TRANS-HUDSON EXPRESS TUNNEL (ACCESS TO THE REGION'S CORE)

LOCALLY PREFERRED ALTERNATIVE REPORT

JULY 2005

NJTRANSIT

in partnership with

THE PORT AUTHORITY OF NY & NJ

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1. INTRODUCTION

Only rarely does a major transportation investment fundamentally improve travel, enhance regional and national mobility, strengthen the regional and national economy, and create transportation system redundancy and improved passenger safety. The Trans-Hudson Express Tunnel (THE Tunnel), the solution proposed by the Access to the Region's Core (ARC) study, does just this. It will double train and passenger handling capacity into Midtown Manhattan to serve projected future growth in trans-Hudson rail travel. It will facilitate significant additional benefits within New Jersey as well, as this added capacity will permit NJ TRANSIT to continue its planned expansion of commuter rail services west of the Hudson River. Critically, with this additional capacity and new track connections, one-seat ride service can be greatly expanded. These one-seat ride opportunities will encourage people traveling to Midtown Manhattan via private auto to take transit instead.

The ARC Locally Preferred Alternative (LPA), which is called THE Tunnel, is a proposed 5-mile commuter rail project between Secaucus and New York City centered on the Northeast Corridor. It includes:

- Platform, concourse and track improvements to existing Penn Station New York (PSNY);
- Two new single-track tunnels beneath the New Jersey Palisades and the Hudson River, serving both a new station underneath 34th Street between 6th and 8th Avenues and the PSNY complex;
- Improvements to rail infrastructure in New Jersey to provide expanded one-seat-ride opportunities to Midtown Manhattan from the Bergen County, Main and Pascack Valley Lines and the Raritan Valley Line; and,
- Supporting investments such as track improvements, rail yards, signal systems and facilities.

The LPA was developed through an extensive evaluation of alternatives that began in 1995, when the ARC Major Investment Study (ARC MIS) was initiated, and continued through the early stages of the ARC Draft Environmental Impact Statement (ARC DEIS) beginning in 2003. The evaluation process considered costs, benefits, operational feasibility, public acceptance, and potential environmental impacts of a number of alternatives, including a No Build Alternatives and a TSM Baseline Alternative.[1] The evaluation and selection of the LPA included broad participation of the public, elected officials, transportation and environmental agencies, community, business and labor groups, and hundreds of other interested parties in both New York and New Jersey.

The LPA, if implemented, will double commuter rail capacity between New Jersey and New York City, and will take full advantage of recent rail system improvements in New Jersey, including Secaucus Junction, Midtown Direct, and Montclair Connection. It will also provide the necessary capacity to support other rail expansion projects that are currently being planned by NJ TRANSIT. This expansion of train and passenger capacity will be targeted to keep pace with the projected growth in trans-Hudson rail ridership through 2025.

Mobility Improvements – Following the disruptions to Port Authority Trans-Hudson (PATH) service on 9/11/01, PSNY reached practical capacity at 42,500 NJ TRANSIT passengers and more than 100,000 total passengers for all railroads [Long Island Rail Road (LIRR), NJ TRANSIT, and Amtrak] during the

[1]During the MIS Build Alternative Screening, in accordance with FTA requirements, two alternatives were developed in addition to Build Alternatives: a No-Build Alternative, which included those improvements that were already programmed and budgeted; and a Transportation System Management (TSM) alternative, which consisted of a number of lower-cost actions aimed at achieving project goals through better management of the existing transit network.

morning peak period. Passenger demand is forecasted to double again over the next 20 years, with NJ TRANSIT passenger levels expected to exceed 86,000 during the peak period. As the most heavily utilized passenger rail station in the country, PSNY already suffers from significant circulation problems; the ARC improvements are needed to accommodate the circulation pressures associated with projected ridership growth.

Rail Capacity – Today, the existing two single-track tunnels under the Hudson River are operated at their maximum capacity. 23 trains travel eastward in the peak hour; this equates to one train traveling east every 2-½ minutes along the Northeast Corridor between Newark and PSNY at the peak of the peak. This number was reached after NJ TRANSIT invested in an improved signal system that permitted the addition of 3 trains per hour over the previous limit of 20 trains per hour.

In addition to tunnel capacity limits, there are limits to the number and lengths of trains that can utilize PSNY. NJ TRANSIT is limited in the platforms it is permitted to use, as the station is shared with Amtrak (the station owner) and LIRR (the largest single user of capacity). Daily, 50% of NJ TRANSIT's trains utilize Platforms 1 & 2, Tracks 1-4. These stub-end tracks and shorter platforms limit train length and operations. Therefore, to accommodate additional projected future rail riders, it is necessary to expand existing tunnel and platform capacity.

Reliability – To accommodate recent ridership increases, NJ TRANSIT has increased the volume of trains to the absolute limit that can be accommodated on the Northeast Corridor and PSNY rail system. Because of this volume relative to capacity, disruptions to train service have a cascading and substantial impact. A single train stoppage can easily delay many subsequent trains. It is essential to add rail capacity to provide additional system flexibility that will mitigate the impact of individual train disruptions on subsequent train movements.

Economic Impacts - The LPA would contribute to the future economic health of the New Jersey/New York metropolitan area. An independent economic impact study, conducted by Economic Research Associates, concluded that the LPA would create 44,000 new jobs in the region during its first ten years of operation, with approximately 16,000 in New Jersey and 28,000 in New York. These are new jobs that would only be created in the region as a result of the critical improvements to regional rail system capacity and connectivity provided by the LPA. ERA identified jobs to be created by sub-region.

