The information presented at the MTA System Expansion Industry Outreach on September 12, 2006 and provided herein is intended to provide general information about upcoming MTACC projects. It is provided with the understanding that any parties interested in submitting proposals or bidding on these projects should not rely on this information for any purpose beyond background information.

The MTA shall not be responsible for any damage from any error, inaccuracy, or omission contained in the information provided herein. In all instances, documents provided with the formal invitation for bids or requests for proposal shall control.
Informational Outreach Meeting

No. 7 Subway Extension
2nd Ave Subway
East Side Access

September 12, 2006
Agenda

Opening Remarks

No. 7 Subway Line Extension Project
2nd Avenue Subway Project
East Side Access Project

Break *(15 min)*

Procurement Issues

Questions
Overview of MTA Capital Construction Company

Mysore L. Nagaraja
President
Expanding the MTA’s Network

- East Side Access
- Second Avenue Subway
- No. 7 Subway Line Extension
Capital Construction

East Side Access Scope

- 3½ route miles of tunnels
- A new terminal station at GCT
- New yards and shop
- New Sunnyside Station
East Side Access Status

- Completed Environmental Process
- Completed Preliminary Engineering
- Overall Design is 67% Complete
- $860 million of Construction Work Awarded
- More than $1 Billion Programmed in 2007
Second Ave Subway Phase 1

Scope:

- Tunnels from 92nd St to 62nd St
- Stations at 96th St, 86th St, 72nd St and 63rd St
- 63rd St Subway Connection
- Track & Systems from 105th St to 63rd St
- Service between 96th St & Brooklyn via Broadway Line
Second Avenue Subway Status

- Completed Environmental Process
- Record of Decision July 8, 2004
- Completed Preliminary Engineering
- Started Final Design in April 2006
- Construction to start in 2006
No. 7 Subway Project Scope

- 7,000 foot tunnel extension
- 2 Stations
  - Tenth Avenue
  - 34th Street
No. 7 Subway Line Extension Status

- Completed Environmental Process
- Completed Preliminary Engineering
- Started Final Design in April 2005
- Construction procurement to start in 2006
Project Overview

Philip W. McGrade, P.E.,
Program Manager

No. 7 Subway Line Extension
No. 7  Project Context
No. 7 Proposed Alignment

- 10th Avenue Station
- 34th Street Station
Contract #1 Scope

- Site A shaft, adit and TBM starter tunnel
- TBM excavation and lining: 27th St./11th Ave. to 41st St./8th Ave.
- Modification to existing tunnel structure west of Times Square Station
- 34th Street Station:
  - Cavern excavation
  - Utility adits
  - Liner and interior structures
  - Shafts P and K and adits excavation
  - Site P entrance excavation
- 10th Avenue Station:
  - Excavation
  - Utility Relocations
  - Decking
  - Liner and interior structures
  - Shaft L and adit excavation
Contract #1

- Horizontal Alignment
- Shaft Sites and Laydown Areas
  - Shaft Sites
    - Site A
    - Site L
- Geotechnical Data Collection Program
- Alignment Profile and Rock Line
- Proximity to Adjacent Structures
- Tunnel Boring
Contract #1

- Horizontal Alignment
- Shaft Sites and Laydown Areas
  - Shaft Sites
    - Site A
    - Site L
- Geotechnical Data Collection Program
- Alignment Profile and Rock Line
- Proximity to Adjacent Structures
- Tunnel Boring
TBM
Drill & Blast
Limits
Contract #1

- Horizontal Alignment
- Shaft Sites and Laydown Areas
  - Shaft Sites
    - Site A
    - Site L
- Geotechnical Data Collection Program
- Alignment Profile and Rock Line
- Proximity to Adjacent Structures
- Tunnel Boring
Number 7

Shaft & Laydown Areas:
- Site A
- Site P
- Site K

Construction Access & Laydown Areas:
- Site J
- Site L
Number 7

Site L Shaft
Site L Construction Activities

- 42nd Street
- SHAFT L
- Tenth Avenue Station Contractor Staging
- STATION OUTLINE
- TBM TUNNEL
- 41st Street
- Dyer Avenue

