The Bulletin

Electric Railroaders' Association, Incorporated

Vol. 57, No. 5 May, 2014

The Bulletin

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

For general inquiries, contact us at bulletin@erausa.org. ERA's website is www.erausa.org.

Editorial Staff:
Editor-in-Chief: Bernard Linder
Tri-State News and Commuter Rail Editor: Ronald Yee
North American and World News Editor: Alexander Ivanoff
Contributing Editor: Jeffrey Erlitz

Production Manager: David Ross

TRACK AND SIGNAL CHANGES FOR 1939 WORLD'S FAIR

When the Fair was being built on a site adjacent to the Willets Point Boulevard station, it was obvious that Flushing Line ridership would increase appreciably. To provide additional service, company engineers planned track changes and additional signals and cars.

The Flushing Line was built as a 3-track line, but signals were not installed on the middle track, where layups were stored. To accommodate the displaced layups, six Corona Yard tracks were extended in January and February, 1939. The new capacity of the yard was 12 ten-car subway trains, 19 seven-car IRT elevated trains, and 9 eight-car BMT trains. Middle track signals were in service when the Fair opened.

The original Willets Point Boulevard station was an ordinary 3-track local station with two side platforms. To accommodate the increased traffic, the station was rebuilt and relocated a short distance west of the original station as shown in the December, 1991 ***Bulletin***. A portion of the out-of-service Manhattan-bound platform is still visible. The new 3-track station was built with two side platforms and another platform between the middle track and the eastbound (Flushing-bound) track. An enlarged mezzanine connected to a wide passageway leading to the Fair.

The original BMT Queens Plaza track layout was unusual. Trains from Astoria arrived at the lower level and returned to Flushing, while trains from Flushing arrived at the upper level and returned to Astoria. Until the Fair opened, this arrangement was apparently satisfactory. Long before the Fair opened, BMT engineers started planning Queens Plaza track changes that would separate the Flushing and Astoria Lines and allow the company to adjust Flushing service as soon as riding increased. Effective June 28, 1938, Flushing trains arrived and departed from Queens Plaza upper level, while Astoria trains arrived and departed from the lower level. (See January, 1992 ***Bulletin***.) Work was not completed. There was single-tracking from Queens Plaza to Beebe Avenue and Jackson Avenue, and shop transfers were routed via IRT at Queens Plaza for several months. On December 18, 1938 from 1 AM to 8:25 AM, Astoria trains were turned at the Queens Plaza Flushing pocket, after which regular service was operated to Astoria and work was probably completed.

IRT was able to increase service by ordering 50 World's Fair cars, which were in service before the Fair opened. Cars 5653-5702 could MU with the Steinways that were operating on the Flushing Line, but they were kept separate at first. Their end doors were located behind the Motorman's cab and there was a door in the center of the car. Assigned to the Flushing and Astoria Lines were 138 Steinways and 13 Lo-Vs. Motive power of the Steinways was different from the motive power of the other cars, which were equipped with 200 HP motors and operated with 3 trailers in 10-car trains. To provide better traction on the steep grades shown on the table below, Steinways were all motors. The cars were equipped with 120 HP motors, gears with 61 teeth, and pinions with 16 teeth, giving a reduction of 3.81. The following cars

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NEXT TRIP: CORONA YARD TOUR, SATURDAY, JUNE 7

TOWARD UNDERGROUND (AND UNDERWATER) ROLLING STOCK: THE ALL-STEEL REVOLUTION
by George Chiasson

FROM DUBIOUS TO UBIQUITOUS, PART ONE: GEORGE GIBBS AND ROLLING STOCK DEVELOPMENT — THE MP-41

Even well before Pennsylvania Railroad President Alexander Cassatt brought the New York terminal project to light in 1901, the concept of underground railway travel had been espoused in several locales around the world. In point of fact the use of tunnels to penetrate or otherwise avoid obstructions was one of the basic tenets of railroading itself, while its expansion into the realm of full "sub-ways" through dense urban centers held perhaps its greatest and most exciting promise. But while these remarkable applications energized the creative and political juices of its potential beneficiaries, one of the more mundane issues associated with underground railways, namely that of its rolling stock, had been all but relegated to triviality when compared to the stature of such accomplishments as a whole. As a result there was virtually no extra attention paid or effort expended in the latter 19th century to propagate the greater durability, improved cost-effectiveness or superior fire safety that all-steel rolling stock would have offered. At that time there were a large variety of railroad car builders in North America whose greatest market sensitivity was to the plethora of local, regional and national operations that had been steadily taking root for almost a half-century, but no single party who enjoyed the necessary level of private or public affluence to "set the standard" for the industry as a whole was actually inclined to do so. Such was still largely the case in the first stage of development for electrified, underground rapid transit and railroad operations in the U.S. at the turn of the 20th Century, with wooden coaches already in use on the first two such installations by the middle of 1901 (these being the Baltimore & Ohio tunnel and Boston's short new subway-elevated line). At that time New York's first subway was also under construction along the length of Manhattan, but true to form the level of innovation associated with its rolling stock could be viewed as limited, though not for want of trying on the part of IRT. While their so-called "Composite" cars, which were specifically designed for this undertaking, did not entirely subscribe to standard elevated railways of the day, especially with their state-of-the-art inclusion of fully-enclosed vestibules, they did represent a technological compromise and wood was retained as a main component of the car body, along with metal sheathing and underlying frames of both wood and steel. Still aspiring to the ultimate introduction of steel rolling stock as soon as practicable, the Interborough brought Civil Engineer George Gibbs (1861-1940), who was First Vice President of the Manhattan firm Westinghouse, Church, Kerr & Company, and also consultant to the Pennsylvania Railroad, into this technological vacuum as a special expert. Gibbs was a New Yorker of some repute and a graduate of the prestigious Stevens Institute in Hoboken, meaning that at least between 1878 and 1882 he was a frequent commuter among the teeming Hudson River railroad ferries that were so prevalent. After getting a start working with Thomas Edison at the Pearl Street generating station in Manhattan upon his graduation, Gibbs had garnered almost 20 years of practical experience in the railroad industry by his 1902 appointment to IRT. The engineering credentials he had earned in that time were unassailable, and he was close at hand to the Pennsylvania Railroad's executive offices in Philadelphia, a big corporate ally of the Interborough. As a matter of commercial interest, it was undeniably to the ultimate benefit of the Pennsylvania and its projected New York terminal that Gibbs be interjected to the New York subway project, given the knowledge both he and the two companies (PRR and the Interborough Rapid Transit Company) would accrue as a result. It can be concluded with certainty that Mr. Gibbs was actually no stranger to IRT to begin with; he was considered ingenious in his field and known for being tenacious if nothing else. He had in fact brought the Interborough's initial Composite car fleet through design and into production during 1901 and 1902.

The idea of all-steel rapid transit equipment was indeed not a new one as IRT prepared to operate its new subway, but quite obviously it was not a highly developed one either. Such had been thought, if not assumed, as the ultimate future of rapid transit and railroad design since at least the 1890s (certainly by which time steel was already the desired material of maritime construction), but little research had been conducted on how its technology could be so adapted. In addition, as hinted above there had not been a great practical need for steel rapid transit rolling stock prior to the execution of the Interborough subway, as earlier properties had almost entirely been constructed on various types of outdoor right-of-way. As a result there was an overriding unwillingness by the transit industry to develop steel rolling stock (IRT aside), while builders were perfectly satisfied to continue turning out wood or wood-steel cars for their customers if that was what the market demanded. In fact, quite the opposite of a progressive sentiment was publicly expressed by car builders at that

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Toward Underground (and Underwater) Rolling Stock

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time, who suggested that an all-steel rapid transit car, were it possible to construct, would be too heavy, too slow, too noisy, and too cold to offer beneficial advantages versus designs that were already available.

Whatever its corporate entanglements, the schism that brought an end to this cycle of repudiation was the emerging certainty of the Pennsylvania Terminal project. This sentiment resulted in turn from the level of underlying responsibility endowed onto that terminal's operator by local officialdom, which not only prohibited the use of steam as motive power, but placed a premium on public and employee safety following many years of less-than-perfect experience with the railroads that did enter Manhattan and Brooklyn.

So it was that the Pennsylvania assumed the role of enabler while IRT played that of receiver, for if such a car could be successfully designed for the subway, it might then be easily adapted for the new railroad tunnel as well. And if this vehicle were to evolve as a viable form of electric railroad coach for IRT, it could then also be used to propel standard Pennsylvania train consists through the New York terminal, carrying additional fare-paying passengers all the while. That was the outermost key point of its initial economic justification, and was what shaped Gibbs' approach to his earliest design.

As drawn up for construction in the late 1890s, the original New York subway encompassed the prevailing norms of the day, meaning its dimensions were led by those which had long since been established on previous rapid transit systems, and dated back to the earliest of Manhattan's elevated lines in the 1870s (which were then promulgated in the U.S. at Brooklyn and Chicago before concluding on new lines in Boston and Philadelphia). This set of standards in turn dictated the subway's overall size requirements, which influenced its resulting real estate and utility impacts and were major determinants in setting a realistic cost. On the original IRT subway in particular there had been a fairly acrimonious debate regarding the specifics of its alignment (again a rather typical clash as regards such monumental projects), while it was also imperative that certain accommodations be made to expedite the intensity of its operations as forecast. When translated into actual construction plans, these considerations created several unique traits along the length of the entire system, with the two most significant dictating IRT's maximum allowable equipment size both then (in 1902) and even to the present day (in 2014). One was the loop at its south end through (the now-abandoned) City Hall station beneath City Hall Park; the other was a tight series of opposing curves through the express station at 14th Street-Union Square, where IRT swung from Fourth Avenue to Park Avenue South.

With the Pennsylvania's Altoona shops at his disposal, thanks to his standing with the company's hierarchy (and the endeavor's associated just purpose), Gibbs had the freedom to devise the best possible specification to suit the Interborough's needs, then actually bring it to reality for delivery and testing. Through most of 1903 a single rapid transit motor car took form, subscribing to the exact dimensions of the Interborough's Composite equipment (length of 51 ½", width of 8'10", and height of l2'½") but fabricated from shaped, riveted plates of steel. The prototype's wheel base of 36 feet (distance between truck centers, or "kingpins") was also the same as that of the Composite cars to insure proper "tracking" (compliance to the subway's "center line"), clearance on curves, and a measure of protection for inter-car movement, but it had narrower doorways (3 feet wide instead of 4) and its overall car body advanced from the outer end walls toward the center, with only superficial dividers to create a "vestibule," as compared to the wood-steels (and the elevated cars before it) which had evolved from the "passenger cabin" designs of old and were laid out from the middle toward each end. This created no less than 16 "primary" car body sections, two which contained the manual sliding doors and Motorman's areas, plus 14 consisting of a lone sash about 2¾ feet in width, adjoined to a riveted "bridge" plate approximately six inches wide. In trade for taking engineering liberties to devise the prototype's modified floor plan and layout, the associated requirements of starting, braking, maximum speed, and power consumption were not strictly considered in its construction, particularly where the specialized materials to do so were of themselves still in development. As a result the car body's base weight was quite high at almost 90,000 pounds as compared to about 79,000 for a Composite motor. This was at the outer tolerance limit of estimated structural loads for IRT's elevated lines (which included most of the existing Manhattan Railway system) and when the final "package" was assembled for movement to New York City, the car body was wired to function as a motor but the heavy control group and traction motors were omitted to avoid their additional weight.

