The Bulletin



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The Bulletin

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This Month's

Cover Photo:
In a scene long-gone from old-town Brussels, Belgium, Standard motor 1263 (Tramways Bruxellois, 1936) is operating on the 28 route to St Lambert at the Rue du Marché aux Poulets stop on 8/13/1968 (Photographer unknown. (Photographer unknown, from Eurotrams listserver)

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FORMER ACTING LIRR PRESIDENT RAYMOND KENNY PASSES AWAY

Former Acting LIRR President Raymond Kenny, a Lindenhurst resident whose childhood fascination with trains led to a railroading career that spanned a half-century, died April 18 from complications of COVID-19, his family said.

His family said Kenny was admitted to Good Samaritan Hospital Medical Center about a week earlier with symptoms of the coronavirus, and later tested positive and was put on a ventilator. Kenny, who most recently headed rail operations for NJ Transit, was 69.

In a 2014 interview, Kenny said he became interested in the LIRR while riding the train between his Cedarhurst home and Molloy

High School Queens. He began working at the railroad as a summer ticket clerk in the early 1970s, while pursuing a bachelor's degree in business administration from John Jay College. After graduating, he was hired full-time on the management side of the LIRR as a junior industrial engineer.

Kenny worked in various management Raymond Kenny.
Railway Age photograph roles until being pro-

moted in the early 2000s to Chief Transportation Officer. When then-LIRR president James Dermody retired in September, 2006, Kenny served as Acting President for ten months. In the role, Kenny was charged with

leading the railroad's response to the concerns raised by a Newsday investigation about the dangers of wide gaps between trains and station platforms.

"I was not stressed, because I had a lot of help. Everybody was pulling the same weight," Kenny said in 2014 about his time as Acting President. "I really did enjoy the job. I tried to bring the place together."

After Helena Williams was appointed as the railroad's 38th president, starting on June 18, 2007, Kenny took on the position of Senior Vice President of Operations. Williams, who is now a Deputy County Executive in Nassau, acknowledged leaning heavily on Kenny's experience and wisdom as her "right-

hand man."

Kenny was credited with coming up with key strategies for the LIRR's Double Track project between Farmingdale and Ronkonkoma and for its East Side Access link to Grand Central Terminal.

After serving as a "champion" in the railroad's recovery from superstorm Sandv. according to Williams, Kenny retired from the LIRR in 2014. He

worked in the private sector until being hired by NJ Transit in January of 2019 as Senior Vice President and General Manager of Rail Operations. (**Newsday**, April 18)



MICHAEL HERTZ, NYC SUBWAY MAP DESIGNER, PASSES AWAY AT 87

by Subutay Musluoglu

(Photographs by the author)

It is with sadness that we report that Michael Hertz, the graphic arts designer responsible for the 1979 redesign of the New York City Subway system map, died on February 18, 2020. The map in current use is a direct descendant of Hertz's original design and is by far the longest serving map in continuous use in the subway's history.

A cause for Mr. Hertz's death has not been given but was reported to have been at Nassau University Medical Center in East Meadow on Long Island, which is also the town where he resided. Media outlets did not report his passing until February 25.

Mr. Hertz's involvement in the subway map began in the late 1970s when the MTA was in search of a solution to a challenge that has vexed subway riders and planners alike for decades — how to navigate the complex subway system. A map developed by the famous graphic designer Massimo Vignelli had been introduced in 1972 but its usefulness to subway riders was quite limited. The chief complaints centered around two fundamental issues — that it was difficult to determine which lines were local or express or even in service at certain times, and that there was no relation of the subway system relative to the city's actual physical geography.

The history of guiding passengers using the New York City subway has been as convoluted and complicated as the history of the system itself. In the early years the responsibility for providing a map to customers fell to the private companies operating the subways, so that the IRT and BMT each had their own map, with no indication of the existence of their rival.

The building of the IND by the City of New York's Board of Transportation only complicated matters further when it introduced yet a third map, which actually did reference the two other legacy subway systems at transfer locations. To make matters worse, maps would be produced by other sources such as telephone companies, banks, department stores, and such, making for a haphazard collection of maps of varying styles and sizes which did not serve the riding public well.

The situation improved somewhat after 1940 following the unification of the three systems into one owned and operated by the Board of Transportation. They contracted with the Hagstrom Map Company, which produced the first map representing the entire system, using a different color for each of the legacy systems, now referred to as divisions. Hagstrom had already developed prior experience in this regard, having made maps for each of the legacy systems prior to unification. Those maps were notable for emphasizing each system separately, with the other two systems shown as just simple black lines.

