

**Outta Space:  
New York's Two Rail Terminals  
in the 21<sup>st</sup> Century**

**by Jeffrey M. Zupan  
Senior Fellow, Regional Plan Association**

**June 1999**

## **Introduction**

Manhattan's two major rail terminals – Grand Central Terminal (GCT) and Penn Station serve a half million passengers each day. GCT, recently refurbished with a \$150 million investment to bring the terminal back to its earlier grandeur, is used exclusively by Metro North, an operating arm of the Metropolitan Transportation Authority (MTA). Plans are underway to connect the Long Island Rail Road (LIRR) to GCT by 2009, a project that would use the existing tunnel at 63<sup>rd</sup> Street under the East River and give some 70,000 riders a day much needed access to the East Side. Of more immediate benefit to current Metro North riders is the \$110 million North End Access Project, whose opening is imminent. It will add to GCT's convenience for riders destined for midtown locations north of the terminal.

Penn Station is used by three railroad entities, the LIRR, NJ TRANSIT (NJT), and Amtrak, the inter-city rail passenger carrier. And a fourth railroad using Penn Station is a possibility; Metro North is currently examining the feasibility of bringing some of its service into Penn Station to offer its constituents direct access to the west side of midtown Manhattan. Penn Station itself is undergoing significant changes, with Amtrak moving its passenger handling operations to the Farley Post Office building across Eighth Avenue, in an attempt to capture some of the lost magic of the original Penn Station, razed in a fit of urban vandalism some forty years ago.

## **Growth Pressures**

Metro North ridership grew by one-third since the mid-1980s and the LIRR added eight percent to its large ridership base since 1992. Since the early 1980s, NJT added 56 percent more riders.

The pressure to use these two facilities will grow with some 225,000 more jobs projected to be added to Manhattan between now and 2020. Will these two rail terminals be up to the task to handle this projected growth rate? Let us explore this question by first examining the operations into each of these terminals more closely.

## **Penn Station from the East**

LIRR brings in 114,000 people in 211 trains per day of which 38,000 travel in the morning peak hour in 36 trains, or just over 1,000 people per train. Amtrak adds a 37<sup>th</sup> peak hour train to the mix. Of the 38,000 LIRR peak hour passengers, about 1,150 are standees. Another 2,340 riders per day come into Hunterspoint Avenue in Long Island City with service only in the peak periods. Most of these riders are destined for east Midtown reached by transferring to the Flushing #7 line of the subway system. Another 11,000 riders travel to the LIRR's Atlantic Terminal on Flatbush Avenue in downtown Brooklyn on their way to jobs in downtown Brooklyn or via a number of subway lines to Manhattan's financial district. Of these, 5,900 arrive in Brooklyn in the peak hour between 7:45am and 8:45am.

To alleviate the Penn Station standee situation the LIRR has taken or will be taking two steps. They have purchased 134 new double-decker cars with about 120 percent more capacity than the standard vehicles. And this fall they plan to operate 42 trains in the peak hour into Penn Station, expecting that this is the limit of what can be fit into the rail operations approaching and within Penn Station.

The peak train volumes into Penn Station leave little room for growth or for adding any service from Amtrak. Metro North is also interested in operating into Penn Station and

has a West Side Access study underway. They are considering the operation over the Hell Gate Bridge and under the East River to Penn Station.

An opportunity to relieve crowding into Penn Station will come with the LIRR's East Side Access project that will connect the railroad to Grand Central Terminal in about 2009, if all goes well, allowing Penn Station-bound passengers to shift to Grand Central Terminal. The project would use the tunnel under the East River that has gone unused for a quarter of a century. Twenty-four trains carrying some 35,000 people are expected to travel to GCT in the peak hour, saving riders 30 minutes or more from their daily commutes. On a daily basis, 86,000 people will use GCT by 2020, diverted mostly from Penn Station. About 2,000 will shift from Hunterspoint and 12,000 from automobiles. Those diverted from Penn Station will avoid either the trek across town or a taxi, bus, or subway to reach their destinations on the East Side. In the peak hour about 25,000 fewer people will be destined for Penn Station.

With so many fewer people coming to Penn Station will the LIRR lay claim to the entire peak hour track and terminal capacity vacated by the people now destined for GCT? The LIRR says yes and plan to continue to run 36 or more trains in the peak hour to Penn Station. They argue that they wish to give the west side bound riders the service frequency that they have become accustomed too, while also opening up space for Queens riders for who there is no room today. But such a large addition in peak service may require a large investment in rolling stock, double- and triple-tracking some segments of rail line on Long Island and new yard space. Meanwhile, there are many other claims to those hourly slots. These are:

- Amtrak will be operating the *Acela*, its new high-speed service from Boston by the end of this year and they undoubtedly want to add service over time.
- Metro North West Side Access study is examining the possibility of bringing in some of their trains to Penn Station. New Haven Line and perhaps Harlem Line trains would travel via the Hell Gate Bridge and under the East River. In essence, this would shift some of Metro North's operations to the west side, similar to what the LIRR would be doing by shifting some of its operations to the East Side at GCT.

- As discussed in the next section, NJT may want to use some of the platforms during the peak period to relieve the capacity problems they foresee coming from points west.
- And there always is the possibility of the elusive one-seat ride to Kennedy Airport using the LIRR into Penn Station, which could claim a bunch of peak hour slots, even though these trains would hardly be as heavily used as commuter trains in the peak.