Delivery finally occurred in November, 1903, with the steel prototype being hauled up and down the Second Avenue Elevated by standard Manhattan Railway motor cars starting on February 8, 1904 to assess its design attributes. By the time the task of creating and evaluating the prototype was done, the "production" (that is, refined) specifications it engendered were incorporated into a first order for 300 steel motors that was hurriedly placed with builder American Car & Foundry. Even so, the necessary time lag for commencement of their construction precluded IRT deliveries before the second half of 1904 (the first of them got to New York in June).

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Toward Underground (and Underwater) Rolling Stock

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As for the Pennsylvania Railroad, its initial hope that the concept of a passenger-carrying terminal motor would mature into viability proved false, and its attention focused instead on the development of a wholly separate electric locomotive for this dedicated purpose, as described below. Given that the Long Island Rail Road faced the same construction-induced equipment pressures as the Interborough, the steel rapid transit car designed by Gibbs' team was rapidly and readily embraced rather late in the process to expedite its initial electrification. The corporate layering that oversaw such purchases proved to be burdensome however, and while LIRR "signed off" on the acquisition of 122 similar steel motors with an option for 12 more that November (immediately after the first segment of the IRT subway was placed in service), the parent Pennsylvania Railroad did not give its consent for an additional three months, which postponed deliveries until the late spring of 1905.

As for the prototype car, it was known to be too heavy for IRT revenue service even before delivery. Sometime after the first production motors arrived later in 1904, it was assigned the road number "3342" (IRT's steel cars were numbered 3350-3649) and languished "around the yards" (most likely Lenox Shops) after its tests were completed. 3342 was then converted to an IRT system "Pay Car" in 1908, with no seats and bars through 27 of its 28 sash fixtures, one being left open to hand out pay envelopes. It remained as such for many decades after and was finally scrapped in 1956 when disposition of IRT's first-generation equipment began. Before that time, the original motors on both properties had come to bear the name of the engineer who had designed them, and even in 2014 a mention of the "Gibbs car" evokes a highly respected chapter in the long equipment history of New York's rapid transit system. Gibbs himself remained an integral cog in the wheel of railway electrification and improvement in the years following his involvement with the Pennsylvania, IRT, and Long Island Rail Road projects, contributing just as much from his incredible skills on behalf of the New York Central toward the establishment of what became Grand Central Terminal. In 1911 Mr. Gibbs helped to found the prestigious, New York-based transportation engineering firm of Gibbs & Hill, which after a long existence as a stalwart in its field was folded into the even bigger United Engineers & Constructors concern in 1993. UE&C (itself once a major contractor on the Penn Station project) then became part of mega-service provider URS Corporation of San Francisco in 2007 and it remained such upon the centennial of Gibbs' firm in 2011. George Gibbs himself continued to be active as a consultant in the railway and civil engineering disciplines throughout his adult life and tended to "summer in Newport" for several decades when such was in vogue among New York's social elites, ultimately retiring there by the age of 75. In 2014 he rests eternally in the yard of St. Mary's Episcopal Church at Portsmouth, Rhode Island.

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Track and Signal Changes for 1939 World's Fair

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were Steinways: 4025-36, 4215-22, 4555-76, 4700-18, 4720-71, and 5628-52. Lo-V motors 4771-83 were also assigned to Queens and were returned to the main line after the Fair closed in November, 1939.

Grades are as follows:

LOCATION	GRADE	DISTANCE
Times Square-Bound (Westbound)		
Approaching Grand Central	3.0%	2,274 feet
Approaching Fifth Avenue	4.15%/4.5%	1,404 feet
Flushing-Bound (Eastbound)		
Approaching Vernon-Jackson Avenue	4.5%	1,305 feet
Leaving Hunters Point Avenue	4.0%	934 feet

The subway cars operating in Queens were inspected in Corona Shop, but were sent to 147th Street Shop for major overhauls. Because the Queens subway lines were isolated from the other subway lines, these cars reached 147th Street Shop by following a circuitous route on the subway and elevated lines. But the subway cars' shoes could not make contact with the elevated-type third rail, which had a board protruding on the side of the third rail. The cars' shoes were removed in Corona Shop and elevated cars towed them on the Queensborough Bridge, the Second Avenue "L," and the Third Avenue "L" as far as 150th Street. Then the cars were routed via the little-used Westchester Avenue Branch to the Jackson Avenue middle, where the elevated cars were uncoupled and subway cars towed them to 147th Street Shop shortly after midnight.

Toward Underground (and Underwater) Rolling Stock

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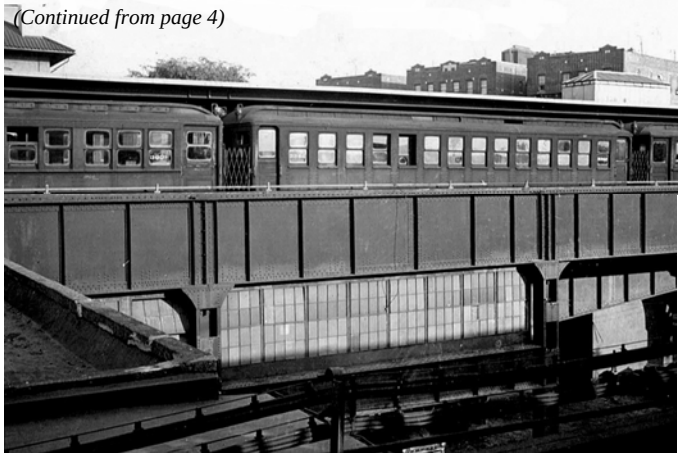
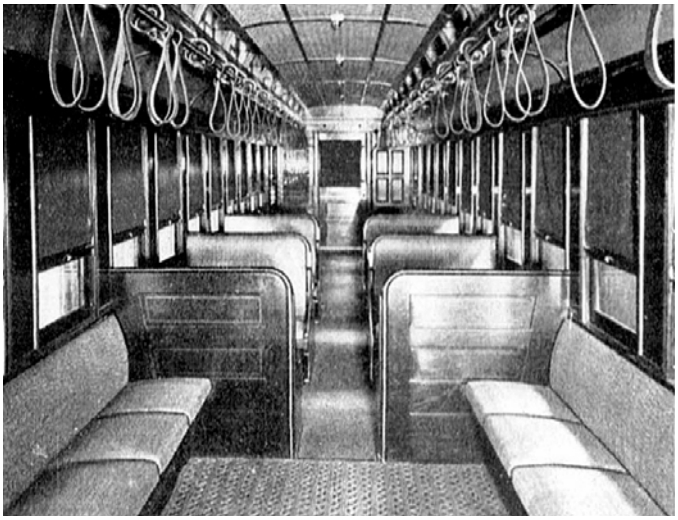


Hi-V 3342, built by the Pennsylvania Railroad, at E. 180th Street station, Dyre Avenue Line, June 29, 1955.
Bernard Linder photograph



Interior of car 3342.
Bernard Linder collection

Interior of Hi-V 3368 at Pelham Bay Park station, Pelham Line, August 18, 1953.
Bernard Linder photograph

Train at Buhre Avenue station, Pelham Line, October 2, 1955.
Bernard Linder photograph

Gibbs car 3623, rebuilt in 1936 for MUDC operation, Zerega Avenue, Pelham Line, December 26, 1955.
Bernard Linder photograph

LIRR MP-41s 1100 and 1101 at Country Life Press.
Bernard Linder collection

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Toward Underground (and Underwater) Rolling Stock

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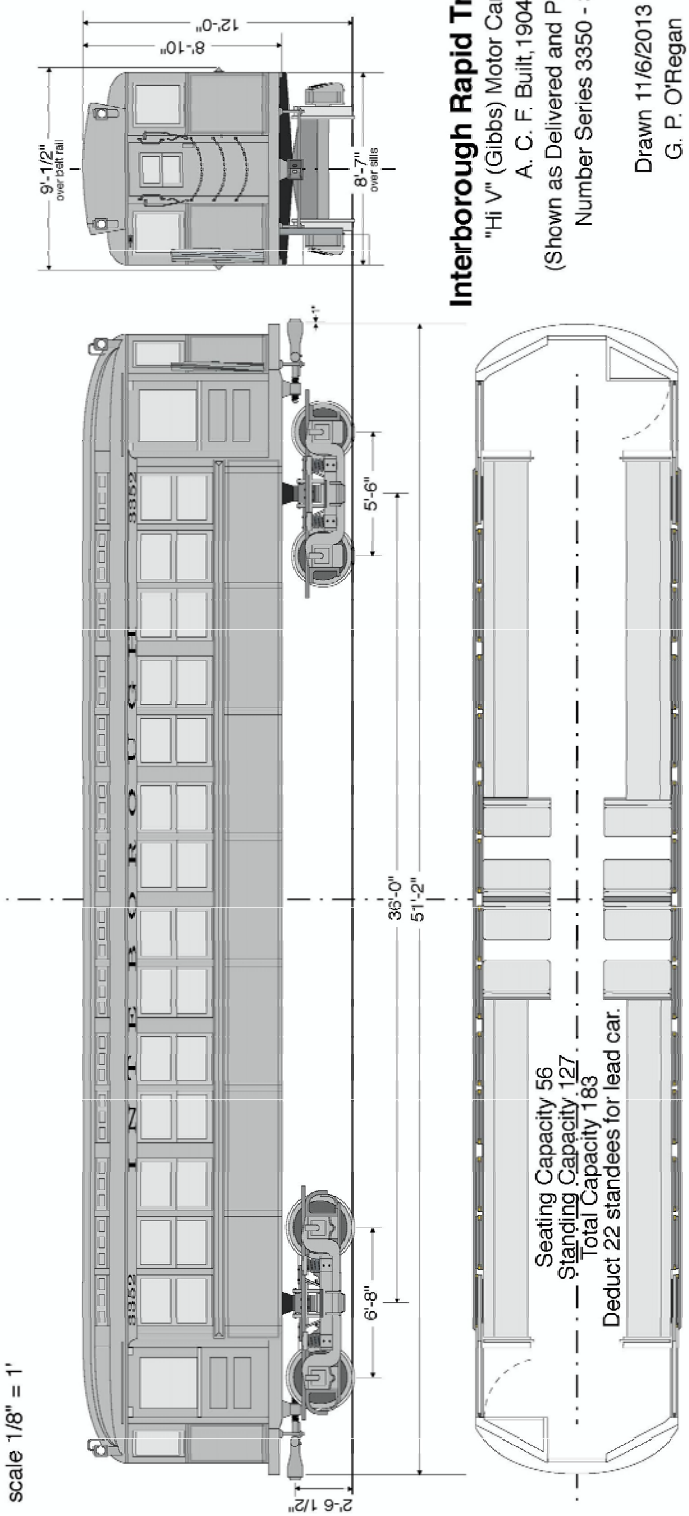

Capacity figured at 18" per seated passenger and 1.5 sq. feet per standing passenger, assuming that standees are not allowed on front platform. Maximum Load figured at 140 pounds per passenger.

