

**APPENDIX A**  
**ALTERNATIVES CONSIDERED BUT ELIMINATED**

**A. INTRODUCTION**

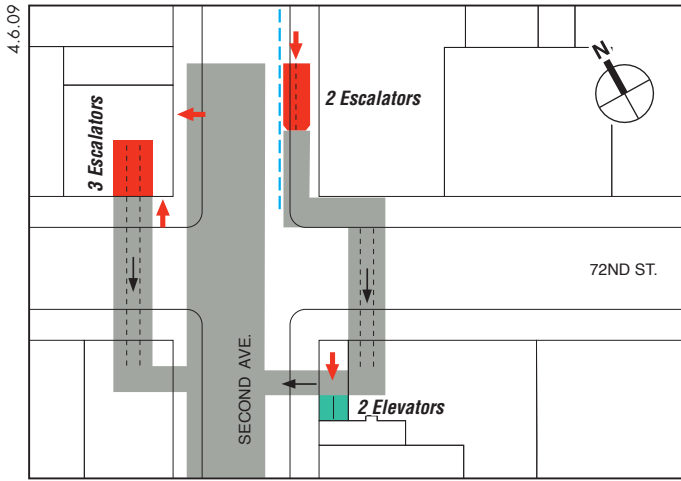
As described in Chapter 2 of this EA, “Entrance Alternatives,” MTA New York City Transit has developed alternatives to the No Action Alternative for the entrances at the 72nd Street and 86th Street Stations. Eight new alternatives were developed for the 72nd Street Station and seven were developed for the 86th Street Station, based the site selection process for entrances (see section 3.3 in Chapter 1 of this EA, “Purpose and Need”). These alternatives were then evaluated for their ability to meet the purpose and need (siting requirements) and goals and objectives for the station entrances. As a result of that evaluation, five alternatives at the 72nd Street Station and four alternatives at the 86th Street Station were eliminated from further study in this EA. This appendix provides an explanation for the elimination of these alternatives. The No Action Alternative and “Build” alternatives for the 72nd Street and 86th Street Stations that were studied in this EA are described in detail in Chapter 2, “Entrance Alternatives.”

**B. 72ND STREET STATION ENTRANCE ALTERNATIVES  
CONSIDERED BUT ELIMINATED**

The five 72nd Street Station entrance alternatives that were developed but then eliminated based on a review of their ability to meet the project’s purpose and need and/or goals and objectives are summarized in **Table A-1** and discussed below (see also **Figure A-1**).

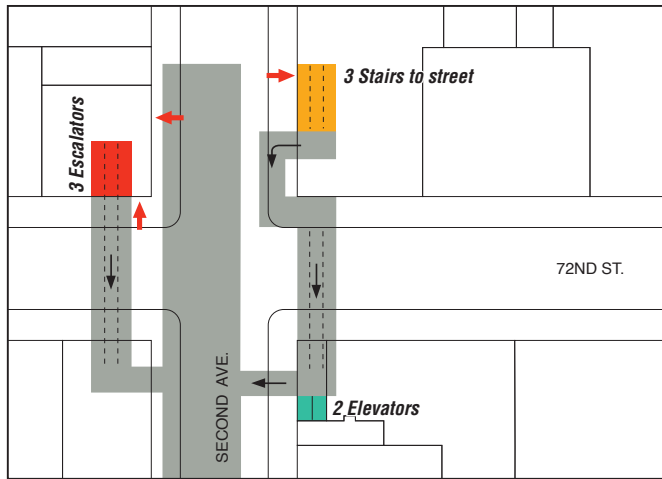
No alternatives were developed on the west side of Second Avenue at 72nd Street. On the west side of 72nd Street at Second Avenue, the northwest corner is already planned for use as a new subway structure housing an entrance and ancillary facility. No additional space is available in this building to expand the size of the entrance (this is discussed more in the description of 72nd Street Alternative 8, below). The southeast corner, which would directly serve the fewest number of riders compared to the other three corners of 72nd Street and Second Avenue, is occupied by a five-story walk-up apartment building with ground-floor commercial space (Liberty Travel); a new subway entrance at that location would require acquisition and demolition of that occupied building and, consistent with the goals and objectives for the entrance alternatives, therefore does not present a reasonable alternative if other options are available.