TABLE 1-1: NEW JOBS BY NEW JERSEY SUB-REGION

New Jersey Sub-region	Jobs created
Bergen, Essex, Hudson, Passaic	7,450
Morris, Sussex, Hunterdon, Warren	2,150
Middlesex, Somerset, Union	4,400
Monmouth, Ocean	1,800

Source: Economic Research Associates

Associated with these permanent increases is an additional $4.3 billion in Gross Regional Product (GRP) and $2 billion in Real Personal Income (RPI) in New Jersey, and an additional $5.7 billion in GRP and $1.4 billion in RPI in New York. The combined additional tax generation for New Jersey and New York is projected at $47 million just after THE Tunnel opens. This amount is projected to increase to $480 million within 10 years of completion of the project.

The Northeast Corridor into PSNY is a significant choke point in the regional rail system, and new capacity will encourage new economic growth. Current capacity constraints limit the region's ability to absorb a major influx of new jobs.[2] Without addressing these constraints, future regional economic growth will be stifled.

Regional Land Use and Mass Transportation - The land use patterns in the project area are among the most transit-supportive in the nation, with virtually unmatched residential and employment densities. The New Jersey/New York region's development has historically been predicated on transit service. Given these intensive land use patterns, only the LPA provides the transit gains and multi-modal options that are needed to address regional mobility and economic growth. The LPA will encourage such trends to continue in New York City, especially the planned development in west Midtown, and in the communities west of the Hudson River that have rail stations. The LPA supports the efforts of the New Jersey Office of Smart Growth by reinforcing and enhancing transit alternatives in the already densely developed urban area of northern New Jersey. The LPA also complements NJ TRANSIT's Transit Friendly Communities program, and the New Jersey Department of Transportation's Transit Villages program. These programs encourage and support transit oriented development around existing and proposed rail stations and major bus stops.

Security and Redundancy – Communities in northern New Jersey, and in Rockland and Orange Counties in New York, are connected to New York City by two single-track rail tunnels that are almost a century old. These tunnels are currently undergoing life safety improvements that restrict Amtrak and NJ TRANSIT to a single track from approximately 9 PM on Friday until about 4-5 AM on Monday. NJ TRANSIT is forced to restrict weekend service in a manner that negatively impacts rail ridership. While the life safety improvements will continue, other major maintenance to these facilities will also be necessary; however, no alternative capacity exists to sustain rail services.

History dictates that the New Jersey/New York region be concerned about security. The Northeast Corridor, Hudson River rail tunnels, and PSNY complex are fragile; there is no backup system to provide alternate capacity if a major component of the current system is disabled as the result of a manmade or natural incident. The LPA will provide alternative capacity, sufficient redundancy and flexibility to address such a contingency.

Public Involvement – Public involvement has been central to the development of the LPA in order to better inform people about the need for the project, to reach a broad consensus on the best alternative, and to build the support needed to build THE Tunnel. It is anticipated that the active public involvement program will continue throughout the life of the project.

2. PROJECT BACKGROUND – ARC MIS & ARC DEIS

The ARC LPA results from over ten years of planning, starting with the ARC MIS in the 1990s, and continuing through the ARC DEIS since 2003.

[2] Scanlon, Rosemary and Edward S. Seeley, Jr. *At Capacity: The Need for More Rail Access to the Manhattan CBD.* November 2004. Rudin Center for Transportation Policy and Management.
The Case for a New Hudson River Passenger Rail Tunnel into Manhattan. December 2003. Regional Plan Association.

2.1 The ARC Major Investment Study

The ARC MIS, which was conducted jointly by NJ TRANSIT, the Metropolitan Transportation Authority (MTA), and the Port Authority of New York and New Jersey (PANYNJ), was performed in accordance with Federal Transit Administration (FTA) guidelines. The effort began in January 1995 with three broad goals:

1. To enhance the economic viability and productivity of the New Jersey/New York region;
2. To improve the quality of life in the region; and
3. To invest and use transportation resources productively, efficiently, and effectively.

During the ARC MIS, 137 alternatives were identified and screened; results are reported in the 2003 MIS Summary Report. The alternatives represented a wide range of strategies, including bus, light rail, subway, PATH, commuter rail, ferry, new technologies, and auto. The analysis led to the finding that expanding commuter rail capacity and connectivity offers the best approach for meeting projected future passenger demand, because it will build upon NJ TRANSIT's existing commuter rail network. This rail network includes services throughout northern New Jersey, and Orange and Rockland counties in New York State. Providing expanded one-seat ride opportunities was identified as critical for attracting more trans-Hudson travelers to rail and away from automobiles, which has important positive air quality and quality of life consequences. The ARC MIS determined that the PSNY area, with its multimodal transit connectivity, feasible potential for network expansion, west Midtown Manhattan location, and history of serving west-of-Hudson commuters, is the best place to provide for additional passenger growth.

The MIS report contained a recommendation for a new commuter rail connection between New Jersey and New York City, and advanced two study options for such a connection, Alternative P and Alternative S.[3] Alternative P was a new stub-end station very deep beneath existing PSNY. Alternative S was a new rail tunnel beneath 31st Street and the East River to the train storage facilities at Sunnyside Yard in Queens. Alternative S did not include a new station facility, but increased capacity in the existing station PSNY by allowing a run-through service to Sunnyside Yard. However, there were concerns about building a much longer tunnel to Sunnyside Yard, and there are limitations to capacity expansion at Sunnyside Yard. Neither Alternative P nor S permitted a full track connection to the existing tracks and platforms at PSNY. Under either Alternative P or S, it would not be possible to build such a connection due to the alignment and depth below grade of the new tunnels proposed in each Alternative. Following the events of 9/11/01, this type of connection, which would create system redundancy and flexibility, became increasingly critical. In addition, as discussed above, such a connection would enhance capacity at PSNY and bolster system reliability.

2.2 The ARC Draft Environmental Impact Statement

Alternatives P and S were presented to the public during the scoping process that initiated the ARC DEIS process. Three additional alternatives were identified during that process, including: a new East Side station in Midtown Manhattan, a new stub end station under 34th Street between 6th and 8th Avenues, and a new commuter rail loop into the core of Midtown Manhattan. These new alternatives were then further evaluated and screened along with Alternatives P and S. More details about the DEIS screening process are presented below.

