



U.S. Department  
Of Transportation  
Federal Transit  
Administration

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ND file

September 30, 2008

Ms. Sarah B. Rios  
Metropolitan Transportation Authority  
Director, Grant Management  
347 Madison Avenue  
New York, NY 10017-3739

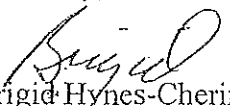
Dear Ms. Rios:

The Federal Transit Administration (FTA) has reviewed the "MTA NYCT Second Avenue Subway Technical Memorandum No. 4 Assessing Design Change: Alignment Change between 63<sup>rd</sup> and 96<sup>th</sup> Streets" (Memo No. 4) dated August 15, 2008 and revised on September 17, 2008. Based on our review of the Memo No. 4, the FTA has determined that the design changes to the Second Avenue Subway Project (Project), as described in the Memo No. 4, will not result in significant adverse environmental impacts.

The Memo No. 4 satisfies the NEPA requirements as outlined in 23 CFR 771.130 and no supplemental environmental review is necessary for the proposed changes.

Please be aware that the Project must be carried out as described in the Memo No. 4. If changes to the Project are made, FTA will need to determine if additional environmental studies will be necessary before the changes are approved. Should you have any questions concerning this Project, please contact Nancy Danzig, Director of Planning and Program Development at 212-668-2177.

Sincerely,

  
Brigid Hynes-Cherin  
Regional Administrator

Cc: J. McClain, MTA/NYCT  
N. Danzig, FTA  
H. PointduJour, FTA  
N. Chung, FTA  
M. Grace, FTA



U.S. Department  
of Transportation  
**Federal Transit Administration**

# Memorandum

Subject: MTA NYCT Second Avenue Subway  
Alignment Changes between 63<sup>rd</sup> and 96<sup>th</sup> Streets

Date: September 30, 2008

From: *MD* Yina Chung,  
Community Planner

Reply to  
Attn. of:

To: Brigid Hynes-Cherin  
Regional Administrator

Through: *MD* File  
Nancy Danzig, AICP  
Director of Planning and Program Development

Maisie Grace *MS*  
Regional Counsel

## INTRODUCTION

This memo provides FTA's analysis under the National Environmental Policy Act (NEPA) pursuant to 23 CFR 771.130 of the Metropolitan Transportation Authority's ("MTA") proposed tunnel alignment changes between 63<sup>rd</sup> and 96<sup>th</sup> Streets on the Second Avenue Subway Project (Project). MTA submitted "MTA NYCT Second Avenue Subway Technical Memorandum No. 4 Assessing Design Change: Alignment Changes between 63<sup>rd</sup> and 96<sup>th</sup> Streets" (Technical Memorandum No. 4), dated August 15, 2008, and revised on September 17, 2008, for FTA's review.

FTA issued a Final Environmental Impact Statement (FEIS), entitled "MTA New York City Transit Second Avenue Subway Final Environmental Impact Statement and Final Section 4(f) and Section 6(f) Evaluation" on April 8, 2004 and Record of Decision (ROD) on July 8, 2004 on the Project. The FTA has reviewed the following three previous technical memoranda since the issuance of the ROD: "Technical Memorandum No. 1 Assessing Design Change", dated November 2006, "Technical Memorandum No. 2 Assessing Design Change", dated February 2007, and "Technical Memorandum No. 3 Assessing Design Change", dated June 22, 2007.

The Technical Memorandum No. 1 presented changes to the following elements of the Project: interlocking cavern south of 70<sup>th</sup> Street, construction technique for tunnels south of 66<sup>th</sup> Street, Project phasing for the portion of the main line tunnels south of 68<sup>th</sup> Street, changes to the 72<sup>nd</sup>, 86<sup>th</sup>, and 96<sup>th</sup> Street Stations. These changes were made to reduce overall construction impacts and costs of the Project. On January 5, 2007, FTA determined that the changes proposed in Technical Memorandum No. 1 would not result in additional significant environmental impacts.

Technical Memorandum No. 2 presented design changes to the 96<sup>th</sup> Street Station and Technical Memorandum No. 3 presented changes to the ventilation facilities at the 63<sup>rd</sup> Street/Lexington Avenue Station and changes to the entrance locations for the 63<sup>rd</sup> Street/Lexington Avenue Station.