When operating as first car in train, deduct 22 passengers (3080 lbs) since first vestibule was closed off.

No. of Cars	300
Date Built	1904
Builder	American Car & Foundry
Trucks	Baldwin MCB
Motors	2 G. E. 69B
Control	M (C-18A)
Brakes	AMRE
Weights	
Trucks	
Motors	
Body	
Total Light	82138
Max Load	25620
Total Loaded	107758

When striving to acquire the all-steel rolling stock that would be best suited to its new subway, the Interborough Rapid Transit Co. was confronted with a laggard, indifferent railcar building industry, and needed to refine a level of technology as yet all but nonexistent. For assistance it gained corporate cooperation from the Pennsylvania Railroad Co., which was seeking to advance similar railcar building technology for its own benefit. Through this alliance, the PRR employed civil engineer George Gibbs of the Westinghouse Companies, who immediately set to work on behalf of both the IRT and the PRR. Mr. Gibbs endeavored for more than a year to discover a wholly new all-steel car body design which would satisfy the physical and operating requirements of both existing rapid transit and forecast electrified railroading environments, including a need that they be compatible with the IRT's existing fleet of wood-steel "Composite" cars.

His efforts ultimately produced a single, motorless prototype which was tested on the Manhattan Elevated's Second Avenue line in 1903. From its analysis a more exacting set of specifications were developed, and 300 all-steel motor cars were hurriedly ordered for the a-building IRT subway from American Car & Foundry. The first of these were delivered in June 1904, but all 300 were not on hand until early in 1905, months after the subway's inauguration date of October 27. As passenger traffic on New York's initial subway steadily increased, there was pressure upon the IRT to operate longer trains and improve the flow of movement on its existing equipment. As a result many more cars were added and the original steel motors were retro-fitted with pneumatically-driven center doors between 1910 and 1912, then structurally reinforced by 1916. When additional equipment was later procured to provide for system expansion and replacement of the original Composite fleet, those first steel motors were grouped with the older cars delivered between 1907 and 1915 and became more commonly known as "Hi-V's," to denote their employment of 650-volt control circuits. A handful of then so-called "Gibbs" motors were withdrawn for Work Service as early as 1924, while 125 more were retrofitted with "Multiple-Unit Door Control" (MUDC) in 1936 to reduce the required number of Conductors around the IRT system. Replacement of the Gibbs cars and all Hi-V's commenced with delivery of the NYCTA's R-17 class cars in 1955-56 at which point they were first removed from service on the Lexington-Pelham Local (#6). Their retirement from service on the 7th Avenue side of the system (1, 2 and 3 lines) was completed in 1958 as new R-22 class cars were delivered to take their place. All but one of the Gibbs motors was scrapped by 1960, the sole exception being car 3352 which then was the lowest numbered and most original car surviving. It was sold to the New England Electric Railway Historical Society in 1959 and removed to the Seashore Trolley Museum in Kennebunkport, Maine.

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NEW YORK CITY SUBWAY CAR UPDATE

Subdivision "A" Notes

The third set of CBTC/R-188 compatible R-142As (7221-5) had started to arrive at NYCT's 239th Street facility as of February 15, there to be joined at some point by 7226-30 and "C" car 7900 to form the first such "production" train of a projected 37 in all (exclusive of the "pilot" set). R-142As 7251-5 had departed for Kawasaki's Yonkers facility by February 28, with R-142As 7256-65 noted in the same 6 train on March 5. R-62As 1661-70 were shifted from Corona (7) to Westchester (6) on or about February 24, but 1706-10 and 1776-80 went the other way to leave 6's R-62A fleet at 55 cars. There have been no additional R-188s placed in 7 service during the past month, with 7860-5 and 7866-70 now hooked together for their "burn-in" phase at Corona. On March 8, R-188s 7871-6 and 7855-9 were seen testing in the Rockaway Flats, while deliveries had been completed through 7887. R-188s 7860-70 entered 7 service on March 20. Elsewhere, R-142s 6686-95 were returned from 2 to 5 as of March 1, 2014, while full-width cabs were installed on cars 2056 and 2060 (assigned to 7) by March 4. A week later 5-car unit 2151-5 also turned up with full-width cabs at both ends. These would ostensibly replace some of the "older" units now working on 6 (1651-1840 group), which are typically placed on the Times Square (south) end of 11-car trains on 7.

As of March 8, R-110A "B" cars 8002-3-4 had been completed as pump reachers at 207th Street Shops, with similar work in an advanced state on 8007-8-9. Only "A" (cab) car 8005 was stripped to a bare shell (not 8001 as well), and found to be unsuited for conversion due to the beefy, upright structural beams that support the cars' end walls (or in this case the fiberglass bonnets). "A" cars 8001, 8006, and 8010 remain intact as a result and face an uncertain future, though there is speculation that one of the R-110As might be refurbished for display.

Construction has commenced on a replacement station at Cortlandt Street on 1. Though platform buffers were roughed in during its 2002 tunnel reconstruction after the 9/11 tragedy, this effort will create an entirely new station shell at the former (1918) site under what used to be Greenwich Street and now is beneath the new Freedom Tower. Platform sub-structures had been established by early March, 2014.

The "old" South Ferry station is at the same level as the mezzanine of the "new" (2009) stub-end terminal. As part of its 2013 restoration to service, a direct entrance was restored from the ground level of the Staten Island Ferry terminal (next to the M15 bus loop) and the middle of the 1905 "outer" platform. A new passageway was also established, situated at the extreme (railroad) north end of the existing subway loop platform, that is about halfway between the joint mezzanine serving the new terminal (closed since the inundation of Hurricane Sandy) and that atop the R Whitehall Street station. Progress is being made on restoration of both the newer South Ferry terminal and the Montague Street Tunnel, but the latter will definitely be reopened first, perhaps earlier than its original target of Fall, 2014. Whenever it occurs, restoration will likely be undertaken on another of NYCT's under-river crossings that was extensively damaged by the flood from Hurricane Sandy.

Subdivision "B" Notes

The single train of Phase I R-32s was still hanging in on J and Z as of March 8, 2014 while long-term SMS is performed on the second half of East New York's R-160A-1 fleet. Cars observed in J service on March 3, 2014 were 3771-0/3933-2/3698-9/3427-6, with 3714-5 and 3778-9 serving as spares. As of the same date cars 3726-7 had been sent back to 207th Street.

On February 20, R-68 set 2856-7-9-8/2872-3-5-4 was operated on Q. An R-68 and an R-68A train were then each circulating on N during the morning rush hour of February 21: 5160-59-7-8/5130-1-3-2 and 2806-7-5-4/2842-3-1-0, being used as such on several occasions through that week (February 18-21). The latter consist was again sighted on N during the morning rush on February 26, joined by R-68As 5190-1-3-2/5112-3-1-0. Another R-68A train, led by 5012, was running on N March 4, followed by an R-68 train with 2822 as its north motor on March 5.

R-143 8277 was still in the shop at 207th Street through early March, with restoration work apparently proceeding on it and sister "A" car 8280.

In late February and early March, a train of Phase I R-32s from C (3436-7/3665-4/3688-9/3872-3) was used to stage scenes for the forthcoming motion picture "*Violent Year*" on the West End Line. It was transferred back home to 207th Street on March 6.

"The View:" A visit to the recently-rebuilt "Culver" (actually 9th Street) Viaduct of F and G in early March discovered that the long-treasured, panoramic overlook of Lower Manhattan from Smith-9th Streets station was not "walled off," as had been rumored. NYCT did install a duct bank "on stilts" between the two express tracks, set at a height of about 5 feet, but fine views of the resurgent skyline, complete with the almost-finished Freedom Tower, can still be had with some earnest "framing."

"Miles of Piles:" A look at the Far Rockaway Branch in early March found several startling results of its recent post-Sandy reconstruction. The track upon which A trains sprint was largely "smooth as glass," in marked contrast to its rollicking state that was the norm in pre-

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Commuter and Transit Notes

No. 306

by Ronald Yee and Alexander Ivanoff

METROPOLITAN TRANSPORTATION AUTHORITY

New York Governor Andrew Cuomo unveiled plans to make New York City's transit infrastructure more resistant to the effects of extreme weather such as hurricanes and other storm-related surges in the water levels along the waterfront. It is anticipated that climate change could increase the frequency of these kinds of once-rare storms to more often than the proverbial "100-year storm." Redundancy of access routes, such as providing alternative Manhattan access for Metro-North by utilizing Amtrak's West Side Line and the Hell Gate Bridge connections to Penn Station, is one measure being planned. The tunnels and access points leading to the Hudson and East River tunnels carrying Amtrak, LIRR, and NJT trains would be provided with the ability to seal out floodwaters from future storms. Other measures being proposed will be applied to New York City subway and bus facilities, hardening key areas against flooding, focusing on the weaknesses in the system exposed during Hurricane Sandy. These would include subway yards, tunnel portals and ventilation shafts, and entrances. PATH and Staten Island Railway would also benefit from these projects. (New York Governor's Office, March 28)

MTA METRO-NORTH RAILROAD

Metro-North President Joe Giuletti issued a letter to Metro-North customers promising to vastly improve the safety culture and focus of the railroad. References were made to the existing 100-Day Action Plan and how it has been modified to meet FRA's call for reforms based upon the findings of its "Operation Deep Dive" 60-day top-to-bottom audit of the railroad. Changes in the manner in which employees are trained and monitored as well as track inspection and maintenance of way procedures, the creation of an anonymous "close call" reporting system for employees, the installation of inward and outward facing cameras in all operating cabs, installation of Positive Train Control (PTC) as quickly as possible, purchase of new equipment, hiring of necessary staff, and changes to the management structure were among the topics covered. (MNR, March 19)

New west-of-Hudson schedules were issued on March 2, 2014. The most significant change on the Port Jervis line was the adding of one to three minutes of running time to facilitate safety. This caused some connections at Secaucus Junction to be adjusted as well. On the Pascack Valley Line, changes were made to three post-peak period evening services to shorten trip times by reducing connection timings at Secaucus Junction. Train #1645, the 9:25 PM from Hoboken, departs 17 minutes later at 9:42 PM, its connecting train from New York Penn Station departing at 9:35 PM, reducing trip time by 11 minutes. The 10:35 PM train, #1647, departs Hoboken seven minutes later at 10:42 PM with the New York Penn Station connection departing at 10:35 PM, reducing trip time by 10 minutes. Train #1636, the 11:26 PM out of Spring Valley, now operates eight minutes later, reducing the connection times at Secaucus Junction by eight minutes. Two weekday trains had their connection timings at Secaucus Junction reduced by three to six minutes and four other weekday and two weekend trains had one- to four-minute adjustments made to their running times to more accurately reflect the operations. To accommodate bridge maintenance near Mahwah, the weekend schedules of the Port Jervis/Main/Bergen Lines were also adjusted for two weekends, March 29–30 and April 5–6, by Metro-North and NJ Transit respectively. Changes included a substitution of connecting services at Suffern instead of the usual through train services to Hoboken and longer trip times. (MTA website, March 24)