[3] During the MIS, the potential for a rail link between PSNY and Grand Central Terminal was analyzed through two additional options, Modified Alternative AA and Alternative G. Due to feasibility, capacity, construction and operational concerns, neither Alternative was advanced to the DEIS process.

The ARC DEIS Study Area - The DEIS primary project study area is approximately 17 route miles, stretching from Newark, NJ to Queens, NY, and includes Newark Liberty International Airport Station, Newark Penn Station, Newark Broad Street Station, Secaucus Junction, Hoboken Terminal, PSNY and Sunnyside Yard. The study area comprises three main segments: Newark Liberty International Airport Station to Secaucus Junction (8 miles); Secaucus Junction to PSNY (5 miles); and PSNY to Sunnyside Yard (4 miles).

The ARC DEIS Public Involvement Process - The DEIS includes an extensive and ongoing public involvement program. There is a Technical Advisory Committee (TAC) for agency coordination and a Regional Citizens' Liaison Committee (RCLC) for ongoing coordination with members of the public from throughout the region. Additionally, there have been scores of meetings in New Jersey and New York with elected officials, business groups, federal, state and local agencies, and local communities. NJ TRANSIT maintains a log of these meetings; between the beginning of 2004 and May 2005, NJ TRANSIT conducted over 120 outreach sessions, including roughly 33 public sessions. There are also regularly published newsletters, a toll-free study information line, and the project Web site (http://www.accesstotheregionscore.com).

The ARC DEIS Alternatives Screening - The objective of the DEIS screening was to reduce the number of alternatives and concepts to be evaluated in the DEIS and to complete the eventual selection of a Locally Preferred Alternative. The DEIS screening process included an examination of other issues, including potential station locations, tunnel locations, and west-of-Hudson improvements including a rail loop and rail yards. Each of the options considered in the DEIS screening are described below.

- ***Elements Common to All of the Alternatives*** – All of the alternatives included the following common elements west of New York City:
  - Two new single-track tunnels under the New Jersey Palisades and the Hudson River;
  - Construction of a loop connecting track at Secaucus from the Bergen/Main/Pascack Valley lines onto the Northeast Corridor providing a direct link to PSNY for Bergen/Main/Pascack Valley passengers;[4]
  - Track improvements on the Northeast Corridor between Secaucus and PSNY to expand track capacity to the new tunnels;
  - Storage yards and track improvements on the former Boonton Line right-of-way in Secaucus and Jersey City, and in Kearny on property adjacent to NJ TRANSIT's Morris and Essex Line; and
  - A set of improvements to enhance capacity at PSNY for rail equipment and passengers.

- ***Alternative P1 (Penn Station New York)***
  - A new lower-level 8-track stub-end station directly beneath the existing PSNY tracks, including the option of tail tracks to increase capacity; and
  - New passenger circulation corridors, designed to link the new tracks and platforms with existing passenger concourses and streets surrounding PSNY.

- ***Alternative S1 (Sunnyside)*** - Unlike Alternative P1, Alternative S1 would not include a station.
  - Reconfiguration of Tracks 1-5 and extension of Platforms 1 and 2 in PSNY; and

[4] A key focus of the DEIS analysis was expanded one–seat ride opportunities for rail users both in New Jersey and New York, including, but not limited to, Bergen/Main/Pascack Valley Line users. The DEIS analysis projected that, during the morning peak period, the full-build project will provide almost 29,000 trips into New York for users of lines without current one-seat ride capabilities.

  - A new two-track tunnel breaking out of Tracks 1-5 at the east end of PSNY, continuing under 31st Street in Manhattan and under the East River to expanded storage facilities in Sunnyside Yard.

- ***Alternative S2 (Sunnyside with East Side Station)*** - This alternative would include a new station in the Kips Bay area in southeastern Midtown Manhattan, along the existing and proposed tunnels of Alternative S.
  - A new station located between Park Avenue South on the west, 33rd Street on the north, Second Avenue on the east, and 31st Street on the south.
  - Three or four major station entrances and connections to the existing Lexington Avenue subway and eventually to the proposed Second Avenue subway.

- ***Alternative P2 (34th Street Station)***
  - Two new single-track tunnels under the New Jersey Palisades and the Hudson River serving both PSNY and a new station underneath 34th Street between 6th and 8th Avenues;
  - A new multi-level station underneath 34th Street between 6th and 8th Avenues that provides passenger access to existing PSNY and transit services including LIRR, PATH, and New York City Transit (NYCT) Broadway, Sixth, Seventh, and Eighth Avenue subway lines.

- ***The Midtown Loop***
  - New tunnel alignment, without track connection to existing PSNY, north to 50th Street, west to 9th Avenue and south to 34th Street;
  - Three additional stations and potential passenger connections to the NYCT Lexington Avenue Line and proposed Second Avenue subway.

The criteria for the screening of Alternatives P1, S1, S2, P2 and the Midtown Loop were developed through a series of NJ TRANSIT senior manager meetings and input received at TAC and RCLC meetings held in June 2004. The screening criteria are shown in the following table.

TABLE 2-1: NEW YORK STATION CONCEPT-LEVEL SCREEN CRITERIA

Criterion	Description
Capital Cost	Affordable capital cost
Constructibility	Engineering and construction requirements are feasible
New Passenger and Train Capacity at PSNY	Provides maximum peak capacity between new and existing station (20 or more tph)
Timeframe	Constructible within required timeframe (by 2015)
Resiliency/Redundancy	Provides redundancy which allows for a more secure rail system
Flexibility in NJ TRANSIT and Amtrak Operations	Provides flexibility in operations for NJ TRANSIT and Amtrak by providing ability to shift between new and existing infrastructure
One-seat Ride Opportunities	Accommodates a 'one-seat ride' for existing commuter rail network into PSNY
Expansion Opportunities	Provides expansion opportunities to the east and north
Minimize Environmental Impacts	Minimizes impacts to the environment
Minimize Short Term and Long Term Disruption to PSNY	Minimizes construction related and long term disruption to existing PSNY
Minimizes Property Impacts	Minimizes property impacts and required easements in NYC
Passenger Accessibility and Convenience	Minimize passenger movements (travel time) by improving accessibility and convenience
Crew Accessibility and Convenience	Minimize crew movements (travel time) by improving accessibility and convenience
Phased Implementation	Opportunities for phased implementation to bring near term capacity increases to PSNY
Rail Connectivity to Existing PSNY	Provides rail connections between new infrastructure and existing PSNY on the New York side

Appendix 1[5] shows how Alternatives P1, P2 and S1 rated against the screen criteria.

