



Metropolitan Transportation Authority

# Capital Program Oversight Committee Meeting

## April 2013

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### Committee Members

F. Ferrer, Acting Chair

R. Bickford

N. Brown

A. Cappelli

I. Greenberg

M. Lebow

S. Metzger

M. Page

M. Pally

A. Saul

J. Sedore

C. Wortendyke

## MEETING AGENDA

### MTA CPOC COMMITTEE

**April 22, 2013 – 1:00 pm**

347 Madison Avenue  
Fifth Floor Board Room  
New York, NY

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<b><u>AGENDA ITEMS</u></b>	<b><u>Page</u></b>
PUBLIC COMMENTS PERIOD	
1. APPROVAL OF MINUTES MARCH 11, 2013	TAB 1 1 - 1
2. COMMITTEE WORK PLAN	1 - 4
3. BRIDGES AND TUNNELS	TAB 2
• Semi-Annual Capital Program Update	2 - 1
• Risk Assessment Update (BW 89C) <i>(no oral presentation: mtl's. in book only)</i>	2 - 19
4. NEW YORK CITY TRANSIT	TAB 3
• MTA Bus Time Update	3 - 1
• Systems and Security Division Update	3 - 11
<i>McKissack+Delcan Project Review</i>	3 - 23
• Signals and Train Control Division Update	3 - 25
<i>McKissack+Delcan Project Review</i>	3 - 38
5. CAPITAL PROGRAM STATUS	TAB 4
• Commitments, Completions and Funding Report	4 - 1

Date of next meeting: Monday, June 3, 2013 at 1:30 PM

**MINUTES OF MEETING  
MTA CAPITAL PROGRAM OVERSIGHT COMMITTEE  
March 11, 2013  
New York, New York  
1:30 P.M.**

MTA CPOC members present:

Hon. Fernando Ferrer, Acting Chairman  
Hon. Robert Bickford  
Hon. Norman Brown  
Hon. Alan Cappelli  
Hon. Ira Greenberg  
Hon. Mark Lebow  
Hon. Susan Metzger  
Hon. Mark Page  
Hon. Mitchell Pally  
Hon. James Sedore  
Hon. Carl Wortendyke

MTA CPOC members not present:

Hon. Andrew Saul

MTA Board members present:

Hon. Andrew Albert  
Hon. Jonathon Ballan  
Hon. David Patterson

MTA staff present:

Thomas Prendergast, Interim Executive Director  
Hilary Ring  
Ron Saporita

MTACC staff present:

Michael Horodniceanu

McKissack + Delcan staff present:

Joe DeVito  
Kent Haggas

\* \* \*

Acting Chairman Ferrer called the March 11, 2013 meeting of the Capital Program Oversight Committee to order at 1:30 P.M.

**Public Comments Period**

There were no public speakers in the public comments portion of the meeting.

**Meeting Minutes**

Upon motion duly made and seconded, the CPOC members approved the minutes to the previous meeting held on January 28, 2013.

### **Committee Work Plan**

While an update on the Capital Plan Amendment was originally scheduled for March CPOC, Mr. Ring stated that it will instead be given at the next CPOC. In addition, an update on Positive Train Control by MNR and LIRR, originally scheduled for April, will be re-scheduled once the project's System Integrator is on board and project details have been established.

### **Executive Session**

Upon motion duly made and seconded, Acting Chairman Ferrer adjourned the public CPOC meeting at 1:35 PM to go into Executive Session. Upon motion duly made and seconded, Acting Chairman Ferrer adjourned the Executive Session, and reconvened the public session of CPOC.

### **MTACC Report on East Side Access**

Mr. Horodniceanu reported that bids received for Manhattan Structures in October 2012 were \$365 million over budget, and after consultation with the Chairman the bids were rejected. He then cited the major cost drivers of the high bids, based on feedback received in post-bid briefings with individual bidders and the GCA. He then highlighted MTACC's forward strategy, which includes meetings with the IEC to consider alternatives and validate MTACC's plan. Finally, with respect to the systems work, the IEC is bringing on additional specialized expertise to assess risk and interface issues with civil contracts; strategy concerning the new RFP negotiations will be determined after the IEC's independent assessment has been completed. MTACC will provide a further update to CPOC in spring 2013.

### **MTACC Report on Regional Investments**

Mr. Horodniceanu reported that the \$590 million Regional Investment Program, which is funded in the MTA's Capital Program, is composed of the following: improvements to Harold Interlocking (which benefit the regional transportation network, including Long Island Rail Road, Amtrak, New Jersey Transit, and Metro-North Railroad); westbound bypass; eastbound re-route; Amtrak car washer replacement; and loop and T interlocking reconfiguration. Regional Investments improvements will eliminate conflicting train movements between Amtrak and the LIRR, improve schedule reliability and on time performance, and will increase train speeds between Penn Station and the New Haven Line. Executing this work concurrently with East Side Access is cost-effective by enabling similar construction in the same geographic area to be undertaken by one contractor; in addition, track outages and railroad resources can be maximized to support both projects. In its review of the Regional Investments Program, the IEC pointed out that the funding needs in the 2010–2014 Capital Plan are \$459 million, and in 2015–2019 funding needs stand at \$131 million. In addition, given that MTACC has repackaged major work in Harold, the IEC requested an independent estimate be performed for all remaining work in Harold. Finally, the IEC reported that Regional Investment funding provided by the high speed rail grant must be expended by July 2017 to ensure full federal funding reimbursement of \$294 million.

### **MTACC Report on Fulton Center**

Mr. Horodniceanu reported that the overall project continues to be on schedule for a June 2014 substantial completion and that the cost continues to trend below the current budget of \$1.4 billion. In addition, he reported that substantial completion was achieved on 4/5 Station Rehab and the Dey Street Head House, as well as the Dey Street Concourse and R Underpass Finishes in December 2012; also, curtain wall progress is currently at 90% with the remaining 10% being left open for deliveries and the doors to the building to be installed at later date. Within the next ninety days substantial completion of the Corbin Building Restoration and the A/C Mezzanine will be achieved, and the negotiation process to bring the Master Lessee on board to maintain and operate Fulton Center will continue. In its Project Review, the IEC agreed that the project remains on schedule, but cited recent unfavorable trends; the IEC also agreed that the project is on budget, but pointed out that cost contingency is decreasing. The IEC then recommended that MTACC take the following action: initiate a mitigation plan for critical activities in order to avoid any delays to the project; and increase efforts for equipment testing and fast-track commissioning process to safeguard the schedule contingency.



### **MTACC Report on Second Avenue Subway**

Mr. Horodniceanu reported that the project continues to be on schedule to meet the December 2016 revenue service date, and that the project is on budget. In addition, he stated that all cavern blasting for 72nd Street is complete (including 69th Street Ancillaries); 72nd St Station Systems and Finishes Contract have been awarded and bids for 86th Street Station Systems and Finishes Contract have been advertised. Within the next ninety days all mass excavation for the 96th Street Station will be completed, 86th Street Station Systems and Finishes Contract will be awarded, and TBM Tunneling will be closed-out. In its Project Review, the IEC agreed that the project is on schedule and schedule contingency is being maintained, and the project is on budget and the cost contingency trend is favorable. Since its last report to CPOC, the IEC has verified that a 20-day delay in critical work at 86th Street has been recovered by the Contractor. However, the IEC is concerned that the schedule for major turnovers to the follow-on Systems Contractor is slipping. The IEC then recommended that MTACC improve the contract turnover management process in order to minimize potential delays to site access for the Systems Contractor.

### **MTA Capital Program Commitments and Completions**

Mr. Ring reported that 55 major commitments, totaling \$5.3 billion, are projected in 2013. Through January agencies have committed \$465 million. Also, 44 major completions, with a total of \$5.4 billion, are projected in 2013; no projects were planned for completion in January.

### **Adjournment**

Upon motion duly made and seconded, Acting Chairman Ferrer adjourned the March 11, 2013 meeting of the Capital Program Oversight Committee at 2:50 PM.

Respectfully submitted,  
Michael Jew-Geralds  
Office of Construction Oversight



## **2013 CPOC Committee Work Plan**

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**I. Recurring Agenda Items**

Approval of the Minutes  
Committee Work Plan  
Commitments/Completions and Funding Report  
Follow-up Items as needed

**II. Specific Agenda Items**

June 2013

Quarterly MTA Capital Construction Company Update  
Semi-Annual Update on NYCT Stations Division  
Quarterly Traffic Light Report  
Quarterly Capital Program Savings Report

July 2013

Annual Update on NYCT Subway Car and Bus Procurements  
Annual Update on LIRR & MNR Rolling Stock Programs  
Annual Update on NYCT Infrastructure Division  
Update on NYCT, LIRR & MNR New Fare Payment Initiatives  
Semi-Annual Update on Minority, Women and Disadvantaged Business Participation

September 2013

Quarterly MTA Capital Construction Company Update  
Semi-Annual Update by LIRR on ESA Readiness  
Semi-Annual Update on Capital Program Security Projects  
Quarterly Traffic Light Report  
Quarterly Capital Program Savings Report

November 2013

Semi-Annual Update on B&T Capital Program  
Semi-Annual Update on NYCT Systems, Signals, Train Control and New Tech Initiatives  
Semi-Annual Update on LIRR/MNR Infrastructure Programs  
Annual Review of CPOC Charter

December 2013

Quarterly MTA Capital Construction Company Update  
Semi-Annual Update on NYCT Stations Division  
Quarterly Traffic Light Report  
Quarterly Capital Program Savings Report

Bridges and Tunnels

***Semi-Annual CPOC  
Capital Program Update***



# April 2013 CPOC Presentation

- 2010-2014 Capital Program Status
- Update on Verrazano-Narrows Bridge Upper Level Suspended Span Deck Replacement (VN80B) and Bus/HOV Connector Ramp (VN80C) projects
- Update on Bronx-Whitestone Bridge Queens Approach Replacement project (BW 89C)



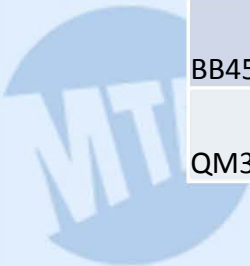
# 2010-2014 Capital Program Status

- 78% of the \$2.079 Billion is for Roadway/Deck and Structures projects that build upon and continue major initiatives begun in previous capital plans. They are also directly linked to projects planned in future capital programs.
- At \$2.079 Billion, 2010-14 program is B&T's largest
  - 2000-4: \$0.982 Billion
  - 2005-9: \$1.195 Billion
- Capital Budget was originally \$2.479 billion but **actual bid savings of \$359 million** and future planned efficiencies have allowed B&T to achieve best value in progressing the planned work at lower cost
- Increased use of **MOU's** with regional partners (NYSDOT, DPR) to ensure work is well coordinated with construction on their properties

