The Bulletin

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The Bulletin

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SECOND AVENUE SUBWAY PLANS

On page 18 of the February issue, we reported that the long-awaited Second Avenue Subway started operating on January 1, 2017. It was a partial replacement for the Second Avenue "L" that ceased operating in upper Manhattan at Unification on June 12, 1940.

Elevated trains provided frequent service. In 1933, the buses that replaced the Second Avenue street cars were busier than the street cars. Because IRT was losing revenue, it increased midday service from 6 minutes to 4 minutes and shortened trains to 3-car MUDC or 2-car gates. Rush hour service was just as frequent—4 minutes to 129th Street, 5 minutes to the Bronx and Willets Point, and 8 minutes to Astoria.

The Second Avenue "L" was doomed. Planners were anxious to replace it with a subway as early as 1919 and again on August 23, 1929, but money was never available.

In the early 1940s, the Board of Transportation started planning a $2 billion post-war subway construction program. First on the list was the Second Avenue Subway, which would cost an estimated $223 million. As soon as the new subway was in service, the Third Avenue "L" would be torn down. The new subway would start at Coenties Slip and reach the Bronx. It would run on Alexander Avenue, Melrose Avenue, and Washington Avenue, eventually connecting with the Concourse Line, the White Plains Road Line at 197th Street, and the Pelham Line at Hunts Point Avenue. The subway would also be extended via a two-track river tunnel to Court Street, Brooklyn, the site of the Transit Museum, at a cost of $22 million. Numerous other extensions were planned, including a two-track subway from Fourth Avenue and 60th Street, Brooklyn to New Brighton and Tompkinsville, Staten Island. These plans were submitted to the City Planning Commission, which listed in its 1946 budget only those projects deemed essential to keep the rapid transit lines in safe operating condition and make possible a few badly needed connections. In its six-year planning program, the Board of Transportation asked for $344 million for the Second Avenue Subway and an extension to the Bronx.

A December 15, 1947 newspaper article reveals a revised route for the proposed subway. At the south end, this plan shows the connection to the Manhattan Bridge tracks, similar to the present day operation. At the north end, the plan shows a connection to the Pelham Line at 138th Street and Brook Avenue. Also shown is a branch to 149th Street and Third Avenue with an escalator for passengers transferring to the Third Avenue "L" north of 149th Street. Alteration of the existing structure of the Pelham Line to accommodate the wider Second Avenue cars would cost $14 million. Planned service changes included through-routing trains from the Pelham Line to 95th Street-Fourth Avenue, the West End Line, and Hudson Terminal via a new connecting subway under 57th Street. Trains from 149th Street-Third Avenue would operate on the Brighton and Sea Beach Lines.

City officials agreed that the subway should be built, but money was never available. About 1948, the Comptroller estimated that $850 million would be needed to rehabilitate the rapid transit lines and build the Second Avenue Subway. Therefore, the Board of Transportation recommended that the city seek permission from the Legislature to borrow $500 million outside the debt limit to build the subway. For the city to obtain borrowing power, the Legislature had to approve

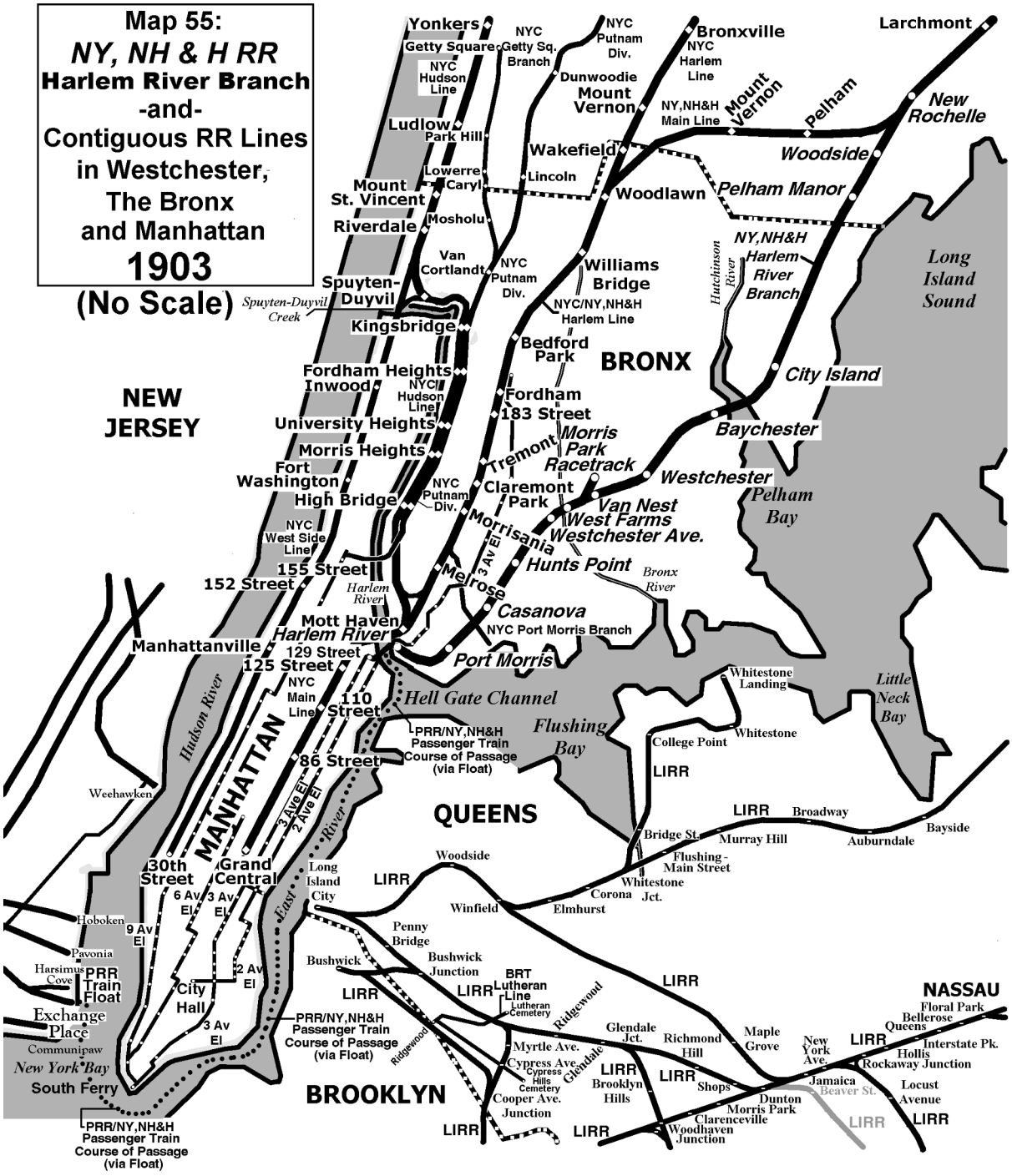
(Continued on page 18)

NEXT TRIP: METRO-NORTH HARMON SHOP TOUR, SATURDAY, APRIL 22

FROM RECOGNITION TO DOMINANCE: THE NEW YORK CONNECTING RAILROAD (BRIDGING THE BAY AND CONNECTING THE PIECES)

by George Chiasson

(Continued from March, 2017 issue)



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From Recognition to Dominance

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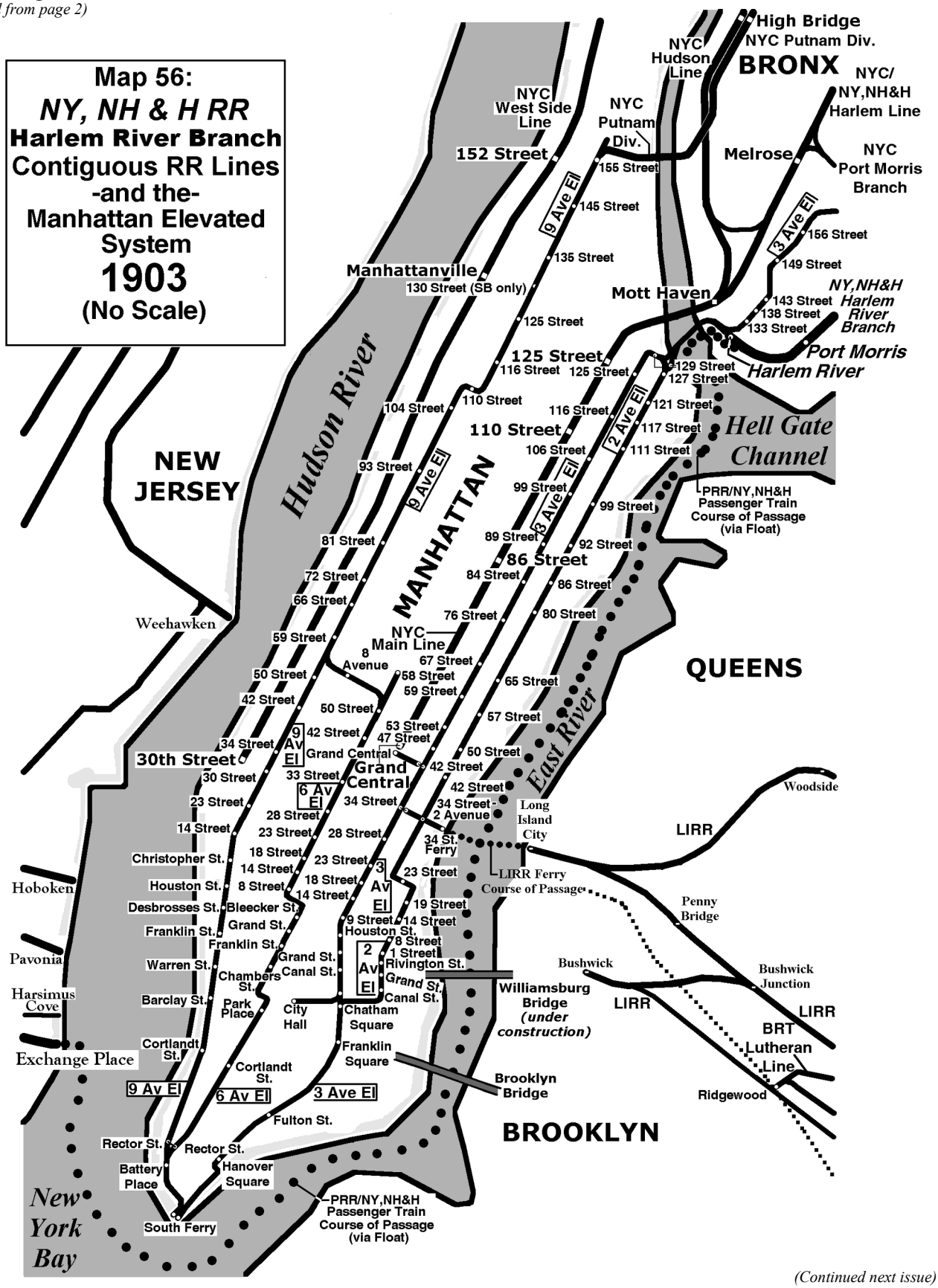

