

# INSTITUTE FOR RATIONAL URBAN MOBILITY, INC.

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November 30, 2016

Mr. RJ Palladino, Senior Program Manager  
NJ Transit Capital Planning  
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Ms. Amishi Castelli  
Federal Railroad Administration  
One Bowling Green, Suite 429  
New York, NY 10004  
Amishi.Castelli@dot.gov

## **Re: Hudson Tunnel Scoping Document**

Dear Mr. Palladino and Ms. Castelli:

The Institute for Rational Urban Mobility, Inc. (IRUM), is a NYC-based non-profit concerned with reducing motor vehicle congestion and improving the livability of dense urban places. A key IRUM effort is to make the case for transforming the three commuter rail lines serving the NY-NJ-CT metropolitan area into a coordinated regional rail system with frequent service, integrated fares, and thru-running, first at Penn Station and then by linking Penn Station with Grand Central Terminal. The Hudson Tunnel project is a key element of such an effort, and IRUM has followed the development of this project with considerable interest.

IRUM submitted scoping comments on the Hudson Tunnel project in a May 17, 2016 letter to the project team, along with a lengthy attachment – The Hoboken Alternative (copies attached).

### **1. NJ Transit and USDOT responses to IRUM’s comments shown in the Hudson Tunnel Scoping Summary Report are deeply flawed.**

On Page 31 of the Scoping Summary Report, the Hoboken Alternative is wrongly dismissed as follows:

“An alternative that passes near the Hoboken Terminal, would be substantially longer (with proportionally greater cost) than alternatives that go more directly between the NEC alignment near Secaucus and PSNY.”

This is simply wrong. The “Hoboken Alternative” paper, submitted as part of IRUM’s comments, points out that the length of this routing, as measured in distance between Penn Station, New York and Penn Station Newark would be the same whether by way of the existing Amtrak routing via Secaucus or by way of the proposed routing via Hoboken (and Jersey City).

Also, without any substantial analysis, is the claim that the cost of this alternative would be proportionately greater. As described in the IRUM paper, the likely cost of the Hoboken Alternative, would be considerably less than the “preferred alternative”, because new embankments and bridges through the Hackensack Meadowland would not be needed. The Hoboken Alternative would make use of the “Westbound Waterfront Connection” project described in the April 2015 New Jersey State Rail Plan. A true benefit-cost comparison of these two routings should be an element of the scoping for the alternatives section of the Hudson Tunnel Scoping.

Comments from Jersey City Mayor Steven M. Fulop and Hoboken Mayor Dawn Zimmer also indicated support of an on-line station near the Hoboken Terminal. The Summary Scoping Report response was that a station would add time and reduce capacity.

IRUM's plan for an on-line station near Hoboken calls for a four-track station, which will not reduce capacity. While a station stop will increase running time, it is well worth it if the station improves the utility of the Hudson Tunnel project. As Mayor Fulop pointed out, in his comment, the provision of a transfer with the Hudson-Bergen Light Rail network would "enhance operational flexibility".

Equally important, an on-line station at Hoboken would improve access to the Jersey City-Hoboken Waterfront business district, the states' largest concentration of Class A office space. While the existing tunnel route would continue to have an on-line station at Secaucus with its current population of 16,264 residents, an on-line station adjacent to the Hoboken Terminal would greatly benefit Jersey City's 247,597 residents and Hoboken's 50,005 residents, many with lower incomes. This should be considered within the economic impact and environmental justice scoping analysis of the Hudson Tunnel EIS.

An on-line station will also enhance access to the East and would be a major boost to economic activity in Jersey City and Hoboken, providing not only a much needed link to Manhattan's growing West Midtown development and to East Midtown, the nation's largest activity center, but also to The Bronx, Westchester and Connecticut.

As described in IRUM's paper, routing the new tunnels just south of the Hoboken Terminal train shed permits construction to commence immediately on railroad property already owned by NJ Transit. This will greatly speed completion of new tunnels, while avoiding the costly and time-consuming acquisition of additional parcels in the northern part of Hoboken, or adjacent to the existing Amtrak line through the Hackensack Meadowlands. IRUM again urges NJ Transit and USDOT to seriously consider this alternative.

IRUM's Hoboken Alternatives paper was prepared in 2009, five years before the area was struck by Hurricane Sandy. The plan and profile for the tunnel routing through the Hoboken Terminal area, described in the IRUM paper, could reinforce resilience measures currently being considered for rail facilities this area, which were substantially damaged by the storm. These measures should be productively integrated with the tunnel plan. Substantial cost savings could result if these initiatives were considered collectively. Furthermore, as part of a regional rail planning effort, the utility of retaining rail maintenance and midday car storage facilities on this valuable waterfront can be re-evaluated.

Clearly, the Hoboken Alternative should be carefully considered within the scoping for the EIS.

## **2. Regional impacts of doubling capacity of the Hudson River rail tunnels are ignored**

Expediting completion of the Hudson Tunnel project by routing the two new tracks by way of the Hoboken Terminal area, and using NJ Transit tracks west of Hoboken as described in the IRUM paper, will speed the benefit to the region of having four mainline tracks between Penn Station, Newark and Penn Station, New York. The Scoping Summary Report fails to acknowledge comments by IRUM, and others, citing the urgent need for a more comprehensive improvement plan for regional rail facilities in the 22 million person NY-NJ-CT metropolitan area. In its comments on the scoping document, IRUM called for consideration of the Access to the Region's Core (ARC) Major Investment Study (MIS) Alternative G described in its 31- page Summary Report. This alternative called for extension of the new Hudson River tunnels east of Penn Station, under 31st Street and continuing north under Park Avenue, linking with platform tracks in the Lower Level of Grand Central Terminal. IRUM has long called for

full disclosure of all relevant analysis of the MIS, which was overseen by NJ Transit, MTA and the Port Authority of NY and NJ, and funded in part by USDOT. Again, this will expedite and reinforce public trust that will certainly be needed to make available the substantial resources to advance this important project.

Preparation of a comprehensive regional rail plan can begin immediately, well before repair work on the existing tunnels is completed. The metropolitan region's global competitors, especially in Asia and Europe are advancing new regional rail connections, while the NY region suffers from three moribund, disconnected regional railway systems, each pursuing its own destiny.