MTA Metropolitan Transportation Authority
HYDC
PB Team
Site L Shaft and Adit

- Existing 1 Story Bldg. to be removed
- Existing Basement to be removed
- Existing Basement Slab to Remain
- Rock
- Soil
- 41st Street
- 8 Story Bldg.
- Existing Utilities (Typ)

Metropolitan Transportation Authority
PB Team
Contract #1

- Horizontal Alignment
- Shaft Sites and Laydown Areas
  - Shaft Sites
    - Site A
    - Site L
- Geotechnical Data Collection Program
- Alignment Profile and Rock Line
- Proximity to Adjacent Structures
- Tunnel Boring
Geotechnical Data Collection

- 52 Boreholes were completed as part of the No. 7 Subway Line Extension
- Information from 680 existing Boreholes was compiled from:
  - Port Authority of NY & NJ
  - Amtrak
  - MTA Long Island Railroad
  - NYC Department of Design and Construction
  - NYC Department of Transportation
  - US Postal Service
- Packer Permeability Tests
- Oriented Core Boring
- Hydraulic Fracturing
- Dilatometer
- Televviewer Survey
- Laboratory Tests
Geotechnical Reports

- Geotechnical Baseline Report
- Geotechnical Data Report
- Existing Building Inventory
Contract #1

- Horizontal Alignment
- Shaft Sites and Laydown Areas
  - Shaft Sites
    - Site A
    - Site L
- Geotechnical Data Collection Program
- Alignment Profile and Rock Line
- Proximity to Adjacent Structures
- Tunnel Boring
Profile and Rock Line

- 25th St.
- 30th St.
- 33rd St.
- 11th Avenue Viaduct
- Site A Adit
- No. 7 Tunnel
- 34th Street Station
- Amtrak North River Tunnels
- Amtrak North Access Tunnel
- 40'
- Top of Ground
- Approx. Rock Line
- Jacob Javits Convention Center
- Future 34th Street Station
- Site A

MTA Metropolitan Transportation Authority
Profile and Rock Line

- 25th St.
- Top of Ground
- 30th St.
- 33rd St.
- 11th Avenue Viaduct
- Site A Adit
- Jacob Javits Convention Center
- Future 34th Street Station
- Site A

Amtrak North River Tunnels
- Approx. Rock Line
- Amtrak North Access Tunnel
- 40'

Top of Ground

MTA Metropolitan Transportation Authority

PB Team
Profile and Rock Line

11th Avenue Viaduct
34th St.
38th St.
37th St.
39th St.

Amtrak North Access Tunnel
Approx. Rock Line
Lincoln Tunnels
Top of Ground
Approx. Rock Line

34th Street Station
Future 34th Street Station
Jacob Javits Convention Center

- #1
- #2
- #3

- 20'
- 34th Street Station
- 37th St.
- 38th St.
- 39th St.

Lincoln Tunnels

Top of Ground

Profile and Rock Line

MTA Metropolitan Transportation Authority

PB Team
Profile and Rock Line

- Tenth Avenue
- Dyer Avenue
- Ninth Avenue
- Port Authority Bus Terminal
- Eighth Avenue
- Tenth Avenue Station
- No. 7 Tunnel
- Future Tenth Avenue Station
- Port Authority Bus Terminal
Contract #1

- Horizontal Alignment
- Shaft Sites and Laydown Areas
  - Shaft Sites
    - Site A
    - Site L
- Geotechnical Data Collection Program
- Alignment Profile and Rock Line
- Proximity to Adjacent Structures
- Tunnel Boring
Proximity to Adjacent Subsurface Structures

No. 7 Subway

Hudson North River Tunnels (Amtrak & NJ Transit)

Lincoln Tunnel Tubes (1, 2, 3)

Hudson North Access Tunnel (Empire Line)
<table>
<thead>
<tr>
<th>Contract #1</th>
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<tbody>
<tr>
<td>- Horizontal Alignment</td>
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<tr>
<td>- Shaft Sites and Laydown Areas</td>
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<tr>
<td>- Shaft Sites</td>
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<tr>
<td>- Site A</td>
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<tr>
<td>- Site L</td>
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<tr>
<td>- Geotechnical Data Collection Program</td>
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<tr>
<td>- Alignment Profile and Rock Line</td>
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<tr>
<td>- Proximity to Adjacent Structures</td>
</tr>
<tr>
<td>- Tunnel Boring</td>
</tr>
</tbody>
</table>
Lining

