The Bulletin

Electric Railroaders' Association, Incorporated

Vol. 58, No. 6 June, 2015

The Bulletin

Published by the Electric Railroaders' Association, Incorporated, PO Box 3323, New York, New York 10163-3323.

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UNIFICATION ACCOMPLISHED 75 YEARS AGO

In the 1930s, New York City's rapid transit lines were operated by two privately-owned companies, Interborough Rapid Transit Company (IRT) and Brooklyn-Manhattan Transit Corporation (BMT). The Independent City Owned System (IND) was City-owned and –operated. IRT was bankrupt and BMT was solvent.

John F. Hylan, who was the Mayor of New York City from 1918 to 1925, was a foe of the "traction interests" (see April, 2015 issue). He favored municipal operation and he believed he could give better service while retaining the five-cent fare. During his term in office, the Board of Transportation planned and started building the Eighth Avenue Subway.

Several years later, city officials started negotiating to purchase IRT and BMT. The city was anxious to acquire BMT's profitable rapid transit lines, but was reluctant to buy the unprofitable surface lines. But BMT officials were stubborn; they refused to sell a portion of the system. They explained that most BMT substations supplied power to rapid transit and trolley lines. If there were two different operators, the accounting for the maintenance and the power would have been complicated and confusing. It was quite obvious that the city would have to purchase the entire BMT system.

An agreement was finally reached and Unification was scheduled for June 1. There were two separate ceremonies, abandonments, and schedule changes—June 1 for BMT and June 12 for IRT.

Two special trains operated on the Fulton Street "L" on May 31 just before midnight. Civic organizations rode the first train and Borough President Cashmore and other officials rode the second train to Rockaway Avenue, where a large crowd saw Mayor LaGuardia accept BMT. Then the Mayor and other officials rode the last train from Rockaway Avenue. At Unification, Fulton Street "L" service was discontinued from Park Row and Fulton Ferry to Rockaway Avenue, where paper transfers were issued from the Ⓐ train, which terminated there, to the Fulton Street "L" that continued running to Lefferts Avenue. The first transfer was issued to George Horn, who was later President of the ERA. Fifth Avenue "L" service was discontinued from the junction with the Myrtle Avenue "L" east of Navy Street to 65th Street and Third Avenue.

During another ceremony at Times Square, the city acquired BMT. Mayor LaGuardia drove the train a short distance. He handed over the controls to the Motorman, who drove the train to Borough Hall and retired after 41 years of service.

At noon June 1, 1940, the Mayor, city officials, members of the Transit Commission, and security holders met at City Hall in the Council Chamber. The security holders received the final payment of $147 million in city bonds. Directors of Williamsburg Power Company, South Brooklyn Railway Company, and New York Rapid Transit Company resigned and four city officials were named Directors for the purpose of dissolving the companies.

Just before abandonment, light Composites were transferred from the Third Avenue "L" via South Ferry to the Ninth Avenue "L" for shuttle service between 155th Street and Burnside Avenue. Because the Ninth Avenue structure was flimsy, Composites were never allowed there. Fortunately, the structure was still standing after they passed.

When municipal operation of IRT began on June 12, 1940, the Ninth Avenue "L" was abandoned from South Ferry to 155th Street

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NEXT TRIP: DANBURY RAILWAY MUSEUM, SUNDAY, AUGUST 30

RAILS UNDER THE RIVER REVISITED — THE HUDSON & MANHATTAN by George Chiasson (Continued from May, 2015 issue)

MCADOO'S UNIQUE ROLLING STOCK

By the start of 1907 the Hudson & Manhattan was finally developing the desired rolling stock for its new venture, with the company's engineering staff agonizing over their costly technological development in a manner similar to that suffered by IRT. Primarily, they were guided by the limited clearances within the surviving segments of the original tubes, as duplicated and expanded throughout. There was in addition a preference that they be capable of much peppier dwell performance than that exhibited by their various New York City rapid transit brethren, while also being of a comparatively lighter weight in deference to what were perceived as steep grades associated with the under-river tunnels. These requirements in turn dictated the incorporation of a center (otherwise known as a "side") door to mitigate human congestion during station stops, which was then not considered possible if the heavy-duty, modular framing espoused by the "Gibbs Car" were employed. What emerged, largely through the efforts of a design team led by Consulting Engineer Louis B. Stillwell, was an all-steel body with a clerestory sharply protruding from its roof in so-called "top hat" profile. These "new Steel Cars of the Hudson Companies" (as they were coined by the industry press) measured 48 feet 3 inches in overall length, 8 feet 10 inches in width at the platform edges, and 12 feet in height with a nominal weight of 32 tons. Structurally the bodies were fabricated in seven segments of approximately 6 feet 9 inches each that were divided by a center door opening of 3 feet 8 inches. This drastic modification to known steel car body construction required the inclusion of reinforced main sill members to transfer the center weight burden through the framing, while slim steel ribbing was affixed onto the outer surface of the cars' otherwise thin side sheets, which yielded a visual appearance similar to vertical "fluting." As such H&M's "Class A" cars (as they came to be known in time), were the first "modular" steel cars to have a middle door built into their structure, and just the second steel rapid transit car to employ a center door at all, closely following the "Easy-Access" model of 1906 that rapid transit properties in Boston and Philadelphia had embraced.

Their window sash line had an arched contour, being paired above common channel beams that served as a system of "split" sills (belt and floor level) between the end and center doorways. A single, narrower arched window sash then transitioned to the end vestibules, each of which extended 3 feet 2 inches feet in depth. Seating to accommodate 44 persons was arranged entirely in longitudinal fashion (complete with fireproof cushions), capped by a folding Motorman's cab on the right-hand side at each end. This was all laid on a painted, carborated (scuffed) composite floor surface that resembled cement (another first in fireproofing technology), while the interior was ventilated through panels in the clerestory and illuminated by a row of incandescent lamps mounted in the ceiling. Being rapid transit cars as opposed to pure railway rolling stock, the Hudson & Manhattan's initial fleet reflected other industry standards as they then applied, with Van Dorn couplers, electrical jumper lines and sets of mechanical ("Armstrong") levers to operate the end and center doors, both of which were pneumatic in nature, as well as a system of rotating colored lenses to enable train routing identification. Mechanically and electrically the H&M Class "A" cars were typical of their time, being equipped after delivery with a "Type M" propulsion system from Sprague-General Electric that provided semi-automatic acceleration (as was the case with the earlier IRT motors) and two General Electric #76 traction motors rated at 160 horsepower each. These were patterned after a similar, but weightier type common to the Manhattan Elevated (the General Electric #66), with both mounted in the MCB-supplied truck beneath the cars' #1 end while that at the opposite extremity acted as a trailer.

A grand total of fifty such cars were ordered from two builders, with the first ten (200-209) to be produced by Pressed Steel near Pittsburgh and the balance of 40 (210-249) by American Car & Foundry, probably at the former Jackson & Sharp works in Wilmington, Delaware. By this time both companies were gaining experience in the practical (and at the time cutting-edge) science of steel railway car building, thanks in part to the Pennsylvania Railroad's overarching requirements associated with its New York Terminal project, and the ACF firm was actually building a plant aimed specifically at employing this emerging technology in "nearby" Berwick, Pennsylvania. Whereas H&M was expected to be incomplete when the first cars arrived, McAdoo made arrangements to have the newly-completed bodies delivered by railroad to the New York, New Haven & Hartford's Harlem River Terminal in the South Bronx. Abetted by the Interborough Rapid Transit Company (most notably help from George Gibbs or Frank Hedley, perhaps both) the incomplete cars were towed from that location to be marshaled at the 99th Street Yard of the Manhattan Elevated's Third Avenue "L." From there they were forwarded to the IRT Company's 129th Street Shops to be outfitted with their trucks, motors, and control systems before road testing proceeded along the Second Avenue "L," the strongest elevated structure. Here it should be noted that H&M's earliest rolling stock weighed in at about 69,500 pounds, which was some

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Rails Under the River Revisited

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20,000 pounds lighter then IRT's steel prototype of 1903 and far within tolerance limits of all Manhattan elevated lines. The Class "A" cars were, in fact, about midway between the typical weights of IRT's "Gate" and "Composite" motor cars, despite their steel construction, thereby achieving one of Stillwell's stated goals.

To reach their home rails once "proven," each car was transferred via the Third Avenue "L" to the 99th Street Yard. This yard was located on a steep hill that rises from Third Avenue to Lexington Avenue. One yard track crossed the Lexington Avenue streetcar tracks at grade and continued into the yard west of Lexington Avenue. Cars were transferred from the yard track to the streetcar track. They were moved at night along New York Railways' Lexington Avenue and 34th Street streetcar lines, next to be pushed onto a river barge by LIRR's E. 34th Street Ferry terminal. As construction of H&M's initial segment reached a state of completion sufficient for operational testing, the cars were floated one by one around Manhattan to Hoboken, where they were pushed through the Lackawanna's storage yard onto a single-car elevator next to Observer Highway. This was lowered into the company's perfunctory underground "shop" (a two-car inspection facility), which was attached to Track 1 of the Hoboken terminal, where the cars were stored outdoors in train sets between training and simulation uses. In subsequent preparation for the opening of the "Downtown" tubes, 80 more rapid transit cars (250-339) were acquired from Pressed Steel soon after the company commenced operation. Eventually designated as "Class B," they incorporated even more refinements, the most obvious being the employment of a "rolled" steel roof monitor in place of the prior and abrupt "top hat" profile of the earlier cars. They also had a revised car body arrangement that was slightly longer (48 feet 5 inches) and wider (8 feet 10¼ inches), but also shorter in height (11 feet $8^{7}/_{16}$ inches) and heavier in weight at 34½ tons, with total of 48 seats. Perhaps most importantly, a square box containing two electric door control buttons (one each for the immediate vestibule and nearest side door), and two communication buttons was positioned on either side of the storm door, as opposed to the mechanical levers with pneumatic linkages that had been applied to the first equipment order. There was also an external control button posted by the side door itself for direct platform control. Albeit perfunctory, this was the first application of electric door control technology in North American rapid transit circles, which in time would engender remote door control throughout a train from a single given point. 50 additional (and virtually identical) cars were then tabbed for delivery from ACF during 1910 ("Class C," numbered 340-389) to provide equipment for service expansions that would accompany completion of the subway beneath Sixth Avenue in Manhattan and the line's extension to Henderson Street in Jersey City.