Alternative P1 scored lower than Alternative P2. The stub-end station design beneath PSNY would limit flexibility in movement for both trains and people. Critically, the depth of the station would prevent track connections between the new tunnels and the existing station. Station depth also presented concerns about constructibility, risks during construction and passenger access through existing PSNY. The concerns presented by the depth of the station were sufficient to significantly lower Alternative P1's score.

Alternative S1 also scored lower than Alternative P2. It did not meet the station capacity and resiliency/redundancy requirements. The conversion of Tracks 1-5 to through-running would allow for the addition of only 17 trains per hour. S1 is the most expensive and provides the least additional capacity. Because this alternative would use existing station tracks and platforms, it would not provide improved passenger facilities or the redundancy achieved by the other alternatives.

Alternative S2 was examined and discarded early in the screening process. The Midtown Loop was also considered, but was not included in the screening because it would make the project too expensive. (The

[5] Appendix 1, the Station Concept-level Screen Scoring Summary, has been updated with information developed during the DEIS process, and thus varies slightly from previously released scoring results.

34th Street Station proposed in the LPA will be designed to allow future extensions of tracks as subsequently deemed appropriate.)

A few attendees at public outreach meetings advocated taking steps to provide a LIRR/NJ TRANSIT run-through train service as a means of increasing train handling capacity. This proposal would involve addressing operational and institutional issues and making capital investments. After consultation between NJ TRANSIT, the MTA and LIRR, it was concluded that operating a run-through service would not address many fundamental train capacity issues. It is expected that discussions will continue, focusing on the utility of operating a run-through train service, even if it is initially only to manage train staging and storage issues. It should be noted that there are significant equipment compatibility issues (e.g., electrification system differences[6]) that would need to be resolved, and that would require capital investment, should this type of service be implemented.

Alternative P2 received the highest overall score of the alternatives evaluated. P2 is the only alternative that met all of the priority requirements.

3. THE ARC LOCALLY PREFERRED ALTERNATIVE

A single alternative, Alternative P2, was selected as the Locally Preferred Alternative and recommended for advancement through the DEIS. Alternative P2 performed better than the other alternatives in four important criteria:

- Ability to provide track connections from the new Hudson River tunnels to both existing PSNY and to the new 34th Street Station;
- Ability to fully accommodate projected future train capacity needs;
- Ability to address security and redundancy issues previously mentioned, based on 34th Street Station location; and
- Ability to provide superior pedestrian connections to subway lines in the PSNY area, as well as PSNY.

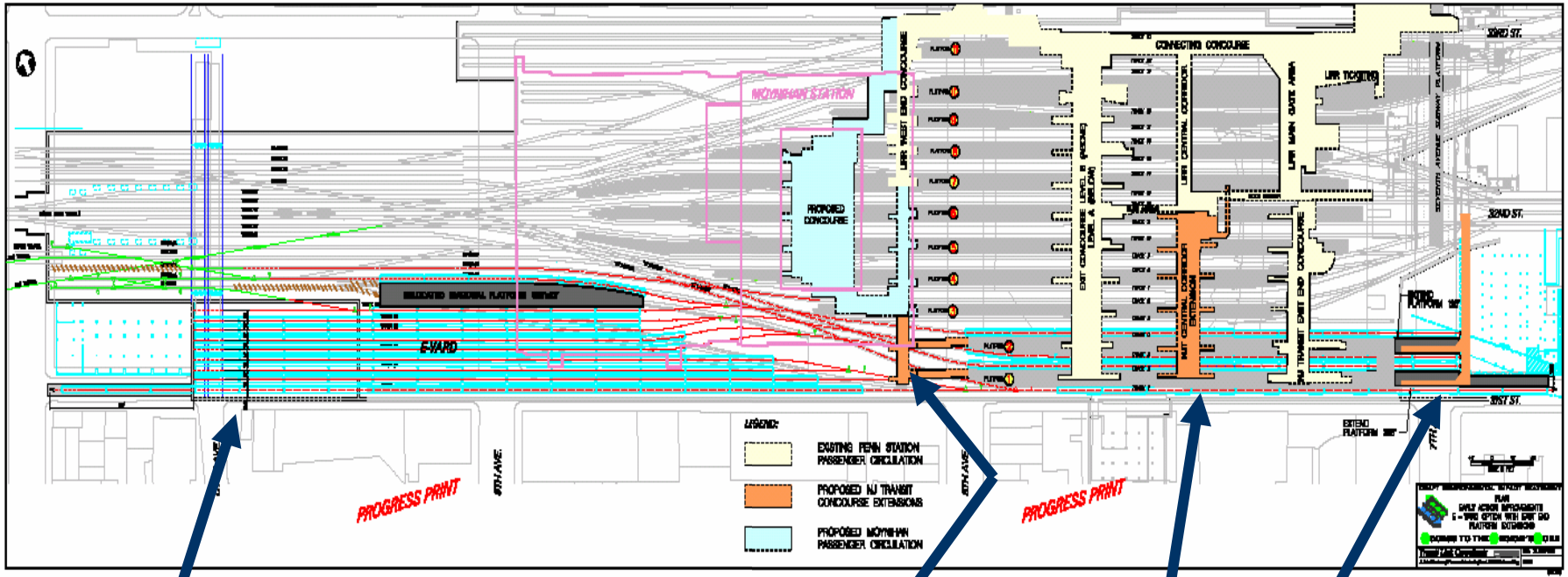
The ARC LPA includes the following elements:

- Capacity enhancements at PSNY, including passenger concourse extensions, platform lengthening and improved pedestrian connections (see *Figure 1*). These improvements will improve passenger circulation within PSNY to alleviate significant crowding that currently exists and that will increase over the next several years. They include:
    - E-Yard Expansion: The westward extension of E-Yard to Dyer Avenue will provide additional train storage capacity adjacent to PSNY platform tracks.
    - West End Concourse Extension: Located just west of Eighth Avenue, the West End Concourse serves Tracks 13 through 21. The southward extension of the Concourse to serve Tracks 5 through 12 is proposed as part of the Moynihan Station project and will improve passenger circulation. Potential further extension to serve Tracks 1 through 4 will be provided by the ARC project.
    - Central Corridor Extension: The Central Corridor also serves Tracks 13 through 21. Extension of the Corridor to provide passenger access to Tracks 1 through 12 will enhance passenger distribution and operational flexibility.
    - Extension of Platforms 1 and 2: Extension of these platforms will allow for the full operation of 11- to 12-car trains on Tracks 1 through 4.

[6] LIRR uses electrified third rail to power trains while NJ TRANSIT uses overhead electrified wires.

- Two new single-track tunnels under the New Jersey Palisades and Hudson River, located immediately south of the existing North River rail tunnels to PSNY, with track connections to the new 34th Street Station and to PSNY (see *Figure 2)*. Supported by the other elements of the LPA, these tunnels meet the demonstrated need for additional trans-Hudson capacity.
- Rail storage facilities in Kearny on property adjacent to NJ TRANSIT's Morris and Essex Line, as depicted in *Figure 2*, and along the former Boonton Line right-of-way in Secaucus and Jersey City. This capacity is needed to accommodate the additional trains that will be in operation as the result of track and tunnel improvements described in the LPA.
- Track improvements in New Jersey, as depicted in *Figure 2,* including additional tracks at Secaucus Junction and along the Northeast Corridor east of Secaucus Junction. These improvements will support expanded rail operations between New Jersey and New York.
- A new loop track connecting the Northeast Corridor with the Main/Bergen and Pascack Valley Lines (see *Figure 2*). The loop connection will provide users of these lines with a one-seat ride into New York.
- A new multi-level station under 34th Street in Manhattan, with connections to the Broadway, Sixth, Seventh, and Eighth Avenue NYCT subways, and PATH (see *Figures 3 and 4*). The station will connect with PSNY and the proposed Moynihan Station via underground passageways; it will be located a short city block, or about a five-minute walk, from PSNY. The facility will be located in two caverns with a two-track over two-track configuration in each cavern. This design was chosen to minimize impacts on existing buildings along 34th Street. The station will include tail tracks running east under 34th Street to about 5th Avenue to increase train handling capacity. In the future, it may be possible to extend these tracks, based on future planning studies.