In addition, no alternatives were developed in the existing transit easement obtained as a result of the Special Transit Land Use District mapped along Second Avenue as part of the New York City Zoning Resolution. MTA New York City Transit explored the concept of placing an entrance within its easement volume at 308 East 72nd Street (on the south side of 72nd Street east of Second Avenue), which includes portions of the ground and basement levels of that building. However, the existing easement volume is too small and not the right shape to support an escalator entrance to the new 72nd Street Station. The easement is not wide enough to support more than a narrow staircase, which would not provide the capacity required for the projected

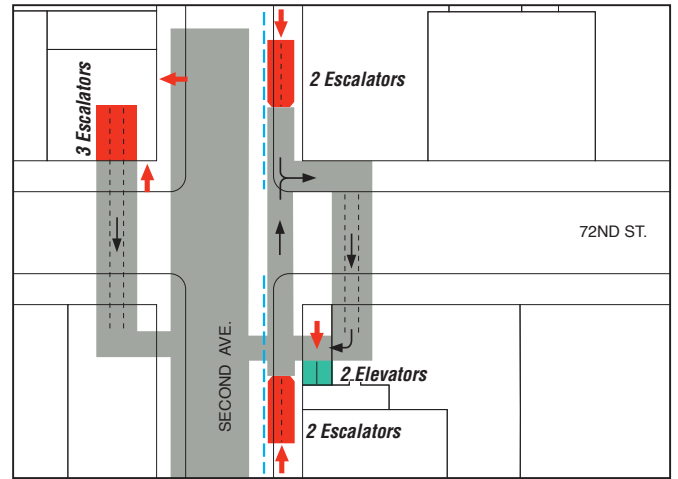


**Alternative 2**

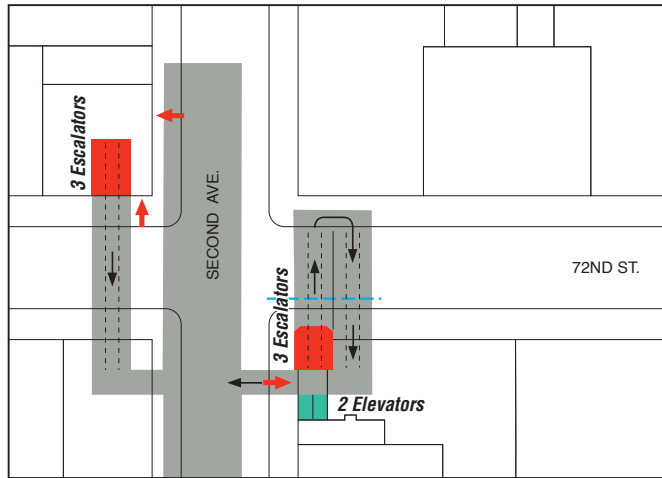
- Curb Bump Out
- Below-Grade Portion of Station
- Escalator to/from Street Level
- Elevator to/from Street Level
- Stairs to/from Street Level
- Below-Grade Escalator Bank
- Direction of Passenger Flow Entering Station (at street level)
- Direction of Passenger Flow Entering Station (below grade)



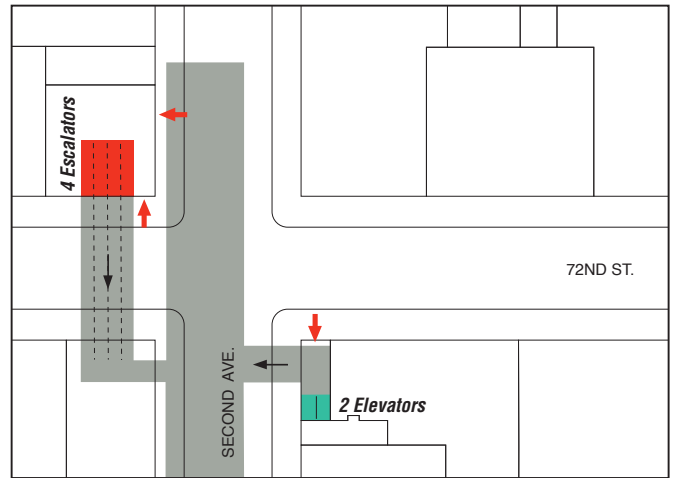
**Alternative 5**



**Alternative 6**



**Alternative 7**



**Alternative 8**

72nd Street Station Entrance Alternatives  
Considered but Eliminated  
**Figure A-1**

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72nd Street and 86th Street Station Entrance Alternatives**