In the postwar years, attempts were made to bring a more modern look to the subway map. The Board of Transportation gave way to the New York City Transit Authority (TA) in 1953, and after retaining the Hagstrom maps for a few more years, the TA embarked on a redesign. In 1958 it retained George Salomon to develop a new map. Salomon had previously approached the Board of Transportation with ideas for a new map but had been turned down. When the TA took over it was more open to new ideas and gave Salomon an opportunity.

Mr. Salomon had studied modernist graphic design and typography in England and had clearly been influenced by Harry Beck's map, as reflected in his proposal to the TA, which was a broad effort that went beyond just a map. He sought to revamp the entire system of wayfinding, signage, and customer communications in the subway in the interest of clarity and uniformity.

The TA ultimately did not go as far as Salomon envisioned, though the map was redesigned. It still retained the distinction between the three divisions, but it was simplified and made clear enough to serve for almost a decade with just occasional tinkering. However, its limitations became very apparent by the late 1960s.

In 1967 the TA opened the Chrystie Street Connection, which integrated the services of the BMT's Eastern and Southern Divisions with the IND. This seminal event in NYC subway history reordered service patterns that had been in place for decades, creating massive confusion among the public and raising the clamor for a better map.

The demand only grew further a year later, when the MTA was created in 1968 with a great desire to present a new brand and image to the public, commensurate with the mission heralded by the agency's creation, to integrate the region's disparate rail systems.

First came a new graphics standard developed by the firm Unimark, which designated the Standard font as the one and only font to be used for all service information, wayfinding, signage, and MTA communications materials. This was followed by the introduction of a collage of colors and bullets for each individual subway line. And then came the Vignelli map in 1972. And when it was decided four years later that another rework was needed, the door opened for Michael Hertz.

And so, in 1976 the MTA put out an RFP for the "Design of a New Subway Map." Hertz's firm won the contract and thus embarked on an effort which has given us the map in use today.

Their vision for the map attempted to reconcile the layout of the subway with the city's geography. To achieve this, and to fit within the confines of a subway

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Michael Hertz Passes Away

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car's standard map frame, they distorted the city's land mass in a way that widened those parts of the city where the subway system is densest. Subway lines followed the streets under which they were located, their curves and turns reflecting reality. Stations, especially transfer stations, were much easier to identify.

Neighborhood names and key landmarks were featured. Parks were shown in green and water was shown in blue. Major streets appeared, though their orientation and relative position to each other was greatly exaggerated in some locations. The map's utility to get around the city streets was still limited. But at least it looked more like an actual map, and as such it gained favor with the public.

One of the most important decisions made by Hertz and his team was to discard the collage of separate colors for each subway line and to introduce a new color palette based on groupings of colors organized around each of the major subway trunk lines in Manhattan. This was accompanied by creating a greater distinction between expresses and locals. The reduction in colors made it easier for riders to make decisions to determine the best routes to their destination. The wayfinding system established by Unimark was adjusted to match the map, and a new era in navigating the subway was ushered in.

In the early 1980s, Mr. Hertz applied the same principles to WMATA's Metro map. Eventually, his work on transit maps grew to include the entire first- and second-generation NYC Neighborhood Maps, which were installed in every New York City subway and Staten Island Railway station as well as major transit hubs, the Long Island Rail Road and Metro-North Railroad system maps, and the individual borough bus maps. Transit maps were also created for Houston, TX; Saint Petersburg, FL; and Ann Arbor, MI. He also developed a street map for Boston, and the official map and guide to the grounds and sites of the 1996 Summer Olympics Games in Atlanta, GA.

In 1996, Hertz was tasked by the MTA to retool his design and produce a Regional Transit Map, which for the first time unified all of the MTA rail services in one map, with the subway on one side and the two commuter railroads on the other. Even MTA Bridges and Tunnels were featured in a small inset alongside the railroads. In 1998, it was renamed simply as "The Map." Numerous modifications and iterations have occurred since then, yet the design has endured.

In his later years. Mr. Hertz was forced to wage a campaign to protect his work and defend his integrity from a gross misappropriated claim of credit by John Tauranac, an ex-MTA employee and member of the committee tasked with overseeing Hertz's work in the late 1970s. Tauranac's role had been mostly administrative, to guide the committee, and to represent the interests of the MTA. However, starting sometime around the early 2000s, Tauranac began to take credit for

Hertz's work, identifying himself in public and in the media as the "Chief Designer of the NYC Subway Map." This was a blatant false claim, and Mr. Hertz was forced to play a game of cleanup by writing letters, presenting evidence, and enlisting the assistance of colleagues and officials to set the record straight.

