	5,974	675	11.3%		No
Census Tract 351	7,698	1,366	17.7%		No	7,662	940	12.3%		No
Census Tract 353	4,124	668	16.2%		No	4,107	288	7.0%		No
Census Tract 429	1,551	205	13.2%		No	1,551	124	8.0%		No
Census Tract 430	2,905	1,055	36.3%		No	2,905	634	21.8%		No
Census Tract 431	4,620	1,564	33.9%		No	4,609	526	11.4%		No
Census Tract 432	3,206	1,797	56.1%	Yes		3,206	1,148	35.8%	Yes	
Census Tract 433	2,941	1,820	61.9%	Yes		2,941	394	13.4%		No
Census Tract 438	7,000	4,658	66.5%	Yes		6,845	1,957	28.6%	Yes	
Census Tract 439	6,325	3,603	57.0%	Yes		6,325	1,329	21.0%		No
Census Tract 440	5,927	4,436	74.8%	Yes		5,927	2,442	41.2%	Yes	
Census Tract 445	4,055	3,679	90.7%	Yes		4,046	2,394	59.2%	Yes	
Census Tract 446	3,753	311	8.3%		No	3,727	359	9.6%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 352	3,080	310	10.1%		No	3,080	179	5.8%		No
Census Tract 354	5,374	424	7.9%		No	5,352	301	5.6%		No
Census Tract 451.01	4,043	481	11.9%		No	4,043	114	2.8%		No
Census Tract 451.02	6,215	965	15.5%		No	6,059	766	12.6%		No
Census Tract 452	2,481	362	14.6%		No	2,449	192	7.8%		No
Census Tract 453	2,517	346	13.7%		No	2,477	44	1.8%		No
Census Tract 2454	3,027	105	3.5%		No	3,027	162	5.4%		No
Census Tract 425	3,986	857	21.5%		No	3,986	358	9.0%		No
Census Tract 426	4,020	1,478	36.8%		No	4,001	574	14.3%		No
Census Tract 427	5,210	1,858	35.7%		No	5,114	592	11.6%		No
Census Tract 428	4,741	1,393	29.4%		No	4,664	685	14.7%		No
Census Tract 434	4,339	2,524	58.2%	Yes		4,295	1,015	23.6%		No
Census Tract 435	2,437	703	28.8%		No	2,437	342	14.0%		No
Census Tract 436	3,084	1,078	35.0%		No	3,084	478	15.5%		No
Census Tract 437	2,593	1,564	60.3%	Yes		2,552	778	30.5%	Yes	
Census Tract 441	3,348	2,251	67.2%	Yes		3,348	1,392	41.6%	Yes	
Census Tract 442	4,080	2,266	55.5%	Yes		4,080	1,207	29.6%	Yes	
Census Tract 443	4,460	1,679	37.6%		No	4,460	1,191	26.7%		No
Census Tract 444	4,018	2,781	69.2%	Yes		3,978	1,928	48.5%	Yes	
Census Tract 502	3,853	733	19.0%		No	3,849	227	5.9%		No
Census Tract 505	5,095	564	11.1%		No	5,095	693	13.6%		No
Census Tract 606	2,306	310	13.4%		No	2,306	262	11.4%		No
Census Tract 616	5,421	524	9.7%		No	5,421	763	14.1%		No
Census Tract 506	3,405	399	11.7%		No	3,394	235	6.9%		No
Census Tract 603	3,958	251	6.3%		No	3,958	351	8.9%		No
Census Tract 604	4,520	261	5.8%		No	4,520	95	2.1%		No
Census Tract 605	2,762	231	8.4%		No	2,655	120	4.5%		No
Census Tract 607	7,982	1,003	12.6%		No	5,195	238	4.6%		No
Census Tract 1051	3,992	167	4.2%		No	3,981	138	3.5%		No
Census Tract 454	3,207	581	18.1%		No	3,207	184	5.7%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 501	4,478	444	9.9%		No	4,457	290	6.5%		No
Census Tract 503	8,836	1,475	16.7%		No	8,792	485	5.5%		No
Census Tract 551	5,582	1,242	22.3%		No	5,562	492	8.8%		No
Census Tract 552	4,705	488	10.4%		No	4,705	344	7.3%		No
Census Tract 615	4,836	830	17.2%		No	4,836	492	10.2%		No
Census Tract 701	4,966	1,330	26.8%		No	4,966	1,218	24.5%		No
Census Tract 704	1,480	850	57.4%	Yes		826	282	34.1%	Yes	
Census Tract 601	4,414	715	16.2%		No	2,679	401	15.0%		No
Census Tract 602	4,361	832	19.1%		No	4,361	587	13.5%		No
Census Tract 608	2,109	227	10.8%		No	2,109	131	6.2%		No
Census Tract 609	2,648	252	9.5%		No	2,639	185	7.0%		No
Census Tract 610	3,889	796	20.5%		No	3,889	796	20.5%		No
Census Tract 611	3,842	357	9.3%		No	3,842	220	5.7%		No
Census Tract 612	2,504	968	38.7%	Yes		2,504	654	26.1%		No
Census Tract 613	3,109	1,010	32.5%		No	3,109	670	21.6%		No
Census Tract 614	3,079	1,156	37.5%		No	3,079	732	23.8%		No
Census Tract 702	3,880	2,996	77.2%	Yes		3,880	1,367	35.2%	Yes	
Census Tract 703	1,388	1,356	97.7%	Yes		1,388	1,311	94.5%	Yes	
Census Tract 705	1,855	1,522	82.0%	Yes		1,855	1,150	62.0%	Yes	
Census Tract 706	2,556	2,066	80.8%	Yes		2,242	1,236	55.1%	Yes	
Census Tract 709	2,886	2,721	94.3%	Yes		2,799	1,877	67.1%	Yes	
Census Tract 710	3,446	3,285	95.3%	Yes		3,446	1,783	51.7%	Yes	
Census Tract 711	4,939	4,522	91.6%	Yes		4,907	2,618	53.4%	Yes	
Census Tract 712	5,508	5,214	94.7%	Yes		5,462	3,454	63.2%	Yes	
Census Tract 713	2,699	2,420	89.7%	Yes		2,687	1,611	60.0%	Yes	
Census Tract 714	3,632	2,979	82.0%	Yes		3,615	2,170	60.0%	Yes	
Census Tract 716	2,607	2,316	88.8%	Yes		2,607	1,951	74.8%	Yes	
Census Tract 719	4,949	3,851	77.8%	Yes		4,173	2,133	51.1%	Yes	
Census Tract 720	3,518	2,949	83.8%	Yes		3,507	1,448	41.3%	Yes	
Census Tract 721	5,224	3,036	58.1%	Yes		5,224	1,440	27.6%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 722	3,884	1,896	48.8%	Yes		3,836	1,419	37.0%	Yes	
Census Tract 723	5,630	3,869	68.7%	Yes		5,427	1,747	32.2%	Yes	
Census Tract 724	3,023	2,537	83.9%	Yes		3,023	1,303	43.1%	Yes	
Census Tract 725	5,671	3,964	69.9%	Yes		5,671	1,788	31.5%	Yes	
Census Tract 726	7,335	3,392	46.2%	Yes		6,102	1,192	19.5%		No
Census Tract 727	3,883	2,640	68.0%	Yes		3,813	1,441	37.8%	Yes	
Census Tract 728	5,608	5,351	95.4%	Yes		5,608	2,389	42.6%	Yes	
Census Tract 729	4,546	3,972	87.4%	Yes		4,503	1,205	26.8%		No
Census Tract 730	2,104	1,778	84.5%	Yes		2,104	393	18.7%		No
Census Tract 734	4,025	3,670	91.2%	Yes		3,998	1,646	41.2%	Yes	
Census Tract 735	3,432	3,377	98.4%	Yes		3,432	2,022	58.9%	Yes	
Census Tract 736	2,423	2,332	96.2%	Yes		2,411	1,548	64.2%	Yes	
Census Tract 738	2,195	2,110	96.1%	Yes		2,137	1,605	75.1%	Yes	
Census Tract 739	3,872	3,653	94.3%	Yes		3,872	1,806	46.6%	Yes	
Census Tract 740	2,137	2,053	96.1%	Yes		2,137	1,402	65.6%	Yes	
Census Tract 903	4,611	723	15.7%		No	4,548	461	10.1%		No
Census Tract 904	6,518	2,194	33.7%		No	6,358	210	3.3%		No
Census Tract 906	3,260	535	16.4%		No	3,260	360	11.0%		No
Census Tract 2572	4,096	3,223	78.7%	Yes		4,091	1,857	45.4%	Yes	
Census Tract 731	6,074	4,591	75.6%	Yes		5,658	2,679	47.3%	Yes	
Census Tract 732	2,695	2,213	82.1%	Yes		2,695	1,218	45.2%	Yes	
Census Tract 733	3,568	3,177	89.0%	Yes		3,568	1,742	48.8%	Yes	
Census Tract 737	4,391	3,933	89.6%	Yes		4,218	2,584	61.3%	Yes	
Census Tract 743	4,978	4,855	97.5%	Yes		4,952	2,710	54.7%	Yes	
Census Tract 744	4,536	4,386	96.7%	Yes		4,519	2,587	57.2%	Yes	
Census Tract 801	5,194	3,364	64.8%	Yes		5,194	1,492	28.7%	Yes	
Census Tract 802	4,263	2,741	64.3%	Yes		4,263	1,378	32.3%	Yes	
Census Tract 804	6,313	5,148	81.5%	Yes		6,295	2,030	32.2%	Yes	
Census Tract 805	3,029	177	5.8%		No	3,029	532	17.6%		No
Census Tract 806	2,638	1,158	43.9%	Yes		2,598	562	21.6%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 807	1,993	452	22.7%		No	1,980	341	17.2%		No
Census Tract 808	4,547	1,035	22.8%		No	4,519	770	17.0%		No
Census Tract 809	5,043	1,819	36.1%		No	5,043	407	8.1%		No
Census Tract 810	4,103	1,078	26.3%		No	4,088	769	18.8%		No
Census Tract 811	4,891	657	13.4%		No	4,786	509	10.6%		No
Census Tract 812	4,940	1,169	23.7%		No	4,940	417	8.4%		No
Census Tract 813	5,166	1,097	21.2%		No	4,887	487	10.0%		No
Census Tract 905	4,760	823	17.3%		No	4,755	475	10.0%		No
Census Tract 2001	3,695	804	21.8%		No	3,666	588	16.0%		No
Census Tract 2105	8,548	2,985	34.9%		No	8,548	1,454	17.0%		No
Census Tract 2401	4,603	155	3.4%		No	4,478	499	11.1%		No
Census Tract 2451	2,889	238	8.2%		No	2,889	104	3.6%		No
Census Tract 2452	4,490	802	17.9%		No	4,365	249	5.7%		No
Census Tract 2453	5,002	607	12.1%		No	5,002	722	14.4%		No
Census Tract 2455	3,040	636	20.9%		No	3,040	100	3.3%		No
Census Tract 2456	6,594	669	10.1%		No	6,594	699	10.6%		No
Census Tract 2101	5,648	3,895	69.0%	Yes		5,578	2,535	45.4%	Yes	
Census Tract 2102	6,355	4,348	68.4%	Yes		5,870	2,557	43.6%	Yes	
Census Tract 2103	5,845	3,699	63.3%	Yes		5,644	1,602	28.4%	Yes	
Census Tract 2104	9,475	5,521	58.3%	Yes		9,475	1,688	17.8%		No
Census Tract 2106	5,989	3,351	56.0%	Yes		5,834	1,756	30.1%	Yes	
Census Tract 2107.01	5,840	3,963	67.9%	Yes		5,655	2,607	46.1%	Yes	
Census Tract 2107.02	4,642	2,899	62.5%	Yes		4,634	1,833	39.6%	Yes	
Census Tract 2108	5,618	1,963	34.9%		No	4,538	672	14.8%		No
Census Tract 2109	5,304	1,343	25.3%		No	5,286	657	12.4%		No
Census Tract 2110	4,641	2,183	47.0%	Yes		4,500	1,013	22.5%		No
Census Tract 2111	963	613	63.7%	Yes		26	-	0.0%		No
Census Tract 2112	6,696	2,879	43.0%	Yes		6,649	1,455	21.9%		No
Census Tract 2113	3,981	1,004	25.2%		No	3,981	391	9.8%		No
Census Tract 2114	5,074	1,871	36.9%		No	5,074	751	14.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1001	5,656	909	16.1%		No	5,656	670	11.8%		No
Census Tract 1052	3,551	403	11.3%		No	3,551	249	7.0%		No
Census Tract 2304	6,023	772	12.8%		No	5,984	340	5.7%		No
Census Tract 2002	5,223	1,460	28.0%		No	4,982	1,707	34.3%	Yes	
Census Tract 2003.01	5,236	1,031	19.7%		No	5,073	267	5.3%		No
Census Tract 2003.02	5,509	487	8.8%		No	5,486	320	5.8%		No
Census Tract 2053	5,771	1,210	21.0%		No	5,716	801	14.0%		No
Census Tract 2301	7,181	603	8.4%		No	7,181	280	3.9%		No
Census Tract 2302	1,879	156	8.3%		No	1,879	135	7.2%		No
Census Tract 2303	3,575	260	7.3%		No	3,575	332	9.3%		No
Census Tract 2402	4,573	506	11.1%		No	4,573	388	8.5%		No
Census Tract 2051	4,304	556	12.9%		No	4,278	480	11.2%		No
Census Tract 2201	5,381	605	11.2%		No	5,381	782	14.5%		No
Census Tract 2202	5,063	742	14.7%		No	4,980	495	9.9%		No
Census Tract 2203	3,511	399	11.4%		No	3,498	233	6.7%		No
Census Tract 2571	3,649	301	8.2%		No	3,649	315	8.6%		No
Census Tract 2052	6,941	608	8.8%		No	6,941	523	7.5%		No
Census Tract 901	3,361	317	9.4%		No	3,329	119	3.6%		No
Census Tract 902	8,029	1,651	20.6%		No	8,029	493	6.1%		No
Census Tract 907	5,437	1,103	20.3%		No	5,437	918	16.9%		No
Census Tract 1002	7,233	1,146	15.8%		No	7,215	562	7.8%		No
Census Tract 1003	6,657	864	13.0%		No	6,657	626	9.4%		No
Census Tract 1101	2,931	870	29.7%		No	2,796	1,158	41.4%	Yes	
Census Tract 1102.02	4,755	672	14.1%		No	4,466	489	10.9%		No
Census Tract 1103.01	6,586	1,131	17.2%		No	6,462	1,087	16.8%		No
Census Tract 1103.02	3,348	597	17.8%		No	3,348	191	5.7%		No
Census Tract 1104	4,830	494	10.2%		No	4,830	215	4.5%		No
Census Tract 1105	5,528	540	9.8%		No	5,528	300	5.4%		No
Census Tract 1106	8,313	1,342	16.1%		No	8,312	790	9.5%		No
Census Tract 2305.01	4,113	456	11.1%		No	4,113	216	5.3%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 2305.02	5,051	947	18.7%		No	4,476	322	7.2%		No
Census Tract 1102.01	4,850	1,052	21.7%		No	4,850	1,138	23.5%		No
Census Tract 504	2,349	310	13.2%		No	2,235	140	6.3%		No
TOTAL Fairfield County	***943,926***	***361,107***	***38.3%***	***80***	***130***	***926,424***	***192,720***	***20.8%***	***66***	***144***

Table 17C-13

Environmental Justice Populations: New Haven County, CT

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
New Haven County, Connecticut										
Census Tract 1503	3,937	1,004	25.5%		No	3,892	761	19.6%		No
Census Tract 1505	4,514	744	16.5%		No	4,514	662	14.7%		No
Census Tract 1501	4,791	617	12.9%		No	4,791	526	11.0%		No
Census Tract 1502	3,315	810	24.4%		No	3,189	536	16.8%		No
Census Tract 1504	4,084	936	22.9%		No	4,084	948	23.2%		No
Census Tract 1506	7,131	1,506	21.1%		No	7,131	575	8.1%		No
Census Tract 1507	4,524	684	15.1%		No	4,517	564	12.5%		No
Census Tract 1508	3,951	852	21.6%		No	3,846	445	11.6%		No
Census Tract 1509	3,787	389	10.3%		No	3,775	510	13.5%		No
Census Tract 1510	4,158	381	9.2%		No	4,035	563	14.0%		No
Census Tract 1511	6,865	1,015	14.8%		No	6,865	983	14.3%		No
Census Tract 1512	3,271	463	14.2%		No	3,232	508	15.7%		No
Census Tract 1547	6,663	1,324	19.9%		No	6,642	1,125	16.9%		No
Census Tract 1548	5,009	952	19.0%		No	4,946	457	9.2%		No
Census Tract 1551	3,009	1,153	38.3%		No	3,009	1,006	33.4%	Yes	
Census Tract 1801	7,121	1,653	23.2%		No	7,016	1,798	25.6%		No
Census Tract 1843	4,455	520	11.7%		No	4,267	728	17.1%		No
Census Tract 1844	3,358	277	8.2%		No	3,358	348	10.4%		No
Census Tract 3481.11	2,647	191	7.2%		No	2,601	440	16.9%		No
Census Tract 1202	6,248	3,076	49.2%	Yes		6,144	2,659	43.3%	Yes	
Census Tract 1253	4,759	2,200	46.2%	Yes		4,719	1,550	32.8%	Yes	
Census Tract 1302	8,334	2,202	26.4%		No	8,294	1,652	19.9%		No
Census Tract 3461.01	6,928	615	8.9%		No	6,928	980	14.1%		No
Census Tract 3461.02	6,158	864	14.0%		No	6,141	628	10.2%		No
Census Tract 3481.23	5,970	892	14.9%		No	5,970	429	7.2%		No
Census Tract 1201	6,237	1,435	23.0%		No	6,108	1,124	18.4%		No
Census Tract 1251	4,864	749	15.4%		No	4,854	434	8.9%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1252	5,686	2,686	47.2%	Yes		5,686	2,050	36.1%	Yes	
Census Tract 1254	3,493	1,647	47.2%	Yes		3,493	1,409	40.3%	Yes	
Census Tract 1301.01	5,231	869	16.6%		No	5,083	994	19.6%		No
Census Tract 1301.02	2,943	545	18.5%		No	2,943	603	20.5%		No
Census Tract 1401	3,519	1,775	50.4%	Yes		3,474	865	24.9%		No
Census Tract 1403	2,539	2,106	82.9%	Yes		2,298	1,563	68.0%	Yes	
Census Tract 1404	3,433	2,797	81.5%	Yes		3,410	1,911	56.0%	Yes	
Census Tract 1405	3,581	3,089	86.3%	Yes		3,581	2,395	66.9%	Yes	
Census Tract 1406	5,068	4,373	86.3%	Yes		4,783	2,967	62.0%	Yes	
Census Tract 1407	3,874	2,872	74.1%	Yes		3,874	2,369	61.2%	Yes	
Census Tract 1408	3,798	3,393	89.3%	Yes		3,662	2,305	62.9%	Yes	
Census Tract 1409	4,733	3,411	72.1%	Yes		4,711	2,483	52.7%	Yes	
Census Tract 1410	3,966	1,650	41.6%	Yes		3,966	585	14.8%		No
Census Tract 1411	2,679	1,470	54.9%	Yes		2,679	344	12.8%		No
Census Tract 1412	4,730	3,714	78.5%	Yes		4,730	2,205	46.6%	Yes	
Census Tract 1413	6,685	4,026	60.2%	Yes		4,601	2,471	53.7%	Yes	
Census Tract 1414	4,943	3,991	80.7%	Yes		4,936	2,199	44.6%	Yes	
Census Tract 1415	7,304	7,101	97.2%	Yes		7,304	5,182	70.9%	Yes	
Census Tract 1416	5,149	4,262	82.8%	Yes		4,338	2,355	54.3%	Yes	
Census Tract 1418	4,339	2,470	56.9%	Yes		3,997	1,681	42.1%	Yes	
Census Tract 1541	8,089	5,490	67.9%	Yes		8,089	2,663	32.9%	Yes	
Census Tract 1542	6,413	4,467	69.7%	Yes		6,413	2,533	39.5%	Yes	
Census Tract 1545	4,295	2,119	49.3%	Yes		4,295	1,745	40.6%	Yes	
Census Tract 1546	4,647	2,376	51.1%	Yes		4,021	1,324	32.9%	Yes	
Census Tract 1549	3,860	1,547	40.1%		No	3,778	1,035	27.4%	Yes	
Census Tract 1550	5,145	2,742	53.3%	Yes		5,145	1,329	25.8%		No
Census Tract 1571	2,480	597	24.1%		No	2,419	433	17.9%		No
Census Tract 1572	3,921	389	9.9%		No	3,921	170	4.3%		No
Census Tract 1573	3,361	460	13.7%		No	3,361	272	8.1%		No
Census Tract 1574	4,172	527	12.6%		No	4,172	360	8.6%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1601	3,252	824	25.3%		No	3,252	210	6.5%		No
Census Tract 1602	5,575	1,427	25.6%		No	5,474	448	8.2%		No
Census Tract 1611	5,513	1,026	18.6%		No	5,492	445	8.1%		No
Census Tract 1654	4,735	1,556	32.9%		No	4,616	865	18.7%		No
Census Tract 1655	4,733	3,930	83.0%	Yes		4,733	1,746	36.9%	Yes	
Census Tract 1656	5,518	3,875	70.2%	Yes		5,518	1,353	24.5%		No
Census Tract 1657	4,819	3,143	65.2%	Yes		4,317	919	21.3%		No
Census Tract 1658.01	5,883	3,504	59.6%	Yes		5,883	1,195	20.3%		No
Census Tract 1658.02	4,280	1,894	44.3%	Yes		4,280	716	16.7%		No
Census Tract 1659	7,961	2,009	25.2%		No	6,908	625	9.0%		No
Census Tract 3411	6,168	519	8.4%		No	6,144	743	12.1%		No
Census Tract 3614.01	3,787	1,795	47.4%	Yes		2,179	1,190	54.6%	Yes	
Census Tract 3614.02	2,749	1,278	46.5%	Yes		286	103	36.0%	Yes	
Census Tract 3615	7,633	5,044	66.1%	Yes		5,296	1,816	34.3%	Yes	
Census Tract 3441	4,937	455	9.2%		No	4,912	530	10.8%		No
Census Tract 3442	2,802	350	12.5%		No	2,802	120	4.3%		No
Census Tract 3481.22	4,173	392	9.4%		No	4,159	291	7.0%		No
Census Tract 3481.24	2,489	132	5.3%		No	2,337	355	15.2%		No
Census Tract 3481.25	4,402	392	8.9%		No	4,381	1,067	24.4%		No
Census Tract 3432	5,735	717	12.5%		No	5,735	344	6.0%		No
Census Tract 3434	6,517	1,206	18.5%		No	6,517	584	9.0%		No
Census Tract 3451	7,355	1,924	26.2%		No	7,355	1,820	24.7%		No
Census Tract 3452.01	7,492	1,730	23.1%		No	7,244	1,408	19.4%		No
Census Tract 3452.02	4,168	1,169	28.0%		No	4,144	407	9.8%		No
Census Tract 3453	6,006	2,195	36.5%		No	5,968	1,349	22.6%		No
Census Tract 3454	6,326	1,764	27.9%		No	6,287	1,282	20.4%		No
Census Tract 3471	5,827	676	11.6%		No	5,688	832	14.6%		No
Census Tract 3472	3,878	543	14.0%		No	3,878	234	6.0%		No
Census Tract 3501	3,809	2,847	74.7%	Yes		3,456	2,983	86.3%	Yes	
Census Tract 3502	2,884	2,666	92.4%	Yes		2,884	2,007	69.6%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 3503	1,873	1,699	90.7%	Yes		1,873	1,165	62.2%	Yes	
Census Tract 3504	2,346	1,992	84.9%	Yes		2,285	1,771	77.5%	Yes	
Census Tract 3505	2,279	1,939	85.1%	Yes		2,279	1,644	72.1%	Yes	
Census Tract 3508	5,989	4,226	70.6%	Yes		5,781	3,353	58.0%	Yes	
Census Tract 3512	4,001	3,109	77.7%	Yes		3,906	2,057	52.7%	Yes	
Census Tract 3513	5,420	3,430	63.3%	Yes		5,393	2,234	41.4%	Yes	
Census Tract 3514	4,229	3,243	76.7%	Yes		4,197	2,571	61.3%	Yes	
Census Tract 3515	4,951	2,846	57.5%	Yes		4,932	2,096	42.5%	Yes	
Census Tract 3516.01	3,066	1,231	40.2%		No	3,056	1,183	38.7%	Yes	
Census Tract 3516.02	7,595	3,266	43.0%	Yes		7,595	2,446	32.2%	Yes	
Census Tract 3517	3,100	2,152	69.4%	Yes		3,092	2,138	69.1%	Yes	
Census Tract 3518	3,809	1,463	38.4%		No	3,761	1,177	31.3%	Yes	
Census Tract 3519	2,235	698	31.2%		No	1,856	320	17.2%		No
Census Tract 3520	4,579	1,657	36.2%		No	4,534	1,211	26.7%		No
Census Tract 3526	5,067	2,775	54.8%	Yes		4,974	2,167	43.6%	Yes	
Census Tract 3527.01	3,007	1,705	56.7%	Yes		2,937	1,003	34.2%	Yes	
Census Tract 3527.02	5,206	2,641	50.7%	Yes		5,093	959	18.8%		No
Census Tract 3528	6,241	3,526	56.5%	Yes		6,165	2,467	40.0%	Yes	
Census Tract 3509	2,219	1,429	64.4%	Yes		2,199	776	35.3%	Yes	
Census Tract 3510	3,883	2,941	75.7%	Yes		3,883	1,256	32.3%	Yes	
Census Tract 3511	3,788	2,972	78.5%	Yes		3,778	2,058	54.5%	Yes	
Census Tract 3521	4,259	2,397	56.3%	Yes		4,202	1,595	38.0%	Yes	
Census Tract 3522	2,711	2,042	75.3%	Yes		2,651	1,744	65.8%	Yes	
Census Tract 3523	2,621	1,717	65.5%	Yes		2,621	1,387	52.9%	Yes	
Census Tract 3524	3,777	2,765	73.2%	Yes		3,683	1,892	51.4%	Yes	
Census Tract 3525	3,332	1,966	59.0%	Yes		3,332	1,259	37.8%	Yes	
Census Tract 3611	6,647	628	9.4%		No	6,641	1,076	16.2%		No
Census Tract 3612	5,643	1,089	19.3%		No	5,638	533	9.5%		No
Census Tract 3613	4,325	254	5.9%		No	4,198	338	8.1%		No
Census Tract 1846	2,730	29	1.1%		No	2,730	218	8.0%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1402	642	435	67.8%	Yes		642	538	83.8%	Yes	
Census Tract 1419	5,451	1,833	33.6%		No	5,451	1,768	32.4%	Yes	
Census Tract 1420	3,033	1,051	34.7%		No	3,026	1,118	36.9%	Yes	
Census Tract 1421	1,503	996	66.3%	Yes		1,503	835	55.6%	Yes	
Census Tract 1422	1,507	442	29.3%		No	1,476	378	25.6%		No
Census Tract 1423	5,460	4,940	90.5%	Yes		5,460	3,033	55.5%	Yes	
Census Tract 1424	6,003	5,404	90.0%	Yes		5,975	3,959	66.3%	Yes	
Census Tract 1425	5,891	4,466	75.8%	Yes		5,737	2,826	49.3%	Yes	
Census Tract 1426.01	5,860	4,738	80.9%	Yes		5,828	1,941	33.3%	Yes	
Census Tract 1426.03	4,104	3,096	75.4%	Yes		4,086	2,778	68.0%	Yes	
Census Tract 1426.04	2,620	1,686	64.4%	Yes		2,468	752	30.5%	Yes	
Census Tract 1427	7,296	6,051	82.9%	Yes		7,208	2,929	40.6%	Yes	
Census Tract 1428	4,085	1,149	28.1%		No	4,075	758	18.6%		No
Census Tract 1651	4,198	2,205	52.5%	Yes		4,170	833	20.0%		No
Census Tract 1652	2,431	414	17.0%		No	2,422	208	8.6%		No
Census Tract 1672.01	4,356	582	13.4%		No	4,356	513	11.8%		No
Census Tract 1802	5,749	2,281	39.7%		No	5,749	1,458	25.4%		No
Census Tract 1803	2,207	499	22.6%		No	2,172	681	31.4%	Yes	
Census Tract 1804	2,666	770	28.9%		No	2,548	466	18.3%		No
Census Tract 1805	4,603	1,713	37.2%		No	4,603	719	15.6%		No
Census Tract 1806.01	2,839	244	8.6%		No	2,831	612	21.6%		No
Census Tract 1806.02	3,557	294	8.3%		No	3,549	503	14.2%		No
Census Tract 1841	4,990	533	10.7%		No	4,990	1,028	20.6%		No
Census Tract 1842	4,110	1,270	30.9%		No	4,110	1,323	32.2%	Yes	
Census Tract 1845	2,569	147	5.7%		No	2,569	311	12.1%		No
Census Tract 1847	5,808	1,045	18.0%		No	5,799	777	13.4%		No
Census Tract 1861	7,159	508	7.1%		No	7,117	830	11.7%		No
Census Tract 1760	5,683	406	7.1%		No	5,683	458	8.1%		No
Census Tract 1862	7,032	648	9.2%		No	7,032	465	6.6%		No
Census Tract 1653	2,195	433	19.7%		No	2,195	143	6.5%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1660.01	6,862	2,358	34.4%		No	6,845	1,445	21.1%		No
Census Tract 1660.02	7,367	1,729	23.5%		No	3,546	608	17.1%		No
Census Tract 1671	8,056	1,626	20.2%		No	8,056	768	9.5%		No
Census Tract 1672.02	4,551	836	18.4%		No	4,512	897	19.9%		No
Census Tract 1673	6,759	874	12.9%		No	6,568	965	14.7%		No
Census Tract 1751	3,247	878	27.0%		No	3,024	717	23.7%		No
Census Tract 1752	2,465	450	18.3%		No	2,465	660	26.8%		No
Census Tract 1753	4,236	1,031	24.3%		No	4,236	466	11.0%		No
Census Tract 1754	4,624	1,535	33.2%		No	4,624	813	17.6%		No
Census Tract 1755	7,426	534	7.2%		No	6,943	726	10.5%		No
Census Tract 1759	5,121	699	13.6%		No	4,848	513	10.6%		No
Census Tract 1901	3,335	462	13.9%		No	3,237	664	20.5%		No
Census Tract 1902	3,605	453	12.6%		No	3,605	231	6.4%		No
Census Tract 1903.01	6,717	862	12.8%		No	6,717	676	10.1%		No
Census Tract 1903.02	5,235	548	10.5%		No	5,159	329	6.4%		No
Census Tract 1903.03	3,324	276	8.3%		No	3,324	463	13.9%		No
Census Tract 1941	4,930	154	3.1%		No	4,891	616	12.6%		No
Census Tract 1942.01	7,687	843	11.0%		No	7,545	345	4.6%		No
Census Tract 1942.02	5,496	606	11.0%		No	5,491	378	6.9%		No
Census Tract 1712	8,283	2,004	24.2%		No	8,008	1,455	18.2%		No
Census Tract 1713	3,599	1,261	35.0%		No	3,588	495	13.8%		No
Census Tract 1717	4,004	889	22.2%		No	3,914	506	12.9%		No
Census Tract 1701	1,504	1,205	80.1%	Yes		1,499	915	61.0%	Yes	
Census Tract 1702	1,095	952	86.9%	Yes		1,095	543	49.6%	Yes	
Census Tract 1703	2,023	1,478	73.1%	Yes		2,023	1,050	51.9%	Yes	
Census Tract 1704	1,713	937	54.7%	Yes		1,706	597	35.0%	Yes	
Census Tract 1705	6,428	1,281	19.9%		No	6,402	771	12.0%		No
Census Tract 1706	2,669	1,184	44.4%	Yes		2,669	674	25.3%		No
Census Tract 1707	2,377	751	31.6%		No	2,377	565	23.8%		No
Census Tract 1708	6,623	3,633	54.9%	Yes		6,402	2,089	32.6%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 1709	2,405	1,590	66.1%	Yes		2,405	1,261	52.4%	Yes	
Census Tract 1710	1,568	962	61.4%	Yes		1,568	739	47.1%	Yes	
Census Tract 1711	5,705	1,594	27.9%		No	5,686	1,226	21.6%		No
Census Tract 1714	1,646	1,098	66.7%	Yes		1,622	666	41.1%	Yes	
Census Tract 1715	3,017	2,487	82.4%	Yes		3,017	1,132	37.5%	Yes	
Census Tract 1716	5,017	2,040	40.7%		No	4,952	941	19.0%		No
Census Tract 1756	4,794	496	10.3%		No	4,794	574	12.0%		No
Census Tract 1757	2,694	353	13.1%		No	2,694	260	9.7%		No
Census Tract 1758	4,306	606	14.1%		No	4,306	189	4.4%		No
Census Tract 3431.01	5,968	2,067	34.6%		No	3,817	170	4.5%		No
Census Tract 3431.02	3,938	387	9.8%		No	3,804	319	8.4%		No
Census Tract 3433	6,989	653	9.3%		No	6,916	390	5.6%		No
TOTAL New Haven County	***857,513***	***318,215***	***37.1%***	***77***	***112***	***831,151***	***212,568***	***25.6%***	***74***	***115***