Who has the right to make these choices? Amtrak, the LIRR and NJT – the three users of Penn Station today have a tri-venture agreement in which they cooperate on such matters. But the LIRR and Amtrak, in reality control those decisions as part of a joint facilities agreement, NJT being only a sub-leasee at Penn Station. Also, it is unclear whether the MTA as an entity, distinct from the LIRR, has a right to be involved in these decisions as the umbrella agency under which both Metro North and the LIRR operate. But the stakes are high.

### **Penn Station from the West**

NJT and Amtrak have 21 “slots” available in the morning peak hour along the Northeast Corridor and into Penn Station. There will be capacity for 25 slots once the high-density interlockings on the line are in place in 2002. Of the 21 existing slots, 15 are consumed by NJT trains and six by Amtrak. Today, there are about 2,000 standees on NJT peak period trains, most of them in the peak hour. Shortages of equipment have left some trains shorter than they could be. Limitations in yard space have also constrained peak operations. NJT is trying to correct these problems, with rolling stock orders, yard expansion and the use of higher capacity double-decker cars.

Four peak slots are available into Penn Station from the west. Two projects now under construction will be added passengers traveling to Penn Station who will be wanting to use those slots and any space on the existing 21 peak hour trains. One project is the Montclair Connection that will connect the Boonton and Montclair lines by late 2001 or early 2002. (This project first proposed in the 1920s, will give the Boonton line direct service into Penn Station via a 1,200 foot connection to Montclair Branch). The second

is the Secaucus Transfer, to be opened in 2002. The Secaucus Transfer is a \$500 million project designed to give riders of three Hoboken-bound lines (Bergen County, Main and Pascack Valley) access to Penn Station via a transfer to trains on the Northeast Corridor. Forty-two hundred new peak hour riders are projected to travel into Penn Station when the Secaucus Transfer is in place. The added passengers will have to be accommodated on the peak hour trains on the Northeast Corridor that stop in Secaucus – about ten of the 25 peak trains. The plan is to stop those with the most available seats, made available by the transfer to PATH in Newark of many lower Manhattan-bound commuters. NJT expects that by 2010 the attractiveness of this option plus expected overall ridership growth will result in standees for the seven minute run between Secaucus and Penn Station. With standees slowing up loading and unloading, and with limited train capacity into Penn Station, there will be little margin for error in daily operations and limited potential to absorb ridership growth, even with the East End access improvements NJT is making in Penn Station. And all this does not presuppose the reinstitution of passenger rail service on the West Shore line in Bergen and Rockland counties, which would bring still more riders through the Secaucus Transfer and into Penn Station. An NJT Major Investment Study recently concluded that the West Shore service is part of a preferred alternative.

What to do? The consortium of NJT, the Port Authority and the MTA known as Access to the Region's Core (ARC) is looking at Penn Station and at its approaches. One relatively near-term possibility is to lengthen the two short platforms at the south end of the station that serve four sets of tracks. Extending them under Seventh Avenue, where space was set aside for this some seventy years ago, can create more storage space for morning inbound trains. Connecting the four tracks on short platforms to the East River tunnels to allow through movements is another option. Still more elaborate would be added tracks to the south or at a lower level. Longer trains would help too. NJT might take over some of the longer central platforms now used by Amtrak, but that would not likely go over well with them. And added to the mix is possible Metro North service into Penn Station from the Hudson Line that would enter Penn Station from the west, and use

NJT tracks, which would create a conflict with those two agencies. This option is part of Metro North's current Penn Station Access study.

In the longer term, the three-party ARC study has been examining the addition of another Hudson River rail tunnel. The ARC concept would have the tunnel come into Penn Station and continue to the east and then north to connect directly to GCT, breaking through its south wall and into its lower level. Simulation and other operating studies are under way to confirm the feasibility of this project, which would leave all three commuter rail entities operating in both Penn Station and GCT. Another alternative to adding Hudson River rail capacity was proposed by Regional Plan Association in its 1996 Third Plan, A Region at Risk. It would add capacity with a new rail rapid transit tunnel from Secaucus to east Midtown, running under 43<sup>rd</sup> Street to a point below the lower level of GCT, where it would connect to RPA's proposed spur off the Second Avenue subway. It would require a transfer for east midtown-bound riders, but would offer transfers to all the north-south subway lines (and direct service to the Second Avenue line) and would not directly impact any of the three commuter rail operations.

These choices, especially when they involve more than one state, are hard to make. Cooperation among the entities is any easy thing to say. More difficult are making decisions about scarce physical resources and spending large sums of money that potentially benefit states differentially.

### **Grand Central Terminal**

Grand Central Terminal has but one rail operator using it today – Metro North. They operate about 50 trains through the Park Avenue tunnel in the peak hour. The LIRR East Side Access Project, to be completed in 2009, will bring another 24 trains into GCT in the peak, using new tunnels that will deliver trains to the west side of GCT's lower level, not directly interfering with Metro North's current volume of train movements. But it will put more pressure on GCT as Metro North contemplates added service in the peak, some of which will be made possible by the third-track project now pending in Westchester County. Storage of peak period trains will likely become a problem as soon

as the LIRR comes into GCT, requiring added storage sites outside of GCT and more train dead-heading. Public discussion of these issues, particularly of the results of any train simulation studies of GCT operations, would be helpful.

The ability to provide a fast and easy trip for an increasing number of Manhattan employees living in the suburbs is vital to the economic well being of the New York Region. An unattractive and unreliable system could lead to decisions to locate jobs and homes in places not served by the rail system, harming the economy of the Region.