The Hoboken-Penn Station-Grand Central trunk line becomes the primary regional rail trunk line, not unlike London's ambitious Cross-Rail project. The existing Amtrak tunnels through Penn Station then become a secondary, but critical trunk line, used to help accommodate peak period rail traffic.

Furthermore, this trunk line link transforms the southern portion of Penn Station into a "thru-running" station, in contrast to Amtrak's Gateway Plan which would expand the existing station to the south, with a new seven track "stub" terminal. Several comments were raised in the scoping report about this expansion plan, with its substantial dislocation of current businesses with thousands of employees. The response to these scoping comments does little to placate these legitimate concerns, particularly since links to the Gateway Plan are included in the Hudson Tunnel's website. A thru-running station using existing tracks and platforms at Penn Station would have a far greater capacity than the Penn Station South stub-terminal plan while avoiding its cost and disruption.

Finally, the heightened community concerns about plans to move forward with the relocation of the Port Authority Bus Terminal to a new location to the West in Midtown would be best dealt with by preparing a comprehensive multimodal plan for accommodating Trans-Hudson passenger traffic.

In summary, IRUM's trunk line plan would avoid the need for Gateway South and the bus terminal expansion and relocation.

### **3. Lack of discussion of alternative repair strategies for the Amtrak tunnels**

On a personal note, as a Life Member of the American Society of Civil Engineers (ASCE), I must raise a very serious concern about the unwarranted level of fear-mongering contained in the Scoping Report. This seems to have headed off a robust discussion of credible alternative repair strategies, as described in the HNTB September 2014 "Structural Assessment of the Amtrak Under River Tunnels in NYC Inundated by Super Storm Sandy". That report is marked "Confidential" and is not listed in the Hudson Tunnel Project library.

The HNTB study recommended a full replacement of the bench walls throughout Amtrak's Hudson River tunnels, even though only a small portion of the bench walls in each of the tunnels was actually damaged during the storm. The study pointed out that if bench walls are replaced at only those locations where they were damaged and current National Fire Protection Association (NFPA) standard were applied, the bench walls would have a discontinuity in height and would be difficult for passengers to use for emergency egress. Use of bench walls for emergency egress is problematic at best, since many persons with mobility limitations could not use them. Alternative evacuation techniques, like the deployment of "rescue trains" and a move toward articulated regional rail trains should be considered. Furthermore, advances in wireless communications could largely eliminate the need to locate wires in bench walls.

Several comments contained in the Scoping Report call for consideration of rail freight options within the Scope of the EIS. IRUM has long maintained that with the completion of a second pair of Hudson River

tunnels that would form a Hoboken-Penn Station-Grand Central “trunk line”, described above, the existing Penn Station route could accommodate a significant amount of rail freight - off-peak and weekends. Low-profile, high-performance container trains, similar to those operated on many European railways systems, could use the existing Penn Station route, without any changes in its dimensions. Similarly, many existing conventional rail freight cars could be operated through the tunnels, if they met clearance and reliability requirements. Many bulk movements in the NY region, that must use overcrowded highways, could be shifted to the original tunnel route, once major rail passenger flows are shifted to the proposed “trunk line”. IRUM urges analysis of these freight options within the tunnel EIS.

The HNTB study also called for replacement of ballasted track beds in the tunnels with direct fixation concrete roadbeds, the current industry standard in tunnels. IRUM urges that any consideration of full replacement of the existing ballasted tracks with a direct fixation system should include an examination of options to substantially increase the clearance dimensions of Amtrak’s Hudson River and East River tunnels to allow larger rail freight cars. These tunnels have an extra two feet of concrete lining installed by the Pennsylvania Rail Road a century ago, when the tunnels were a “pioneering” effort. In any event, NYC Transit’s fast-tracking technique to replacing track beds in short segments on weekends should be considered as an option to reduce the window of time track capacity is lost, even after the new tunnels are completed.

The appropriate repair strategies should be examined by an independent third-party entity, perhaps an overseas agency that is not beholden to the whims of the region’s rail institutions. It is important to note the absence of a technical university in the NY area that specialize in railway and rail transit engineering, despite the concentration of some 40% of the nation’s rail transit facilities in the region. Rail operating agencies are left to the mercy of large engineering firms in dealing with issues such as these. This is not to say that these firms are necessarily “over-engineering” rail projects, but if qualified, tenured academics were available, second opinions could be more readily sought.

#### **4. Portal Bridge should be permanently fixed in the closed position immediately**

The vast majority of railway bridges in the U.S. were constructed a century ago, during the peak of the industrial revolution. IRUM urges that fear mongering about the safety of the Portal Bridge in Hudson Tunnel EIS should be replaced with solid technical analysis. While a new, fixed high-level, fifty foot clearance bridge has received environmental approvals, funding for the \$1.5 billion replacement bridge as not been identified. The appropriate plan for this bridge should be included in the Hudson Tunnel EIS scoping. A thoughtful benefit-cost effort would reveal the extremely limited utility of maintaining navigation for high-masted vessels in the Hackensack River upstream from Portal Bridge. Funds expended thus far should be considered as “sunk cost” in the benefit-cost analysis.

When the opening mechanism of a nearby NJ Transit bridge over the Hackensack River in Secaucus malfunctioned on December 31, 2005, sludge from the Bergen County treatment facility was transported by tanker truck for a little over a month, at an average rate of twenty-five loads per day to the Passaic County treatment facility some ten miles away, in Newark using the NJ Turnpike. This added truck load was insignificant on this busy roadway, which carries some 200,000 vehicles per day.

A case could be made for permanently fixing the existing Portal Bridge in the “closed” position. The sludge movement is by far the highest volume of any commodity requiring a movable bridge at this location. While a movable bridge could continue to serve a limited function, given its occasional malfunction and the critical role that rail service crossing the bridge plays in the region’s economy, it would make sense to quickly consider the benefits and costs of closing this bridge permanently. The benefit-cost calculation should consider the engineering studies and environmental permitting expended

to date as “sunk cost” and should not enter this calculation. Once fixed in the closed position, the bridge can compete with other century-old bridges for funds available for infrastructure rehabilitation.