# 2010-2014 Capital Program Status

- Through March 31, 2013 committed \$1 Billion, or 48% of the program
- Over last 3 years awarded 274 tasks versus plan of 255 tasks
- Major projects awarded to date include

Project	Project Description	Task Description	Award Year	Encumbered Amount
VN80	Replace Upper Level Suspended Span	Construction Ph. II Deck	2012	\$247.51
BW89	Deck Replacement - Elevated and On Grade Approach	Construction (Qns Approach)	2011	\$114.01
RK73	Deck Replacement- RFK MQ Ramp	Design/Build Const. (MQ Ramp)	2012	\$52.71
VN03	Toll Plaza - East & West Bound Ramps Improvements	Construction (phi)	2011	\$52.45
BB45	Replace Electrical Switchgear & Equipment	Construction	2010	\$42.26
QM30	Tunnel Ventilation Building Electrical Upgrade	Construction	2012	\$40.76



# Key 2013 Capital Projects

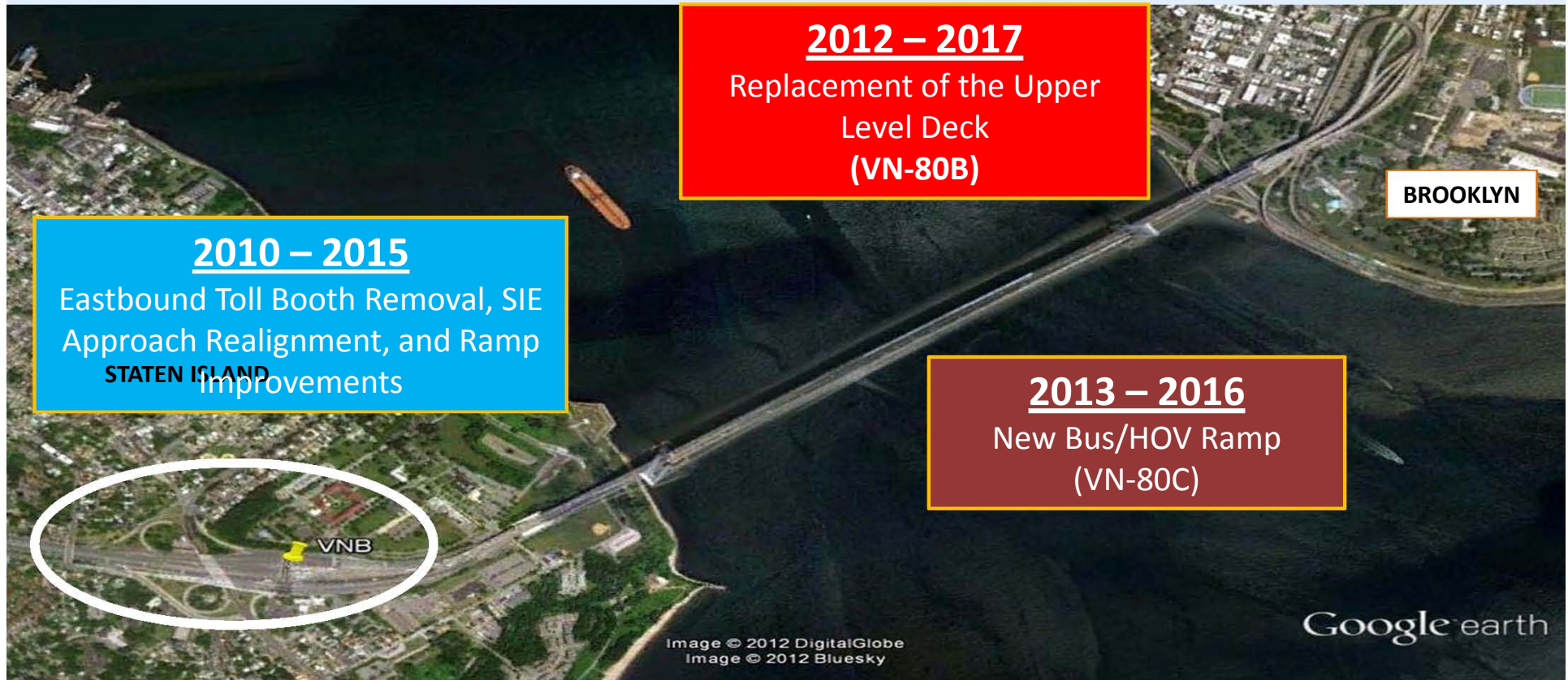
- The 2013 Plan includes 102 commitments with a total value of \$323.6 million

Project	Project Description	Plan	
VN80C	Bus & HOV Ramp Improvement (Construction)	\$80.2	Jul-13
AW36	Installation of CCTV / Fiber Optic Cable (Construction) - Throgs Neck Bridge	\$11.5	Jul-13
VN35	Steel Repair and Concrete Rehab and Paint of Brooklyn & Staten Island Lower Level Ramps (Construction/Painting)	\$28.1	Sep-13
MP06	Substructure & Underwater Scour Protection (Construction)	\$17.0	Sep-13
RK65A	Deck Replacement - Bronx/Manhattan Ramps/Toll Plaza (Construction Administration)	\$12.2	Sep-13
RK75	Interim Repairs - Toll Plaza Deck (Construction)	\$12.6	Nov-13
VN84	VN Upper level Approach Ramp & Belt Parkway Ramp Reconstruction Conceptual Design	\$6.7	Sep-13



# Verrazano-Narrows Bridge Upper Level & Approaches Coordinated Improvements

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**2010 – 2015**

Eastbound Toll Booth Removal, SIE Approach Realignment, and Ramp Improvements

**2012 – 2017**

Replacement of the Upper Level Deck (VN-80B)

**2013 – 2016**

New Bus/HOV Ramp (VN-80C)





# Contract VN-80B

## Scope for this contract:

- Replacement of 1960's Concrete Grid Deck with New Steel Orthotropic Deck
- Addition of 7<sup>th</sup> lane for Bus/HOV
- New Drainage System
- Seismic, Wind Performance, and Load Rating Upgrade
- New Sign Structures
- New LED Roadway Lighting on Both Levels

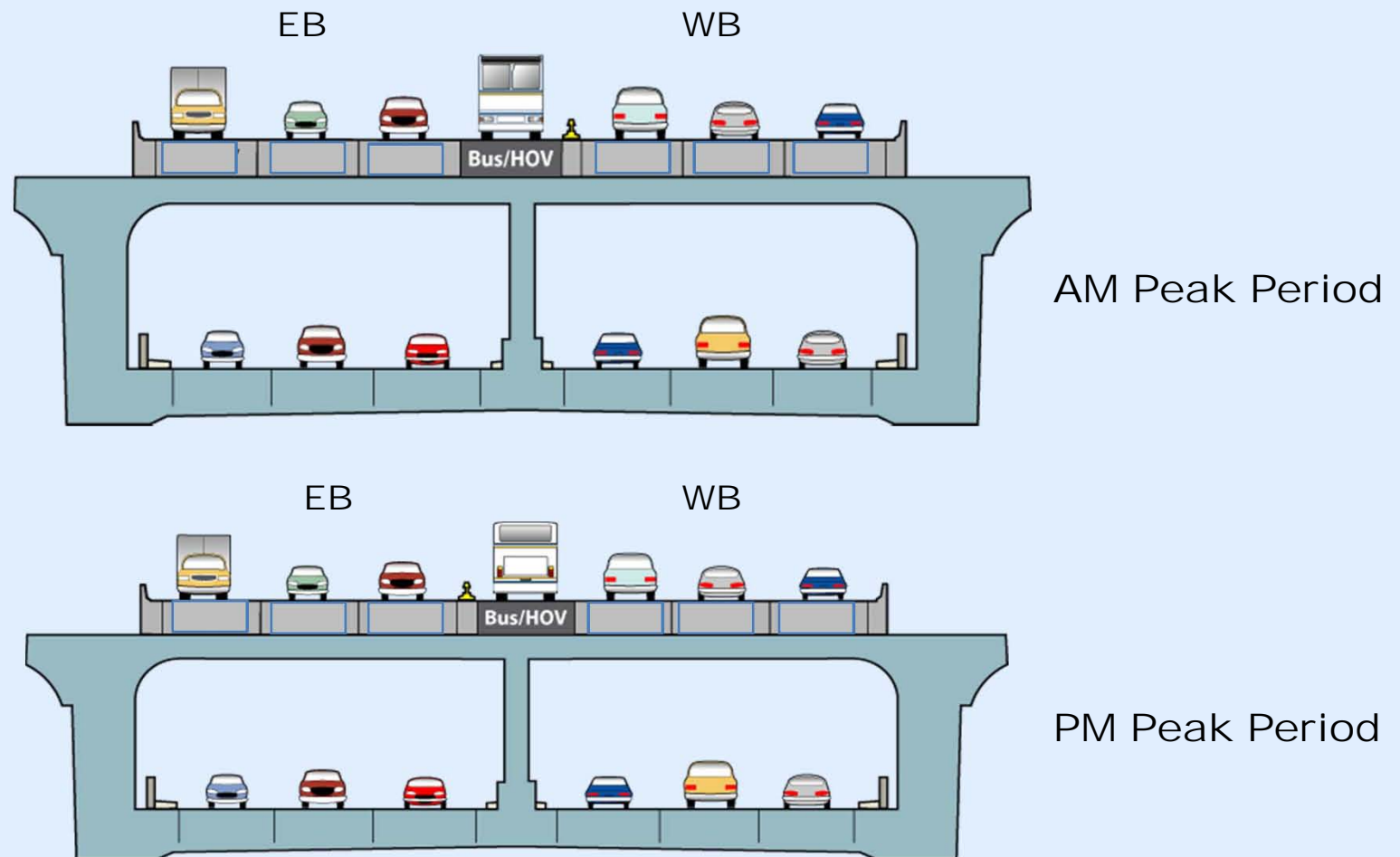
## Schedule:

- Contract VN-80B is currently scheduled to achieve Substantial Completion in February 2017. A 9 month early completion incentive is included to mitigate construction impacts

<b>Construction :</b>	<b>\$</b>	<b>247.5 M (awarded Nov 2012 to Tutor Perini)</b>
<b>Construction Management</b>	<b>\$</b>	<b>19.5 M</b>
<b>Other</b>	<b>\$</b>	<b>13.5 M</b>
<b>Project Contingency:</b>	<b>\$</b>	<b>24.6 M</b>
<b>Total Project Budget:</b>	<b>\$</b>	<b>305 M</b>