Table 17C-14

Environmental Justice Populations: Hunterdon County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Hunterdon County, New Jersey										
Census Tract 119	3,822	479	12.5%		No	3,805	795	20.9%		No
Census Tract 118	2,757	256	9.3%		No	2,757	309	11.2%		No
Census Tract 105	5,133	156	3.0%		No	5,133	351	6.8%		No
Census Tract 106	6,083	228	3.7%		No	6,030	346	5.7%		No
Census Tract 107.01	5,560	1,086	19.5%	Yes		4,761	534	11.2%		No
Census Tract 107.02	3,348	160	4.8%		No	3,312	209	6.3%		No
Census Tract 115	5,216	343	6.6%		No	5,197	718	13.8%		No
Census Tract 116	5,069	468	9.2%		No	5,037	646	12.8%		No
Census Tract 103	2,797	434	15.5%		No	2,775	462	16.6%		No
Census Tract 104	4,610	330	7.2%		No	4,583	450	9.8%		No
Census Tract 111	5,587	827	14.8%		No	5,587	567	10.1%		No
Census Tract 112.01	7,107	911	12.8%		No	7,107	806	11.3%		No
Census Tract 112.02	3,203	322	10.1%		No	3,203	261	8.1%		No
Census Tract 113.04	3,559	473	13.3%		No	3,531	127	3.6%		No
Census Tract 108.01	2,686	580	21.6%	Yes		2,682	337	12.6%		No
Census Tract 110.02	5,747	626	10.9%		No	5,678	464	8.2%		No
Census Tract 113.01	6,659	915	13.7%		No	6,461	766	11.9%		No
Census Tract 113.02	7,250	1,680	23.2%	Yes		7,243	435	6.0%		No
Census Tract 113.03	4,661	768	16.5%	Yes		4,661	331	7.1%		No
Census Tract 114	4,608	2,268	49.2%	Yes		4,514	1,649	36.5%	Yes	
Census Tract 117	3,890	348	8.9%		No	3,856	310	8.0%		No
Census Tract 101	5,812	378	6.5%		No	5,812	294	5.1%		No
Census Tract 102	7,263	623	8.6%		No	7,192	433	6.0%		No
Census Tract 108.02	1,856	257	13.8%		No	1,854	292	15.7%		No
Census Tract 109	3,500	637	18.2%	Yes		3,500	690	19.7%		No
Census Tract 110.01	7,040	2,507	35.6%	Yes		4,788	412	8.6%		No
TOTAL Hunterdon County	***124,823***	***18,060***	***14.5%***	***7***	***19***	***121,059***	***12,994***	***10.7%***	***1***	***25***

Table 17C-15

Environmental Justice Populations: Mercer County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Mercer County, New Jersey										
Census Tract 1	3,191	2,684	84.1%	Yes		3,191	1,816	56.9%	Yes	
Census Tract 8	2,282	2,119	92.9%	Yes		2,260	1,513	66.9%	Yes	
Census Tract 10	2,659	2,444	91.9%	Yes		2,475	1,592	64.3%	Yes	
Census Tract 24	485	366	75.5%	Yes		-	-	0.0%		No
Census Tract 2	4,065	3,190	78.5%	Yes		4,006	2,758	68.8%	Yes	
Census Tract 3	4,326	3,477	80.4%	Yes		4,326	2,416	55.8%	Yes	
Census Tract 4	4,876	4,277	87.7%	Yes		4,844	3,144	64.9%	Yes	
Census Tract 5	4,641	4,108	88.5%	Yes		4,641	3,003	64.7%	Yes	
Census Tract 6	4,959	4,309	86.9%	Yes		4,959	2,506	50.5%	Yes	
Census Tract 7	3,743	3,277	87.6%	Yes		3,743	1,519	40.6%	Yes	
Census Tract 25	6,722	3,546	52.8%	Yes		6,722	2,298	34.2%	Yes	
Census Tract 26.01	4,674	3,768	80.6%	Yes		4,674	2,033	43.5%	Yes	
Census Tract 26.02	4,425	2,366	53.5%	Yes		4,425	1,069	24.2%		No
Census Tract 27.01	4,092	2,308	56.4%	Yes		4,063	1,451	35.7%	Yes	
Census Tract 27.02	5,956	1,911	32.1%		No	5,956	1,555	26.1%		No
Census Tract 30.01	5,414	628	11.6%		No	5,410	421	7.8%		No
Census Tract 30.02	5,318	854	16.1%		No	5,225	169	3.2%		No
Census Tract 30.03	6,122	1,025	16.7%		No	6,122	686	11.2%		No
Census Tract 30.04	5,237	1,120	21.4%		No	5,236	745	14.2%		No
Census Tract 30.09	5,710	1,545	27.1%		No	5,698	947	16.6%		No
Census Tract 9	3,512	3,126	89.0%	Yes		3,473	2,090	60.2%	Yes	
Census Tract 11.01	2,511	2,403	95.7%	Yes		2,511	1,117	44.5%	Yes	
Census Tract 11.02	3,063	2,934	95.8%	Yes		2,944	2,004	68.1%	Yes	
Census Tract 12	3,722	3,081	82.8%	Yes		3,684	996	27.0%	Yes	
Census Tract 13	4,488	3,421	76.2%	Yes		3,367	1,430	42.5%	Yes	
Census Tract 14.01	3,666	3,567	97.3%	Yes		3,666	2,591	70.7%	Yes	
Census Tract 14.02	2,053	2,045	99.6%	Yes		2,053	1,096	53.4%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 15	3,102	2,781	89.7%	Yes		2,996	2,123	70.9%	Yes	
Census Tract 16	1,267	1,234	97.4%	Yes		1,267	586	46.3%	Yes	
Census Tract 17	3,151	3,077	97.7%	Yes		3,151	1,881	59.7%	Yes	
Census Tract 20	1,343	1,298	96.6%	Yes		1,330	802	60.3%	Yes	
Census Tract 34	2,525	1,696	67.2%	Yes		2,401	421	17.5%		No
Census Tract 35	6,905	3,538	51.2%	Yes		6,862	2,011	29.3%	Yes	
Census Tract 36.01	3,660	2,555	69.8%	Yes		3,660	1,299	35.5%	Yes	
Census Tract 36.02	3,731	2,007	53.8%	Yes		3,718	1,301	35.0%	Yes	
Census Tract 37.03	7,096	2,749	38.7%		No	3,775	863	22.9%		No
Census Tract 37.04	2,877	743	25.8%		No	2,844	427	15.0%		No
Census Tract 39.02	1,915	144	7.5%		No	1,906	214	11.2%		No
Census Tract 39.03	2,531	288	11.4%		No	2,531	227	9.0%		No
Census Tract 39.04	5,976	1,831	30.6%		No	5,976	298	5.0%		No
Census Tract 39.05	4,887	441	9.0%		No	4,869	165	3.4%		No
Census Tract 37.05	5,899	1,933	32.8%		No	5,478	694	12.7%		No
Census Tract 37.06	3,344	950	28.4%		No	3,344	303	9.1%		No
Census Tract 38	7,204	1,583	22.0%		No	6,695	499	7.5%		No
Census Tract 18	4,484	3,147	70.2%	Yes		3,733	2,133	57.1%	Yes	
Census Tract 19	1,609	1,479	91.9%	Yes		1,609	1,192	74.1%	Yes	
Census Tract 21	4,591	4,062	88.5%	Yes		4,591	2,073	45.2%	Yes	
Census Tract 22	5,623	5,423	96.4%	Yes		5,622	2,452	43.6%	Yes	
Census Tract 28	7,177	6,392	89.1%	Yes		7,177	3,050	42.5%	Yes	
Census Tract 29.02	4,683	2,264	48.3%		No	4,673	1,108	23.7%		No
Census Tract 29.03	3,416	897	26.3%		No	3,416	581	17.0%		No
Census Tract 29.04	5,011	928	18.5%		No	5,011	791	15.8%		No
Census Tract 30.06	5,266	798	15.2%		No	5,266	237	4.5%		No
Census Tract 30.07	3,200	233	7.3%		No	3,200	232	7.3%		No
Census Tract 30.08	5,001	1,120	22.4%		No	4,686	564	12.0%		No
Census Tract 31	4,381	1,970	45.0%		No	4,381	811	18.5%		No
Census Tract 32.01	7,859	3,122	39.7%		No	6,221	1,249	20.1%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 32.02	5,565	1,165	20.9%		No	5,476	479	8.7%		No
Census Tract 33.01	6,863	1,070	15.6%		No	6,454	622	9.6%		No
Census Tract 33.02	7,946	4,623	58.2%	Yes		7,946	739	9.3%		No
Census Tract 43.01	8,660	5,886	68.0%	Yes		8,628	698	8.1%		No
Census Tract 43.04	7,921	3,978	50.2%	Yes		7,900	128	1.6%		No
Census Tract 43.06	5,618	3,275	58.3%	Yes		5,447	163	3.0%		No
Census Tract 43.07	5,738	2,598	45.3%		No	5,738	143	2.5%		No
Census Tract 43.1	9,835	3,714	37.8%		No	9,835	576	5.9%		No
Census Tract 40	5,881	2,339	39.8%		No	5,546	1,161	20.9%		No
Census Tract 42.01	7,867	2,202	28.0%		No	7,757	1,002	12.9%		No
Census Tract 42.03	3,974	1,382	34.8%		No	3,974	534	13.4%		No
Census Tract 42.04	5,209	1,798	34.5%		No	5,174	772	14.9%		No
Census Tract 45.01	6,762	2,282	33.7%		No	1,814	226	12.5%		No
Census Tract 45.02	1,307	171	13.1%		No	1,307	392	30.0%	Yes	
Census Tract 43.09	4,530	1,145	25.3%		No	4,530	347	7.7%		No
Census Tract 44.03	5,375	2,526	47.0%		No	5,215	1,229	23.6%		No
Census Tract 44.04	6,870	3,999	58.2%	Yes		6,870	1,398	20.3%		No
Census Tract 44.05	8,453	4,776	56.5%	Yes		8,396	1,011	12.0%		No
Census Tract 44.06	4,955	2,552	51.5%	Yes		4,939	1,456	29.5%	Yes	
Census Tract 44.07	6,967	2,977	42.7%		No	6,919	1,486	21.5%		No
TOTAL Mercer County	***367,922***	***185,040***	***50.3%***	***41***	***36***	***351,928***	***88,114***	***25.0%***	***33***	***44***

Table 17C-16

Environmental Justice Populations: Middlesex County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Middlesex County, New Jersey										
Census Tract 85.04	6,573	3,529	53.7%	Yes		6,510	686	10.5%		No
Census Tract 86.01	5,105	2,804	54.9%	Yes		4,948	196	4.0%		No
Census Tract 82.02	14,701	5,330	36.3%		No	14,436	879	6.1%		No
Census Tract 82.04	4,608	1,111	24.1%		No	4,608	727	15.8%		No
Census Tract 82.05	3,401	605	17.8%		No	3,401	742	21.8%		No
Census Tract 86.04	5,975	4,394	73.5%	Yes		5,975	247	4.1%		No
Census Tract 87	3,649	925	25.3%		No	3,571	123	3.4%		No
Census Tract 66.01	2,438	731	30.0%		No	2,430	163	6.7%		No
Census Tract 66.04	6,743	2,975	44.1%		No	6,691	1,217	18.2%		No
Census Tract 66.05	4,012	1,249	31.1%		No	3,931	522	13.3%		No
Census Tract 66.06	2,976	1,202	40.4%		No	2,976	156	5.2%		No
Census Tract 81.03	2,475	569	23.0%		No	2,475	339	13.7%		No
Census Tract 82.06	3,415	461	13.5%		No	3,355	837	24.9%		No
Census Tract 82.07	2,631	321	12.2%		No	2,631	413	15.7%		No
Census Tract 82.08	11,941	4,184	35.0%		No	11,941	1,330	11.1%		No
Census Tract 83	5,921	2,053	34.7%		No	5,921	950	16.0%		No
Census Tract 84.03	7,882	5,374	68.2%	Yes		7,882	772	9.8%		No
Census Tract 84.04	3,843	1,529	39.8%		No	3,843	561	14.6%		No
Census Tract 84.05	4,728	2,912	61.6%	Yes		4,728	282	6.0%		No
Census Tract 85.01	5,875	4,144	70.5%	Yes		5,852	693	11.8%		No
Census Tract 85.02	5,282	3,424	64.8%	Yes		5,282	278	5.3%		No
Census Tract 85.03	8,954	6,985	78.0%	Yes		8,954	779	8.7%		No
Census Tract 86.02	5,157	3,786	73.4%	Yes		5,157	171	3.3%		No
Census Tract 86.05	2,606	2,201	84.5%	Yes		2,606	317	12.2%		No
Census Tract 86.06	4,185	3,006	71.8%	Yes		4,185	573	13.7%		No
Census Tract 77.02	5,922	2,239	37.8%		No	5,852	1,468	25.1%		No
Census Tract 78.01	3,227	1,405	43.5%		No	3,227	428	13.3%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 78.04	5,064	1,556	30.7%		No	4,949	514	10.4%		No
Census Tract 78.05	4,559	1,097	24.1%		No	4,559	292	6.4%		No
Census Tract 78.06	4,152	859	20.7%		No	4,152	748	18.0%		No
Census Tract 79.06	1,496	699	46.7%		No	1,486	320	21.5%		No
Census Tract 79.09	4,123	1,104	26.8%		No	4,123	193	4.7%		No
Census Tract 79.11	3,450	1,317	38.2%		No	3,450	162	4.7%		No
Census Tract 79.12	6,948	2,794	40.2%		No	6,948	867	12.5%		No
Census Tract 66.07	2,875	849	29.5%		No	2,875	164	5.7%		No
Census Tract 66.08	3,697	1,537	41.6%		No	3,697	495	13.4%		No
Census Tract 67.01	3,851	1,173	30.5%		No	3,766	175	4.6%		No
Census Tract 77.03	3,494	962	27.5%		No	3,494	165	4.7%		No
Census Tract 77.04	2,722	692	25.4%		No	2,722	278	10.2%		No
Census Tract 81.01	4,496	1,078	24.0%		No	4,496	700	15.6%		No
Census Tract 81.02	3,773	871	23.1%		No	3,773	478	12.7%		No
Census Tract 82.09	3,609	851	23.6%		No	3,609	222	6.2%		No
Census Tract 6.08	1,568	1,126	71.8%	Yes		1,568	303	19.3%		No
Census Tract 11	4,443	2,027	45.6%		No	4,428	949	21.4%		No
Census Tract 13	4,239	1,422	33.5%		No	4,239	732	17.3%		No
Census Tract 15.06	6,375	5,631	88.3%	Yes		6,103	1,176	19.3%		No
Census Tract 51	6,132	2,783	45.4%		No	3,342	1,917	57.4%	Yes	
Census Tract 52	5,175	3,212	62.1%	Yes		5,139	3,755	73.1%	Yes	
Census Tract 53	3,867	3,321	85.9%	Yes		3,224	2,017	62.6%	Yes	
Census Tract 55	3,849	3,576	92.9%	Yes		3,839	2,273	59.2%	Yes	
Census Tract 56.01	3,154	2,755	87.3%	Yes		3,141	1,557	49.6%	Yes	
Census Tract 56.02	7,677	6,505	84.7%	Yes		7,580	4,809	63.4%	Yes	
Census Tract 57	5,473	4,548	83.1%	Yes		5,473	2,844	52.0%	Yes	
Census Tract 58	5,107	4,505	88.2%	Yes		5,107	3,776	73.9%	Yes	
Census Tract 60.02	7,971	5,542	69.5%	Yes		2,964	1,300	43.9%	Yes	
Census Tract 61.01	5,906	3,513	59.5%	Yes		4,295	1,268	29.5%	Yes	
Census Tract 61.03	5,203	3,411	65.6%	Yes		5,197	1,056	20.3%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 61.04	3,932	2,398	61.0%	Yes		3,932	460	11.7%		No
Census Tract 62.03	9,920	7,183	72.4%	Yes		9,185	1,511	16.5%		No
Census Tract 62.04	1,793	1,331	74.2%	Yes		1,793	251	14.0%		No
Census Tract 62.05	6,420	4,002	62.3%	Yes		6,420	342	5.3%		No
Census Tract 62.06	1,708	739	43.3%		No	1,700	66	3.9%		No
Census Tract 62.07	6,878	4,732	68.8%	Yes		6,878	1,580	23.0%		No
Census Tract 63	6,998	1,677	24.0%		No	6,998	1,571	22.4%		No
Census Tract 84.06	2,263	1,115	49.3%		No	2,263	111	4.9%		No
Census Tract 88	12,341	8,212	66.5%	Yes		2,125	464	21.8%		No
Census Tract 93	5,068	2,925	57.7%	Yes		4,863	2,637	54.2%	Yes	
Census Tract 1	7,554	2,255	29.9%		No	7,554	1,088	14.4%		No
Census Tract 2	6,108	3,687	60.4%	Yes		6,108	1,829	29.9%	Yes	
Census Tract 3	7,252	3,807	52.5%	Yes		7,233	1,921	26.6%		No
Census Tract 4.01	3,306	1,827	55.3%	Yes		3,306	400	12.1%		No
Census Tract 4.03	5,538	4,448	80.3%	Yes		5,538	379	6.8%		No
Census Tract 4.04	5,020	3,495	69.6%	Yes		5,010	1,242	24.8%		No
Census Tract 5.01	4,821	4,228	87.7%	Yes		4,808	1,078	22.4%		No
Census Tract 5.02	6,063	5,198	85.7%	Yes		6,063	1,134	18.7%		No
Census Tract 6.03	2,039	1,289	63.2%	Yes		2,031	153	7.5%		No
Census Tract 6.06	7,802	6,496	83.3%	Yes		7,802	1,147	14.7%		No
Census Tract 7.01	3,154	2,131	67.6%	Yes		3,154	249	7.9%		No
Census Tract 7.02	5,232	3,219	61.5%	Yes		5,228	615	11.8%		No
Census Tract 8.01	4,033	2,186	54.2%	Yes		4,022	518	12.9%		No
Census Tract 8.02	2,806	1,106	39.4%		No	2,806	542	19.3%		No
Census Tract 71.02	5,229	2,541	48.6%		No	5,229	918	17.6%		No
Census Tract 71.03	5,157	3,455	67.0%	Yes		5,157	1,789	34.7%	Yes	
Census Tract 12	5,201	2,531	48.7%		No	5,201	1,347	25.9%		No
Census Tract 15.02	5,964	2,661	44.6%		No	5,964	979	16.4%		No
Census Tract 15.05	2,329	2,157	92.6%	Yes		2,329	212	9.1%		No
Census Tract 16	4,954	3,136	63.3%	Yes		4,954	881	17.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 17.01	5,028	2,339	46.5%		No	5,028	571	11.4%		No
Census Tract 17.02	3,594	1,863	51.8%	Yes		3,594	638	17.8%		No
Census Tract 18.03	3,168	1,472	46.5%		No	3,059	642	21.0%		No
Census Tract 18.04	4,145	2,143	51.7%	Yes		4,145	1,552	37.4%	Yes	
Census Tract 18.05	4,761	3,223	67.7%	Yes		4,761	621	13.0%		No
Census Tract 60.01	2,487	1,345	54.1%	Yes		2,377	302	12.7%		No
Census Tract 64.03	2,768	1,279	46.2%		No	2,768	73	2.6%		No
Census Tract 65	6,865	2,746	40.0%		No	6,845	698	10.2%		No
Census Tract 67.03	6,104	2,868	47.0%		No	6,104	1,095	17.9%		No
Census Tract 68	4,989	2,173	43.6%		No	4,989	948	19.0%		No
Census Tract 69	3,252	1,373	42.2%		No	3,252	723	22.2%		No
Census Tract 70	7,760	2,609	33.6%		No	7,760	1,348	17.4%		No
Census Tract 71.01	3,412	1,238	36.3%		No	3,412	658	19.3%		No
Census Tract 89	4,251	3,162	74.4%	Yes		4,251	1,158	27.2%	Yes	
Census Tract 94	5,490	2,773	50.5%	Yes		5,490	1,334	24.3%		No
Census Tract 32.03	3,678	1,988	54.1%	Yes		3,678	561	15.3%		No
Census Tract 33	6,074	4,553	75.0%	Yes		6,074	1,284	21.1%		No
Census Tract 41	2,679	2,029	75.7%	Yes		2,679	703	26.2%		No
Census Tract 42	2,965	2,285	77.1%	Yes		2,965	885	29.8%	Yes	
Census Tract 43	3,661	3,021	82.5%	Yes		3,661	1,442	39.4%	Yes	
Census Tract 44	4,483	3,848	85.8%	Yes		4,411	1,535	34.8%	Yes	
Census Tract 45	8,347	7,784	93.3%	Yes		8,347	4,072	48.8%	Yes	
Census Tract 46	5,731	5,118	89.3%	Yes		5,712	3,309	57.9%	Yes	
Census Tract 47	4,042	3,287	81.3%	Yes		4,042	1,667	41.2%	Yes	
Census Tract 48	5,639	4,955	87.9%	Yes		5,415	3,199	59.1%	Yes	
Census Tract 49	4,981	4,322	86.8%	Yes		4,902	2,100	42.8%	Yes	
Census Tract 50	4,986	4,468	89.6%	Yes		4,986	1,850	37.1%	Yes	
Census Tract 72.02	4,330	1,688	39.0%		No	4,330	692	16.0%		No
Census Tract 72.03	4,981	2,581	51.8%	Yes		4,981	1,075	21.6%		No
Census Tract 73.01	3,232	1,038	32.1%		No	3,232	250	7.7%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 73.03	1,808	766	42.4%		No	1,808	231	12.8%		No
Census Tract 73.04	6,923	4,270	61.7%	Yes		6,923	964	13.9%		No
Census Tract 74.02	4,865	1,508	31.0%		No	4,823	717	14.9%		No
Census Tract 75	3,160	1,065	33.7%		No	3,160	549	17.4%		No
Census Tract 76	5,612	1,830	32.6%		No	5,612	1,071	19.1%		No
Census Tract 79.05	2,343	816	34.8%		No	2,343	268	11.4%		No
Census Tract 79.07	3,130	942	30.1%		No	3,130	258	8.2%		No
Census Tract 79.08	5,491	4,306	78.4%	Yes		5,491	1,912	34.8%	Yes	
Census Tract 79.1	3,127	912	29.2%		No	2,982	448	15.0%		No
Census Tract 92	4,355	1,425	32.7%		No	4,355	1,008	23.1%		No
Census Tract 14.16	8,991	8,090	90.0%	Yes		8,991	1,390	15.5%		No
Census Tract 19.01	4,976	3,176	63.8%	Yes		4,440	693	15.6%		No
Census Tract 19.03	3,489	1,750	50.2%	Yes		3,468	558	16.1%		No
Census Tract 9.01	2,340	798	34.1%		No	2,340	346	14.8%		No
Census Tract 9.02	4,597	1,855	40.4%		No	4,597	540	11.7%		No
Census Tract 10.01	2,532	871	34.4%		No	2,524	357	14.1%		No
Census Tract 10.02	7,648	4,749	62.1%	Yes		7,441	595	8.0%		No
Census Tract 14.09	3,427	2,470	72.1%	Yes		3,427	161	4.7%		No
Census Tract 14.1	4,043	3,342	82.7%	Yes		4,043	613	15.2%		No
Census Tract 14.11	3,071	2,357	76.8%	Yes		3,071	183	6.0%		No
Census Tract 14.12	3,362	2,241	66.7%	Yes		3,280	269	8.2%		No
Census Tract 14.13	5,408	4,614	85.3%	Yes		5,301	1,042	19.7%		No
Census Tract 14.14	5,219	4,396	84.2%	Yes		5,219	380	7.3%		No
Census Tract 14.15	5,105	3,101	60.7%	Yes		5,105	328	6.4%		No
Census Tract 14.17	1,916	1,243	64.9%	Yes		1,854	106	5.7%		No
Census Tract 15.04	5,569	4,587	82.4%	Yes		5,561	398	7.2%		No
Census Tract 20	4,246	1,878	44.2%		No	4,246	325	7.7%		No
Census Tract 21.01	2,237	557	24.9%		No	2,237	72	3.2%		No
Census Tract 21.02	3,877	1,158	29.9%		No	3,877	496	12.8%		No
Census Tract 22	3,688	1,149	31.2%		No	3,688	353	9.6%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 19.02	2,295	1,086	47.3%		No	2,268	394	17.4%		No
Census Tract 23.01	3,769	1,229	32.6%		No	3,769	281	7.5%		No
Census Tract 23.02	3,685	1,195	32.4%		No	3,685	221	6.0%		No
Census Tract 24.01	5,418	1,766	32.6%		No	5,418	424	7.8%		No
Census Tract 24.02	1,617	685	42.4%		No	1,617	33	2.0%		No
Census Tract 25	6,449	5,135	79.6%	Yes		6,449	1,911	29.6%	Yes	
Census Tract 26.03	5,087	3,782	74.3%	Yes		5,087	475	9.3%		No
Census Tract 26.04	5,947	3,509	59.0%	Yes		5,947	730	12.3%		No
Census Tract 26.05	2,897	1,197	41.3%		No	2,897	342	11.8%		No
Census Tract 27.01	5,567	3,906	70.2%	Yes		5,567	959	17.2%		No
Census Tract 27.03	5,826	3,234	55.5%	Yes		5,794	1,150	19.8%		No
Census Tract 28.05	2,536	1,017	40.1%		No	2,536	321	12.7%		No
Census Tract 29.01	3,541	2,335	65.9%	Yes		3,541	576	16.3%		No
Census Tract 29.02	2,957	1,699	57.5%	Yes		2,957	743	25.1%		No
Census Tract 30.01	4,068	1,889	46.4%		No	4,045	601	14.9%		No
Census Tract 30.02	5,916	4,806	81.2%	Yes		5,870	447	7.6%		No
Census Tract 31.01	2,546	1,378	54.1%	Yes		2,543	256	10.1%		No
Census Tract 31.02	4,710	2,846	60.4%	Yes		4,710	576	12.2%		No
Census Tract 32.01	3,230	1,428	44.2%		No	3,230	559	17.3%		No
Census Tract 34.01	3,697	1,850	50.0%	Yes		3,644	606	16.6%		No
Census Tract 40	4,164	3,359	80.7%	Yes		3,993	1,146	28.7%	Yes	
Census Tract 90	7,199	4,975	69.1%	Yes		3,128	1,355	43.3%	Yes	
Census Tract 80.01	6,534	2,444	37.4%		No	6,522	1,049	16.1%		No
Census Tract 35	3,218	1,917	59.6%	Yes		3,218	666	20.7%		No
Census Tract 36	7,266	5,958	82.0%	Yes		7,251	2,724	37.6%	Yes	
Census Tract 37	3,828	2,619	68.4%	Yes		3,796	712	18.8%		No
Census Tract 38	8,349	6,005	71.9%	Yes		8,349	2,703	32.4%	Yes	
Census Tract 91	3,610	2,294	63.5%	Yes		3,610	427	11.8%		No
TOTAL Middlesex County	***825,920***	***470,267***	***56.9%***	***97***	***78***	***796,788***	***154,771***	***19.4%***	***30***	***145***