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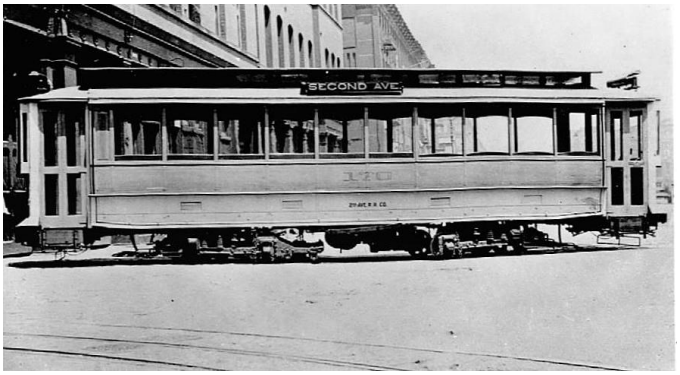
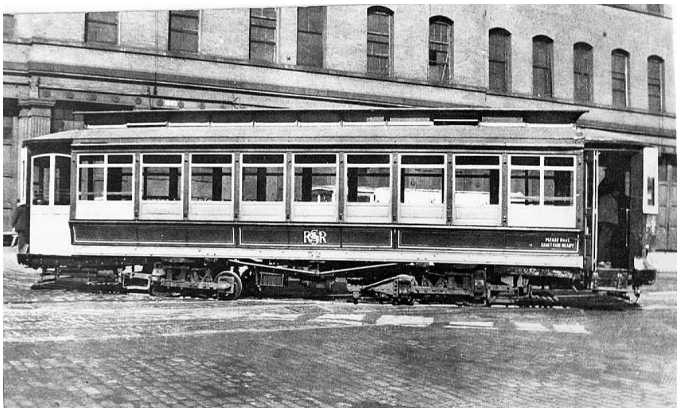
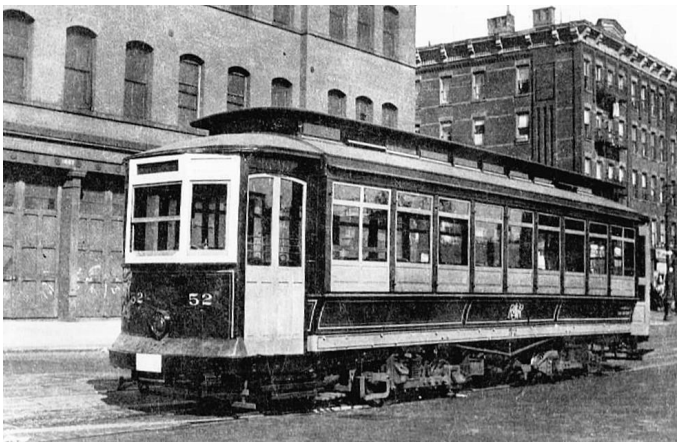
SECOND AVENUE STREET CAR PHOTOS



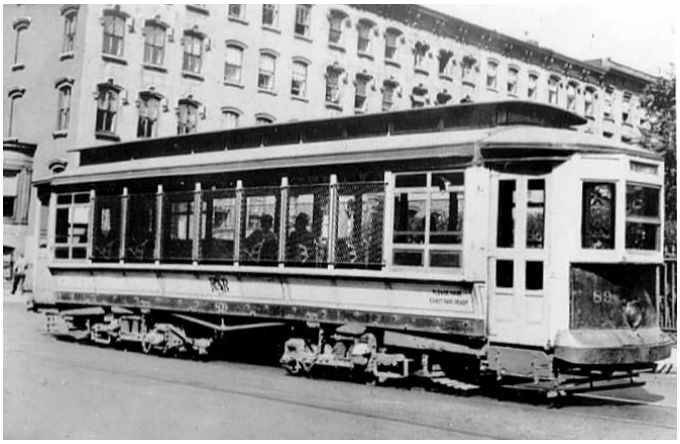
Second Avenue Railway car 170.
Bernard Linder collection



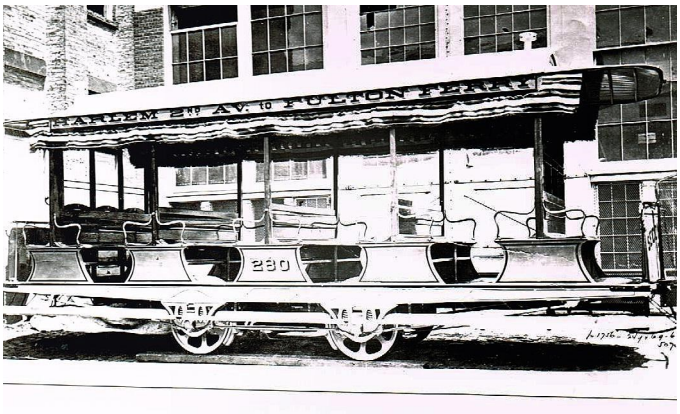
Second Avenue Railway car 52, probably at 96th Street Barn.
Bernard Linder collection



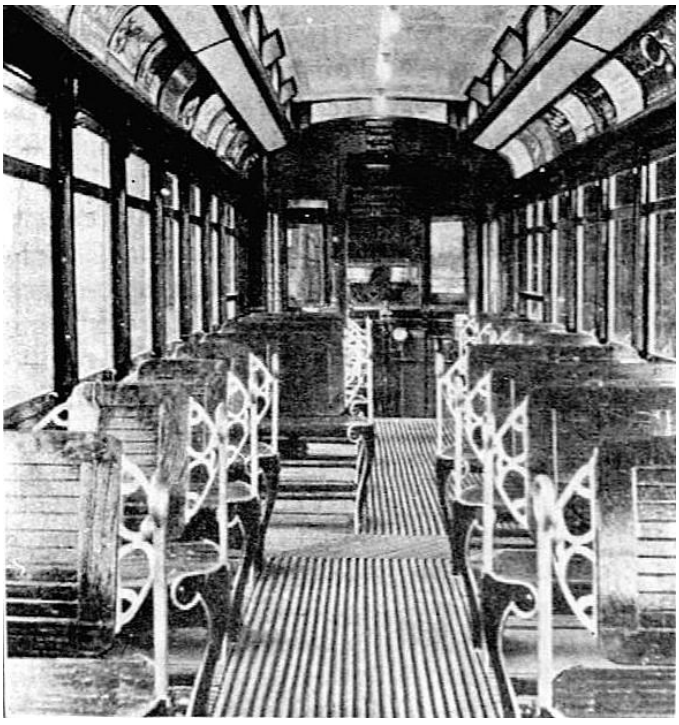
Another view of car 52, showing windows for winter operation.
Bernard Linder collection