THE HUDSON & MANHATTAN—NEW YORK'S *SECOND* SUBWAY

Being an all-underground system hemmed in by existing, elderly, and extremely dense urban frontage, the rapid transit railroad was judiciously able to secure two tightly-bordered plots of land for fundamental utility purposes during its formative phase, one for its electrical generating station and another for its permanent car and equipment shop. The first was a modern (for the time), imposing, and architecturally-noteworthy powerhouse within so-called "Block 76," an otherwise typical, unremarkable collection of 28 residential and light commercial properties that was bounded by Washington, 1st, Greene, and Bay Streets, deep within Jersey City. Though seemingly innocuous, its location between H&M's Hoboken-to-Exchange Place subway and the Hudson River, and next to the Pennsylvania Railroad's Harsimus Cove Yard, was actually quite strategic, providing ready access to the water needed for its condensers and the railroad for its transport of coal. Each of these traits in turn dictated the power plant's architectural requirements, all of which were contained within a brick Romanesque Revival structure that measured 210 feet north-to-south by 195 feet east-to-west, with another 10 feet protruding from the easterly face of its boiler room (fronting on Greene Street) to accommodate the 150-foot-high neo-Norman tower that concealed its coal distribution conveyor and ash disposition system. A state-of-the-art placement of vertical turbines (located within the northerly portion of the building) and boilers enabled a uniform vertical height of approximately 135 feet, which was most innovative at the time and granted the incorporation of a greatly simplified steam pipe layout. Topping off its infamous profile were four (4) rolled steel smokestacks that were lined with concrete, each topping out at a height about 235 feet above the middle of the building's southerly portion, which contained its boilers. The H&M power plant was designed by 30-year-old John Oakman of the New York firm Robins & Oakman, after being commissioned by his uncle (Walter G. Oakman), who was President of the Hudson & Manhattan. Aesthetics aside, the facility's practicalities were the result of an engineering collaboration between Louis B. Stillwell, John Van Vleck, and Hugh Hazelton, with corporate support from Babcock & Wilcox of Bayonne. The generating station's significance to initiation of the Hudson & Manhattan can't be overstated; the "commercial grid" that is taken for granted in 2015 then had barely begun to take root. No less a party than President Theodore Roosevelt prompted its first official output from his White House desk by a special telegram on February 25, 1908. The entire H&M network was fed 3-phase, 25-cycle alternating current at 11,000 volts, which was distributed to three substations (one in the power house in Jersey City and two in Manhattan: at Hudson Terminal for the Downtown tubes and at Christopher Street for the "Uptown" end) where the "raw" a.c. was converted to 650 volts of direct current (d.c.) to

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Unification Accomplished 75 Years Ago

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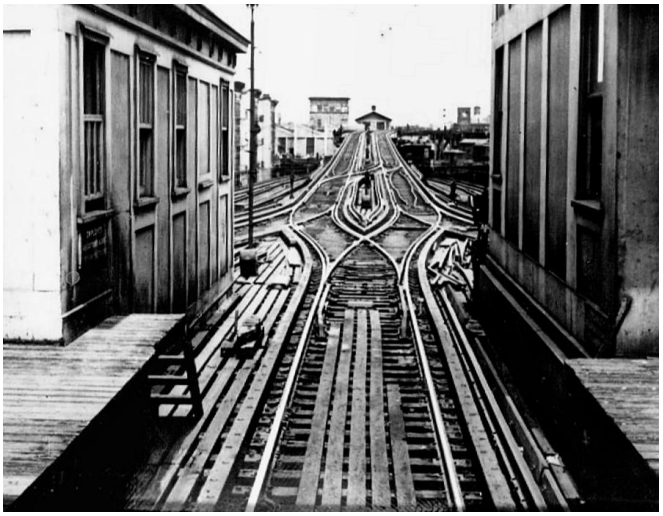
Second Avenue "L," 111th Street, looking north.
Bernard Linder collection



Second Avenue "L," 125th Street, looking north.
Bernard Linder collection

Second Avenue "L," 127th Street, looking north.
Bernard Linder collection

Ninth Avenue "L," Franklin Street, looking north.
Bernard Linder collection

Ninth Avenue "L," 110th Street, looking north, June, 1940.
Bernard Linder collection

Ninth Avenue "L," 110th Street, looking west.
Bernard Linder collection

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Unification Accomplished 75 Years Ago

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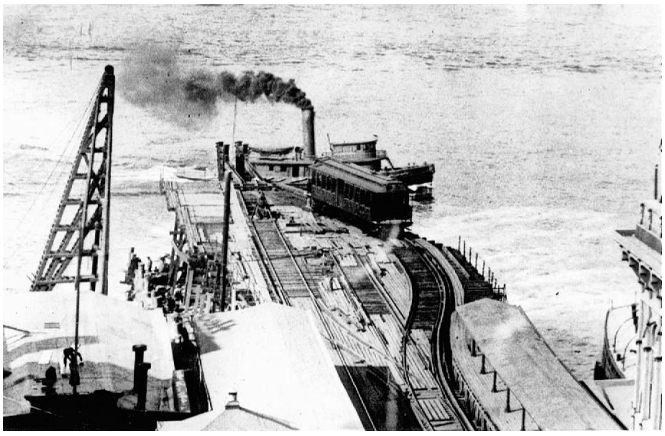
Fifth Avenue "L," 38th Street and Third Avenue, looking east.
Bernard Linder collection

5th Avenue "L," 36th Street, looking south, with a 1-car shuttle to 65th Street.
Bernard Linder collection

Looking east towards Sands Street, May 31, 1940.
Bernard Linder collection



Fulton Ferry, 1907.
Bernard Linder collection

Park Row, 1896.
Bernard Linder collection

Park Row, looking east.
Bernard Linder collection

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Commuter and Transit Notes

No. 319

by Ronald Yee and Alexander Ivanoff

Metropolitan Transportation Authority

Following a judge's ruling upholding the right of a pro-Israel advocacy group to display potentially provocative/inflammatory advertisements on MTA vehicles and stations, the agency is considering a major change to its advertisement guidelines and banning all political ads. Such a policy would prevent future instances of lawsuits resulting from freedom of speech issues stemming from advertisements paid for with private funds that could be considered inflammatory. (***Metro Express***, April 28)

NYC Mayor Bill deBlasio went on record stating that he will not have the city contribute the $2.5 billion MTA had requested to fund repairs to the subway system over the next five years. Instead, he will adhere to the original plan to provide $657 million over the same time frame. (***New York Daily News***, May 8)

MTA Metro-North Railroad

As of March 25, all 380 married pair powered M-8 cars have been accepted by Metro-North Railroad for passenger service along with four of the 25 single non-powered cars. 20 of the single units have been delivered to Kawasaki's testing and acceptance facility in New Haven Yard, with the last single car yet to be delivered from Kawasaki's Lincoln Nebraska plant. (MTA Metro-North Railroad website, March 25)

William Rockefeller, the Engineer of Metro-North Railroad Train #8808, which derailed on December 1, 2013 at Spuyten Duyvil while traveling at 82 mph on a 30 mph curve, will not be charged with any criminal act. Citing an undiagnosed condition of sleep apnea combined with a major change in work hours that required him to change his "body clock" by 12 hours (going from 11 years working only a night shift to an early daytime work schedule for less than a week before the accident), he was absolved by the Bronx County District Attorney of any criminality. (***New York Daily News***, May 14)

New west-of-Hudson schedules went into effect on Sunday, May 17. In addition to some minor adjustments to reflect the effects of various construction projects on the Pascack Valley Line and improve schedule reliability and adherence, this schedule will also improve a morning peak period connection at Secaucus Junction for train #52, the 6:05 AM from Port Jervis. It will now depart 3 minutes later at 6:08 AM, arriving at Secaucus Junction 6 minutes later at 8:15 AM and Hoboken at 8:26 AM. (MTA Metro-North Railroad website, May 14)

Contrary to rumors of their demise sometime during March, Metro-North Railroad continues to operate some of its M-4 fleet of electric multiple unit trains that are permanently coupled as triplets. A friend of News Editor Ron Yee reports that he had observed cars 8911-73 and 8903-53 during his commutes on the New Haven line on May 14, 2015. In addition to Metro-North retaining a sizable number of M-2s through at least 2016, as of late May, BOTH the M-4 and M-6 class cars have also been observed in service on Metro-North (Ron Yee, May 24)

In an ironic twist, the family of the driver of the SUV that was struck at the Commerce Street grade crossing by a Harlem Line train, killing the driver as well as 5 passengers aboard the train, filed a negligence lawsuit against Metro-North Railroad for an allegedly poorly designed crossing. (***Rockland Journal News***, May 4)

Due to a construction project that removes Track 3 from service between Devon Drawbridge and Bridgeport, riders headed to and from the Waterbury Branch will be making the transfer between shuttle and mainline trains at a new but temporary station named Devon Transfer, located on the east leg of the wye at CP261, formerly known as Devon Interlocking. This station is equipped with 2 high-level wooden platforms capable of accommodating 4 cars and will have a public address system and lights. Service there began on Monday, May 4 and is expected to continue until early October 2015. (MTA Metro-North Railroad website, April 26*). (Editor's Note by Ron Yee: This station is only accessible by train and has NO public road or street access, making it difficult for rail enthusiasts to record photos or videos of the comings and goings of the trains there unless they plan on spending at least a couple of hours stranded at that station. Railfans need to be aware of this, especially in extreme weather conditions (heat, rain, etc.).*

MTA Long Island Rail Road

Now in its third year, the Long Island Railroad's Friday-only *Cannonball*, an all-reserved limited-stop express from Penn Station to the Hamptons, has already sold out for all of its departures in June, July, and August as of May 10. Despite the relatively pricey (at $49.50) one-way eastbound fare, this train has proven itself to be extremely popular with a "deep pockets" clientele as it offers a one-seat ride out of Manhattan to the Hamptons in as little as 95 minutes. (MTA-LIRR website, May 10)