This review addresses proposed changes based on Technical Memorandum No. 4, to determine if the proposed changes would result in significant environmental impacts not evaluated in the FEIS, ROD, Technical Memorandum No. 1, Technical Memorandum No.2, or Technical Memorandum No.3.

The proposed tunnel alignment changes presented in Technical Memorandum No. 4 include modifications to one element previously changed through Technical Memorandum No. 1: the interlocking cavern south of 70<sup>th</sup> Street. Therefore, the analysis of potential environmental impacts compares impacts presented in the FEIS as well as Technical Memorandum No. 1.

The Technical Memorandum No. 4 analyzed sixteen (16) environmental issue areas. We have reviewed the Technical Memorandum No. 4 and find that there will be no additional significant environmental impacts as a result of the proposed changes. In addition, although there will be changes to easements, there will be no necessary changes to the mitigation measures described in the FEIS and ROD. The NEPA requirements pursuant to 23 CFR 771.130 have been met, and we recommend that no further environmental review is necessary.

#### **REASON FOR CHANGES**

The Project includes the new T line, a two-track, 8.5 mile rail line extending the length of Manhattan's east side corridor from 125<sup>th</sup> Street to Hanover Square, running beneath Second Avenue, and an extension of the existing Q line beyond its current terminus at 57<sup>th</sup> Street and Seventh Avenue to 125<sup>th</sup> Street via Second Avenue. The section of the Project tunnel and tracks to be constructed between 63<sup>rd</sup> Street and 96<sup>th</sup> Street includes the interlocking cavern that will provide connections between the T and Q lines. Additional geological investigations conducted following the completion of the FEIS have provided more information about rock conditions between 63<sup>rd</sup> Street and 96<sup>th</sup> Street. The shallow depth of the caverns and poor rock conditions in this location presented challenging construction conditions that would not attract multiple bidders and competitive costs. Based on that information, MTA concluded that construction costs and construction complexity of the tunnel, as modified via the Technical Memorandum No. 1, would be decreased if more rock cover were provided over the crown of the 72<sup>nd</sup> and 86<sup>th</sup> Street Stations. In order to achieve greater rock cover, it is necessary to reduce the width of the station and interlocking caverns near and at 72<sup>nd</sup> Street. In addition it is necessary to lower the depth of the tracks at 72<sup>nd</sup> Street and at 86<sup>th</sup> Street.

#### **DESCRIPTION OF PROPOSED CHANGES**

In order to redesign the tunnel and tracks between 63<sup>rd</sup> Street and 96<sup>th</sup> Street, it is necessary to reduce the number of tracks near and at 72<sup>nd</sup> Street Station from three tracks to two tracks, and to lower the tunnel alignment at 72<sup>nd</sup> Street by four (4) feet and at 86<sup>th</sup> Street Station by twelve (12) feet. Near and at the 72<sup>nd</sup> Street Station, the proposed changes also involve a reduction of the tunnel width creating smaller interlocking and station caverns. These changes are needed to provide additional rock cover to reduce overall construction costs and construction risk so as to

attract multiple bidders and result in competitive costs on future construction contracts related to the construction of the 72<sup>nd</sup> Street and 86<sup>th</sup> Street Station caverns.

As a result of proposed tunnel alignment changes, there would also be changes to train operations near or to subsurface elements of the 72<sup>nd</sup> Street Station since the FEIS and Technical Memorandum No. 1 design. There will be no changes to train operations near or to subsurface elements of the design of the 86<sup>th</sup> Street Station.

Below is a summary of the status of the following Project elements proposed to be changed from what they were in the FEIS and Technical Memorandum No. 1 between 63<sup>rd</sup> and 96<sup>th</sup> Streets: (A) track and tunnel alignment, (B) train operations, and (C) Station design.

### The FEIS Design

#### (A) Track and Tunnel Alignment:

At 72<sup>nd</sup> Street Station, a 100-foot wide station cavern was to be constructed via drill and blast with soils to be removed at shafts at 69<sup>th</sup> and 72<sup>nd</sup> Streets. An 800-foot long interlocking cavern was to be constructed via drill and blast between 66<sup>th</sup> and 70<sup>th</sup> Street with soils to be removed at the 69<sup>th</sup> Street shaft. Two curved tunnels from 66<sup>th</sup> to 63<sup>rd</sup> Streets were to be constructed via drill and blast with soils to be removed at a 66<sup>th</sup> Street shaft.