Pre-Cast Segmental Lining

19'-6" Diameter
TBM Performance Requirements

- Tunnel ID = minimum 19 feet 6 inches + construction tolerances;
- 650 ft minimum horizontal radius;
- Full-face hard rock TBM with capability to negotiate short reaches of mixed face and possible soft ground conditions;
- Capable of negotiating very strong & very/extremely abrasive rock (Manhattan Schist & Pegmatites);
- Pre-cast segmental liner;
- Gripper, Shield or Double-shield type TBMs.
TBM Performance Requirements cont’d

- Equipped with:
  - provisions for drilling probe holes and grout holes.
  - 17 inch or larger disc cutters
- Back-loaded cutter mountings
- Automated guidance system
- New or refurbished TBM’s
DESIGN ISSUES

● Ground Modifications
  ◆ Low rock (Mixed Face) at 27th Street along TBM path
  ◆ Tenth Avenue – Underground Stream bed

● Close proximity of existing structures:
  ◆ Amtrak North River tunnels
  ◆ Amtrak Access tunnel (Empire Line)
  ◆ Lincoln Tunnels
  ◆ Port Authority (Below Bus Terminal)
Agency Coordination

- NYC DOT (MPT)
- NYC DEP
- FDNY
- Amtrak
- Port Authority
Number 7  Subway Line Extension

Stations
34th Street Station
Contract #1 Configuration

COMPOSITE PLAN – Street Level
34th Street Entrance
Plaza Entrance
34th Street Entrance
Section looking North
34th Street Station
Cavern Rendering
Number 7  Subway Line Extension

Tenth Avenue Station
Tenth Avenue Shell – Street Plan
Tenth Avenue Station
Proposed Full Build-out
Tenth Avenue Station Rendering
Number 7  Subway Line Extension

Vibration & Settlement Criteria
General Criteria

- The blasting vibration design criterion will be a mean vibration level of 2 in/sec, with specific requirements at Port Authority and Amtrak facilities.

- Threshold settlement of type A structures shall not exceed 3/8 –inch.

- Threshold angular distortion of type A structures shall not exceed 1:500.
Environmental Performance Commitments (EPC)

**Air Quality**
- Use ultra low sulfur diesel fuel
- Use diesel engine retrofits (Filters) to reduce emissions

**Dust Control**
- Spray dust suppressants
- Install containment for fugitive dust

**Noise & Vibration**
- Schedule activities to minimize cumulative noise & vibration in residential areas

**Cultural and Historic Resources**
- Activities in sensitive areas follow Historic Resource Management Plan Procedures
- If archaeology encountered, coordinate with NYSOPRHP and NYCLPC

**Access and Circulation**
- Implement MPT Plan coordinated with NYCDOT

**Design for Environment**
- Use local, recycled and durable materials
- Recycle, reuse and salvage materials during deconstruction
Number 7  Subway Line Extension

Contract Packaging
Follow-on Contracts

Contract #2:
- Site J entrance tunnel and building construction
- Sites P and K building structures and external finishes

Contract #3:
- 34th Street Station:
  - Finishes
  - Site J and K internal finishes
  - Site P entrance finishes
- 10th Avenue Station:
  - Site L building construction and finishes
  - Station finishes associated with Site L construction
- Site A building construction and finishes
- Track, signal and systems installation

Contract #4 (construction not funded):
- 10th Avenue Station finishes
- Site M building construction and finishes
- Site L finishes (partial)
Second Avenue Subway

Phase 1

**Scope:**
- Tunnels from 92nd St to 63rd St
- Stations at 96th St, 86th St, 72nd St and 63rd St
- 63rd St Subway Connection
- Track & Systems from 105th St to 63rd St
- Service between 96th St & Brooklyn via Broadway Line

**Benefits:**
- Relieves most crowded Lexington Avenue line (86th St to Grand Central)
- Connects to existing system (Storage and Maintenance)
- Early use of Tunnel Section built in 1970’s

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Cost</th>
<th>Ridership</th>
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</thead>
<tbody>
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<td>$3.8 Billion</td>
<td>213,000</td>
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</table>