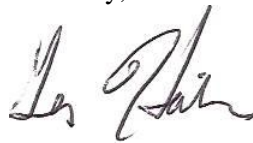
The Hoboken Alternative would not require any expansion of rail capacity across the Hackensack River. The existing three-track bridge on the Morristown Line will be adequate for many years to come.

### **Conclusion**

**IRUM urges USDOT and NJ transit to modify its scoping for the Hudson Tunnel EIS, as suggested in this letter. The current draft scoping document is seriously flawed.**

IRUM welcomes an opportunity to discuss these comments with Project staff, and to clarify any questions that might remain. Please contact us at your earliest convenience.

Sincerely,



George Haikalis, President  
Institute for Rational Urban Mobility, Inc. (IRUM)

Copies to:

Mayor Steven M. Fulop, Jersey City

Mayor Dawn Zimmer, Hoboken

Senator Bob Menendez

Senator Cory Booker

Jersey City Councilmember Candice Osborne

Other interested parties

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**Comments on USDOT Hudson Tunnel Project EIS Scoping Document, May 17, 2016**

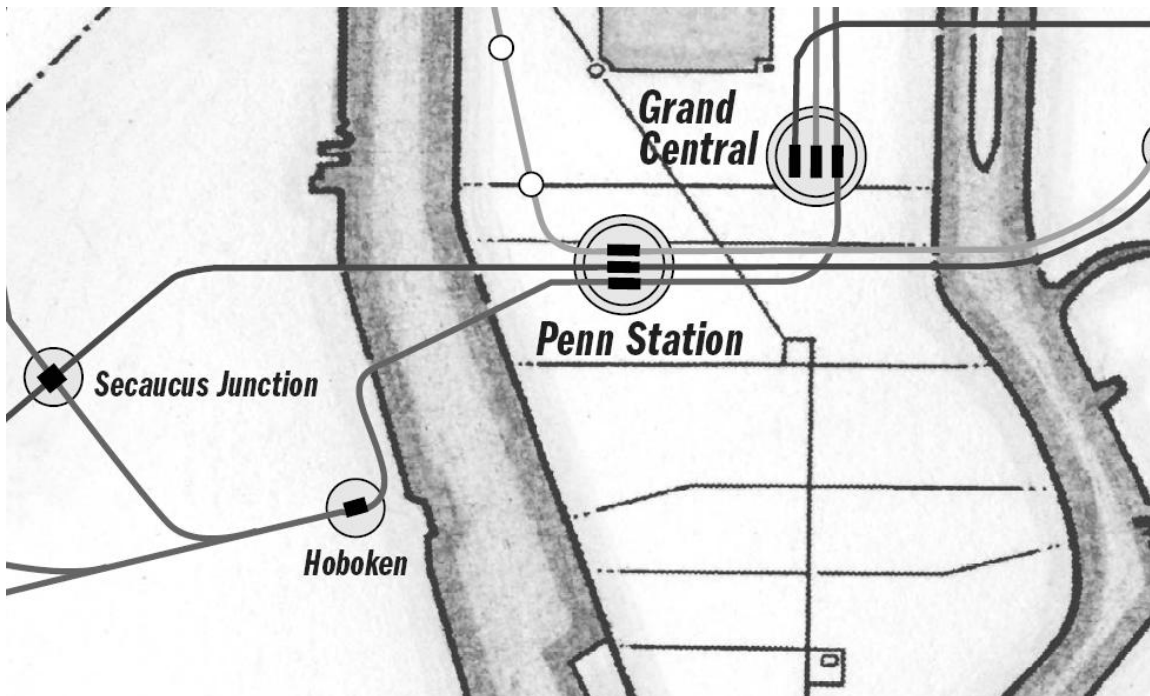
**The Institute for Rational Urban Mobility, Inc. (IRUM) is a NYC-based non-profit concerned with reducing motor vehicular congestion and improving the livability of dense urban places.**

**IRUM fully supports initiatives to expand Hudson River passenger and freight rail tunnel capacity. However, IRUM finds the current USDOT scoping document “segmented” and seriously flawed and suggests that the following changes be made:**

- 1. The geographic scope should be expanded to include the full range of options from the City of Newark to the City of New York, including consideration of options that would route new Hudson River tunnels by way of the Hoboken Terminal area.**
- 2. Full consideration should be given to all options, including the economic impact of postponing, or even eliminating the replacement of the Portal Bridge. Routing the new tunnels by way of the Hoboken Terminal area clearly should be included as one of the options included in the scope.**
- 3. Manhattan terminal options should be considered in this EIS Scoping process, including the direct Penn Station-Grand Central Terminal connection, studied in detail in the Access to the region’s Core (ARC) Major Investment Study (MIS). The full details of all option studied in the ARC project should be made available to the public as part of the scope of this EIS. The advantages of this option should be weighed against the serious adverse impacts of expanding Penn Station to the south, with its substantial displacement of thousands of employees in dozens of structures that would have to be demolished in the blocks south of Penn Station. Linking west of Hudson commuters employees with the concentration of office buildings in East Midtown would make the new tunnel much more useful.**

**The attached thumbnail describes some of these advantages and should be considered as part of this comment.**

**George Haikalis, President, IRUM, May 17, 2016**



## Build new Hudson River Passenger Rail Tunnels via Hoboken/Jersey City/Penn Station and Grand Central

A simple and cost-effective way to remake the region's three commuter rail lines into a coordinated **Regional Rail System** is to route much-needed new Hudson River passenger rail tunnels by way of the Hoboken/Jersey City waterfront business district. A new on-line station would be constructed just south of the Hoboken Terminal and a new 2.3 mile two-track tunnel would connect with existing tracks and platforms at Penn Station, NY. A new 1.2 mile two-track tunnel would be constructed under 31<sup>st</sup> Street and Park Avenue to link with existing tracks and platforms in the Lower Level of Grand Central Terminal. New stairways and wider concourses are critical to rebuilding Penn Station into a suitable gateway to NYC. Thru-running increases capacity and connectivity while permitting removal of rail yards for new resilient waterfront development. It efficiently uses existing rail infrastructure, avoiding adverse environmental impacts of new rail trackage in the Hackensack Meadowlands.