New schedules went into effect on Monday, May 18 and will remain in effect through the summer season until September 7. The Montauk Branch will, for the first time, offer hourly service to Patchogue on weekends year-round and the 7:01 AM seasonal train out of Montauk will stop in Patchogue at 8:36 AM en route to Hunterspoint Avenue. The 6:13 AM out of Massapequa Park will stop at St. Albans (Queens) at 6:42 AM and arrive at Penn Station at 7:08 AM, filling in a previous service gap of 70 minutes. Long Island City (LIC) will also see a new train added to its slate of morning peak period arrivals with the 5:59 AM out of Port Jefferson that will arrive at LIC at 7:51 AM. This will fill in a 33-minute service gap at LIC. Summer service enhancements to the East End of Long Island partially resumed on May 2 with the resumption of weekend service to

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Commuter and Transit Notes

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Greenport and an early morning round trip to Montauk. On May 21, full summer service was to resume with an additional Thursday evening train from Penn Station to Montauk; Friday getaway trains include three additional seasonal trains to Montauk, including the famed *Cannonball*, and one additional train to Greenport; additional weekday trains to and from Speonk; weekend beach trains to Freeport, with bus connections to Jones Beach; an additional weekend round trip to Long Beach; five additional trains from Montauk and the Hamptons on Sundays, including the recently established westbound *Cannonball;* and one additional westbound train on Monday mornings from Montauk to Hunterspoint Avenue. (MTA-LIRR website, May 15)

NJ Transit

The Port Authority of New York & New Jersey has had a sudden change of heart with regard to the Gateway Tunnels project. It had been resistant to lending support to this project, citing other critical needs around the region, but, with strong support from the Obama Administration which has identified this project as the most important rail transportation project in the nation, PANYNJ has changed its policy and is now calling for construction of the Gateway Tunnels to begin as soon as possible. Amtrak and NJ Transit have taken a position that this project must be completed and the tunnels placed in service before the 104-year-old North River Tunnels can be shut down one at a time for at least a year each to repair seawater flood damage to the concrete linings and conduit channels, wiring, and communication systems resulting from Hurricane Sandy. The hope now is that these two new tunnels can be completed before an emergency situation requires the closure of one of the North River Tunnels and limit train movements into and out of Penn Station, New York from the current 24 trains per hour to a mere 6 trains per hour. An ultimate rail transportation disaster would be the total closure of both tubes, effectively cutting the Northeast Corridor in half and isolating New York City from Philadelphia and Washington, D.C. (***The Record***, northjersey.com, May 7)

Member Randy Glucksman reports that NJ Transit has apparently begun to utilize the barcode printed on each ticket as the means by which the turnstiles at the Secaucus Junction station controlling access between the Northeast Corridor and the NJT mainline would be activated. Older tickets (NJT Tickets do not expire) must still be inserted into the turnstile reader. Barcode-equipped tickets merely require a scanner to "read" them. (Randy Glucksman, May 2)

NJT held public hearings for its proposed service reductions and 9 percent fare increases to be effective October 1 during the May 16-21 period. Member Randy Glucksman, who is Metro-North Railroad Commuter Council Chair and MTA Permanent Citizens Advisory Committee Chair, issued a statement to the MTA Metro-North Railroad-Long Island Railroad Committee on behalf of commuters who would be stranded if NJT went through with its plans to save $400,000 annually by eliminating train #1601, the 12:45 AM out of Hoboken on the Pascack Valley Line, which would result in the last train on the line leaving Hoboken at 10:42 PM, far too early to serve the needs of passengers attending theater or sporting events in New York City. His statement included the fact that Rockland County pays the same amount of taxes as the other 11 counties covered by MTA and that the 18 total inbound trains operated on weekdays on the Pascack Valley Line is the same number of inbound trains operated on the Hudson Line before 7:15 AM on a weekday. He also pointed out that nowhere on the Metro-North east-of-Hudson services out of Grand Central Terminal is there a two-hour gap in service in the late evening. He also cited the NJT-MTA contract that required the continued operation of trains to New York State, even if NJT wanted to end service on the New Jersey portion of the line. In effect, despite NJT eliminating a train in New Jersey, it would still be contractually obligated to continue its operation in New York, even if it meant that the train would simply operate non-stop from Hoboken to just Pearl River, Nanuet, and Spring Valley, New York. (***PCAC News***, April 27)

NJ Transit Atlantic City Line service was suspended from the evening of May 12 until early Monday morning, May 18 due to the Amtrak crash at Frankford Junction (see below), which isolated that line from 30th Street Station in Philadelphia. Service was maintained only between Atlantic City and Cherry Hill, New Jersey. Bus service was offered from Cherry Hill and Philadelphia, offering connections to the *RiverLine*. (NJT website, May 13)

In the wake of the Amtrak wreck at Frankford Junction, it was revealed that NJ Transit is behind schedule with its implementation of Positive Train Control (PTC), a computerized GPS and communications-based signaling system designed to prevent trains from passing red signals or exceeding the speed limits (either permanent or temporary), over all sections of track. There is a December 31, 2015 deadline mandated by FRA, but commuter railroads have been seeking an extension to 2018 with a bipartisan group of Senators seeking an extension to 2020 with an FRA waiver to 2022 if needed. Currently, NJT only plans to have seven miles on the Morristown Line with active PTC by early 2016, but cites its current speed control and cab signaling systems as being proactive enough to assure safety in the interim. There is no set timetable for the implementation of PTC on the North Jersey Coast Line. (***Asbury Park Press***, May 16)

Port Authority of New York & New Jersey

AirTrain service at Newark was suspended during the weekend of May 16-17 for maintenance, with free shuttle buses replacing it, and the JFK Airport AirTrain service headways between JFK Airport and Howard Beach were reduced to 16 minutes between 4 AM and 6 AM and inter-terminal services reduced to 9-minute headways from May 16-22 to facilitate a maintenance pro-

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Commuter and Transit Notes

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ject. (CBS New York, May 15)

Citing the large expenses associated with the upkeep and now required overhaul of the Newark Airport Monorail, PANYNJ is proposing to scrap the entire system and possibly replace it with a more 'conventional" system with much higher passenger capacity, similar to JFK's AirTrain. The 19-year-old monorail, first opened in 1996, has a 25-year design service life, but is already experiencing major issues with deteriorating concrete guideway running surfaces and an increasing rate of system failures leading to service delays and suspensions. A proposed PATH extension is expected to place even higher demands on the system than that from the Liberty International Airport station it currently serves on Amtrak's Northeast Corridor, which also carries NJ Transit commuter trains. There is public outcry over what is perceived as an unwarranted expense to an already cash-strapped agency that is also mired in political controversy while trying to fund the replacement of the 42nd Street Bus Terminal in Manhattan as well as face the looming need to help fund the Gateway Tunnels project. (Newark Star-Ledger, April 28)

Port Authority Trans-Hudson Corporation

Years late, the long-awaited PATH station headhouse complex at the World Trade Center (WTC) will finally open to the public in June. The Santiago Calatrava-designed structure referred to as "The Oculus," a structure meant to represent soaring wings, is receiving a fresh coat of white paint in preparation for its dedication. The public will be able to view the interior space of the partially opened facility as they walk along the north-south passageway linking the new entrances at Vesey and Liberty Streets to and from the WTC PATH station. On May 7, Track 2, served by the second rebuilt passenger platform with white marble flooring, was opened, with the first train to arrive being the 5:10 AM out of Newark, which turned around and departed WTC at 5:45 AM, both trains operated by PATH Engineer Al Zelazo. The Oculus is expected to be fully open to the public by the end of 2015 and will serve PATH commuters as well as tourists seeking to view its unique architectural features and grand public spaces it will house. (***New York Times***, May 6, Randy Glucksman, May 7)

New PATH timetables dated April 26 are now available at most PATH stations and feature a PA-5 at the new WTC station stopped at one of the new white marble floor platforms. (Randy Glucksman, April 28)

Amtrak

Northeast Regional Train #188, operating from Washington, D.C. to New York City, derailed as it was negotiating the 50 mph westward (left) curve at Frankford Junction in Philadelphia. Locomotive ACS-64 601 and all seven cars, consisting of five Amfleet coaches, a café car, and a business class car, derailed and left the tracks. Subsequent initial investigation, including a reading of the locomotive's event recorder (black box) as well as the outward facing camera in the operating cab, revealed that the train had reached a speed of 106 mph and was slowed 4 mph by an emergency brake application around six seconds before the data stream ended. The locomotive and all seven cars derailed and the headed off on a tangent course from the momentum imparted by the excessive speed of the train. Thankfully, no cars of the consist reached the rows of tank cars laid up in an adjacent rail yard. The rear two cars derailed but remained upright within the width of the four-track mainline, fouling three of the four tracks, while the fifth car jackknifed about 60 feet east of the mainline alignment. The fourth car ended up resting at around a 30 degree angle and the third and second cars came to rest on their sides. All of the eight fatalities occurred in the lead passenger car, a business class car that was so impacted by the crash forces that the chassis and main undercar framework that provided the attachment points for the trucks and couplers became separated from the sides and roof of the carbody. Without the flooring and chassis, the remainder of the car lost structural integrity and disintegrated, spilling the interior contents, including seats and their occupants, out onto the roadbed. Only the vestibule ends of that car remained recognizable; the entire midsection was twisted into an almost unrecognizable heap of scrap metal.