# Contract VN-80B

## Future Upper Level With Bus/HOV 7<sup>th</sup> Lane Configuration



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# VN80C Project Overview

- The VN 80 C project is an innovative best approach to fulfill the requirement to provide a connection from the upper level suspended span new Bus/HOV lane (to be constructed under VN80B) to the on grade Gowanus Bus/HOV lane
- In addition to constructing a New Bus/HOV Ramp in Brooklyn, two Belt Parkway Connector Ramps to the upper and lower levels will be reconstructed and re-aligned with the new Bus/HOV Ramp. The Belt Parkway Ramps are over 50 years old and require rehabilitation.
- Construction duration is planned for 2013-2016. Scheduled roadway closures are off peak or night with minimal impact to the traveling public. An incentive will be included in the contract to accelerate project completion
- Award is expected in 3<sup>rd</sup> Quarter 2013
- The completion of the VN80 projects and NYSDOT's SIE & Gowanus improvements will result in a continuous reversible Bus/HOV lane linking Staten Island with Manhattan



# Construct New Bus/HOV Ramp (VN80C)

**TO STATEN  
ISLAND**



Bus/HOV Ramp

New Belt Parkway  
Ramp to Upper  
Level

New Belt Parkway  
Ramp to Lower Level

NEW RAMP-B

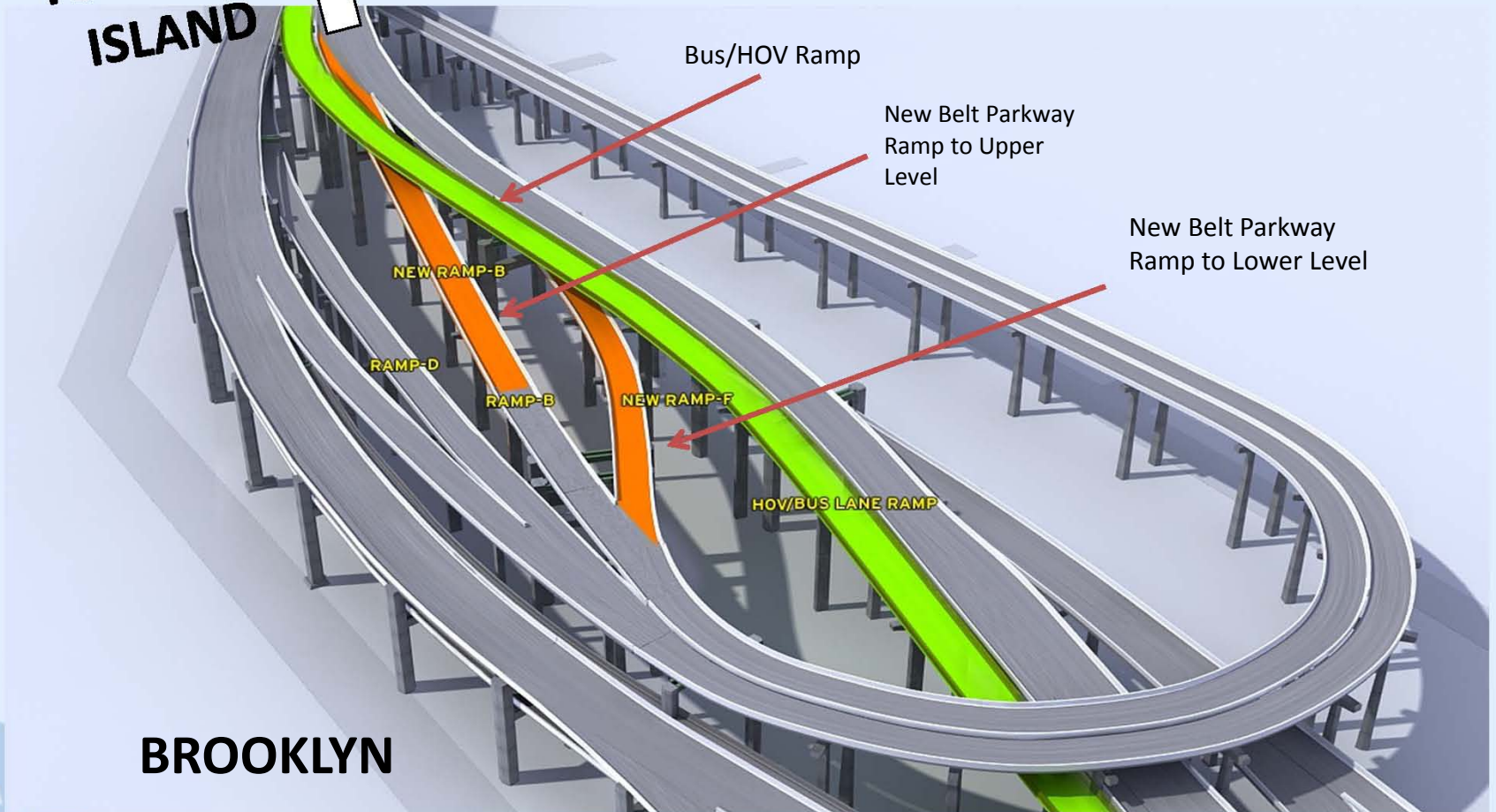
RAMP-D

RAMP-B

NEW RAMP-F

HOV/BUS LANE RAMP

**BROOKLYN**



Bridges and Tunnels

# **Contract BW89C**

## **Replacement of the Queens Approach at the Bronx-Whitestone Bridge**

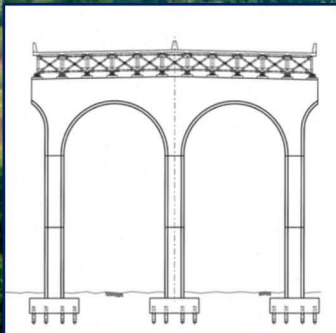
- Final Project in Current Phase of Roadway Deck and Substructure Reconstruction of the Bronx-Whitestone Bridge
  - Truss Removal and Fairing Installation completed in 2004
  - Suspended Span Deck Replacement completed in 2007
  - Replacement of the Bronx Approach completed in 2012
  - Replacement of the Queens Approach to be completed in 2015
- Phase I - Construction of New Foundations & Piers
- Phase II & III - Staged Replacement of Roadway deck





*Bronx Approach - Construction Complete*  
(2 Months ahead of schedule)

# Bronx Approach Completed



## NEW PIER/ROADWAY

12' wide lanes with  
shoulders





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# Contract BW89C

## Replacement of the Queens Approach at the Bronx-Whitestone Bridge

### SCHEDULE

Contract BW-89C is scheduled to be substantially complete in ***January 2015***

### BUDGET (\$Millions)

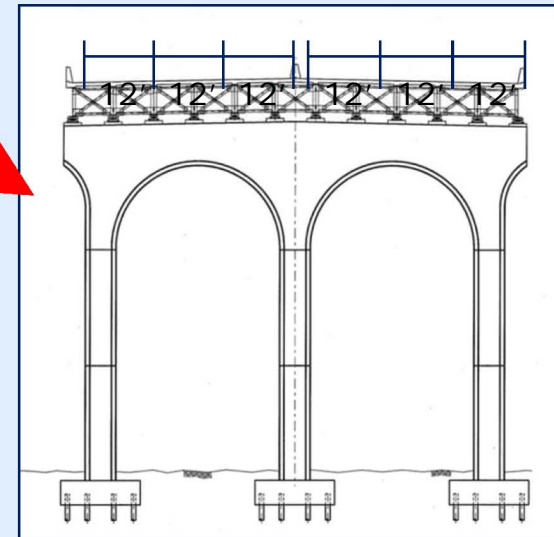
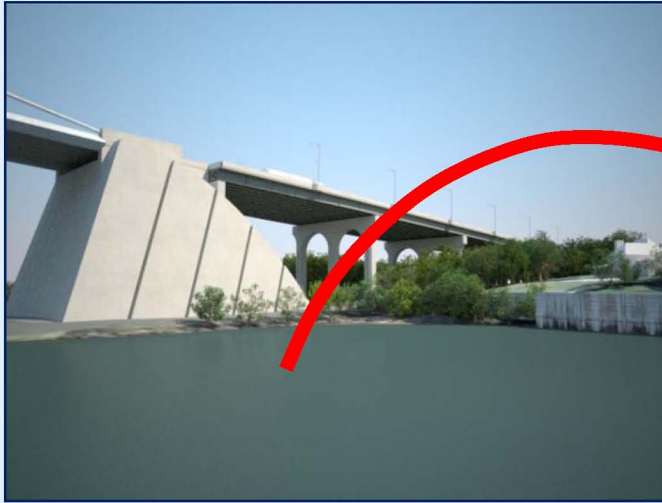
Construction Contract:	\$114M Awarded to EE Cruz/Tully JV in July 2011
Design:	\$10M
Construction Management:	\$12.6M
Other	\$7.7M
Project Contingency:	\$21.7M
Total Project Budget	\$166M

*Project is 45% complete*





## Construction of the New Queens Approach



### **NEW PIER/ROADWAY**

12' wide lanes with shoulders

### **Phased Replacement of the Entire 1,010 FT Queens Approach Viaduct**

**Phase I** – Construction of New Foundations & Piers  
All work performed under Roadway – no impact to traffic  
2011 thru Early 2013 – Complete

**Phase II** – Staged Replacement of Roadway while maintaining traffic  
Early 2013 – Late 2014

**Phase III** – Demolish existing piers/perform ground level site work.  
All work performed under Roadway – no impact to traffic  
Late 2014

## Ongoing Construction of the New Queens Approach



**Pile Installation**



**East Retaining Wall**



**Steel Erection**



**Pier Construction**

Bridges and Tunnels

## **Contract BW89C**

### **Replacement of the Queens Approach at the Bronx-Whitestone Bridge**

- As of the end of March, 2013, work on the contract is approximately 45% complete.
- Risk Assessment bolstered confidence in project's current budget of \$166 million and scheduled completion of January 2015.
- Risk Mitigation measures continue to be implemented. Continue outreach with project stakeholders:
  - State and City agencies including the DPR, NYCDOT, NYSDOT, FDNY, NYPD, and OCMC have been provided with project plans and continue to be updated to ensure full coordination.
  - Queens Community Board 7, local elected officials and Whitestone and Malba civic groups are periodically updated on project developments and progress







Bronx-Whitestone Bridge

# Risk Assessment Update

## Contract BW89C

***Replacement of the Queens  
Approach at the BWB***



# Risk Assessment

- In February 2011, a risk assessment workshop was facilitated by Golder Associates. Approximately 50 unique risks were identified during the risk assessment workshop.
- The results of the risk assessment have been provided to project management and are being utilized to prioritize the team's overall risk management efforts.
- The **80% confidence level** was determined to be **\$230 million, of which \$130 million was construction**.
- In April 2011, construction bids were opened with the lowest qualified bid at \$108.6 million.
- A mitigation plan was developed to determine appropriate level of project contingency . Accordingly, project budget was set at \$166 million.
- The **80% confidence** level for project completion is **September 2015**.
- A mitigation plan was developed to achieve the **projected contractual completion date of January 2015**,.