Screens for summer operation.
Bernard Linder collection

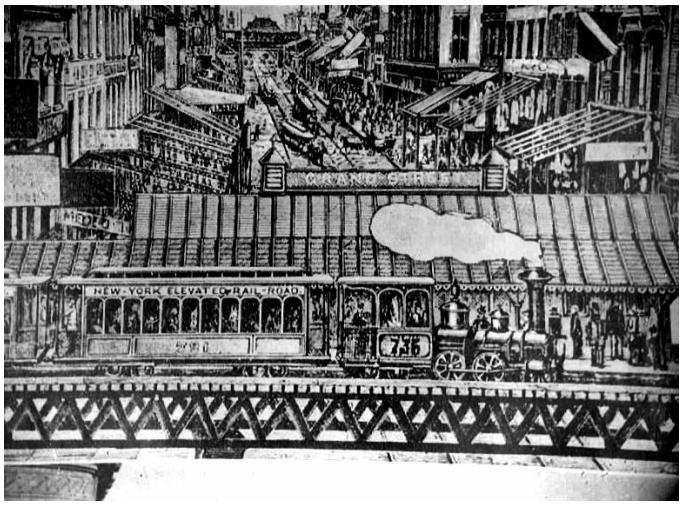


Open car 230.
Bernard Linder collection



Car interior.
Bernard Linder collection →

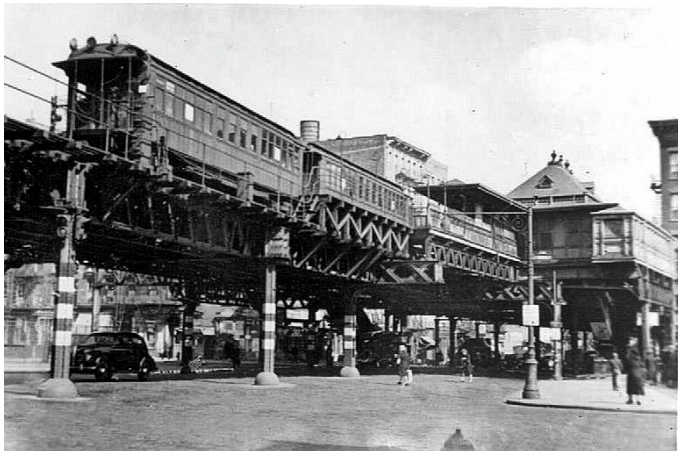
SECOND AVENUE "L" SCENES



Grand Avenue, early 1880s.
Bernard Linder collection

Delancey Street.
Bernard Linder collection

Rivington Street station, looking north.
Bernard Linder collection



1st Street.
Bernard Linder collection

57th Street station, looking north.
Bernard Linder collection

111th Street station, looking north.
Bernard Linder collection

THE SECOND AVENUE SUBWAY AND ITS PLACE IN THE NEW YORK CITY SUBWAY SYSTEM
by Subutay Musluoglu
(Photographs by the author)

In the days leading up to the public revenue service opening of the Second Avenue Subway on January 1, 2017, I had the opportunity to visit the new line a few times. First, on Friday, December 23, 2016, I attended an open house at the new 96th Street station organized by the Metropolitan Transportation Authority (MTA), MTA New York City Transit (NYCT), MTA Capital Construction (MTACC), and the administration of the Governor of the State of New York, Andrew Cuomo. I visited 96th Street again on December 28, followed by the 86th Street station during its open house on December 30. That same day brought the permanent opening of the Third Avenue entrances and fare control area at the Lexington Avenue-63rd Street station on the 63rd Street Line, a space initially built in the 1980s during that line's construction but not finished out when that station originally opened on October 29, 1989. So, on New Year's Day, as I rode up and down the Second Avenue Subway and visited all the stations, including 72nd Street for the first time, I marveled at the size of the crowds and the collective enthusiasm and excitement that was in the air, as the latest addition to the New York City subway system finally opened for revenue service after nearly a century of plans and dreams.

I was deeply impressed by these experiences — a modern, spacious rail rapid transit line built to serve and last for generations, on par with the best of the new facilities that have become commonplace in New York's peer cities around the world in recent years. We can only hope that this is a sign of things to come as progress on the next phase continues. As such, I would like to offer some thoughts on the critically important place of the Second Avenue Subway in the context of the overall New York City subway system, by focusing on three key features.

Over the last 20 years, ever since planning, design, and political commitment began anew to restarting construction of the long-dreamed line, New Yorkers have been bombarded with a variety of statistics and anecdotes. At the sake of being repetitive, the Second Avenue Subway has been discussed in some form or fashion since 1920 when the engineer Daniel Turner, looking beyond the Dual Contracts, unveiled his "Proposed Comprehensive Rapid Transit System" which proposed a second East Side subway. Ever since, every public agency charged with planning and building subways — the New York City Rapid Transit Commission, the Public Service Commission, the Board of Transportation, the New York City Transit System, the New York City Transit Authority, and the MTA — has had some form of the line in its ambitions.

Construction seemed imminent a number of times over the last 90+ years, in the form of various bond issues, premature rolling stock purchases, and other teases, without actually yielding a serious building project. The late 1960s brought the creation of the MTA, a public benefit corporation set up by New York State with the express purpose of consolidating the financing, operations, maintenance, and capital planning of the various downstate rail transit providers. Soon thereafter, the MTA's Program for Action of 1968 — more commonly referred to as the "Grand Design" — laid out an ambitious vision of broad scope, proposing 52 miles of new subway arranged in 11 lines across the city. The centerpiece of this program was the 63rd Street Line and the Second Avenue Subway. Construction of the 63rd Street Line began in October, 1969, and continued in fits and starts until 1989. This history has been written about extensively in prior issues of the ***Bulletin***, including a series of articles by this author in 2001-2. Ground was broken for the Second Avenue Subway on October 27, 1972 and construction continued for almost three full years until the precariousness of the city's and the MTA's finances forced a suspension of work in September, 1975, followed by a formal deferral. A new round of planning began in the early 1990s, which eventually led to the building and opening of Phase 1.

The fates of these two lines are intertwined. The reality is that without the 63rd Street Line, Phase 1 of the Second Avenue Subway would not have been possible. As such, it represents the latest step in the utilization of the 63rd Street Line, arguably the most important component added to the subway in the post-war era, with its full potential yet to be realized. This cannot be overstated. Since its conception, the 63rd Street Line has been envisioned as the fulcrum upon which a dramatic expansion of the system would turn, by serving several needs simultaneously. It is essentially an east-west line that was designed to expand capacity between Queens and Manhattan, linking a new Queens trunk line to the two most central north-south lines in Manhattan, the Sixth Avenue and Broadway Subways. It was meant to serve an important north-south function as well — providing an interchange with the Second Avenue Subway allows for a number of service combinations and commingling, with Second Avenue services able to access the Sixth Avenue and Broadway Lines, and conversely allowing — one day far in the future — Queens services to and from Second Avenue south of 63rd Street.

Not to forget, the 63rd Street Line is also a dual-use facility — a lower level for Long Island Rail Road access to Grand Central Terminal should hopefully open by

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The Second Avenue Subway

(Continued from page 6)

2023 (fingers crossed). If and when Phase 3 of the Second Avenue Subway opens, and a new trunk Queens line connecting to it is built, creating new service opportunities, only then would the 63rd Street Line live up to the expectations of its original intent.

This leads to the second key aspect of the Second Avenue Subway, making it unique in the overall context of the physical configuration and operational history of the New York City subway system. The Second Avenue Subway is the latest step of an effort that has been ongoing for over 60 years — the unification of the physically compatible legacy BMT and IND systems. In the post-World War II era the scarcity of financial resources and the shift to suburbanization with an emphasis on automobile usage stymied efforts to expand the subway system, and build on the gains of the Dual Contracts and the IND system. This reality led to more modest initiatives to focus instead on what was referred to as "unification." This meant building interdivisional passenger transfer connections at key hub stations, and, where practical and possible, construct track connections that would allow physical and operational integration between the BMT and IND systems. This was exemplified by the Church Avenue-Ditmas Avenue connection between the IND and the BMT Culver Line (1954), the 11th Street Cut Connection, linking the BMT 60th Street Tunnel with the Queens Boulevard IND at Queens Plaza (1955), and the highly significant Chrystie Street Connection (1967), which brought forth a sweeping reordering of services by integrating Brooklyn routings on the legacy BMT lines with the IND's Sixth and Eighth Avenue Subways.

The connection of the Jamaica Avenue elevated into the lower level of the Archer Avenue Subway (1988) was the last example of unification to open. A year later, the first segment of the 63rd Street Line opened (1989) in truncated form, but with no connection to anything in Queens, and no Second Avenue Subway taking advantage of the built-in connection to the Broadway Line, it merely became an extension of the IND Sixth Avenue Subway, its initial benefits being the further opening up of Roosevelt Island, and serving an area in need of better transit access — the vicinity around the Queensbridge Houses in Long Island City. In 2001, a connection was achieved to the Queens Boulevard Line, bringing with it an increase of peak direction trains. Sixteen years have since passed, with overcrowding and line capacity remaining an acute issue along Queens Boulevard. A current project to resignal the line with Communications-Based Train Control is expected to be completed post-2020, yielding a more reliable signal system and a modest increase in capacity. Despite these works, the need for a new Queens trunk line in the long-term future still seems likely.

A third key feature of the Second Avenue Subway is the line's design. When examining the architecture and the physical layout of the new Second Avenue stations, one can trace a direct design lineage from legacy IND stations to the stations that opened for revenue service on January 1. One of the most distinctive qualities of the new stations is the large and expansive column-free open design. While the MTA and the line's designers are quick to tout these features as being an amenity for passengers by providing easy wayfinding, the ability to handle large crowds, and offering a general overall sense of safety, there has been some criticism that the stations were unnecessarily large and overbuilt and thus represented a waste of funds. These comments are somewhat ironic and uninformed, since these are the same charges that have been leveled against the original IND ever since its initial opening and continue to this day.

On a practical level, the new Second Avenue Subway stations are in compliance with modern safety codes and established standards of operational practice resulting from years of local, national, and global experience. The IND design influenced the subways of San Francisco (1972), Washington, D.C. (1976), Atlanta (1979), Baltimore (1983), and can even be seen in global examples such as Stockholm (1950) and Toronto (1954). The operational and engineering experience developed from these and other world subway systems built in recent decades have in turn informed the design of the Second Avenue Subway.