These efforts occupied much of Mr. Hertz's time and effort during his retirement. He eventually succeeded and in recent years, his name has become synonymous with the subway map. His obituary in the **New York Times** and other news outlets reflects the correct record.

Mr. Hertz is survived by his wife, three sons, a daughter, and eight grandchildren.

Within a few days of his passing, the MTA began honoring Mr. Hertz with a digital memoriam, cycling on the digital advertising screens that have been installed on subway and railroad platforms. Kudos to the MTA for honoring a man whose work has guided millions of passengers over the last 40 years as they negotiate the labyrinthine New York City subway system. May his work live on to guide many more millions for years to come

Author's note: The passing of Michael Hertz touched me personally. I had the pleasure of working for him part-time after school in the late 1980s while I was enrolled at the City College of New York. My childhood interest in railways had grown and taken a strong hold in me by then. That interest extended to cartography as well, and I had developed a passion for collecting transit maps.

In the fall of 1986, I learned that Michael's firm was responsible for the Washington Metro system map, one which I needed for my collection. I contacted him directly by phone to request a copy. Intrigued by my request, he invited me to his office to meet him in person, and when I did, he inquired as to why I was interested in maps. I explained my interests, and how I felt strongly about the importance of maps to navigation. I emphasized that a good map not only had to be clear, legible, and informative, but also aesthetically pleasing and have a distinct identity. This particular point struck a chord with Michael, as he was quite impressed and offered me employment right there and then.

During my time at Michael Hertz Associates I worked on the first generation of Staten Island Neighborhood Maps to be placed in Staten Island Railway stations, as well as a revision of the Long Island Rail Road system map. Though I only worked for him for less than two years, I can honestly say that his influence and the experience I gained had a direct impact on the trajectory of the rest of my professional career. In 1994 I landed a job as a research cartographer at the Hagstrom Map Company, where I was responsible for the New York City 5 Borough Atlas. My securing of that position was directly attributable to my work at Michael Hertz Associates, as it came up repeatedly during my interview.

From that point on, my path was set. Each successive job I've had since can be traced back to those afterschool days in the late 1980s, and eventually brought me to my current position at the MTA. Thank you Michael, and may you rest in peace.

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Michael Hertz Passes Away (Continued from page 3)



The 1979 "Diamond Jubilee" map, designed by Michael Hertz.



The memorial to Michael Hertz, displayed on one of the somewhat recently installed electronic service advisory/advertising panels, this one at Forest Hills-71 Avenue station.

Commuter and Transit Notes

by Jeff Erlitz, Alexander Ivanoff, and Ronald Yee

METROPOLITAN TRANSPORTATION AUTHORITY

Per executive order from Governor Andrew Cuomo, anyone entering and utilizing public transit facilities or vehicles (rail, bus, or paratransit), must wear a face covering starting at 8 PM April 17 in a measure to slow the spread of COVID-19 virus aboard the often crowded mass transit cars. (New York State press release, April 16)

MTA METRO-NORTH RAILROAD

Beginning Monday, April 13, Metro-North Railroad began operating on an hourly schedule on the Hudson, Harlem, and New Haven Lines, weekdays and weekends.

On the Hudson Line, most northbound trains depart Grand Central Terminal (GCT) at 20 minutes after the hour to Croton-Harmon and 45 minutes after the hour to Poughkeepsie. Southbound, most trains leave Poughkeepsie at 52 minutes after the hour and from Croton-Harmon at 56 minutes after the hour.

On the Harlem Line, northbound trains depart GCT at 42 minutes after the hour to North White Plains and at 10 minutes after the hour to Southeast. Southbound, most trains depart Southeast at 4 minutes after the hour and from North White Plains at 58 minutes after the hour. Connecting shuttle trains operate every two hours between Southeast and Wassaic, 5 minutes after odd-numbered hours out of Southeast and 15 minutes after even-numbered hours out of Wassaic. Wassaic shuttles operate on weekdays only; there is no weekend service.

On the New Haven Line, eastbound trains depart at 36 minutes after the hour to Stamford and 2 minutes after the hour to New Haven. Most westbound trains to GCT depart Stamford 58 minutes after the hour and from New Haven at 35 to 40 minutes after the hour. Haven. The New Canaan Branch has hourly connecting train service and the Danbury and Waterbury Branches are served by trains every three hours in each direction, 7 days per week.