Table 17C-17

Environmental Justice Populations: Monmouth County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Monmouth County, New Jersey										
Census Tract 8120	1,892	257	13.6%		No	1,892	108	5.7%		No
Census Tract 8119	6,940	1,210	17.4%		No	6,940	709	10.2%		No
Census Tract 8125.02	5,082	934	18.4%		No	5,080	404	8.0%		No
Census Tract 8106	6,219	1,396	22.4%		No	6,219	969	15.6%		No
Census Tract 8113.01	6,260	1,982	31.7%	Yes		6,260	1,459	23.3%		No
Census Tract 8097.03	4,400	1,122	25.5%		No	4,400	476	10.8%		No
Census Tract 8097.04	6,083	1,333	21.9%		No	6,083	443	7.3%		No
Census Tract 8100.03	5,298	617	11.6%		No	5,170	549	10.6%		No
Census Tract 8100.04	4,083	607	14.9%		No	4,083	237	5.8%		No
Census Tract 8101.01	4,266	648	15.2%		No	4,266	325	7.6%		No
Census Tract 8101.02	4,185	913	21.8%		No	4,185	279	6.7%		No
Census Tract 8104.01	4,428	876	19.8%		No	3,784	519	13.7%		No
Census Tract 8105.01	4,415	1,247	28.2%	Yes		4,415	806	18.3%		No
Census Tract 8105.02	8,014	2,368	29.5%	Yes		8,014	908	11.3%		No
Census Tract 8105.03	4,066	925	22.7%		No	3,939	406	10.3%		No
Census Tract 8107	1,958	891	45.5%	Yes		1,958	522	26.7%		No
Census Tract 8108	3,349	2,435	72.7%	Yes		3,274	1,112	34.0%	Yes	
Census Tract 8109	2,917	1,636	56.1%	Yes		2,917	1,042	35.7%	Yes	
Census Tract 8110	3,573	2,165	60.6%	Yes		3,573	1,530	42.8%	Yes	
Census Tract 8100.01	5,869	1,050	17.9%		No	5,869	565	9.6%		No
Census Tract 8102	12,366	2,527	20.4%		No	12,366	533	4.3%		No
Census Tract 8103	2,119	552	26.1%		No	2,105	605	28.7%	Yes	
Census Tract 8125.01	6,215	1,022	16.4%		No	6,215	768	12.4%		No
Census Tract 8095.02	8,372	2,791	33.3%	Yes		8,372	580	6.9%		No
Census Tract 8096	7,271	1,348	18.5%		No	7,225	1,036	14.3%		No
Census Tract 8100.02	3,635	255	7.0%		No	3,635	1,019	28.0%	Yes	
Census Tract 8115.01	6,414	1,099	17.1%		No	6,355	502	7.9%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 8086	6,182	900	14.6%		No	6,056	973	16.1%		No
Census Tract 8087.02	4,285	217	5.1%		No	4,119	152	3.7%		No
Census Tract 8111.02	6,489	1,375	21.2%		No	6,475	1,008	15.6%		No
Census Tract 8112	5,852	1,650	28.2%	Yes		5,830	971	16.7%		No
Census Tract 8113.03	4,344	965	22.2%		No	4,344	555	12.8%		No
Census Tract 8113.04	3,336	502	15.0%		No	3,336	399	12.0%		No
Census Tract 8114.01	5,923	1,445	24.4%		No	5,923	46	0.8%		No
Census Tract 8114.02	4,114	831	20.2%		No	4,098	418	10.2%		No
Census Tract 8115.02	3,602	485	13.5%		No	3,602	597	16.6%		No
Census Tract 8116	1,299	280	21.6%		No	1,299	380	29.3%	Yes	
Census Tract 8074	3,047	243	8.0%		No	2,936	749	25.5%		No
Census Tract 8082	4,193	861	20.5%		No	4,193	1,254	29.9%	Yes	
Census Tract 8072	2,304	2,138	92.8%	Yes		2,304	1,611	69.9%	Yes	
Census Tract 8073	3,568	3,446	96.6%	Yes		3,546	2,283	64.4%	Yes	
Census Tract 8075	3,093	2,299	74.3%	Yes		3,093	856	27.7%	Yes	
Census Tract 8076	3,037	2,801	92.2%	Yes		3,037	1,447	47.6%	Yes	
Census Tract 8077	4,192	3,303	78.8%	Yes		4,021	837	20.8%		No
Census Tract 8078	4,253	2,812	66.1%	Yes		4,241	573	13.5%		No
Census Tract 8080.01	3,815	259	6.8%		No	3,793	357	9.4%		No
Census Tract 8080.02	2,218	497	22.4%		No	2,218	214	9.6%		No
Census Tract 8081	4,672	1,135	24.3%		No	4,593	1,416	30.8%	Yes	
Census Tract 8083	1,789	184	10.3%		No	1,789	232	13.0%		No
Census Tract 8084.01	1,951	70	3.6%		No	1,951	287	14.7%		No
Census Tract 8084.02	3,673	959	26.1%		No	3,673	1,105	30.1%	Yes	
Census Tract 8085	5,995	667	11.1%		No	5,905	1,058	17.9%		No
Census Tract 8087.01	4,815	320	6.6%		No	4,730	608	12.9%		No
Census Tract 8088	4,468	349	7.8%		No	4,468	410	9.2%		No
Census Tract 8089	4,564	349	7.6%		No	4,564	594	13.0%		No
Census Tract 8090	1,740	438	25.2%		No	1,740	360	20.7%		No
Census Tract 8091	2,927	105	3.6%		No	2,927	538	18.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 8092	1,655	42	2.5%		No	1,655	54	3.3%		No
Census Tract 8093.01	3,088	401	13.0%		No	3,088	330	10.7%		No
Census Tract 8093.02	2,741	48	1.8%		No	2,741	230	8.4%		No
Census Tract 8094	4,697	236	5.0%		No	4,697	214	4.6%		No
Census Tract 8046	2,723	348	12.8%		No	2,723	131	4.8%		No
Census Tract 8048	9,584	2,570	26.8%		No	9,452	2,197	23.2%		No
Census Tract 8097.01	5,310	1,694	31.9%	Yes		5,310	198	3.7%		No
Census Tract 8099.01	4,972	379	7.6%		No	4,972	274	5.5%		No
Census Tract 8099.02	4,658	503	10.8%		No	4,645	301	6.5%		No
Census Tract 8099.03	265	25	9.4%		No	200	104	52.0%	Yes	
Census Tract 8104.02	7,803	1,949	25.0%		No	7,659	443	5.8%		No
Census Tract 8111.01	5,625	1,512	26.9%		No	5,571	1,050	18.8%		No
Census Tract 8005	4,617	726	15.7%		No	4,617	425	9.2%		No
Census Tract 8007.01	4,923	742	15.1%		No	4,923	302	6.1%		No
Census Tract 8007.02	3,726	531	14.3%		No	3,726	403	10.8%		No
Census Tract 8008	6,266	904	14.4%		No	6,266	612	9.8%		No
Census Tract 8010	4,328	742	17.1%		No	4,311	761	17.7%		No
Census Tract 8011	4,295	272	6.3%		No	4,295	240	5.6%		No
Census Tract 8012	3,709	411	11.1%		No	3,709	183	4.9%		No
Census Tract 8013	5,836	297	5.1%		No	5,836	799	13.7%		No
Census Tract 8015	6,405	735	11.5%		No	6,376	388	6.1%		No
Census Tract 8032.01	3,865	1,507	39.0%	Yes		3,704	548	14.8%		No
Census Tract 8023	4,409	772	17.5%		No	4,256	618	14.5%		No
Census Tract 8024	5,240	862	16.5%		No	5,240	574	11.0%		No
Census Tract 8027	4,090	786	19.2%		No	4,067	224	5.5%		No
Census Tract 8028	4,808	866	18.0%		No	4,777	397	8.3%		No
Census Tract 8029	2,071	281	13.6%		No	2,071	248	12.0%		No
Census Tract 8030	5,422	1,543	28.5%	Yes		5,332	875	16.4%		No
Census Tract 8031	3,325	1,132	34.0%	Yes		3,317	194	5.8%		No
Census Tract 8032.02	5,981	1,341	22.4%		No	5,831	589	10.1%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 8033	6,763	1,689	25.0%		No	6,672	210	3.1%		No
Census Tract 8095.01	8,546	3,457	40.5%	Yes		8,503	432	5.1%		No
Census Tract 8054	4,912	2,208	45.0%	Yes		4,901	1,770	36.1%	Yes	
Census Tract 8055	4,363	2,655	60.9%	Yes		4,273	1,605	37.6%	Yes	
Census Tract 8056	2,478	2,190	88.4%	Yes		2,459	1,162	47.3%	Yes	
Census Tract 8057	2,905	1,469	50.6%	Yes		2,891	1,427	49.4%	Yes	
Census Tract 8058	3,756	2,060	54.8%	Yes		3,703	2,137	57.7%	Yes	
Census Tract 8059	5,259	2,886	54.9%	Yes		5,166	1,695	32.8%	Yes	
Census Tract 8060	3,767	947	25.1%		No	3,739	1,049	28.1%	Yes	
Census Tract 8061	3,076	241	7.8%		No	3,076	902	29.3%	Yes	
Census Tract 8063	2,365	118	5.0%		No	2,365	314	13.3%		No
Census Tract 8070.03	4,418	2,609	59.1%	Yes		4,418	2,124	48.1%	Yes	
Census Tract 8070.04	2,677	780	29.1%	Yes		2,677	736	27.5%	Yes	
Census Tract 8124	1,973	198	10.0%		No	1,973	287	14.5%		No
Census Tract 8045	5,289	1,692	32.0%	Yes		5,289	1,042	19.7%		No
Census Tract 8047	36	12	33.3%	Yes		29	-	0.0%		No
Census Tract 8050.01	4,724	2,462	52.1%	Yes		4,722	1,580	33.5%	Yes	
Census Tract 8051	4,380	1,047	23.9%		No	4,235	840	19.8%		No
Census Tract 8053	5,593	669	12.0%		No	5,593	1,065	19.0%		No
Census Tract 8062.01	3,559	523	14.7%		No	2,360	494	20.9%		No
Census Tract 8062.02	4,349	601	13.8%		No	4,349	587	13.5%		No
Census Tract 8064	4,904	708	14.4%		No	4,904	322	6.6%		No
Census Tract 8065.01	3,919	1,824	46.5%	Yes		3,919	1,348	34.4%	Yes	
Census Tract 8065.02	3,428	983	28.7%	Yes		3,428	613	17.9%		No
Census Tract 8065.03	3,973	359	9.0%		No	3,973	190	4.8%		No
Census Tract 8065.04	2,736	1,401	51.2%	Yes		2,736	327	12.0%		No
Census Tract 8066	5,384	1,098	20.4%		No	5,357	523	9.8%		No
Census Tract 8071	2,630	1,774	67.5%	Yes		2,630	942	35.8%	Yes	
Census Tract 8079	3,908	1,791	45.8%	Yes		3,751	533	14.2%		No
Census Tract 8122	3,242	1,008	31.1%	Yes		3,242	808	24.9%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 8123	5,118	828	16.2%		No	4,954	631	12.7%		No
Census Tract 8001	4,768	714	15.0%		No	4,768	1,010	21.2%		No
Census Tract 8038	3,209	221	6.9%		No	3,209	64	2.0%		No
Census Tract 8039	3,583	328	9.2%		No	3,556	243	6.8%		No
Census Tract 8041	3,212	167	5.2%		No	3,212	266	8.3%		No
Census Tract 8121	1,352	127	9.4%		No	1,337	211	15.8%		No
Census Tract 8002	4,309	267	6.2%		No	4,309	469	10.9%		No
Census Tract 8004	3,386	307	9.1%		No	3,386	424	12.5%		No
Census Tract 8009	5,626	695	12.4%		No	5,560	454	8.2%		No
Census Tract 8014	3,964	216	5.4%		No	3,964	120	3.0%		No
Census Tract 8034	5,000	4,090	81.8%	Yes		4,889	2,399	49.1%	Yes	
Census Tract 8035	2,594	710	27.4%	Yes		2,594	653	25.2%		No
Census Tract 8036	4,478	680	15.2%		No	4,451	881	19.8%		No
Census Tract 8037	5,873	403	6.9%		No	5,865	380	6.5%		No
Census Tract 8042	5,844	326	5.6%		No	5,844	113	1.9%		No
Census Tract 8006.01	5,142	919	17.9%		No	5,142	1,022	19.9%		No
Census Tract 8006.02	3,098	341	11.0%		No	3,098	342	11.0%		No
Census Tract 8016	5,564	1,528	27.5%	Yes		5,562	1,926	34.6%	Yes	
Census Tract 8017	4,171	1,516	36.3%	Yes		4,019	1,993	49.6%	Yes	
Census Tract 8022	3,870	788	20.4%		No	3,862	741	19.2%		No
Census Tract 8018	5,390	1,189	22.1%		No	5,381	889	16.5%		No
Census Tract 8019	3,435	997	29.0%	Yes		3,427	980	28.6%	Yes	
Census Tract 8020	3,599	1,101	30.6%	Yes		3,599	1,012	28.1%	Yes	
Census Tract 8021	6,325	872	13.8%		No	6,271	556	8.9%		No
Census Tract 8025	2,892	920	31.8%	Yes		2,880	308	10.7%		No
Census Tract 8026	4,679	1,950	41.7%	Yes		4,666	795	17.0%		No
TOTAL Monmouth County	***621,659***	***153,907***	***24.8%***	***45***	***98***	***615,903***	***100,551***	***16.3%***	***32***	***111***

Table 17C-18

Environmental Justice Populations: Morris County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Morris County, New Jersey										
Census Tract 462.01	6,166	1,069	17.3%		No	6,024	660	11.0%		No
Census Tract 462.02	3,617	464	12.8%		No	3,617	137	3.8%		No
Census Tract 462.98	5,226	659	12.6%		No	5,226	796	15.2%		No
Census Tract 462.97	3,420	239	7.0%		No	3,409	175	5.1%		No
Census Tract 457.01	5,883	1,321	22.5%		No	5,883	430	7.3%		No
Census Tract 458.04	5,755	786	13.7%		No	5,755	280	4.9%		No
Census Tract 459.01	1,653	290	17.5%		No	1,644	276	16.8%		No
Census Tract 459.02	7,783	1,044	13.4%		No	7,754	487	6.3%		No
Census Tract 461.03	5,942	1,378	23.2%		No	5,942	994	16.7%		No
Census Tract 461.04	6,968	2,538	36.4%	Yes		6,968	1,590	22.8%		No
Census Tract 464	4,917	451	9.2%		No	4,706	241	5.1%		No
Census Tract 440	5,572	1,456	26.1%		No	5,480	196	3.6%		No
Census Tract 441.01	2,986	371	12.4%		No	2,986	76	2.5%		No
Census Tract 441.02	5,604	625	11.2%		No	5,604	478	8.5%		No
Census Tract 421	4,121	696	16.9%		No	4,054	246	6.1%		No
Census Tract 422	5,589	1,422	25.4%		No	5,589	520	9.3%		No
Census Tract 423.01	2,601	530	20.4%		No	2,601	167	6.4%		No
Census Tract 423.02	3,147	532	16.9%		No	3,147	139	4.4%		No
Census Tract 432	4,335	1,059	24.4%		No	3,036	270	8.9%		No
Census Tract 433.01	3,015	1,241	41.2%	Yes		2,768	286	10.3%		No
Census Tract 433.02	3,018	512	17.0%		No	3,018	261	8.6%		No
Census Tract 433.03	3,633	652	17.9%		No	3,625	79	2.2%		No
Census Tract 434.01	7,307	1,803	24.7%		No	6,970	714	10.2%		No
Census Tract 434.02	5,295	981	18.5%		No	5,148	598	11.6%		No
Census Tract 435	3,528	2,899	82.2%	Yes		3,528	1,418	40.2%	Yes	
Census Tract 436	5,576	2,050	36.8%	Yes		5,525	647	11.7%		No
Census Tract 437	3,698	755	20.4%		No	3,447	531	15.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 438	6,107	2,985	48.9%	Yes		6,090	1,712	28.1%	Yes	
Census Tract 442	3,806	267	7.0%		No	3,786	382	10.1%		No
Census Tract 457.03	3,672	1,018	27.7%		No	3,672	263	7.2%		No
Census Tract 457.04	5,384	761	14.1%		No	5,384	254	4.7%		No
Census Tract 428	4,739	688	14.5%		No	4,738	115	2.4%		No
Census Tract 439	4,727	659	13.9%		No	4,717	239	5.1%		No
Census Tract 419.01	6,078	1,645	27.1%		No	6,078	213	3.5%		No
Census Tract 419.02	4,994	1,477	29.6%		No	4,994	674	13.5%		No
Census Tract 420	4,689	1,202	25.6%		No	4,677	340	7.3%		No
Census Tract 425	3,264	466	14.3%		No	3,254	139	4.3%		No
Census Tract 426	8,359	2,196	26.3%		No	6,903	1,102	16.0%		No
Census Tract 427	4,077	974	23.9%		No	4,047	305	7.5%		No
Census Tract 429	3,778	1,067	28.2%		No	3,740	395	10.6%		No
Census Tract 430	4,707	1,143	24.3%		No	4,694	374	8.0%		No
Census Tract 431	3,557	343	9.6%		No	3,557	203	5.7%		No
Census Tract 461.06	8,336	2,873	34.5%	Yes		8,336	1,122	13.5%		No
Census Tract 447.01	4,727	465	9.8%		No	4,710	523	11.1%		No
Census Tract 452	3,530	1,630	46.2%	Yes		3,522	757	21.5%		No
Census Tract 453	4,458	825	18.5%		No	4,246	332	7.8%		No
Census Tract 454.01	5,637	1,828	32.4%	Yes		5,637	1,916	34.0%	Yes	
Census Tract 454.02	5,071	1,506	29.7%		No	5,071	1,097	21.6%		No
Census Tract 455.01	4,809	676	14.1%		No	4,809	249	5.2%		No
Census Tract 455.02	8,618	1,779	20.6%		No	8,618	481	5.6%		No
Census Tract 460	3,177	764	24.0%		No	3,155	739	23.4%		No
Census Tract 461.05	7,669	1,986	25.9%		No	7,669	1,939	25.3%		No
Census Tract 409	4,292	720	16.8%		No	4,173	533	12.8%		No
Census Tract 412	4,270	809	18.9%		No	4,270	270	6.3%		No
Census Tract 413	4,932	629	12.8%		No	4,858	733	15.1%		No
Census Tract 414	5,769	876	15.2%		No	5,769	433	7.5%		No
Census Tract 415	5,905	1,401	23.7%		No	5,905	362	6.1%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 416.01	7,501	3,676	49.0%	Yes		7,017	860	12.3%		No
Census Tract 416.02	2,586	882	34.1%	Yes		2,586	200	7.7%		No
Census Tract 416.03	4,321	2,407	55.7%	Yes		4,310	588	13.6%		No
Census Tract 416.04	4,670	1,640	35.1%	Yes		4,670	363	7.8%		No
Census Tract 418.01	2,815	1,883	66.9%	Yes		2,815	539	19.1%		No
Census Tract 418.02	4,751	2,413	50.8%	Yes		4,751	394	8.3%		No
Census Tract 443	6,384	2,066	32.4%	Yes		6,384	587	9.2%		No
Census Tract 444.03	5,127	1,139	22.2%		No	5,127	371	7.2%		No
Census Tract 444.04	4,421	974	22.0%		No	4,421	421	9.5%		No
Census Tract 445.01	6,608	1,443	21.8%		No	6,608	1,213	18.4%		No
Census Tract 445.02	4,246	1,529	36.0%	Yes		4,246	633	14.9%		No
Census Tract 448	7,391	6,275	84.9%	Yes		7,232	2,152	29.8%	Yes	
Census Tract 449	5,656	4,379	77.4%	Yes		5,603	1,490	26.6%		No
Census Tract 450	4,930	3,787	76.8%	Yes		4,742	2,059	43.4%	Yes	
Census Tract 451	6,474	4,032	62.3%	Yes		6,469	1,884	29.1%	Yes	
Census Tract 456.02	1,505	1,101	73.2%	Yes		1,505	551	36.6%	Yes	
Census Tract 456.03	4,949	2,456	49.6%	Yes		4,949	756	15.3%		No
Census Tract 463	5,661	1,674	29.6%		No	5,545	576	10.4%		No
Census Tract 444.01	4,667	545	11.7%		No	4,667	261	5.6%		No
Census Tract 446.01	4,856	350	7.2%		No	4,839	491	10.1%		No
Census Tract 446.02	5,485	763	13.9%		No	5,485	720	13.1%		No
Census Tract 447.02	5,967	1,430	24.0%		No	5,967	803	13.5%		No
Census Tract 401.01	3,931	821	20.9%		No	3,931	368	9.4%		No
Census Tract 401.02	6,331	1,284	20.3%		No	5,651	434	7.7%		No
Census Tract 408.01	5,065	885	17.5%		No	5,055	675	13.4%		No
Census Tract 408.03	6,573	2,464	37.5%	Yes		6,573	481	7.3%		No
Census Tract 408.04	3,704	1,404	37.9%	Yes		3,704	281	7.6%		No
Census Tract 408.05	6,029	1,445	24.0%		No	5,944	226	3.8%		No
Census Tract 410	4,503	1,297	28.8%		No	4,412	508	11.5%		No
Census Tract 411	3,895	1,265	32.5%	Yes		3,895	1,373	35.3%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 417.01	5,933	3,097	52.2%	Yes		5,907	914	15.5%		No
Census Tract 417.02	3,184	1,212	38.1%	Yes		3,175	460	14.5%		No
Census Tract 417.04	4,733	2,565	54.2%	Yes		4,733	536	11.3%		No
Census Tract 417.05	1,551	695	44.8%	Yes		1,540	416	27.0%	Yes	
Census Tract 417.06	5,706	3,299	57.8%	Yes		5,679	493	8.7%		No
Census Tract 418.03	4,656	2,393	51.4%	Yes		4,401	147	3.3%		No
Census Tract 402	6,767	1,096	16.2%		No	6,767	988	14.6%		No
Census Tract 403	8,424	967	11.5%		No	8,344	865	10.4%		No
Census Tract 404	4,197	864	20.6%		No	4,197	561	13.4%		No
Census Tract 405	3,394	995	29.3%		No	3,394	774	22.8%		No
Census Tract 406	4,285	929	21.7%		No	4,285	426	9.9%		No
Census Tract 407.01	5,864	1,396	23.8%		No	5,864	444	7.6%		No
Census Tract 407.02	4,190	482	11.5%		No	4,190	202	4.8%		No
TOTAL Morris County	***493,379***	***141,180***	***28.6%***	***31***	***69***	***486,112***	***60,372***	***12.4%***	***9***	***91***