**Table A-1**  
**Comparison of 72nd Street Station Entrance Alternatives  
Considered but Eliminated**

<b>Alternative</b>	<b>Entrance Location: Second Avenue at 72nd Street</b>	<b>Vertical Circulation</b>	<b>Property Acquisition and Sidewalk Bump-Outs</b>	<b>Preliminary Review</b>
2	Northeast corner: east sidewalk of Second Avenue between 72nd and 73rd Streets	2 Escalators	Acquisition of Block 1446, Lot 51; At least a 6-foot bump-out of east sidewalk of Second Avenue extending 144 feet north of 72nd Street.	Would not meet purpose and need because it would not meet passenger demand with two escalators.
	Southeast corner	2 Elevators		
5	Northeast corner within existing building at 305 East 72nd Street; accessible from east sidewalk of Second Avenue between 72nd and 73rd Streets	3 Stairs	Acquisition of Block 1446, Lot 51 and permanent easement of Block 1447, Lot 7501; No sidewalk bump-out.	Would not meet purpose and need because the proximity of Second Avenue entrance to the station cavern would result in inadequate rock pillar to maintain station stability.
	Southeast corner	2 Elevators		
6	Northeast corner: east sidewalk of Second Avenue between 72nd and 73rd Streets	2 Escalators	Acquisition of Block 1446, Lot 51; 6-foot bump-outs of east sidewalk of Second Avenue extending 100 feet north and south of 72nd Street.	Would not meet the goal of maintaining traffic flows, unlike other alternatives. This alternative would require a bump-out of the east sidewalk of Second Avenue south of 72nd Street into moving traffic lane, resulting in a permanent constraint on traffic flows on Second Avenue.
	Southeast corner: east sidewalk of Second Avenue between 71st and 72nd Streets	2 Escalators		
	Southeast corner	2 Elevators		
7	Southeast corner	2 Elevators	Acquisition of Block 1446, Lot 51; 6-foot bump-out of south sidewalk of 72nd Street extending 50 feet east of Second Avenue.	Would not meet purpose and need because it would require relocation of Con Edison high-pressure transmission steam main.
		3 Escalators		
8	Northwest corner	4 Escalators (1 more than in No Action)	Acquisition of Block 1446, Lot 51 and permanent subsurface easement of Block 1426, Lots 25 and 27; No sidewalk bump-out.	Would not meet purpose and need because there would be insufficient space to accommodate fourth escalator in ancillary building.
	Southeast corner	2 Elevators		
<b>Note:</b> All alternatives would also include an ancillary building on the northwest corner of 69th Street and Second Avenue, an entrance on the northeast corner of 69th Street and Second Avenue, and an ancillary building and entrance on the northwest corner of 72nd Street and Second Avenue. The location and configuration of the entrance and ancillary building at 69th Street would be the same for the No Action Alternative and Alternatives 1 through 8. The location and configuration of the ancillary building and entrance on the northwest corner of 72nd Street and Second Avenue would be the same for the No Action Alternative and Alternatives 1 through 7; however, Alternative 8 would include an additional escalator at this location.				

ridership and would not meet emergency egress requirements. The easement could not be expanded, since an expansion would occupy a portion of the building's lobby and therefore impede access to the building. Even if only one stair were provided, the layout of the easement would result in a difficult configuration for an entrance, and a circuitous route for passengers. Further, the initial stair would most likely require relocation of a portion of the high-pressure steam transmission main located beneath the south side of 72nd Street. An elevator could not be

provided within the easement volume, since the elevator's mechanical room would need to occupy space above the ground-floor outside the boundaries of the easement, in space currently occupied by residential space in the building. Therefore, an entrance at 308 East 72nd Street would not meet the purpose and need for the entrance and was not subject to further analysis.

**72ND STREET STATION ENTRANCE ALTERNATIVE 2 (ESCALATORS ON EAST SIDE OF SECOND AVENUE NORTH OF 72ND STREET)**

Alternative 2 would relocate the entrance on the northeast corner from within the building at 305 East 72nd Street to the east sidewalk of Second Avenue north of 72nd Street. This entrance would provide for two escalators from the street level. To provide adequate capacity for pedestrian flows on the east sidewalk, the sidewalk would be widened with a bump-out into the east side of Second Avenue north of 72nd Street. The bump-out would extend 144 feet from the corner of 72nd Street. This alternative would also provide two ADA-compliant elevators in a new building on the southeast corner of the intersection.

In this alternative, passengers entering the 72nd Street Station at the entrance on the east side of Second Avenue would descend via escalator beneath the Second Avenue east sidewalk to an upper level landing. The passage would bend eastward beneath the north sidewalk on 72nd Street. A bank of three escalators would pass beneath 72nd Street to connect to the station's mezzanine level. The eastward bend in the upper level landing is required so that the lower escalator bank is far enough away from the walls of the station cavern.

Because there would be a large volume of passengers using this entrance, two escalators would not be sufficient to meet ridership demand and therefore would not meet the purpose and need for the entrance.

MTA New York City Transit explored an option to provide three escalators at this location. This would require that the entrance be expanded westward into Second Avenue. In order to provide adequate space within the sidewalk for a three escalator entrance while maintaining adequate sidewalk capacity for the east sidewalk of Second Avenue, a 15-foot bump-out would be needed. This bump-out would extend beyond the parking lane into a moving lane and would permanently constrain traffic flow on Second Avenue. Considering that ridership demand would not be met without permanently constraining traffic flows on Second Avenue, which is inconsistent with the project's goals and objectives, Alternative 2 was eliminated from further consideration.