Initially, as the train was officially documented as entering the curve at over twice the speed limit for that section of track, some local officials placed the blame squarely on the Engineer, accusing him of misdoings, negligence, or simply falling asleep at the controls as was the case in a fatal Metro-North Railroad wreck at Spuyten Duyvil on December 1, 2013 (see page 6 of this issue). A political firestorm erupted, with Democrats pointing fingers at Republicans for starving Amtrak of the necessary funding to implement Positive Train Control (PTC) over the entire Northeast Corridor (NEC) on a timely basis, requiring numerous postponements of full implementation almost into 2016. In addition, bureaucratic squabbling has delayed the implementation of PTC, which could have prevented this wreck in the first place. Many portions of the Northeast Corridor already have an operational form of PTC or some form of automated speed enforcement system, with the rest of the line expected to be equipped by the end of 2015. Tragically, this particular section had not yet been activated. As of press time, a late-breaking twist to the situation has developed. The third and final public statement by the National Transportation Safety Board (NTSB) stated that its interview of the Engineer went well; he had cooperated fully but contributed little additional information. It also stated that the questioning included an examination of his knowledge of the physical characteristics of the line (stations, locations, curves, speed limits over each section, etc.), he was not fatigued or distracted by his cellular phone, and he had no blemishes on his over ten-year work record with Amtrak, six as an Assistant Conductor and Conductor, four as a Locomotive Engineer. No obvious factors in his background that could have led to the wreck were brought to light. How-

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Commuter and Transit Notes

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ever, the Assistant Conductor, who was in the café car when the wreck occurred, made a statement that she had heard a radio exchange between the Amtrak Engineer and the Engineer of a SEPTA commuter train that had been struck with rocks or some other type of debris that broke his windshield and forced the train into emergency braking. This Assistant Conductor recalled a portion of the radio conversation that referred to the Amtrak Engineer reporting that his train had also been hit by something as well. Very shortly afterward, perhaps a minute or two later, the train began to leave the rails. It was also reported that a third train, an *Acela Express*, was also struck by a projectile and had one of the coaches' windows broken. At press time, the Federal Bureau of Investigation (FBI) has become involved, investigating the source of an oddly patterned break in the windshield, possibly resulting from the impact of a rock or other projectile that may have struck the train before the wreck. Service on the NEC was suspended from the time of the wreck on Tuesday evening, May 12 until around 5:30 early Monday morning, May 18, when service between Philadelphia and New York City was restored in full. The ***Baltimore Sun*** newspaper revealed that Amtrak will likely only pay out a maximum of $200 million in liability claims from the over 2,300 victims of this crash. The $200 liability cap was legislated by Congress in 1997 as a measure to keep Amtrak solvent in case of an accident. It was part of former Amtrak President Tom Downs' "glide-path to self sufficiency" strategy when the passenger railroad was in the midst of bankruptcy proceedings. It appears that this will be the first time the cap may be invoked. Unfortunately for the over 200 victims, the total payout will average under $1 million each and may not be enough to cover the cost of medical treatment or lost potential earnings of those who were killed or became disabled from their lines of work. (***New York Times***, ***New York Daily News***, NBC Channel 4, ***Baltimore Sun***, and other newspaper and TV news sources, May 13-17)

(Editor's Note by Ron Yee: From the aerial photos of the crash scene, it appears that the engine left the tracks and led the first five cars over the relatively smooth ground immediately to the right of the tracks in a straight tangent line running off from the point of derailment (or tipping) off the tracks. Two catenary poles later, the terrain became very uneven and the locomotive became separated from the lead car, continuing for some distance under and beyond what appears to be a pedestrian overpass, coming to a stop upright. The lead coach appears to have somehow dug itself into the terrain and began disintegrating, possibly becoming spun around 180 degrees to face the opposite direction from the forces of the extremely rapid deceleration. Those same deceleration forces likely transmitted along the couplers to cars 2, 3, 4, and 5, which, while remaining coupled, dissipated the energy of its forward momentum by sliding that portion of the consist outward from the line of travel, coming to rest in a bow-shaped or curved pattern away from the NEC, cars 2 and 3 tipping over onto their sides, car 4 leaning at an approximately 30 degree angle and car 5 remaining upright but jackknifed almost perpendicular to the NEC tracks. Cars 6 and 7 derailed but did not slew across or off the track alignment.)

Amtrak P-42-DC 24 caught fire as it approached Milwaukee on a run from Chicago. All 51 passengers reportedly aboard the six-car train were successfully evacuated out of the rear of the train. While it was reported that the fire was contained to the engine compartment, there was no word on the extent of damage to the locomotive. (***New York Daily News***, May 14)

Other Transit Systems

Boston, Massachusetts

MBTA's Framingham-Worcester Line will soon have a new station called Boston Landing. It will be unique in that it will be built with a public-private partnership between MBTA and New Balance, which is spending $500 million in land site development, including a practice arena for the Boston Bruins hockey team. This station will serve the Brighton area and offer B Line riders on MBTA's Green Line another option of travel. It is expected to open in the fall of 2016. (Todd Glickman, May 16)

Philadelphia, Pennsylvania

Member Bob Wright relayed some articles regarding PATCO's Lindenwold Line. PATCO riders will have to endure service reductions similar to the August-October, 2014 service levels (it does maintain a 15-minute headway service during the peak periods) as the transit operator attempts to expedite a two-year, $103 million track repair and overhaul project and complete it by November, 2015 instead of April, 2016. While trains may be fewer, some of them will be newer, as the first eight of the rebuilt EMU cars were to be placed in service sometime in May, with Alstom expected to reach a rebuilding pace of four cars per month. PATCO is also spending $13.7 million to rehabilitate the elevated tracks at Westmont, but service is not expected to be significantly affected as the work will be limited to nights and weekends. Delaware River Port Authority (DRPA) is seeking funding for re-opening an abandoned station at Race and Sixth Streets, closed since PATCO was formed in 1969. This station has been open intermittently since it was constructed in 1936 but closed shortly afterward due to low ridership. It was revived a couple of times, once for wartime demands in the early-mid-1940s and again from 1953-69. (***Philadelphia Inquirer***, May 8)

Florida

Sunrail, while meeting its passenger projections on Thursdays and Fridays but not on Mondays, Tuesdays, and Wednesdays, lost $27 million during its first year of operations. However, no changes to service or schedule are expected from the admittedly poor financial performance. It should be remembered that this service was created to relieve traffic congestion along the I-4 corridor, which is undergoing a multi-year reconstruction and expansion. This is an almost identical situation that

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created Tri-Rail along the Miami-West Palm Beach corridor, along which I-95 was undergoing a similar reconstruction and expansion. When that project was completed, TriRail had attracted sufficient ridership to enable it to become a permanent feature in the transportation picture of the region. It is hoped that Sunrail will continue in a similar manner after the I-4 project is completed. (***Metro***, May 12)

Chicago, Illinois

The National Transportation Safety Board (NTSB) released the findings of its investigation into the Chicago Transit Authority's (CTA) March 24, 2014 accident where a train ran through a bumping block at O'Hare Terminal and climbed partway up the passenger escalator. One of the primary causes was the misplacement of the trip arm governing the speeds of trains approaching the end of track, which was designed only to stop a train not exceeding 15 mph when the track speed limit is 25 mph. The other factor in this crash was Operator fatigue. The Operator had been working 12 consecutive days without break and proper rest. Since the accident, CTA has adopted Federal Railroad Administration (FRA)-style guidelines placing limits on the number of duty shifts an employee can work. NTSB also suggested that the Federal Transit Administration (FTA) establish hours of service regulations that would be imposed on mass transit operators rather than the piecemeal, patchwork arrangement that leads to other operators having accidents caused by similar factors already experienced in other cities. (NTSB, April 28)

A sinkhole opened up underneath one of the two tracks of CTA's Yellow Line, formerly known as the Skokie Swift. An embankment collapsed along McCormick Boulevard between Howard and Oakton Streets due to adjacent construction work associated with a Metropolitan Water Reclamation District project. Fortunately, CTA Train Operators noticed the sudden erosion of the track bed, a sign of impending collapse, and service was suspended before an accident occurred. Alternate bus service was quickly provided from the two stops in Skokie to the Howard Avenue station, where riders could transfer to the Red and Purple Lines to downtown Chicago. At press time, there was no estimate of how long it would take to repair the track and support structures and resume service, but CTA issued a statement that it could take several days to effect proper repairs. (***Chicago Tribune***, May 18)

Minneapolis-St. Paul, Minnesota

After cost estimates for the Twin Cities' third light rail line came in at nearly $2 billion, the Twin Cities Metropolitan Council is scrambling to cut costs associated with the planned Southwest Line. Mark Fuhrmann, the project's Director for operator Metro Transit, laid out a range of belt-tightening options for council members the week of May 4, ranging from fewer stations along the line to swapping trains for buses. He cautioned, however, that too many changes to the plan, or too long a delay in finalizing it, could jeopardize the project's federal funding, the ***St. Paul Pioneer Press*** reports. The Blue Line (Hiawatha) light rail project was used as that example, the Twin Cities' first line that opened in 2004, which was projected to cost $440 million when he began working on it in 1998 but eventually ballooned to $675 million.