Table 17C-19

Environmental Justice Populations: Ocean County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Ocean County, New Jersey										
Census Tract 7361.02	8,049	890	11.1%		No	8,049	1,971	24.5%		No
Census Tract 7361.05	3,472	476	13.7%		No	3,472	807	23.2%		No
Census Tract 7380.02	1,298	39	3.0%		No	1,293	233	18.0%		No
Census Tract 9801	-	-	0.0%		No	-	-	0.0%		No
Census Tract 7340.01	8,253	841	10.2%		No	8,253	1,061	12.9%		No
Census Tract 7350.01	7,085	822	11.6%		No	7,085	902	12.7%		No
Census Tract 7350.02	9,770	1,384	14.2%		No	9,500	1,778	18.7%		No
Census Tract 7351.01	2,592	291	11.2%		No	2,592	932	36.0%	Yes	
Census Tract 7360.01	3,723	209	5.6%		No	3,684	539	14.6%		No
Census Tract 7360.02	1,583	85	5.4%		No	1,583	304	19.2%		No
Census Tract 7370	3,367	250	7.4%		No	3,367	1,033	30.7%	Yes	
Census Tract 7361.01	5,883	450	7.6%		No	5,593	730	13.1%		No
Census Tract 7201.03	4,775	370	7.7%		No	4,633	1,453	31.4%	Yes	
Census Tract 7202.03	4,117	527	12.8%		No	4,117	789	19.2%		No
Census Tract 7202.04	5,637	1,685	29.9%	Yes		5,637	1,225	21.7%		No
Census Tract 7312.01	4,361	343	7.9%		No	4,361	1,723	39.5%	Yes	
Census Tract 7312.02	4,067	288	7.1%		No	4,067	1,110	27.3%	Yes	
Census Tract 7312.03	1,650	62	3.8%		No	1,650	379	23.0%		No
Census Tract 7312.04	3,755	280	7.5%		No	3,755	865	23.0%		No
Census Tract 7320.01	6,699	246	3.7%		No	6,648	283	4.3%		No
Census Tract 7200.01	4,215	332	7.9%		No	4,148	859	20.7%		No
Census Tract 7201.01	6,655	1,234	18.5%	Yes		6,537	2,235	34.2%	Yes	
Census Tract 7201.02	3,584	322	9.0%		No	3,521	1,770	50.3%	Yes	
Census Tract 7391	1,641	131	8.0%		No	1,613	456	28.3%	Yes	
Census Tract 7180	8,513	1,074	12.6%		No	8,495	1,262	14.9%		No
Census Tract 7170.01	3,156	753	23.9%	Yes		3,148	598	19.0%		No
Census Tract 7170.02	5,521	1,676	30.4%	Yes		5,378	1,609	29.9%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 7171.01	8,459	1,918	22.7%	Yes		8,377	525	6.3%		No
Census Tract 7171.02	4,750	976	20.5%	Yes		4,750	819	17.2%		No
Census Tract 7175.01	7,200	1,593	22.1%	Yes		7,200	1,729	24.0%		No
Census Tract 7175.02	7,560	859	11.4%		No	7,546	662	8.8%		No
Census Tract 7202.02	3,535	364	10.3%		No	3,535	1,078	30.5%	Yes	
Census Tract 7202.05	3,311	260	7.9%		No	3,188	518	16.2%		No
Census Tract 7202.06	6,077	977	16.1%		No	6,007	1,083	18.0%		No
Census Tract 7210	2,684	708	26.4%	Yes		2,670	828	31.0%	Yes	
Census Tract 7172	8,472	1,164	13.7%		No	8,393	850	10.1%		No
Census Tract 7173	5,761	994	17.3%	Yes		5,739	721	12.6%		No
Census Tract 7174	6,045	1,088	18.0%	Yes		6,036	731	12.1%		No
Census Tract 7351.03	3,994	236	5.9%		No	3,994	674	16.9%		No
Census Tract 7351.04	3,906	685	17.5%	Yes		3,893	763	19.6%		No
Census Tract 7380.01	2,128	56	2.6%		No	2,128	370	17.4%		No
Census Tract 7390	2,320	52	2.2%		No	2,320	276	11.9%		No
Census Tract 7330	9,003	530	5.9%		No	8,957	1,732	19.3%		No
Census Tract 7340.02	6,514	950	14.6%		No	6,514	1,481	22.7%		No
Census Tract 7340.03	7,987	1,585	19.8%	Yes		7,884	2,275	28.9%	Yes	
Census Tract 7310.02	3,685	522	14.2%		No	3,507	572	16.3%		No
Census Tract 7311.02	6,560	1,294	19.7%	Yes		6,551	1,399	21.4%		No
Census Tract 7311.03	4,538	679	15.0%		No	4,319	295	6.8%		No
Census Tract 7320.02	9,229	1,084	11.7%		No	9,229	2,127	23.0%		No
Census Tract 7321.01	6,345	30	0.5%		No	6,229	1,265	20.3%		No
Census Tract 7321.03	2,439	134	5.5%		No	2,426	355	14.6%		No
Census Tract 7321.04	4,092	384	9.4%		No	4,058	729	18.0%		No
Census Tract 7223	3,939	634	16.1%		No	3,857	248	6.4%		No
Census Tract 7228	4,634	2,063	44.5%	Yes		4,633	1,156	25.0%		No
Census Tract 7229	5,691	1,919	33.7%	Yes		5,675	1,594	28.1%	Yes	
Census Tract 7230	5,741	1,352	23.5%	Yes		5,587	1,049	18.8%		No
Census Tract 7231	4,068	860	21.1%	Yes		3,617	721	19.9%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 7232	6,453	918	14.2%		No	6,453	1,136	17.6%		No
Census Tract 7236	2,349	155	6.6%		No	2,349	401	17.1%		No
Census Tract 7240	3,648	1,585	43.4%	Yes		3,648	940	25.8%		No
Census Tract 7250.01	3,092	231	7.5%		No	3,056	612	20.0%		No
Census Tract 7250.02	6,155	1,172	19.0%	Yes		6,098	1,368	22.4%		No
Census Tract 7251	1,979	263	13.3%		No	1,979	387	19.6%		No
Census Tract 7300	2,278	294	12.9%		No	2,273	313	13.8%		No
Census Tract 7312.05	3,638	1,070	29.4%	Yes		3,638	1,361	37.4%	Yes	
Census Tract 7312.06	2,226	99	4.4%		No	2,084	671	32.2%	Yes	
Census Tract 7224.01	5,186	593	11.4%		No	5,181	941	18.2%		No
Census Tract 7224.02	3,803	424	11.1%		No	3,790	661	17.4%		No
Census Tract 7226	2,752	154	5.6%		No	2,740	338	12.3%		No
Census Tract 7227.02	4,196	784	18.7%	Yes		4,166	483	11.6%		No
Census Tract 7233	7,511	2,039	27.1%	Yes		7,480	1,697	22.7%		No
Census Tract 7234	3,319	422	12.7%		No	3,319	415	12.5%		No
Census Tract 7235	2,258	362	16.0%		No	2,249	600	26.7%		No
Census Tract 7260	1,497	210	14.0%		No	1,497	113	7.5%		No
Census Tract 7290	1,601	167	10.4%		No	1,601	449	28.0%	Yes	
Census Tract 7310.01	3,322	379	11.4%		No	3,311	392	11.8%		No
Census Tract 7227.01	4,672	527	11.3%		No	4,672	372	8.0%		No
Census Tract 7311.01	3,304	854	25.8%	Yes		3,264	915	28.0%	Yes	
Census Tract 7270.01	2,155	124	5.8%		No	2,145	354	16.5%		No
Census Tract 7270.02	1,315	48	3.7%		No	1,315	177	13.5%		No
Census Tract 7280	5,229	1,106	21.2%	Yes		5,229	1,169	22.4%		No
Census Tract 7150	11,055	4,477	40.5%	Yes		10,932	5,218	47.7%	Yes	
Census Tract 7152	12,485	2,169	17.4%	Yes		12,343	7,380	59.8%	Yes	
Census Tract 7153.01	8,814	1,313	14.9%		No	8,424	4,630	55.0%	Yes	
Census Tract 7153.02	6,483	480	7.4%		No	6,366	4,676	73.5%	Yes	
Census Tract 7154.01	5,300	180	3.4%		No	5,113	2,749	53.8%	Yes	
Census Tract 7154.02	5,689	114	2.0%		No	5,388	3,802	70.6%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 7155	13,888	1,320	9.5%		No	13,882	7,545	54.4%	Yes	
Census Tract 7156	8,643	1,435	16.6%		No	8,173	4,876	59.7%	Yes	
Census Tract 7157	10,735	1,280	11.9%		No	10,467	6,345	60.6%	Yes	
Census Tract 7158	8,681	1,744	20.1%	Yes		8,441	3,999	47.4%	Yes	
Census Tract 7159.01	2,459	959	39.0%	Yes		2,459	888	36.1%	Yes	
Census Tract 7159.02	4,547	1,596	35.1%	Yes		4,488	1,164	25.9%		No
Census Tract 7160	3,687	313	8.5%		No	3,687	988	26.8%		No
Census Tract 7220.01	5,177	948	18.3%	Yes		5,177	580	11.2%		No
Census Tract 7220.02	8,750	2,428	27.7%	Yes		8,294	2,353	28.4%	Yes	
Census Tract 7221	6,357	1,134	17.8%	Yes		6,108	798	13.1%		No
Census Tract 7130	4,636	842	18.2%	Yes		4,636	764	16.5%		No
Census Tract 7131	6,412	661	10.3%		No	6,391	752	11.8%		No
Census Tract 7132.02	3,967	716	18.0%	Yes		3,951	524	13.3%		No
Census Tract 7132.03	5,063	1,293	25.5%	Yes		5,034	1,374	27.3%	Yes	
Census Tract 7133	3,909	201	5.1%		No	3,805	964	25.3%		No
Census Tract 7134.01	5,006	999	20.0%	Yes		4,789	992	20.7%		No
Census Tract 7134.02	3,155	383	12.1%		No	3,145	762	24.2%		No
Census Tract 7135	2,784	294	10.6%		No	2,784	455	16.3%		No
Census Tract 7136	3,594	397	11.0%		No	3,594	168	4.7%		No
Census Tract 7137	2,590	278	10.7%		No	2,590	350	13.5%		No
Census Tract 7139	6,559	1,847	28.2%	Yes		6,559	1,579	24.1%		No
Census Tract 7140	6,364	1,080	17.0%	Yes		6,352	674	10.6%		No
Census Tract 7141	3,364	455	13.5%		No	3,201	728	22.7%		No
Census Tract 7142	7,586	1,310	17.3%	Yes		7,553	1,305	17.3%		No
Census Tract 7143	3,520	176	5.0%		No	3,520	443	12.6%		No
Census Tract 7222	2,398	214	8.9%		No	2,398	696	29.0%	Yes	
Census Tract 7132.01	2,447	179	7.3%		No	2,447	236	9.6%		No
Census Tract 7101	4,537	400	8.8%		No	4,529	694	15.3%		No
Census Tract 7111	4,260	408	9.6%		No	4,155	384	9.2%		No
Census Tract 7112	4,505	695	15.4%		No	4,487	225	5.0%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 7113	4,084	166	4.1%		No	4,058	433	10.7%		No
Census Tract 7114	5,749	628	10.9%		No	5,749	466	8.1%		No
Census Tract 7120	1,444	118	8.2%		No	1,426	118	8.3%		No
Census Tract 7138	3,540	593	16.8%		No	3,540	662	18.7%		No
Census Tract 7144	846	99	11.7%		No	846	148	17.5%		No
Census Tract 7381	1,564	33	2.1%		No	1,550	239	15.4%		No
Census Tract 9800	-	-	0.0%		No	-	-	0.0%		No
Census Tract 7225	1,756	99	5.6%		No	1,756	395	22.5%		No
TOTAL Ocean County	***596,415***	***91,444***	***15.3%***	***39***	***86***	***589,122***	***146,317***	***24.8%***	***31***	***94***

Table 17C-20

Environmental Justice Populations: Passaic County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Passaic County, New Jersey										
Census Tract 2462.02	4,995	671	13.4%		No	4,995	172	3.4%		No
Census Tract 2462.03	3,739	772	20.6%		No	3,739	166	4.4%		No
Census Tract 2463	4,824	1,700	35.2%		No	4,796	1,338	27.9%	Yes	
Census Tract 1165	8,088	2,677	33.1%		No	7,985	1,034	12.9%		No
Census Tract 1964.01	4,137	1,032	24.9%		No	4,080	665	16.3%		No
Census Tract 1964.02	6,892	2,340	34.0%		No	6,866	687	10.0%		No
Census Tract 2366.01	4,547	1,342	29.5%		No	4,197	846	20.2%		No
Census Tract 2366.02	7,162	1,158	16.2%		No	7,162	523	7.3%		No
Census Tract 2460.02	2,981	450	15.1%		No	2,807	195	6.9%		No
Census Tract 2460.03	5,790	1,148	19.8%		No	5,615	295	5.3%		No
Census Tract 2462.01	6,345	1,298	20.5%		No	6,191	510	8.2%		No
Census Tract 2568.05	5,277	591	11.2%		No	5,246	728	13.9%		No
Census Tract 2167.01	6,936	844	12.2%		No	6,860	350	5.1%		No
Census Tract 2167.02	5,315	1,140	21.4%		No	5,306	368	6.9%		No
Census Tract 2568.02	3,624	289	8.0%		No	3,624	328	9.1%		No
Census Tract 2568.01	5,503	1,183	21.5%		No	5,464	912	16.7%		No
Census Tract 2568.03	5,234	1,371	26.2%		No	5,043	1,102	21.9%		No
Census Tract 2568.04	6,766	670	9.9%		No	6,615	661	10.0%		No
Census Tract 1244.02	5,288	3,042	57.5%	Yes		5,254	848	16.1%		No
Census Tract 1757.01	5,345	3,571	66.8%	Yes		5,345	1,711	32.0%	Yes	
Census Tract 1242	7,738	3,631	46.9%		No	7,738	1,088	14.1%		No
Census Tract 1243.11	4,909	2,139	43.6%		No	4,877	471	9.7%		No
Census Tract 1243.12	3,989	1,384	34.7%		No	3,562	467	13.1%		No
Census Tract 1243.23	3,241	1,722	53.1%	Yes		3,241	674	20.8%		No
Census Tract 1337.01	5,043	3,836	76.1%	Yes		5,043	1,225	24.3%		No
Census Tract 1337.02	3,282	1,767	53.8%	Yes		3,282	1,045	31.8%	Yes	
Census Tract 1540.01	6,146	1,437	23.4%		No	4,996	266	5.3%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1540.02	8,337	1,565	18.8%		No	8,337	1,575	18.9%		No
Census Tract 1801	7,749	6,747	87.1%	Yes		7,749	2,124	27.4%	Yes	
Census Tract 1802.01	3,874	3,559	91.9%	Yes		3,874	1,359	35.1%	Yes	
Census Tract 1802.02	7,176	6,468	90.1%	Yes		7,118	4,133	58.1%	Yes	
Census Tract 1803	6,355	5,726	90.1%	Yes		6,355	4,129	65.0%	Yes	
Census Tract 1806	4,798	4,605	96.0%	Yes		4,798	1,908	39.8%	Yes	
Census Tract 1818	2,822	2,524	89.4%	Yes		2,152	1,494	69.4%	Yes	
Census Tract 1819	4,854	3,800	78.3%	Yes		4,830	1,995	41.3%	Yes	
Census Tract 1820	1,477	1,395	94.4%	Yes		1,467	1,110	75.7%	Yes	
Census Tract 1821	3,684	3,426	93.0%	Yes		3,553	2,103	59.2%	Yes	
Census Tract 1832	3,042	2,840	93.4%	Yes		3,042	2,190	72.0%	Yes	
Census Tract 2036	5,865	4,631	79.0%	Yes		5,865	2,588	44.1%	Yes	
Census Tract 2238.01	3,053	1,109	36.3%		No	3,053	484	15.9%		No
Census Tract 2238.02	7,567	2,080	27.5%		No	7,417	555	7.5%		No
Census Tract 2239	208	77	37.0%		No	208	180	86.5%	Yes	
Census Tract 2461.01	6,598	1,728	26.2%		No	6,598	781	11.8%		No
Census Tract 2461.03	6,378	1,275	20.0%		No	6,196	401	6.5%		No
Census Tract 2461.04	3,135	514	16.4%		No	3,135	369	11.8%		No
Census Tract 2641.01	6,024	2,957	49.1%		No	6,024	1,780	29.5%	Yes	
Census Tract 2641.02	6,523	1,838	28.2%		No	6,512	1,179	18.1%		No
Census Tract 2642	4,542	4,409	97.1%	Yes		4,489	3,055	68.1%	Yes	
Census Tract 1244.01	7,946	3,094	38.9%		No	7,931	1,663	21.0%		No
Census Tract 1245	5,989	3,275	54.7%	Yes		5,989	1,275	21.3%		No
Census Tract 1246.02	4,804	2,258	47.0%		No	4,777	1,133	23.7%		No
Census Tract 1247	6,144	3,788	61.7%	Yes		6,144	2,042	33.2%	Yes	
Census Tract 1248	4,599	3,372	73.3%	Yes		4,530	1,579	34.9%	Yes	
Census Tract 1249	4,954	4,078	82.3%	Yes		4,954	2,224	44.9%	Yes	
Census Tract 1250	6,802	5,281	77.6%	Yes		6,802	2,249	33.1%	Yes	
Census Tract 1251	3,932	3,105	79.0%	Yes		3,932	1,831	46.6%	Yes	
Census Tract 1752	5,082	5,018	98.7%	Yes		5,031	3,669	72.9%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1753.01	3,629	3,455	95.2%	Yes		3,611	2,182	60.4%	Yes	
Census Tract 1753.02	4,302	4,019	93.4%	Yes		4,274	2,927	68.5%	Yes	
Census Tract 1754.01	5,875	5,583	95.0%	Yes		5,875	3,224	54.9%	Yes	
Census Tract 1754.02	4,491	4,278	95.3%	Yes		4,390	3,206	73.0%	Yes	
Census Tract 1755	7,396	7,134	96.5%	Yes		7,338	4,376	59.6%	Yes	
Census Tract 1756.01	2,517	185	7.4%		No	2,517	220	8.7%		No
Census Tract 1756.02	7,673	6,640	86.5%	Yes		7,656	2,917	38.1%	Yes	
Census Tract 1757.03	4,336	2,855	65.8%	Yes		4,336	1,189	27.4%	Yes	
Census Tract 1757.04	4,138	1,716	41.5%		No	4,078	1,351	33.1%	Yes	
Census Tract 1758.01	3,832	3,619	94.4%	Yes		3,832	2,547	66.5%	Yes	
Census Tract 1758.02	6,812	6,767	99.3%	Yes		6,812	5,007	73.5%	Yes	
Census Tract 1759	4,591	4,410	96.1%	Yes		4,591	3,373	73.5%	Yes	
Census Tract 1810	4,947	4,730	95.6%	Yes		4,947	2,678	54.1%	Yes	
Census Tract 1811	6,515	6,037	92.7%	Yes		6,515	2,719	41.7%	Yes	
Census Tract 1812	4,886	4,784	97.9%	Yes		4,886	2,189	44.8%	Yes	
Census Tract 1813	5,222	5,117	98.0%	Yes		5,222	3,022	57.9%	Yes	
Census Tract 1824	4,900	4,826	98.5%	Yes		4,900	2,469	50.4%	Yes	
Census Tract 1825	7,309	6,699	91.7%	Yes		7,099	1,998	28.1%	Yes	
Census Tract 1826	5,191	4,976	95.9%	Yes		5,191	1,649	31.8%	Yes	
Census Tract 1827	6,824	6,420	94.1%	Yes		6,824	3,556	52.1%	Yes	
Census Tract 1831.01	3,135	2,292	73.1%	Yes		3,125	1,079	34.5%	Yes	
Census Tract 1831.02	4,876	4,240	87.0%	Yes		4,862	2,064	42.5%	Yes	
Census Tract 1243.21	5,846	2,201	37.6%		No	5,814	930	16.0%		No
Census Tract 1243.22	4,387	1,702	38.8%		No	4,387	906	20.7%		No
Census Tract 1246.01	4,636	2,508	54.1%	Yes		4,436	1,543	34.8%	Yes	
Census Tract 1807	2,517	2,469	98.1%	Yes		2,517	1,383	54.9%	Yes	
Census Tract 1808	3,176	3,166	99.7%	Yes		3,176	1,913	60.2%	Yes	
Census Tract 1809	3,662	3,611	98.6%	Yes		3,662	2,285	62.4%	Yes	
Census Tract 1814	3,183	3,090	97.1%	Yes		3,183	2,231	70.1%	Yes	
Census Tract 1815	3,078	3,057	99.3%	Yes		3,078	2,293	74.5%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 1817.02	2,712	2,640	97.3%	Yes		2,691	1,678	62.4%	Yes	
Census Tract 1822	3,410	3,082	90.4%	Yes		3,364	2,638	78.4%	Yes	
Census Tract 1823.01	1,544	1,478	95.7%	Yes		1,544	693	44.9%	Yes	
Census Tract 1823.02	5,973	5,938	99.4%	Yes		5,973	3,703	62.0%	Yes	
Census Tract 1828	3,648	3,527	96.7%	Yes		3,648	2,228	61.1%	Yes	
Census Tract 1829	1,895	1,820	96.0%	Yes		1,895	1,360	71.8%	Yes	
Census Tract 1830	6,734	3,882	57.6%	Yes		6,717	3,296	49.1%	Yes	
Census Tract 1433	5,490	1,822	33.2%		No	5,481	1,185	21.6%		No
Census Tract 1432	6,418	1,131	17.6%		No	6,418	793	12.4%		No
Census Tract 1434	6,876	2,906	42.3%		No	6,876	1,564	22.7%		No
Census Tract 1635	8,437	1,337	15.8%		No	8,389	929	11.1%		No
Census Tract 2460.01	6,166	2,291	37.2%		No	4,166	767	18.4%		No
Census Tract 2461.02	3,003	1,445	48.1%		No	2,962	509	17.2%		No
TOTAL Passaic County	***503,637***	***295,632***	***58.7%***	***57***	***43***	***496,049***	***162,601***	***32.8%***	***57***	***43***