FIGURE 1: CAPACITY ENHANCEMENTS AT PSNY



Create Train Staging Area in south end of Station

Extend West End Concourse and Connect to Moynihan Station

Extend LIRR Central Concourse

Extend Platforms 1 & 2

FIGURE 2: PROJECT OVERVIEW

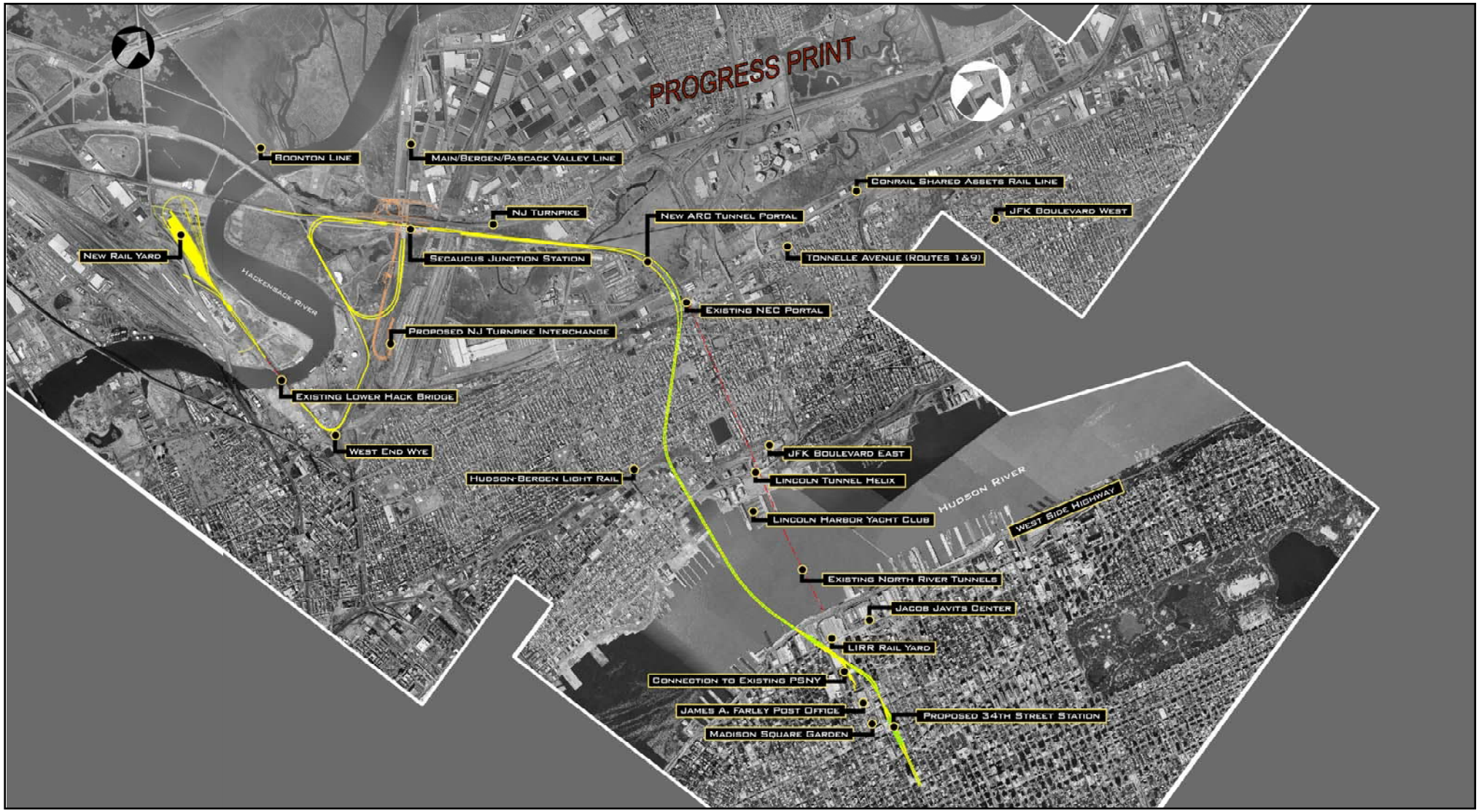


FIGURE 3: 34TH STREET STATION PLAN

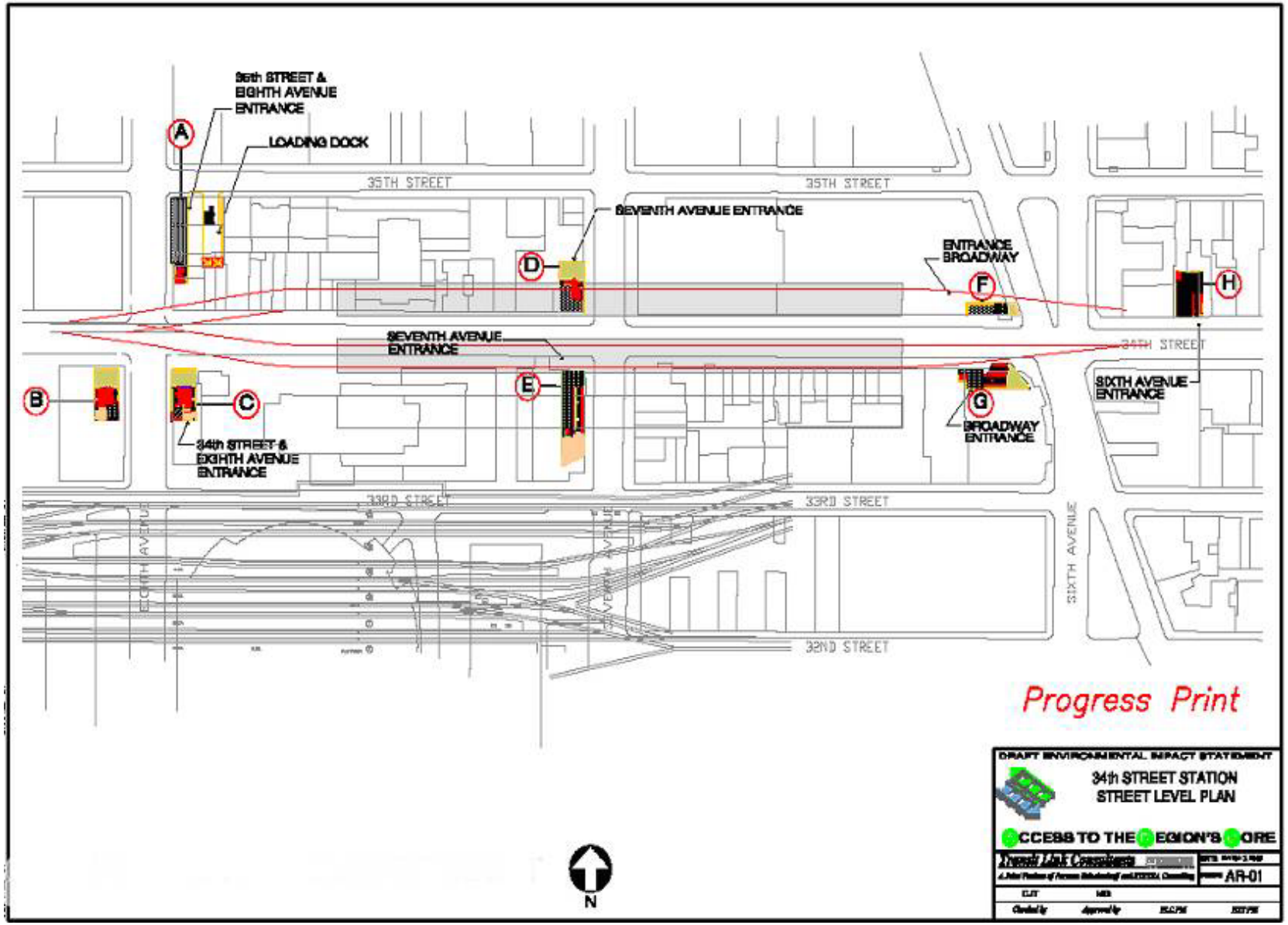
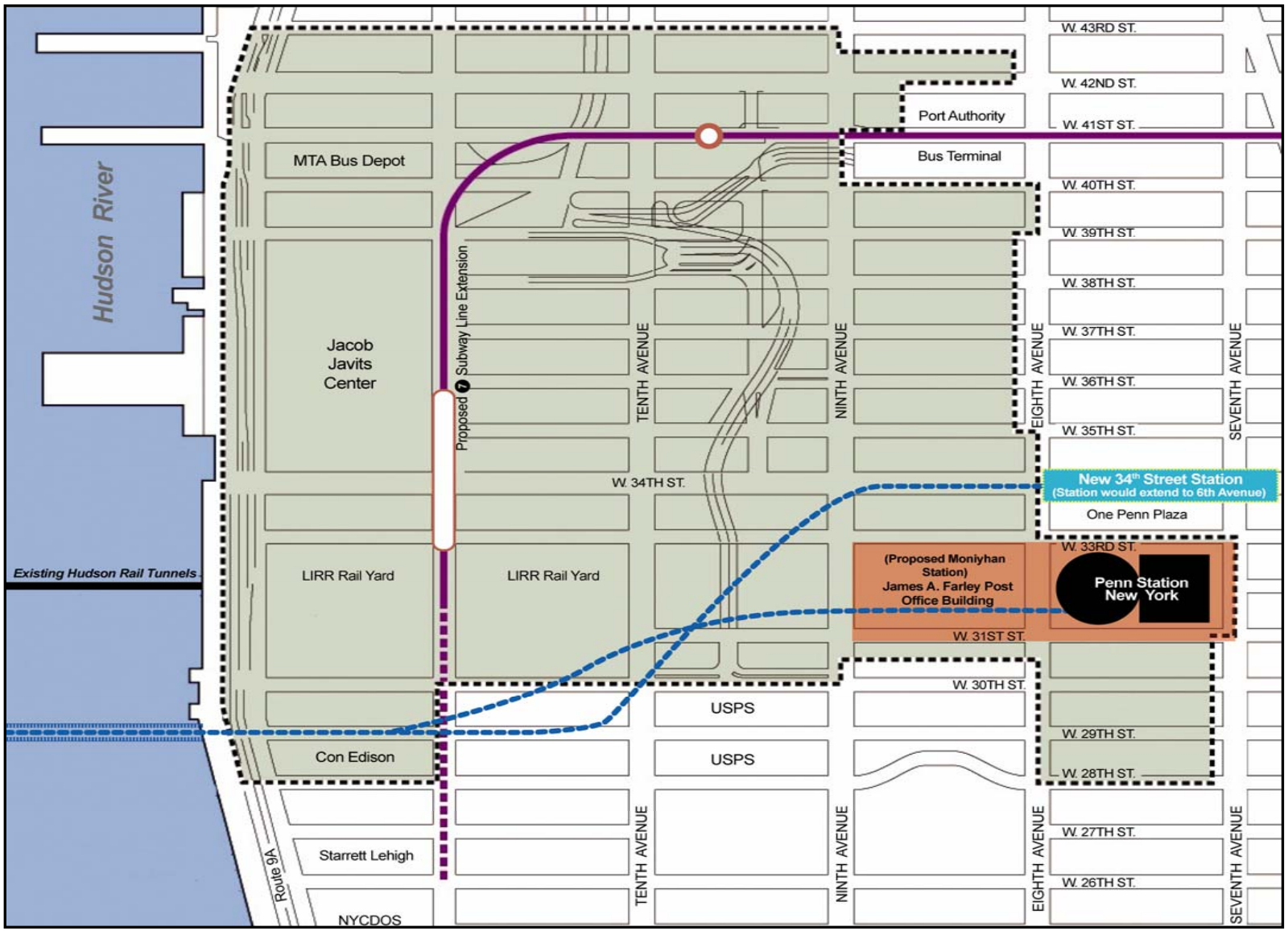