Plans for the Southwest Line, which would make it the largest public infrastructure project in Minnesota history, call for a 16-mile extension of the existing Green Line into suburban Eden Prairie. It is scheduled for completion in 2020. Fuhrmann planned to assemble a list of scenarios that will bring the project back within its original $1.65 billion budget and present it to the Met Council's Corridor Management Committee during a special meeting on May 20. His aim is to utilize the existing route from downtown Minneapolis through St. Louis Park, Hopkins, Minnetonka, and Eden Prairie. In addition to more moderate changes to the current plan, Fuhrmann indicated he would also include as possibilities bus rapid transit, enhanced bus service, and scrapping the project altogether. Council Chairman Adam Duininck made it clear he preferred sticking with light rail if at all possible. However, other Councilmembers advocated seriously considering all possibilities, including rerouting the line and utilizing existing freight lines for commuter rail service that would run less frequently and have reduced seating capacity. But Fuhrmann cautioned that too many changes to the project could cost it the support of the Federal Transit Administration's New Starts program, which is expected to fund about half of it. The project's documentation is due to FTA on September 1. (***Trains*** Magazine via Al Holtz, May 8)

Houston, Texas

At press time, the 3.3-mile, seven station Green Line and 5.6-mile, 11-station Purple Line of the Houston Metro were expected to commence service on May 23. Costing about $1.4 billion, construction began in 2009 with an anticipated opening date of late 2013. *(Editor's Note by Ron Yee: ERA is scheduled to hold its annual convention in Texas, covering the rail transit systems of Houston, Austin and Dallas.)* (***Houston Chronicle***, May 14)

Albuquerque, New Mexico

Operating since 2006, Rail Runner, a commuter rail service linking Santa Fe and Belen, New Mexico over a span of 100 miles and 14 stations in around 2 hours 25 minutes, is in serious financial trouble, with a 10 percent farebox recovery rate, $2.8 million in fare revenues but costing $28.4 million to operate, excluding the capital costs of the line. Fares are far below the national average, the average fare being $2.47, with an average ride length of 40.7 miles. Policy makers and government officials are wrestling with the public and environmental benefits versus the cost issues involving "balloon" loan obligations about to come due. There is now talk of possibly scrapping the rail service and replacing it with buses. *(Editor's Note by Ron Yee: compare Rail Runner fares with the $16.25 peak or $12.25 off-peak for a 40-mile trip on MTA Long Island Rail Road and MTA Metro-North Railroad.*

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Commuter and Transit Notes

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The Rail Runner fare is simply too low.) (Associated Press, May 7)

Los Angeles, California

In its first significant expansion since 1994, Metrolink will extend its "91 Line" 24 miles along a Union Pacific (formerly Santa Fe) freight line from Riverside to Perris. The $248 million extension over the still-active freight line will have four new stations at North Riverside, Moreno Valley, downtown Perris, and South Perris. Construction of this extension began in October, 2013 and has proceeded so smoothly that it may be completed two months early and open as early as October, 2015. (***Los Angeles Times***, April 21)

Ontario, Canada

The Toronto Transit Commission (TTC) continues to experience delays with the delivery and acceptance for service of its new Bombardier Flexity class light rail vehicles due to fit and finish issues in production. While the original schedule called for 50 LRVs to be in service by the Spring of 2015, just five are in service as of press time with two more due to enter service by Summer. Bombardier claims to have corrected the production issues and expects to have 30 vehicles in service by the end of 2015, enough to fully re-equip the Spadina, Harbourfront, and Bathurst Lines. Delivery of all 204 vehicles ordered is still expected to be completed by 2019, with production and delivery rates expected to ramp up to one LRV every five days. (***Toronto Star***, May 12)

GO Transit is now taking delivery of the first of 60 new cab control coaches from Bombardier ordered in 2012 for $200 million. They will replace the cab cars currently in use and will feature improved visibility for the Engineer, added safety features and comfort for the operating crew, LED lighting, and new design toilets and doors for the passengers. *(Editor's Note by Ron Yee: An image of the new cars, courtesy of GO Transit, shows a design where the Engineer's operating cab has been moved to a higher elevation even with the upper level passenger deck for crew safety, given the high number of grade crossings on GO Transit routes. In contrast to the LA Metrolink and Florida TriRail cab cars manufactured by Rotem with a 3-pane windshield and a robust-looking front end, the Bombardier GO Transit model will feature a one-piece windshield design spanning the width of the car, giving it a European appearance, but it is also designed with energy management crumple zones in the car body.)* (***Toronto Star***, May 14)

Ontario Province will be covering the entire cost of a 14.2-mile, $1.6 billion light rail line connecting the Port Credit (Mississauga) and Brampton GO Transit regional/commuter rail stations, Transportation Minister Steven Del Duca confirmed on April 21.

According to a report in Toronto's ***Globe & Mail***, construction is slated to start in 2018 for a planned 2022 service start-up of the "Hurontario" LRT. Though funding is now in place, "hurdles remain — the route through downtown Brampton remains contentious and will require (City) Council approval," the paper reported.

When added to a $13.5 billion GO Transit expansion plan announced in April, the LRT's cost "means that almost all of the $16 billion earmarked for transit over the next decade is spoken for," ***The Globe & Mail*** reported, adding that Del Duca "took umbrage at the suggestion Toronto's needs were being marginalized, (as he listed) projects proposed or under way as proof of the province's commitment to the city. 'The people of our province want us to put progress ahead of politics,' he said." The paper also noted that "LRT is not the dirty word here that it has become for much of the Toronto City Council."

According to Metrolinx CEO Bruce McCuaig, 33 million people will be riding the Mississauga-Brampton LRT annually by 2031 — about half the total carried now on the entire GO Transit network. The GO Transit service expansion announced in April, which includes electrified Regional Express Rail (RER), is expected to double ridership when it is completed in 10 years. (***Railway Age***, April 21)

Long speculated recently has been the electrification of much of GO Transit's commuter network, and recently the Minister of Transportation of the Province of Ontario recently outlined plans that include an implementation schedule.

Electrification is planned for most corridors by 2022-4, commencing with portions of the Kitchener and Stouffville Lines in 2022-3, followed by the Barrie and Lakeshore (GO's original route, from 1967) Lines in 2023-4. The announcement did not mention whether the Kitchener electrification would include the Union Pearson Express (to Pearson International Airport in suburban Mississauga), which is due to open June 6 utilizing diesel multiple-unit equipment. (The DMUs used for the Union Pearson Express were built with electric conversion in mind.)

The electrification's scope will be as follows:

- Kitchener Line: Bramalea to Toronto Union Station.
- Stouffville Line: Unionville to Union Station.
- Lakeshore East Line: Full corridor from Union Station to Oshawa
- Lakeshore West Line: Burlington to Union Station
- Barrie Line: full corridor

The Milton and Richmond Hill Lines are absent from the present electrification project. The Milton Line is excluded due to the fact that the trackage is owned by the Canadian Pacific Railway, and implementation costs would thus be significantly higher than for the other routes. In the case of the Richmond Hill Line, significant flood protection work is needed in the lower Don Valley, where the right-of-way closely parallels the Don River and is subject to periodic flooding. In addition, a grade separation is needed at Doncaster Junction, in North Toronto, where the Bala Subdivision used by GO trains crosses CN's busy York Subdivision.

It is evident that Metrolinx, the overall provincial transit agency, has decided to focus its funding for the next decade in areas that electrification and corresponding

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New York City Subway Car Update

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with short interruptions from January 14-22, February 28-March 15, and March 15-April 13. Most days found one to three such consists of both types on-line, but on January 8 (a day of near-record cold) there were three of each, followed by 2 R-68s and the same trio of R-68As the following day. Within the nominal shuffle of equipment that can occasionally accompany day-to-day operations, lone, isolated trains of R-68As also made it to Q on February 11 and February 20 for brief periods. Otherwise, the "Coney Island" end of things was nominal through the end of April, with R-68s and R-68As generally confined to B and G, their single units to the S/Franklin Avenue Shuttle, and the R-160s of assorted subclasses on N and Q. Meanwhile at Jamaica, F had once again become an exclusive province of R-160s and R of R-46s by sometime in March, being so noted specifically as of April 13.

The eight remaining R-46s damaged at Coney Island last October (5522-5 and 5698-5701) were all returned to service by March of 2015 and those temporarily loaned from Pitkin to Jamaica in their place (5994-7, 6094-7, 6170-3) were returned to A and S/Rockaway Park. The set still sidelined after derailing on the Queens Boulevard Line last May 2, 5742-5 (which exhibited several "bumps and bruises"), was still at Coney Island awaiting decision on its overall future, though some body repair work had been started. It also turned out that neither Kawasaki Rail Car-built R-160Bs 8738-42 nor Alstom-built R-160A-2s 9423-7 had overcome their Sandy-induced electrical difficulties. Both now remain at NYCT's Coney Island repair facility, possibly awaiting the total replacement of their Alstom-supplied, factory-installed propulsion systems.

Work Cars and Miscellaneous

The second set of R-110A "B" cars to be converted to "Hose & Reacher" cars, now designated as P-8007-P8008-P8009, was released into the Subdivision "C" equipment population by the end of February, 2015, which left the former "A" (cab) cars—8001, 8005, 8006, 8010—in a state of limbo. A builder's plate on the first set (P8002-P8003-P8004) notes that they were completed under Contract R-442 at 207th Street in 2014, as done in partnership with LTK Engineering Services (once better known as Louis T. Klauder Associates, a famous Philadelphia-based consulting group). This set sports a new exterior logo of a whirling pump fan in a blue and white circle, which is emblazoned with standard MTA graphics depicting "Department of Subways, Maintenance of Way" above and "Hydraulics, Division of Infrastructure" below. The plate also (properly) describes the cars' heritage as built by Kawasaki, but incorrectly states its delivery year as 1999 (*Editor's Note: it was actually 1993*).

When the Massachusetts Bay Transportation Authority had its renowned winter "hiccup" amidst Greater Boston's record 108-inch snowfall that began on "Super Bowl Sunday" (February 1) and ultimately continued into early March, that agency reached out to MTA New York City Transit for help and was granted the temporary use of three jet-powered, rail-borne Snow Blowers and two stand-alone turbines to aid in its struggling snow removal efforts. The humble JB3, faded yellow paint and all, was thus exhibited to the Boston press at an event at the "T"'s otherwise snowed-in Malden Center Orange Line station on February 7. It then remained hard at work through that week trying to unplug the compacted snow and ice from track and third rail so service on the line could be restored north of Wellington. NYC Transit's JB2 was delivered to the "T"'s Cabot Red Line facility at the same time and was able to clear the long-suffering South Shore (Braintree) branch through the next week or so, being joined by JB4 and even later by the JB3 itself. At least one of the turbines (locally dubbed "the New York Jets") got to visit another interesting venue as well during its visit to Boston: the MBTA's Mattapan-Ashmont High-Speed Line, nominally home to the world's oldest active fleet of PCC cars. Their work done, all were trucked back to NYC Transit, with a few souvenirs aboard for good measure, by the time that all MBTA rapid transit service was restored on Sunday, February 22 after three weeks of partial or full closures (plus many hours and tons of snow shoveled by hand).

Rails Under the River Revisited

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power the system's trains through a third rail and light its stations.