Table 17C-21

Environmental Justice Populations: Somerset County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Somerset County, New Jersey										
Census Tract 534.02	6,614	4,114	62.2%	Yes		6,507	481	7.4%		No
Census Tract 539.01	636	85	13.4%		No	636	64	10.1%		No
Census Tract 542.01	6,966	2,884	41.4%		No	6,913	580	8.4%		No
Census Tract 537.03	3,546	1,099	31.0%		No	3,541	136	3.8%		No
Census Tract 537.04	2,846	665	23.4%		No	2,840	71	2.5%		No
Census Tract 537.05	6,050	2,623	43.4%		No	6,050	521	8.6%		No
Census Tract 537.07	3,781	976	25.8%		No	3,629	101	2.8%		No
Census Tract 538.01	498	83	16.7%		No	496	63	12.7%		No
Census Tract 538.03	8,992	2,738	30.4%		No	8,992	479	5.3%		No
Census Tract 538.05	4,038	833	20.6%		No	4,030	290	7.2%		No
Census Tract 539.04	3,529	1,195	33.9%		No	3,529	174	4.9%		No
Census Tract 539.05	6,591	4,048	61.4%	Yes		6,591	161	2.4%		No
Census Tract 542.02	5,959	2,327	39.1%		No	5,792	357	6.2%		No
Census Tract 501	2,651	979	36.9%		No	2,388	524	21.9%		No
Census Tract 502	2,720	1,874	68.9%	Yes		2,716	672	24.7%		No
Census Tract 503	3,542	1,065	30.1%		No	3,532	315	8.9%		No
Census Tract 504	3,172	1,878	59.2%	Yes		3,172	851	26.8%		No
Census Tract 505	3,951	1,699	43.0%		No	3,950	852	21.6%		No
Census Tract 506	3,914	1,221	31.2%		No	3,896	338	8.7%		No
Census Tract 507.01	4,181	978	23.4%		No	4,139	280	6.8%		No
Census Tract 507.03	4,846	2,924	60.3%	Yes		4,827	608	12.6%		No
Census Tract 507.04	6,771	3,494	51.6%	Yes		6,771	646	9.5%		No
Census Tract 508.01	3,841	785	20.4%		No	3,710	95	2.6%		No
Census Tract 508.02	4,387	1,442	32.9%		No	4,251	306	7.2%		No
Census Tract 509.01	4,632	821	17.7%		No	4,632	295	6.4%		No
Census Tract 514	3,761	1,016	27.0%		No	3,761	790	21.0%		No
Census Tract 515	3,172	1,543	48.6%	Yes		3,172	1,102	34.7%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 516	3,297	1,192	36.2%		No	3,297	968	29.4%	Yes	
Census Tract 536.02	6,091	1,099	18.0%		No	6,091	396	6.5%		No
Census Tract 536.03	4,872	746	15.3%		No	4,865	335	6.9%		No
Census Tract 536.04	3,517	604	17.2%		No	3,517	369	10.5%		No
Census Tract 537.06	5,114	1,707	33.4%		No	5,114	430	8.4%		No
Census Tract 538.04	5,175	2,390	46.2%		No	5,175	578	11.2%		No
Census Tract 526.01	9,130	4,185	45.8%		No	9,003	364	4.0%		No
Census Tract 527	7,678	1,354	17.6%		No	7,678	413	5.4%		No
Census Tract 528	2,575	528	20.5%		No	2,271	262	11.5%		No
Census Tract 529.01	860	170	19.8%		No	857	126	14.7%		No
Census Tract 529.03	5,962	1,682	28.2%		No	5,960	493	8.3%		No
Census Tract 529.04	2,083	246	11.8%		No	1,974	249	12.6%		No
Census Tract 531.02	3,857	2,981	77.3%	Yes		3,857	680	17.6%		No
Census Tract 531.03	5,972	3,939	66.0%	Yes		5,966	740	12.4%		No
Census Tract 531.05	7,362	4,266	57.9%	Yes		7,068	606	8.6%		No
Census Tract 532	7,098	6,333	89.2%	Yes		7,098	1,722	24.3%		No
Census Tract 533	5,233	4,756	90.9%	Yes		5,233	1,774	33.9%	Yes	
Census Tract 534.03	4,529	3,179	70.2%	Yes		4,529	954	21.1%		No
Census Tract 534.04	10,682	7,635	71.5%	Yes		10,656	1,528	14.3%		No
Census Tract 535.01	4,671	1,873	40.1%		No	4,655	635	13.6%		No
Census Tract 543	9,536	4,297	45.1%		No	9,262	1,119	12.1%		No
Census Tract 509.02	3,701	842	22.8%		No	3,603	199	5.5%		No
Census Tract 509.03	5,146	1,333	25.9%		No	5,146	175	3.4%		No
Census Tract 510	6,962	3,294	47.3%		No	6,844	721	10.5%		No
Census Tract 511	3,193	2,114	66.2%	Yes		3,158	1,135	35.9%	Yes	
Census Tract 512	5,156	3,727	72.3%	Yes		5,156	840	16.3%		No
Census Tract 513	1,939	643	33.2%		No	1,938	228	11.8%		No
Census Tract 517	4,760	3,687	77.5%	Yes		4,718	1,532	32.5%	Yes	
Census Tract 518	4,074	3,264	80.1%	Yes		4,073	1,442	35.4%	Yes	
Census Tract 519	3,671	2,430	66.2%	Yes		3,667	223	6.1%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 520.01	4,049	2,712	67.0%	Yes		4,049	1,312	32.4%	Yes	
Census Tract 520.02	4,947	3,653	73.8%	Yes		4,947	1,510	30.5%	Yes	
Census Tract 521	7,114	3,113	43.8%		No	6,968	522	7.5%		No
Census Tract 522.03	5,307	1,486	28.0%		No	5,217	213	4.1%		No
Census Tract 530	4,534	2,646	58.4%	Yes		4,534	800	17.6%		No
Census Tract 522.01	5,497	1,502	27.3%		No	5,497	368	6.7%		No
Census Tract 522.04	4,916	1,392	28.3%		No	4,916	350	7.1%		No
Census Tract 523	6,039	1,401	23.2%		No	5,858	482	8.2%		No
Census Tract 524	5,617	954	17.0%		No	5,617	660	11.8%		No
Census Tract 526.03	4,093	742	18.1%		No	4,093	397	9.7%		No
Census Tract 541	8,242	2,675	32.5%		No	7,726	602	7.8%		No
TOTAL Somerset County	***329,838***	***144,161***	***43.7%***	***22***	***46***	***326,314***	***39,604***	***12.1%***	***8***	***60***

Table 17C-22

Environmental Justice Populations: Sussex County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Sussex County, New Jersey										
Census Tract 3741	3,484	581	16.7%	Yes		3,484	439	12.6%		No
Census Tract 3742	2,281	288	12.6%		No	2,261	219	9.7%		No
Census Tract 3740	3,197	237	7.4%		No	3,188	361	11.3%		No
Census Tract 3733	3,155	696	22.1%	Yes		3,155	322	10.2%		No
Census Tract 3734	6,036	322	5.3%		No	6,013	236	3.9%		No
Census Tract 3735	3,601	292	8.1%		No	3,134	521	16.6%		No
Census Tract 3736	2,937	354	12.1%		No	2,871	430	15.0%		No
Census Tract 3738	3,745	799	21.3%	Yes		3,733	741	19.9%		No
Census Tract 3743	3,436	514	15.0%		No	3,436	312	9.1%		No
Census Tract 3744	2,257	200	8.9%		No	2,252	132	5.9%		No
Census Tract 3745	1,782	348	19.5%	Yes		1,782	230	12.9%		No
Census Tract 3746	3,346	582	17.4%	Yes		3,322	328	9.9%		No
Census Tract 3747	3,762	734	19.5%	Yes		3,733	434	11.6%		No
Census Tract 3748	4,030	850	21.1%	Yes		4,015	445	11.1%		No
Census Tract 3749	4,707	1,623	34.5%	Yes		4,645	700	15.1%		No
Census Tract 3711	3,913	325	8.3%		No	3,913	510	13.0%		No
Census Tract 3712	1,870	232	12.4%		No	1,865	578	31.0%	Yes	
Census Tract 3718	7,012	617	8.8%		No	7,012	1,069	15.2%		No
Census Tract 3720	2,919	136	4.7%		No	2,919	315	10.8%		No
Census Tract 3721	1,960	240	12.2%		No	1,949	278	14.3%		No
Census Tract 3722	1,962	143	7.3%		No	1,962	189	9.6%		No
Census Tract 3723	4,164	403	9.7%		No	4,057	781	19.3%		No
Census Tract 3724	2,328	190	8.2%		No	2,317	352	15.2%		No
Census Tract 3725	3,152	549	17.4%	Yes		3,140	665	21.2%		No
Census Tract 3729	3,038	240	7.9%		No	3,034	1,102	36.3%	Yes	
Census Tract 3730	2,317	439	18.9%	Yes		2,309	221	9.6%		No
Census Tract 3731	6,007	1,198	19.9%	Yes		5,994	561	9.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 3737	4,165	1,053	25.3%	Yes		3,833	1,030	26.9%		No
Census Tract 3719	2,005	192	9.6%		No	2,005	237	11.8%		No
Census Tract 3739	3,911	129	3.3%		No	3,911	632	16.2%		No
Census Tract 3732	3,522	319	9.1%		No	3,522	254	7.2%		No
Census Tract 3713	3,284	440	13.4%		No	3,284	480	14.6%		No
Census Tract 3714	2,891	406	14.0%		No	2,890	166	5.7%		No
Census Tract 3715.02	5,135	745	14.5%		No	5,135	272	5.3%		No
Census Tract 3715.03	2,910	635	21.8%	Yes		2,910	274	9.4%		No
Census Tract 3716	2,723	275	10.1%		No	2,720	475	17.5%		No
Census Tract 3717	5,273	777	14.7%		No	5,235	476	9.1%		No
Census Tract 3726	4,697	516	11.0%		No	4,697	354	7.5%		No
Census Tract 3727	3,148	257	8.2%		No	3,148	520	16.5%		No
Census Tract 3728	1,740	281	16.1%	Yes		1,739	291	16.7%		No
Census Tract 3710	3,681	245	6.7%		No	3,670	1,202	32.8%	Yes	
TOTAL Sussex County	***141,483***	***19,402***	***13.7%***	***14***	***27***	***140,194***	***19,134***	***13.6%***	***3***	***38***

Table 17C-23

Environmental Justice Populations: Warren County, NJ

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Warren County, New Jersey										
Census Tract 316.01	4,696	573	12.2%		No	4,553	1,044	22.9%		No
Census Tract 316.02	2,431	319	13.1%		No	2,417	426	17.6%		No
Census Tract 317	2,590	263	10.2%		No	2,590	749	28.9%	Yes	
Census Tract 318	2,737	189	6.9%		No	2,737	394	14.4%		No
Census Tract 319	6,395	590	9.2%		No	6,380	710	11.1%		No
Census Tract 320	6,490	1,658	25.5%	Yes		6,468	1,634	25.3%		No
Census Tract 321.01	3,050	189	6.2%		No	3,050	438	14.4%		No
Census Tract 321.02	5,480	1,306	23.8%	Yes		5,468	775	14.2%		No
Census Tract 306	3,706	920	24.8%	Yes		3,706	1,320	35.6%	Yes	
Census Tract 307	4,575	1,563	34.2%	Yes		4,522	1,750	38.7%	Yes	
Census Tract 308	3,083	805	26.1%	Yes		3,009	1,190	39.5%	Yes	
Census Tract 309	2,980	1,235	41.4%	Yes		2,980	1,246	41.8%	Yes	
Census Tract 322	8,295	1,483	17.9%		No	8,118	1,210	14.9%		No
Census Tract 323	3,208	282	8.8%		No	3,208	419	13.1%		No
Census Tract 324	2,082	196	9.4%		No	2,073	273	13.2%		No
Census Tract 311.01	5,732	651	11.4%		No	5,732	531	9.3%		No
Census Tract 312	7,512	559	7.4%		No	7,452	563	7.6%		No
Census Tract 314.02	4,783	1,354	28.3%	Yes		4,148	1,161	28.0%	Yes	
Census Tract 315	7,397	1,766	23.9%	Yes		7,281	1,449	19.9%		No
Census Tract 311.02	3,891	357	9.2%		No	3,779	630	16.7%		No
Census Tract 313.01	5,450	1,057	19.4%		No	5,439	616	11.3%		No
Census Tract 313.02	4,597	651	14.2%		No	4,597	495	10.8%		No
Census Tract 314.01	4,702	1,433	30.5%	Yes		4,567	931	20.4%		No
TOTAL Warren County	***105,862***	***19,399***	***18.3%***	***9***	***14***	***104,274***	***19,954***	***19.1%***	***6***	***17***

Table 17C-24

Environmental Justice Populations: Dutchess County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Dutchess County, New York										
Census Tract 602.01	3,524	1,027	29.1%		No	3,516	592	16.8%		No
Census Tract 602.02	4,535	1,421	31.3%		No	4,498	1,265	28.1%	Yes	
Census Tract 1903.01	3,589	1,146	31.9%	Yes		3,579	520	14.5%		No
Census Tract 1904.01	2,227	712	32.0%	Yes		2,221	578	26.0%		No
Census Tract 2103.01	4,275	1,085	25.4%		No	4,223	731	17.3%		No
Census Tract 6400.01	1,442	1,124	77.9%	Yes		-	-	0.0%		No
Census Tract 6400.02	1,442	1,022	70.9%	Yes		37	28	75.7%	Yes	
Census Tract 601	4,710	2,123	45.1%	Yes		4,440	575	13.0%		No
Census Tract 2101.01	5,319	1,876	35.3%	Yes		5,160	1,521	29.5%	Yes	
Census Tract 2102.01	3,863	2,134	55.2%	Yes		3,854	1,005	26.1%		No
Census Tract 1405	2,750	1,145	41.6%	Yes		2,711	453	16.7%		No
Census Tract 1406.02	2,850	910	31.9%	Yes		2,850	522	18.3%		No
Census Tract 1408.01	2,725	319	11.7%		No	2,725	787	28.9%	Yes	
Census Tract 501.02	3,838	954	24.9%		No	3,838	696	18.1%		No
Census Tract 501.03	5,583	621	11.1%		No	5,583	531	9.5%		No
Census Tract 501.04	6,416	1,397	21.8%		No	6,353	854	13.4%		No
Census Tract 502.03	4,866	1,063	21.8%		No	4,866	799	16.4%		No
Census Tract 502.04	2,942	683	23.2%		No	2,925	430	14.7%		No
Census Tract 802.02	2,761	609	22.1%		No	2,721	217	8.0%		No
Census Tract 603.01	4,122	797	19.3%		No	3,976	553	13.9%		No
Census Tract 603.02	2,539	870	34.3%	Yes		2,511	436	17.4%		No
Census Tract 604	2,014	499	24.8%		No	1,986	465	23.4%		No
Census Tract 802.01	4,000	692	17.3%		No	4,000	279	7.0%		No
Census Tract 1404	5,323	1,152	21.6%		No	5,293	592	11.2%		No
Census Tract 1407	6,921	2,004	29.0%		No	6,912	493	7.1%		No
Census Tract 1901.01	3,610	819	22.7%		No	3,601	284	7.9%		No
Census Tract 1901.02	1,841	314	17.1%		No	1,765	320	18.1%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1902.03	2,530	971	38.4%	Yes		2,530	463	18.3%		No
Census Tract 1902.04	4,995	1,267	25.4%		No	4,994	364	7.3%		No
Census Tract 1904.02	3,245	1,082	33.3%	Yes		3,224	771	23.9%		No
Census Tract 3000	5,648	2,326	41.2%	Yes		5,591	1,811	32.4%	Yes	
Census Tract 200.04	2,923	597	20.4%		No	2,831	140	4.9%		No
Census Tract 200.05	5,023	675	13.4%		No	5,023	332	6.6%		No
Census Tract 1100.03	4,340	575	13.2%		No	4,331	330	7.6%		No
Census Tract 1100.05	2,029	542	26.7%		No	2,029	459	22.6%		No
Census Tract 6100	2,106	1,739	82.6%	Yes		80	5	6.3%		No
Census Tract 200.03	4,391	931	21.2%		No	4,385	791	18.0%		No
Census Tract 502.05	5,654	846	15.0%		No	5,644	516	9.1%		No
Census Tract 702.01	2,826	564	20.0%		No	2,795	674	24.1%		No
Census Tract 1401.01	6,028	2,120	35.2%	Yes		3,763	1,117	29.7%	Yes	
Census Tract 2201	4,764	2,870	60.2%	Yes		4,619	2,084	45.1%	Yes	
Census Tract 2202.01	3,522	2,597	73.7%	Yes		3,082	1,586	51.5%	Yes	
Census Tract 2207	2,537	1,704	67.2%	Yes		2,537	1,074	42.3%	Yes	
Census Tract 2208.01	3,684	1,501	40.7%	Yes		3,494	1,707	48.9%	Yes	
Census Tract 1800.01	4,616	551	11.9%		No	4,616	772	16.7%		No
Census Tract 2000.01	3,179	581	18.3%		No	3,046	688	22.6%		No
Census Tract 2000.02	1,443	243	16.8%		No	1,435	415	28.9%	Yes	
Census Tract 300	4,215	343	8.1%		No	4,205	718	17.1%		No
Census Tract 801.03	4,864	816	16.8%		No	4,856	482	9.9%		No
Census Tract 801.04	3,952	662	16.8%		No	3,931	273	6.9%		No
Census Tract 1300.03	5,473	1,076	19.7%		No	5,457	1,124	20.6%		No
Census Tract 1300.04	1,595	132	8.3%		No	1,587	255	16.1%		No
Census Tract 1300.05	2,635	354	13.4%		No	2,635	765	29.0%	Yes	
Census Tract 701.02	3,492	858	24.6%		No	3,396	738	21.7%		No
Census Tract 703.01	5,654	1,495	26.4%		No	5,649	937	16.6%		No
Census Tract 1402	6,657	1,846	27.7%		No	6,510	1,416	21.8%		No
Census Tract 1403	5,772	2,634	45.6%	Yes		5,455	1,488	27.3%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 4100	4,126	1,504	36.5%	Yes		2,114	461	21.8%		No
Census Tract 701.01	4,469	766	17.1%		No	4,159	1,061	25.5%		No
Census Tract 704.01	4,513	1,403	31.1%		No	2,811	396	14.1%		No
Census Tract 2203	4,708	3,841	81.6%	Yes		4,693	2,458	52.4%	Yes	
Census Tract 2209.01	3,991	2,285	57.3%	Yes		3,991	1,504	37.7%	Yes	
Census Tract 2210.01	3,779	1,028	27.2%		No	3,779	330	8.7%		No
Census Tract 2211	3,396	2,169	63.9%	Yes		3,396	2,235	65.8%	Yes	
Census Tract 1200	2,353	131	5.6%		No	2,353	726	30.9%	Yes	
Census Tract 1700	3,743	602	16.1%		No	3,675	711	19.3%		No
Census Tract 900	2,402	375	15.6%		No	2,392	386	16.1%		No
Census Tract 1500.04	3,481	444	12.8%		No	3,439	578	16.8%		No
Census Tract 1500.05	2,705	354	13.1%		No	2,556	602	23.6%		No
Census Tract 1500.06	1,899	225	11.8%		No	1,899	656	34.5%	Yes	
Census Tract 1600.03	2,663	357	13.4%		No	2,408	418	17.4%		No
Census Tract 1600.04	2,539	230	9.1%		No	2,424	421	17.4%		No
Census Tract 1600.05	2,570	387	15.1%		No	2,404	652	27.1%	Yes	
Census Tract 1500.03	3,069	628	20.5%		No	1,581	450	28.5%	Yes	
Census Tract 400.03	3,904	1,277	32.7%	Yes		3,904	1,427	36.6%	Yes	
Census Tract 1100.04	1,887	403	21.4%		No	1,773	528	29.8%	Yes	
Census Tract 100	4,303	1,032	24.0%		No	4,192	1,807	43.1%	Yes	
Census Tract 400.01	4,492	811	18.1%		No	4,492	1,038	23.1%		No
Census Tract 1000	2,943	545	18.5%		No	2,925	788	26.9%	Yes	
TOTAL Dutchess County	***293,754***	***83,813***	***28.5%***	***25***	***54***	***277,234***	***59,454***	***21.4%***	***24***	***55***

Table 17C-25

Environmental Justice Populations: Orange County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Orange County, New York										
Census Tract 148	5,789	1,046	18.1%		No	5,789	551	9.5%		No
Census Tract 145.02	5,450	328	6.0%		No	5,450	554	10.2%		No
Census Tract 146	7,082	1,057	14.9%		No	6,971	1,218	17.5%		No
Census Tract 21	3,437	1,055	30.7%		No	3,377	1,209	35.8%	Yes	
Census Tract 22	2,757	628	22.8%		No	2,743	1,098	40.0%	Yes	
Census Tract 23	2,401	516	21.5%		No	2,387	1,014	42.5%	Yes	
Census Tract 116.01	4,187	766	18.3%		No	4,048	1,175	29.0%	Yes	
Census Tract 116.02	3,555	697	19.6%		No	3,544	1,038	29.3%	Yes	
Census Tract 117.01	4,689	925	19.7%		No	4,668	548	11.7%		No
Census Tract 13	3,255	1,455	44.7%	Yes		3,176	614	19.3%		No
Census Tract 16	7,377	4,861	65.9%	Yes		7,265	1,872	25.8%		No
Census Tract 115	6,731	2,291	34.0%		No	5,394	1,362	25.3%		No
Census Tract 117.02	4,492	974	21.7%		No	4,492	1,103	24.6%		No
Census Tract 118.01	4,642	1,475	31.8%		No	4,642	1,330	28.7%	Yes	
Census Tract 118.02	2,626	403	15.3%		No	2,625	253	9.6%		No
Census Tract 145.01	4,159	572	13.8%		No	4,148	348	8.4%		No
Census Tract 151	6,568	4,743	72.2%	Yes		6,543	3,503	53.5%	Yes	
Census Tract 121	3,755	1,361	36.2%		No	3,610	1,244	34.5%	Yes	
Census Tract 122	3,678	825	22.4%		No	3,620	333	9.2%		No
Census Tract 123	5,467	898	16.4%		No	5,356	524	9.8%		No
Census Tract 143.01	5,006	2,262	45.2%	Yes		4,996	1,316	26.3%		No
Census Tract 143.02	7,017	1,841	26.2%		No	6,887	744	10.8%		No
Census Tract 147	4,220	929	22.0%		No	4,202	513	12.2%		No
Census Tract 11	4,242	2,852	67.2%	Yes		4,242	1,094	25.8%		No
Census Tract 12	2,251	1,773	78.8%	Yes		2,232	1,150	51.5%	Yes	
Census Tract 15	4,537	3,359	74.0%	Yes		4,537	1,687	37.2%	Yes	
Census Tract 112	4,122	2,037	49.4%	Yes		3,963	981	24.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 113	8,383	5,552	66.2%	Yes		8,261	2,309	28.0%	Yes	
Census Tract 119	6,558	1,759	26.8%		No	4,972	412	8.3%		No
Census Tract 144	4,517	1,041	23.0%		No	4,510	617	13.7%		No
Census Tract 109.01	3,303	853	25.8%		No	3,275	736	22.5%		No
Census Tract 109.02	5,899	971	16.5%		No	5,883	1,044	17.7%		No
Census Tract 110	4,901	1,552	31.7%		No	4,867	1,196	24.6%		No
Census Tract 111.01	2,608	1,549	59.4%	Yes		2,601	361	13.9%		No
Census Tract 111.02	4,217	2,298	54.5%	Yes		4,210	927	22.0%		No
Census Tract 114	4,090	1,207	29.5%		No	4,069	659	16.2%		No
Census Tract 149	3,534	795	22.5%		No	3,534	562	15.9%		No
Census Tract 132.01	5,228	1,457	27.9%		No	5,220	561	10.7%		No
Census Tract 135	6,147	2,345	38.1%		No	6,147	1,216	19.8%		No
Census Tract 139	4,663	1,454	31.2%		No	4,660	317	6.8%		No
Census Tract 141.02	5,945	3,471	58.4%	Yes		5,945	1,346	22.6%		No
Census Tract 132.02	2,217	785	35.4%		No	2,217	293	13.2%		No
Census Tract 133	6,868	1,350	19.7%		No	6,837	627	9.2%		No
Census Tract 134	3,293	1,077	32.7%		No	3,293	505	15.3%		No
Census Tract 141.01	4,405	2,428	55.1%	Yes		4,375	1,350	30.9%	Yes	
Census Tract 142.01	3,682	917	24.9%		No	3,682	772	21.0%		No
Census Tract 142.02	5,928	1,919	32.4%		No	5,904	549	9.3%		No
Census Tract 150.03	6,396	201	3.1%		No	6,390	4,754	74.4%	Yes	
Census Tract 150.04	7,389	98	1.3%		No	7,353	5,643	76.7%	Yes	
Census Tract 150.05	5,127	225	4.4%		No	5,127	3,941	76.9%	Yes	
Census Tract 150.06	6,353	74	1.2%		No	6,072	5,095	83.9%	Yes	
Census Tract 137	2,614	1,288	49.3%	Yes		2,614	395	15.1%		No
Census Tract 126.02	3,031	1,725	56.9%	Yes		3,031	876	28.9%	Yes	
Census Tract 129	2,858	301	10.5%		No	2,855	168	5.9%		No
Census Tract 130	4,559	1,094	24.0%		No	4,559	786	17.2%		No
Census Tract 131	5,028	703	14.0%		No	4,983	216	4.3%		No
Census Tract 136	6,383	1,921	30.1%		No	3,307	111	3.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 138	3,168	1,032	32.6%		No	3,168	450	14.2%		No
Census Tract 101.01	4,711	1,174	24.9%		No	4,668	304	6.5%		No
Census Tract 105	8,112	4,000	49.3%	Yes		7,860	1,352	17.2%		No
Census Tract 152	10,722	4,149	38.7%		No	10,433	1,624	15.6%		No
Census Tract 106	7,183	1,785	24.9%		No	7,086	1,225	17.3%		No
Census Tract 107	6,724	2,059	30.6%		No	6,718	1,579	23.5%		No
Census Tract 108.01	4,285	1,325	30.9%		No	4,285	820	19.1%		No
Census Tract 108.02	5,684	1,261	22.2%		No	5,611	1,203	21.4%		No
Census Tract 4	4,392	3,453	78.6%	Yes		4,245	2,748	64.7%	Yes	
Census Tract 102	5,104	1,558	30.5%		No	5,104	671	13.1%		No
Census Tract 1	3,437	1,784	51.9%	Yes		2,709	1,046	38.6%	Yes	
Census Tract 2	2,974	1,933	65.0%	Yes		2,966	1,353	45.6%	Yes	
Census Tract 3	6,903	6,051	87.7%	Yes		6,846	3,491	51.0%	Yes	
Census Tract 5.01	2,842	2,348	82.6%	Yes		2,839	1,516	53.4%	Yes	
Census Tract 5.02	3,763	3,164	84.1%	Yes		3,756	1,950	51.9%	Yes	
Census Tract 6	4,022	3,471	86.3%	Yes		4,015	2,445	60.9%	Yes	
Census Tract 101.02	5,520	2,153	39.0%		No	5,508	727	13.2%		No
Census Tract 103	3,585	1,210	33.8%		No	3,549	590	16.6%		No
Census Tract 104	3,795	1,580	41.6%	Yes		3,795	475	12.5%		No
Census Tract 126.01	4,503	2,232	49.6%	Yes		4,503	612	13.6%		No
Census Tract 127	4,135	2,117	51.2%	Yes		4,135	1,371	33.2%	Yes	
Census Tract 128	4,905	1,728	35.2%		No	4,883	1,117	22.9%		No
TOTAL Orange County	***380,085***	***135,906***	***35.8%***	***26***	***53***	***370,342***	***95,389***	***25.8%***	***25***	***54***

Table 17C-26

Environmental Justice Populations: Putnam County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Putnam County, New York										
Census Tract 107	2,433	286	11.8%		No	2,433	459	18.9%		No
Census Tract 108	3,457	702	20.3%		No	3,457	435	12.6%		No
Census Tract 110	4,066	758	18.6%		No	4,061	464	11.4%		No
Census Tract 111	5,152	785	15.2%		No	5,152	604	11.7%		No
Census Tract 112	7,290	1,248	17.1%		No	7,104	661	9.3%		No
Census Tract 109	7,531	1,795	23.8%	Yes		7,531	899	11.9%		No
Census Tract 106	3,825	303	7.9%		No	3,825	428	11.2%		No
Census Tract 103	4,804	1,489	31.0%	Yes		4,800	544	11.3%		No
Census Tract 104	3,263	837	25.7%	Yes		3,255	325	10.0%		No
Census Tract 115	6,345	1,162	18.3%		No	6,183	411	6.6%		No
Census Tract 116	6,129	787	12.8%		No	6,090	829	13.6%		No
Census Tract 117	4,930	823	16.7%		No	4,919	577	11.7%		No
Census Tract 118	8,139	3,375	41.5%	Yes		8,128	1,514	18.6%		No
Census Tract 113	4,069	543	13.3%		No	4,069	573	14.1%		No
Census Tract 114	5,225	756	14.5%		No	5,225	481	9.2%		No
Census Tract 102	8,411	1,873	22.3%		No	7,661	1,624	21.2%		No
Census Tract 105	5,179	956	18.5%		No	5,061	547	10.8%		No
Census Tract 119	5,084	1,345	26.5%	Yes		4,947	587	11.9%		No
Census Tract 101	3,455	1,204	34.8%	Yes		3,411	358	10.5%		No
TOTAL Putnam County	***98,787***	***21,027***	***21.3%***	***6***	***13***	***97,312***	***12,320***	***12.7%***	***-***	***19***