Paramount is the ability to clear platforms and mezzanines quickly during emergencies, and fast, efficient air ventilation in case of a serious incident such as a fire. Today's advanced communications and control systems require vast "back of house" spaces, without which a modern day subway cannot function. Most members of the public will never see these critically vital spaces; what they see is misinterpreted as extravagant, when in actuality it is integral to the operation of the stations and the line.

With respect to station sizing, one of the IND's greatest characteristics is that it was built to last for generations. Its planners and engineers heeded the lessons learned from the stations of the early IRT and Dual Contracts, which showed their limitations fairly quickly, and applied them by designing stations that could accommodate a large volume of passengers and meet needs not foreseen at the time, but were more likely to come in a future New York City with a population of millions. That future is now, and while there are some IND stations that are oversized and underutilized today, generally speaking we should be grateful for the foresight of the IND's fathers, best exemplified under Sixth and Eighth Avenues and Queens Boulevard. And as gentrification continues its sweep across New York City and its population reaches 9 million by mid-century, it is more than likely that many of those underused stations will turn out to be sized just about right.

So when we talk about the stations of Second Avenue, the precedent established by the IND in building for the future is being followed. The line should provide some immediate relief to the Lexington Avenue Line, and

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The Second Avenue Subway

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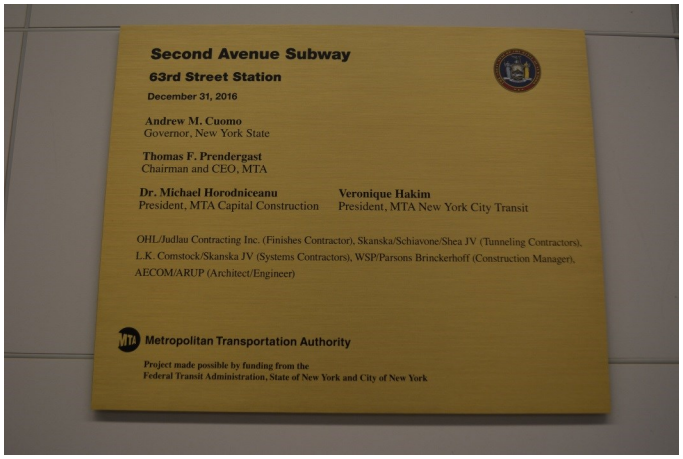
Phase 2 will further achieve that objective. Looking further out, the line's future impact can be predicted. The Upper East Side is poised for a real estate boom over the next few decades. The construction pace of high-rise condominiums and luxury rentals is certain to increase because the abundance of the existing aging low-rise housing stock presents a massive opportunity to eventually be replaced with taller buildings, the inhabitants of which will provide the line's future ridership. Over time, questioning the sizing of the new Second Avenue Subway stations will be seen as quaint.

On February 1, the MTA announced that daily ridership on Second Avenue had already reached an average of 155,000 and continues to grow. No doubt, the pre-opening estimates of 200,000 daily users will be reached before long. As a new group of consultants begin to carry out final design and update the necessary environmental findings, several of the locations tentatively identified for station entrances and ancillary structures have already been lost to development. Phase 2 cannot come fast enough.

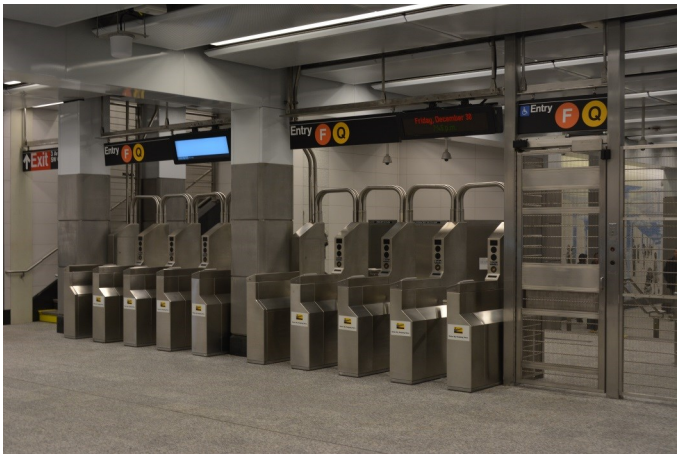
And so, the Second Avenue Subway is appropriately celebrated, not only for its immediate benefits, but also for its future impacts and its rightful important place in the history of the subway and of New York City itself.

Subutay Musluoglu is a long-time ERA member and past contributor to the **Bulletin**. *He is currently a manager with MTA Metro-North Railroad.*

Lead car R-160 9108 of first northbound train at 57th Street-Seventh Avenue, January 1, 2017.



Lexington Avenue-63rd Street station dedication plaque, December 30, 2016.



Lexington Avenue-63rd Street station's Third Avenue control area, December 30, 2016.

Lexington Avenue-63rd Street station's Third Avenue mezzanine, December 30, 2016.

(Continued on page 9)

The Second Avenue Subway

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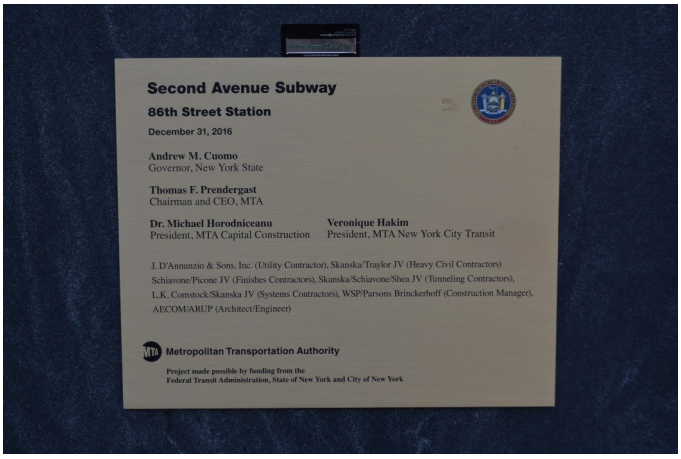
72nd Street station dedication plaque, January 1, 2017.

72nd Street station's elevator entrance at southeast corner of Second Avenue, January 1, 2017.

72nd Street station, looking up elevator shaft at southeast corner of Second Avenue, January 1, 2017.



86th Street station dedication plaque, December 30, 2016.

72nd Street station, January 1, 2017.

86th Street station mezzanine, December 30, 2016.

(Continued on page 20)

Commuter and Transit Notes

No. 340

by Ronald Yee, James Giovan, and Alexander Ivanoff

Metropolitan Transportation Authority

A winter storm/blizzard ran its course straight up the I-95 corridor, threatening to dump over two feet of wind-driven snow on the New York City metropolitan region on Tuesday, March 14. However, warmer air worked into the system as it neared New York City and caused much of the precipitation to convert from pure snow to sleet pellets, reducing the accumulation totals to 7.2 inches. In preparations for a storm forecasted to be much more severe, NYC Transit suspended all above-ground rapid transit operations at 4 AM as well as all express train services. At 6 PM, service was restored to the outdoor sections of the subway system as well as on the Staten Island Railway. Ⓑ, Ⓒ, and Ⓦ services were suspended until the next day, Wednesday, to accommodate NYCT's cold weather plan, which calls for the storage of as much rolling stock underground as possible. Metro-North Railroad operated a Sunday schedule on the Hudson, Harlem, and New Haven Lines (no service Southeast to Wassaic as well as all three New Haven line branches, New Canaan, Danbury, and Waterbury) until 12 noon when all service was suspended due to the heavier snowfalls striking the railroad's service region. An hourly service between Grand Central Terminal and Croton-Harmon as well as North White Plains and on the New Haven mainline to New Haven was restored for a period between 6 PM and 11:20 PM. As Long Island was spared the severest effects of the storm, the Long Island Rail Road was able to operate a normal weekday service (with delays) throughout the day.

Service was restored to all NYCT rapid transit lines for the Wednesday morning rush hour March 15 following the winter storm on Tuesday the 14th. Due to continued "cold weather" operations, which call for as much equipment as possible to be stored underground and out of the weather-related elements, northbound Ⓔ service operated over the local tracks between Forest Hills-71st Avenue and Jamaica Center-Parsons-Archer, the southbound Ⓐ operated local between 168th and 145th Streets, and the southbound Ⓝ ran local between 36th and 59th Streets. Normal weekday service was restored to the Staten Island Railway and the Metro-North Railroad operated a modified weekday schedule with some trains being combined and others cancelled with 15-20-minute delays systemwide as the MNR service area was one of the hardest hit by the winter storm. MNR west-of-Hudson services on the Pascack Valley and Port Jervis Lines operated on a Presidents Day schedule for the Wednesday morning peak period.

As previously noted, the Long Island Rail Road was minimally affected by this storm. It was able to maintain normal weekday service on the 15th. (MTA website, March 15)

Connecticut Department of Transportation

National Railway Equipment Corporation (NRE), based in Silvis, Illinois, was awarded a five-year contract to rebuild six GP-40-2H locomotives owned by Connecticut Department of Transportation (CDOT) currently in use on Shore Line East (SLE) service over the Amtrak Northeast Corridor between Old Saybrook and New Haven (with two trains extended through to Stamford during the morning and evening peak periods). These six locomotives were originally manufactured by EMD in the 1970s. The remanufacturing process is estimated to be around 450 days per locomotive. (***Progressive Railroading***, March 14)

Amtrak

A United States Representative from New York is encouraging Amtrak to re-use the historic Buffalo Central Terminal. Democratic Representative Brian Higgins wrote a letter to Amtrak President and CEO Wick Moorman recently about the benefits of using the 17-story station built for the New York Central in 1929. It has been unused for decades. Amtrak and New York State officials are studying numerous places around Buffalo to build a new station, including building closer to downtown. Higgins believes that the Buffalo Central terminal offers more direct service to places like Chicago, and since it already has ample unused space nearby, there would be no need to take land from residents and businesses. “(The terminal) is a major piece of Buffalo’s history and its future,” he says. (***Trains*** Magazine, March 9)

Other Transit Systems

United States

Managers at Feld Entertainment said they would auction the fleet of more than 120 railcars and other assets that make up the two Ringling Bros. and Barnum & Bailey circus train consists.