MTA Metropolitan Transportation Authority
### Second Avenue Subway

**Phase 1 Contract Package**

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>NTP</th>
<th>Duration (months)</th>
<th>CONTRACTS SCHEDULE</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>LAUNCH BOX &amp; TBM TUNNELS: 92nd St to 63rd St</td>
<td>Dec-06</td>
<td>37</td>
<td>12/1/2006 - 12/24/2009</td>
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<tr>
<td>2</td>
<td>96th Street Station &amp; Finishes</td>
<td>Jun-08</td>
<td>54</td>
<td>6/03/2008 - 11/26/2012</td>
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<tr>
<td>3</td>
<td>63rd Station Retrofitting</td>
<td>June-10</td>
<td>25</td>
<td>6/01/2010 - 7/15/2012</td>
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<tr>
<td>4</td>
<td>72nd Street Station &amp; Finishes</td>
<td>Dec-08</td>
<td>49</td>
<td>12/18/2008 - 1/10/2013</td>
</tr>
<tr>
<td>5</td>
<td>86th Street Station &amp; Finishes</td>
<td>Dec-08</td>
<td>49</td>
<td>12/22/2008 - 1/24/2013</td>
</tr>
</tbody>
</table>

**Construction Duration = 7 years and 1 month**
Contract 1: Scope of Work

Contract No. 4 Tunnels

TBM Tunneling
92nd Street TBM Launch Box
Shaft Sites
Future Tunnels
Contract No. 3 – 63rd Street Station

- Open and fit out platform north of present F Line
- Provide additional entrances at Third Avenue
- Additional ventilation to meet NFPA 130
Contract No. 4 - 72nd Street Station

- Properties Planned for Full Acquisition
- Properties Planned for Partial Acquisition
- Properties Planned for Subsurface Easement
- Elevator

- Entrance
- Elevator
- Entrance and Ancillary
- Bump Out

- 5%
- 30%
- 35%
Contract No. 4 - 72\textsuperscript{nd} Street Station (Cross Section)

- Approximately 50 Feet
- Approximately 95 Feet
Contract No. 5 - 86th Street Station (Cross Section)
Contract No. 6 – Systems and Track

- Communication Systems
- Power
  - Traction Power
- Signal
  - Design by MTA/NYCT
  - Conventional Signal System
- Track
  - Design by MTA/NYCT
Second Avenue Subway

Construction Management

- Constructability Review of Final Design
- Construction Management Services for Phase 1
- Assist in Closing out of Construction Contracts
Construction Details for Contract 1

Christopher Bennett, P.E.
Design Director,
DMJM+HARRIS*ARUP JV
Contract 1: Scope of Work

TUNNELS

- TBM Tunneling
- 92nd Street TBM Launch Box
- Shaft Sites
• Rock Profile drops off north of 91st Street
• Providing a vertical rock face to start TBM operation
TBM Tunneling

- Essentially “hard” rock TBM drives but …
- Abrasive rock
- Faults and shear zones
- Curve towards 63rd Street (616’ Radius)
- Need to be prepared for fissures
- Final lining omitted through future cavern zones
Geology

• Undulating bedrock profile, differs west from east

• Fill, overlying glacial silt, sand, gravel and decomposed rock in the valleys

• Rock typically strong (*generally between 5,000-12,000 psi*) and competent gneiss and schist with pegmatite

• Faults/shear zones range from 1’ to 100’ thick

• Major faults identified at 90th to 92nd, 68th and 64th Streets
Geology

• Undulating bedrock profile, differs west from east
• Fill, overlying glacial silt, sand, gravel and decomposed rock in the valleys
• Rock typically strong (generally between 5,000-12,000 psi) and competent gneiss and schist with pegmatite
• Faults/shear zones range from 1' to 100' thick
• Major faults identified at 90th to 92nd, 68th and 64th Streets
Running Tunnels

- TBM Tunnels (19’-6” Finished Diameter)
- Precast Concrete Segments (10” Thick)
- Steel Fiber Reinforced
## Contract 1 Schedule

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 91st Street to 95th Street TBM Launch Box</td>
<td></td>
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<tr>
<td>• TBM Tunnels</td>
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<tr>
<td>• 69th Street &amp; 72nd Street Shafts</td>
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</tbody>
</table>
Contract 1 Documents