**72ND STREET STATION ENTRANCE ALTERNATIVE 5 (STAIRS IN 305 EAST 72ND STREET ON THE EAST SIDE OF SECOND AVENUE NORTH OF 72ND STREET)**

Alternative 5 would maintain an entrance within the building at 305 East 72nd Street, but would relocate it farther north than in the No Action Alternative to avoid the mechanical rooms in the building's basement. Implementation of this alternative would require a permanent easement within the commercial space at 305 East 72nd Street. It would also require that the existing uses within the basement in the northern portion of the building's basement be relocated. This alternative would also provide two ADA-compliant elevators in a new building on the southeast corner of the intersection.

In Alternative 5, passengers would enter the station entrance from the east side of Second Avenue. Three stairs would descend southward to an upper level landing. The passage would bend to the right (west) to exit the basement of 305 East 72nd Street and would continue beneath

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the east sidewalk. At 72nd Street, the passage would bend to the left (east) again to connect to a bank of three escalators beneath 72nd Street that would connect to the station's mezzanine level. The westward bend at the bottom of the stairs is required to avoid the mechanical space in the basement of 305 East 72nd Street that would have been affected by the No Action Alternative. The eastward bend in the upper level landing at 72nd Street is required so that the lower escalator bank is farther from the walls of the station cavern.

With Alternative 5, the stairs within 305 East 72nd Street would descend to a passage beneath the east sidewalk of Second Avenue that would be in close proximity to the crown of the subway station cavern. The resulting configuration would reduce the rock pillar width between the station cavern and the entrance cavern at mezzanine level to a dimension that, under good engineering practice, would not be considered adequate to sustain the loads imposed by the two adjacent caverns. Therefore, Alternative 5 would not meet the purpose and need for the project and was eliminated from further consideration.

**72ND STREET STATION ENTRANCE ALTERNATIVE 6 (ESCALATORS ON THE EAST SIDE OF SECOND AVENUE NORTH AND SOUTH OF 72ND STREET)**

Alternative 6 would eliminate the entrance in 305 East 72nd Street by introducing two escalator entrances in the east sidewalk on Second Avenue, one north of 72nd Street and one south of 72nd Street. Each entrance would have two escalators. Passengers entering the escalator entrances in Alternative 6 would descend to a common upper-level landing beneath the east crosswalk of Second Avenue at 72nd Street. The upper-level landing would bend eastward under 72nd Street, where it would connect to a bank of three escalators that would extend beneath 72nd Street to connect to the station's mezzanine level. This alternative would also provide two ADA-compliant elevators in a new building on the southeast corner of the intersection.

To accommodate the pedestrian flow on the east side of Second Avenue as well as the passengers using the new entrances there, the sidewalk would have to be widened on the east side of Second Avenue north and south of 72nd Street for Alternative 6. Six-foot bump-outs of the east sidewalk of Second Avenue would be required to the south and north of 72nd Street, for 100 feet from the intersection in each direction. A six-foot bump-out would widen the sidewalk into the parking lane along the east curb of Second Avenue. However, the east curb lane south of 72nd Street is used as a moving lane during peak commuter periods. If this lane were permanently closed as a result of the bump-out, then peak hour traffic operations would be permanently constrained. Also, the entrances within the sidewalk would be in close proximity to the cavern walls of the station itself, which could impact the structural stability of the station cavern and increase the risk of constructing Alternative 6. Considering the combination of the permanent constraint on traffic flows on Second Avenue and the increased construction risk, Alternative 6 would not meet the project's goal of maintaining traffic flows and could potentially not meet the siting requirement (purpose and need) of constructability. Because other alternatives were available that better meet the project's goals, this alternative was eliminated from further consideration.

**72ND STREET STATION ENTRANCE ALTERNATIVE 7 (ESCALATORS AT THE SOUTHEAST CORNER AT 300 EAST 72ND STREET)**

Alternative 7 would eliminate the entrance within 305 East 72nd Street and would not provide an entrance at the northeast corner. Instead, it would provide a combined elevator and escalator

entrance on the southeast corner within a new entrance building at 300 East 72nd Street and the south sidewalk of 72nd Street. Implementation of this alternative would require acquisition of the building at 300 East 72nd Street (which would also be required for all other alternatives, to provide ADA elevators at this location). The southeast entrance would have the two ADA elevators and three escalators. The escalator structure would not fit fully within the structure at 300 East 72nd Street and would extend northward past the building line, perpendicular to the sidewalk, approximately 11 feet into the south sidewalk on 72nd Street. The sidewalk is currently 22 feet 9 inches wide. This alternative would require a six-foot bump-out of the south sidewalk of 72nd Street extending approximately 50 feet east of Second Avenue, to allow the sidewalk to bend around the escalator structure.

In Alternative 7, passengers entering the station via the escalators at the southeast corner would descend northward beneath 72nd Street to an upper level landing. They would then make a 180-degree turn southward to descend on another set of escalators beneath 72nd Street that would connect to the station's mezzanine level.