Metro-North announced that all changes to its signal system to enforce speed restrictions at 10 critical locations, (five curves at Yonkers, White Plains, Port Chester, and Bridgeport and five movable bridges at Cos Cob, South Norwalk, Westport, Bridgeport, and Stratford on the New Haven Line) have been completed well in advance of the September, 2014 deadline mandated by FRA Emergency Order #29, which was issued a week after the fatal wreck at Spuyten Duyvil last December 1. The modifications will automatically stop any train that does not comply with the lowered speeds. (MTA press release, March 24)

Two new locations for train defect detectors were identified by Metro-North, just south of the Scarborough station on the Hudson Line and just east of the Greens Farms station on the New Haven Line, to enhance the ability of the railroad to detect trains with wheel-related defects before they can cause a derailment. Each new site will be equipped with three components: a wheel impact detector, a hot journal detector, and a tag reader that identifies each freight car that passes it. (***Daily Voice.com***, March 25)

(Editor's Note: These new detectors will be added to ones already in existence at milepost 48.3 south of the Garrison station on the upper Hudson Line (which has hot journal, dragging equipment, and third-rail fouler detectors) and a wheel impact detector that has been in place for several years on all four tracks within the Park Avenue Tunnel at milepost 2.2 near 86th Street. The only line not equipped with these detectors will be the Harlem Line as no freight trains regularly operate there.)

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Newburgh-Beacon Ferry service resumed on Thursday March 27 as the ice on the Hudson River broke up sufficiently to allow ferries to safely sail across the river. (Randy Glucksman, March 26)

AM Peak inbound and PM Peak outbound train service at the Melrose and Tremont stations has been replaced by buses March 31 through May 2 and connects with trains at Fordham to facilitate additional track work in the Bronx, which will cause one of the express tracks in the Bronx to be removed from service. Upon completion of this work in early May, all four tracks will be rated for 75 mph from south of Fordham to just north of Melrose. Busing schedules will be posted at all affected stations. (MNR, March 27)

Only seven of the original 10 CDOT bar cars remain on the active roster. As the M-8s are slated to replace all of the M-2/4/6 EMU cars on the New Haven Line by year's end, the M-2 bar car pairs may vanish from the scene as early as May. (***The Journal News***, April 10)

MTA LONG ISLAND RAIL ROAD

Senator Charles Schumer, Democrat of New York, called for FRA to perform a similar review of LIRR practices to insure that the broken safety culture at Metro-North has not spread to its sister agency and, if there are deficiencies, to have them corrected before an accident occurs. (***Newsday***, March 18)

LIRR will be simplifying its ticketing system for its premium *Hamptons Reserve Service* this coming summer. One single ticket for this service will cover the rail fare and the seat charge. For this season, the fare will be $47 for the eastbound *Cannonball* on Friday afternoon and $39.75 on the westbound *Cannonball* on Sunday evenings. Formerly, they were sold separately. These tickets will only be refundable within 60 days and only if the reservation was cancelled by 12 noon the Thursday before. It is hoped that this new process will curb people from abusing the system by reserving blocks of tickets in advance and not cancelling spaces they do not need later in the season. (MTA press release, March 26)

Credit card "skimmers" stealing information stored on the magnetic strips of credit cards as well as micro cameras to record PINs punched in by customers have been found on LIRR Ticket Vending Machines at the Baldwin station. This is not the first time this has been detected on LIRR, as customers on the Port Washington line were victimized by a similar scheme last year. This identity theft scheme has apparently spread to TVMs on NYC Transit as well, most recently at the 59th Street-Columbus Circle station. (***CBS/AP News***, April 8)

NJ TRANSIT

The latest proposal for the extension of the Hudson-Bergen Light Rail (HBLRT) calls for extending the line north from the current terminus at Tonnelle Avenue to a proposed station 12 miles away at Englewood Hospital and Medical Center. The hospital is willing to make provisions for an HBLRT station. The 14-year-old HBLRT system currently has 24 stations across 21 miles in Hudson County with a daily ridership of around 47,500 passengers, more than triple the original projections of 15,000. (***Star Ledger***, March 17)

On Tuesday, March 25 around 5 PM, a man standing on the northbound platform of the New Brunswick station on the NEC leaned out over the edge as a NJ Transit ALP-46 hauling a train of multi-level coaches was passing through at high speed on the platform track. "Flying body parts" caused by the force of the impact injured three persons standing on the platform, who were sent to a nearby hospital for treatment. NJ Transit and Amtrak service on the NEC was suspended for about 90 minutes before limited service was resumed with 30-minute delays. (***CBS News***, March 26)

On Monday, March 31, member Randy Glucksman reported that the Anderson Street station on the Pascack Valley Line has reopened to the public. The original station had been destroyed in a fire on January 10, 2009 and construction of its replacement had begun on March 18, 2013.

NJ Transit will expand its "Quiet Car" program to weekday off-peak trains in and out of Hoboken between 10 AM and 4 PM starting May 5. The first and last cars of trains will be the designated cars, just as they have been for AM and PM peak trains since 2010. (***Star Ledger***, April 8)

NJ Transit has commissioned a 90-day, $468,000 top-to-bottom safety review to be conducted by Rail Safety Consulting to identify any shortcomings in the safety culture at NJ Transit similar to that found by FRA's "Operation Deep Dive" audit and review of Metro-North this past winter. The intent is to perform a review similar to FRA's and identify any issues that need correction. The unions representing train crews has hinted that NJ Transit is also guilty of giving safety and crew welfare the "short stick," although nowhere close to what FRA discovered at Metro-North. (***AP***, April 8)

PORT AUTHORITY OF NEW YORK & NEW JERSEY

On Friday, March 28, New Jersey Governor Chris Christie announced the resignation of Port Authority Chairman David Samson. Recent scandals arising from alleged politically-motivated lane closures on the George Washington Bridge have rocked the agency as well as the New Jersey state government, resulting in numerous firings and potentially short-circuiting Governor Christie's bid for the presidency in 2016. The scandal has prompted talk of splitting the bi-state agency, though the negative effects of such an action would likely outweigh any possible benefits. (***Port Authority News***, March 29)

Beginning May 1, Newark Airport's AirTrain will be closed for 11 weeks to enable $20 million in rehabilitation work to be performed by Bombardier on the guide-

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way and running surfaces for the rubber-tired monorail trains, focusing on the two-mile section connecting parking lots 1 and 4. NJT bus services will replace AirTrain until service is restored. For connections to and from Manhattan, Newark Express bus service will be the recommended way to reach Newark Airport during this project. As the monorail provides the only connection to the airport from Newark Liberty Airport station on the NEC, service to that station will be suspended for the duration of this project. (***Star Ledger***, April 8)

AMTRAK

A second track in the Capitol Region? ***Railway Age*** reported on April 9 that Amtrak awarded engineering company Michael Baker Jr., Incorporated a $4.2-million contract for construction management and inspection services involving several projects on its Empire Corridor in New York State. The company will oversee work involving double-track installation on the Empire Corridor between Albany-Rensselaer and Schenectady, a longstanding bottleneck to Amtrak service. Other projects involve include a platform extension and fourth track at the Albany-Rensselaer station, communications and signal upgrades between Albany-Rensselaer and Poughkeepsie, and grade crossing upgrades. (***Railway Age***, April 9)

The ***Olean Times-Herald*** ran a syndicated op-ed by John M. Crisp on March 31 on how millennials could provide the momentum to expand high-speed rail in the United States. Crisp notes that millennials drove 23% fewer miles in 2009 than they did in 2001, and fewer of them are licensed drivers. The op-ed also detailed the usual reasoning behind the support for high-speed rail and the reasons its appeal is growing. Amtrak is popular among college students in its corridor networks. (***Olean Times-Herald***, March 31)

At the end of March, Governor Paul LePage of Maine, a Republican, decided to weigh in on a proposed train facility in Brunswick. Residents are concerned that the 55,000-square-foot, $12-million maintenance and layover facility, which is a half-mile from the Brunswick train station, will cause environmental issues. The point was made moot on April 7 when the Brunswick Town Council voted 5–4 against requesting a more comprehensive federal environmental review of the facility despite the urging of a neighborhood group that opposes the project's location. (***Mass Transit***, via the ***Portland Press-Herald***, March 31)

In response to growing demand, Amtrak's *Auto Train* has added a fifth coach, providing up to 60 more seats for the coming spring and summer travel seasons while eliminating the first class lounge car that featured wine and cheese tasting. The dining cars would do double duty as lounge areas serving alcoholic beverages outside of the dinner hours. No mention was made of the impact of the added ridership on the number of additional automobile carrier cars that would be needed. (Al Holtz, March 17)

Amtrak announced May 10, 2014 as National Train Day. Major events will be held at Philadelphia, Washington, D.C., Chicago, and Los Angeles. Other locations across the nation will host smaller venues. (***Trains*** and Amtrak, March 20)

Empire Builder schedules were lengthened by approximately three hours to more accurately reflect the delays being caused by BNSF infrastructure as well as the effects of vastly increased train traffic stemming from the oil trains moving crude oil pumped out of the Bakken Oilfields in the Dakotas. Eastbound passengers on Train #8 will be allowed only to ticket a connection east of Chicago on the *Lake Shore Limited*. No westbound connections will be ticketed to the *Coast Starlight* as the connection cannot be guaranteed. A sixth trainset will be utilized to serve on the *Empire Builder* to improve equipment reliability, minimizing the need to occasionally short-turn some trains. As a result, those cars no longer available to meet seasonal peak demands. (Al Holtz, March 27 and April 1)

Amtrak's *Empire Builder* will begin serving Union Station in St. Paul on the evening of May 7 with westbound train #7. This will mark the first time an intercity train has called at the station since April 30, 1971, the day before Amtrak was born. (Al Holtz, April 2)

Amtrak and the State of California are seeking bids from car builders to construct high-speed train sets capable of 160 mph for the Northeast Corridor and 220 mph for California. Bids are due by May 17 and a selection will be made by the end of the year, with the first train sets running by 2018. Amtrak is looking to purchase up to 28 train sets at $50 million each to replace the 20 *Acela* sets. As funding becomes available, Amtrak is working on increasing train speeds on the NEC, the first section being a 23-mile segment between Trenton and New Brunswick where tracks, signals, and catenary will be upgraded to support 160-mph *Acela*s. (***Philadelphia Inquirer***, March 28)

OTHER TRANSIT SYSTEMS

CHICAGO, ILLINOIS

In an emailed customer survey, Metra riders expressed their discontent with the railroad's performance this past winter. Over 40% claimed the platform announcements were inaudible, their train Conductors were clueless, and service alerts via the Rail-Time Train Tracker regarding delays were worthless. Riders expressed their disgust with how poorly the railroad has performed winter after winter, especially with this year's particularly severe weather, which left many riders waiting in the dark in freezing cold conditions. Union Station received a failing grade for its inadequate facilities, dangerous overcrowding, and leaky platform canopies. Some commuters have abandoned Metra and started