Passenger car collectors, tourist railroads, and others had the opportunity to bid on passenger cars, flat cars, and other pieces of equipment through a new online portal. There were a total of 127 railcars available for bid.

Interested parties had the chance to bid on multiple pieces of equipment at once using a pull-down menu on a newly created web page. The page included a spreadsheet-like format that showed car specifications, builder information, and built-date, as well as reporting marks and images of each railcar. The deadline to bid was the close of business on Friday, March 10.

The company’s circus trains will continue touring for another two-and-a-half months (from late February) before the equipment is deadheaded to a to-be-determined location for disposition to winning bidders in late May. *(Editor’s Note from Sasha Ivanoff: While it is unlikely that any of these cars will ever see passenger service on*

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Commuter and Transit Notes

(Continued from page 10)

Amtrak, there is always a remote possibility that a state DOT could pick up some of the equipment for service and more entrepreneurial tourist railroads, if money is no object, could consider overhauling the cars into regular coaches. Again, while the cars are structurally in very good shape, the interiors have been heavily modified for Feld/Ringling Bros. purposes.) (***Trains*** Magazine via Al Holtz, February 28)

Boston, Massachusetts

The Massachusetts Bay Transportation Authority (MBTA) Fiscal and Management Control Board was briefed February 27 on a plan to invest $7.9 million to fully overhaul its existing Presidents Conference Committee (PCC) streetcars with new propulsion, brakes, and power supply systems. The plan would extend the life of the Mattapan-Ashmont High-Speed Line vehicles, also known as the "Mattapan trolley."

This investment over the next two years will maintain the historical significance of the distinctive orange-and-cream-colored cars, and also includes a study of options for the future of the line. A series of public meetings will also be held in April in Dorchester, Mattapan, and Milton.

MBTA's PCCs are unique in that the fleet is both native to the property (as in not heritage streetcars in the San Francisco mold) and have not been rebuilt in the SEPTA mold (to serve as a glorified heritage trolley).

Because of their age, MBTAs PCC fleet requires constant repair and replacement of parts that are no longer available on the market, and must be manufactured by MBTA machinists at the "T"'s Everett Shops. Parts have also been obtained from museums, all adding to the overall cost of repairs. The fleet consists of 10 cars, of which 7 are in revenue service.

The Mattapan HSL opened in 1929 and is known for its distinctive streetcars, whose use dates back to the mid-1940s. The partially grade-separated light rail line services parts of Dorchester, Mattapan, and Milton. While one of the shortest existing trolley lines, it is popular among many because it still uses PCC cars and offers some surprisingly scenic views.

The line follows the right-of-way of two former Old Colony Railroad branches, and runs parallel to the Neponset River for much of its 2.6-mile route. The line links Mattapan with Ashmont, where riders transfer to MBTA's Red Line. (MBTA press release via ***Mass Transit*** Magazine, February 28)

MBTA is considering halting service on entire commuter lines over the course of several weekends during the next two years, a decision that would make it possible for the agency to implement mandated safety upgrades and help to close a budget gap. The agency recently issued a projected schedule of cancellations in 2017 and 2018 that would close down nine routes for entire weekends at varying times, and officials confirmed that alternate service will not be available during the closures. Rafael Mares, a Senior Attorney at Conservation Law Foundation, a Boston group that lobbies for improved public transportation, is concerned the shutdowns to the already limited weekend service will have a lasting negative impact on ridership. "What happens is when you take service away for a number of months, then people get out of the habit of using it," said Mares. "So when it comes back, it's not going to be as popular of a service, so it can be a bit of a death spiral." Asked about such concerns, Joe Pesaturo, an MBTA spokesperson, said the agency is required by federal law to install the anti-collision technology. MBTA, like all U.S. transit systems, must install an anti-collision technology known as "Positive Train Control" to comply with a Federal government mandate. Despite delays in adopting the technology, MBTA is hoping to complete the $459 million project, financed largely by the Federal government, by 2020. Limiting service would make it possible for the project to be completed much faster and at a lower cost. (***Boston Globe***, March 12)

Philadelphia, Pennsylvania

As the April ***Bulletin*** went to press, PlanPhilly reported that the SEPTA board was expected to award CRRC MA Corporation a $137.5 million contract to build 45 bilevel railcars for Regional Rail. SEPTA picked the Chinese-owned company with a factory in Massachusetts over bids from Hyundai Rotem, which has a manufacturing plant in South Philadelphia, and Bombardier. Delivery of the cars would begin in October, 2019. SEPTA will also hold an option for an additional 10 rail cars for another $23.5 million.

The SEPTA bilevel railcars would be CRRC's first non-rapid transit railcar contract in the United States, and the first time it would manufacture cars for commuter rail, which falls under FRA regulations.

CRRC submitted the lowest bid out of the three companies. Bombardier bid $171.5 million for the 45 railcars, and Hyundai Rotem bid $184.7 million. Both priced the option for ten more cars higher than CRRC as well. In its 2017 capital budget, SEPTA earmarked $153 million for the new multi-level cars.

In 2016, SEPTA purchased 13 Siemens ACS-64 locomotives for some regional rail lines, which will replace both the existing fleet of locomotives and allow for expansion of the locomotive fleet. The bilevel cars will help ease crowding on some of SEPTA's busiest Regional Rail lines. The bilevel cars each should hold around 130 seats; Silverliner Vs have 105 seats. The lower level of multi-level cars will be wheelchair accessible.

Construction of the new multi-level railcars will comply with the Buy America Act, which requires domestic sources for at least 60 percent of a transit-related procurement's parts, labor and fabrication.

CRRC MA is the U.S. arm of Chinese train manufacturer CSR Sifang, which only recently entered the American transit market. CRRC won its first American contract in 2014, a $566 million deal with the Massachusetts Bay Transportation Authority (MBTA) for 284 subway cars. CRRC also won a $1.3 billion contract last

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Commuter and Transit Notes

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Spring to build 846 rails cars, which will be assembled at a Chicago facility for the Chicago Transit Authority. As in Philadelphia, CRRC dramatically underbid its competition in those cities: $226 million lower than Bombardier in Chicago, and $154 million lower than Hyundai Rotem in Boston.

Hyundai Rotem built the local manufacturing facility as part of its ultimately successful $274 million bid to build 120 Silverliner V rail cars for SEPTA Regional Rail. Hyundai Rotem delivered the final Silverliners to SEPTA in 2013, more than three years late. Over the Summer, SEPTA discovered cracks in the equalizer bars on 115 of those rail cars, crippling the Regional Rail fleet and leading to months of reduced service. The fallout from the defect delayed the consideration and award of the multilevel bid.

CSR Sifang hasn't been without its own quality-control problems, though. Cracks were discovered on recently-delivered trains in Singapore last year.

Hyundai-Rotem has built bilevel cars at its South Philadelphia plant for the Massachusetts Bay Transportation Authority. The 75 cars arrived in Boston more than two years late and, once delivered, immediately suffered through a series of mechanical and software failures.

Last year, SEPTA awarded Hyundai-Rotem a $6.28 million contract to rehabilitate 11 railcars originally built by Bombardier. That followed the overhaul of 22 other rail cars, which Hyundai Rotem performed without charge to cover the $13 million in late fees accrued from the delayed delivery of the Silverliner V contract. (PlanPhilly.com, March 17)

Memphis, Tennessee

Residents and visitors to Memphis will start to see trolleys on the tracks in a few months, the Chief Executive Officer of the Memphis Area Transit Authority said on February 23. But getting on one of the trolleys that have been out of service for more than two years will probably have to wait until the end of the year.

The trolley system was shut down in June, 2014 after two trolley fires and a recommendation from the American Public Transportation Association that MATA overhaul existing trolleys or buy new ones.

After the shut down, MATA President and Chief Executive Officer Ron Garrison discovered there were no maintenance schedules or procedures for the trolleys, some of them renovated in the early 1990s when they were 100 years old.

Since then, the transit authority has built new procedures and schedules as well as a training program and set up a path through a thicket of federal safety regulations.