Robert McAdoo's Hudson & Manhattan rapid transit railroad began operation the next day (on February 26) between the 19th Street station in Midtown Manhattan and its previously contentious terminal in Hoboken, New Jersey, with intervening stops at 14th, 9th, and Christopher Streets. Those first trains evidently deadheaded to a right-hand crossover south of the incomplete 23rd Street station to relay, but whatever the case in that interim such an arrangement was definitely in effect when the line was extended to 23rd Street on June 15, with all trains being reversed on the northbound (#1) track. The southerly pair of under-river tubes were initially placed in service from Hudson Terminal to Exchange Place more than a year later, on July 19, 1909, as the basis of an entirely different route between the new multiple-track loop terminal in Lower Manhattan and Hoboken, with trains being turned back through the "Penn Pocket" (a later colloquialism) adjacent to the Exchange Place station. From the beginning there was a fixed division of revenue between the two railroad companies at stations on the Hudson Terminal-Jersey City line, an arrangement later extended and modified as it was expanded. For its own purposes however, the Pennsylvania Railroad established a separate ticket office inside

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TRACTION TOUR TO SOUTHERN EUROPE
by Jack May
(Photographs by the author)
(Continued from May, 2015 issue)

It was only a 15-minute train ride to Padova, a city with a population of about 215,000, and fortunately the station had lockers, which allowed me to stow my carry-on. The Trans-Lohr rubber-tired tramway here is superficially similar to Mestre's, but there are some notable differences. The 16 cars are slightly smaller, having only three sections, and run every 7.5 minutes instead of every 10. The single line was opened in 2007 and is 6 miles long with 26 stations. Also, there is a short section of trackage (about 7 New York City blocks) just outside the downtown area (Prato della Valle) where wireless operation is in use. The cars, which are painted blue, use battery power to traverse that portion of the line. Despite the more frequent headways, the combination of a larger population and smaller cars (compared to Mestre) results in crowded equipment. With a great many ons and offs it is a very busy line (see http://www.urbanrail.net/eu/it/pad/padova.htm.

Unfortunately the weather grew worse and by the time I was ready to go back to the wireless section the pouring rain prevented me from taking pictures. Fortunately, I had already gotten photos at both ends of the line earlier. Soon enough it was time to leave and I bailed out my bag and proceeded to Brescia.

Two photos in the Guizza section of Padova near the southern end of the line. The left photo shows a tram taking the 90-degree turn from the Capolinea Sud terminal, while the one on the right shows the Guizza station.

The southern section of the line is routed through two one-way parallel narrow residential streets.

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Traction Tour to Southern Europe

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The simplicity of the stations is illustrated in this view along the northern end of the route.

This view is typical of the main street in the center of Padova.

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Rails Under the River Revisited

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Hudson Terminal that provided through fares to virtually any point on its system via Exchange Place. In practice these were honored for passage between Manhattan and Jersey City on either H&M or the cheaper ferry, and the price included any necessary baggage handling. This arrangement remained of consequence even after the opening of Penn Station in November, 1910. Though the Pennsylvania eliminated its through trains from Jersey City at that time, advertised connections from Hudson Terminal were then made through Exchange Place, via PRR local trains until the later start of "joint" service with H&M as far as Manhattan Transfer.

Because there were not enough cars of H&M's second group ("Class B") delivered to enable a full schedule to run between the true end points of this newer line, only non-rush hour trains were extended from Exchange Place to Hoboken starting on July 25, passing up the unready station located between the two at "Erie." This stop was intended to serve that railroad's Pavonia terminus, but it had been hastily inserted as a late-stage replacement for what was originally planned as a separate branch into the Erie's "Ferry House" (a scheme that is preserved only on early street maps). Evidently transformed into a way station for economic and institutional reasons (given the company's earlier legal difficulties with the Lackawanna at Hoboken), the Erie station as built was positioned about 450 feet west of the railway terminal, a dilemma that was addressed through the attachment of a long pedestrian passageway under Pavonia Avenue. Erie finally did open on August 2, and in spite of its inherent drawback proved to be so busy during the morning rush hour that its lone island platform was overwhelmed with humanity. Work began within a year to mine out an additional loading area along the station's original easterly wall, which was placed in service on November 18, 1912. This appendage enabled the permanent, full-time separation of northbound and southbound passenger flow, chiefly as a safety consideration. Full service was also instituted between Hudson Terminal and Hoboken on August 2, 1909 and the short-term practice of turning trains from Lower Manhattan at Exchange Place reduced to a supplementary role. H&M added yet a third routing, which crossed between New York and New Jersey twice, from Hudson Terminal to 23rd Street on the Sixth Avenue line via Exchange Place and Erie beginning September 20. This at last marked the full completion of the tunnels beneath the Hudson that Col. Haskin had sought so many decades before.

Given how eagerly this gritty little rapid transit system was embraced by the big railroad as a surrogate for direct service between the original Jersey City railhead and Lower Manhattan, H&M and PRR put their partnership to great practical use through joint planning. From the start of this relationship it was a fact known to President Cassatt that he was actually working against his own company's interest with regard to Manhattan ferry operations, but he abided by a strong conviction that the long-term improvement in access to New York City that would result took precedence over his railroad's short-term economics. The Pennsylvania also helped to finance more enhancements, which were factored into the system's original construction, and eventually divided the cost of equipment acquisition with which to operate this added mileage. The greatest manifestation of this close association was the inclusion of grade-separated leads that continued the tunnel beneath the Pennsylvania's Jersey City alignment westward, where it converged with that under Washington Street. They were opened as part of H&M's underground extension to the Grove and Henderson Street station in Jersey City on September 6, 1910, at which time Hudson & Manhattan operations from 23rd Street and Hudson Ter-

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Unification Accomplished 75 Years Ago

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and the Second Avenue "L" was abandoned north of 59th Street. The line should have been shut down at 12:01 AM, but was delayed while IRT officials met the last train. It was a 7-car train, which arrived at 155th Street 20 minutes late at 12:09 AM because a passenger pulled the emergency cord.

Civic organizations, who opposed discontinuing service on the above elevated lines, protested before the Board of Estimate and appealed to the Transit Commission and the State Legislature. Bronx civic organizations obtained a show cause order from the Appellate Division, which could not be heard until June 28.

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Commuter and Transit Notes

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improved service are relatively easy to implement, on trackage generally owned by Metrolinx.

On the Lakeshore East Line, there has been discussion for some time about extending rail service eastward approximately 10 miles from Oshawa. One scenario has a new GO alignment turning northeastward just beyond the Oshawa station, crossing Highway 401, and following CPR's Toronto-Montreal Line to Bowmanville. However, a firm implementation schedule for this undertaking, which would be extremely costly, has not been announced.

The electrification limits correspond, generally, to the territory where all-day 15-minute service will be provided. This will be the heart of the new Regional Express Rail network, with less frequent, diesel-hauled service running through to the less patronized non-electrified sections. (As to equipment, there was no specification of what would be used, although there has been speculation that GO Transit would use ALP-46 locomotives, similar to those of NJ TRANSIT, or even the ALP-45DP, although there have been issues with performance with long consists with the ALP-45DP. It would be unlikely that GO Transit would use MUs for electric routes.) All GO trains have been locomotive-hauled for many years, following a somewhat unsatisfactory experience with DMUs in the system's early years. It is virtually certain that the electrification will take the form of overhead catenary. With this in mind, overhead bridges built on the Lakeshore East and West Lines have for many years been constructed with sufficient clearance for wires.

Prior to electrification, GO plans to significantly improve service on the affected lines to essentially the all-day level. The agency will thus become, in effect, a regional rapid transit service, transforming from its original traditional role as primarily a rush hour commuter service, with off peak service on the busiest line, the

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Around New York's Transit System

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Ⓓ service will be reduced slightly by one round trip split between the AM and PM rush. Brooklyn-bound trains between 7:30 and 8 AM and Bronx-bound trains between 5:30 and 6 PM will operate on a 10-minute headway instead of the current 7.5-minute headway.

These changes will cost about $1.6 million.

Two ❻ Pelham Line Stations Reopen

At 5 AM Monday, April 27, the Zerega Avenue and Buhre Avenue stations were opened for service in both directions. As soon as minor work is completed, MTA officials will join elected officials for a ribbon cutting to commemorate the reopening of the two stations.

Rehabilitation of the above stations, which opened in 1920, began in July, 2014. Work included installation of structural steel, which had deteriorated beyond repair. Other work included repairing street, mezzanine, and platform stairs, replacing platform and street canopy roofs and track beds, installing bird deterrent systems and ADA equipment, painting, and artwork. Large colorful glass mosaics wee also installed at both stations.

This Pelham Line project includes the Castle Hill Avenue and Middletown Road stations, which reopened in May, 2014. The Pelham Bay Park station remains open while the rehabilitation continues into the summer.

Dirty Tracks

New York City Comptroller Scott Stringer released a scathing report on the cleanliness of NYC Transit subway tracks. Just 3% of underground tracks were cleaned at least once every three weeks, with many sections not being cleaned for months. The buildup of trash and debris in the tunnels not only is a health hazard but a fire hazard as well. One of the culprits is the fact that there are only two vacuum cleaner trains for the entire system and one of them was out of service for mechanical reasons 311 days last year.

103rd Street-Lexington Avenue Station Closes for Rehabilitation

The southbound platform of the 103rd Street station of the Lexington Avenue Line is closed for three months, from May 4 until September, 2015, to allow the platform to be brought to a state of good repair. The scope of work will include but not be limited to: new stair surfaces, flooring, tiles, and platform edges; mezzanine and drainage repairs; upgrades; and re-painting. The northbound platform will remain open 24/7 throughout the project. Southbound passengers are advised to utilize the M-101, 102 or 103 bus routes on Lexington Avenue to 96th Street, where they may enter the subway. Passengers seeking 103rd Street aboard southbound trains that will be bypassing that station are advised to ride to 96th Street and transfer to a northbound train back to 103rd Street.