The upper-level landing beneath 72nd Street in Alternative 7 would require that all utilities beneath 72nd Street be relocated, including the Con Edison high-pressure transmission steam main. As described above in the discussion of the No Action Alternative (and in more detail in Chapter 1, "Purpose and Need"), this is a 48-inch main that serves a large area of Manhattan's East Side. Relocation of this critical facility would be difficult to coordinate and implement. Moreover, Con Edison would likely require that a larger section of main be relocated, extending beyond the proposed work zone for the new subway station. Due to the large diameter of the steam main, this relocation work would be extensive. Substantial construction activities, including abatement of asbestos in place on the steam main, would therefore be likely beyond the subway construction zone if the steam main must be relocated. Therefore, this alternative would not meet the purpose and need for the project and was eliminated from further consideration.

#### **72ND STREET STATION ENTRANCE ALTERNATIVE 8 (INCREASED NUMBER OF ESCALATORS AT THE NORTHWEST CORNER IN ANCILLARY BUILDING)**

Alternative 8 would eliminate the entrance from 305 East 72nd Street by expanding the entrance being provided in the ancillary building at the northwest corner of Second Avenue and 72nd Street (at the location of the Falk Building). While the FEIS design and Alternatives 1 through 7 would have three escalators at this location, Alternative 8 would provide an additional escalator at the northwest corner, for a total of four. (Like the other alternatives, this alternative would also provide new elevators at the southeast corner.)

This alternative would require new subsurface easements from the buildings at 252 and 254 East 72nd Street (Church of St. John the Martyr) and an increase in the subsurface easement at 260 East 72nd Street.

Passengers entering the subway station via this entrance would enter the building from the north sidewalk of 72nd Street west of Second Avenue and would descend via escalators directly to the station's mezzanine level.

With four escalators in the ancillary building rather than three as anticipated in the No Action Alternative, the escalator cavern would have to be wider. The wider space needed for escalators would not allow space for other subway-related infrastructure planned for the ancillary building. The new ancillary facility cannot be widened to accommodate the additional escalator, because

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it will abut a 20-story apartment building to the west on 72nd Street. Therefore, this alternative would not meet the purpose and need for the project and was eliminated from further consideration.

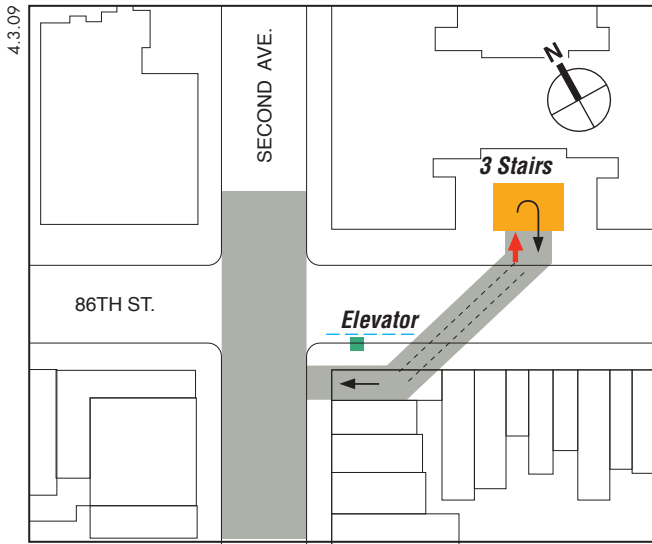
**C. 86TH STREET STATION ENTRANCE ALTERNATIVES  
CONSIDERED BUT ELIMINATED**

The four 86th Street Station entrance alternatives that were developed but then eliminated based on a review of their ability to meet the project's purpose and need and/or goals and objectives are summarized in **Table A-2** and discussed below (see also **Figure A-2**).

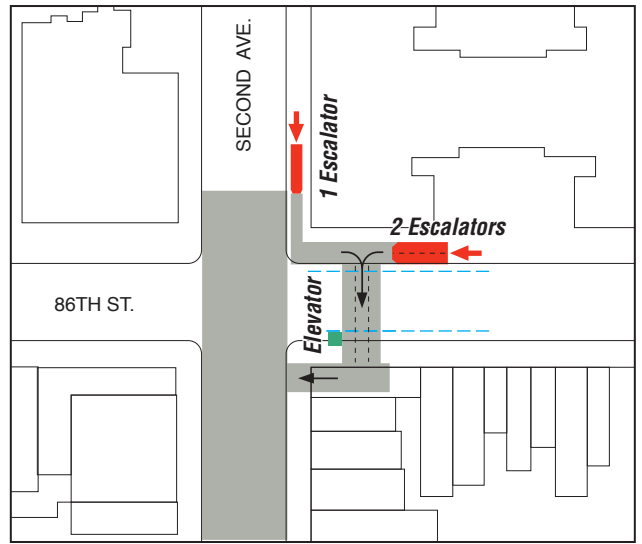
No alternative entrances were developed for the west side of Second Avenue at 86th Street. No alternative entrances were considered for the northwest corner of the intersection, because the ancillary building to be constructed there will not have adequate space for a new subway entrance. No alternative entrances were considered for the southwest corner of the intersection, because that would require major modifications to a historic building, the Manhattan Apartments.