To accommodate COVID-19 precautionary measures, on a temporary basis, all ticket offices are closed and cash is no longer accepted for ticket purchases aboard trains. Passengers are strongly urged to use the MTA eTix application on their smartphones, which is the easiest (and safest) way to purchase train tickets. Passengers can also use credit or debit cards on board, or can also purchase tickets with cash at Ticket Vending Machines located at the stations.

NJ TRANSIT

Starting Monday, March 23, NJ Transit enhanced its weekday rail schedule to a Presidents' Day holiday schedule, seven days a week, with some enhancements on weekdays to ensure adequate capacity is provided. All trains listed in the "Saturday/Sunday/Holiday" section of the public timetable will operate, as well as those listed in the shaded columns in the timetables that

are marked "will operate 2/17."

In addition to the train service operating on President's Day, NJ Transit will include the following enhancements: Raritan Valley Line (RVL) service between Raritan and High Bridge and between Dover and Hackettstown. Pascack Valley Line (PVL) rail service will be on a special schedule to accommodate added stops at Teterboro and Woodcliff Lake. On the Northeast Corridor (NEC) and North Jersey Coast (NJCL) Lines there are additional early morning trains. All #7600-series trains (operating between Rahway and New York) are cancelled, with additional North Elizabeth stops added to select NEC and NJCL trains to make up for the loss of the Rahway locals. Minor changes were made to the last trains on the North Jersey Coast and Raritan Valley Lines. It should be noted that the NEC Presidents' Day schedule does not include service at Jersey Avenue Station.

Montclair-Boonton Line service west of Bay Street and Gladstone Branch rail service will both operate. From Monday, April 6 to Friday, June 19, Atlantic City Line trains will be replaced by NJ Transit's #554 bus route between Atlantic City and Atco from approximately 7:30 AM until 3 PM on weekdays to support track and signal improvement work. Trains will continue to operate between Atco and Philadelphia during this period. The #554 route operates daily service between Lindenwold and the Atlantic City Rail Station via the White Horse Pike, serving Atco, Hammonton, Egg Harbor City, and Absecon. At Atco it goes into the rail station to connect with the trains. Between Atco and Atlantic City, the #554 takes an hour 25 minutes versus the rail time of 51 minutes. NJ Transit bus tickets and passes are being honored on all NJ Transit rail lines to increase travel options for bus customers.

New Jersey Governor Phil Murphy also issued an executive order on April 11, 2020 mandating that NJ Transit and all private carriers reduce the capacity of their transit vehicles to 50%, to allow for adequate social distancing aboard. NJ Transit placed this message on their website – "Executive Order 125 requires all staff and customers on New Jersey Transit vehicles to wear face coverings as of 8 PM Monday (4-13-21), an additional measure CDC says can slow the spread." (New York Post, April 11)

AMTRAK

Amtrak's *Downeaster*, which had been reduced from five trains daily to two, was reduced again to one. Leaving North Station at 5:00 PM, it carries a lot of commuters to Haverhill who like the café and soft seats. The 4:30 AM from Brunswick also boards many commuters at Haverhill, among other stations. On April 13, all service on this line was suspended until at least April 30. The *Vermonter* was suspended about three weeks earli-

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er. The relatively new Valley Flyer is down to one round trip (Springfield-Holyoke-Northampton-Greenfield) weekdays, but there are two on weekends.

After those service cuts were enacted, the following cuts took place. Amtrak suspended all Acela services (Boston-Washington), the Carolinian (Charlotte-New Downeaster (Boston-Brunswick), Keystone (Harrisburg-New York), Pennsylvanian (New York-Harrisburg), Pere Marquette (Chicago-Grand Rapids), and Winter Park Express. There will be reduced services on the Adirondack (no service north of Albany), Hartford Line, Thruway Bus Routes, California Zephyr (no service West of Denver), Capitol Corridor (San Jose-Sacramento), Cascades (no service north of Seattle), Empire Service, Maple Leaf (New York City-Niagara Falls, New York only), Ethan Allen Express (no service north of Albany), Missouri River Runner, Northeast Regional, Pacific Surfliner, Piedmont, San Joaquin, Valley Flyer, Vermonter (no service north of New Haven Monday-Saturday and no service on Sundays).

INDUSTRY

MesseBerlin, the operator (and location) of the biannual InnoTrans conference, says it will postpone the exhibition until Spring, 2021 due to the new coronavirus (COVID-19) restrictions in place in Germany.