- Terms & Conditions plus General Requirements including Division 1
- Contract Specifications
- Temporary Works Design Criteria Manual
- Contract Drawings
- CADD Manual
- Geotechnical Baseline Report
- Geotechnical Data Report
- General Alignment Environmental Sampling Program
- Potentially Contaminated Sites - Environmental Sampling Program
- Utility Test Pit Report
- Building Information Report
- Historical Geotechnical Information
Second Avenue Subway

Launch Box Construction

- Permanent Slurry Walls: 93rd to 95th Streets
- Temporary Secant Pile Walls: South of 92nd to 93rd Streets
- Limits of Launch Box
Proposed MPT Plan

TBM Launch Box Construction
West Side Excavation & Decking

Work Zone (Typical)

4 Traffic Lanes

Roadway Relocated Onto Sidewalk

Existing 20’ sidewalk curb line

Alternative Delivery Zone (Typical)

Fire Emergency Access (Typical)
Proposed MPT Plan

TBM Launch Box Construction
East Side Excavation & Decking

4 Traffic Lanes

Roadway Relocated Onto Sidewalk

Temporary Decking

Work Zone (Typical)

Alternative Delivery Zone (Typical)

Fire Emergency Access (Typical)
Proposed MPT Plan

TBM Launch Box Construction

TBM Operations: Transition Zone Between Contract 1 & 96th St. Station

- 4 Traffic Lanes
- Roadway Relocated Onto Sidewalk
- Temporary Decking
- Future Contract 2 Work Zone
- Work Zone (Typical)
- Fire Emergency Access (Typical)
- Alternative Delivery Zone (Typical)
- Existing 20’ sidewalk curb line

MTA Metropolitan Transportation Authority
Second Avenue Subway

Status Of Third Party Interfaces

- Parks – 96th Street Park Available
- Third Party Coordination
  - Utilities – plans approved by each utility
  - DEP – approval of sewer and water plans
  - DOT – stipulations provided
  - Community – ongoing coordination through CB 8
<table>
<thead>
<tr>
<th>Construction Activity</th>
<th>Work Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Work for Launch Box</td>
<td>• 2 Shifts, 5 days/week: 7:00am to 10:00pm</td>
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<tr>
<td></td>
<td>• 1 Shift Saturday: 10:00 am to 7:00 pm</td>
</tr>
<tr>
<td>Underground Work</td>
<td>3 Shifts, 7 days/week</td>
</tr>
<tr>
<td>Trucking &amp; Deliveries</td>
<td>• 2 Shifts, 5 days/week: 7:00am to 10:00pm</td>
</tr>
<tr>
<td></td>
<td>• Some night deliveries for large equipment</td>
</tr>
<tr>
<td></td>
<td>• 1 Shift Saturday: 10:00am to 7:00pm</td>
</tr>
</tbody>
</table>
## Construction Challenges

<table>
<thead>
<tr>
<th>Impacts</th>
<th>Mitigations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TRAFFIC</strong></td>
<td>• Traffic monitoring program</td>
</tr>
<tr>
<td></td>
<td>• Maintain 4 lanes through construction zones</td>
</tr>
<tr>
<td></td>
<td>• Keep cross street open <em>(12 foot lane)</em></td>
</tr>
<tr>
<td></td>
<td>• Relocate bus stops to outside of construction zones</td>
</tr>
<tr>
<td><strong>PEDESTRIANS</strong></td>
<td>• Minimum 7 foot wide sidewalks</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL PERFORMANCE CRITERIA</strong></td>
<td>• Ultra Low Sulfur Diesel Fuel</td>
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<td></td>
<td>• Limit Idling Time</td>
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<td></td>
<td>• Minimize interruption in access to Cultural and Historic sites</td>
</tr>
<tr>
<td></td>
<td>• Economic Effects</td>
</tr>
</tbody>
</table>
## Construction Challenges

