

Regional Rail Working Group

Meeting of January 18, 2006

Attendees: George Haikalis, Jeff Gerlach, Herbert Gormley, Herb Landow, Robert Toth, Jose Luis Pascual, Paul DiMaria, David Kupferberg, James O'Shea, Jishnu Mukerji, Phil Strong

Topics discussed:

Presentation by Phil Strong on **regional rail equipment issues**: challenges for regionalizing the Tri-State Area.

I'll try to summarize and interpret Phil's presentation without repeating every detail. (Perhaps we can post Phil's handout as a separate document on the RRWG web site.) Phil concentrated on the technical aspects of regional operations, but there are also related political and organizational issues too. I appreciate Phil's help in reviewing and correcting this part of the report.

Background.

The approaches to the two Manhattan stations, Penn Station and Grand Central, are underground, and operation of internal combustion propelled equipment in these tunnels is forbidden by law. Philadelphia solved a similar problem with its Center City tunnel by making the entire regional rail system electric-powered. New York, however, will be operating a mixture of electric and diesel trains indefinitely. New York is the only area the country that operates dual-mode (diesel units with electric pickup capability) locomotives.

Problems with regionalization.

In an ideal scenario, there might be a "universal" rail system where any train could operate on any route in the region without hindrance. Even approaching that ideal in this area will be difficult.

Power supply.

There are differences between the third-rail systems used on the LIRR and MN; these use an "overrunning" versus "underrunning" type of pickup shoe. Different voltages are used for electric power throughout the region; for example NJ Transit has different voltages within its own system. The Morris and Essex lines have a modern design because those were completely rebuilt in the 1980s.

The region's operators have designed specialized equipment for certain circumstances, as shown by the New Haven line MUs that can handle third-rail or overhead power supply.

The practice of changing locomotives at outlying points has vanished, with Amtrak's engine change at New Haven being the last example.

FRA-imposed standards.

The Federal Railroad Administration has jurisdiction over commuter and intercity equipment, and shared use of tracks by light rail and commuter rail equipment throughout the country, but its standards for crashworthiness and other matters have particular implications for this area. In parts of Europe, light rail cars can operate on "regular" railroads, extending the reach of transit services. In our region, especially in New Jersey, expansion of light rail has to cope with strict Federal regulations.

On the Hudson-Bergen LRT, there was adequate room to build a spatial separation between transit and freight in Bayonne. In Hoboken, however, the freight service had to be relocated. On the River Line, a time separation is used, although that limits the hours light rail can operate in the evening. On the Northern Branch, NJT seems to be leaning towards a "FRA-compatible" operation, but this will not allow through service to other parts of the LRT network.

On the New York side, advocates have sometimes proposed hybrid rapid transit-regional rail services, especially in Queens. Although similar types of operations exist in places like Tokyo, there has been no headway with implementing the concept here.

Signal systems

The signal systems on different railroads in the region (Amtrak, NJT, LIRR, and MN) are not fully compatible. Amtrak, which has to operate in different environments, has to follow the most "conservative" (i.e., cautious) of the systems.

Clearances

Even though standard gauge track is used throughout the region, there are variations in the clearances among different systems that prevent a universal system. A small example is that the LIRR bi-levels cannot quite fit through the entrances to the Hudson tunnels. When these cars were designed, no provision was made for possible operation to New Jersey.

Amtrak itself has to maintain a separate fleet for the East Coast apart from its national fleet because of close clearances in the Hudson tunnels and through several other tight spots on the Northeast Corridor. NJT is currently procuring a fleet of bilevel coaches that will fit through the Hudson tunnels.

During our attempt to promote the PATH-Lex connection, subtle differences in clearances - the way cars swing on curves, for example - were not completely resolved. PATH is currently ordering a new generation of rolling stock that is somewhat similar to MTA's R-142 car design.

Other issues

Platform heights vary around the region. The LIRR has an all high-level platform fleet now; these could be a problem if run through to New Jersey where many low-level platforms exist.

A six inch height difference exists between the platforms used on the rapid transit systems (NYCTA and PATH) and the regional lines. Platform height is just one complication involved in through-running proposals for the AirTrain to Kennedy Airport.

Question and answer period

1. Herb brought up a question of whether there could be any compatibility between the LIRR (overrunning) and Metro-North (underrunning) third rail systems.

Phil said that a “universal” type of pickup shoe was designed (I’m not sure what era this was) but never implemented. This could still be done, but it require retrofitting whatever cars that would be running on both system.

2. George asked how the New Haven railroad handled this problem with its dual-mode FL9s and straight electrics. (The New Haven had to access both Grand Central and Penn Station.)

Apparently the railroad used to maintain separate FL9 fleets for each station; we’re not sure what was done for the electric locomotive fleet.

George mentioned that in any case the present version of Metro-Hub doesn’t require a “two-system” compatible MU car. Such a car would be useful if a Hell Gate route service was to connect, say, Westchester with Long Island.

3. A question came up about the problems of operating freight trains in areas where there is heavy commuter/regional rail traffic.

There are some problems with high-level platforms interfering with the width of certain freight cars. At some stations on MN and the LIRR, the platforms are cut back a few inches, even though this increases the gap for riders boarding their trains.

At at least one location (Union, NJ) gauntlet (i.e., overlapping) tracks were installed to allow freight trains to pass. This is only worth doing in places with heavy freight traffic because of the complexity of installing switches at each end of the station.