The transit authority also said the two trolley fires — one in 2013 and the other in 2014 — were caused by a surge of 4,000 amps of power through the trolley system that should have tripped several breakers. The breakers, according to MATA's investigation, either were not working or were not in place. (Memphis Daily News, February 24)

Fort Lauderdale, Florida

Florida's *Brightline* "high-speed" rail service is still on track to commence service between Fort Lauderdale and West Palm Beach in July and extend the service to Miami Central in August. The second consist, named "Bright Pink," was delivered from the Siemens plant in Sacramento, California during the third week of March and 80% of the infrastructure to accommodate the new service has been completed. ***Brightline*** marks the first time in over 100 years that a 100% privately funded passenger rail operation will commence service in the USA. *(Editor's Note by Ron Yee: This Editor was in downtown Miami on March 7 and photographed the ongoing construction of the Miami Central station complex from the Miami Metrorail station at Historic Overtown/Lyric Theater. Only half of the long box girder beams that will carry the rail line to the new station have been installed; the station complex is still being built and is only a structural skeleton, barely recognizable as a railroad station. If train service actually does start in August, it will be a miracle — or testament to the ability of the private sector to get things done on schedule. To me, familiar with the speed of construction projects in the public sector, it would appear that it would need another year before it is ready for its first train. We will see and we can all hope.)* (***Progressive Railroading***, March 10)

Omaha, Nebraska

Another city in conservative America has succumbed to electric traction fever; this time the holdout is Omaha, Nebraska. The Omaha City Council received and placed on file the financial assessment final report for the proposed "Omaha Urban Circulator," which would look like Kansas City's streetcar system.

This is the first step for the proposed project, which would run from 42nd and Farnam Streets east to TD Ameritrade Park. Omaha's Mayor, Jean Stothert, cited the need for the project, noting it as an economic benefit to the downtown community in the guise of job creation. Like with many streetcar projects across the country, Federal grants, donations, bonds, tax-increment financing, and parking stall fees are part of the proposed funding, listed in the final financial report.

Assessment estimates the cost of the project to be $156 million. The evaluation puts operations and maintenance costs at $7.4 million in the opening year, 2022. Those costs would increase to $8.9 million annually by 2041. In a news article for KETV-TV in Omaha, several people, including Omaha City Council President Ben Gray, were interviewed, and the project has lukewarm support.

Mayor Stothert said there will also be an engineering study to determine the exact cost.

Next, an advisory board will give the mayor a final recommendation by October.

The mayor said decisions will not be made without some public meetings, which have not been set. Streetcar service in Omaha ended in 1952. (KETV Omaha, February 28)

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Minneapolis-St. Paul, Minnesota

Several measures aimed at blocking a proposed $4.2 billion high-speed passenger rail line between the Twin Cities and Rochester have been introduced recently in the Legislature. It is unclear whether these efforts, if successful, will serve as the death knell for the controversial project.

But even though the Minnesota Corridor Project would be privately funded, opponents along the route are still determined to head off any possibility of public funding — from cities, counties, the Metropolitan Council, the Minnesota Department of Transportation, even the Mayo Clinic-driven Destination Medical Center economic development agency — to plan, build, or operate the line.

So far the line is just a concept pitched by private investors once known as the North American High Speed Rail Group. They have discussed working with Chinese partners to build a rail line that would zip from the Twin Cities on an elevated track above Highway 52 to Rochester in about 30 minutes — with Chicago serving as the final stop.

If built, the line would be the first privately funded high-speed rail project in the country.

But the effort has met with strong resistance from residents and farmers in Goodhue, Dakota, and Olmsted Counties. Legislators from those areas have introduced three bills in the House and Senate this session that could hamper efforts to build it.

Late last year, the name of the initiative was changed to the Minnesota Corridor Project. While its website declares that it is "Actualizing the Twin Cities to Rochester Connection," no further information is available. This comes after representatives from China Railway International visited Minnesota last fall to discuss the project in private meetings.

That group came together last year after MnDOT formally abandoned the project, then known as the Zip Rail, due to a dearth of funds.

(***Mass Transit*** Magazine via ***Minneapolis Star-Tribune***, February 27)

Eugene, Oregon

Siemens has finished building its first Charger locomotive for the Washington State Department of Transportation (WSDOT), the company announced on March 7.

The new diesel-electric unit will be used for Amtrak's *Cascades* service that runs between Eugene, Oregon and Vancouver, British Columbia, Siemens officials said in an email.

WSDOT has ordered eight Charger locomotives from Siemens, which has been tapped to build the units for five other states.

In 2014, a multistate coalition led by the Illinois Department of Transportation ordered the first Charger locomotives under a $225 million contract. Additional units were later ordered for use in six total states. (***Progressive Railroading***, March 8)

San Francisco, California

The first two months of 2017 have not been politically kind to Caltrain, the popular commuter rail line between Gilroy, San Jose and San Francisco. Thanks to some meddling from members of the California delegation to Congress, who have spent years fighting the state on high speed rail, the Trump administration announced on February 17 that it would delay granting funds that would electrify the train line between San Francisco and San Jose. The electrification would allow for long term cost savings and to add service on the heavily trafficked line.

In response, Caltrain started an online petition the following day to force a response from the White House. To do that, the agency needs to get 100,000 signatures by March 20.

Furthermore, Caltrain announced on February 27 that it had reached agreement with contractors Balfour Beatty and Stadler to extend the contractual deadlines for start of work on the Peninsula Corridor Electrification Project.

Caltrain had been expected to issue “Notice to Proceed” for both contracts by March 1, subject to confirmation of federal funding for the work. The delay to June 30 is designed to allow a decision to be made by the Federal Transit Administration on implementation of a $647 million funding agreement. On February 17, FTA had announced that execution of the grant would be delayed until President Trump finalized his budget proposal to Congress.

The operator says further extensions to the contractual deadline are unlikely to be possible, and additional delay to approving the FTA grant would be tantamount to rejection of the grant.

Caltrain says that the contractual extension is likely to incur costs of up to $20 million in project contingency. The operator says it has been working with FTA since 2009 to ensure that the project “meets all of the rigorous statutory and regulatory requirements” for federal funding, which makes up only 32% of the total project cost.

In September, 2016, Caltrain awarded contracts worth $1.3 billion in total to Balfour Beatty for electrification of its fifty-mile corridor, and to Stadler for the supply of 16 six-car EMUs.

Citing concerns on the work on Caltrain’s Positive Train Control project, the Joint Powers Board moved on the last day of February to cancel its contract with Parsons Transportation, with the agency citing significant delays. Litigation is likely. (ABC7 San Francisco, February 17 & 24; ***Mass Transit*** Magazine via Parsons and Caltrans, February 28; ***Railway Gazette***, February 28)

Testing delays and software problems are causing a push back in the introduction of new Bay Area Rapid Transit trains, according to the ***East Bay Times***. Equipment testing is running many months behind schedule and agency officials have cut back the number of trainsets they expect to begin carrying passengers in 2017. Bombardier, the manufacturer of the new fleet, has already begun assembling approximately twelve new

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cars, but they will not arrive on BART property until at least July or August. The trains then have to be tested for at least 30 days before entering revenue service. According to BART representative John Graham, the delay is being caused by software-related issues with the new fleet. A test train will run on the agency's network later in the Spring to evaluate the safety and reliability of the new fleet. It was originally expected that 60 new cars would be in service by the end of 2018. Now the agency says about 35 cars will enter service this year, with 166 cars following in 2018. Bombardier is replacing BART's entire fleet of 669 cars with 775 new cars. (***Trains*** Magazine, March 6)

Los Angeles, California

The Los Angeles County Metropolitan Transportation Authority is in the process of reviewing an unsolicited proposal from Fluor Enterprises Incorporated to help quicken the Orange Line light rail project. It is the first public-private proposal that L.A. Metro overseers have received for the light rail project since the voter-approved Measure M tax initiative took effect. The additional half-cent sales tax earmarks money for transit related projects in the Los Angeles area. Fluor is a South Carolina-based engineering and construction firm that additionally provides maintenance and project management services. Transit managers are reviewing the proposal. (***Trains*** Magazine, March 8)

The twin funicular railcars of the Los Angeles' Angels Flight Funicular, named Sinai and Olivet, may resume operations by Labor Day. The 115-year-old, 298-foot rail route has been closed since a 2013 derailment that left a lone passenger aboard unhurt. A consortium of engineering and transportation firms has agreed to restore the line to service after making a number of upgrades and safety improvements including raising the level of the doorways to prevent passengers from being thrown from the cars in the event of a sudden stop as well as building a stairway adjacent to the trackway to provide emergency access if the cars stall mid-route. In return, they would receive a share of the line's fare revenues over the next 30 years. (***Los Angeles Times***, March 2)

Montreal, Quebec, Canada

Over the next four years, transportation leaders in Montreal are planning to spend more on infrastructure improvements than they have in the last decade. In 2016, Societe de transport de Montreal, the region's rail transit operator, invested over $500 million in infrastructure. The investment is a broader objective that will invest an additional $4.5 billion between now and 2020. By investing more into infrastructure, the agency will address its multi-billion-dollar asset maintenance deficit. Within 2016's investment of $550 million, the agency brought down its deficit from $4.3 billion to $3.8 billion. Investments will include purchasing a fleet of over 400 new Bombardier-Alstom Azur passenger rail cars as well as upgrading station facilities and wayside infrastructure. The agency runs four subway routes that serve over 60 stations within Montreal. (***Trains*** Magazine, March 7)

Toronto, Ontario, Canada

For the first time in TTC history, streetcar service on Queen Street is being temporarily discontinued this Summer. The transit agency is shutting down its 501/ Queen streetcar route beginning in May and lasting through September in order to make way for construction projects that are scheduled this year. The 43,000 daily passengers on the route will be provided substitute bus service instead. "Yes, it's the first time we've completely removed streetcars from Queen," said TTC spokesperson Stuart Green. Green stated that the streetcar suspension will be necessary in order for numerous projects to be completed, including TTC track work, city work on the Queensway bridge, and sidewalk replacements along the streetcar right of way, as well as replacement of the Eaton Centre overhead footpath, which will require streetcar cables to be taken down. The 501 route is the city's sixth busiest surface transit route and has been described as the longest streetcar route in North America. Replacing the streetcar service over the summer will require 65 buses. Streetcar service is planned to return sometime in September. (***Toronto Star***, March 1)