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driving. (***Chicago Sun-Times***, March 17)

Siemens was awarded a $225 million contract to build 32 diesel-electric locomotives with options for up to 225 additional units under a multi-state effort led by Illinois Department of Transportation (IDOT). The other states are California, Michigan, Washington, and Missouri. The first units are scheduled for 2016 delivery and have already acquired a class name, "Charger." It is based upon the Vectron class of locomotive commonly used in Europe. The Chargers will have a 4,400 hp-rated Cummins QSK95 diesel engine that will be compliant with 2015 EPA Tier IV emissions standards. An all-electric version, the ACS-64, is already been placed in service on Amtrak's NEC. The Chargers will be built at the Siemens rail manufacturing facility in Sacramento, California (***Metro***, March 18)

The Regional Transportation Authority (RTA) is recommending that Metra, which operates Chicago's commuter rail network, pursue a new agreement with BNSF and UPRR which would allow for improved on-time performance (OTP) through financial incentives and penalties. BNSF and UPRR had OTPs of 73.1% and 81.4% respectively for January. (Al Holtz, March 20)

Metra, in an attempt to deter a large exodus of skilled and experienced management staff from leaving, will offer 8% increases in their salaries to keep the company competitive in the job market. Non-union staff had been working without any pay increases between 2009 and 2013, when they received a 2% increase. (***Chicago Sun-Times***, April 4)

A CTA Blue Line train ran through the bumping post on the center track at the O'Hare Airport station around 2:50 AM Monday, March 24, propelling the first car of the train halfway up an escalator. Subsequent investigation determined that the Operator apparently fell asleep at the controls as the train entered the O'Hare terminal. NTSB has also determined that the trip arm stop that activated the emergency brake of this train was located too close to the bumping post to stop the train in time. CTA fired the Operator, as it was at least the second time she had fallen asleep at the controls in her two-month career. Blue Line service was cut back to the Rosemont station, with shuttle buses providing connections to the airport. NTSB assumed control of the investigation the next day. Upon completion of the investigation, the wrecked cars were finally removed after four days on Friday, March 28, and service was restored to the O'Hare station two days later. A security camera recorded dramatic video of the entire accident, which can be seen in the following link: http://bit.ly/QnmJoN. The lead pair of cars were part of the 600-car, 2600-series produced in 1981-7 and were the last railcars produced by Budd/Transit America. The 578 remaining active cars were overhauled by Alstom at Hornell, New York during 1998–2002. (***Chicago Tribune***, March 24; ***Newsday***, April 5)

A CTA Blue Line train derailed its lead truck on Thursday, April 10 when a tractor-trailer traveling on the Eisenhower Expressway lost a tire, which bounced onto the CTA tracks located in the median. A train departing the Cicero station around 7:40 PM struck it and derailed. There were no injuries and passengers were evacuated back to Cicero. Service was single-tracked overnight, with normal service in both directions restored in time for the Friday morning rush. (***Chicago Tribune***, April 11)

BOSTON, MASSACHUSETTS

Cenonner has posted an HD video on YouTube (http://bit.ly/1jHYPyM) of a rare 10-car test train consist of Kawasaki/Rotem bi-levels pushed by MPI HSP-46 locomotive 2001 on the Framingham/Worcester Line. In revenue service, eight-car trains will be the maximum consist. (Todd Glickman, March 17)

Massachusetts Bay Commuter Railroad Company's lawsuit claiming that it was treated unfairly during the selection process was rejected by MBTA following a formal review of the bidding process, affirming the awarding of the commuter rail operating contract to Keolis. The MBCR case will be heard in Suffolk Supreme Court, which could either uphold the award to Keolis or mandate that MBTA redo the bidding process. Unions representing the workers on MBTA's commuter rail lines have also expressed concerns regarding the continuity of payroll, benefits and hiring functions as Keolis takes over from MBCR. (***Boston Globe***, March 18 and March 25)

Chinese railcar builder Changchun is considering the site of a former Westinghouse factory for a $30 million railcar assembly plant in East Springfield, Massachusetts to qualify for placing bids to build the next generation of MBTA subway cars. MBTA plans to purchase 226 cars, 152 to replace the 31-year-old Orange Line fleet and 74 Red Line cars with options for a maximum of 132 to replace cars dating back as far as 1969. Orange Line cars would be slated for delivery during the winter of 2018-9 and Red Line cars in the fall of 2019. (***Repub.com***, ***MassLive.com***, March 18)

Despite a three-year delay in delivering 75 bi-level commuter cars to MBTA, Korean car builder Rotem, a division of Hyundai, also intends to place a bid this spring to build subway cars for the Orange and Red Lines. The Rotem coaches have had a variety of issues that have delayed their delivery, ranging from bad welds for the structures attaching the trucks to the car body to emergency window exits requiring redesign after some of the more petite "testers" were not able to operate them. (***Boston Globe***, March 24)

Updates on Boston's new car fleet from Rotem and MPI HSP-46 locomotives as of March 17, 2014: Rotem Coaches: 800s are the blind coaches (BTC-4D) and

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1800s are the control coaches (CTC-5). Forty-three cars accepted and in service: 801, 803, 804, 809, 812, 819, 821, 822, 823, 824, 1800, 1801, 1805, 1809, 1813, 1816, 1819, 1820, 1822 (currently assigned North); 800, 802, 806, 807, 810, 811, 813, 815, 1806, 1808, 1810, 1814, 1818 (currently assigned South); 805, 808, 814, 817, 818, 820, 1802, 1803, 1804, 1812, 1817 (currently assigned South/Old Colony); 15 cars unaccepted at Boston Engine Terminal (BET), MBTA's commuter line main shop: 827, 828, 829, 830, 831, 833, 834, 836, 837, 839, 840, 1807, 1815, 1825, 1826; eight cars at Seaview Railroad, Davisville, Rhode Island for Rotem warranty modification: 816, 825, 826, 832, 835,1821,1823,1824; nine cars in production at Rotem/ Philadelphia: 838, 841, 842, 843, 844, 845, 846, 1811, 1827.

Locomotives: 2000 is at General Electric for emissions testing; 2001 was delivered to Boston Engine Terminal on October 24 for training and testing. During the past few weeks it has been doing clearance testing on all lines (north and south), and was reported pulling a 10-car consist of Rotems at track speed on the Northeast Corridor; 2002 status unknown; 2003 is at Pueblo AAR testing facility. Word is that 18 of the 40 locomotives are already built, and once testing is completed with the pre-production units, deliveries will commence this spring at the rate of three to four per month. (Todd Glickman, March 18)

The MBTA Blue line station at Government Center was closed in March for two years to expedite its rebuilding. The 1897 station, originally named Scollay Square, was last renovated in the 1960s. This $82 million renovation will provide the station with elevators, new platforms, and a four-story glass headhouse. It is expected to reopen in 2016 and restore connections with the Green Line. (Al Holtz, March 24)

MBTA has reported that its new "Owl" service until 3 AM on all subway and light rail lines and 15 popular bus routes has been a resounding success, carrying over 18,000 riders in safety with no recorded arrests for disorderly conduct during the weekend of March 28–30. The $16–17 million Owl service program is being supported by state and corporate sponsors. (***Boston Globe***, March 29 and ***Metro***, April 2)

CAMDEN, NEW JERSEY

In response to customer complaints of service delays and interruptions, PATCO issued a new schedule on March 21 that minimized the effect of schedule changes caused by single-tracking required to perform a $102.8 million track rehabilitation on the Ben Franklin Bridge that is expected to last two years. This schedule will reduce the number of rush hours affected from three to just one, Friday night. Single-tracking will now be in effect only from 10 AM Friday to 4:30 AM Monday with 30-minute headways on Friday evenings. After Memorial Day additional track outages may be required. (PATCO, March 18)

WASHINGTON, D.C. AREA

With $46 million added to its six-year budget, MARC started offering weekend train service on December 7, 2013. Ridership levels have since grown steadily, prompting MARC to add one to two cars to nine three-car trains on Saturdays and six three-car trains on Sundays, boosting the capacity of each train from 389 to 653. (Al Holtz, March 27)

WMATA, the operator of Washington, D.C.'s Metrorail, is projecting that the Phase 1 segment of the Silver Line could open for service on July 4, 2014, a year late due to construction, testing, and certification delays. The 11.2 mile-long Phase 1 runs westward from East Falls Church to Wiehle-Reston, with intermediate stops at McLean, Tysons Corner, Greensboro, and Spring Hill. The 11.5-mile Phase 2 of this line is expected to link D.C. with Dulles Airport in Virginia by 2018. (***WTOP-FM Radio***, ***Railway Age***, April 8)

On March 21, the Federal Transit Administration (FTA) issued a record of decision approving plans for the 16-mile Maryland Purple Line LRT, which will serve the northern suburbs of Washington, D.C. The 21-station line will run inside the Capital Beltway from Bethesda in the east to New Carrollton in the west, and will offer numerous connections: Metrorail's Orange Line, Green Line, and two branches of the Red Line and to the MARC commuter rail Brunswick, Camden and Penn Lines. The $2.4-billion project is a public-private partnership (PPP) by the Maryland Transit Administration (MTA), and with the decision, preparatory work can be done to allow for construction (***International Railway Journal***, March 21)

NORTH CAROLINA

Work began on double-tracking an 11-mile section of the rail line between Salisbury and Kannapolis, N.C. that carries freight as well as the *Carolinian* and *Piedmont* passenger trains financially supported by North Carolina DOT. When it is completed in November, 2016, travel times will be improved for passenger trains, as they will be able to pass each other without delay. Several grade crossings will also be eliminated. (Al Holtz, March 28)

From May 29 through June 1, the "Streamliners at Spencer" festival in North Carolina will put on display 20 examples of classic streamliner locomotives spanning from the 1930s through 1950s, ranging from the Class J611 steam locomotive to New Haven FL-9 2019, last class of the "covered wagon" streamliner diesels produced by EMD. Featured events include daytime and light photo sessions and special chartered train operations. (***NCTrans.org***)

ATLANTA, GEORGIA

With its renewed solvency, MARTA will be increasing

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train service beginning May 19. During peak periods, trains will operate every 10 minutes on the north-south Red and Gold Lines to Doraville and North Springs as well as on the east-west Blue and Green Lines to the Hamilton E. Holmes and Bankhead stations. On the line segments sharing two lines, this will result in five-minute headways on such sections as Atlanta Hartsfield-Jackson International Airport and Lindbergh Center and Ashby-East to Candler Park. (***Atlanta Journal-Constitution***, April 8)