At 86<sup>th</sup> Street Station, a 70-foot wide station cavern was to be constructed with soils to be removed at shafts located at 83<sup>rd</sup> and 86<sup>th</sup> Streets. No interlocking cavern was proposed.

#### (B) Train Operations: Once the Project is fully constructed, 72<sup>nd</sup> and 86<sup>th</sup> Street Stations would have a peak capacity of 30 trains per hour in each direction.

Near 72<sup>nd</sup> Street, as discussed on page 2-12 of the FEIS, the Q and T trains were to merge north of 72<sup>nd</sup> Street and a second train could wait at the 72<sup>nd</sup> Street Station. Trains were able to terminate and change direction at 72<sup>nd</sup> Street Station while maintaining full through service, and one of the three tracks was to be used for overnight train service.

Near 86<sup>th</sup> Street, operations included simple through service on two tracks.

#### (C) Station Design (As discussed on pages 2-16 through 2-21 and Figures 8-5 and 8-6 of the FEIS):

The 72<sup>nd</sup> Street Station included three tracks, two platforms (one island and one side), and entrances at the northwest and northeast corners of 72<sup>nd</sup> Street and the northeast corner of 69<sup>th</sup> Street.

The 86<sup>th</sup> Street Station included two tracks with one island platform, entrances at the northeast and southeast corners of 86<sup>th</sup> Street, and three ancillary facilities.

Technical Memorandum No. 1 Design with respect to the interlocking cavern south of 70<sup>th</sup> Street:

(A) Track and Tunnel Alignment:

The design was the same as the FEIS design except the following: near the 72<sup>nd</sup> Street Station, the length of the interlocking cavern was shortened from 800 feet in length (66<sup>th</sup> Street to 70<sup>th</sup> Street) to 300 feet in length (from 68<sup>th</sup> to 69<sup>th</sup> Street) in order to reduce the amount of drill and blast construction and avoid construction in an area with poor rock conditions. Also, one of the curved tunnels (southbound tunnel) was to be constructed via Tunnel Boring Machine, instead of drill and blast. Soils were removed at the 69<sup>th</sup> Street shaft while the 66<sup>th</sup> Street shaft was eliminated.

Near 86<sup>th</sup> Street, there was no change in track and tunnel alignment.

(B) Train Operations: There was no change in operations from the FEIS design.

(C) Station Design: Although no changes to Station design with respect to the interlocking cavern south of 70<sup>th</sup> Street were proposed, in order to reduce project costs and avoid an impact to construction schedule, modifications to design of the 72<sup>nd</sup> Street and 86<sup>th</sup> Street Stations were proposed, as follows:

At 72<sup>nd</sup> Street Station, modifications to station entrances reoriented the northeast corner entrance and added a new sidewalk bumpout, added a new elevator structure and sidewalk bumpout at the southeast corner, and reoriented the northeast entrance at 69<sup>th</sup> Street.

At 86<sup>th</sup> Street Station, the Station length was reduced by approximately 100 feet, and modifications to station entrances replaced the southeast 86<sup>th</sup> Street entrance with an elevator and added a sidewalk bumpout.

Proposed Technical Memorandum No. 4 Design

(A) Track and Tunnel Alignment: Caverns at 72<sup>nd</sup> Street and 86<sup>th</sup> Street Stations would be lowered by four (4) feet at 72<sup>nd</sup> Street Station and by twelve (12) feet at 86<sup>th</sup> Street Station in order to provide more rock cover.

At the 72<sup>nd</sup> Street Station, in addition to lowering the alignment by four (4) feet in order to provide more rock cover, the cavern would also be narrowed from 100 feet to 70 feet. And, instead of a three-track station at 72<sup>nd</sup> Street, the revised alignment would include a two-track Station with associated reductions in the number of crossovers and turnouts.

At 86<sup>th</sup> Street Station, the alignment would be lowered by twelve (12) feet; no change to the cavern width of 70 feet is proposed.

(B) Train Operations: Once the Project is fully constructed, 72<sup>nd</sup> and 86<sup>th</sup> Street Stations would continue to have a peak hour capacity of 30 trains per hour in each direction.