The Penn Station-Grand Central connection allows west of Hudson residents to reach destinations in East Midtown, the largest concentration of office buildings in the nation and makes it easier for Bronx, Westchester and Connecticut residents to reach the growing West Midtown area as well as Hoboken/Jersey City, Newark and Newark Airport. An interconnected **Regional Rail System** -- with frequent service, integrated fares and through-running -- provides an attractive alternative to driving on crowded highways that cannot be expanded and increases the economic viability of the region in the face of growing global competition.

**The New ARC Hudson River Passenger Rail Tunnels:  
The Hoboken Alternative**

**December 1, 2009**

**Prepared by**

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## Why via Hoboken?

Routing the new Access to the Region's Core (ARC) Hudson River passenger rail tunnels by way of Hoboken Terminal – the Hoboken Alternative – allows existing rail infrastructure to be used more productively. When combined with "Penn Station First" -- a simpler and more direct Penn Station connection in Manhattan -- the Hoboken Alternative holds the promise of reducing construction cost of the new tunnels and its essential related component -- the Portal Bridge Capacity Expansion project -- by more than \$8 billion or 70% of the total \$11.4 billion cost.

Even in good times this option merits serious consideration, but in light of the growing economic difficulties facing New Jersey and New York it is extremely important to give fair and impartial consideration to credible options.

The simpler construction also results in speeding completion of an operational "first phase", saving four years or more off the projected eight year time frame in the current plan, before any additional trains can be handled across the Hudson.

## Other Important benefits of the Hoboken Alternative

Significant environmental gains would be realized as well. Since the Hoboken Alternative routes trains over existing underutilized tracks and bridges through the Hackensack Meadowlands, no wetlands would be destroyed. A less costly construction scheme will greatly reduce the project's carbon footprint as well. The route better serves the waterfront, providing motorists with a more attractive alternative and reducing congestion which is at critical levels.

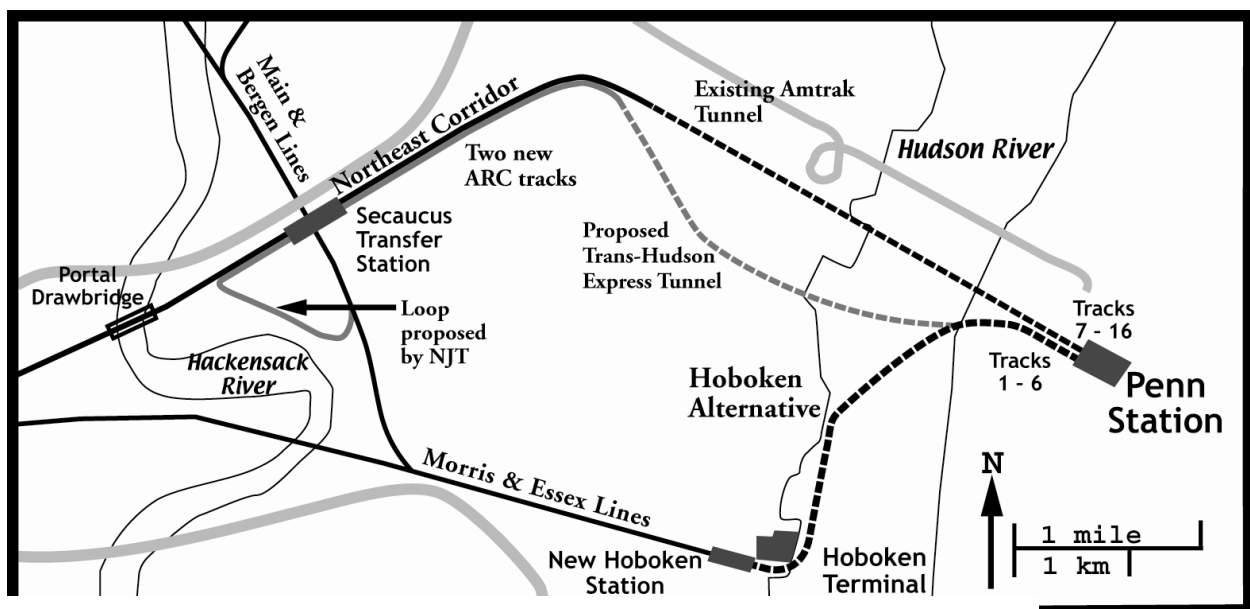


Figure One - The Hoboken Alternative

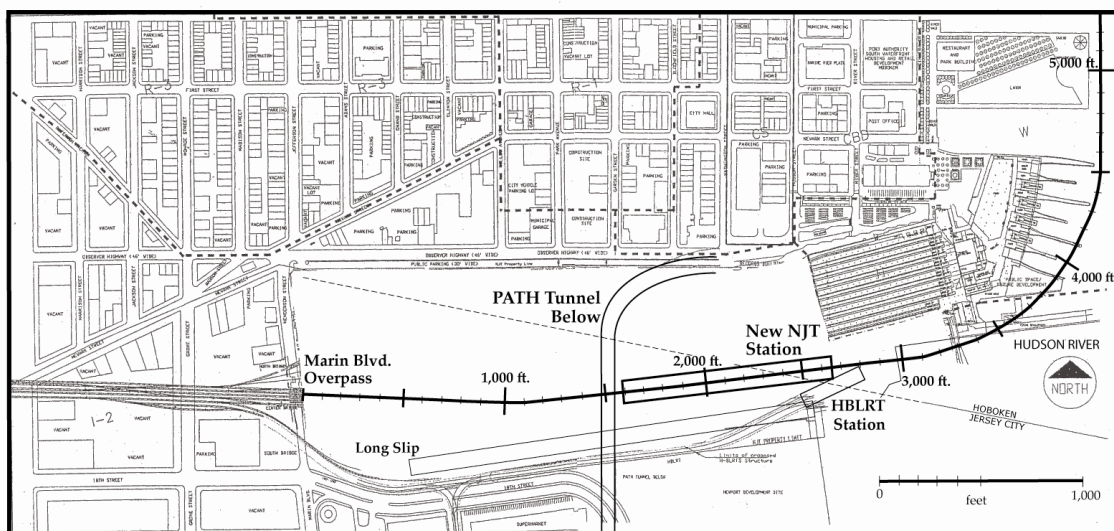
Routing the new tunnels by way of Hoboken offers significant savings in operating cost, while providing a much higher level of rail service to New Jersey’s economic engine – the massive concentration of commercial and residential development on the Jersey City and Hoboken waterfront.