## Mitigation Built into Queens Approach Replacement Project

- Lessons Learned from Completed Bronx Approach Replacement Project (BW-89)
- \$10M of preparatory construction already addressed
- Extensive pre-construction outreach with community, elected officials, and other City and State agencies
- Utilization of Traffic Enforcement Agents (TEA's)
- Traffic mitigation measure – Temporary closure of 3<sup>rd</sup> Avenue Exit, January 2013 through January 2015
- Regional coordination of Capital Program

# Major Cost Risks and Mitigations

Initial Risks	Unmitigated Risk / Mitigated Risk (\$)	Mitigation Plan	Current Status
Additional costs to address mitigation of Community Sensitivities such as noise, and construction related environmental issues.	<b>\$1.5M/\$1.0M</b>	Continue outreach with the community and elected officials, anticipate and address mitigations, such as noise wall installations, and employ extensive site debris management.	Extensive community outreach ongoing. Various Construction means and methods implemented to ensure limited noise and community impacts during construction. Noise walls added to project.
Additional costs resulting from construction delays, such as security and traffic challenges.	<b>\$1.3M/ \$0.5M</b>	Expedite evaluation and processing of warranted change orders related to delays eliminating any impact to construction progress/schedule. Continue to review and revise MPT staging to expedite construction.	Construction currently on schedule, no impacts/delays to date. Permanent lane closure scheduled to be implemented in May 2013. AM and PM peak traffic lanes will be maintained.



# Major Schedule Risks and Mitigations

Initial Risks	Unmitigated Risk / Mitigated Risk (\$)	Mitigation Plan	Current Status
Unanticipated structural maintenance repairs, temporary shoring, and roadway repairs.	58 days/ 0 days	Anticipate and aggressively evaluate and inspect monitor existing structure during construction to limit/eliminate resulting delays.	Existing structure continues to be inspected for movement and/or structural deterioration. Temporary shoring, and identified flag conditions under repair, concurrently with ongoing construction.
Additional (or different) Maintenance of Traffic needed to accommodate traffic delays	20 days/ 0 days	Closely monitor traffic conditions and be pro-active with correction/ adjustments of MPT/ staging. Coordinate with NYCDOT and NYSDOT.	Traffic impacts are closely monitored. VMS's, fixed signage, and TEA's have all been deployed to mitigate traffic impacts.
Girder placement problems (Site logistics)	17 days/ 0 days	Review and ensure Contractor's means and methods are efficient to eliminate potential delays related to Girder placement. Use lessons learned from Bronx Approach construction.	Means and methods for girder erection has been reviewed in-depth. Girder erection underway with no anticipated cost or schedule impacts.

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# Current Major Costs and Schedule Risks and Mitigations

Current Project Risks	Unmitigated Risk / Mitigated Risk (days) (\$)	Mitigation Plan	Current Status
Potential project delays resulting from Utility interferences.	6 days/ 0 days \$0.5M/ \$0.2M	Coordinate construction with the various utility companies to eliminate/relocate utilities eliminating project interferences.	Continue to work with various utility companies to mitigate any project interferences. High voltage cables and gas lines encountered, interference mitigated.
Unforeseen ramp grading and super elevation conditions	10 days/ 5 days \$0.5M/ \$1.0M	Working closely with Designer and Contractor to revise staging plan to accommodate grade changes.	No schedule impacts anticipated. Potential change order to address additional quantities anticipated.
3 <sup>rd</sup> Avenue Exit Closure	0 days/ 0 days \$0.2M/ \$0.0M	Work closely with community and local politicians to approve exit closure. Coordinate with OCMC for exit closure approval.	Mitigated: Exit closed January 7, 2013, for two years as planned. This allows for safe through put for traffic in northbound direction over over the BWB.
Auger Pile installation method approved for pile installations. Potential issues when obstructions encountered.	10 days / 0 days \$0.9M/ \$0.0M	Use auger method where allowable, follow with a secondary drill method, where obstructions are encountered. Install additional piles where necessary to accommodate design criteria.	Mitigated: All piles installed, pile caps poured, pier installation complete.

## Contract BW89C

### Replacement of the Queens Approach at the Bronx-Whitestone Bridge

- As of the end of March, 2013, work on the contract is approximately 45% complete.
- Risk Assessment bolstered confidence in project's current budget of \$166 million and scheduled completion of January 2015.
- Risk Mitigation measures continue to be implemented including:
  - Share known risks with the contractor and mutually resolve risk issues.
  - Continue to expedite review and approval of project submittals
  - Continue to work collaboratively with Contractor to ensure project progresses efficiently with limited interruptions.
  - Continue outreach with project stakeholders
    - State and City agencies including the DPR, NYCDOT, NYSDOT, FDNY, NYPD, and OCMC have been provided with project plans and continue to be updated to ensure full coordination.
    - Queens Community Board 7, local elected officials and Whitestone and Malba civic groups are periodically updated on project developments and progress

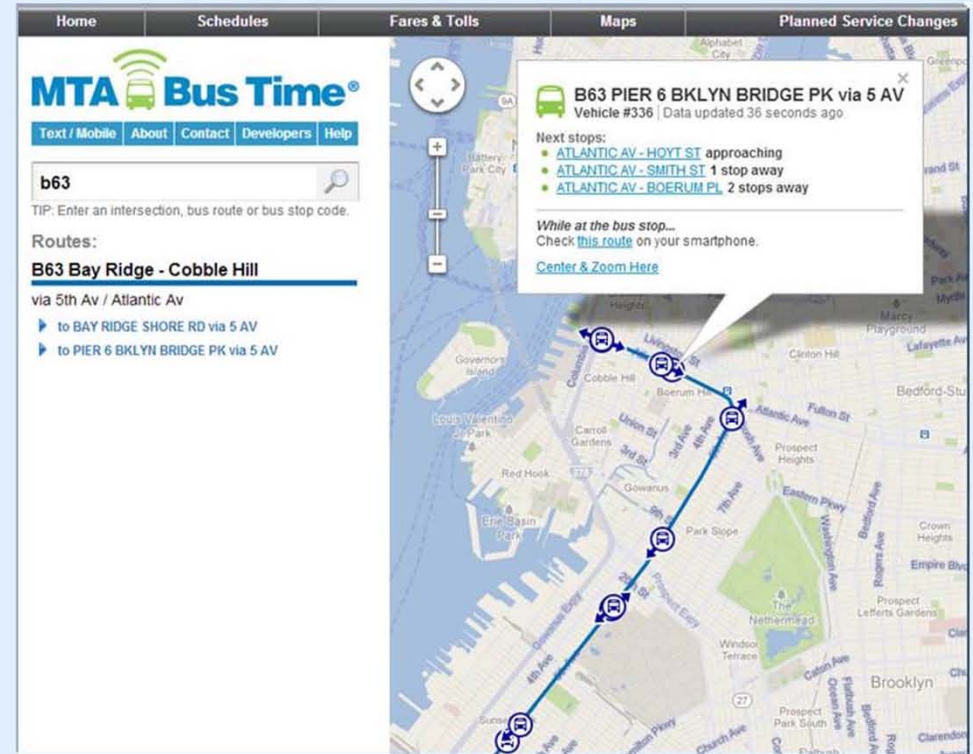
# MTA Bus Time – Progress Update

Presentation to  
Capital Program Oversight Committee  
April 2013



# MTA Bus Time Overview

- Provides our customers with accurate, real-time bus location information
- Customers access MTA Bus Time using various digital/mobile interfaces
  - Web browser on desktops
  - Mobile website on smartphones
  - Text based access on cell phones
  - Quick Response code at bus stops for smartphone ease of use



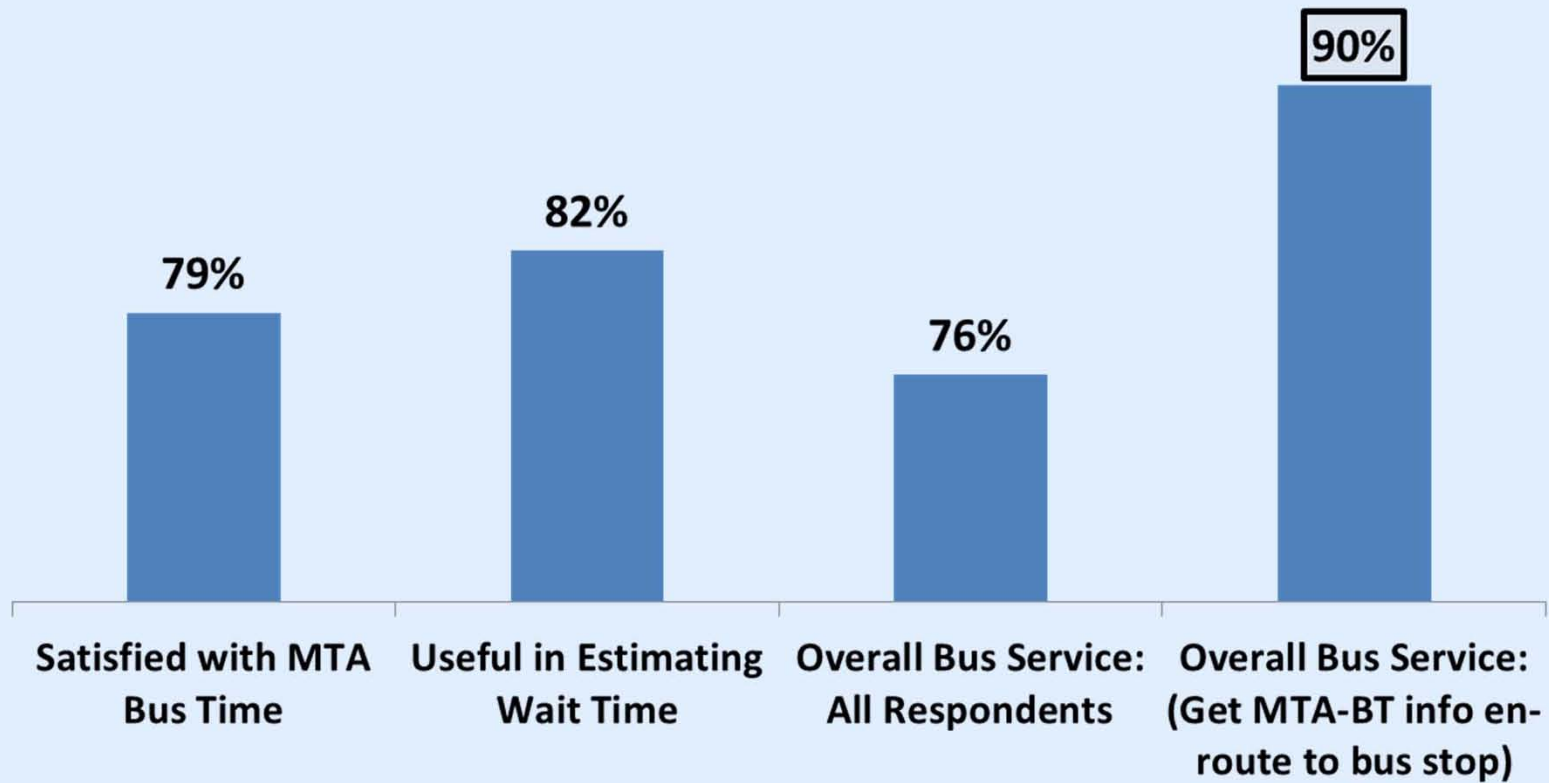
# MTA Bus Time – Deployment Summary

- MTA Bus Time has been deployed to over 2,000 buses (36% of our fleet)
- Continued progress in expanding deployment successfully:

<b>Route or Borough</b>	<b>Completed by</b>
Pilot on B63 route	February 2011
Borough of Staten Island	January 2012
Added B61 route	May 2012
Added M34-SBS route	June 2012
Borough of Bronx	October 2012
Full deployment to all boroughs	April 2014

# MTA Bus Time on Staten Island

(2012 Survey)



*Boxed number indicates statistically greater satisfaction with overall bus service among those obtaining MTA Bus Time information en route to the bus stop vs. satisfaction among all respondents.*



# MTA Bus Time Customer Usage

- 94% of customers want to see *Bus Time* available on all routes in city\* – existing usage tells the story
  - Text message usage:
    - Year to Date: 2.3M texts
    - Over one week in March: 250K (36 K/day)
  - Mobile web site usage:
    - Year to Date: 5.2M user events
    - Over one week in March: 542K user events (77 K/day)
  - Website usage:
    - Year to Date: 589K user events
    - Over one week in March: 50K user events (7 K/day)

\*From a 2011 Bus Time pilot survey in Brooklyn



# Customer Feedback

- *MTA Bus Time program is a great idea! especially for mobile devices. Please get this out to Queens bus lines soon - Amy H.*
- *... Bus Time has definitely saved my sanity many times because it is very frustrating to know that you have missed a bus by seconds ... – Veasey T.*
- *My family recently moved from Brooklyn to Staten Island and Bus Time has been a real life saver. - Adele R.*
- *This Monday and today my bus didn't appear on Bus Time. I'm on New Dorp stop in S.I. the bus is for x8 route and time was for 8:52am at my stop today's bus number is 2786 – Maria T.*
- *Bus Time is a great tool, works consistently well, keep up the good work! - Harvey F.*

# System deployment plan

- The contract for remaining boroughs awarded to Cubic Transportation Inc. in February 2013
- Implementation for remaining boroughs: Manhattan in 2013, Brooklyn and Queens by April 2014
- Installations scheduled to begin 2<sup>nd</sup> quarter 2013
- Software development to support deployment proceeding on schedule

# Bus riders in all boroughs know when *MTA Bus Time* is coming to them!

- Public launch will be planned for each borough
- Exterior bus ads will announce *MTA Bus Time*
- “Advance notice” poster one week prior to launch
- Brochure explaining program and how to use will be published
- New *Guide-a-Ride* bus schedule inserts will appear

# Project Costs

- Total cost to fully implement MTA Bus Time is \$60M including:
  - On-bus hardware costs
    - Includes installation and warranty/maintenance for 3 years
  - Software contract costs – one time
    - Supports *MTA Bus Time* for all buses in all boroughs
    - Includes development and 6 year hosting and maintenance
  - Initial implementation costs that become operating
    - Text messaging services:
      - 1.35¢ to 0.5¢/message (price decreases with usage)
    - Wireless carrier costs:
      - 25 dollars per bus per month (state contract pricing)





## Moving forward

- Ensure successful city-wide implementation on all 5,700 buses by April 2014
- MTA Bus Time provides platform for other bus technology enhancements (eg. Traffic Signal Priority)
- Incorporate real time location feed from MTA Bus Time into daily operational decision making and service management efficiency in all boroughs



# Systems & Security Division

Mark Bienstock, P.E.  
Program Officer

Capital Program Oversight Committee

April 22, 2013

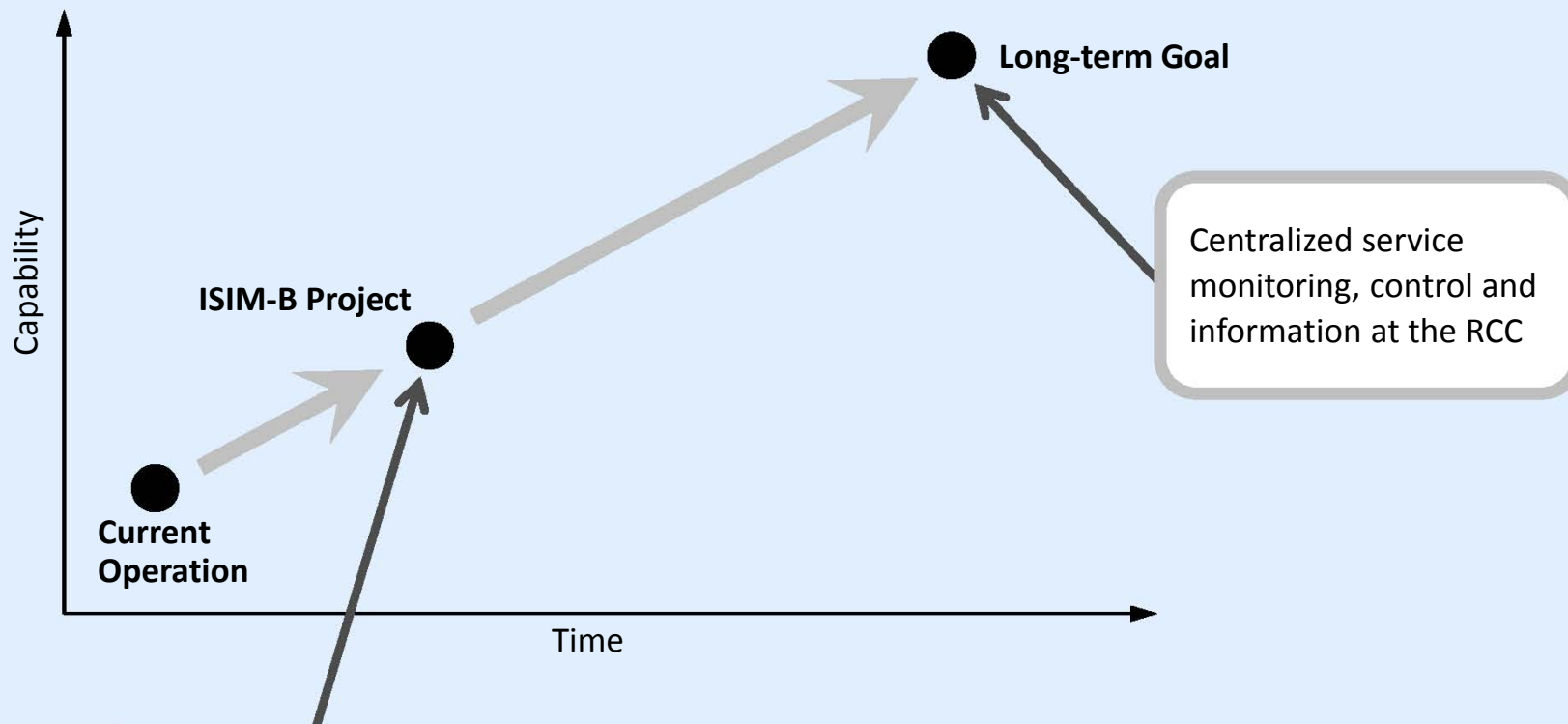


# **Integrated Service Information and Management: B Division**

## **Progress Update**



## Integrated Service Information and Management: B Division (ISIM-B)



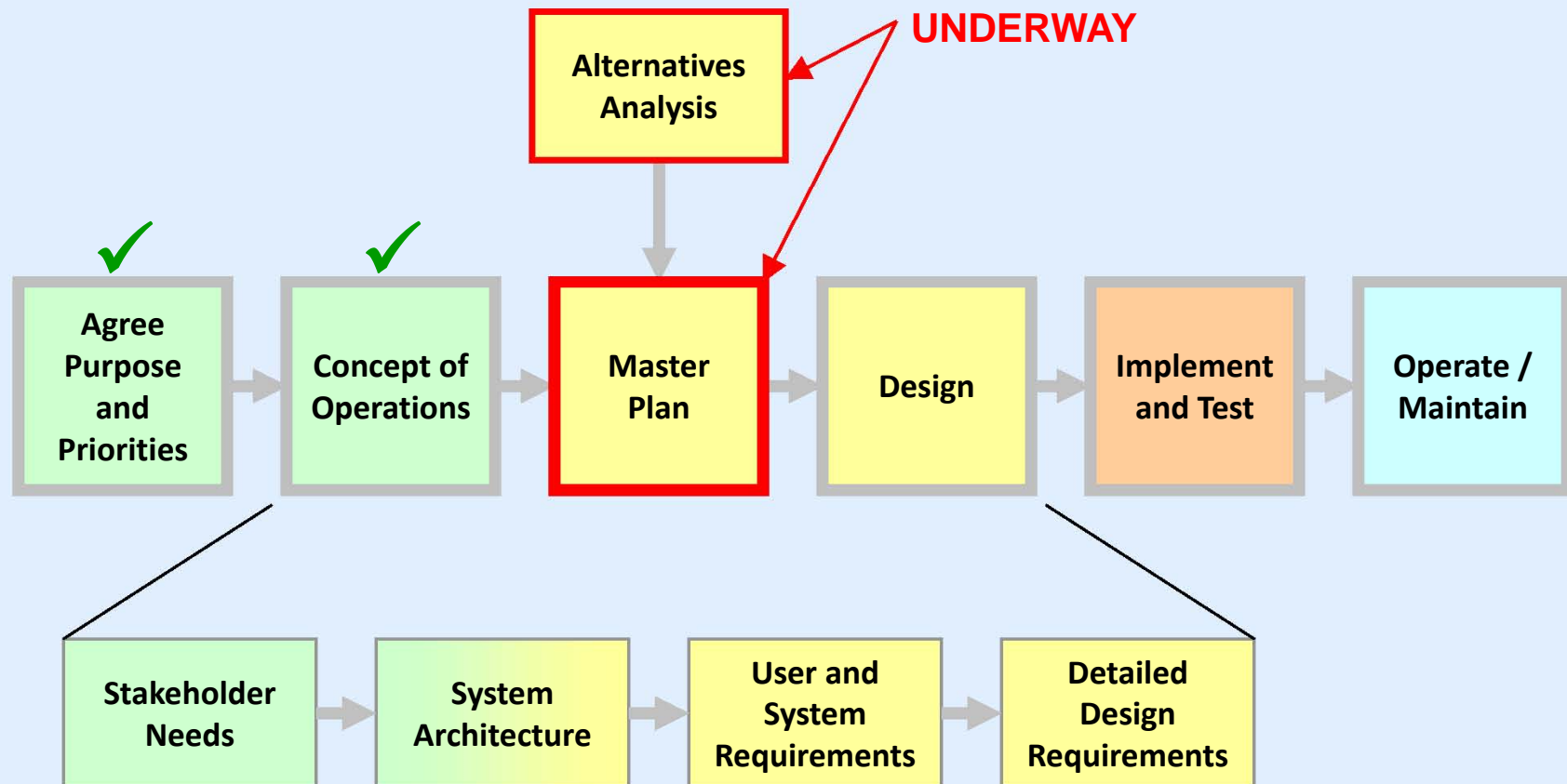
**Provide consistent and timely information about the current state of B-Division service to staff and customers, moving the agency towards centralized monitoring and control**