Near 72<sup>nd</sup> Street Station, the Q and T trains would merge in the tunnel, south of 72<sup>nd</sup> Street, instead of north and the second train would be held in the tunnel instead of in the station. At 72<sup>nd</sup> Street, trains would terminate in the station on one track with through service passing

on the other track, instead of being able to have through service on two tracks. In terms of train storage, one of the two tracks or the tail tracks at the north end of the alignment would be used for overnight train storage instead of being able to store trains on one of the three tracks as described in the FEIS design.

No change to train operations near or at the 86<sup>th</sup> Street Station is proposed.

(C) Station Design:

The platform at the 72<sup>nd</sup> Street Station would be one island platform instead of the FEIS design of two platforms, consisting of one island platform and one side platform. No change to Station entrance locations from the Technical Memorandum No. 1 design is proposed as part of the proposed alignment change. Therefore, the entrances as proposed in Technical Memorandum No. 1 are still the planned entrances (see discussion below).

At 86<sup>th</sup> Street Station, although the alignment would be lowered, no change to the width of the Station cavern is proposed. Therefore, the platform design would be the same as the FEIS design of one island platform. No change to station entrance locations since the FEIS and Technical Memorandum No. 1 is proposed as part of the alignment change (see discussion below).

## **ASSESSMENT OF ENVIRONMENTAL IMPACTS**

The Technical Memorandum No. 4 provided analysis of impacts on the following sixteen (16) environmental issue areas comparing the impacts with those presented in the FEIS and in the Technical Memorandum No. 1:

1. Transportation (subway, bus, automobile, parking, and pedestrian)
2. Social and economic conditions
3. Open space
4. Displacement and relocation
5. Historic resources
6. Archaeological resources
7. Air quality
8. Noise and vibration
9. Infrastructure and energy
10. Contaminated materials
11. Natural resources
12. Coastal zone consistency
13. Safety
14. Environmental justice
15. Indirect and cumulative effects
16. Construction impacts

Also, a description of the public outreach effort conducted is provided.

We have reviewed the Technical Memorandum No. 4 and find that there will be no significant environmental impacts as a result of the proposed changes, and no mitigation is proposed. In the

following three (3) areas, there are potential environmental impacts; however, the impacts are not significant:

1. Transportation, specifically subway operations and pedestrian impacts
2. Construction, specifically regarding impacts to soils removal
3. Social and economic conditions, specifically regarding impacts to easements

1. Transportation impacts

During train operations, there will be no impacts above ground as a result of the proposed design modification compared with the FEIS design or the Technical Memorandum No. 1 design.

Below ground, near the 72<sup>nd</sup> Street Station, there will be impacts to train operations and passenger capacity on platforms, stairs and escalators. The proposed changes near and in the 72<sup>nd</sup> Street Station will continue to allow train service to merge, terminate, change directions, and crossover, and still be used for overnight train storage. The T and Q trains would be able to merge south of the Station, but the second of the merging trains would have to wait in the tunnel instead of at the Station. With the proposed design modification, the FEIS design option of terminating trains on the third track while maintaining service in both directions would no longer be available. The proposed design modification would provide two crossovers north and south of the station and through service could still run around the terminating trains on the other track. Therefore, the trains would be able to terminate and reverse direction, but only during periods when service is infrequent. Disabled trains during peak periods would be able to terminate nearby at the 96<sup>th</sup> Street or 125<sup>th</sup> Street Stations. Although there will be less space per passenger on the platform with one platform instead of two, the island platform would function at an acceptable pedestrian LOS A during peak periods. The stairs and escalators to and from the island platform would continue to operate at a LOS A or B during peak periods. These impacts are not significant. Once the Project is constructed, the 72<sup>nd</sup> Street Station will continue to have a peak hour capacity of 30 trains per hour in each direction.

In the area near and at the 86<sup>th</sup> Street Station, there would be no impact to train operations. Once the Project is constructed, the 86<sup>th</sup> Street Station will continue to have a peak hour capacity of 30 trains per hour in each direction.