FIGURE 4: 34TH STREET STATION LOCATION



4. ARC PROJECT COSTS & FINANCING PLAN

4.1 ARC Financing Overview

The ARC financial plan is being developed under a statewide consensus that the ARC project is the most important transit capital priority in New Jersey. A capital cost estimate of approximately $6 billion has been developed for the project. As the North Jersey Transportation Planning Authority (NJTPA), the federally designated MPO for the 13 counties in northern New Jersey, has stated in its Long-Range Plan, implementation of ARC should take precedence over other proposals for rail system expansion in New Jersey. Additionally, it is expected that the Port Authority of New York and New Jersey (PANYNJ) will be a major funding partner in the project. Federal funding is anticipated to provide about one-half of total project funding. Finally, the ARC financial plan anticipates renewal of New Jersey's Transportation Trust Fund (TTF), as discussed in the *State Transportation Funding Overview* section below. Given these parameters, it is believed that funding for ARC can allow for project implementation beginning in 2007, and completion by 2015.

4.2 State Transportation Funding Overview and ARC

The NJTPA anticipates that state funding for transportation will increase by 85% over the next 25 years. (Such funding has increased by 108% since 1988; the increase between 1988 and 1991 was made possible by a 2.5-cent increase in the state motor fuels tax and a 4.5-cent increase in the portion of the tax dedicated to the TTF.) Included in this projection is an increase of 33% in state funding over the next 10 years (from $1.07 billion to $1.42 billion per year).

In November 2003, the Governor's Blue Ribbon Commission, appointed to address transportation financing issues, released its report to the Governor and the New Jersey Legislature. Based on anticipated needs over the next ten years, the Commission recommended a minimum 12.5-cent increase in the motor fuels tax; this would yield approximately $1.6 billion per year in investments in transportation. In addition, it is anticipated that future TTF increases will be supplemented by other non-federal sources of transportation funding, including PANYNJ project-specific contributions, voter-approved Bridge Bond Acts, transit lease agreements, and other sources. TTF renewal remains difficult to predict, in terms of precise timing and funding levels. Between funding made available by PANYNJ and by the State of New Jersey, it is anticipated that the needed local funding commitments will be made.

4.3 Project Funding

As stated above, federal funds are anticipated to meet about one-half of the project costs. Local matching funds have been identified to support various aspects of the ARC project. NJ TRANSIT and PANYNJ will make total commitments of $450 million for the purchase of bi-level passenger rail cars. ($250 million has been officially committed, while $200 in funding is in the process of being allocated.) The bi-level rail cars, which will provide over 20% more passenger capacity per car than NJ TRANSIT's existing fleet of single-level coaches, are a critical component of the expansion of trans-Hudson passenger rail capacity, and will allow for full utilization of the ARC LPA rail infrastructure.