# Objectives

- **Better service management** by improving service monitoring and regulation
- **Better management of safety and security** by improving information sharing and decision making
- **Better customer information** by improving the quality, accuracy and timeliness of communication
- **Better operational plans and schedules** by improving analysis of historical service data



# A Systems Engineering Approach



3 - 15



# Alternatives Analysis

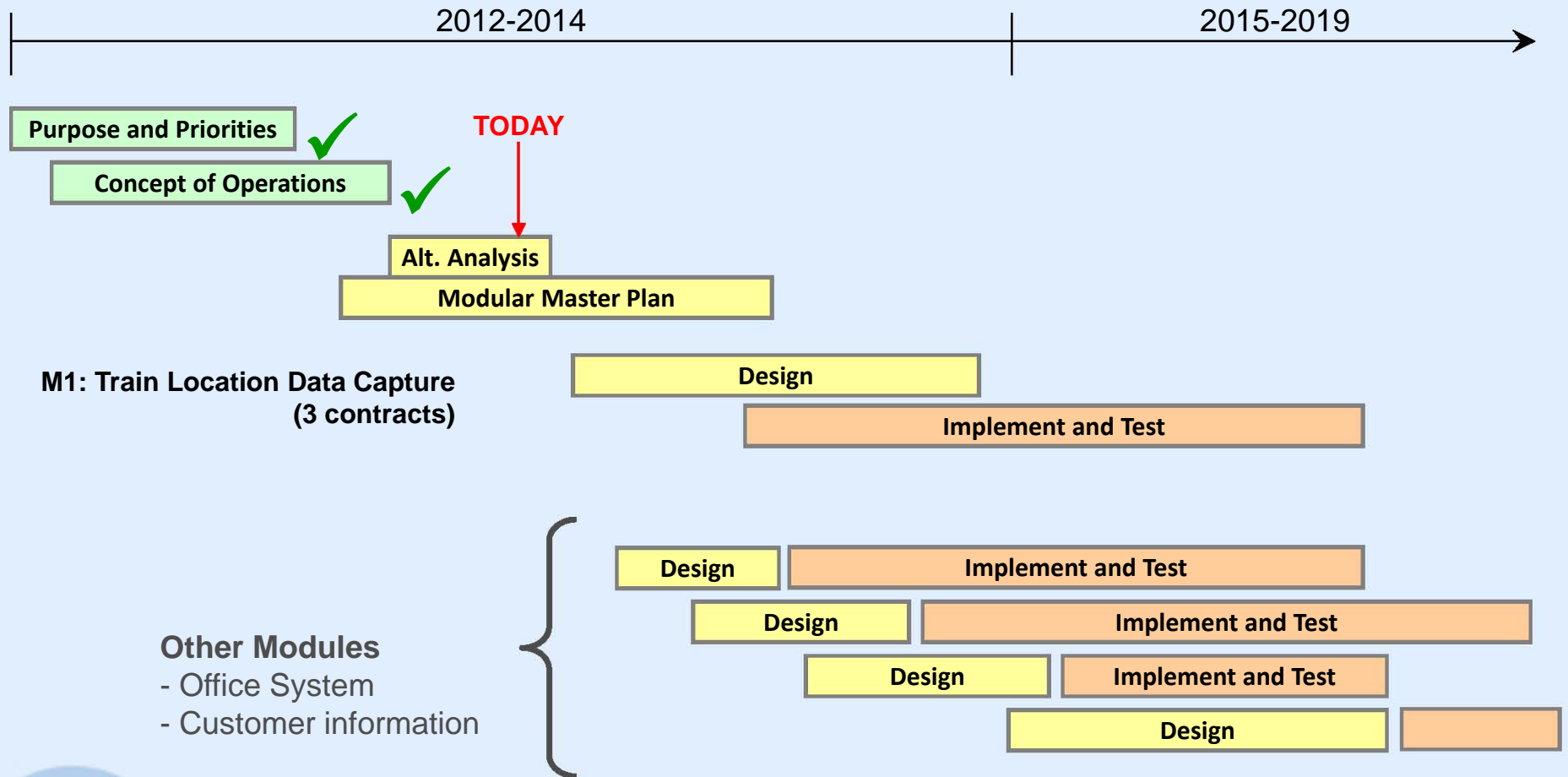
- Exploring several high-level decisions:
  - How to partition the program into sensible workstreams?
    - Balancing timing of benefits, manageability, and integration complexity
  - Where to assign integration risk?
    - What risk does NYCT assume versus contractors?
  - What is the basis of the system?
    - New procurement vs. expansion of existing system
  - How to deploy the benefits in a phased manner?
- Recommended alternative to be determined this month
- Alternatives analysis task complete in early May

# Modular Master Plan

- M1: Train Location Data Capture
- M2: Station Customer Information Infrastructure
- M3: Office System
  - Traffic Management System
  - Customer Information System
- M4: Rail Control Center architectural work
- M5: CBTC Integration
- M6: Centralized Interlocking Control



# Program Progress



# VHF Radio System Upgrade

## Progress Update





# VHF Radio System Upgrade

- Awarded: February 10, 2012
- Contractor: Alcatel-Lucent USA
- Project Description: This project will install new VHF radio base station equipment for RTO and the NYPD Transit Bureau to replace legacy equipment that can only operate in wideband mode. The new radio equipment is configured to operate in narrowband mode to meet the FCC mandate.



# VHF Radio System Upgrade

## Overall Status

Item	Comments
Schedule	On schedule for substantial completion in July 2016
Cost	Within Budget of \$221M

## Highlights

### Progress



- System Conceptual Design Review & System Simulation Testing completed
- Equipment for VHF Radio Cabinet approved
- Contractor is working at all four initial build sites




### 180 Day Look Ahead

- Complete Preliminary Design Review / Critical Design Review
- Conduct Factory Acceptance Test / Factory System Test
- Perform Independent Lab Test of Radio Cabinet
- Complete equipment installation at initial build sites & Rail Control Center

# VHF Radio System Upgrade

## Critical Milestones and Issues

Status	Activity	Date Needed	Issues
 Green	System Acceptance Test for Initial Build Base Stations	August 2013	No issue at this time.
 Green	Beneficial Use for 26 Outdoor Base Stations and 8 Transit Bureau Locations	September 2014	No issue at this time.

	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
	Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
	Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.

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# **April 2013 CPOC IEC Project Review**



## **NYCT VHF Radio Systems Upgrade**



**April 22, 2013**

# Schedule and Budget Review

- SCHEDULE - The project is on schedule and currently has a favorable schedule contingency.
- BUDGET – Project is on budget.





# Signals and Train Control Division

Nidhish Patel, P.E.

Program Officer

April 2013

Capital Program Oversight Committee



## CBTC Flushing Line

- Contractor: Thales, Inc.
- Award (S32723): June 16, 2010
- Project Description: Project will overlay new CBTC system on the Flushing Line between Main St. and the new 34<sup>th</sup> /11<sup>th</sup> Ave. terminal. Modernize 1<sup>st</sup> Ave and Times Square Interlockings and equip fleet with CBTC carborne equipment.

# CBTC Project Overview

## Overall Status (S-32723 CBTC Flushing Line)

Item	Comments
Schedule	Substantial Completion forecasted for November 2016
Cost	Project is within budget of \$550M

## Highlights (S-32723 CBTC Flushing Line)

### Progress



- Completed Final Design Review (FDR) December 2012 (3 month delay)
- Completed installation of 61<sup>st</sup> Street and Junction Blvd Signal Rooms
- Delivered signal equipment for Times Square
- First Article Inspection completed for various CBTC equipment – contractor proceeding with manufacturing of this equipment
- Risk Assessment Workshop was completed on March 11 & 12, 2013

### 180 Day Look Ahead




- CBTC System FAT (Thales – Toronto) / SSI FAT (Alstom – Rochester) planned for 3<sup>rd</sup> Quarter 2013
- Place in service Times Square Interlocking
- Deliver CBTC equipment for field installation
- Review draft of Risk Assessment results; Develop Mitigation Strategies

# CBTC Flushing CBTC

## Critical Milestones




Status	Activity	Date Needed	Issues
 Green	Radio Development	3 <sup>rd</sup> Quarter 2013	Thales has recently completed a field demonstration in Edmonton, Canada. Based on initial results, the new radio complies with all functional requirements. Radio development activity is divided into hardware and software. Hardware manufacturing is on going. Software demo was successfully tested. Final radio software test is scheduled for August 2013.
 Green	Factory Acceptance Testing (FAT)	3rd Quarter 2013	FAT on schedule.

### Legend




	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
	Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
	Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.

# CBTC Flushing CBTC

## Critical Milestones

Status	Activity	Date Needed	Issues
 Green	Finalize and Install Train Interfaces	January 2014	The R188 Car Option was awarded in December 2011. CBTC Field Integration Tests may be impacted if CBTC carborne equipment is not installed and tested on the 1 <sup>st</sup> R188 train by Jan 2014.
 Yellow	G.O. Availability	2013 through 2016	A G.O. calendar has been established to support project needs. There are no planned impacts associated from Hurricane Sandy. Track, Operations Planning and CPM are meeting to coordinate future panel replacement work to mitigate any impact to the project's schedule.
 Yellow	Availability of R188 Units for CBTC Upgrade	First Train Jan 2014 Last Train Feb 2016	Acceptance of R188 car units were based on their performance on the Rockaway Test Track. This track was damaged by Super storm Sandy; Dyre Ave Line has been identified as the temporary R188 test track. Delay in the return of the Rockaway test track may delay the release of R188 train units. If test track remains on Dyre Line, there may be a potential delay in the Dyre Ave Interlocking project.