<table>
<thead>
<tr>
<th>Impacts</th>
<th>Mitigations</th>
</tr>
</thead>
</table>
| **LOCAL ACCESS**         | • Maintain pedestrian access to all buildings  
                           • Maintain emergency vehicle access at all times  
                           • Maintain special zones for deliveries  
                           • Provide areas for garbage disposal for residential & commercial purposes |
| **NOISE & VIBRATION**    | • Meet FEIS commitments  
                           • Comply with NYCDEP noise limits  
                           • Noise & vibration monitoring plan  
                           • Dampers on equipment  
                           • Limit noise to 5 decibels above existing ambient noise levels |
<table>
<thead>
<tr>
<th>Impacts</th>
<th>Mitigations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vector Control (Rodents)</td>
<td>• Vector control plan to cover 1000 foot wide area</td>
</tr>
<tr>
<td></td>
<td>• Licensed Pesticide Applicator required</td>
</tr>
<tr>
<td>Dust &amp; Air Quality</td>
<td>• Air Quality Monitoring Plan</td>
</tr>
<tr>
<td></td>
<td>• Low sulfur fuels, 3 minute idling time,</td>
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<td></td>
<td>• Clean trucks, streets and wet down dust</td>
</tr>
<tr>
<td>Settlement or Movement</td>
<td>• Install Instrumentation and constant monitoring to ensure no damage to buildings &amp; property</td>
</tr>
</tbody>
</table>
Thank You

September 12th, 2006

"THANK YOU"
Dilip I. Patel, P.E.
Program Manager

East Side Access
MTA Capital Construction
CQ028: Queens Open-Cut Excavation (N. Blvd. to Existing Rail Yard)
CQ028: Major Scope Elements

- Slurry walls (126,000 SF)
- Soil Excavation (195,000 CY)
- Rock Excavation (15,500 CY)
- Northern Blvd. crossing
- Dewatering
- Grouting
CM009: Major Scope Elements

- Drill and blast assembly chamber
- TBM excavation of 4 tunnels (25,000 LF)
- Tunnel lining
- Drill and blast Wye Caverns
- Rock excavation = approx. 350,000 CY
Status of All Tunnel Work

- Queens Bored Tunnels and Structures (CQ031)
  Award scheduled Summer ‘07

- Manhattan Tunnels Excavation (CM009)
  Awarded in July 2006

- Manhattan Structures Part I (CM019)
  Award scheduled Spring ‘07

- Queens Open Cut Excavation and Tunnel Under Northern Blvd. (CQ028)
  Awarded in April 2006

- Harold Structures Part I (CH053)
  Award scheduled Spring ‘07

- NYCT Subway Level (in service)
## Project Schedule

<table>
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<tr>
<td>Revenue Rolling Stock</td>
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<td>PHASE I</td>
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<td>Draft/Final EIS, Preliminary Engineering</td>
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<td>Final Design</td>
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<td>PHASE III</td>
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<tr>
<td>Manhattan Construction</td>
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<td>Queens Construction</td>
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<td>Harold Interlocking Work</td>
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<td>Systemwide Work</td>
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<td>PHASE IV</td>
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<td>Harold CIL Acceptance &amp; System Commissioning</td>
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</tbody>
</table>
## Contract Packaging Plan – Upcoming Work

### Total Number of Packages = 48
Key Elements of Contract CQ031

Yard Lead
Approach Structure

Yard Lead

39th St

Tunnel A

Tunnel B/C

Tunnel D

Fan Plant & Emergency Exit

Yard D

Fan Plant & Emergency Exit

3 Tunnel
Fan Plant & Emergency Exit

TBM
Tunnels
CQ031 – Major Scope Elements

- Excavation by TBM of soft ground tunnels
- Installation of a pre-cast tunnel liner
- Fan plants/emergency exits
- Yard Lead Tunnel TBM reception pit
- Track and benchwall
- Demolition of buildings
## CQ031 - Bored Tunnels

<table>
<thead>
<tr>
<th>Section</th>
<th>Tunnel Length</th>
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</thead>
<tbody>
<tr>
<td><strong>Track A</strong></td>
<td></td>
</tr>
<tr>
<td>Glacial Till</td>
<td>2,180 ft</td>
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<tr>
<td></td>
<td>2,180 ft</td>
</tr>
<tr>
<td><strong>Track B/C</strong></td>
<td></td>
</tr>
<tr>
<td>Glacial Till</td>
<td>1,739 ft</td>
</tr>
<tr>
<td>Rock &amp; Mixed Face</td>
<td>60 ft</td>
</tr>
<tr>
<td></td>
<td>1,739 ft</td>
</tr>
<tr>
<td><strong>Track D</strong></td>
<td></td>
</tr>
<tr>
<td>Rock &amp; Mixed Face</td>
<td>415 ft</td>
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<tr>
<td>Glacial Till</td>
<td>2,158 ft</td>
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<td></td>
<td>2,218 ft</td>
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<tr>
<td><strong>Yard Lead</strong></td>
<td></td>
</tr>
<tr>
<td>Rock &amp; Mixed Face</td>
<td>415 ft</td>
</tr>
<tr>
<td>Glacial Till</td>
<td>3,969 ft</td>
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<tr>
<td></td>
<td>10,523 ft</td>
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<td>10,523 ft</td>
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</tbody>
</table>
CQ031 - Demolition + Cut & Cover Approach Structures