2. Construction impacts

At the 72<sup>nd</sup> Street Station area, the station and interlocking caverns would be smaller; therefore, the volume of area to be excavated via blasting would be less than anticipated in the FEIS design or in the Technical Memorandum No. 1 design. Therefore, the amount of material removed during construction would be reduced. The reduction of material to be excavated at the 72<sup>nd</sup> Street Station would be approximately 6,500 cubic yards of loose fill in comparison to the Technical Memorandum No. 1 design, which would mean a total of approximately 650 fewer truck trips, assuming 10-cubic yard trucks are used. Thus, there would be less excavated material and fewer truck trips in the area between 69<sup>th</sup> Street and 72<sup>nd</sup> Streets. Shaft sites would remain at 69<sup>th</sup> and 72<sup>nd</sup> Street.

At the 86<sup>th</sup> Street Station area, the lower depth of the alignment at 86<sup>th</sup> Street Station would add approximately 25,000 cubic yards of excavated material, which would mean 2,500 more truck

trips. Shaft sites would remain at 83<sup>rd</sup> and 86<sup>th</sup> Streets. Thus, there would be an increase in the amount of excavated materials and truck trips between 83<sup>rd</sup> and 86<sup>th</sup> Streets. This increase is not significant, as this represents approximately 5% of the total amount of spoils to be removed in this area, which would not change the conclusions of the FEIS with respect to construction truck trips.

### 3. Social and economic impacts

The proposed design modification would require acquisition of new subsurface easements not required for the FEIS design where the southbound curved tunnel would pass beneath private property. As discussed on page 8-7 of the FEIS, the Project requires permanent and temporary underground property easements throughout the Project alignment. As a result of the proposed tunnel alignment changes, in total, one new permanent easement would be required beneath the property at the northwest corner of 65<sup>th</sup> Street and Second Avenue and five permanent and temporary easements would be altered beneath the property on the west side of Second Avenue between 64<sup>th</sup> and 65<sup>th</sup> Streets. In addition, ten new temporary easements would be required for installation of rock bolts during construction between 65<sup>th</sup> and 68<sup>th</sup> Streets on the east and west sides of Second Avenue, while other temporary easements for installation of rock bolts would be reduced in size or eliminated on the east and west sides of Second Avenue between 68<sup>th</sup> and 73<sup>rd</sup> Streets. Rockbolts have no structural effects on the buildings located above them, either during or after construction, and would not affect existing building occupants. Property owners could perform any construction activities on their properties with no adverse effects to train operations or their buildings. MTA/NYCT will continue to adhere to the Eminent Domain Procedure Law and to the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. The presence of these easements would not affect social and economic conditions on Second Avenue between 63<sup>rd</sup> and 96<sup>th</sup> Streets during construction or operation of the Project.

The Project, including the proposed alignment changes, will continue to be implemented in accordance with the Programmatic Agreement, executed pursuant to Section 106 of the National Historic Preservation Act. If any Section 106 resource(s) are discovered during construction, the MTA/NYCT will consult with the State Historic Preservation Office (SHPO), to determine whether or not the resource(s) are historic.

### **OTHER PROJECT CHANGES**

MTA/NYCT is also proposing to change entrances at the north end of the Project's 72<sup>nd</sup> Street Station and the north end of the 86<sup>th</sup> Street Station. These design changes have not yet been determined and a decision on entrance locations has not yet been made.

As discussed below, it is appropriate to analyze the tunnel alignment changes separately from the design modifications for station entrance locations because the proposed tunnel alignment changes have independent utility from the location of station entrances. A determination must be made with respect to the track alignment promptly to avoid costly construction delays; and the proposed change to the tunnel alignment would not preclude any potential alternatives in the future analyses of those entrances. A more detailed discussion is provided below.

The construction contract (Contract 1) for the tunnel construction work between 63<sup>rd</sup> Street and 96<sup>th</sup> Street has already been awarded. Delaying a decision on the proposed alignment change



would significantly delay the construction schedule of Contract 1. To maintain the construction schedule, the engineering and design work associated with the proposed tunnel alignment changes must be completed immediately. In contrast, any proposed modifications related to location of Station entrances and Station caverns would affect separate contracts that are scheduled for award in the future.