Toronto's Metrolinx is suing Bombardier and possibly pursuing a replacement contractor to provide the 76 light rail vehicles (LRVs) required for the scheduled 2021 opening of the C$5.3 billion Eglinton Crosstown line slated to open for service in 2021. In 2010, an order totaling 182 LRVs was placed with Bombardier. Since the contract signing, the original plans for light rail network in northern Toronto have been scaled back. Faced with delays in production, a renegotiated contract with Bombardier in 2014 called for two pilot LRVs to be delivered in 2016. However, as of Spring, 2017, the pilot cars have yet to be completed. Metrolinx is suing Bombardier to avoid potential C$500,000 per day "delay of opening" penalties by Crosslinx Transit Solutions, the consortium Metrolinx has contracted with to build the light rail line. Alstom, the builder of LRVs for the soon-to-open Ottawa light rail line, has expressed an interest in bidding to provide the LRVs if the Bombardier contract is indeed terminated by Metrolinx. Metrolinx has already indicated it would consider other LRV carbuilders for its Finch LRT, which is also scheduled for a 2021 opening. (***Toronto Star***, March 2)

London, England

The parliamentary bill for the first phase of the High Speed 2 project received Royal Assent on February 23, marking the final legislative step before engineering and construction can begin.

Costed at £21.4 billion including contingency, HS2 Phase 1 will link London with Birmingham and the West Coast Main Line near Lichfield, a total of 225 route kilometers. Trains would serve termini at an expanded Euston station in London and at Birmingham Curzon Street, site of the city's first main line station, which opened in 1838. This is adjacent to Moor Street Station,

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served by local and regional trains.

Intermediate stations are planned at Old Oak Common in west London, where interchange will be available with Transport for London's Elizabeth Line, and at Birmingham Interchange, close to the city's airport and exhibition complex.

Offering an anticipated journey time of 49 minutes between London and Birmingham compared to a standard timing of 1 hour 24 minutes for current inter-city services, HS2 Phase 1 is expected to relieve the busy West Coast Main Line by taking most of the express service between London, Birmingham, northwest England and Scotland. The first HS2 trains are expected to run in 2026.

Under plans outlined in January by the Department for Transport for a West Coast Partnership franchise, a single operator will run inter-city trains on the WCML from 2019 and on HS2 for approximately three years after opening in 2026. The winning bidder's priories will include working with HS2 Limited in the mobilization phase and remapping passenger service on the WCML to make use of capacity released by HS2.

Some preparatory works on the project have already begun under contracts worth £900 million let in November last year. The government has also launched the process to procure an initial batch of up to 60 high-speed trainsets meeting United Kingdom loading gauge to operate trains over the Phase 1 route.

Subsequent phases will see HS2 extended north from Lichfield to Crewe (phase 2a) and from Crewe to Manchester and Lichfield to Leeds (phase 2b). These extensions will be taken forward under separate parliamentary legislation to be brought before Members of Parliament before the end of 2019; they are scheduled to open in 2033. (***Railway Gazette***, February 23)

Tours, France

The LGV Sud Europe Atlantique high speed line between Tours and Bordeaux was inaugurated on February 28 in the presence of President François Hollande, SNCF Réseau President Patrick Jeantet, and Laurent Cavrois, President of the LISEA consortium, which has built and part-financed the new line under a 50-year concession.

Running for 302 kilometers from Saint-Avertin, south of Tours, to Ambarès-et-Lagrave, north of Bordeaux, the high-speed line will enable the fastest Paris-Bordeaux journey time to be cut to 2 hours 4 minutes. Revenue service is due to begin on July 2 and traffic is expected to reach 20 million passengers per year.

Total cost of the project is €9 billion, of which €7.8 billion has been spent on the new line itself. The LISEA consortium of Vinci Concessions (33.4%), Caisse des Dépôts (25.4%), Meridiam (22%), and Ardian (19.2%) has provided €3.8 billion, with the public contribution comprising €3 billion from the French government, local authorities, and the European Union as well as €1 billion from SNCF Réseau.

A total of €1.2 billion has also been spent by SNCF Réseau on the 38 kilometers of connections between the new line and the conventional network, control centers, capacity enhancements at Bordeaux, and remodeling the track layout at the Paris Montparnasse station. SNCF Réseau will be responsible for traffic control on behalf of LISEA, which will be responsible for operating and maintaining the new infrastructure until 2061. (***Railway Gazette***, March 1)

Zurich, Switzerland

Zurich Public Transport (VBZ) signed a contract with Bombardier for the delivery of 70 seven-section Flexity low floor LRVs on March 2, with an option for another 70 vehicles. The contract is valued at SFr 300 million ($US296 million), and the first LRV will be delivered at the end of 2019.

Bombardier says the trams are customized to integrate with the Zurich city landscape and they meet standards for safety, environment, and energy consumption. The trams are designed to reduce noise and offer barrier-free access to passengers with limited mobility. The LRVs have an open design to improve passenger flow and increase capacity by around 20%.

The Zurich tram service operates on 15 lines and over 170 kilometers of track. (***International Railway Journal***, March 3)

Riyadh, Saudi Arabia

Saudi Railway Company began operating its first regular passenger service between Riyadh and Al-Qassim on February 26, using one of its CAF-built diesel trainsets, which can operate at up to 200 kilometers per hour.

Until April 1 the service will run five days a week, leaving the terminus close to the capital's King Khalid International Airport at 10 AM on Thursday, Friday, Saturday, Sunday, and Monday. The journey time to Al-Qassim is 2 hours 31 minutes, including a 10-minute intermediate stop at Majmaah. The return trip leaves Al-Qassim at 3 PM with similar timings.

As of April 2 the day train will become a daily service, but switch directions, departing from Al-Qassim at 5 AM and returning from KKIA at 6 PM. In the third stage of its phased ramp-up, SAR plans to extend the day train further north to serve Hail, although no date for this has been announced. Phase 4 will see the introduction of overnight train service linking Riyadh with Al-Qassim, Hail, Al-Jouf, and Al-Qurrayat, 1,242 kilometers from the capital.

CAF is supplying a fleet of 12 diesel power cars and 65 coaches, which will form four daytime and two overnight trainsets. The standard day train will have seats for 444 passengers in business and economy class, while the overnight services will carry up to 377 passengers in a mix of seats and sleeping berths. (***Railway Gazette***, February 27)

China

China Railway Corporation has awarded the Bombardier Sifang (Qingdao) Transportation joint venture a contract to supply 18 eight-car CRH1A-A high-speed

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SWITZERLAND IN THE LATE SUMMER
by Jack May
(Photographs by the author)
(Continued from March, 2017 issue)

We continued northward from Aigle on the 10:09. Clare was going to travel right through to Lausanne, so we decided to meet in the late afternoon at the ticket windows inside that station. The next train on my schedule was the 10:38 interurban from Vevey. We passed the famous Castle of Chillon, stopped at Montreux briefly, and then arrived in the corporate home of the Swiss multinational company, Nestle, on time at 10:25, where I left Clare while she continued on to Lausanne. I easily found a locker on the northbound platform and stowed our bags (they fit into one large unit). Then it was over (actually under) to the far platform, which serves as the terminal of the former CEV (Chemins de fer Electriques Veveysans), now part of the regional MVR (Transports Montreux-Vevey-Riviera). Meter-gauge interurban-type cars operate from here to Blonay, where a connection is made with the company's rack line to Les Pleiades. In a manner paralleling the merger in Aigle and Bex, in 2001 the CEV was combined with the suburban portion of the MOB (Montreux-Oberland Bernois) in nearby Montreux to form the MVR.

When I rode it in 1967 the CEV line continued to Chamby (see below) and also to Chatel-St-Denis, where I was able to transfer to the Chemin de fer Fribourgeois, Gruyere-Fribourg-Morat (GFM). This interurban took me around a mountain to Montbovon, where I boarded the MOB (Golden Pass route) and ended up back in Montreux, completing 99 percent of a large circle on three narrow-gauge interurban lines. But the Chatel-St-Denis part of the CEV was abandoned in 1969, so now the suburban line is a mere 3.5 miles long. The connecting rack line, which I rode a few decades ago, is also only 3 miles long, but climbs over 3,000 feet. Both are propelled by 900-volt d.c. current. The whole MVR network, including the Montreux-Les Avants line, which covers the eastern portion of the MOB's Golden Pass route, is operated under the name, Chemin de fer Leger de la Riviera.

Most passengers on my short suburban train, which arrived at Blonay on time at 10:52, transferred to the rack line, as, judging by the picnic baskets and backpacks that many carried, they wanted to spend the pleasant day enjoying the mountains. But like me, a few walked up a path to the ticket office of one of Switzerland's finest railway museums, the Chemin de fer-musee Blonay-Chamby (BC), which operates some steam trains, but mostly electric traction of all kinds, over its meter-gauge rails. When I originally planned the trip I checked out the BC's website, and found that September 14 was a special day — organized especially for railfans. A photographer's special was set to leave Blonay at 11:05.