- Demolition of private properties on 43rd St.
CQ031 - Other Work Elements

- Tunnel Trackwork and Tunnel Bench
• Excavation and Concreting of Tunnel A Reception Pit and Approach Structure
• Construct new railroad bridges at 43rd St. and 48th St.
• Construction of new retaining wall structures
• Construct new modular substation (GO2) and micro tunnels
• Building demolition
• New Harold Access Bridge and assorted utilities
CH053 – Substation Replacement Facility (GO2)

Microtunnel Duct Banks

Future GO2
CH053 – Retaining Walls (Modular)

Future WBBP Embankment & Retaining Wall

Matura Building Demolition

NY Presbyterian Church

North of Main Line Looking West to 43rd St
- Foundations and structural sections by CH053 contractor
- Demolition of existing structures by CH053 contractor
- Electrical elements by railroad force account
CM019 - Location

- Met Life
- Helmsley
- GCT Terminal

Map showing locations of Metro-North Railroad, Helmsley, and GCT Terminal in relation to Manhattan, Queens, and Brooklyn.
CM019 – Demolition Work at Lower Level of MNR

BN Yard Bronx
CM019 – Site: Mined Caverns

Shaft #1

GCT 1 & 2 Caverns

GCT Caverns

X-Section

BN Yard Bronx
Top Heading of GCT Caverns & Mucking Operation

Mucking @ 44th Street Scheme

Shaft # 1

LIRR  MNR

Madison Yard

"A Building
Yale Club

Government Street

Track 125
Track 135

CAT 336E
Load 4.5 t Capacity

CAT D55E
Armslaced Tracks
2% or Capacity

Muck Pit
Crusher
CM019 – Demolish Existing 47 E. 44th Street Building
Upcoming Contract Awards

• CH053: Harold Structures - Part 1
  – Award Date, April 2007

• CM019: Manhattan Structures Part 1
  – Award Date, June 2007

• CQ031: Queens Bored Tunnels, Structures & Trackwork
  – Award Date, September 2007
BREAK

(15 min)
Procurement Issues

Ronald J. Pezik, P.E.
Senior Director, Capital Program Procurement
MTA – NYC Transit

Email: ronald.pezik@nyct.com
Procurements to Look for Shortly:

**No. 7 Subway Line Extension:**
- C-26503  Construction of the No. 7 Subway Line Extension: Running Tunnels, Caverns & Station Structures (RFP)

**Second Avenue Subway:**
- CM-1338  Consultant Construction Management Services (RFP)
- C-26002  Construction of Phase 1 of Second Avenue Subway Tunnels 92nd – 63rd Street (IFB)

**East Side Access:**
- CH053  Harold Structures Part 1 (IFB)
- CM019  Manhattan Structures Part 1 (IFB)
- CQ031  Queens Bored Tunnels, Structures & Trackwork (IFB)
NEW YORK STATE LOBBYING LAW

Creates two new sections in the State Finance Law:

• Section 139-j: Restrictions on “contacts” during the procurement process

• Section 139-k: Disclosure by bidders/proposers of prior non-responsibility determinations
Procurement – Where to Look

MTA Website – www.mta.info

Click on either NYC Transit or Capital Construction then Procurement

Construction & Architectural/Engineering Opportunities
Veronique (Ronnie) Hakim
Vice President, General Counsel
MTA Capital Construction
Procurements:

No. 7 Subway Line Extension:
C-26503 Construction of the No. 7 Subway Line Extension: Running Tunnels, Caverns & Station Structures (RFP)

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Questions?