Table 17C-27

Environmental Justice Populations: Rockland County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Rockland County, New York										
Census Tract 134.01	4,787	1,407	29.4%		No	4,765	793	16.6%		No
Census Tract 134.02	3,771	1,005	26.7%		No	3,771	336	8.9%		No
Census Tract 130.01	2,917	706	24.2%		No	2,714	516	19.0%		No
Census Tract 105.03	2,429	1,137	46.8%	Yes		2,429	401	16.5%		No
Census Tract 116.01	3,352	355	10.6%		No	3,352	335	10.0%		No
Census Tract 116.02	5,830	1,127	19.3%		No	5,762	1,182	20.5%		No
Census Tract 116.03	5,409	1,409	26.0%		No	5,239	850	16.2%		No
Census Tract 119.01	3,968	1,820	45.9%	Yes		3,789	559	14.8%		No
Census Tract 119.02	3,207	1,410	44.0%	Yes		3,207	849	26.5%		No
Census Tract 120	3,768	634	16.8%		No	3,768	360	9.6%		No
Census Tract 117	3,116	649	20.8%		No	3,111	340	10.9%		No
Census Tract 118	918	583	63.5%	Yes		918	296	32.2%	Yes	
Census Tract 109.02	4,090	1,610	39.4%		No	4,090	567	13.9%		No
Census Tract 111.01	5,896	2,209	37.5%		No	5,667	619	10.9%		No
Census Tract 111.02	6,217	3,120	50.2%	Yes		6,205	1,192	19.2%		No
Census Tract 130.03	2,854	703	24.6%		No	2,373	394	16.6%		No
Census Tract 131	6,309	3,177	50.4%	Yes		6,309	1,738	27.5%	Yes	
Census Tract 132	3,387	1,217	35.9%		No	2,724	452	16.6%		No
Census Tract 108.04	4,261	1,486	34.9%		No	4,054	339	8.4%		No
Census Tract 109.01	4,809	1,168	24.3%		No	4,809	179	3.7%		No
Census Tract 112	6,609	1,488	22.5%		No	6,609	198	3.0%		No
Census Tract 113.03	5,622	1,914	34.0%		No	5,622	685	12.2%		No
Census Tract 114.03	5,690	1,414	24.9%		No	5,690	377	6.6%		No
Census Tract 128	6,891	1,001	14.5%		No	6,891	589	8.5%		No
Census Tract 130.02	5,433	1,307	24.1%		No	4,968	347	7.0%		No
Census Tract 113.01	7,704	5,969	77.5%	Yes		7,497	3,100	41.3%	Yes	
Census Tract 113.02	5,244	1,630	31.1%		No	5,238	723	13.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 114.01	4,250	1,385	32.6%		No	4,241	220	5.2%		No
Census Tract 114.04	4,181	1,952	46.7%	Yes		4,181	554	13.3%		No
Census Tract 114.05	4,487	2,767	61.7%	Yes		4,487	412	9.2%		No
Census Tract 115.04	7,273	6,438	88.5%	Yes		7,108	1,664	23.4%		No
Census Tract 115.05	3,313	182	5.5%		No	3,309	2,700	81.6%	Yes	
Census Tract 115.06	5,621	255	4.5%		No	5,448	4,584	84.1%	Yes	
Census Tract 121.01	6,345	594	9.4%		No	6,308	3,890	61.7%	Yes	
Census Tract 121.02	9,503	141	1.5%		No	9,468	8,046	85.0%	Yes	
Census Tract 121.03	5,899	17	0.3%		No	5,899	3,841	65.1%	Yes	
Census Tract 121.05	6,508	344	5.3%		No	6,398	5,138	80.3%	Yes	
Census Tract 121.06	4,808	1,009	21.0%		No	4,808	3,041	63.2%	Yes	
Census Tract 122.02	6,527	6,194	94.9%	Yes		6,525	3,689	56.5%	Yes	
Census Tract 122.03	3,375	111	3.3%		No	3,375	1,960	58.1%	Yes	
Census Tract 122.04	3,908	237	6.1%		No	3,908	2,311	59.1%	Yes	
Census Tract 123	6,283	4,356	69.3%	Yes		6,133	3,862	63.0%	Yes	
Census Tract 124.01	4,989	3,367	67.5%	Yes		4,989	1,759	35.3%	Yes	
Census Tract 124.02	5,377	4,893	91.0%	Yes		5,283	2,040	38.6%	Yes	
Census Tract 125.01	5,088	1,015	19.9%		No	5,045	1,798	35.6%	Yes	
Census Tract 125.02	5,513	1,887	34.2%		No	5,503	1,502	27.3%	Yes	
Census Tract 126	6,478	1,696	26.2%		No	6,459	436	6.8%		No
Census Tract 127	4,542	981	21.6%		No	4,542	828	18.2%		No
Census Tract 101.02	4,755	1,528	32.1%		No	4,755	491	10.3%		No
Census Tract 102	4,538	1,483	32.7%		No	4,519	752	16.6%		No
Census Tract 105.01	4,922	2,139	43.5%	Yes		4,922	411	8.4%		No
Census Tract 106.01	3,960	2,715	68.6%	Yes		3,899	1,206	30.9%	Yes	
Census Tract 106.02	6,663	5,079	76.2%	Yes		6,623	2,106	31.8%	Yes	
Census Tract 107.01	4,376	3,004	68.6%	Yes		4,215	1,221	29.0%	Yes	
Census Tract 107.02	3,953	3,647	92.3%	Yes		3,953	1,534	38.8%	Yes	
Census Tract 107.03	3,736	2,987	80.0%	Yes		3,736	1,701	45.5%	Yes	
Census Tract 108.01	4,558	1,095	24.0%		No	4,558	399	8.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 108.02	5,195	1,235	23.8%		No	5,195	418	8.0%		No
Census Tract 108.03	5,413	1,686	31.1%		No	5,413	508	9.4%		No
Census Tract 105.02	7,075	4,330	61.2%	Yes		7,075	2,495	35.3%	Yes	
Census Tract 115.01	7,818	775	9.9%		No	7,812	1,355	17.3%		No
Census Tract 115.02	7,844	3,655	46.6%	Yes		7,781	1,752	22.5%		No
Census Tract 133	2,540	581	22.9%		No	2,539	406	16.0%		No
Census Tract 110	2,262	481	21.3%		No	2,091	203	9.7%		No
Census Tract 101.01	6,058	1,711	28.2%		No	6,058	925	15.3%		No
TOTAL Rockland County	***324,422***	***119,607***	***36.9%***	***22***	***43***	***320,132***	***90,474***	***28.3%***	***24***	***41***

Table 17C-28

Environmental Justice Populations: Suffolk County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Suffolk County, New York										
Census Tract 1232.01	2,252	1,688	75.0%	Yes		2,217	565	25.5%		No
Census Tract 1233.01	7,687	7,237	94.1%	Yes		7,624	1,722	22.6%		No
Census Tract 1111	7,898	5,311	67.2%	Yes		7,851	2,998	38.2%	Yes	
Census Tract 1119	5,055	814	16.1%		No	5,041	465	9.2%		No
Census Tract 1122.06	7,581	1,047	13.8%		No	7,303	561	7.7%		No
Census Tract 1235	6,278	2,514	40.0%	Yes		5,842	1,601	27.4%	Yes	
Census Tract 1236	3,277	264	8.1%		No	3,268	214	6.5%		No
Census Tract 1237.01	7,272	5,895	81.1%	Yes		7,148	2,290	32.0%	Yes	
Census Tract 1237.02	8,532	4,229	49.6%	Yes		8,526	2,903	34.0%	Yes	
Census Tract 1238.01	3,931	1,000	25.4%		No	3,931	617	15.7%		No
Census Tract 1241.01	4,184	873	20.9%		No	4,178	496	11.9%		No
Census Tract 1244.02	3,629	444	12.2%		No	3,629	98	2.7%		No
Census Tract 1238.02	3,826	1,204	31.5%		No	3,814	884	23.2%		No
Census Tract 1241.02	3,496	737	21.1%		No	3,496	655	18.7%		No
Census Tract 1242	5,357	1,168	21.8%		No	5,324	662	12.4%		No
Census Tract 1244.01	3,474	341	9.8%		No	3,206	594	18.5%		No
Census Tract 1223	3,916	1,312	33.5%		No	3,442	602	17.5%		No
Census Tract 1224.04	3,412	1,247	36.5%	Yes		3,390	497	14.7%		No
Census Tract 1225.02	4,931	4,699	95.3%	Yes		4,919	442	9.0%		No
Census Tract 1229.01	6,316	1,911	30.3%		No	6,139	860	14.0%		No
Census Tract 1229.02	4,313	583	13.5%		No	4,292	570	13.3%		No
Census Tract 1230.01	5,713	2,039	35.7%		No	5,713	669	11.7%		No
Census Tract 1230.02	4,690	1,915	40.8%	Yes		4,618	840	18.2%		No
Census Tract 1232.02	8,558	7,934	92.7%	Yes		8,541	1,870	21.9%		No
Census Tract 1233.02	2,025	1,924	95.0%	Yes		1,978	633	32.0%	Yes	
Census Tract 1234.01	4,258	1,765	41.5%	Yes		4,250	890	20.9%		No
Census Tract 1234.02	6,366	1,933	30.4%		No	6,366	878	13.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 1239	5,634	1,867	33.1%		No	5,569	833	15.0%		No
Census Tract 1240.01	5,051	1,234	24.4%		No	5,032	907	18.0%		No
Census Tract 1240.02	3,257	1,019	31.3%		No	3,257	302	9.3%		No
Census Tract 1243	6,593	1,695	25.7%		No	6,385	1,496	23.4%		No
Census Tract 1467.04	2,050	257	12.5%		No	2,050	282	13.8%		No
Census Tract 1467.05	2,862	317	11.1%		No	2,862	320	11.2%		No
Census Tract 1467.06	2,609	246	9.4%		No	2,596	205	7.9%		No
Census Tract 1468	6,174	707	11.5%		No	6,118	954	15.6%		No
Census Tract 1469.01	5,123	294	5.7%		No	5,123	373	7.3%		No
Census Tract 1469.02	3,769	198	5.3%		No	3,421	373	10.9%		No
Census Tract 1470.01	4,257	451	10.6%		No	4,257	240	5.6%		No
Census Tract 1470.03	4,801	892	18.6%		No	4,801	375	7.8%		No
Census Tract 1471	3,075	381	12.4%		No	3,068	227	7.4%		No
Census Tract 1231.01	3,170	670	21.1%		No	3,149	384	12.2%		No
Census Tract 1231.02	4,129	1,066	25.8%		No	4,129	772	18.7%		No
Census Tract 1245	5,075	706	13.9%		No	5,075	373	7.3%		No
Census Tract 1246.01	2,637	240	9.1%		No	2,637	305	11.6%		No
Census Tract 1246.02	4,344	387	8.9%		No	4,344	534	12.3%		No
Census Tract 1121.03	4,569	685	15.0%		No	4,147	852	20.5%		No
Census Tract 1122.11	4,437	950	21.4%		No	4,425	304	6.9%		No
Census Tract 1227.07	3,119	963	30.9%		No	3,119	536	17.2%		No
Census Tract 1228.01	5,072	3,067	60.5%	Yes		5,022	1,127	22.4%		No
Census Tract 1352.01	2,116	130	6.1%		No	2,116	150	7.1%		No
Census Tract 1352.05	5,060	696	13.8%		No	5,060	379	7.5%		No
Census Tract 1352.08	3,091	275	8.9%		No	3,091	174	5.6%		No
Census Tract 1456.02	6,903	6,268	90.8%	Yes		6,823	1,861	27.3%	Yes	
Census Tract 1456.03	6,442	5,524	85.7%	Yes		6,360	1,936	30.4%	Yes	
Census Tract 1456.04	4,645	4,008	86.3%	Yes		4,600	1,841	40.0%	Yes	
Census Tract 1459.01	3,158	1,840	58.3%	Yes		3,131	605	19.3%		No
Census Tract 1459.02	10,721	9,389	87.6%	Yes		10,645	3,137	29.5%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1459.03	5,411	2,198	40.6%	Yes		5,392	1,323	24.5%		No
Census Tract 1460.01	6,018	5,033	83.6%	Yes		5,874	1,555	26.5%		No
Census Tract 1460.02	5,924	4,963	83.8%	Yes		5,870	1,856	31.6%	Yes	
Census Tract 1467.03	4,117	2,089	50.7%	Yes		4,072	470	11.5%		No
Census Tract 2011	6,037	4,432	73.4%	Yes		5,496	1,438	26.2%		No
Census Tract 1112.01	3,481	1,977	56.8%	Yes		3,339	958	28.7%	Yes	
Census Tract 1112.02	5,371	2,184	40.7%	Yes		5,371	1,262	23.5%		No
Census Tract 1114.02	4,842	1,097	22.7%		No	4,826	619	12.8%		No
Census Tract 1115.06	3,630	1,335	36.8%	Yes		3,595	709	19.7%		No
Census Tract 1120.01	5,475	1,441	26.3%		No	5,426	611	11.3%		No
Census Tract 1120.02	4,847	925	19.1%		No	4,659	726	15.6%		No
Census Tract 1121.02	3,805	803	21.1%		No	3,805	79	2.1%		No
Census Tract 1121.04	2,109	571	27.1%		No	2,102	214	10.2%		No
Census Tract 1122.04	3,916	624	15.9%		No	3,903	403	10.3%		No
Census Tract 1122.1	6,915	2,118	30.6%		No	6,902	450	6.5%		No
Census Tract 1122.12	3,568	1,089	30.5%		No	3,407	263	7.7%		No
Census Tract 1122.13	5,091	2,129	41.8%	Yes		5,037	425	8.4%		No
Census Tract 1122.14	6,219	1,519	24.4%		No	6,219	851	13.7%		No
Census Tract 1224.03	2,296	1,818	79.2%	Yes		2,296	302	13.2%		No
Census Tract 1224.05	3,447	2,952	85.6%	Yes		3,380	476	14.1%		No
Census Tract 1224.06	4,997	4,936	98.8%	Yes		4,973	1,909	38.4%	Yes	
Census Tract 1225.01	4,832	4,665	96.5%	Yes		4,768	2,604	54.6%	Yes	
Census Tract 1226.01	5,886	2,368	40.2%	Yes		5,813	626	10.8%		No
Census Tract 1226.02	4,825	1,961	40.6%	Yes		4,635	1,053	22.7%		No
Census Tract 1226.03	5,692	2,142	37.6%	Yes		5,645	906	16.0%		No
Census Tract 1227.04	2,147	1,161	54.1%	Yes		2,112	265	12.5%		No
Census Tract 1227.05	3,123	1,491	47.7%	Yes		3,119	789	25.3%		No
Census Tract 1227.06	4,045	1,623	40.1%	Yes		4,035	1,048	26.0%		No
Census Tract 1228.02	4,143	1,597	38.5%	Yes		4,129	535	13.0%		No
Census Tract 1472	6,172	3,545	57.4%	Yes		6,154	1,260	20.5%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1473	8,218	5,704	69.4%	Yes		8,143	1,302	16.0%		No
Census Tract 1474.01	5,630	1,310	23.3%		No	5,580	486	8.7%		No
Census Tract 1474.02	3,284	364	11.1%		No	3,284	89	2.7%		No
Census Tract 1475.01	6,989	1,369	19.6%		No	6,962	920	13.2%		No
Census Tract 1475.02	6,233	433	6.9%		No	6,132	155	2.5%		No
Census Tract 1475.03	1,405	114	8.1%		No	1,405	37	2.6%		No
Census Tract 1476.01	2,238	262	11.7%		No	2,168	238	11.0%		No
Census Tract 1477.02	5,010	456	9.1%		No	5,000	794	15.9%		No
Census Tract 1352.04	4,642	274	5.9%		No	4,633	527	11.4%		No
Census Tract 1352.09	3,065	446	14.6%		No	3,065	229	7.5%		No
Census Tract 1353.01	3,692	476	12.9%		No	3,672	189	5.1%		No
Census Tract 1353.03	4,093	421	10.3%		No	4,074	394	9.7%		No
Census Tract 1353.04	3,340	199	6.0%		No	3,340	201	6.0%		No
Census Tract 1354.01	6,662	825	12.4%		No	6,448	521	8.1%		No
Census Tract 1354.03	4,546	1,046	23.0%		No	4,532	610	13.5%		No
Census Tract 1456.05	4,172	3,527	84.5%	Yes		3,982	1,124	28.2%	Yes	
Census Tract 1457.01	4,964	1,887	38.0%	Yes		4,922	1,263	25.7%		No
Census Tract 1457.02	7,209	5,939	82.4%	Yes		7,034	1,930	27.4%	Yes	
Census Tract 1457.03	4,210	3,011	71.5%	Yes		4,191	929	22.2%		No
Census Tract 1457.04	6,993	5,547	79.3%	Yes		6,926	1,142	16.5%		No
Census Tract 1458.03	4,944	1,258	25.4%		No	4,934	773	15.7%		No
Census Tract 1458.04	3,341	1,752	52.4%	Yes		3,281	580	17.7%		No
Census Tract 1458.05	5,703	1,485	26.0%		No	5,678	727	12.8%		No
Census Tract 1458.07	4,192	1,011	24.1%		No	4,192	309	7.4%		No
Census Tract 1458.08	3,001	804	26.8%		No	3,001	302	10.1%		No
Census Tract 1460.03	9,998	8,024	80.3%	Yes		9,838	1,882	19.1%		No
Census Tract 1461.02	2,848	2,378	83.5%	Yes		2,830	651	23.0%		No
Census Tract 1461.03	4,435	1,678	37.8%	Yes		4,422	764	17.3%		No
Census Tract 1461.05	6,454	5,411	83.8%	Yes		6,439	1,629	25.3%		No
Census Tract 1461.06	5,362	4,619	86.1%	Yes		5,143	1,335	26.0%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1462.01	5,623	5,021	89.3%	Yes		5,571	1,871	33.6%	Yes	
Census Tract 1462.02	4,205	3,842	91.4%	Yes		4,168	1,323	31.7%	Yes	
Census Tract 1462.03	4,923	3,893	79.1%	Yes		4,882	2,194	44.9%	Yes	
Census Tract 1462.04	6,720	5,820	86.6%	Yes		6,718	2,090	31.1%	Yes	
Census Tract 1462.05	2,363	286	12.1%		No	2,358	347	14.7%		No
Census Tract 1462.06	2,141	747	34.9%		No	2,141	344	16.1%		No
Census Tract 1463	2,241	1,072	47.8%	Yes		2,177	703	32.3%	Yes	
Census Tract 1464.02	3,883	760	19.6%		No	3,858	523	13.6%		No
Census Tract 1464.03	4,927	4,096	83.1%	Yes		4,858	1,875	38.6%	Yes	
Census Tract 1464.04	3,706	2,587	69.8%	Yes		3,676	1,282	34.9%	Yes	
Census Tract 1465	5,579	1,177	21.1%		No	5,529	456	8.2%		No
Census Tract 1466.04	4,430	1,471	33.2%		No	4,430	666	15.0%		No
Census Tract 1466.05	983	262	26.7%		No	983	88	9.0%		No
Census Tract 1466.06	6,908	892	12.9%		No	6,908	702	10.2%		No
Census Tract 1466.07	2,354	502	21.3%		No	2,341	385	16.4%		No
Census Tract 1476.02	4,746	327	6.9%		No	4,746	439	9.2%		No
Census Tract 1477.01	3,442	457	13.3%		No	3,195	291	9.1%		No
Census Tract 1478.03	3,126	157	5.0%		No	3,126	364	11.6%		No
Census Tract 1585.02	3,708	960	25.9%		No	3,667	929	25.3%		No
Census Tract 1585.06	2,595	404	15.6%		No	2,595	136	5.2%		No
Census Tract 1586.04	4,842	1,237	25.5%		No	4,783	661	13.8%		No
Census Tract 1586.08	4,123	1,779	43.1%	Yes		4,074	802	19.7%		No
Census Tract 1586.09	4,624	1,069	23.1%		No	4,619	656	14.2%		No
Census Tract 1478.02	3,738	268	7.2%		No	3,648	376	10.3%		No
Census Tract 1479.02	4,103	357	8.7%		No	4,103	331	8.1%		No
Census Tract 1595.1	194	94	48.5%	Yes		194	47	24.2%		No
Census Tract 1466.08	2,596	870	33.5%		No	2,596	527	20.3%		No
Census Tract 1466.11	3,233	888	27.5%		No	3,233	326	10.1%		No
Census Tract 1466.12	5,204	974	18.7%		No	5,202	387	7.4%		No
Census Tract 1466.13	3,961	897	22.6%		No	3,961	687	17.3%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 1466.14	4,790	433	9.0%		No	4,770	329	6.9%		No
Census Tract 1466.15	4,431	863	19.5%		No	4,413	426	9.7%		No
Census Tract 1478.04	5,604	535	9.5%		No	5,456	605	11.1%		No
Census Tract 1479.01	4,299	778	18.1%		No	4,299	807	18.8%		No
Census Tract 1586.05	5,046	1,035	20.5%		No	5,046	654	13.0%		No
Census Tract 1586.06	4,912	1,023	20.8%		No	4,803	656	13.7%		No
Census Tract 1586.07	3,139	893	28.4%		No	3,105	461	14.8%		No
Census Tract 1587.07	1,836	527	28.7%		No	1,836	175	9.5%		No
Census Tract 1587.11	5,410	1,105	20.4%		No	5,410	1,110	20.5%		No
Census Tract 1587.12	7,844	3,302	42.1%	Yes		7,516	1,916	25.5%		No
Census Tract 1588.02	4,942	531	10.7%		No	4,923	256	5.2%		No
Census Tract 1588.03	6,360	1,563	24.6%		No	6,339	501	7.9%		No
Census Tract 1588.04	7,657	2,343	30.6%		No	7,638	1,311	17.2%		No
Census Tract 1589	7,797	3,467	44.5%	Yes		7,788	2,284	29.3%	Yes	
Census Tract 1590	4,587	1,502	32.7%		No	4,583	1,131	24.7%		No
Census Tract 1591.02	6,330	2,196	34.7%		No	6,068	1,469	24.2%		No
Census Tract 1591.03	5,820	4,460	76.6%	Yes		5,565	2,368	42.6%	Yes	
Census Tract 1591.05	7,487	2,477	33.1%		No	7,477	1,590	21.3%		No
Census Tract 1591.06	6,597	2,799	42.4%	Yes		5,755	1,080	18.8%		No
Census Tract 1591.07	3,658	860	23.5%		No	3,628	809	22.3%		No
Census Tract 1591.08	7,494	2,802	37.4%	Yes		7,494	609	8.1%		No
Census Tract 1592.01	2,769	589	21.3%		No	2,769	461	16.6%		No
Census Tract 1592.03	5,586	481	8.6%		No	5,563	711	12.8%		No
Census Tract 1592.04	4,251	1,301	30.6%		No	4,035	758	18.8%		No
Census Tract 1593	2,041	154	7.5%		No	2,041	232	11.4%		No
Census Tract 1101.02	4,932	733	14.9%		No	4,861	259	5.3%		No
Census Tract 1102	5,037	506	10.0%		No	5,037	557	11.1%		No
Census Tract 1109.01	2,777	366	13.2%		No	2,777	312	11.2%		No
Census Tract 1109.02	4,474	2,742	61.3%	Yes		4,461	1,679	37.6%	Yes	
Census Tract 1103	5,031	407	8.1%		No	5,030	506	10.1%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 1104.01	2,219	95	4.3%		No	2,219	178	8.0%		No
Census Tract 1104.02	3,221	195	6.1%		No	3,221	183	5.7%		No
Census Tract 1105.01	2,937	432	14.7%		No	2,937	286	9.7%		No
Census Tract 1105.02	2,783	191	6.9%		No	2,783	136	4.9%		No
Census Tract 1106	7,328	587	8.0%		No	7,328	937	12.8%		No
Census Tract 1108.01	1,948	84	4.3%		No	1,941	197	10.1%		No
Census Tract 1110.01	2,011	368	18.3%		No	1,936	211	10.9%		No
Census Tract 1110.02	5,432	3,285	60.5%	Yes		5,371	2,117	39.4%	Yes	
Census Tract 1113	4,445	347	7.8%		No	4,402	496	11.3%		No
Census Tract 1114.01	1,368	286	20.9%		No	1,327	141	10.6%		No
Census Tract 1115.03	4,479	895	20.0%		No	4,479	668	14.9%		No
Census Tract 1115.04	1,554	296	19.0%		No	1,541	90	5.8%		No
Census Tract 1115.05	7,130	3,444	48.3%	Yes		6,776	1,401	20.7%		No
Census Tract 1117.03	3,015	328	10.9%		No	3,015	223	7.4%		No
Census Tract 1117.04	3,466	340	9.8%		No	3,466	295	8.5%		No
Census Tract 1118.02	2,911	437	15.0%		No	2,891	159	5.5%		No
Census Tract 1118.03	2,914	426	14.6%		No	2,912	219	7.5%		No
Census Tract 1118.04	2,505	282	11.3%		No	2,505	154	6.1%		No
Census Tract 1347.02	5,495	704	12.8%		No	5,495	800	14.6%		No
Census Tract 1347.03	3,719	169	4.5%		No	3,719	320	8.6%		No
Census Tract 1351.01	4,238	1,029	24.3%		No	4,238	240	5.7%		No
Census Tract 1351.02	4,535	655	14.4%		No	4,535	540	11.9%		No
Census Tract 1351.03	5,014	321	6.4%		No	4,985	233	4.7%		No
Census Tract 1108.03	6,056	756	12.5%		No	5,880	405	6.9%		No
Census Tract 1116.01	4,403	475	10.8%		No	4,376	680	15.5%		No
Census Tract 1116.02	2,605	125	4.8%		No	2,602	277	10.6%		No
Census Tract 1117.01	5,937	802	13.5%		No	5,918	1,030	17.4%		No
Census Tract 1118.01	6,314	1,344	21.3%		No	6,314	569	9.0%		No
Census Tract 1347.04	2,528	256	10.1%		No	2,319	245	10.6%		No
Census Tract 1349.02	4,738	315	6.6%		No	4,408	326	7.4%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 1349.03	1,268	145	11.4%		No	1,268	97	7.6%		No
Census Tract 1349.04	6,106	959	15.7%		No	5,992	579	9.7%		No
Census Tract 1349.06	5,692	685	12.0%		No	5,531	1,036	18.7%		No
Census Tract 1349.07	4,169	632	15.2%		No	4,169	653	15.7%		No
Census Tract 1351.04	5,502	415	7.5%		No	5,416	528	9.7%		No
Census Tract 1350.02	5,510	954	17.3%		No	5,508	446	8.1%		No
Census Tract 1350.03	4,787	557	11.6%		No	4,787	619	12.9%		No
Census Tract 1350.05	3,374	377	11.2%		No	2,951	470	15.9%		No
Census Tract 1354.02	6,631	1,100	16.6%		No	6,610	413	6.2%		No
Census Tract 1580.02	5,732	868	15.1%		No	5,725	399	7.0%		No
Census Tract 1580.06	5,886	1,257	21.4%		No	5,861	594	10.1%		No
Census Tract 1580.07	8,943	6,266	70.1%	Yes		49	-	0.0%		No
Census Tract 1580.09	2,423	350	14.4%		No	2,381	263	11.0%		No
Census Tract 1580.1	3,231	500	15.5%		No	3,231	129	4.0%		No
Census Tract 1581.03	4,577	1,838	40.2%	Yes		4,540	1,180	26.0%		No
Census Tract 1581.07	4,073	794	19.5%		No	4,073	762	18.7%		No
Census Tract 1581.08	2,705	1,021	37.7%	Yes		2,705	313	11.6%		No
Census Tract 1582.03	1,561	368	23.6%		No	1,561	54	3.5%		No
Census Tract 1585.05	4,432	950	21.4%		No	4,432	346	7.8%		No
Census Tract 1585.11	6,554	1,907	29.1%		No	6,554	582	8.9%		No
Census Tract 1585.12	3,666	401	10.9%		No	3,653	510	14.0%		No
Census Tract 1580.11	4,574	1,039	22.7%		No	4,520	470	10.4%		No
Census Tract 1581.02	4,431	1,387	31.3%		No	4,284	773	18.0%		No
Census Tract 1581.04	5,250	1,121	21.4%		No	5,227	482	9.2%		No
Census Tract 1581.1	3,379	732	21.7%		No	3,379	261	7.7%		No
Census Tract 1581.11	3,205	882	27.5%		No	3,184	503	15.8%		No
Census Tract 1581.12	4,479	1,300	29.0%		No	4,479	771	17.2%		No
Census Tract 1581.14	3,868	639	16.5%		No	3,868	223	5.8%		No
Census Tract 1581.15	6,765	1,639	24.2%		No	6,711	847	12.6%		No
Census Tract 1581.16	2,033	473	23.3%		No	2,003	275	13.7%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1582.02	7,397	1,833	24.8%		No	7,371	1,428	19.4%		No
Census Tract 1582.05	1,769	205	11.6%		No	1,769	158	8.9%		No
Census Tract 1582.06	4,088	816	20.0%		No	3,825	538	14.1%		No
Census Tract 1583.06	5,957	824	13.8%		No	5,957	358	6.0%		No
Census Tract 1583.08	8,896	3,933	44.2%	Yes		8,873	1,620	18.3%		No
Census Tract 1583.09	4,746	1,868	39.4%	Yes		4,729	1,002	21.2%		No
Census Tract 1583.1	4,413	775	17.6%		No	4,174	828	19.8%		No
Census Tract 1583.15	4,460	1,758	39.4%	Yes		4,460	396	8.9%		No
Census Tract 1583.19	3,684	1,215	33.0%		No	3,498	702	20.1%		No
Census Tract 1583.2	6,802	1,384	20.3%		No	6,790	782	11.5%		No
Census Tract 1583.21	10,224	3,376	33.0%		No	10,183	1,616	15.9%		No
Census Tract 1583.22	1,856	299	16.1%		No	1,856	102	5.5%		No
Census Tract 1583.23	6,742	824	12.2%		No	6,742	737	10.9%		No
Census Tract 1584.01	1,286	181	14.1%		No	1,261	247	19.6%		No
Census Tract 1584.03	2,286	653	28.6%		No	2,286	332	14.5%		No
Census Tract 1585.07	4,203	1,150	27.4%		No	4,196	511	12.2%		No
Census Tract 1585.08	6,364	1,527	24.0%		No	6,351	686	10.8%		No
Census Tract 1585.09	4,959	1,499	30.2%		No	4,959	1,295	26.1%		No
Census Tract 1585.1	7,218	2,102	29.1%		No	7,200	906	12.6%		No
Census Tract 1587.04	8,362	4,271	51.1%	Yes		8,362	1,918	22.9%		No
Census Tract 1587.05	3,596	2,791	77.6%	Yes		3,574	1,009	28.2%	Yes	
Census Tract 1587.08	3,529	1,386	39.3%	Yes		3,517	690	19.6%		No
Census Tract 1582.07	4,548	760	16.7%		No	4,546	201	4.4%		No
Census Tract 1583.04	6,793	875	12.9%		No	6,793	260	3.8%		No
Census Tract 1583.17	6,193	738	11.9%		No	6,193	805	13.0%		No
Census Tract 1583.18	4,316	543	12.6%		No	4,316	306	7.1%		No
Census Tract 1584.07	5,750	911	15.8%		No	5,750	728	12.7%		No
Census Tract 1594.06	4,885	1,387	28.4%		No	4,786	694	14.5%		No
Census Tract 1594.04	6,893	2,535	36.8%	Yes		6,867	1,099	16.0%		No
Census Tract 1594.07	6,744	1,931	28.6%		No	6,744	748	11.1%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 1594.08	5,024	2,131	42.4%	Yes		4,775	1,410	29.5%	Yes	
Census Tract 1594.11	3,434	607	17.7%		No	3,434	559	16.3%		No
Census Tract 1595.05	7,671	2,002	26.1%		No	7,671	2,231	29.1%	Yes	
Census Tract 1595.06	9,144	3,348	36.6%	Yes		9,144	2,898	31.7%	Yes	
Census Tract 1595.08	6,880	1,478	21.5%		No	6,844	2,162	31.6%	Yes	
Census Tract 1595.09	3,513	1,352	38.5%	Yes		3,513	1,007	28.7%	Yes	
Census Tract 1595.11	7,784	3,539	45.5%	Yes		7,784	1,770	22.7%		No
Census Tract 1595.12	2,217	590	26.6%		No	2,217	486	21.9%		No
Census Tract 1596.01	6,188	696	11.2%		No	6,151	550	8.9%		No
Census Tract 1596.02	4,262	264	6.2%		No	4,236	490	11.6%		No
Census Tract 1905.02	2,558	651	25.4%		No	2,558	352	13.8%		No
Census Tract 1905.03	2,700	385	14.3%		No	2,700	451	16.7%		No
Census Tract 1905.04	1,736	105	6.0%		No	1,736	146	8.4%		No
Census Tract 1906.01	4,521	722	16.0%		No	4,447	728	16.4%		No
Census Tract 1594.1	7,509	1,563	20.8%		No	7,509	1,492	19.9%		No
Census Tract 1697.04	6,827	1,412	20.7%		No	6,703	1,774	26.5%		No
Census Tract 1584.02	4,342	596	13.7%		No	4,342	449	10.3%		No
Census Tract 1584.05	5,308	923	17.4%		No	5,293	679	12.8%		No
Census Tract 1584.08	3,797	498	13.1%		No	3,768	327	8.7%		No
Census Tract 1584.09	3,633	887	24.4%		No	3,633	864	23.8%		No
Census Tract 1584.1	3,000	190	6.3%		No	3,000	681	22.7%		No
Census Tract 1587.09	2,717	348	12.8%		No	2,717	400	14.7%		No
Census Tract 1587.1	3,859	1,320	34.2%		No	3,814	776	20.3%		No
Census Tract 1594.12	7,523	1,623	21.6%		No	7,453	1,336	17.9%		No
Census Tract 1697.01	7,733	624	8.1%		No	7,619	755	9.9%		No
Census Tract 1697.03	1,731	207	12.0%		No	1,731	275	15.9%		No
Census Tract 1698	6,388	3,661	57.3%	Yes		6,388	2,447	38.3%	Yes	
Census Tract 1699.01	6,487	2,853	44.0%	Yes		6,276	1,460	23.3%		No
Census Tract 1699.02	4,383	542	12.4%		No	4,383	431	9.8%		No
Census Tract 1904.01	8,997	6,119	68.0%	Yes		7,238	1,571	21.7%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 1904.02	2,539	427	16.8%		No	2,394	328	13.7%		No
Census Tract 1700.01	5,646	433	7.7%		No	5,646	417	7.4%		No
Census Tract 1700.02	4,262	241	5.7%		No	4,262	487	11.4%		No
Census Tract 1904.03	4,382	1,576	36.0%	Yes		4,382	1,037	23.7%		No
Census Tract 1906.03	4,904	2,162	44.1%	Yes		4,893	1,247	25.5%		No
Census Tract 1906.04	4,457	1,106	24.8%		No	4,439	838	18.9%		No
Census Tract 1907.05	3,478	1,330	38.2%	Yes		3,303	878	26.6%		No
Census Tract 1907.04	3,081	1,027	33.3%		No	3,081	554	18.0%		No
Census Tract 1907.06	4,365	722	16.5%		No	4,346	1,091	25.1%		No
Census Tract 1907.07	5,293	1,162	22.0%		No	5,233	778	14.9%		No
Census Tract 1907.08	1,813	131	7.2%		No	1,805	246	13.6%		No
Census Tract 1908	3,285	713	21.7%		No	3,027	391	12.9%		No
Census Tract 1701.01	2,082	794	38.1%	Yes		1,964	849	43.2%	Yes	
Census Tract 1702.01	5,904	800	13.6%		No	5,904	1,237	21.0%		No
Census Tract 1803	2,793	404	14.5%		No	2,761	121	4.4%		No
Census Tract 2009.01	869	136	15.7%		No	865	167	19.3%		No
Census Tract 2009.02	7,046	1,852	26.3%		No	7,011	1,334	19.0%		No
Census Tract 2010.03	3,316	1,426	43.0%	Yes		3,303	398	12.0%		No
Census Tract 2010.04	3,685	484	13.1%		No	3,650	390	10.7%		No
Census Tract 1470.04	139	1	0.7%		No	133	13	9.8%		No
Census Tract 1101.01	3,677	343	9.3%		No	3,662	174	4.8%		No
Census Tract 1350.04	3,056	543	17.8%		No	3,051	315	10.3%		No
Census Tract 1580.01	4,020	579	14.4%		No	4,018	321	8.0%		No
Census Tract 1702.02	4,242	671	15.8%		No	4,099	789	19.2%		No
Census Tract 2010.01	7,036	2,563	36.4%	Yes		7,036	2,122	30.2%	Yes	
TOTAL Suffolk County	***1,483,832***	***481,242***	***32.4%***	***91***	***231***	***1,456,653***	***242,595***	***16.7%***	***35***	***287***