The state would gain a much higher return on its valuable waterfront properties. By converting Hoboken Terminal into a “way” station, a simple four-track through station could readily handle projected traffic needs for passengers boarding or alighting at Hoboken. Should more detailed studies indicate that greater capacity is needed, the station could be expanded to six or even eight tracks.

As a through station, no trains would terminate at this location. All of the existing tracks and servicing

facilities at Hoboken Terminal would be eliminated. Other existing NJ Transit facilities, located inland would be used, and expanded if needed. Except for the new station itself, the entire Hoboken waterfront terminal could be sold and re-used as a valuable development site. However, the historic train shed and terminal building should be preserved and incorporated into new development at this site.

While a change of direction will require additional environmental and procedural filings, all of the impacts on the New Jersey side of the tunnel will be experienced on NJ Transit-owned property, eliminating objections from nearby property-owners. Environmental stakeholders who are concerned about the Meadowlands wetlands can be expected to become strong supporters of the change in route.



New Hudson River Passenger Rail Tunnels - Plan at Hoboken

**Figure Two – Detailed Plan at Hoboken**

## Background

The Hoboken Alternative was offered by rail advocates in early 2005 after NJ Transit proposed a revised alignment for its tunnels in the summer of 2004. In order to gain additional depth under the riverbed, NJ Transit proposed that instead of building its new tunnels parallel to the existing century-old PRR tunnels, they would curve southwest under Manhattan's West Side before turning west, reaching the New Jersey shoreline in the northern portion of Hoboken. The tunnels would then curve northwest reaching a portal in the vicinity of the existing tunnel portals in North Bergen. The bow in the tunnel adds approximately 0.3 miles to the tunnel's length, compared to a straight-line alignment of the current tunnels.

Since NJ Transit's new alignment was heading toward the Hoboken Terminal before turning north it occurred to rail advocates that an alternative of continuing southwest and then turning west at Hoboken terminal was feasible, as shown in Figure One.

For the Hoboken Alternative the distance between Penn Station, New York and Penn Station, Newark is the same as the current route via Secaucus. The Hoboken route saves about 0.4 mile over the Secaucus loop route for Bergen and Rockland County destinations and avoids the sharp curves,

offering the potential for travel time savings.

During the EIS proceedings, the Mayors of Jersey City and Hoboken and the owner of the largest development site adjacent to the Hoboken Terminal -- the Lefrak Organization -- all endorsed the routing through Hoboken. In its submittal Jersey City outlined a more ambitious alignment than the one contained in this report. In the EIS, NJ Transit criticized Jersey City's suggested alignment but made no comment on the alignment offered by rail advocates, which was also entered into the record.

Two concerns, other than questions about alignment details, were raised by NJ Transit in the EIS process. The first was that in the longer term, capacity limitations would occur. Waterfront-bound and Lower Manhattan-bound passengers from points further west in the state would pre-empt space on trains from Manhattan-bound passengers, limiting the full use of the Hudson River tunnels. This is a longer term concern. The optimistic forecasts of ridership are unlikely to be realized for many years, because of the downturn in the economy. Should ridership reach projected levels there are other options for accommodating West of Hudson passengers heading to the Exchange Place area or Lower Manhattan. These passengers would be better served if they could transfer to PATH

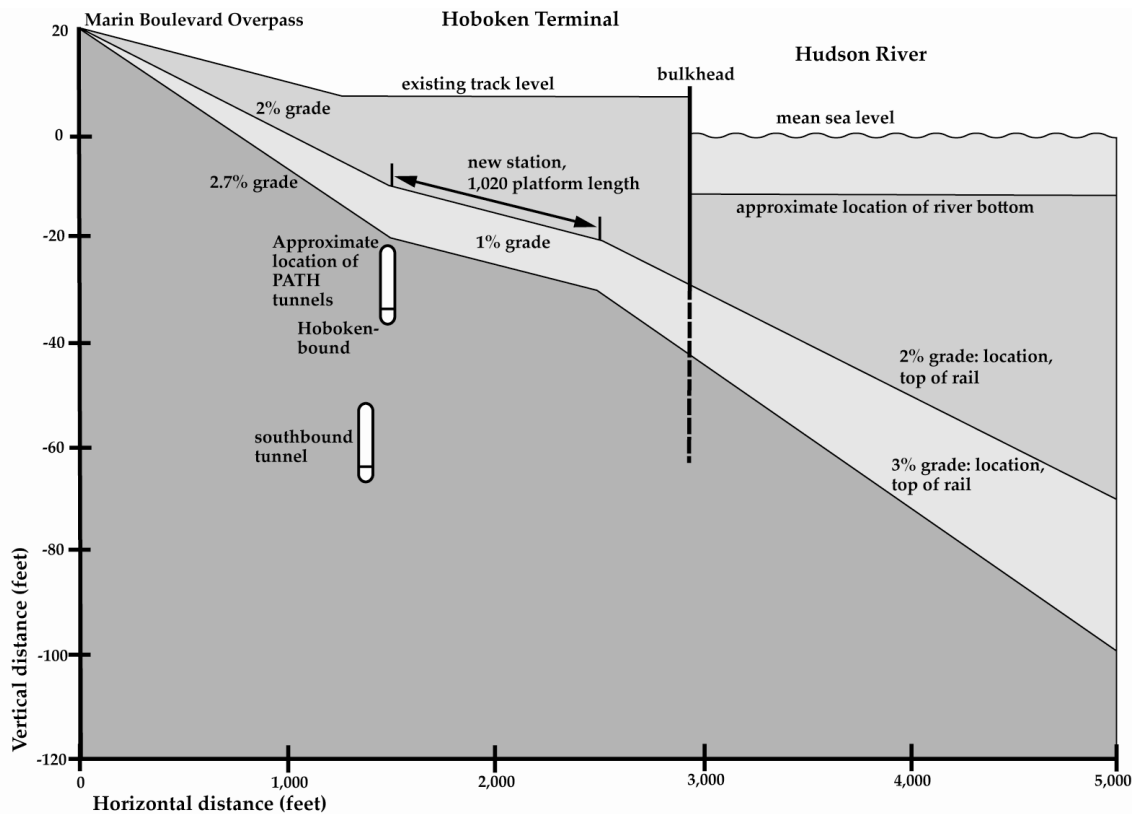
further west, and avoid the Hoboken Terminal entirely. Plans for a transfer from the Morristown Line to PATH at Harrison, and for an extension of PATH to Secaucus were developed in 1962 as part of the agreement with the Port Authority to acquire the Hudson Tubes. These plans could be re-examined as part of a future capacity enhancement analysis.