Double-stack container trains also cause problems, first because the height of these cars may not clear overhead catenary. Also, the width of the cars themselves may be a problem where third rail is installed.

In general, the New York area has not been a favorable environment for freight operations, especially east of the Hudson.

4. George and others discussed the proposed M-8 cars that will be used on MN's New Haven line. Like the present New Haven fleet, these will be able to use both third rail and overhead electric power pickup.

We have been considering an option where M-8 and existing M-7 cars can operate in the same train. Such a combined train might be an option for region-wide service on the various existing electrified routes.

5. We discussed the prospects for more use of dual-mode locomotives in the region, which is a critical part of the Metro-Hub plan.

At the moment NJ Transit is considering a catenary-based dual-mode unit, because that would be most useful for operations on their side of the Hudson. This would be very different from the existing dual-modes that the MTA and Amtrak uses east of the river; in fact, I'm not sure such a locomotive has ever been used in the U.S.

It would also be heavier than existing locomotives, due mainly to the weight of the transformer.

6. Other high-tech concepts.

A hydrogen fuel cell locomotive might have such low emissions that it could operate in tunnels without an electric pickup. This could involve a political decision because I suspect a waiver might be required.

A diesel hybrid unit might have a battery pack sufficient to allow a train to operate through the tunnels on battery power alone.

Other topics discussed

Roll-on / Roll-off services. Jim O'Shea brought up the idea that "car ferry" trains might work in the Tri-State area as an alternative for cars and trucks that might otherwise use the congested highways like the Cross-Bronx and the Brooklyn-Queens Expressways. The concept would be similar to what is done in the Alps and in the Channel Tunnel: drivers would stay in their vehicles as they are carried from one end of the route to the other.

An immediate problem is that there isn't enough capacity in peak hours to operate car-ferry trains through Penn Station. Also, any flat car that could carry tractor-trailers would also have problems clearing the third rail in the East River tunnels. (A carrier for automobiles and vans would not be a problem.)

The group seemed to think that the proposed cross-harbor freight tunnel, in whatever form it takes, might be a better opportunity for a roll-on service. One factor to consider is where the loading areas for such a service would be located. There has to be adequate room for a lot of vehicles to be marshaled, plus access to major expressways. I would guess that the New Jersey end would probably be somewhere in Kearney just east of Harrison. The eastern location would probably have to be in the Bronx, somewhere in the vicinity of Hunts Point and the Oak Point yard, unless there is some place in Westchester that is suitable.

LIRR East Side Access

Some reports about the cost of ESA has been reaching the mainstream press, as happened in the Daily News on January 16. Also, some advocate groups, such as The Straphangers Campaign and the Tri-State Transportation Campaign, have shown interest in alternatives that use the existing terminal.

However, the MTA is still moving forward, albeit slowly, with the “deep-cavern” plan. The News article states that the MTA held off awarding construction bids last year before the November bond issue passed. Now it seems that a new set of bids are due this month, and the agency may award contracts later this spring.

On February 8, there were reports that Federal financing is likely for ESA, although still not completely guaranteed. According to the New York Times, the final commitments from the Feds could be made more than a year from now, although it is possible some tunneling work could have started by then.

Trans-Hudson Express tunnel

More details have emerged about NJ Transit’s plans for the Jersey side of the river, and these were published in the winter edition of the Lackawanna Coalition Railgram.

Problems have emerged because NJT hasn’t committed to adding tracks between Newark and Secaucus or to replacing the unreliable Portal Bridge over the Hackensack River. (NJT seems to hope that Amtrak will eventually pay for the bridge, but they haven’t made plans for that either.

To cope with these capacity problems, NJT has suggested a new and strange zigzag route for many Midtown Direct trains that will send them down towards Jersey City and then back up to Secaucus, where they will enter the Northeast Corridor. It seems obvious that the present “Kearny Connection” Midtown Direct service, which dates to 1996, is one of NJT’s most successful initiatives, and to disrupt this for a more circuitous route is a very bad idea.

NJ Light Rail

NJT has announced that by the end of February the Hudson-Bergen LRT will open as far as the Tonnelle Avenue station at 50th Street in North Bergen, thus completing construction for the time being. What happens next is a matter of some controversy. NJT has moved away from earlier plans to continue the line to Vince Lombardi or Tenafly on the Northern Branch. Consideration is now being given for light rail to extend to the town of Secaucus and then maybe to the Sports Complex while a diesel shuttle handles the Northern Branch. However, Tonnelle Avenue seems to be the end of the line for the near future.

New York High Speed Task Force

The State Senate has released a report that presumably supersedes earlier Amtrak plan for the Empire Corridor; this report emphasizes incremental improvements. Some new routes are proposed, including a Southern Tier service through Binghamton and a northern line to Watertown and Potsdam.

A more speculative part of the report discusses high-speed rail, including a possible mag-lev service that would use the median of the New York Thruway for part of the way. The report admits that it would be very difficult and expensive to find a New York City entry for such a service. Another problem is that a high speed route might bypass existing intermodal centers, such as the recently opened Albany-Rensselaer station.

Amtrak

More details have emerged about changes planned for food service on long distance trains. According to the NARP News (December), separate diner and lounge service will be eliminated and all cars will be converted to a single-purpose food service car. During peak periods, two such cars will be deployed on trains, although the standard appears to be one car per train.

The food service cars will be open all day, unlike the present dining cars which have distinct "seatings" for each meal. Whether this kind of operation will work smoothly during all times remains to be seen.