### Legend

	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
	Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
	Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.

## Culver Line CBTC Integrated Test Facility

- Contractor: Siemens and Thales Consortium
- Award (S-32748) September 30, 2011
- Project Description: Update and finalize CBTC Interface and Interoperability (I2S) standards; develop two interoperable safety certified CBTC interfaces. Provide Test Track between 7th Avenue and Church Avenue Interlocking on B3 Track.



# Culver Line CBTC Integrated Test Facility

## Overall Status (S-32748 Culver Line CBTC Integrated Test Facility)

Item	Comments
Schedule	Substantial Completion on schedule for July 2015
Cost	Project is within budget of \$100.9M

## Highlights (Culver Line CBTC Integrated Test Facility)

### Progress



- Interoperability Interface Specifications are complete
- Final Design Review is nearly completed (submittal review)
- Software development is on-going for both suppliers
- Hardware is under procurement

### 180 Day Look Ahead




- Install and validate Interoperability Test Simulator (ITF) in New York (3<sup>rd</sup> quarter 2013)
- Factory testing for both Suppliers sub-systems to be completed by 3<sup>rd</sup> quarter 2013
- Start Interoperability Testing on the ITF (end of 2013)

# CBTC Critical Milestones and Issues

## Critical Milestones (Culver Line CBTC Integrated Test Facility)

Status	Activity	Date Needed	Issues
 Green	Availability and validation of the test simulator in New York	3 <sup>rd</sup> Quarter 2013	Completion is critical to start interoperability testing in New York (simulator phase).
 Green	Successful factory testing for CBTC subsystems	3 <sup>rd</sup> Quarter 2013	Completion is critical start interoperability testing (simulator phase).

### Legend

	Red	Significant impacts with potential impacts on Revenue Service Date, Cost, or Customer Benefit Milestones
	Yellow	Impacts which can lead to cost increases or schedule delays on individual milestones or contracts.
	Green	No Near Term Impact for Design, Procurement & Construction. Successful management of major activity to stay on schedule or budget.

## Church Avenue Interlocking

- Contractor: LK Comstock
- Award (S-32742) June 30, 2010
- Project Description: This project will modernize and improve the reliability of the Church Ave. Interlockings on the Culver Line. This project is coordinated with the 4th Ave Structures and the Culver CBTC Test Track Projects.

### Overall Status (S-32742 Church Avenue Interlocking)

Item	Comments
Schedule	73% complete; Substantial Completion is on schedule for August, 2014
Cost	Project is within budget of \$210M

## 2 Interlockings: Union Turnpike & 71<sup>st</sup> Ave

- Contractor: Five Star Electric
- Award (S-32769): November 28, 2012
- Project Description: This project will modernize and improve the reliability of the Union Turnpike and 71st Street Interlockings on the Queens Line. The interlockings are modernized with conventional relay technology.

### Overall Status (S-32769 Union Turnpike and 71<sup>st</sup> St.)

Item	Comments
Schedule	1% complete; Substantial Completion is on schedule for April 2017
Cost	Project is within budget of \$310M

## Roosevelt Avenue Interlocking

- Contractor: Five Star Electric
- Award (S-32749): January 8, 2013
- Project Description: This project will modernize and improve the reliability of the Roosevelt Avenue Interlocking on the Queens Line. The interlocking will be modernized with conventional relay technology.

### Overall Status (S-32749 Roosevelt Avenue Interlocking)

Item	Comments
Schedule	2% complete; Substantial Completion is on schedule for December 2016
Cost	Project is within budget of \$103M

## Dyre Avenue Line Signals

- Contractor: JTJ Contracting
- Bid Opening (S-32773): March 14, 2013
- Project Description: This project will provide a complete new fixed block system from East 180th Street to Dyre Avenue. Two interlockings will be modernized with SSI technology.

### Overall Status (S-32773 Dyre Avenue Line Signals)

Item	Comments
Schedule	Anticipated Award date April 30, 2013
Cost	Project is within budget of \$253M

## West 4<sup>th</sup> & 34<sup>th</sup> Street Interlocking

- Current Status: In Design
- Anticipated Award: 34th Street (S32764) November 2013  
West 4th (S32765) February 2014
- Project Description: This project will modernize and improve the reliability of the West 4th & 34th St. Interlocking on the 6th Avenue Line. The interlocking will be modernized with Solid State (SSI) technology.

### Overall Status (West 4<sup>th</sup> & 34<sup>th</sup> Street Interlocking)

Item	Comments
Construction Issues	Extensive coordination with Sandy Resiliency Work required



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# **April 2013 CPOC IEC Project Review**



## **NYCT Signals & Train Control**



**April 22, 2013**

# CBTC Flushing Line

- **SCHEDULE:** The Substantial Completion (SC) date of November 2016 is achievable. The monthly milestone schedule update which the agency uses, has been an effective tool in monitoring progress. While the current update has no schedule contingency (float), the IEC recognizes that measures are being taken to keep the project on track. The risk assessment draft report is currently under review and it will further identify which activities may need mitigation to remain on schedule. Up to this point, no contract time extension has been needed due to Hurricane Sandy. However, the contractor has submitted documentation for the right to do so in the future.
- **BUDGET:** Project is on budget and AWO costs have been minimal.
- **OTHER CRITICAL ISSUES:** The critical milestones and issues have been properly characterized.



# Culver Line CBTC Test Facility

- **SCHEDULE:** The current schedule status and updates have been properly reported.
- **BUDGET:** The current budget status is as reported.
- **OTHER CRITICAL ISSUES:** The highlights and milestone activities reflects the current work and status. Work not noted is the significant progress made on a speed measuring device to be used for the cars on the Canasie Line as a replacement for the device currently in use.

# Interlockings

- CHURCH AVENUE: The status of this conventional relay-based interlocking replacement project runs in parallel with the Culver Line Viaduct repair. The two projects are being well coordinated and the IEC substantially agrees with the agency report.
- THE IEC HAS NO COMMENTS ON THESE PROJECTS AT THIS TIME AS CONSTRUCTION ACTIVITIES ARE EARLY IN THE PROJECT OR AS NOTED.
  - 2 INTERLOCKINGS, UNION TURNPIKE & 71<sup>ST</sup> AVENUE (CONSTRUCTION)
  - ROOSEVELT AVENUE (CONSTRUCTION)
  - DYRE AVENUE (CONTRACT AWARD PENDING)
  - WEST 4<sup>TH</sup> & 34<sup>TH</sup> STREET (DESIGN)



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# **MTA Capital Program Commitments & Completions**

**through  
March 31, 2013**

4 - 1



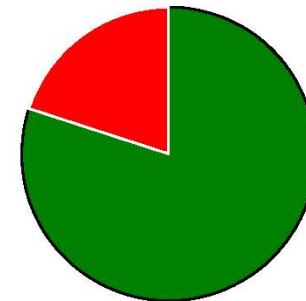
## Capital Projects – Major Commitments – March 2013

Ten major commitments are reported on through March. Eight are being delivered on or near goal. Two new delays, both at MTA Bus, are addressed in the following page.

Regarding total commitments, agencies have committed \$1.085 billion through March, which is \$86 million greater than the goal. This is partly due to the LIRR committing a large amount of its 2013 Track Program and its program administration ahead of goal. The value of actual commitments made is \$16 million higher than budget, reflecting a high award cost for the Brick Arch ceiling repair contract at the 168<sup>th</sup> and 181<sup>st</sup> Street stations. By year-end, agencies currently forecast that 99% of the \$5.5 billion annual goal will be committed.

An additional 2013 commitment goal has been established: the East Side Access Manhattan Southern Structures CM005 contract (\$216M). This commitment has an August award goal.

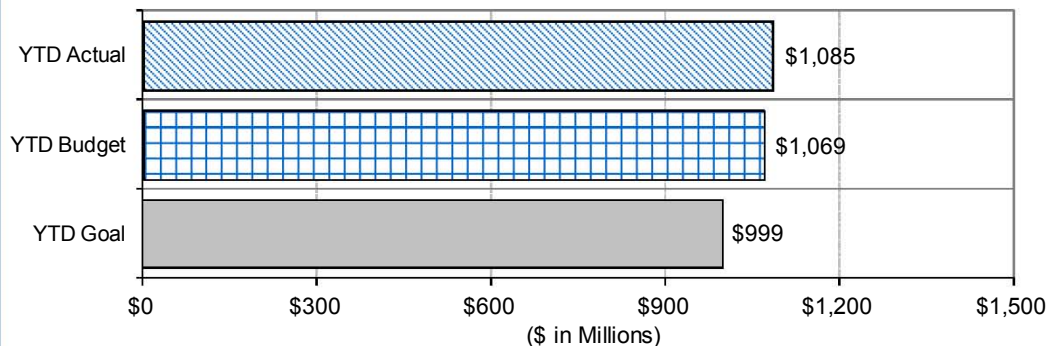
## Year-to-Date Major Commitments



<b>GREEN</b>	=Commitments made/forecast within 2 months of Goal	Count	Percent	Change from Prior Month
		8	80%	↑ 3
<b>YELLOW</b>	= Commitments delayed beyond 2 months of Goal (already achieved)	0	-	-
<b>RED</b>	= Commitments delayed beyond 2 months of Goal (not yet achieved)	2	20%	↑ 2
		10	100%	↑ 5

## Budget Analysis

2013 Annual Goal	\$5,494	(\$ in millions)
2013 Annual Forecast	99%	of Annual Goal
Left to Complete	80%	(\$4,347)



## Year-to-Date Agency Breakdown

Prior month variance			
	GREEN	YELLOW	RED
<b>New York City Transit</b>			
6	+ 3 GREEN	----	----
<b>Long Island Rail Road</b>			
1	----	----	----
<b>Metro-North Railroad</b>			
	----	----	----
<b>Bridges and Tunnels</b>			
	----	----	----
<b>Capital Construction Company</b>			
1	----	----	----
<b>MTA Bus Company</b>			
2	----	----	+ 2 RED
<b>MTA Police Department</b>			
	----	----	----

## Capital Projects – Major Commitments – March 2013 – Schedule Variances

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast
<b>2 All-Agency Red Commitments (2 new this month)</b>							
<b>MTA Bus</b>							
<b>MTA Bus Projects</b>							
<b>Emergency Generators: 6 Depots (New Item)</b>	Construction Award	Mar-13	Jun-13				
		\$7.7M	\$7.6M				
The contract will be re-bid to include post- Superstorm Sandy mitigation change at the Far Rockaway depot.							
<b>Security Upgrade: Eastchester and La Guardia (New Item)</b>	Construction Award	Mar-13	Jun-13				
		\$7.5M	\$7.5M				
Lowest bidder withdrew bid after an extended review period. MTA Bus now moving to 2nd lowest bidder, delaying the award.							