AVERAGE WEEKDAY SUBWAY RIDERSHIP
by Bernard Linder

2014 RANK	STATION	ROUTE(S)	2014 RIDERSHIP	2013-4 CHANGE
BUSIEST STATIONS				
1	Times Square-42nd Street	NQRS1237	204,908	+3.6%
2	Grand Central-42nd Street	4567S	157,899	+2.6%
3	34th Street-Herald Square	BDFMNQR	125,355	+2.3%
4	14th Street-Union Square	LNQR456	109,472	+1.2%
5	34th Street-Penn Station	123	92,693	+2.9%
6	34th Street-Penn Station	ACE	85,634	+2.3%
7	59th Street-Columbus Circle	ABCD1	74,572	+3.2%
8	Lexington Avenue-53rd Street 51st Street	EM 6	70,606	0.9%
9	Fulton Street	ACJZ2345	69,444	+7.7%
10	Lexington Avenue 59th Street	NQR 456	69,332	+2.2%
11	86th Street	456	65,634	+1.4%
12	47-50th Street-Rockefeller Center	BDFM	62,693	+2.6%
13	Flushing-Main Street	7	60,252	+0.1%
14	Chambers Street World Trade Center Park Place	AC E 23	55,683	+4.2%
15	42nd Street-Bryant Park Fifth Avenue	BDFM 7	54,289	+2.0%
LEAST BUSY STATIONS				
507	Aqueduct Racetrack	A	1,597	+189.8%
408	Bay Parkway	F	1,516	-3.7%
409	Cypress Hills	J	1,444	+0.9%
410	104th Street	A	1,333	-23.2%
411	21st Street	G	1,265	-3.4%
412	Aqueduct-North Conduit Avenue	A	1,122	-42.5%

Rockaway stations ranked 414-420 were closed for part of the year, thus skewing the percentage change. They were excluded from any analysis of multiple stations.

2014 RANK	BOROUGH	STATION	ROUTE(S)	2014 RIDERSHIP	2013-4 CHANGE
BUSIEST STATION IN EACH BOROUGH					
1	Manhattan	Times Square-42nd Street	NQRS1237	204,908	+3.6%
13	Queens	Flushing-Main Street	7	60,202	+0.1%
22	Brooklyn	Atlantic Avenue-Barclays Center	BDNQR2345	41,645	+4.4%
42	Bronx	161st Street-Yankee Stadium	BD4	27,541	+2.1%

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Average Weekday Subway Ridership

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BOROUGH TOTALS		
BOROUGH	**2014 RIDERSHIP**	**2013-4 CHANGE**
Brooklyn	1,210,086	+2.7%
Bronx	486,783	+2.1%
Manhattan	3,103,039	+2.5%
Queens	797,420	+1.9%
(Systemwide Adjustment)	223	—
SYSTEM TOTAL	5,597,551	+2.4%

Commuter and Transit Notes

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Lakeshore Line. (Other transit agencies in the United States have had sufficient off-peak and weekend service for years now, including MTA's Metro-North Railroad and Long Island Rail Road, SEPTA, NJ Transit, and Metrolink in Los Angeles.)

Between 2015 and 2020, the Kitchener Line is expected to accommodate the greatest increase in the number of trains, although the majority will not run all the way through to Kitchener. The service buildup will be completed in 2017.

The Barrie Line is due to receive weekend service in 2016-7, with weekday off-peak trains following in 2017-8. The Stouffville Line also obtains full weekday service in 2017-8, while weekend service follows in 2018-9.

Minor off-peak improvements are scheduled for the Lakeshore corridor in 2018-9. A new station in downtown Hamilton, on CN's Grimsby Subdivision, was scheduled for mid-2015 opening, to serve several trains that would be extended beyond the Aldershot (West Burlington) station. GO's summertime Niagara Falls trains are also planned to use this facility.

The four weekday peak-period trains presently serving the Hunter Street GO Centre will continue to use this facility, which is more conveniently located in the heart of central Hamilton. However, further service expansion to this station would be constricted by a short single-track tunnel.

SNC-Lavalin and Hatch Mott MacDonald are among more than two dozen companies that have expressed interest in becoming Metrolinx's general engineering contractor for the electrification program.

The overall increases to the GO Transit rail system will result in 32 additional trains by 2019-20. (***Railway Age***, April 29)

Brasilia, Brazil

The Economic, Budget, and Finance Committee of the Legislative Council of the federal district of Brasilia has approved a bill allowing the local government to proceed with a Reais 737.1 million ($US 241.1 million) loan agreement to purchase 10 new metro trains and complete work on intermediate stations on the northwest section of the network. The bill will now move to the Committee on Constitution and Justice for final approval.

Specifically, stations in blocks 104, 106, and 110 South on the shared Green and Orange Lines, which opened in 2001, will be completed. The local government will take out the loan with Caixa Econômica Federal rather than the National Bank for Economic and Social Development (BNDES) due to lower demands "for financial compensation." Financial assurance for the loan will be provided through the government's Tax on the Circulation of Goods (ICMS).

Brasilia's 42-kilometer metro network, which consists of the Green Line from Terminal Ceilândia to Águas Claras and Central, and the Orange Line from Terminal Samambaia to Águas Claras and Central, is currently served by 20 four-car metro trains each with capacity for 1,350 passengers. (***International Railway Journal***, May 6)

The infrastructure secretariat of the Brazilian state of Ceará says it has received proposals to resume work on adapting a freight line for a diesel light rail service in Fortaleza.

The line will link the city's Parangaba and Mucuripe neighborhoods and was due to open in time for the 2014 soccer World Cup. However, work on the 12.7-kilometer line, which includes 1.4 kilometers of elevated

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Rails Under the River Revisited

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minal stations were so extended, and the 1-year-old temporary service between 23rd Street and Hudson Terminal discontinued. Given H&M's standing as the Pennsy's full-fledged partner, even more construction was authorized by late 1909 to carry this subway farther west, rise to the surface, and share the Pennsylvania's right-of-way as originally established in 1834. This would eventually enable the diminutive rapid transit trains to reach fast-growing, densely-populated local points in the outer perimeter of Jersey City, Kearny, Harrison, and Newark that the Pennsylvania had historically not been able to serve in any significant way.

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Commuter and Transit Notes

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sections and 11.3 kilometers at grade, was suspended in June, 2014 with the project 50% complete following delays with the CPE-VLT Fortaleza consortium, which secured a Reais 179.5 million ($60.7 million USD) contract and began work in 2011.

The project is divided into three lots; the first section along Borges de Melo Avenue is estimated to cost Reais 26.8 million, and the second running from the Melos Borges station to Parangaba is estimated at Reais 48.3 million. Work is expected to take 12 months to complete these sections from signing the work order. The final section between from Late to Borges de Melo is expected to take 18 months to complete and is projected to cost Reais 100 million. Funding for the project is from the state-owned Caixa Econômica Federal bank.

The line has eight stations and will serve 22 neighborhoods, which are home to 500,000 people, with 90,000 passengers expected to use the service every day. Services will be operated by a fleet of six diesel LRVs supplied by Bom Sinal, Brazil. (***International Railway Journal***, April 27)

ITALY

Trenitalia launched its new flagship high-speed train on April 25, when Italy's President, Sergio Mattarella, newly-appointed Minister of Transport and Infrastructure Graziano Delrio, and Tourism and Culture Minister Dario Franceschini joined senior managers from Italian State Railways (FS), AnsaldoBreda, and Bombardier for the inaugural Milan-Rome trip on the Frecciarossa 1000. The train departed from Milan Central at 1:30 PM and arrived at Rome Termini at 4:09 PM, where it was greeted by members of the press. The eight-car sets will enter public service on June 14 with six trains operating eight non-stop Rome-Milan trips. Seven of these trips will start from Turin and four from Naples. As more trains are delivered the fleet will begin to serve other Italian cities including Reggio Emilia, Bologna, Florence, and Salerno. Initially the trains will be limited to 300 kilometers per hour (186 mph) under authorization from the National Authority for Railway Safety (ANSF), which has given the green light for commercial use of the trains after two years of testing on Italian conventional and high-speed lines. The trains have also undergone trials on the test circuits at Florence Osmannoro and Velim in the Czech Republic. FS CEO Michele Elia said that certification of the train for operation at up to 360 kilometers per hour (223 mph) on the Italian high-speed network should be completed by the end of this year.

Each train seats 457 passengers, including two wheelchair spaces, with four classes of accommodation — executive, business, premium, and standard. In a speech during the launch ceremony at Rome Termini, FS President Marcello Messori noted the low carbon impact of the new train and stressed that the fleet of 50 trains will be truly European and approved for operation in France, Germany, Spain, Austria, Switzerland, the Netherlands, and Belgium, enabling Trenitalia to compete in the international high-speed market. Messori also mentioned that the launch of the train effectively marks the end of an era for FS as a public company as it prepares for partial privatization next year.

Elia added that the delivery of Frecciarossa 1000 will enable ETR 500 high-speed trains to be redeployed on other routes such as Milan-Venice and the Adriatic coast.

Bombardier chief operating officer Dr. Lutz Bertling spoke of his company's cooperation with AnsaldoBreda and the short lead time in developing the trains, 50 of which were ordered by Trenitalia in July, 2010 in a deal worth €1.54 billion ($1.7 billion USD). Frecciarossa 1000 is the first high-speed train to receive EPD environmental certification with CO_2 emissions of 28 grams per kilometer per passenger. The trains are being built at Bombardier's Vado Ligure plant and AnsaldoBreda's Pistoia facility and deliveries are due to be completed in 2017. Maintenance will be carried out by AnsaldoBreda and Bombardier under a 10-year contract worth around €250 million. (***International Railway Journal*** via Ron Yee, April 27)

RUSSIA

Russian Railways (RZD) began selling tickets on May 6 for its new Moscow-Nizhniy Novgorod Strizh (Swift) service, which will be launched on June 1 using RZD's new fleet of Talgo coaches and EP 20 electric locomotives.

RZD will operate five daily trips on the route, increasing to seven starting in July, using a fleet of four trains. This will enable the redeployment of Siemens Sapsan high-speed trains to the Moscow-St. Petersburg Line, where a regular-interval service pattern will be introduced.

Two Strizh services will operate non-stop with a journey time of 3 hours 35 minutes between Moscow and Nizhniy Novgorod, 20 minutes faster than the best Sapsan timings. The remaining trips will call at Vladimir, Kovrov, and Dzherzhynsk with journey times ranging from 3 hours 46 minutes to 3 hours 55 minutes. Prices start at 900 rubles ($16 USD) in second class and 2,850 rubles in first.