The northwest corner of the intersection is already planned for a new subway building to house ancillary equipment. No other location is available for the ancillary building, and the space to be used for subway-related purposes at that corner cannot be expanded westward, because this would require substantial modifications to the large residential building at 250 East 87th Street. (250 East 87th Street spans the block between East 86th Street and East 87th Street on the west side of Second Avenue, and it has an 87th Street address rather than an 86th Street address.) The ancillary building also cannot be moved east of Second Avenue because it would require substantial modifications to the large residential building at 305 East 86th Street.

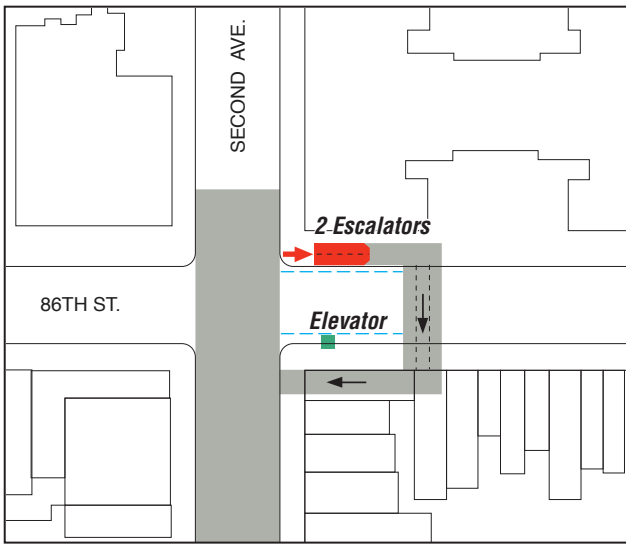
The southwest corner is also not available for a new subway entrance. The building at the corner, the Manhattan Apartments, has been determined to be eligible for the State and National Registers of Historic Places and therefore, in accordance with the National Historic Preservation Act, the State Historic Preservation Act, and Section 4(f) of the U.S. Department of Transportation Act, this building cannot be altered for the subway project unless no prudent or feasible alternative is available. Farther west, MTA New York City Transit explored an entrance within its transit easement volume obtained as a result of the Special Transit Land Use District at 240 East 86th Street, just west of Manhattan Apartments, which includes portions of the ground and basement levels of that building. However, the existing easement volume is not wide enough to support more than one escalator, and therefore could not meet the ridership demand for the entrance. Moreover, even if the easement were expanded to allow enough escalators to be provided, this entrance would be poorly configured. Passengers entering the station here would descend via several sets of escalators, with switchbacks, leading to a long passageway beneath the Manhattan Apartments at mezzanine level. This would likely require underpinning the historic Manhattan Apartments. An elevator could not be provided within the easement volume, since its mechanical room would need to occupy space above the ground-floor outside the boundaries of the easement (and the connecting passageway beneath the Manhattan Apartments would likely require underpinning that building). An entrance using the easement at 240 East 86th Street would also not be convenient for those at the north entrance to the station who would come from east of Second Avenue, and particularly the 68 percent who are projected to be coming from or going to locations to the northeast of the intersection of Second Avenue and



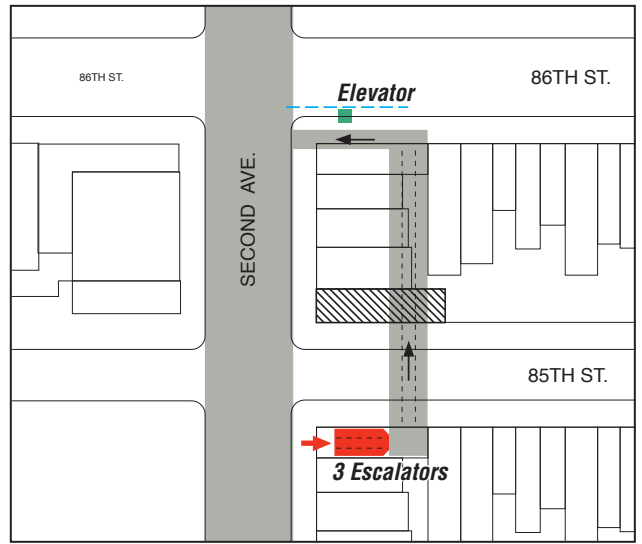
**Alternative 1**



**Alternative 3**



**Alternative 4**



**Alternative 6**

- Curb Bump Out
- Below-Grade Portion of Station
- Escalator to/from Street Level
- Elevator to/from Street Level
- Stairs to/from Street Level
- Below-Grade Escalator Bank
- Direction of Passenger Flow Entering Station (at street level)
- Direction of Passenger Flow Entering Station (below grade)
- Building to be Demolished for Construction Access (Alternative 6)