The second concern was the greater length of the underwater segment of the tunnels, and whether adequate ventilation facilities could be constructed. While clearly this issue must be addressed during the detailed design effort, it can hardly be called a fatal flaw, since many

subaqueous rail tunnels of much greater length have been constructed around the world.

### Engineering Feasibility

While a number of options for connecting existing NJ Transit tracks at Hoboken with the new Hudson River rail tunnels are possible, and should be carefully analyzed by NJ Transit's engineering team, this report focuses on what seems to be the most promising scheme -- ramping down from the embankment east of the Palisade tunnels, beginning with the last highway underpass at Marin Boulevard, before reaching the Hoboken Terminal complex. The overall plan is shown in Figure



New Hudson River Passenger Rail Tunnels - Profile

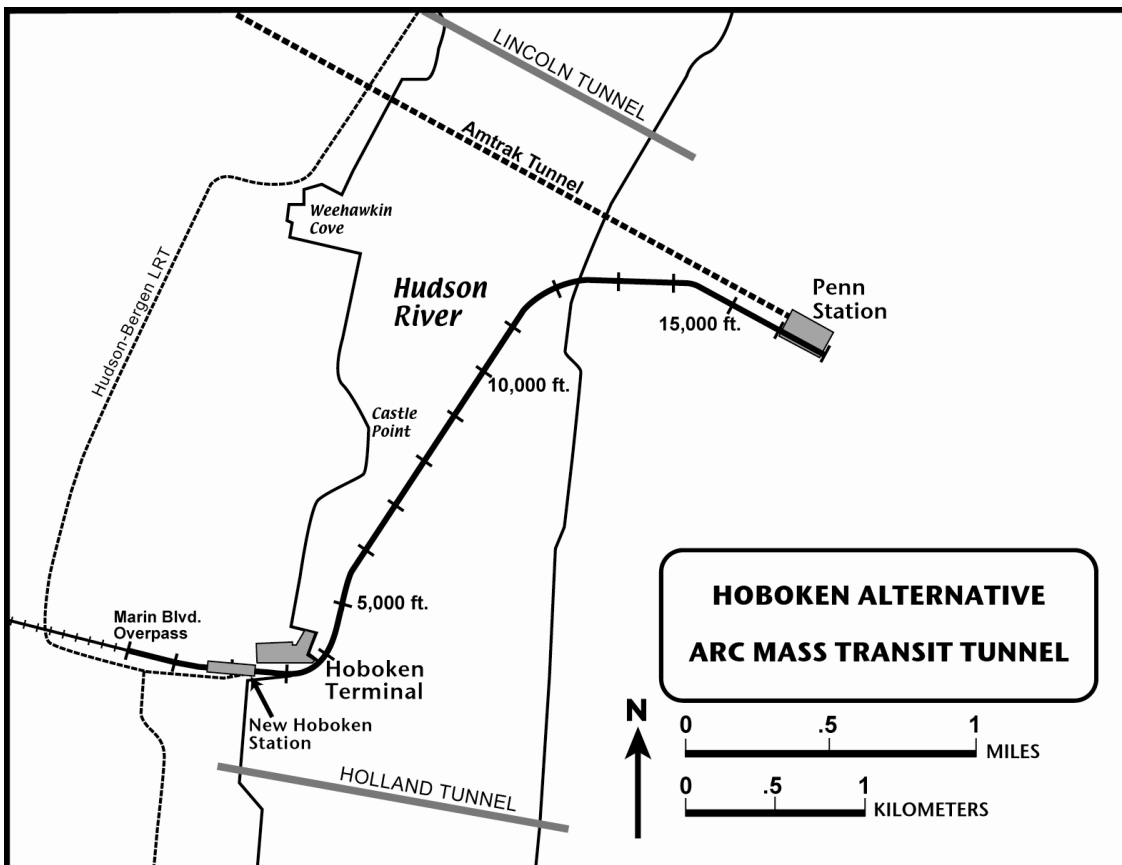
**Figure Three – Detailed Profile at Hoboken**

Two and the accompanying profile is shown in Figure Three.

Two grade options – 2% and 3% -- were considered in this analysis, as they were in the track connection plan to Penn Station in Manhattan described in the February 2007 DEIS. A 3% grade has less impact on the riverbed, but is more challenging in terms of train performance and capacity. Modern high-powered electric trains can easily negotiate a 3% grade. MTA's LIRR East Side Access Project, now under construction, includes a 4,200 foot long segment of 3% grade in Long Island City where the tracks rise from the 63<sup>rd</sup> Street tunnels to meet existing LIRR tracks on an elevated embankment

in Sunnyside. For the Hudson River Hoboken routing both grade options are feasible.