An additional local commitment has already been made. Recognizing the importance of the project, in September 2004 the PANYNJ Board of Commissioners authorized the allocation of $10 million for two ARC improvements at PSNY: (1) engineering and design of an extension of the West End Concourse

underneath the west side of Eighth Avenue from Platform 3 to Platform 1, connecting to the proposed Moynihan Station, and (2) engineering and design of an extension of PSNY's Central Corridor from Platform 6 to Platform 1.

APPENDIX 1: STATION CONCEPT-LEVEL SCREEN SCORING SUMMARY

Screening Criteria	Criteria Description	Criteria Scoring 1-5 (5 is best; 1 is worst)					
		P1-Lower Level PSNY		P2 - 34th Street Station		S1 - Sunnyside Yard	
		Value	Score	Value	Score	Value	Score
Capital Cost	Affordable capital cost	$2.1-2.25 Billion (does not include tunnel, real estate or rolling stock)	5	$2.7-$2.9 Billion (does not include tunnel, real estate or rolling stock)	5	$3.4 - $3.8 Billion (does not include tunnel, real estate or rolling stock)	5
Constructibility	Engineering and construction requirements are feasible	Significant construction risk associated with tunneling under existing PSNY.	2	Construction risk associated with tunneling under 34th Street is moderate.	5	M & P of rail operations during U & M ladder track reconstruction, underpinning of Seventh and Sixth Ave. Subway Tunnels.	3
New Passenger and Train Capacity at PSNY	Provides maximum peak capacity between new and existing station (20 or more tph)	19-20 TPH	4	21 TPH (new) + 4 TPH (existing) with opportunity to expand capacity with added investment	5	Additional 17 TPH to existing platforms	1
Timeframe	Constructible within required timeframe (by 2015)	Yes	5	Yes	5	Yes	5
Resiliency/ Redundancy	Provides redundancy which allows for a more secure rail system	Passenger access via existing station only	3	Provides track and passenger connections from new and existing stations.	5	New tunnel provides access to existing station only.	1

Screening Criteria	Criteria Description	Criteria Scoring 1-5 (5 is best; 1 is worst)					
		P1-Lower Level PSNY		P2 - 34th Street Station		S1 - Sunnyside Yard	
		Value	Score	Value	Score	Value	Score
Flexibility in NJ TRANSIT and Amtrak Operations	Provides flexibility in operations for NJ TRANSIT and Amtrak by providing ability to shift between new and existing infrastructure	Flexibility on New Jersey side only	2	Full flexibility on New York side by providing access from new tunnel to tracks 1-16.	5	Revenue to non-revenue through operations via a new tunnel under 31st St. to Sunnyside Yard in Queens, providing flexibility for both NJT and Amtrak.	3
One-seat Ride Opportunities	Accommodates a 'one-seat ride' for existing commuter rail network into PSNY	Yes	5	Yes	5	Yes	5
Expansion Opportunities	Provides expansion opportunities to the east and north	Yes, requires tunneling under buildings	3	Yes, tunneling would continue under 34th Street right-of-way	5	Yes	5
Minimize Environmental Impacts	Minimizes impacts to the environment	None now evident	5	Some surface and noise disruption during construction between 6th and 9th Avenues, traffic/pedestrian flow maintenance and protection required. Similar construction impacts expected between 28th St. and 12th Ave. north-west to 31st St. and 10th Ave. for connection to existing PSNY.	3	Cut & Cover construction under 31st Street at Seventh Ave., resulting in construction noise. Sensitive receptor buildings along 31st St. Noise & vibrations along 31st St. from Seventh Ave. to East River.	3

Screening Criteria	Criteria Description	Criteria Scoring 1-5 (5 is best; 1 is worst)					
		P1-Lower Level PSNY		P2 - 34th Street Station		S1 - Sunnyside Yard	
		Value	Score	Value	Score	Value	Score
Minimize Short Term and Long Term Disruption to PSNY	Minimizes construction related and long term disruption to existing PSNY	Some impact to passenger concourses at south and north ends of existing A/B levels	3	Impacts to existing Empire Line during construction of tracks to existing station.	3	Requires east and west platform extensions, Amtrak diagonal platform relocation, new ladder track, reconfiguration of U & M ladders.	2
Minimizes Property Impacts	Minimizes property impacts and required easements in NYC	Minor property acquisition required. Easements only. Tunnel construction shaft required at 12th Avenue area may require acquisition of parcel above or adjacent to tunnel.	5	Some property acquisition required. Tunnel beneath 30 properties and adjacent to additional 60 properties requiring easements. Tunnel construction access shaft required east of 12th Ave. at 28th St., may require acquisition of parcel above or adjacent to tunnel. Vent shafts for tunnel and station will require some property acquisition.	5	Properties east of Second Ave. in Manhattan: NYU Hospital Dormitory, Tisch Pavilion, NYU Hospital, Hospital Annex.	3
Passenger Accessibility and Convenience	Minimize passenger movements (travel time) by improving accessibility and convenience	Yes	5	Yes	5	Yes	5
Crew Accessibility and Convenience	Minimize crew movements (travel time) by improving accessibility and convenience	Yes, convenient access below existing station	4	Yes, however crew is required to navigate through new passageways with customers	3	Yes	5

Screening Criteria	Criteria Description	Criteria Scoring 1-5 (5 is best; 1 is worst)					
		P1-Lower Level PSNY		P2 - 34th Street Station		S1 - Sunnyside Yard	
		Value	Score	Value	Score	Value	Score
Phased Implementation	Opportunities for phased implementation to bring near term capacity increases to PSNY	Yes, difficult but not impossible	3	Yes	5	Yes	5
Rail Connectivity to Existing PSNY	Provides rail connections between new infrastructure and existing PSNY on the New York side	Concerns with constructibility and risk	2	Yes	5	Yes	5
TOTAL (Max Score=75)			**56**		**69**		**56**
RANK			**2nd**		**1st**		**2nd**