**86th Street Station Entrance Alternatives  
Considered but Eliminated  
Figure A-2**

**Table A-2  
Comparison of 86th Street Station Entrance Alternatives  
Considered but Eliminated**

<b>Alternative</b>	<b>Entrance Location: Second Avenue and 86th Street</b>	<b>Vertical Circulation</b>	<b>Property Acquisition and Sidewalk Bump-Outs</b>	<b>Preliminary Review</b>
1	Southeast corner of 86th Street	1 Elevator	Permanent subsurface easement of Block 1548, Lot 49 and Block 1549, Lot 1; 6-foot bump-out of south sidewalk of 86th Street extending 270 feet east of Second Avenue.	This alternative is a design option to Alternative 7. It would require structural modifications to 305 East 86th Street and would not provide any additional benefit greater than Alternative 7; therefore, this design option was not further evaluated.
	Northeast corner: north sidewalk of 86th Street between Second and First Avenues	2 Stairs		
3	Southeast corner of 86th Street	1 Elevator	Permanent subsurface easement of Block 1548, Lot 49; 6-foot bump-out of north sidewalk of 86th Street extending 250 feet east of Second Avenue; 6-foot bump-out of south sidewalk of 86th Street extending 150 feet east of Second Avenue; 6-foot bump-out of east sidewalk extending 80 feet of Second Avenue north of 86th Street.	Would not meet the purpose and need because Second Avenue entrance would be too close to station cavern.
	Northeast corner: East sidewalk of 2 Avenue between 86th and 87th Streets	1 Escalator		
	Northeast corner: north sidewalk of 86th Street between Second and First Avenues	2 Escalators		
4	Southeast corner of 86th Street	1 Elevator	Permanent subsurface easement of Block 1548, Lots 49 and 148; 6-foot bump-out of north sidewalk of 86th Street extending 100 feet east of Second Avenue; 6-foot bump-out of south sidewalk of 86th Street extending 150 feet east of Second Avenue.	Would not meet the purpose and need because does not meet minimum capacity requirements for station design.
	Northeast corner of 86th Street	2 Escalators		
6	Southeast corner of 86th Street	1 Elevator	Acquisition and demolition of Block 1548, Lot 1 and permanent subsurface easement of Block 1547, Lot 49, Block 1548, Lots 1, 2, 4, 49, 50, 51, 52; 6-foot bump-out of south sidewalk of 86th Street extending 150 feet east of Second Avenue.	Would not meet goals and objectives as well as other alternatives. It would permanently block the main entrance to 300 East 85th Street and would require acquisition and demolition of a residential building only to facilitate construction.
	Southeast corner of 85th Street	3 Escalators		
<b>Note:</b> In all alternatives, the 86th Street Station will include an entrance on the northeast corner of East 83rd Street and Second Avenue, an ancillary building on the northwest corner of East 83rd Street and Second Avenue, and an ancillary building on the northwest corner of East 86th Street and Second Avenue.				

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86th Street. Therefore, given the fact that other viable alternatives were available for the entrance at the north end of the 86th Street Station, an entrance at 240 East 86th Street was not pursued further.

Therefore, in order to maintain the location of the ancillary building on the northwest corner and avoid adverse impacts to a historic resource, the station entrance must be provided east of Second Avenue. An entrance east of Second Avenue would also be more convenient for passengers who use this entrance, since 76 percent of these passengers are projected to come from east of Second Avenue.

**86TH STREET STATION ENTRANCE ALTERNATIVE 1 (STAIRS ON THE NORTH SIDE OF 86TH STREET EAST OF SECOND AVENUE)**

Alternative 1 would relocate the entrance from within the commercial space in 305 East 86th Street eastward to the median of the curved driveway serving that building along the north side of 86th Street. The entrance would face the sidewalk.

In this alternative, passengers entering the 86th Street Station would enter via stairs leading to an upper-level landing. From the upper-level landing, a bank of escalators would cross beneath East 86th Street connecting the upper level landing to the station mezzanine. This alternative would result in a circuitous route of travel as passengers would switchback as they descend into the station. This alternative would require a permanent subsurface easement from the building at 305 East 86th Street.

Alternative 1 would require elimination or modification of below-grade space in the building at 305 East 86th Street, which is occupied by a swimming pool serving the building's residences. In addition, Alternative 1 would require passengers entering the station to use stairs to reach an upper-level landing before continuing by escalator. This alternative would be less desirable from the perspective of passenger flow and impacts to the building at 305 East 86th Street than 86th Street Alternative 7. As noted earlier, Alternative 7 is evaluated in detail in this EA. Therefore, since Alternative 1 is similar to Alternative 7 but would result in more severe impacts to private property during construction and operation, it does not meet the project's goals and objectives and was not evaluated further.