The 200-kilometer-per-hour (120 mph), 1,520-millimeter-gauge Talgo trains are equipped with passive body tilting and seat a total of 409 passengers. Each train comprises 18 passenger coaches and two technical cars, with dining and bistro cars, and a mixture of first and second class seating coaches and sleeping cars. Deluxe sleeping cars are also provided with en-suite facilities. All coaches are air-conditioned, have electric heating, and are equipped with ecologically-friendly toilets.

Initially RZD intended to use its 1,520-millimeter-gauge Talgos on the Moscow-Kiev route, but revised its plans due to the ongoing political tensions between Russia and Ukraine. (***International Railway Journal***, May 6)

A WEEK OF RAIL ACVOCACY
by Sasha Ivanoff

Despite having a bare-bones budget to work with, among other things, I decided to attend last year's NARP Spring Council of Representatives meeting. And it was a blast. I never knew that traveling by a rival mode of transportation could be so much fun, that a simple trip could be so relaxing, and that rail advocates would be so warm and embracing. That trip was made via Bolt Bus to Baltimore and MARC's (then new) weekend Penn Line service to D.C. On the way home I took the *Northeast Regional* to New York using my Amtrak Guest Rewards points.

Fast forward twelve months later. Armed with a little more funding I was able to make the round trip via rail. I felt dirty (for lack of a better word) last year because I took the bus down part of the way. Still, I was glad I made the trip. For a railfan, I was surprised (and scared) to find that the bus was eerily refreshing.

As it turns out I do well with the 9:05 AM departure, Train #155, the Penn Station New York-D.C. *Northeast Regional*. This train originates from New York and is not a through train. But that morning things were a little different. Overnight, Train #65 hit a car, killing its driver, when he drove onto the tracks in Rhode Island. I was partly freaking out because I was rendezvousing with a fellow NARP member on Train #155 (he was coming from Baltimore and we had made these arrangements weeks prior). But at it turns out the train had plenty of room, even with the train 75% full in Baltimore. As I and a few other NARP members came to figure out, Amtrak ended up running Train #65 in two parts: the BOS-NYP section and the NYP-WAS section, so hypothetically it would have been easier to take Metro-North from Stamford to Grand Central and get a cab to Penn Station to take the second section of Train #65 than wait for the several-hours-late first section. As a result, we left nearly a half hour late.

The meeting was a little bit of a letdown from last year. While the accommodations were nicer (the Hampton Inn in Silver Spring is new while the Courtyard could use some room renovations) the meeting itself did not seem as exciting. Tuesday was the biggest letdown as the NARP members from New York did not get to meet with any House members from New York (it should be noted that all 27 voted against some harmful amendments towards Amtrak along with voting in favor of the final Passenger Rail Reauthorization Act).

As I have figured out recently, the *Northeast Regional* 140-series trains are all D.C.-Springfield, Massachusetts trains that are full-service *Northeast Regionals* to New Haven and through shuttles to Springfield. For the most part, shuttles from New Haven are used. Train #148 is the Monday-Friday train from D.C. to Springfield that leaves at 3 PM. I had priority boarding at D.C. because I was in business class (which I got from a friend as a free upgrade, a gesture I deeply appreciate).

I thought I was going to have a seat next to me empty for the entire ride to New York. Nope. A business executive got on at BWI Airport, taking the train to Metropark. I still managed to get my usual "Amsnack" (ginger ale and a pack of pretzels, for $4.50). While my business car had the older style interior, I've noticed that Amtrak has upholstered some of the business cars, a nice touch considering the faux leather in the business cars used on the *Empire Service*.

After two lousy days of work, Saturday (the 25th) approached and I had a fun day in store with the ESPA meeting in Schenectady. Because I was running late and so was NJ Transit, I made it to Penn Station with ONE MINUTE before the first boarding call for Train #69, the northbound *Adirondack*. Despite all things considered, our train arrived in Schenectady only a few minutes late due to single-tracking on Metro-North's Hudson Line.

Schenectady is a nice little city with some iffy parts, but regardless is very walkable. The Backstage Pub, located right in the heart of downtown, is a wonderful establishment with good beverage and dining selections and has been for ESPA a long-time meeting place. Our lunch was pleasant.

The way back was a little different. Due to the track work going on at Albany-Rensselaer and the late *Lake Shore Limited*, our train spent a good half-hour outside of the station waiting for a platform. However, that delay was well worth it, as by 2017 a fourth track will be installed along with extended platforms and a second track between Albany and Schenectady, of which track work is coming along nicely. Once we departed Albany, I spent $12 on dinner, which consisted of ginger ale, M&Ms, pretzels, and a turkey club wrap. However, some food choices had been sold out prior to arriving in Albany, thus adding question as to whether Amtrak should be given allowance to change its accounting practices to not account for food service personnel salaries when it comes to figuring into the losses on these services, and (for accounting, of course) further count those employees as crewmembers, which they technically are. After another delay due to Hudson Line track work, we were a little less than an hour late arriving into New York City.

Recently, my Amtrak on-time performance has been close to 0%, a factor that I hope Amtrak is given power to fix, and in some areas has been given the funds to do. Sadly, the tragic events of May 12 in Philadelphia with the derailment of Amtrak Train #188 illustrate the need for improved funding for passenger rail nationwide, a cause that is dear to my heart.

Around New York's Transit System

Increased Subway Service

In December, NYC Transit expects to increase service on weekdays on 2, 7, L, and M. Most of the increase is scheduled for non-rush hours, which recorded the highest growth last year. Subway ridership set a new record last year with 1.75 billion passengers, the highest in over 65 years. Details of the increased service are as follows:

LINE	INCREASE IN ROUND TRIPS	TIME PERIOD	CURRENT HEADWAY	PROPOSED HEADWAY
2	2	8:30-9:30 PM	10	7.5
7	2	8-10 PM	4.6	4.3
L	7	10:30 AM-2 PM	6	5
M	1*	9-9:30 AM	10	7.5

*The return trip is in the late afternoon

In 2014, ridership increased at every Brooklyn L station because of real estate and commercial development in Williamsburg and Bushwick. With more than 27,000 average weekday passengers, Bedford Avenue was the busiest L station. The Bushwick Avenue-Aberdeen Street station recorded the highest percentage increase in ridership, 11.5 percent. In the autumn of 2014, weekday evening L service was increased and 56 weekend round trips were added.

In Queens, where 7 serves the rapidly growing neighborhoods of Long Island City, Sunnyside, Woodside, and Flushing, overall ridership increased by 1.9 percent. The Flushing-Main Street 7 terminal, which is also in a rapidly growing area, serves more than 60,000 passengers on an average weekday.

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NEW YORK CITY SUBWAY CAR UPDATE

Subdivision "A" News

From January through April, 2015, these 55 R-142As were transferred from 6 to Kawasaki Rail Car-Yonkers for CBTC/R-188 compatibility conversion: 7376-85 in January; 7386-7400 in February; 7401-5 in March; and 7406-30 through April. The "dip" in March was likely related to NYC Transit's temporary winter woes, which reduced the availability of equipment that could be exported. On April 19, R-142A 7431-5 was observed in passenger service on 6. Six additional trains of R-188 (C) cars ("converted" R-142As) were also returned from Kawasaki, joined with 6 more R-188 (C1) (single-unit, or "C") cars. Included were 7336-50 with 7911 and 7912 in January; 7351-60 with 7913 in February; 7361-80 with 7914 and 7915 in March; and 7381-95 with 7916 through the end of April. There remain 19½ more 10-car sets of R-188 (C)s to come, along with 20 single R-188 (C1) companions. Entering 7 service during this time were R-188 (C)s 7321-30 with R-188 (C1) 7910 on February 2; 7331-40 with 7911 on February 14; 7341-50 with 7912 on March 11; 7351-60 with 7913 on March 30; and 7361-70 with 7914 on April 13. All "R-188 trains" (a collective designation) still remain in their original sequence, with a second "mismated" consist created through the March introduction of 7355-4-3-2-1/7356-7-8-9/7913/7360 (north to south).

Corresponding transfers of R-62As from 7 to 6 through the winter included 1806-10 and 2126-30 on January 13; 2061-5 on January 14; 1961-5 (still as single units) on January 17; 1971-80 on February 20; 1986-95 on February 28; 1981-5 and 2001-10 on April 3; 1996-2000 on April 10; and 2011-20 on April 16. Given Westchester's newly-attained standing as a strategically-located maintenance center for the R-62A fleet, it assumed responsibility for the 20 cars assigned to S/42nd Street Shuttle service (single-units 1927, 1928, 1930-3, 1935-7, 1940, 1941, 1952, 1955, and 1956 as well as unitized R-62As 1929, 1945, 1946, 1950, 1951, and 1953) effective January 20, 2015. There was also some shifting within the New Technology Train sector early in the New Year, with R-142s 6691-6700 moving from 5 to 2 and 7081-90 from 4 to 5 on January 12, while R-142As 7641-5 and 7661-5 also headed from 6 to 4. On both 6 and 7, the midpoint of this overall equipment swap was achieved on both route by April, with 264 "R-188's" (that is, 88 "new" cars and 176 "converted" ones) running on 7 and 255 R-62A's on 6. The latter still retains 210 assigned R-142As at the end of April (7431-7640), of which 160 are slated for eventual shipment to Kawasaki Rail Car in Yonkers. 110 of these 160 were observed in 6 service on Sunday, April 19, joined by 20 other R-142As and just five trains of R-62As. 7 on Saturday, April 18 was more reflective of its present-day car assignment with just three trains of R-62As observed on a "normal" (non-General Order) weekend when the Mets were playing at Citi Field. In general the line was being ruled by at least 15 different trains of R-188s.

Subdivision "B" News

Two trains' worth (20) of Phase I R-32s were indeed stationed at East New York for J/Z through the winter, though only one 8-car train tended to be used during rush hours through the month of January. This is expected to be the case until the annual "summer swap" occurs in May or June. Various quantities of R-68 and R-68As continued to appear on N through this interim

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