FLORIDA

SunRail, a new commuter rail operation in Central Florida serving Orlando and its suburbs, will begin service on May 1 and offer free rides through May 16. Fares will be charged starting May 19, a base fare of $2 with a dollar added for each county line crossed during a person's journey. The maximum fare for Phase 1 will be $4. Peak period service frequencies will be every 30 minutes, with a two-hour headways during the off-peaks. Train service at the Orlando Lynx station is expected to run from 5:44 AM through 9:26 PM. No weekend or holiday service will be offered at this time. Train consists of two to three bi-level coaches similar in design to those used on Tri-Rail, Sounder, Los Angeles MetroLink, Salt Lake City, Minneapolis NorthStar, and GO Transit will be powered by Boise, Idaho-based Motive Power Industries MP-32-PHQ locomotives similar to the MP-36 and MP-40 units used by MARC, VRE, Seattle Sounder, and GO Transit. Fare enforcement will be by proof of payment with ticket media utilizing a "tap on, tap off" system requiring passengers to tap their ticket or pass on the screen of the validator machines at each station prior to boarding and tap their ticket or pass upon exiting their destination station. Phase 1 is 31.5 miles long with 12 stations, utilizing the former CSX and Seaboard Coast Line, which was purchased by Florida in December, 2010 for $432 million and will stretch from DeBary to Sand Lake Road south of Orlando's downtown. Phase 2 will extend the line by 30 miles north to DeLand and south to Poinciana, south of Kissimmee, and add five stations to the line. (***Orlando Sentinel***, April 1, SunRail website)

(Editor's Note by Ron Yee: SunRail was created as a means to mitigate the anticipated traffic congestion caused by construction work expected to last several years as I-4 is widened. This is a similar situation in the late 1980s that gave birth to TriRail between Miami and West Palm Beach when I-95 was being expanded. It is hoped that this rail line will also entice people out of their cars. From my 30 years at Metro-North, it was determined that running two-car push-pull trains on branch line shuttles placed excessive strain on the braking systems and wheels of push-pull coaches when the train was operated in the push mode due to the momentum of the locomotive in the rear. As a result, the minimum consist of a MNR push-pull train is three cars. I hope the engineering types at SunRail have accounted for this if they go with two-coach consists.)

Tri-Rail will be taking delivery of the first of 12 Brookville BL-36-PH locomotives at a cost of $50 million. They have a unique design featuring two engines for redundancy, utilize d.c. traction motors, and are expected to vastly improve service reliability in the coming months as they take over from the 40-year-old locomotives currently serving the line. TriRail's contract with Brookville has an option for up to 17 additional units at $3.8 million each. Together with the delivery of 24 bi-level coaches and control cab coaches from Rotem designed with the latest in energy-managing crumple zones in case of a collision, TriRail is positioning itself for additional growth. (***Sun Sentinel***, March 3)

MINNEAPOLIS-ST. PAUL, MINNESOTA

Beginning on May 7, the St. Paul Union Depot will once again be a passenger rail station, for the first time since April 30, 1971, as the *Empire Builder* will move its Minneapolis stop to the new location. As a result, the Midway station will close. According to ***Trains***, Union Depot currently serves as a bus depot for Jefferson Lines, Megabus, Metro Transit, and Minnesota Valley Transportation Authority bus services. On June 14, Metro Transit's Green Light Rail Line will open with a stop in front of the station. Amtrak holds a 20-year commitment for operating out of the station, and there is also talk of a second Minneapolis-Chicago train. The new station and light rail connection via the Green Line will be open in time for the ERA Annual Convention in August. And on April 9, the ***Star Tribune*** reported that the Southwest Corridor light rail line gained crucial approval from the Metropolitan Council, the agency in charge of the project, which voted 14-2 in favor of a plan to hide the light rail line in twin tunnels through the Kenilworth corridor of Minneapolis, despite complaints that it will disrupt and transform the neighborhood. (***Trains***, ***Mass Transit***, via Al Holtz, April 2)

Also making headlines in Minnesota, on April 3, ***NNC Now*** (a Northern Minnesota news outlet) ran an article on the proposed Northern Lights Express service, the article noting that the line is getting close to construction. The Northern Lights Express is in a preliminary engineering phase that looks at different operations of the project, different construction, and different ways to build the line. The project is, however, several years from launching, as several studies related to the project will only be completed in 2015 and construction is only planned to begin following year. (***NNC Now***, April 3)

KANSAS CITY, MISSOURI

Following up from the ***Bulletin***'s April, 2014 story on Kansas City hiring a marketing firm for its new streetcar line, the Kansas City Council on March 27 unanimously

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and enthusiastically endorsed a plan to extend the downtown streetcar starter route, paving the way for a court hearing and possible elections to help pay the cost, ***Mass Transit*** reported. For the streetcar to expand outside of downtown, tax changes would need to be made. (***Mass Transit***, via the ***Kansas City Star***, March 28)

TEXAS

Texas getting high-speed rail might actually be coming to fruition. On March 27 in Austin, six appointees from Fort Worth, Arlington, and Dallas were approved as members of a high-speed rail commission, which is being led by former Fort Worth Councilman Bill Meadows. According to ***Mass Transit***, citing a ***Fort Worth Star-Telegram*** article, the commission is overseeing the state's role in a proposed high-speed rail line that would connect Houston, Dallas, Arlington, and Fort Worth, with the Houston-Dallas connection possibly opening in 2021. The Mayors of the cities of Fort Worth, Dallas, and Houston have publicly supported the project. The proposal would rely on Texas Central Railway, in a partnership with Central Japan Railway, building a Houston-to-Dallas connection and opening it to the public by 2021. The group says it can build that line for roughly $10 billion in privately-raised funding, without public subsidies. (***Mass Transit***, March 27; ***Fort Worth Star-Telegram***)

CHANDLER VALLEY, ARIZONA

In a story originally published on April 8 in the ***East Valley Tribune*** of Chandler, Arizona, city leaders want to bring light rail to that municipality. Valley Metro, which operates the light rail system in Phoenix, Tempe, and Mesa, has already conducted a study at the behest of city officials on the feasibility of the mass transit system in Chandler, and another study is expected to begin next year. However, even if the plans get a green light, it could be decades until any light rail is up and running. The proposed line would link downtown Chandler and connect with the current system in Mesa. (***Mass Transit***, April 8)

ALASKA

The Alaska Railroad announced on April 2 that it had signed $16.6 million worth of contracts with Wabtec Corporation for the implementation of Positive Train Control along its lines, for both passenger and freight services. According to ***Railway Gazette***, Wabtec is to provide PTC equipment for 54 locomotives, along with its Interoperable Electronic Train Management System and its computer-aided Train Management and Dispatch System for centralized traffic control and track warrant control. Wabtec's system for the Alaska Railroad will be interoperable with systems that will be used on other Class I railroads across the United States. Wabtec is an American company formed by the merger of the Westinghouse Air Brake Company and Motive Power Industries Corporation in 1999. It is headquartered in the Pittsburgh suburb of Wilmerding, Pennsylvania. (***Railway Gazette***, April 2)

CALIFORNIA

California's beleaguered high-speed rail project has made a lot of news in March and April. Despite the encouraging news that support for the project has improved in recent months, the ***Sacramento Business Journal*** reports that the new line will not meet travel time goals. ***Mass Transit*** noted in a story dated March 28 that a State Senate committee was told that "real world engineering issues" would cause schedules for regular service to exceed the target of two hours and 40 minutes. An assessment by Louis Thompson, Chairman of the High-Speed Rail Peer Review Group, a state-sanctioned panel of outside experts, came as lawmakers are considering a proposal by Governor Jerry Brown to allocate $250 million in greenhouse gas taxes to the controversial project next year, and a third of all the revenue from so-called cap-and-trade revenue in future years. If all of the greenhouse gas fees were allotted to the bullet train system, it would leave a shortfall of up to $16 billion in required construction funds, Thompson said, and there is no indication whether or not it would pass in the California Legislature. On the other hand, work will begin on an elevated viaduct near Madera, one of the first major pieces of tangible construction for California's proposed high-speed rail line, with work potentially starting as early as next month. The ***Sacramento Bee*** reported on April 9 that in late February, the state rail agency and Amtrak each requested a waiver from FRA asking to be excused from Buy America requirements. Each wants permission to purchase two prototype trains that are built overseas, but to American specifications, for testing purposes until the chosen manufacturer can build a production factory — or modify an existing plant — in the United States to build the trains. For supporters of the "Buy American" clause, the stark reality is that there are no companies currently building such equipment on American soil. The Citizens for California High-Speed Rail Accountability, a group that is highly vocal in its opposition to the project, is currently suing the state for its high-speed rail plans. (***Sacramento Bee***, ***Sacramento Business Journal***, ***Mass Transit***, March 27 and 28)

Trains reported on April 1 that the San Francisco Municipal Railway (Muni) plans to begin operation of a second historic streetcar route in 2016. The Muni Board of Directors has approved funding to start regular service on the new E Line, with weekend service to start in the summer of 2015 and full-time service to start in spring 2016. Benefits to the F Line would also be implemented, including reduced headways. (***Trains*** via Al Holtz, April 1)

On April 1, CalTrain opened the new grade-separated

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Commuter and Transit Notes

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San Bruno station. This station is part of a $155 million grade separation project that eliminated three grade crossings, improving pedestrian and motor vehicle safety as well as easing traffic issues to and from nearby Highway 101. The new station features 201 parking spaces and a kiss-and-ride drop-off lot. The temporary facility at Huntington Avenue, located a half mile south of the new station, was closed on March 31. (Al Holtz, March 21)

EDMONTON, ALBERTA, CANADA

On April 8, contractors began powering up the overhead wires that will provide electricity to the trains on the Metro Line, the city's North LRT extension to NAIT (Northern Alberta Institute of Technology). The Metro Line represents the next major step towards transforming Edmonton's transportation system. It is expected to add 13,200 weekday riders to Edmonton's LRT network and link major destinations like NAIT, the Royal Alexandra Hospital, and MacEwan University to the rest of the network. The line is expected to open later this year. (***Mass Transit***)

PANAMA CITY, PANAMA

The March, 2014 issue of the ***Bulletin*** incorrectly noted that the Metro de Panamá in Panama City was to open on March 4. The line actually opened on April 7 at 5 PM local time (GMT -6), with public service between 9 AM and 3 PM the following day. The opening comes 38 months after the start of construction. During the "adaptation period" travel will be free, with passengers receiving guidance on how to use the metro. Construction cost U.S. $1.4 billion and was carried out by the Línea Uno consortium of FCC and Odebrecht, with Barcelona metro operator TMB, Ayesa, and Inelectra providing project management and technical assistance. Alstom supplied Urbalis CBTC (Communications-Based Train Control) and 19 three-car Metropolis trainsets built at its Santa Perpètua de Mogoda factory in Spain. Service runs from 5 AM to 10 PM and the line expected to carry 40,000 passengers a day by 2035. (***Railway Gazette***, April 7)

LONDON, ENGLAND

Transport for London and the Department for Transport announced on March 27 that the western branch of the Crossrail route is to be extended from Maidenhead to Reading. The first Crossrail-branded services are due to begin running over existing tracks between London Liverpool Street and Shenfield in May, 2017, with the east-west tunnel between Paddington and Liverpool Street opening in December, 2018. Bombardier won the contract to build the equipment for Crossrail. (***Railway Gazette***, March 27)