The proposed tunnel alignment changes have independent utility from the station entrance locations. As a result of geological investigations and rock conditions, the MTA/NYCT is proposing to change the tunnel alignment in order to reduce overall construction risk and cost. Regardless of the location of station entrances, the proposed design changes would serve the intended purpose of reducing construction risk and cost. The decision on the proposed tunnel alignment changes between 63<sup>rd</sup> and 96<sup>th</sup> Streets presented in Technical Memorandum No. 4 is independent of any changes to Station entrance locations and would not preclude any of the potential station entrance alternatives at the 72<sup>nd</sup> Street or the 86<sup>th</sup> Street Stations, including the locations and designs identified in the FEIS and Technical Memorandum No. 1. In either the FEIS or Technical Memorandum No. 1 design, the 100-foot-wide cavern at 72<sup>nd</sup> Street Station would extend to the building line on the west side of Second Avenue. In the proposed tunnel alignment design, the 70-foot-wide cavern would still extend to the building line on the west side of Second Avenue, but on the east side, the cavern would extend to a point 30 feet west of the building line along the east side of Second Avenue. With the proposed tunnel alignment changes, the same entrance location options are available at the north end of the 72<sup>nd</sup> Street Station as in the FEIS and Technical Memorandum No. 1 designs. An entrance on the east side of Second Avenue must connect to the same point in the station mezzanine, to meet the fare control area to be located immediately south of 72<sup>nd</sup> Street. The location of the fare control area is fixed and cannot be shifted either northward or southward from its planned location because of other station elements and nearby building foundations. In either the proposed two-track or FEIS three-track 72<sup>nd</sup> Street Station, a passageway would lead from the east side of the 72<sup>nd</sup> Street Station to connect to an entrance on the east side of Second Avenue. With the proposed two-track alignment, this passage would be 30 feet longer and slightly deeper, but the same street-level entrance options would remain available as with the three-track alignment. For the same reasons, the proposed tunnel alignment design would not preclude any entrance alternatives at the 86<sup>th</sup> Street Station. An entrance on the east side of Second Avenue must connect to the same point in the station mezzanine, to meet the fare control area. The location of the fare control area is fixed by constraints related to other station elements and nearby building foundations, and cannot be shifted northward or southward from its planned locations.

The MTA/NYCT is currently preparing analysis of the feasibility and environmental effects of certain station entrance location options for the 72<sup>nd</sup> Street and 86<sup>th</sup> Street Stations. This work will form the basis of the Environmental Assessment, pursuant to NEPA, for the modifications to those station entrance locations.

## **MITIGATION**

No new mitigation measures were proposed in Technical Memorandum No. 1, Technical Memorandum No. 2, or Technical Memorandum No. 3. No new or additional mitigation is required as a result of the proposed alignment changes presented in Technical Memorandum No. 4. The mitigation measures included in the FEIS and ROD remain unchanged.

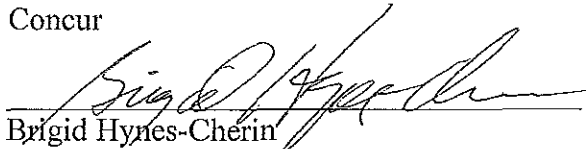
## **PUBLIC OUTREACH**

The proposed design modifications for tunnel and track alignment between 63<sup>rd</sup> and 96<sup>th</sup> Streets were reviewed and discussed with the affected Community Board at Second Avenue Subway Task Force meetings held on June 17, 2008 and on July 29, 2008. At both meetings, there was a question and answer period. At the June 17 meeting, some participants asked about the environmental review process for the proposed modifications and other asked for additional information regarding the subsurface easements. At the July 29 meeting, some participants asked for clarification about the environmental review process of the proposed track and tunnel alignment changes and its relationship to other future environmental analyses to be conducted for the proposed station entrance locations for 72<sup>nd</sup> Street and 86<sup>th</sup> Street Stations. In addition, FTA received a letter from a few residents of East 72<sup>nd</sup> Street, dated August 13, 2008. The residents indicated that the MTA engaged the affected 72<sup>nd</sup> Street residents in a constructive manner and that they have no objections to the proposed track alignment design change.

## **SUMMARY**

Based on our review of Technical Memorandum No. 4, no additional significant impacts since the issuance of the FEIS and ROD have been identified by MTA/NYCT as a result of the proposed design changes.

Concur

  
Brigid Hynes-Cherin  
Regional Administrator

9/30/08  
Date