Table 17C-29

Environmental Justice Populations: Westchester County, NY

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Westchester County, New York										
Census Tract 146.04	4,438	894	20.1%		No	4,438	745	16.8%		No
Census Tract 9840	439	176	40.1%		No	278	131	47.1%	Yes	
Census Tract 22.02	4,812	1,014	21.1%		No	4,812	691	14.4%		No
Census Tract 28	2,222	2,194	98.7%	Yes		2,212	659	29.8%	Yes	
Census Tract 29	3,798	3,782	99.6%	Yes		3,786	1,651	43.6%	Yes	
Census Tract 36	3,512	2,862	81.5%	Yes		3,495	1,590	45.5%	Yes	
Census Tract 1.01	4,017	3,970	98.8%	Yes		3,945	2,195	55.6%	Yes	
Census Tract 1.03	5,114	4,664	91.2%	Yes		5,107	3,446	67.5%	Yes	
Census Tract 2.01	7,936	7,454	93.9%	Yes		7,878	3,976	50.5%	Yes	
Census Tract 2.03	3,157	2,222	70.4%	Yes		3,079	615	20.0%		No
Census Tract 3	4,223	3,888	92.1%	Yes		4,019	2,123	52.8%	Yes	
Census Tract 4.01	4,191	3,600	85.9%	Yes		4,173	1,588	38.1%	Yes	
Census Tract 4.02	5,628	5,297	94.1%	Yes		5,607	2,317	41.3%	Yes	
Census Tract 5	4,681	4,497	96.1%	Yes		4,666	2,883	61.8%	Yes	
Census Tract 6	6,994	6,021	86.1%	Yes		6,585	3,117	47.3%	Yes	
Census Tract 10	1,786	1,696	95.0%	Yes		1,766	1,271	72.0%	Yes	
Census Tract 11.01	3,445	3,129	90.8%	Yes		3,445	2,424	70.4%	Yes	
Census Tract 11.02	5,608	4,502	80.3%	Yes		5,608	3,097	55.2%	Yes	
Census Tract 12	4,146	3,612	87.1%	Yes		4,119	2,494	60.5%	Yes	
Census Tract 13.01	3,883	2,730	70.3%	Yes		3,860	1,149	29.8%	Yes	
Census Tract 13.02	3,939	3,438	87.3%	Yes		3,939	1,808	45.9%	Yes	
Census Tract 13.03	7,745	7,050	91.0%	Yes		7,713	3,791	49.2%	Yes	
Census Tract 14.01	3,926	1,779	45.3%		No	3,926	747	19.0%		No
Census Tract 14.02	1,697	562	33.1%		No	1,697	171	10.1%		No
Census Tract 14.03	3,444	1,772	51.5%	Yes		3,388	978	28.9%	Yes	
Census Tract 15.02	3,021	815	27.0%		No	3,021	803	26.6%		No
Census Tract 15.03	2,757	551	20.0%		No	2,739	370	13.5%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 15.04	5,552	2,603	46.9%		No	5,478	1,376	25.1%		No
Census Tract 15.05	2,102	1,308	62.2%	Yes		2,102	305	14.5%		No
Census Tract 16	3,561	2,185	61.4%	Yes		3,547	1,156	32.6%	Yes	
Census Tract 22.04	4,989	1,797	36.0%		No	3,866	617	16.0%		No
Census Tract 23	4,304	1,618	37.6%		No	4,294	1,007	23.5%		No
Census Tract 24.01	1,846	894	48.4%		No	1,846	377	20.4%		No
Census Tract 24.02	3,383	1,817	53.7%	Yes		3,383	471	13.9%		No
Census Tract 24.03	5,241	3,121	59.5%	Yes		5,241	1,235	23.6%		No
Census Tract 24.04	3,242	1,566	48.3%		No	3,242	554	17.1%		No
Census Tract 24.05	3,488	1,528	43.8%		No	3,481	509	14.6%		No
Census Tract 30	2,995	2,922	97.6%	Yes		2,982	715	24.0%		No
Census Tract 35	1,805	1,609	89.1%	Yes		1,805	976	54.1%	Yes	
Census Tract 37	3,404	2,668	78.4%	Yes		3,404	1,247	36.6%	Yes	
Census Tract 38	2,675	1,424	53.2%	Yes		2,675	556	20.8%		No
Census Tract 1.04	716	559	78.1%	Yes		716	24	3.4%		No
Census Tract 2.02	4,067	2,905	71.4%	Yes		4,067	1,287	31.6%	Yes	
Census Tract 26	4,462	4,268	95.7%	Yes		4,438	890	20.1%		No
Census Tract 55	5,569	1,357	24.4%		No	5,566	298	5.4%		No
Census Tract 56	-	-	0.0%		No	-	-	0.0%		No
Census Tract 57.01	6,730	3,558	52.9%	Yes		6,338	1,190	18.8%		No
Census Tract 27	4,154	4,109	98.9%	Yes		4,142	942	22.7%		No
Census Tract 31	3,081	3,069	99.6%	Yes		3,049	1,875	61.5%	Yes	
Census Tract 32	2,508	2,491	99.3%	Yes		2,501	1,120	44.8%	Yes	
Census Tract 33	3,144	3,084	98.1%	Yes		3,144	1,061	33.7%	Yes	
Census Tract 34	4,839	4,724	97.6%	Yes		4,839	920	19.0%		No
Census Tract 39	3,703	2,126	57.4%	Yes		3,703	602	16.3%		No
Census Tract 40	6,156	4,952	80.4%	Yes		5,948	1,533	25.8%		No
Census Tract 41	4,415	4,133	93.6%	Yes		4,385	1,088	24.8%		No
Census Tract 42	4,414	3,246	73.5%	Yes		4,414	957	21.7%		No
Census Tract 43	1,836	922	50.2%	Yes		1,405	249	17.7%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 44	3,348	1,590	47.5%		No	3,277	231	7.0%		No
Census Tract 45	1,425	764	53.6%	Yes		1,408	157	11.2%		No
Census Tract 46	2,958	676	22.9%		No	2,933	399	13.6%		No
Census Tract 47	3,451	451	13.1%		No	3,198	162	5.1%		No
Census Tract 52	4,780	529	11.1%		No	4,780	277	5.8%		No
Census Tract 53	5,222	2,376	45.5%		No	5,222	565	10.8%		No
Census Tract 54	1,719	455	26.5%		No	1,719	130	7.6%		No
Census Tract 57.02	3,077	1,745	56.7%	Yes		2,527	599	23.7%		No
Census Tract 58	4,929	3,836	77.8%	Yes		4,929	2,311	46.9%	Yes	
Census Tract 59.01	5,254	3,530	67.2%	Yes		4,746	1,550	32.7%	Yes	
Census Tract 59.02	5,319	2,809	52.8%	Yes		5,319	241	4.5%		No
Census Tract 60	4,175	2,548	61.0%	Yes		4,175	686	16.4%		No
Census Tract 61	4,713	3,760	79.8%	Yes		4,713	1,751	37.2%	Yes	
Census Tract 62	5,428	4,178	77.0%	Yes		5,302	2,262	42.7%	Yes	
Census Tract 63	6,378	5,202	81.6%	Yes		5,969	2,593	43.4%	Yes	
Census Tract 64	5,958	5,029	84.4%	Yes		5,958	2,113	35.5%	Yes	
Census Tract 65	4,908	2,997	61.1%	Yes		4,776	1,694	35.5%	Yes	
Census Tract 66	6,203	1,983	32.0%		No	5,341	567	10.6%		No
Census Tract 67	5,226	1,396	26.7%		No	5,219	165	3.2%		No
Census Tract 70	5,733	880	15.3%		No	5,697	321	5.6%		No
Census Tract 71	6,096	1,247	20.5%		No	6,096	333	5.5%		No
Census Tract 21.04	4,973	2,406	48.4%		No	4,973	705	14.2%		No
Census Tract 7.01	3,576	1,755	49.1%		No	3,455	876	25.4%		No
Census Tract 8.01	6,439	3,466	53.8%	Yes		6,439	1,601	24.9%		No
Census Tract 8.02	2,530	1,383	54.7%	Yes		2,530	934	36.9%	Yes	
Census Tract 8.03	4,919	2,660	54.1%	Yes		4,919	1,367	27.8%	Yes	
Census Tract 9	3,071	1,765	57.5%	Yes		2,937	746	25.4%		No
Census Tract 17	6,732	2,191	32.5%		No	6,732	1,961	29.1%	Yes	
Census Tract 18	1,814	1,641	90.5%	Yes		1,814	454	25.0%		No
Census Tract 19	1,566	647	41.3%		No	1,563	200	12.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 20	4,260	1,686	39.6%		No	4,260	243	5.7%		No
Census Tract 22.03	1,802	812	45.1%		No	1,790	608	34.0%	Yes	
Census Tract 102	4,698	765	16.3%		No	4,601	212	4.6%		No
Census Tract 103	3,223	682	21.2%		No	2,873	445	15.5%		No
Census Tract 104	4,119	1,446	35.1%		No	3,391	355	10.5%		No
Census Tract 105	6,951	1,796	25.8%		No	6,678	463	6.9%		No
Census Tract 106	4,512	1,366	30.3%		No	4,512	323	7.2%		No
Census Tract 107.01	6,273	1,842	29.4%		No	6,167	330	5.4%		No
Census Tract 113	6,529	1,043	16.0%		No	6,442	575	8.9%		No
Census Tract 21.01	3,976	1,837	46.2%		No	3,976	443	11.1%		No
Census Tract 21.03	3,076	599	19.5%		No	3,076	126	4.1%		No
Census Tract 21.05	1,658	545	32.9%		No	1,631	115	7.1%		No
Census Tract 21.06	2,553	2,159	84.6%	Yes		2,529	719	28.4%	Yes	
Census Tract 21.07	1,726	1,160	67.2%	Yes		1,668	597	35.8%	Yes	
Census Tract 22.01	2,381	795	33.4%		No	2,381	217	9.1%		No
Census Tract 48	6,584	2,035	30.9%		No	6,567	838	12.8%		No
Census Tract 49	3,060	757	24.7%		No	3,060	401	13.1%		No
Census Tract 50.01	3,836	1,278	33.3%		No	3,817	393	10.3%		No
Census Tract 50.02	4,459	685	15.4%		No	4,459	314	7.0%		No
Census Tract 51	3,855	708	18.4%		No	3,855	534	13.9%		No
Census Tract 68.01	5,237	922	17.6%		No	5,218	583	11.2%		No
Census Tract 68.02	5,532	1,127	20.4%		No	5,532	170	3.1%		No
Census Tract 69	6,390	1,035	16.2%		No	6,390	205	3.2%		No
Census Tract 88	3,912	2,112	54.0%	Yes		3,881	1,333	34.3%	Yes	
Census Tract 89.01	5,854	2,715	46.4%		No	5,750	1,339	23.3%		No
Census Tract 89.02	4,034	2,643	65.5%	Yes		4,026	1,156	28.7%	Yes	
Census Tract 90	4,163	2,654	63.8%	Yes		3,983	949	23.8%		No
Census Tract 91	6,085	4,614	75.8%	Yes		6,054	1,852	30.6%	Yes	
Census Tract 92	7,279	5,426	74.5%	Yes		7,017	2,030	28.9%	Yes	
Census Tract 93	2,968	2,320	78.2%	Yes		2,953	1,672	56.6%	Yes	

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 94	3,866	2,736	70.8%	Yes		3,731	1,302	34.9%	Yes	
Census Tract 95	5,538	2,967	53.6%	Yes		5,526	1,182	21.4%		No
Census Tract 96	4,419	976	22.1%		No	4,409	335	7.6%		No
Census Tract 97.01	3,021	590	19.5%		No	3,021	188	6.2%		No
Census Tract 98	4,545	1,062	23.4%		No	4,545	320	7.0%		No
Census Tract 99	3,012	622	20.7%		No	3,012	223	7.4%		No
Census Tract 100	5,643	1,281	22.7%		No	5,643	131	2.3%		No
Census Tract 101	4,637	1,605	34.6%		No	4,637	299	6.4%		No
Census Tract 107.02	5,106	1,889	37.0%		No	5,079	562	11.1%		No
Census Tract 108.01	2,999	972	32.4%		No	2,976	360	12.1%		No
Census Tract 108.03	3,519	1,504	42.7%		No	3,519	504	14.3%		No
Census Tract 108.04	2,726	1,237	45.4%		No	2,719	162	6.0%		No
Census Tract 109.02	5,732	3,697	64.5%	Yes		5,661	907	16.0%		No
Census Tract 109.03	5,257	4,302	81.8%	Yes		5,132	1,284	25.0%		No
Census Tract 111.02	2,839	1,035	36.5%		No	2,835	178	6.3%		No
Census Tract 72	6,622	2,032	30.7%		No	6,322	1,600	25.3%		No
Census Tract 75	4,727	855	18.1%		No	4,651	494	10.6%		No
Census Tract 76	5,809	591	10.2%		No	5,809	264	4.5%		No
Census Tract 77	5,284	1,265	23.9%		No	5,210	463	8.9%		No
Census Tract 79	7,693	5,953	77.4%	Yes		7,534	2,874	38.1%	Yes	
Census Tract 82	7,571	3,356	44.3%		No	7,571	1,128	14.9%		No
Census Tract 83.01	2,986	1,530	51.2%	Yes		2,986	154	5.2%		No
Census Tract 83.02	6,501	882	13.6%		No	6,414	354	5.5%		No
Census Tract 84.04	5,191	1,790	34.5%		No	5,129	839	16.4%		No
Census Tract 85	3,374	313	9.3%		No	3,374	107	3.2%		No
Census Tract 9850	2,360	971	41.1%		No	-	-	0.0%		No
Census Tract 73	4,829	2,333	48.3%		No	4,829	1,276	26.4%		No
Census Tract 74.01	4,707	1,910	40.6%		No	4,707	625	13.3%		No
Census Tract 74.02	3,059	498	16.3%		No	3,059	209	6.8%		No
Census Tract 84.01	2,080	359	17.3%		No	2,080	93	4.5%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 84.03	4,146	1,259	30.4%		No	4,133	757	18.3%		No
Census Tract 86.02	5,609	1,361	24.3%		No	4,332	414	9.6%		No
Census Tract 87	5,375	1,702	31.7%		No	5,309	729	13.7%		No
Census Tract 97.02	2,850	703	24.7%		No	2,810	859	30.6%	Yes	
Census Tract 97.03	4,148	711	17.1%		No	4,148	367	8.8%		No
Census Tract 78	4,616	3,673	79.6%	Yes		4,616	1,762	38.2%	Yes	
Census Tract 80	5,217	4,480	85.9%	Yes		5,183	2,312	44.6%	Yes	
Census Tract 81	4,245	2,889	68.1%	Yes		4,245	866	20.4%		No
Census Tract 109.01	2,160	942	43.6%		No	1,998	223	11.2%		No
Census Tract 110	2,663	1,891	71.0%	Yes		2,646	394	14.9%		No
Census Tract 111.01	6,268	3,133	50.0%		No	6,222	509	8.2%		No
Census Tract 112	4,372	3,479	79.6%	Yes		4,328	914	21.1%		No
Census Tract 118	5,704	989	17.3%		No	5,052	86	1.7%		No
Census Tract 119.02	4,808	1,280	26.6%		No	4,800	625	13.0%		No
Census Tract 120	4,628	926	20.0%		No	4,402	551	12.5%		No
Census Tract 121.01	5,657	762	13.5%		No	5,657	204	3.6%		No
Census Tract 121.02	4,729	1,119	23.7%		No	4,698	427	9.1%		No
Census Tract 122	7,221	2,107	29.2%		No	6,875	979	14.2%		No
Census Tract 123.01	2,633	1,189	45.2%		No	2,558	184	7.2%		No
Census Tract 132.02	3,018	433	14.3%		No	3,018	346	11.5%		No
Census Tract 9810	2,181	1,531	70.2%	Yes		1,048	814	77.7%	Yes	
Census Tract 114	5,758	1,666	28.9%		No	5,645	457	8.1%		No
Census Tract 115	5,678	2,888	50.9%	Yes		5,566	1,596	28.7%	Yes	
Census Tract 116	6,779	4,631	68.3%	Yes		6,647	2,528	38.0%	Yes	
Census Tract 117	3,263	983	30.1%		No	3,263	553	16.9%		No
Census Tract 132.01	4,017	875	21.8%		No	3,625	124	3.4%		No
Census Tract 133.04	4,957	3,746	75.6%	Yes		4,907	1,606	32.7%	Yes	
Census Tract 9820	1,723	1,444	83.8%	Yes		-	-	0.0%		No
Census Tract 131.03	5,332	703	13.2%		No	5,280	261	4.9%		No
Census Tract 131.04	6,134	1,054	17.2%		No	6,093	417	6.8%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT		PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT	
				(YES)	(NO)				(YES)	(NO)
Census Tract 148.05	4,406	1,297	29.4%		No	4,294	384	8.9%		No
Census Tract 148.09	5,597	1,427	25.5%		No	5,597	847	15.1%		No
Census Tract 133.01	3,331	2,602	78.1%	Yes		3,280	1,303	39.7%	Yes	
Census Tract 134	6,722	4,022	59.8%	Yes		6,721	2,304	34.3%	Yes	
Census Tract 135	4,010	1,885	47.0%		No	3,953	707	17.9%		No
Census Tract 136	4,343	2,431	56.0%	Yes		4,336	1,084	25.0%		No
Census Tract 137	5,521	1,795	32.5%		No	5,363	665	12.4%		No
Census Tract 138	3,344	500	15.0%		No	3,344	240	7.2%		No
Census Tract 139	4,811	1,588	33.0%		No	4,637	376	8.1%		No
Census Tract 146.05	3,376	1,224	36.3%		No	3,219	695	21.6%		No
Census Tract 146.06	5,835	853	14.6%		No	5,632	134	2.4%		No
Census Tract 123.03	4,908	847	17.3%		No	4,899	216	4.4%		No
Census Tract 123.04	4,694	606	12.9%		No	4,694	287	6.1%		No
Census Tract 126	4,367	481	11.0%		No	4,359	212	4.9%		No
Census Tract 127	5,012	981	19.6%		No	4,982	577	11.6%		No
Census Tract 128.02	7,136	2,527	35.4%		No	7,115	1,524	21.4%		No
Census Tract 9830	1,288	792	61.5%	Yes		27	5	18.5%		No
Census Tract 129	4,279	2,656	62.1%	Yes		4,279	1,418	33.1%	Yes	
Census Tract 130	6,587	2,944	44.7%		No	6,575	919	14.0%		No
Census Tract 131.02	6,439	1,053	16.4%		No	6,439	159	2.5%		No
Census Tract 124	5,177	631	12.2%		No	5,167	229	4.4%		No
Census Tract 125.03	3,685	397	10.8%		No	3,685	246	6.7%		No
Census Tract 140	2,140	527	24.6%		No	2,136	401	18.8%		No
Census Tract 141	6,373	4,466	70.1%	Yes		6,373	2,142	33.6%	Yes	
Census Tract 142	3,539	2,554	72.2%	Yes		3,491	1,355	38.8%	Yes	
Census Tract 147.01	5,009	2,202	44.0%		No	4,898	890	18.2%		No
Census Tract 148.06	6,528	1,687	25.8%		No	6,528	184	2.8%		No
Census Tract 148.08	3,661	620	16.9%		No	3,643	344	9.4%		No
Census Tract 148.1	2,021	210	10.4%		No	2,021	339	16.8%		No
Census Tract 148.11	5,656	1,096	19.4%		No	5,656	198	3.5%		No