BUDAPEST, HUNGARY

In Budapest, Prime Minister Viktor Orbán and Mayor István Tarlós opened Budapest's fourth metro line on March 28, starting a weekend of free travel from 12 noon, ***Railway Gazette*** reported. The 7.4-kilometer (4.6-mile) line is entirely automated and runs in entirely in two 5.2-meter (17-foot) diameter bored tunnels from the Keleti railway station, under the Danube to the Kelenföld station. While still automated, trains on the line will be initially operated with an onboard supervisor in the cab. It is planned that after the first year of service, the cab partition wall will be removed (take note, railfans) and the trains will run unattended. There are eight intermediate stations, including an interchange with Line M3 at Kálvin Tér. End-to-end journey time is around 13 minutes, with two- to three-minute headways during peak hours, five minutes off-peak, and down to 10 minutes in the late evening. (***Railway Gazette***, March 28)

TURKEY

Railway Gazette on April 8 noted that Turkish national railway TCDD is planning to order another 10 high-speed trainsets. Last July, TCDD placed an order for seven Siemens Velaro TR trainsets capable of operation at up to 300 km/h (186 mph). These would complement the 12 six-car CAF trains already in service at 250 km/h (155 mph) on the high-speed routes linking Ankara, Konya and Eskisehir. Furthermore, at present there are also three additional fast passenger lines under construction. Further trainsets might be developed internally as part of a "National Train" program to meet a 250 km/h operation standard. (***Railway Gazette***, April 8)

RIYADH, SAUDI ARABIA

In Saudi Arabia, construction of the Riyadh metro was officially started on April 3 with a groundbreaking ceremony led by Riyadh Governor Prince Khaled bin Bandar. The six lines are being built by different consortiums, with Lines 1 and 2 being designed and built by the BACS consortium led by Bechtel and including Almabani General Contractors, Consolidated Contractors Company, and Siemens under a nearly $10-billion contract. The ArRiyadh New Mobility is designing and building Line 3 under a $5.21-billion contract. The FAST consortium is in charge of building Lines 4, 5 and 6. The 109.4-mile network is due for completion by 2019 (***Railway Gazette***, April 4)

CHINA

It is not a great time to be in the management of a Chinese airline. In an article in ***The Atlantic*** Magazine's column "Atlantic Cities," the popularity of the nation's growing high-speed rail network has caused not-so-minor financial woes for some Chinese airlines. According to the article, the 2013 end-of-year operating profit of China Southern Airlines dropped by 70%, Air China dropped by 32%, and China Eastern Airlines dropped by 25%. Bullet trains now carry twice as many passengers each month as the country's domestic airlines and have an annual growth rate of 28%. To make matters worse for the airlines, the high-speed rail network is

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Around New York's Transit System

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station by the Train Operator of the D train he was working on at around 9:30 AM. The doors had opened but failed to close despite efforts by the Train Operator to contact Dawson. The Operator went back to the Conductor's position and discovered the Dawson unconscious. He was pronounced dead at St. Barnabas Hospital. (***New York Daily News***, March 24)

Subway Crime Down vs. 2013

NYPD Transit Bureau Chief Joseph Fox reported that subway crime during the months of January and February, 2014 had fallen 7% compared to the same period in 2013. iPhones and iPads are still the most popular targets for thieves. (***New York Daily News***, March 24)

Subway Ridership Reaches 65-Year High

Subway ridership reached its highest annual level since 1949, 1.7 billion rides. Much of the increase can be attributed to three lines in Brooklyn, F, G, and L, that run through neighborhoods that the "hipster generation" has settled. Car ownership amongst hipsters is significantly below that of previous generations of New Yorkers. (***Transportation Nation***, March 24)

Subway "Surfer" Killed

A 45-year-old man (yes, this is not a typo) was killed around 10:15 PM on April 2 while "surfing" on the roof of a 6 train as it went from Whitlock Avenue to Elder Avenue on the former IRT Pelham Line. (***DNAinfo NY***, April 3)

(*Editor's Note: This is the section of the line that curves sharply to the east after departing Whitlock Avenue and crosses Amtrak's Northeast Corridor on a steel truss bridge that has many beams just above the roofline of the train.)*

Governor's Office Asks MTA To Review Advertising Standards

A spokesman for New York Governor Andrew Cuomo called for MTA to review its advertising standards in response to a racy ad for "affordable" female breast augmentation by Doctors Plastic Surgery of Long Island City (http://bit.ly/1qYmex8) that has appeared on 1,000 subway cars and in 50 stations. Despite objections from many riders, MTA is standing by its decision to allow the "Made in New York" ads to remain, stemming from previous legal actions regarding other controversial ads that had been posted, citing the infringement of an advertiser's First Amendment rights. Advertisers pay large sums of money to put their ads on display and are a significant source of revenue. (***New York Daily News***, April 8)

Rat Rides A Train

A large rat boarded a southbound A train at the Fulton Street station on April 8 and rode to High Street in Brooklyn, terrifying most of the passengers who were trapped in the subway car with the rat as it traveled under the East River. NYC Transit has doubled its budget for pest control this year, focusing on trash container integrity and securing the rooms that trash is stored in until it gets picked up during the evening and owl hours. (***New York Daily News***, April 8)

Crosstown Line River Tube Repairs

Riders on the Brooklyn-Queens Crosstown (G) Line will have more than the crowded four-car R-68 train sets to complain about when a summer service cutback goes into effect to allow for a second round of repairs to address Hurricane Sandy damage. Trains will be turned at Nassau Avenue from July 26 to September 1 leaving Court Square, 21st Street-Van Alst, and Greenpoint Avenue without subway service during that period. Substitute bus services will be offered in the interim as the alternative. Riders on A, C, and F will be the next to be inconvenienced by post-Hurricane Sandy repairs to the Cranberry Street (AC) and Rutgers Street (F) East River tunnels. Work on them is slated to commence as soon as the Montague Street (R) Tunnel work is completed in October and is expected to be confined to several weekends and not be a continuous outage as was the case of the Montague Tunnel. (***Gothamist***, April 2; ***Observer.com***, April 8)

Fulton Center Transit Hub To Open June 26

The $1.4 billion Fulton Center transit hub connecting 2345ACJZ is scheduled to open June 26. A corridor linking it with the World Trade Center complex, where connections to 1ER as well as PATH will be available, is expected to open by the end of 2014. (MTA press release)

Commuter and Transit Notes

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expected to grow to 11,800 miles by 2015. Oddly enough, the Chinese government has a massive stake in many of these same airlines. And to make a bad situation worse for the Chinese airlines, China Railways Corporation (CRC) has announced it will increase its 2014 investment budget to Yuan 720 billion ($116.3 billion), Yuan 20 billion ($3.2 billion) more than previously planned. The additional funds will allow construction to begin on four more railways this year, taking the total number of projects underway to 48. (***The Atlantic***, March 31; ***International Railway Journal***, April 10).

TRACTION TOUR TO SOUTHERN EUROPE
by Jack May
(Photographs by the author)
(Continued from April, 2014 issue)

After leaving the museum we made a round trip on the 15 line. This is the only route that employs the modern 70-percent low-floor cars purchased by Carris from Siemens in 1995. On previous trips to Lisbon I was disappointed (and annoyed) that almost all of the LRVs were wrapped with garish advertisements. This has changed and we saw only one car so defiled. The same could be said for the single-truckers, where we saw more cars without ads than in the last two or three decades. And the chaos of motor traffic on the streets seemed to be less than in the recent past as well. Perhaps this was because it was a Saturday, but I'd rather think that the City has re-engineered the arterial street network to encourage traffic to avoid downtown and the streetcar lines.

All of the service we saw on Lisbon's only remaining coastal route was provided by the 10-car fleet of LRVs, but on my most recent trips a short turn service was operated by single-truck *remodelados,* using an off-street loop at Belem. Somewhat like the 12 and 28, Route 15 also serves a number of tourist attractions, mostly along the outer end of the line. Included are the great Belem Tower and the Jeronimos Monastary as well as several museums. As a result of these traffic generators, the LRVs are usually crowded

After having breakfast on the morning of Sunday, April 14 we walked under clear blue skies to the Rossio station to take a suburban train to Sintra. We reached the lobby just after 8:00, and saw we had just missed one. But not to worry, Sunday service on the suburban line is every half hour, and we were planning to ride the 8:38 anyway. Running time for the 18-mile journey to Sintra is 39 minutes, and the first car on the tramway was not scheduled until 10:00. The ticket office was not open, but a few automatic vending machines were available. I attempted to fill my Smart Card with a round trip to Sintra, but it was rejected. Thus I had to buy a new card, which would cost me an extra half Euro. However, my coins neither registered nor were rejected. There was a policeman patrolling the station so I ran over to him and I tried to explain my problem. He accompanied me back to the machine, gave it the once over, and then — bang — he gave it a good smack. My ticket and change came out forthwith! All's well that ends well.

We caught the 8:38 train, which consisted of two 4-car EMU sets with comfortable facing seats. We noted that weekday base service on the line is every 15 minutes, and there's an overlapping service that runs from the Oriente station to about halfway up the line, with a three-minute connection time for passengers going to and from Sintra. We arrived on time at 9:17 and followed the instructions shown on our Google maps for the 10-minute walk to the Estefania, the inner terminal of the Sintra-Praia do Macas interurban.

I have ridden this gem three times before, and have enjoyed it on each occasion. The line, which is evocative of old-time American-style electric traction, dates back to 1904 and still maintains most of its original equipment. Shut down, cut back, and extended over its history, it is now 9 miles long and runs from the edge of the town of Sintra (which is itself a tourist attraction) in a general westward direction down to the beach at Praia das Macas. Almost all of its single-track route is along either side of the main road, which is crossed here and there. It was originally privately owned but eventually came under the control of the government. Privatized for a while, it is now operated by the Sintra Town Council. At its height of utility, it operated into the town itself, but now ends at the outskirts. At its lowest ebb the track was in horrendous shape with operation confined to only a small portion of the route in just the summer, and using only a few cars. It now runs with a heavy schedule in the summer, but with only a limited timetable on Fridays, Saturdays, and Sundays during other portions of the year. With good local bus service on a nice paved road, the line's reason for existence has morphed from being an essential transportation service to an attraction for tourists (and railfans). See the municipal site: http://www.cm-sintra.pt.

This would be the first time I rode its entire length, although the last time I visited, with members Phil Craig and Jon Boyer in 2008, we covered all but about 1 km. It is a long story, but we scheduled a 200-Euro charter with the line's Operations Director, a Scottish traction enthusiast named Bob Docherty, who arrived in Portugal when Stagecoach took over operations of the tramway and all the region's bus services. He remained with the organization after the line reverted to municipal operation. Anyway, a couple of weeks before our visit there was a major derailment just down from the main carhouse, Ribeira (there is a second, smaller one, Banzao), which tore up the rails. Service over all of the line except the portion between Ribeira and Sintra, which had been rebuilt, was immediately shut down. But Bob invited us over anyway and said that his supervisor indicated that we could have a charter for half-price over whatever portions of the line were usable.