## Capital Projects = Major Commitments = March 2013 - Budget Only\* Variances

\*for variances of more than \$5 million or 10%

**Actuals Results Shaded**

Project	Commitment	Goal	Forecast	Project	Commitment	Goal	Forecast
<b>3 All-Agency Budget only variance (2 new this month)</b>							
<b>NYCT</b>							
<i>Line Structures</i>							
Overcoating Portal- East 180th St. WPR	Construction Award	Jan-13 \$33.7M	Jan-13 (A) \$30.4M				
The project cost decrease represents a favorable bid at project award.							
<i>Stations</i>							
<b>Brick Arch Repair 168th &amp; 181st St /Broadway (New Item)</b>	Construction Award	Mar-13 \$36.6M	Mar-13 (A) \$61.8M				
Cost increase reflects the higher bid received.							
<b>Replace Hydraulic Elevator (New Item)</b>	Construction Award	Mar-13 \$44.6M	Mar-13 (A) \$27.1M				
Cost decreased due to reduction in scope of electrical work, as well as lower construction support costs.							

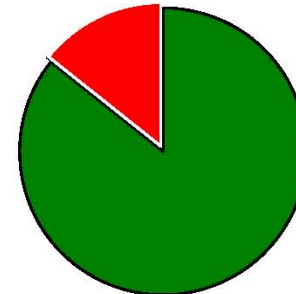
## Capital Projects – Major Completions – March 2013

Seven major completions are reported on through March. Six are being delivered on or close to goal. One major completion, an MTACC Fulton Center project (\$175 million) is now reported as late. Details are on the following page.

Through March, agencies have completed \$99 million versus a \$469 million YTD goal. The budget variance is largely due to the delay noted above, as well as slips in a second MTA CC Fulton Center contract (\$78 million) and an MTA Bus fleet purchase (\$46 million).

By year-end agencies currently forecast that 100% of the \$5.4 billion annual goal will be completed.

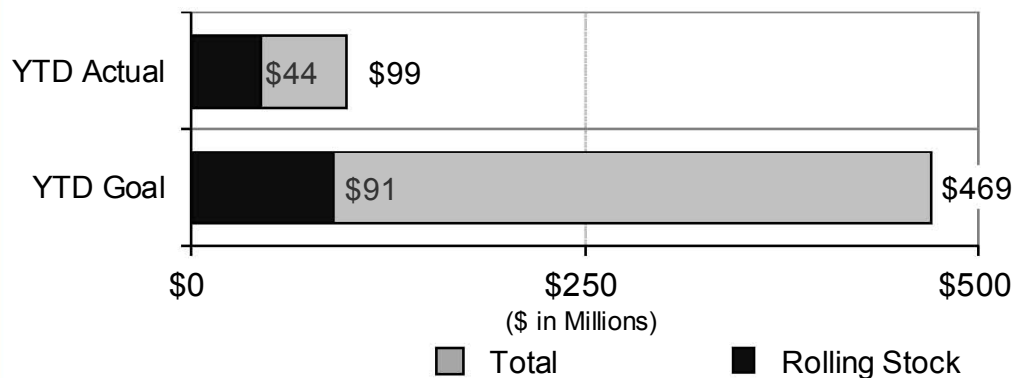
## Year-to-Date Major Completions



	Count	Percent	Change from Prior Month
<b>GREEN</b> = Completions made/forecast within 2 months of Goal	6	86%	↑ 1
<b>YELLOW</b> = Completions delayed beyond 2 months of Goal (already achieved)	0	-	-
<b>RED</b> = Completions delayed beyond 2 months of Goal (not yet achieved)	1	14%	↑ 1
	7	100%	↑ 2

## Budget Analysis

2013 Annual Goal	\$5,446	(\$ in millions)
2013 Annual Forecast	100%	of Annual Goal
Left to Complete	98%	(\$5,363)



## Year-to-Date Agency Breakdown

	Prior month variance		
	GREEN	YELLOW	RED
<b>New York City Transit</b>			
2	----	----	----
<b>Long Island Rail Road</b>			
1	----	----	----
<b>Metro-North Railroad</b>			
	----	----	----
<b>Bridges and Tunnels</b>			
	----	----	----
<b>Capital Construction Company</b>			
1 1	----	----	+ 1 RED
<b>MTA Bus Company</b>			
2 + 1 GREEN	+	----	----
<b>MTA Police Department</b>			
	----	----	----

## Capital Projects – Major Completions – March 2013 – Schedule Variances

Project	Completion	Goal	Forecast	Project	Completion	Goal	Forecast
<b>1 All-Agency Red Completion (1 new this month)</b>							
<b>MTA CC</b>							
<i>Fulton Center</i>							
<b>A/C Mezzanine, J/M/Z (New Item)</b>	Construction Award	Mar-13 \$175.2M	Jun-14 \$175.2M				
Completion extended to June 2014 due to additional security work added to the scope of the contract.							

**Capital Projects = Major Completions - March 2018 to Budget\* Variances**

*\*for variances of more than \$5 million or 10%*

**Actual Results Shaded**

Project	Completion	Goal	Forecast	Project	Completion	Goal	Forecast
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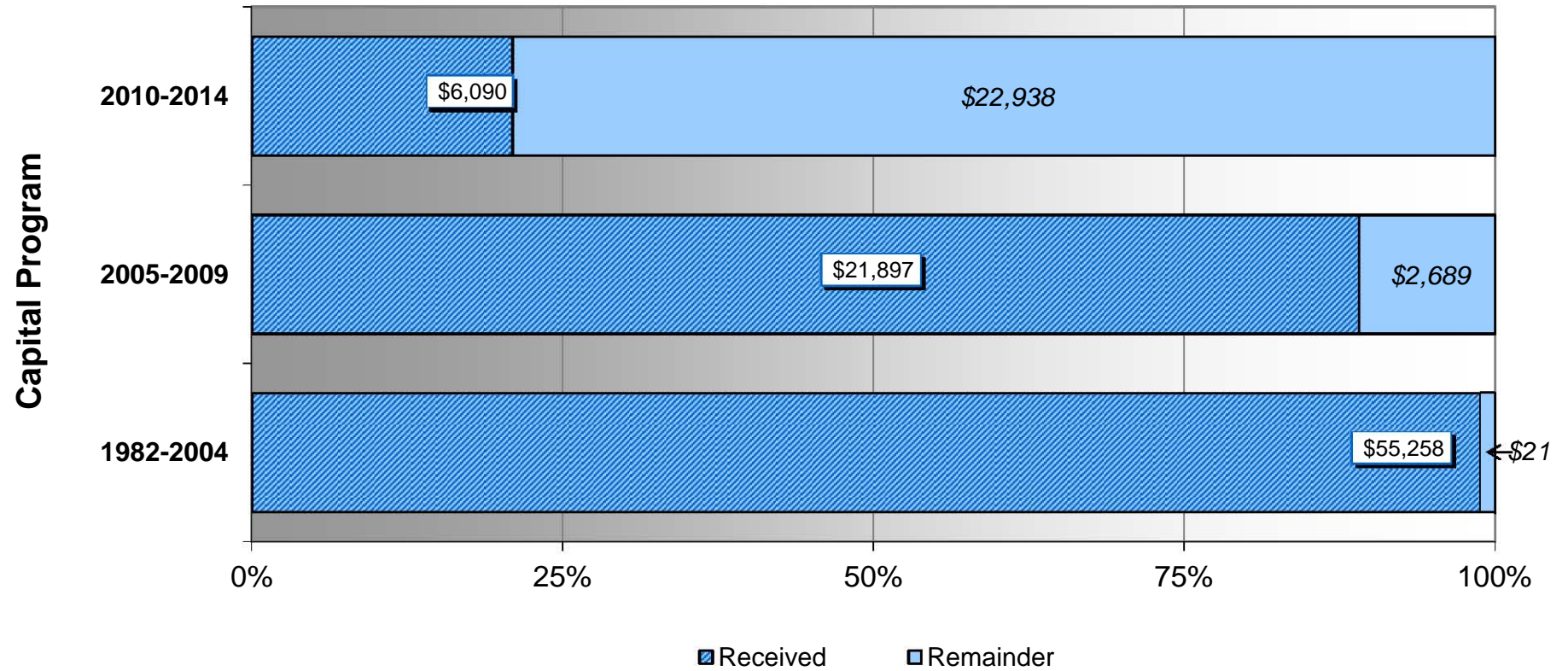
No budget only variances through March.

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## Status of MTA Capital Program Funding

## Capital Funding (March 31, 2013)

\$ in millions



## Capital Funding Detail (March 31, 2013)

\$ in millions

### 2005-2009 Program

	Funding Plan	Receipts		
	<u>Current</u>	<u>Receipts thru January</u>	<u>This month</u>	<u>Received to date</u>
Federal Formula and Flexible Funds	\$5,186	\$5,186	\$ -	\$5,186
Federal New Start	2,810	1,832	-	1,832
Federal Security	322	244	1	245
Federal Other	11	11	-	11
Federal ARRA - Stimulus	654	654	-	654
City of New York	409	406	-	406
City #7 Line Extension Funds	2,367	1,720	52	1,772
MTA Bus Federal and City Match	149	140	-	140
Asset Sales and Program Income	1,237	602	-	602
State Transportation Bond Act	1,450	881	184	1,064
MTA Bonds (Including LGA)	3,039	3,042	(3)	3,039
B&T Bonds	1,221	1,221	-	1,221
Bonds from New Sources	5,624	5,624	-	5,624
Other (Including Operating to Capital)	107	99	3	102
<b>Total</b>	<b>24,586</b>	<b>21,661</b>	<b>237</b>	<b>21,897</b>

### 2010-2014 Program

	Funding Plan	Receipts		
	<u>Current</u>	<u>Receipts thru January</u>	<u>This month</u>	<u>Received to date</u>
Federal Formula, Flexible, Misc	\$5,783	\$2,845	\$ -	\$2,845
Federal High Speed Rail	295	295	-	295
Federal Security	225	76	-	76
Federal RIFF Loan	2,200	-	-	-
City Capital Funds	762	180	5	185
State Assistance	770	87	-	87
MTA Bus Federal and City Match	167	-	-	-
MTA Bonds (Payroll Mobility Tax)	10,504	2,212	-	2,212
Other (Including Operating to Capital)	1,490	257	-	257
B&T Bonds	2,079	133	-	133
Hurricane Sandy Recovery				
Insurance Proceeds/Federal Reimbursement	3,805	-	-	-
Sandy Recovery MTA Bonds	792	-	-	-
Sandy Recovery B&T Bonds	158	-	-	-
<b>Total</b>	<b>29,029</b>	<b>6,085</b>	<b>5</b>	<b>6,090</b>