Relatively straightforward cut-and-cover construction is envisioned in Hoboken. The challenge is to descend from the Marin Boulevard overpass, pass over the Hoboken-bound PATH tunnel and still clear the river bottom with sufficient cover to permit soft-soil tunnel boring machine construction. The extent to which fill must be placed in the river bed in Hoboken depends on the degree that silting has already occurred around the Hoboken ferry slips and pilings. NJ Transit's plans to restore some of the ferry slips for cross-Hudson service must be coordinated with



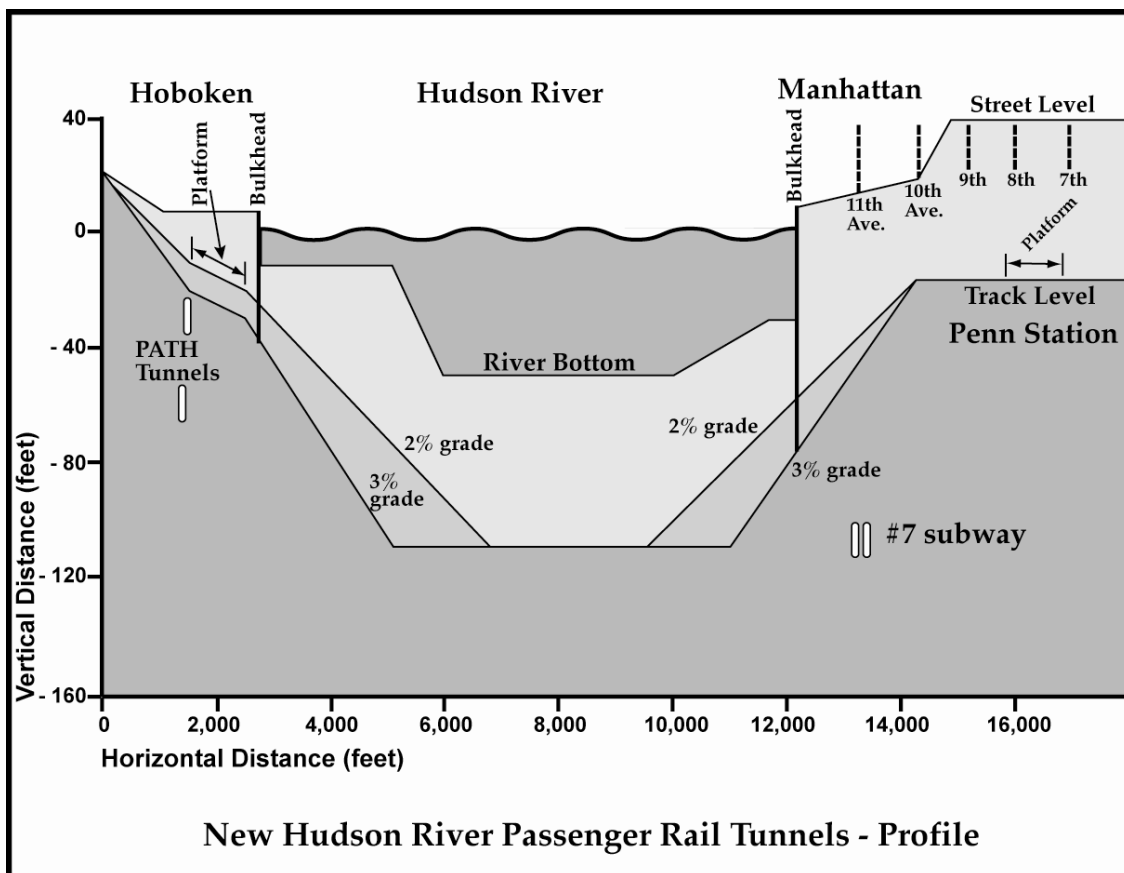
**Figure Four – Full Plan – Hoboken-Penn Station**

the new tunnel construction.

The existing yards and platforms at Hoboken Terminal are less than ten feet above river level. The new alignment will begin its descent at the Marin Boulevard overpass, the beginning of the numbering of 1,000 foot intervals shown in the figures. After reaching grade, the lines will continue to descend in an open cut to be built in a "bath-tub" design with adequate drainage. A new four track thru station will be constructed just south of the existing platforms and tracks at Hoboken Terminal. For both grade options, the station could be open to daylight with natural ventilation, with canopies over the platforms. Within the 12-car, 1,000 foot long

station a 1% grade would be maintained. East of the station the tunnels would begin, with a construction shaft for launching the soft soil TBMs toward Manhattan. Depending on a more detailed design analysis and construction scheduling plan, the existing Hudson-Bergen light rail station might be temporarily relocated.

With the new thru station in place all of the tracks and train servicing facilities would be removed. A new site plan for redeveloping this valuable NJ Transit-owned parcel would be developed. The historic train shed and terminal building would be preserved and appropriate new uses considered. A covered pedestrian path from the



**Figure Five – Full Profile – Hoboken-Penn Station**

new station to the existing PATH Hoboken Station would be included in the new development and a new alignment for the light rail line through the site should be considered that would bring the line closer to the center of Hoboken. It is important that new development plans for the Hoboken Terminal be prepared in consultation with elected officials in Hoboken and Jersey City.

The existing four track rail line between the Marin Boulevard overpass and the Palisade tunnels provides double the capacity of the two-track Hudson River crossing. A short segment of fifth main track is in place and could be used to enhance capacity in the near term. In the longer term, it might make sense to operate the Palisade tunnels as two separate two-track lines, with the northern pair of tracks linking only to the Bergen lines and the southern pair only to the Morristown and Northeast Corridor lines. The layout just west of the Bergen tunnels could be simplified, permitting much higher operating speeds. In this case consideration should be given to adding a flyover to permit separation of inbound and outbound movements.

Several additional systems issues should be addressed. At Harrison a new flyover is needed to separate the westbound PATH trains from westbound Northeast Corridor trains that come via Hoboken. An additional westbound rail track is

needed thru the Harrison Station. Space is available for this track, but an expansion of the embankment will be needed. At the Manhattan end, the cut-and-cover Penn Station direct track connection described in the February 2007 Draft Environmental Impact Study (DEIS) report would be advanced and the deep cavern station 175 feet below 34<sup>th</sup> Street would be eliminated from the plan. As described in the DEIS, the link would extend from the bulkhead at 12<sup>th</sup> Avenue and 28<sup>th</sup> Street to the western retaining wall of the Penn Station complex, just east of 10<sup>th</sup> Avenue. Only a two-track cut-and-cover connection is needed, reducing the width of the sub-surface easement. This easement would be beneath properties slated for future development. Plans for new residential and commercial structures have been postponed because of the economic downturn, and can be modified to allow construction over the easement.