NEIGHBORHOOD/CENSUS TRACT	TOTAL POPULATION	MINORITY POPULATION	MINORITY RATE	MINORITY TRACT (YES)	MINORITY TRACT (NO)	PERSONS FOR WHOM POVERTY STATUS IS DETERMINED	PERSONS UP TO 1.99X POVERTY RATE	POVERTY RATE	LOW-INCOME TRACT (YES)	LOW-INCOME TRACT (NO)
Census Tract 149.08	3,412	447	13.1%		No	3,412	307	9.0%		No
Census Tract 146.07	4,283	1,378	32.2%		No	4,283	310	7.2%		No
Census Tract 147.03	6,271	2,370	37.8%		No	6,271	615	9.8%		No
Census Tract 147.04	2,480	1,006	40.6%		No	2,474	435	17.6%		No
Census Tract 148.04	8,669	3,127	36.1%		No	8,498	1,012	11.9%		No
Census Tract 143	3,984	3,399	85.3%	Yes		3,908	2,319	59.3%	Yes	
Census Tract 144	6,270	5,145	82.1%	Yes		6,181	1,666	27.0%	Yes	
Census Tract 145	3,909	1,489	38.1%		No	3,909	590	15.1%		No
Census Tract 125.01	3,230	508	15.7%		No	3,225	417	12.9%		No
Census Tract 149.01	6,222	836	13.4%		No	5,928	453	7.6%		No
Census Tract 149.03	4,191	148	3.5%		No	4,191	473	11.3%		No
Census Tract 149.09	3,042	286	9.4%		No	3,042	238	7.8%		No
Census Tract 150	5,167	1,117	21.6%		No	4,939	849	17.2%		No
Census Tract 149.07	4,620	939	20.3%		No	4,453	296	6.6%		No
Census Tract 125.02	5,684	809	14.2%		No	5,684	403	7.1%		No
Census Tract 7.02	4,275	2,980	69.7%	Yes		4,275	856	20.0%		No
TOTAL Westchester County	***968,890***	***450,740***	***46.5%***	***92***	***131***	***945,745***	***191,362***	***20.2%***	***61***	***162***

CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

Appendix 19: Section 4(f) Correspondence

August 2022

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Chief Engineer

June 30, 2022

Via email
Olivia Brazee
Historic Site Restoration Coordinator
New York State Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation
P.O. Box 189
Waterford, NY 12188-0189

RE: ***Section 4(f) Use of Historic Sites***
Central Business District (CBD) Tolling Program
New York City, New York County, New York

Dear Ms. Brazee,

The Triborough Bridge and Tunnel Authority (TBTA), an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT), collectively, are proposing to undertake the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project). As a project requiring Federal Highway Administration (FHWA) approval, the Project is subject to the requirements of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (now codified in 23 USC §138 and 49 USC §303), and the FHWA implementing regulation, 23 CFR Part 774.

Section 4(f) prohibits the Secretary of Transportation from approving any program or project that requires the use of a Section 4(f) resource, including public parks/recreation areas and historic sites, unless there is no feasible and prudent avoidance alternative to the use of such land and all possible planning has been undertaken to minimize harm to the Section 4(f) resource. However, a *de minimis* impact finding may be made when certain uses of Section 4(f) land will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f). In accordance with the applicable regulations and FHWA guidance, Central Park and the High Line are considered Section 4(f) properties as both park resources and historic sites.

A Memorandum of Understanding (MOU) between NYCDOT and TBTA documents an agreement that would allow TBTA to install, maintain, and repair the proposed toll collection system equipment within the Impacted Public Right of Way (portion of street and sidewalk, as well as any other poles, lines, or appurtenances). As per the MOU, NYCDOT would maintain CBDTP-related regional signage on behalf of TBTA. TBTA also has a Blanket Permit with NYC Parks that allows TBTA access to NYC Parks

properties for inspection and minor work, and it can be renewed as necessary. The properties covered by these agreements include Central Park and the High Line.

It is anticipated that the installation on the High Line would take approximately 3 days, including installation of the tolling equipment as well as underground electrical and fiber optic lines. Within Central Park, it would take approximately 2 days at each location to install the foundation as well as the underground electrical and fiber optic lines with an additional day at each location to install the pole and hardware. It is anticipated that preventative maintenance and cleaning of the infrastructure/equipment would occur four (4) times a year with a duration of approximately ½ hour each time.

The granting of access for construction and maintenance of tolling infrastructure and equipment within Central Park and on the High Line constitutes a use of these resources as defined by Section 4(f). However, the construction and maintenance of tolling infrastructure and equipment in Central Park and on the High Line would not adversely affect the activities, features, and attributes that qualify these resources for protection under Section 4(f). This was demonstrated in the Section 106 *No Adverse Effect* determination made by FHWA following consultation with SHPO and other Consulting Parties. Therefore, the Project's use of Central Park meets the Section 4(f) *de minimis* impact criteria. In accordance with 23 CFR 773.13, the use of the High Line as an historic site is excepted from the requirement for Section 4(f) approval.

On behalf of FHWA, NYSDOT respectfully requests that the New York State Historic Preservation Office (SHPO), as an official with jurisdiction over Central Park as a 4(f) historic site, provide concurrence in writing with FHWA's proposed *de minimis* finding for Central Park. Please provide your concurrence in a letter, which will be made part of the administrative record for the Project, and please include statements similar to the following:

> *"The proposed use of land from Central Park and the High Line under the CBD Tolling Alternative is unavoidable. The State Historic Preservation Office concurs that the granting of access for construction and future maintenance of tolling infrastructure and equipment within Central Park would not adversely affect the historic qualities of the Park that qualify it to be on the National Register and qualify Central Park for protection under Section 4(f)."*

We would appreciate your response no later than July 14, 2022. If you have any questions or need additional information, please feel free to contact Lori Blair at (518) 485-5632 or at lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/bb
cc: M. Pavlik, FHWA
R. Davies, FHWA
A. Price, FHWA
K. Kramer, FHWA
T. Smith, NYSDOT
A. de Cerreño, MTA
N. Angel, MTA
W. Carry, NYCDOT

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

July 5, 2022

Lori Blair
Environmental Specialist 2, Cultural Resource Specialist
NYSDOT
50 Wolf Road, POD 4-1
Albany, NY 12232

Re: FHWA
Central Business District (CBD) Tolling Program
21PR06430
CBDTP

Dear Lori Blair:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project.

We have reviewed your letter dated June 30th, 2022. Based upon our review, we understand that the proposed use of land from Central Park and the High Line under the CBD Tolling Alternative is unavoidable. The State Historic Preservation Office concurs that the granting of access for construction and future maintenance of tolling infrastructure and equipment within Central Park would not adversely affect the historic qualities of the Park that qualify it to be on the National Register and qualify Central Park for protection under Section 4(f).

If you have any questions, I am best reached via e-mail at Olivia.brazee@parks.ny.gov.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov via e-mail only

cc: G. Santucci, A. Sutphin, J. MacLean, D. Pagano, NYC LPC, A. Price, US DOT

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Chief Engineer

June 30, 2022

Via email
David Cuff, Director of Environmental Review
Planning and Development
NYC Parks
The Arsenal, Central Park
830 Fifth Avenue, Room 401
New York, NY 10065

RE: ***Section 4(f) Use of Parkland***
Central Business District (CBD) Tolling Program
New York City, New York County, New York

Dear Mr. Cuff,

The Triborough Bridge and Tunnel Authority (TBTA), an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT), collectively, are proposing to undertake the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project). As a project requiring Federal Highway Administration (FHWA) approval, the Project is subject to the requirements of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (now codified in 23 USC §138 and 49 USC §303), and the FHWA implementing regulation, 23 CFR Part 774.

Section 4(f) prohibits the Secretary of Transportation from approving any program or project that requires the use of a Section 4(f) resource, including public parks/recreation areas and historic sites, unless there is no feasible and prudent avoidance alternative to the use of such land and all possible planning has been undertaken to minimize harm to the Section 4(f) resource. However, a *de minimis* impact finding may be made when certain uses of Section 4(f) land will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f). In accordance with the applicable regulations and FHWA guidance, Central Park and the High Line are considered Section 4(f) properties as both recreational resources and historic sites.

A Memorandum of Understanding (MOU) between NYCDOT and TBTA documents an agreement that would allow TBTA to install, maintain, and repair the proposed toll collection system equipment within the Impacted Public Right of Way (portion of street and sidewalk, as well as any other poles, lines, or appurtenances). As per the MOU,

NYCDOT would maintain CBDTP-related regional signage on behalf of TBTA. TBTA also has a Blanket Permit with NYC Parks that allows TBTA access to NYC Parks properties for inspection and minor work, and it can be renewed as necessary. The properties covered by these agreements include Central Park and the High Line.

It is anticipated that the installation on the High Line would take approximately 3 days, including installation of the tolling equipment as well as underground electrical and fiber optic lines. Within Central Park, it would take approximately 2 days at each location to install the foundation as well as the underground electrical and fiber optic lines with an additional day at each location to install the pole and hardware. It is anticipated that preventative maintenance and cleaning of the infrastructure/equipment would occur four (4) times a year with a duration of approximately ½ hour each time.

The granting of access for construction and future maintenance of tolling infrastructure and equipment within Central Park and on the High Line constitutes a use of these resources as defined by Section 4(f). However, the construction and maintenance of tolling infrastructure and equipment in Central Park and on the High Line would not adversely affect the activities, features, and attributes that qualify each of these resources for protection under Section 4(f). Therefore, the FHWA intends to make a *de minimis* impact finding.

In addition, the construction of tolling system infrastructure and tolling system equipment within Central Park would result in temporary occupancy of the park. However, consistent with criteria set forth in 23 CFR Part 774.13(d), the temporary occupancy of Central Park would not be a use of this Section 4(f) property for the following reasons:

- In each location, the total amount of time required for construction for the CBD Tolling Program would be less than a month, which is less than the one year duration for construction of the entire Project, and there would be no change in the ownership of the land.
- The Project involves only minor construction activities, including limited excavation to replace the poles and connect with existing utilities, installation of the new poles, and restoration of the ground surface within very limited areas of the 840-acre park. The construction activities would not impede access to recreational facilities.
- Once complete, the permanent infrastructure would be similar in appearance to existing streetlight poles and signs within the park, and there would be no permanent effect on park uses.
- The utility trenches would be covered and restored to their current condition (i.e., fill or pavement). If landscaping was removed, it would be restored or replaced.
- The TBTA would coordinate work with NYC Parks and would require the contractor to implement measures to avoid, minimize, or mitigate construction effects on the park and park users to the extent feasible. The Project Sponsors have and will continue to coordinate with NYC Parks and the Central Park Conservancy regarding the construction of tolling infrastructure and tolling system equipment within Central Park.

On behalf of the FHWA, NYSDOT respectfully requests that the New York City Department of Parks and Recreation, as an official with jurisdiction over Central Park, provide concurrence in writing with FHWA's proposed *de minimis* finding for Central Park and the High Line and with the determination that the temporary occupancy of Central Park for construction of the CBD Tolling Alternative meets the conditions under 23 CFR Part 774.13(d) so that the temporary occupancy does not constitute a use within the meaning of Section 4(f). Please provide your concurrence in a letter, which will be made part of the administrative record for the Project, and please include statements similar to the following:

> *"The proposed use of land from Central Park and the High Line under the CBD Tolling Alternative is unavoidable. The temporary occupancy of Central Park for construction of the CBD Tolling Alternative meets the conditions under 23 CFR Part 774.13(d) so that the temporary occupancy does not constitute a use within the meaning of Section 4(f). The New York City Department of Parks and Recreation concurs that the granting of access for construction and future maintenance of tolling infrastructure and equipment within Central Park and on the High Line would not adversely affect the activities, features and attributes that qualify Central Park and the High Line for protection under Section 4(f)."*

We would appreciate your response no later than July 14, 2022. If you have any questions or need additional information, please feel free to contact Lori Blair at (518) 485-5632 or at lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau

CL/lb/bb

cc: M. Pavlik, FHWA
R. Davies, FHWA
A. Price, FHWA
K. Kramer, FHWA
T. Smith, NYSDOT
A. de Cerreño, MTA
N. Angel, MTA
W. Carry, NYCDOT

NYC Parks

Jennifer Greenfeld
Deputy Commissioner,
Environment and Planning

T 212.360.3402
F 212.360.3453

E Jennifer.Greenfeld@parks.nyc.gov

City of New York
Parks & Recreation

The Arsenal
Central Park
New York, NY 10065
www.nyc.gov/parks

July 12, 2022

Catherine Leslie
Director, EIS & Special Projects Bureau
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232

RE: Section 4(f) Use of Parkland Central Business District (CBD) Tolling Program New York City, New York County, New York

Dear Ms. Leslie:

The New York City Department of Parks and Recreation (NYC Parks) understands that the Triborough Bridge and Tunnel Authority (TBTA), an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT), collectively, are proposing to undertake the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project). As a project requiring Federal Highway Administration (FHWA) approval, the Project is subject to the requirements of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (now codified in 23 USC §138 and 49 USC §303), and the FHWA implementing regulation, 23 CFR Part 774.

In accordance with the applicable regulations and FHWA guidance, Central Park and the High Line are considered Section 4(f) properties, as both are recreational resources and historic sites. The granting of access for installation and future maintenance of tolling infrastructure and equipment within Central Park and on the High Line constitutes a use of these resources, as defined by Section 4(f). However, the installation and maintenance of tolling infrastructure and equipment in Central Park and on the High Line are not expected to adversely affect the activities, features, and attributes that qualify each of these resources for protection under Section 4(f) and it is expected that the impacts to the 4(f) resources would be minimal.

NYC Parks further understands that there is a Memorandum of Understanding (MOU) between NYCDOT and TBTA that documents an agreement that would allow TBTA to install, maintain, and repair the proposed toll collection system equipment within the Impacted Public Right of Way (portion of street and sidewalk, as well as any other poles, lines, or appurtenances). As per the MOU, NYCDOT would maintain CBDTP-related regional signage on behalf of TBTA. TBTA also has a Blanket Permit with NYC Parks that allows TBTA access to NYC Parks properties for inspection and minor work, and it can be renewed as necessary. The properties covered by these agreements include Central Park and the High Line. Please know that the installation of CBDTP equipment would need a standalone permit or separate agreement and is not an authorized activity under the Blanket Permit.

In addition, the installation of tolling system infrastructure and tolling system equipment within Central Park would result in temporary occupancy of the park. However, consistent with criteria set forth in 23 CFR Part 774.13(d), the temporary occupancy of Central Park would not be a be considered a use of the Section 4(f) property, for the following reasons:

NYC Parks

- In each location, the total amount of time required for construction for the CBD Tolling Program would be less than a month, which is less than the one year duration for construction of the entire Project, and there would be no change in the ownership of the land.

- The Project involves only minor construction activities, including limited excavation to replace the poles and connect with existing utilities, installation of the new poles, and restoration of the ground surface within very limited areas of the 840-acre park. The construction activities would not impede access to recreational facilities.

- Once complete, the permanent infrastructure would be similar in appearance to existing streetlight poles and signs within the park, and there would be no permanent effect on park uses.

- The utility trenches would be covered and restored to their current condition (i.e., fill or pavement). If landscaping was removed, it would be restored or replaced.

- The TBTA would coordinate work with NYC Parks and would require the contractor to implement measures to avoid, minimize, or mitigate construction effects on the park and park users to the extent feasible. The Project Sponsors have and will continue to coordinate with NYC Parks (and the Central Park Conservancy) regarding the construction of tolling infrastructure and tolling system equipment within Central Park.

The granting of access for construction and future maintenance of tolling infrastructure and equipment within Central Park and on the High Line would not adversely affect the activities, features and attributes that qualify Central Park and the High Line for protection under Section 4(f). Therefore, NYC Parks, as the agency with jurisdiction over Central Park and the High Line, concurs with the proposed *de minimis* impact finding for Central Park and the High Line and with the determination that the temporary occupancy of Central Park for construction of the CBD Tolling Alternative meets the conditions under 23 CFR Part 774.13(d) so that the temporary occupancy does not constitute a use within the meaning of Section 4(f).

Please contact me at david.cuff@parks.nyc.gov if any further information is needed.

Sincerely,



David Cuff, AICP
Director of Environmental Review

CC:
Colleen Alderson, NYC Parks
Brendan Shera, NYC Parks

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Chief Engineer

June 30, 2022

Via email
Mark Eberle
Resource Planning Specialist/External Review Coordinator
National Park Service
Interior Region 1, North Atlantic-Appalachian
1234 Market Street, 20th Floor
Philadelphia, PA 19107

RE: ***Section 4(f) Use of Historic Sites***
Central Business District (CBD) Tolling Program
New York City, New York County, New York

Dear Mr. Eberle,

The Triborough Bridge and Tunnel Authority (TBTA), an affiliate of the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York City Department of Transportation (NYCDOT), collectively, are proposing to undertake the Central Business District (CBD) Tolling Program (the CBD Tolling Program or the Project). As a project requiring Federal Highway Administration (FHWA) approval, the Project is subject to the requirements of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (now codified in 23 USC §138 and 49 USC §303), and the FHWA implementing regulation, 23 CFR Part 774.

Section 4(f) prohibits the Secretary of Transportation from approving any program or project that requires the use of a Section 4(f) resource, including public parks/recreation areas and historic sites, unless there is no feasible and prudent avoidance alternative to the use of such land and all possible planning has been undertaken to minimize harm to the Section 4(f) resource. However, a *de minimis* impact finding may be made when certain uses of Section 4(f) land will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f). In accordance with the applicable regulations and FHWA guidance, Central Park and the High Line are considered Section 4(f) properties as both park resources and historic sites.

A Memorandum of Understanding (MOU) between NYCDOT and TBTA documents an agreement that would allow TBTA to install, maintain, and repair the proposed toll collection system equipment within the Impacted Public Right of Way (portion of street and sidewalk, as well as any other poles, lines, or appurtenances). As per the MOU, NYCDOT would maintain CBDTP-related regional signage on behalf of TBTA. TBTA also has a Blanket Permit with NYC Parks that allows TBTA access to NYC Parks

properties for inspection and minor work, and it can be renewed as necessary. The properties covered by these agreements include Central Park and the High Line.

It is anticipated that the installation on the High Line would take approximately 3 days, including installation of the tolling equipment as well as underground electrical and fiber optic lines. Within Central Park, it would take approximately 2 days at each location to install the foundation as well as the underground electrical and fiber optic lines with an additional day at each location to install the pole and hardware. It is anticipated that preventative maintenance and cleaning of the infrastructure/equipment would occur four (4) times a year with a duration of approximately ½ hour each time.

The granting of access for construction and maintenance of tolling infrastructure and equipment within Central Park and on the High Line constitutes a use of these resources as defined by Section 4(f). However, the construction and maintenance of tolling infrastructure and equipment in Central Park and on the High Line would not adversely affect the activities, features, and attributes that qualify these resources for protection under Section 4(f). This was demonstrated in the Section 106 *No Adverse Effect* determination made by FHWA following consultation with SHPO, NPS, and other Consulting Parties. Therefore, the Project's use of Central Park meets the Section 4(f) *de minimis* impact criteria. In accordance with 23 CFR 773.13, the use of the High Line as an historic site is excepted from the requirement for Section 4(f) approval.

On behalf of FHWA, NYSDOT respectfully requests that the National Park Service (NPS), as an official with jurisdiction over Central Park as a 4(f) historic site, provide concurrence in writing with FHWA's proposed *de minimis* finding for Central Park. Please provide your concurrence in a letter, which will be made part of the administrative record for the Project, and please include statements similar to the following:

> *"The proposed use of land from Central Park and the High Line under the CBD Tolling Alternative is unavoidable. The National Park Service concurs that the granting of access for construction and future maintenance of tolling infrastructure and equipment within Central Park would not adversely affect the historic qualities of the Park that qualify it to be on the National Register and qualify Central Park for protection under Section 4(f)."*

We would appreciate your response no later than July 14, 2022. If you have any questions or need additional information, please feel free to contact Lori Blair at (518) 485-5632 or at lori.blair@dot.ny.gov.

Sincerely,

Catherine Leslie

Catherine Leslie
Director, EIS & Special Projects Bureau
CL/lb/bb

cc: M. Pavlik, FHWA
R. Davies, FHWA
A. Price, FHWA
K. Kramer, FHWA
T. Smith, NYSDOT
A. de Cerreño, MTA
N. Angel, MTA
W. Carry, NYCDOT

United States Department of the Interior

NATIONAL PARK SERVICE
Interior Region 1
North Atlantic-Appalachian
1234 Market Street, 20th Floor
Philadelphia, PA 19107

IN REPLY REFER TO:

Catherine Leslie, Director
Environmental Impact Statements & Special Projects Bureau
New York State Department of Transportation
Office of Environment
50 Wolf Road POD 4-1
Albany, NY 12232

RE: Central Business District Tolling Program Project
Borough of Manhattan, New York City/County, NY

Dear Ms. Leslie:

This letter is in response to the New York State Department of Transportation's (NYSDOT) June 30, 2022, letter which stated your Section 4(f) determination for the Central Business District (CBD) Tolling Program in the Borough of Manhattan, New York City/County, NY. The National Park Service (NPS) understands that the purpose of the project is to reduce traffic congestion in the Manhattan CBD in a manner that will generate revenue for future transportation improvements. As defined for this project, the Manhattan CBD, which encompasses all of Lower Manhattan and Midtown Manhattan, consists of the geographic area of Manhattan south and inclusive of 60th Street to the extent practicable, but not including the Franklin D. Roosevelt Drive and West Side Highway/Route 9A, including the Battery Park underpass and any surface roadway portion of the Hugh L. Carey Tunnel connecting to West Street (the West Side Highway/Route 9A). It is our understanding this area is characterized by traffic congestion and delays that slow travel and jeopardize the vitality of the Manhattan CBD and surrounding region.

The proposed project has components that are adjacent to Central Park, a world-renowned National Historic Landmark (NHL). Central Park encompasses 840 acres, with the designated boundaries extending from the northern curbline of Central Park South (59th Street) to the southern curbline of Central Park North (110th Street) and from the western curbline of Fifth Avenue to the eastern curbline of Central Park West (Eighth Avenue), including the sidewalks bordering the park on all sides. Central Park was the first large-scale public park in the United States, designed in the mid-19th century by Frederick Law Olmsted and Calvert Vaux. The Park was planned as a naturalistic landscape in which urban dwellers of all backgrounds could mingle and find respite from the pressures of city life.

The U.S. Department of Transportation Act of 1966, 49 U.S.C. §303 and 23 U.S.C. §138, establishes that Department of Transportation agencies must take into consideration public parks, recreation areas, and publicly- or privately-owned historic sites listed or eligible for listing on the National Register of Historic Places. Under Section 4(f), Department of

Transportation agencies cannot approve use of land from these areas unless there is no feasible and prudent avoidance alternative to the use. As a federally designated National Historic Landmark, Central Park qualifies as a Section 4 (f) property.

The NPS participated in several consulting party meetings for this project under Section 106 of the National Historic Preservation Act, as well as other discussions concerning the Section 4(f) review. This letter is confirming that the NPS, as one of the officials with jurisdiction over the Section 4(f) property, concurs with the *de minimis* determination prepared by NYSDOT and Federal Highway Administration for the project.

Based on the project information provided in your June 30, 2022, letter, the NPS also concurs that granting access for future construction and maintenance of tolling infrastructure and equipment within and adjacent to Central Park would not adversely affect the historic qualities of the park that qualifies it to be on the National Register and for protection under Section 4(f). The NPS concurrence is contingent upon NYSDOT getting concurrence from the other two officials with jurisdiction for Central Park--the New York City Parks Department and the New York State Historic Preservation Office.

In addition, the NPS wishes to be a consulting party when there are proposed changes to or replacement of equipment and signage in the future.

Thank you for coordinating with the NPS on this project. If you have any questions, please contact me or Kathy Schlegel at 215-597-6486 or via e-mail at kathy_schlegel@nps.gov.

Sincerely,

Jonathan Meade
Associate Regional Director
Resource Science and Stewardship

cc:
David Cuff, NYC Parks Department
Olivia Brazee, New York State Historic Preservation Office