But first a little about this 1.9-mile line, which also runs under 900-volt d.c. overhead. It was originally a branch of the CEV, connecting the suburban line at Blonay with the MOB at Chamby, but was closed in 1966 because of a dearth of traffic. However, just like the Furka Line that we rode the previous day, it was taken over by railroad preservationists. They built a museum with a shop and storage facilities near the Chamby end of the line and returned the railway to operation two years later. The organization has a large collection of rolling stock and I must say that it was indeed fortunate that the timing of this trip would allow me to see a great deal of it.

An old CEV structure at Blonay housed a Ticket Agent, who sold me a day pass for the BC's unique event for roughly $25. I was directed down the track to the special and walked past an array of historic railway equipment and families waiting to ride, some dressed in period outfits depicting the age of steam and tramways — in other words, not that much different from the clothing our friends and relatives wore when we were growing up. At the front of the lineup was Berninabahn No. 35, a railcar from 1908, which I rode but did not get to photograph. It left with surprisingly few people aboard, and the only ones to get off at one of the museum line's most scenic locations, Viaduc, were a railfan from Manchester in Britain and me. Many of the others rode beyond to Cornaux, where panoramic views of the railway with Lake Leman in the background can be photographed.

Viaduc (one might guess) is at the far end of a beautiful curving stone bridge and we were deposited on a narrow spit of land with barely enough room for the two of us to safely stand between the single track and a precipice. But that is all part of the game, and now we waited patiently for the parade of trains. Unfortunately, the sky clouded over just as we arrived, so I could not get the perfect photos I wanted, but I was satisfied with the results when I later saw the slides. Among the equipment we saw traversing the viaduct were steam locomotive 909, an ex-SBB Brunig railway 0-6-0 from 1901, pulling two coaches; heavy box-cab 2002, built for the MOB in 1932, with a work train; No. 11, an MOB interurban car with trailer from 1905; No. 29, an ex-BOB locomotive from 1926 pulling two coaches; and the highlight for me, ex-Bern streetcar 52, a 4-wheeler built in 1914. Too soon we were picked up by the 11:40 from Blonay, MOB interurban 4003, a 1968-built articulated unit that apparently was lent to the museum for the festival (see http://www.blonay-chamby.ch/index.php?page=p_events&id_p_p=5).

Everything was planned to the second (it *is* Switzerland). I rode the 4003 all the way to the Chaulin carhouse/shop/visitor center area. In order to climb the hill

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Switzerland in the Late Summer

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to the busy complex, the art deco-like interurban car executed a switchback maneuver at a junction called "bifurcation." Time-space diagrams and timetables for the day's scheduled activities, along with track maps and equipment roster lists, were available gratis. The book (and postcard) store was very busy, as was a portable snack bar. Nobody got excited when fans wandered through the track area for photos and close-up views of the equipment.

The MVR (formerly CEV) transfer station at Blonay. The 7000-series Stadler MU from Vevey has just arrived and most of its passengers have transferred to rack car 72 at right to continue their journey up the mountain to Les Pleiades. The car at left was part of an order of four units for the MVR built in 1997-8, prior to the creation of the merged entity in 2001, while 72 was built for the CEV in 1970 and renovated in 2002.

The following six photos illustrate the procession of museum equipment at Viaduc.

Box-cab 2002 pulls a demonstration local freight (possibly a work train) across the structure. It was built in 1932 for the MOB (Montreux-Oberland Bernois).

Locomotive 909, built in 1901 for operations on the Jura Simplon Railway, pulls a train of two open-platform coaches from the same era. JBL was taken over by the Swiss Federal Railways (SBB) in 1903, and remained the SBB's only narrow-gauge line until it was privatized in 2004. The Brunig Pass line, allowing through train operation between Luzern and Interlaken and completed in 1916, is now the mainline of the Zentralbahn.

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Switzerland in the Late Summer

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MOB motor 11 is shown pulling a matching trailer and a flat car across the viaduct. The interurban was built in 1905 for local service on the line that runs through Saanenmoser Pass and the Simmen Valley between Montreux and Zweissimen. The car is eight years older than the somewhat similar ASD 1, shown in the same colors in the March, 2017 installment of this report.

Electric locomotive 29, built for the Bernese Oberland Bahn in 1926, is shown pulling two coaches. The BOB is part of the group of railways that operates from Interlaken to Kleine Scheidegg and the Jungfrau.

52, a Schlieren-built four-wheeler from Bern, dating from 1914, crosses the viaduct.

4003 is still on the MOB roster, and was lent to the museum for the gala event. It stopped at the far end of the viaduct to pick up my companion and me. The articulated interurban was built in 1968 by SIG.

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Second Avenue Subway Plans

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the proposal at two successive sessions, after which the voters had to approve it at a referendum.

The bond issue was approved, but the money was spent on new cars, signals, and lighting.

(To be continued)

Switzerland in the Late Summer

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Back on the museum grounds, MOB interurban stops to drop riders while the Operator changes ends to make another scheduled trip. Alongside is ex-BOB locomotive 29 with a short train. Visitors were allowed to wander through the carbarn and locomotive depot.

After 4003 pulled out, ex-Bern tram 52 prepares to be positioned for its next trip along the line.

The location is just up from "bifurcation" alongside the lead track to the museum site where the wood-burning 0-4-0T "Todtnau" is spotted alongside its fueling point. Compound Mallet 105 hails from the Haspe-Voerde-Breckerfeld Line in Germany and was built in 1918.

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trainsets.

The 250 kilometer per hour trainsets, designated Zefiro 250NG by the manufacturer, are to be operated by the Chengdu and Kunming Railway Bureaus in the “Diamond Economic Circle” region, which includes Chengdu, Chongqing, Xi'an, Guiyang, and Kunming.

The contract announced on March 1 is worth €268 million. Bombardier Transportation has a 50% stake in the BST joint venture, which is controlled by its partner CRRC Sifang. Mitrac traction and control systems will be supplied by the separate Bombardier CPC Propulsion System Company joint venture.

The aluminum-bodied Zefiro 250NG design was developed by BST as a successor to the steel-bodied CRH1, which had itself been derived from the Regina EMU used in Sweden. The first CRH1A-A trainsets entered service on Hainan Island in November.

Bombardier said the design’s “unique” windows, lighting, and shape contribute to a distinctive appearance, while the Zerfiro 250NG “sets new industry standards” for sustainability and passenger comfort as well as offering reduced lifecycle costs. (***Railway Gazette***, March 1)

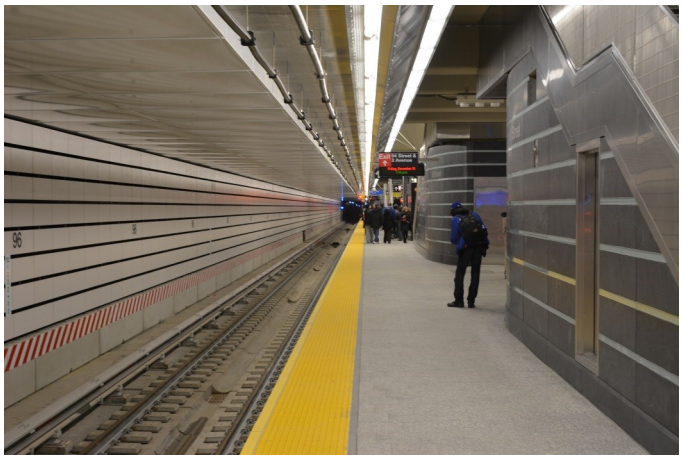
Around New York's Transit System

7 Delay

7 service was suspended at around 10:15 AM Wednesday, March 15 when a southbound train departing the Hunters Point Avenue station apparently struck a loose pipe or conduit. The crew immediately stopped the train and it was decided that the passengers should be evacuated rather than move the train back into Hunters Point Avenue as the obstruction was preventing safe movement of the train in either direction. 7 service between 34th Street-Hudson Yards and Queensboro Plaza was suspended with passengers diverted to N and W. Service was resumed at 1 PM, albeit with single-tracking between Hunters Point Avenue and the First Avenue crossovers at the west end of the underwater portion of the Steinway Tunnel. Car 7882 was seen in a press photo as one of the cars in the incident consist.

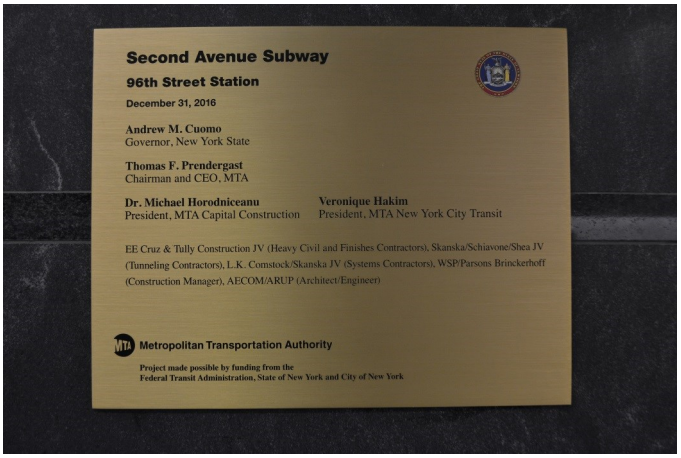
The Second Avenue Subway

Trailing car R-160 8957 on Track S2 at 86th Street, December 30, 2016.



96th Street station, northbound side of platform looking south, December 23, 2016.

Newsstand at 96th Street station, December 23, 2016.



96th Street station dedication plaque, December 23, 2016.