The alignment and the profile between Hoboken Terminal and Penn Station are shown in Figures Four and Five. The station to station distance (midpoint to midpoint of stations) is 2.8 miles. The soft soil tunnel, from bulkhead to bulkhead, is 1.8 miles in total for each tube. Cut and cover two-track approach links are about 0.5 miles each, on either side of the river.

The detailed route in Manhattan is shown in Figure Six. East of 10<sup>th</sup>

Avenue the new tunnels connect into existing tracks west of Penn Station. With the existing track configuration already in place full interconnectivity from the new tunnels to most existing platform tracks is possible. A more careful analysis would be needed to justify higher speed turnouts or new switches. Clearly, within the station itself additional stairways and widened concourses will be needed. Even without the new track connection, these passenger flow enhancements would be needed over the next eight years as part of an expansion of Moynihan/Penn Station.

Based on this preliminary analysis the Hoboken Alternative connection seems doable, and has the potential of saving as much as 80% of the cost of the Hudson River tunnel project.

### **Next Steps**

With new leadership in Trenton there is a critical opportunity to change direction and conduct a fair and impartial review of a more cost-effective and passenger-friendly plan for the new Hudson River tunnels. All construction contracts for the current plan should be put on hold until the engineering feasibility and constructability of the Hoboken Alternative is assessed. The expertise of the existing consultant team, currently under contract to

NJ Transit, is already available and can be put to use immediately. Concurrently, NJ Transit, in cooperation with MTA, should devise a full service implementation plan for thru-running at Penn Station, building on the successful "football specials" pilot program begun this fall. Thru-running has the potential to increase peak hour train capacity at Penn Station in the near term by 25% or more. To handle this increased ridership, additional stairways and widened concourse are needed as part of a plan to remake Moynihan/Penn station into a more fitting gateway to NYC.

The Hoboken Alternative and the "Penn Station First" direct track connection plan are part of a longer range plan for an interconnected Regional Rail system. A subsequent step is the connection between Penn Station and Grand Central Terminal. Critical information about this connection is contained in the full 1,600 page 2003 ARC Major Investment Study, which must be released.

By moving forward on the Hoboken Alternative, the new Christie administration can show its commitment to advancing bold, yet cost-effective strategies in the face of New Jersey's unprecedented fiscal crisis.



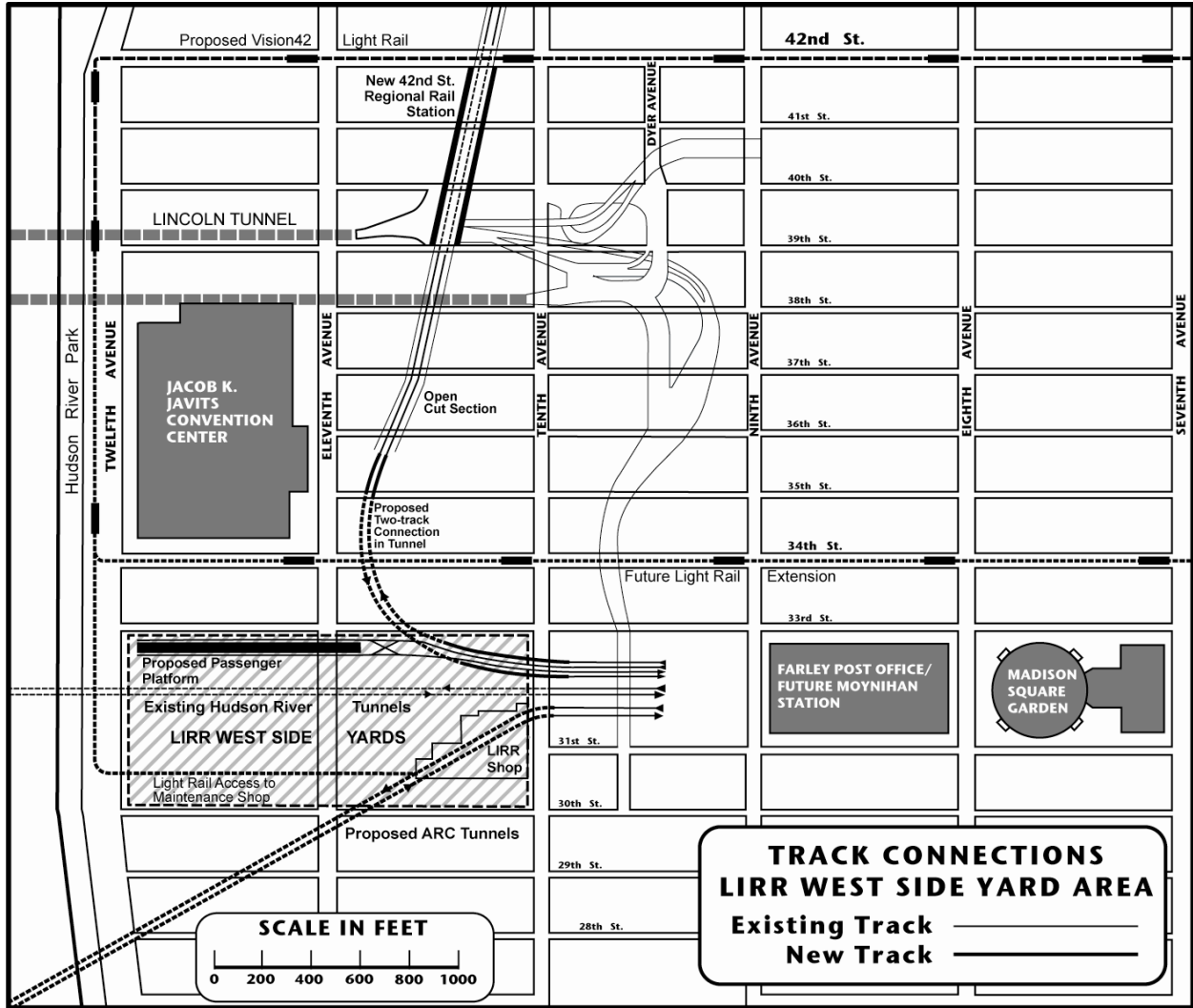


Figure Six – Plan at West Side Yard