**86TH STREET STATION ENTRANCE ALTERNATIVE 3 (ESCALATORS ON THE EAST SIDE OF SECOND AVENUE NORTH OF 86TH STREET AND NORTH SIDE OF 86TH STREET EAST OF SECOND AVENUE)**

With Alternative 3, the entrance on the northeast corner would be relocated from within 305 East 86th Street to its adjacent sidewalks. Two escalator entrances would be provided on the northeast corner, one in the sidewalk on the north side of 86th Street and one in the sidewalk on the east side of Second Avenue. The 86th Street sidewalk entrance would have two escalators and would be located immediately west of the curved driveway of 305 East 86th Street. The Second Avenue entrance would have only one escalator. It is not possible to provide two escalators on the east side of Second Avenue because of the proximity of the 86th Street Station cavern, which will be centered beneath Second Avenue. Alternative 3 would require a six-foot bump-out of the north sidewalk of 86th Street into the parking lane for approximately 250 feet from the corner of Second Avenue and a six-foot bump-out on the east sidewalk of Second Avenue into the parking lane for approximately 80 feet from the corner of 86th Street.

In this alternative, passengers entering the station from the entrance on the east side of Second Avenue would descend southward via escalator to an upper-level landing beneath 86th Street. Passengers entering from 86th Street would descend via escalator westward to the same upper-level landing. From the common upper-level landing, a bank of three escalators would extend beneath 86th Street to the station's mezzanine level.

With Alternative 3, even though only a single escalator would be provided on the east side of Second Avenue, the below-grade passageway for the escalator entrance on Second Avenue would be located beneath the sidewalk in close proximity to the walls of the station cavern. As described above, the cavern at 86th Street is centered beneath Second Avenue. Due to poor rock conditions in this area, a sufficient rock pillar must be provided between the walls of the station cavern and its entrances. However, Alternative 3 would be unable to provide an adequate rock pillar from the perspective of good engineering practice to ensure the stability of the cavern. It is not possible to shift the station cavern westward to accommodate the Alternative 3 entrance on the east side of Second Avenue as it would encroach on the location of the ancillary facility, which cannot be located farther west, because it abuts the large residential building at 250 East 87th Street.. Therefore, Alternative 3 does not meet the purpose and need for the project and was eliminated from further consideration.

**86TH STREET STATION ENTRANCE ALTERNATIVE 4 (ONE ESCALATOR BANK ON THE NORTH SIDE OF 86TH STREET EAST OF SECOND AVENUE)**

Alternative 4 would relocate the entrance on the northeast corner from within the building at 305 East 86th Street to the sidewalk on the north side of 86th Street east of Second Avenue. One entrance with two escalators would be provided in the sidewalk on the north side of 86th Street, just east of Second Avenue. This alternative would require a 6-foot bump-out of the north sidewalk of 86th Street.

Passengers entering the station in this alternative would descend eastward via escalators to an upper-level landing. At the upper-level landing, a bank of escalators would pass beneath 86th Street to connect to the station's mezzanine level.

With only two escalators on the north side of 86th Street, together with a single elevator in the south sidewalk of 86th Street, this alternative would not meet the capacity requirements for the anticipated ridership. Therefore, Alternative 4 does not meet the purpose and need for the project and was eliminated from further consideration.

**86TH STREET STATION ENTRANCE ALTERNATIVE 6 (ENTRANCE AT SOUTHEAST CORNER OF 85TH STREET AND SECOND AVENUE)**

Alternative 6 would relocate the entrance from within the building at 305 East 86th Street to a new location on the south side of 85th Street east of Second Avenue, within the plaza in front of 300 East 85th Street.

At the 85th Street entrance, three escalators would provide access to and from the mezzanine via an escalator bank that would descend beneath buildings on the east side of Second Avenue between 85th and 86th Streets. This alternative would require full acquisition of the building on the north side of 85th Street at the corner of Second Avenue (301 East 85th Street), to allow construction of the below-grade passageway. It would also require permanent subsurface easements from the buildings along the east side of Second Avenue between 85th and 86th Streets.

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72nd Street and 86th Street Station Entrance Alternatives**

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Alternative 6 would result in significant construction-related impacts to the occupants of buildings along the east side of Second Avenue between 85th and 86th Streets to allow construction of the underground passageway. Specifically, the building at the corner of 85th Street and Second Avenue (301 East 85th Street) would have to be acquired and demolished to allow construction to proceed, and the other buildings above the passageway (the buildings along the east side of Second Avenue between 85th and 86th Streets) would have to be underpinned during construction. In addition, the subway entrance would be located directly in front of the main entrance to the residential building at 300 East 85th Street, potentially blocking that entrance and requiring substantial design modifications to the building's access. Because this alternative would require acquisition and demolition of an occupied residential building to facilitate construction (but without the need for an above-ground subway structure on its site), and as well as the need for other construction-related building modifications, Alternative 6 would not meet the project's goals and objectives as well as other alternatives and was eliminated from further consideration.

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