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Traction Tour to Southern Europe

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I had met Bob ten years before that, on Easter Sunday in 1998, when the line's lower (west) end was the only portion in service. While waiting for a bus to take me to Colares, the end of the line in those days, I was joined by a railfan from Britain who knew Bob and had arranged to meet him that day at Banzao, the only operating carhouse. I hooked up with him after riding the public operation, and ended up being a guest on a private fantrip, on which I even got to operate.

Ten years before that I put together an ERA trip to Portugal and neighboring countries, and we had a fantrip on the line. That was my first visit, and at the time only the lower end was operating, so we started at Banzao. At the end of the excursion, our chartered bus took us to Ribeira Carhouse, which was pretty derelict. Lots of equipment was sitting inside covered with dust, and the whole area had been taken over by gypsies, whose children and dogs were running about. Clothes were hanging on lines strung up between trolley poles, and it looked like the whole operation was doomed. However, we were told that the line would be restored — and it came true!

But back to 2008. We took a taxi to Banzao, as luckily an operating streetcar had been stored at the small facility. We could not run to the southern end of the line at Praia das Macas, as when the line was shut down a hotel that advertised charters was left in the lurch, the organization indicating an inspection of its right-of-way showed that it was too dangerous to operate service of any kind to the beach. But we did run in the other direction directly up to the site of the derailment, having to shovel dirt off the tracks at various points where it had accumulated quickly due to non-use. At that point we were close enough to the main carhouse at Ribeira to be able to walk there, and so we did, and picked up another car for an excursion to the upper end of the line, which was over a newly refurbished right-of-way. It was a great day and we all got to operate.

Interestingly, we had all agreed that if the tracks were ripped up by such a derailment at the Branford Trolley Museum, service would have been restored in less than a week, but instead the company decided to renovate the entire railway, which took several years! During that period a modicum of tourist service was provided between Estefania and Ribeira on a very reduced schedule.

Now to the present again. The Spring timetable was in effect, with 6 round trips scheduled, leaving the Sintra end at 10:00, 12:00, 13:00, 14:00, 15:00, and 17:00. With a scheduled running time of 50 minutes to the beach, where the departures would then be on the next hour, and 40 minutes for the return, this meant two cars would be on the line from 13:00 to 16:00. Since we wanted to ride both cars, we would make the day's first round trip, and then just ride as far as the stop closest to the main carhouse on the 12:00, laying over for an hour to photograph the pullout of the second car for the 13:00 round trip. This would put as back at Estefania (Sintra) at around 14:40 and would be the end of our visit. When we reached Estefania, at about 9:35, we observed that because of the position of the sun there were no good photo angles to be had. Thus we decided to walk to the next stop, Monte Santos, and en route select a place to photograph the pullout. The walk was downhill, along a right-of-way that had many curves, so we quickly found a good spot for the photo.

At about 9:50 the streetcar went by and we recorded it for posterity. We continued walking down to Monte Santos and easily beat the tram. It was 4, an arch-roof car, one of the last two units built by the company, during the World War II period (Portugal was not a combatant). Counting the two of us, there were 9 people aboard, and almost immediately we were sold tickets by the Conductor of the two-man crew. Among the riders were two British railfans, one being Dave Spencer, who was taking an extensive amount of videos out the front of the car for his tram video business.

Upon reaching the end of the line we took photos of the tram and the adjacent beach along the Atlantic Ocean. We continued back to the Sintra terminal and then rode two stops to Ribeira, where there was a local café that supplied us with beer (Phil) and peach juice (me). We walked up to the carhouse, being barked at by dogs, and even saw a tethered goat. The facility was locked up tight, but soon the crew of the second tram arrived by auto, and pulled out the second car, which was 2, one of the other arch-roof wartime units. This was a great disappointment, as we hoped we would be able to ride one of the original deck-roof Brills from 1904. The crew was not particularly friendly, and would not allow us to enter and look around the carhouse, nor would they carry us on the pull-out to the Sintra terminal for its 13:00 departure. We did board it finally at the Ribeira stop and rode it to Praia das Macos and back to Sintra. On the down trip we stopped at the siding where we would pass car 4 and had a few minutes to photograph the meet. The crew was quite willing to accommodate us for that, letting us off the car and then patiently waiting for us to reboard it after our photos.

We reached Estefania at about 14:40 and then headed back up the hill to the center of town. Instead of riding the 15:10 back to Lisbon, we paused for libations at one of the sidewalk cafés near the station that caters to locals and tourists alike. That was very pleasant and we took the 15:40 train back. Instead of riding to Rossio, we decided to change for a connecting train bound for Oriente. Oriente is a very modernistic station on the national railway's mainline, which was built for Lisbon's Expo '98 by Santiago Calatrava, and we wanted to get a look at it. It appeared very impressive as we neared it

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Traction Tour to Southern Europe

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rounding a curve, but on closer examination we were not particularly impressed. It is very large and roomy, clearly having been able to serve large crowds, but we didn't think its facilities for serving the public were particularly well laid out and user-friendly. For example, we would have thought the connection to Lisbon's Metro would be more direct.

We rode the Metro back downtown and then made a trip on the 28 carline before having dinner and retiring. It was an excellent day.

Despite a good weather forecast, Monday dawned cloudy and foggy. After breakfast, we checked out and left our luggage with the desk clerk. We would come back to retrieve the bags and then take the Metro to the Santa Apolonia station for our 17:00 train to Porto. But now it was time to ride the 25 and complete our survey of Lisbon's tram routes. It was a short walk to a stop near Praca do Comercio (shared with Route 18) and soon a 4-wheeler using its pantograph to pick up current came by. The line is not as spectacular as the 28, but, in actuality, is sufficiently steep to stand on its own as an outstanding riding experience. Returning from Prazeres, we walked along the hilly section in the inbound direction and took a good number of photographs, ending up at Cais do Sodre, where we crossed the Tagus by ferry for our afternoon activities on the south side.

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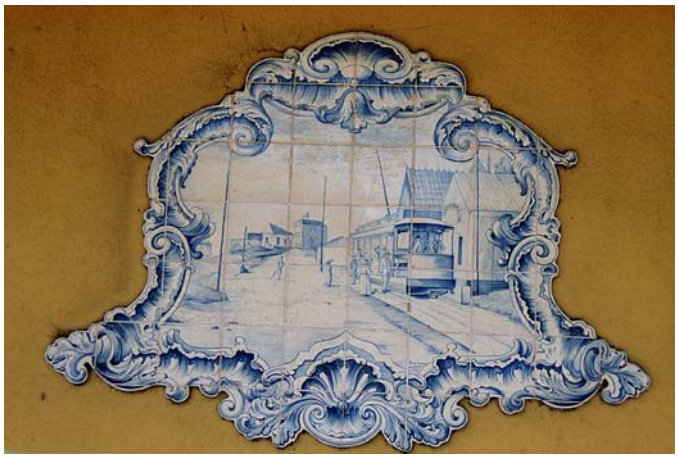
A sightseeing car and a regular lay over at Lisbon's Martim Moniz terminal, alongside a park near downtown. The circular Route 12 passes this point as well.

A view of Lisbon's Route 28 from a stairway at the Sao Tome stop of Route 12, just before the junction of the lines.

Along the road between Estefania and Monte Santos. The roadbed and track down to Ribeira were relaid in 2004.



The Portuguese are noted for their tile work, which can be found on buildings throughout the country. This example comes from a structure along the Sintra tram line, and is as good an introduction to the subject as any.

Around New York's Transit System

Fare Media Modernization News

While there is no set timetable for the phase-out of the *MetroCard,* which debuted in 1993, it is expected that in around five years, a new fare medium will be contactless, capable of exchanging information over a short distance, eliminating the need for a customer to physically swipe their cards at the turnstile. MTA plans to allow chip-enabled phones as well as contactless smart cards it will sell to the public directly and possibly through supermarkets and banks. (***The New York Times***, March 19)

Automobile Rides Train on Brighton Line

An SUV crashed through concrete barriers on Albemarle Road, a street that dead-ends at the Brighton Line, went airborne, and ended up on top of a southbound Q train around 5 AM on March 19. The driver fled the scene, but was later arrested on a variety of charges. Passengers aboard this Q train were evacuated and brought back to the Church Avenue station. The SUV was removed from the tracks at 7:15 AM. Service was restored with trains operating on the express track between Prospect Park and Kings Highway while repairs were made to the barriers. (***New York Daily News***, March 20)

Straphangers Campaign Subway Route Ranking

The D train ranks last in the Straphangers Campaign's survey of subway cleanliness by route. NYC Transit disputed the findings that a system-wide average of only 42% of subway cars reviewed by Straphangers was rated as clean. NYC Transit's own in-house evaluation show 92% of surveyed cars met cleanliness standards. Only 17% of D cars were reported as clean by straphangers, while L rated as best, with 63% of cars surveyed rated as clean. (***New York Daily News***, March 20)

Conductor Passes Away While On Duty

NYC Transit Conductor Stedmund Dawson, age 58, was discovered unconscious at the Kingsbridge Road

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New York City Subway Car Update

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Sandy decades. Also, the original right-of-way was generally restored as-was, which probably means the greatly enhanced support trestle of the former LIRR Rockaway Division is again entombed beneath tons of earth and ballast. To work against future such inundation from the Atlantic Ocean, approximately three miles of vertical, interlocked sheet piles were attached to either side of the right-of-way along the waterline from the North Channel swing bridge to the Broad Channel station, though it is cut low enough to retain the historically marvelous views of Jamaica Bay and JFK Airport from a typical seat on a passing A train. The siding at Broad Channel also remained out of service as of early March, 2014, with S Rockaway Park Shuttle trains continuing their "long relay" to Howard Beach-JFK. There was as yet no sign of progress in the repair of this last bit of damaged infrastructure caused by Hurricane Sandy.

CORRECTION

Member David Klepper sent the following correction to an item that was published in the ***Commuter & Transit Notes*** column in the March, 2014 ***Bulletin***. He corrected the description of the last Queensborough Bridge trolley cars.

These cars were NOT Brill Master Units. They were Osgood Bradley "automotive-type" cars, built in 1929 in Worcester, Massachusetts. They were practically identical to cars of this type in Scranton and Altoona, Pennsylvania.

MEMBER'S COMMENTS

Member David Klepper sent us the following comments regarding the Third Avenue Elevated article published in the March, 2014 **Bulletin**.

The Traffic Checkers failed to account for the fact that the additional space on southbound Lexington Avenue Expresses that they planned to be used by transferring Third Avenue riders was already filled by Pelham Bay Park Line riders transferring at 125th Street to get an express ride to Lower Manhattan. After the Elevated was abandoned south of 149th Street, these riders were forced to stay on locals. This meant that local riders along Lexington Avenue had crowded conditions and passengers displaced from Third Avenue Locals found conditions intolerable. There is no question that jobs in Manhattan were lost because of the abandonment of the Third Avenue Elevated without an immediate replacement by a Second Avenue Subway.