InnoTrans was scheduled to take place in Berlin from September 22-25 and normally attracts a huge number of exhibitors and visitors. The 2018 show had 153,421 trade visitors from 149 countries and 3,062 exhibitors from 61 countries.

The German government had already banned large gatherings of people up to August 31 to prevent the spread of coronavirus, which cast doubt on whether InnoTrans would go-ahead just a few weeks later. (*International Railway Journal*, April 22)

OTHER TRANSIT SYSTEMS

PHILADELPHIA, PENNSYLVANIA

SEPTA issued a press release that starting on Thursday, April 9 it moved to a new "Lifeline Service Schedule," operating as much service as possible with healthy and available employees on a limited basis. The Market-Frankford Subway-Elevated (MFSE) will operate with ten stations closed and 18 remaining open. The closed stations are Church, Tioga, Somerset, York-Dauphin, 2nd Street, 5th Street, 13th Street, 56th Street, 63rd Street, and Millbourne. The Broad Street Line/Broad-Ridge Spur will operate with eight stations closed and 16 remaining open. The closed stations are Tasker-Morris, Lombard-South, Spring Garden, Fairmount, Susquehanna-Dauphin, Wyoming, Logan, and Chinatown.

Surface operations will be limited to approximately 60 core routes. Not running are the 34/Angora and 15/Girard trolleys (15/Girard has not been running for about a month). Ex-Red Arrow trolley 102/Sharon Hill is operating with buses. All the remaining subway surface

lines - 10, 11, 13, and 36 – will be operated with buses connecting at 40th Street to the MFSE. The trolley subway will be closed. Former Red Arrow 101/Media will be operated with buses. There will be reduced service on the Norristown High Speed Line. On Regional Rail there will be no service on the Chestnut Hill East, Chestnut Hill West, Cynwyd, Manayunk/Norristown, West Trenton, and Wilmington/Newark Lines. The Airport Line will operate every two hours.

PATCO has a modified schedule in effect until further notice, as follows:

Monday through Friday: 12 AM to 4 AM - Trains every 60 minutes

Monday through Friday 4 AM to 5 AM - Trains every 30 minutes

Monday through Friday 5 AM to 11:59 PM - Trains every 20 minutes

Saturday 12 AM to 5 AM - Trains every 30 minutes Saturday 5 AM to 11:59 PM -Trains every 30 minutes Sunday: All day - Trains every 60 minutes

The following stations are temporarily closed: Ashland (use Lindenwold or Woodcrest stations) Westmont (use Haddonfield or Collingswood stations) City Hall (use Broadway station)

12/13th & Locust Street in Philadelphia (use 9th/10th or 15th/16th Streets stations in Philadelphia)

At the Broadway station the west headhouse entrance will be closed. Use the entrance through the Walter Rand Transportation Center.

CHICAGO, ILLINOIS

The Chicago Transit Board approved a \$38.3 million contract to T.Y. Lin International Great Lakes, Incorporated to provide the planning and preliminary engineering work toward extending the CTA Red Line from its present terminus of 95th Street to 130th Street. The CTA Board committed \$310 million in the 2020-4 capital program, which is sufficient to satisfy the FTA minimums for them to "kick in" matching funds to pay for the completion of the line extension. (CTA, February 10)

KANSAS CITY, KANSAS



KC Streetcar revenue is being used to fund these contracts, KCSA officials said in a press release.

KCSA photograph

The Kansas City City Council approved \$7.4 million in design and construction contracts that will enable the

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Commuter and Transit Notes

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Kansas City Streetcar Authority (KCSA) to begin preconstruction work on its Main Street extension later this year.

About \$4.7 million was allocated for design services and \$2.7 million for pre-construction activities for the 3.6-mile streetcar extension that would connect Union Station to 51st Street in Kansas City, Missouri.

The final design contract is being led by HDR Engineering with support from HNTB Corp., Trekk Design Group LLC, Hg Consult, Parson + Associates, Custom Engineering and Lynchpin Ideas.

The construction manager at risk contract is being led by the KC Streetcar Constructors, a joint venture of Herzog Contracting Corporation and Stacy and Witbeck, with support from Burns & McDonnell and J.E. Dunn Construction.

The KCSA is waiting for Federal Transit Administration notification that the extension project is ready to enter the engineering phase of the federal Capital Improvements Grant (CIG) New Starts Program, and eligible for federal funding.

The authority is seeking \$174 million in federal funding to be combined with local funding to cover the project's cost. Construction on the extension is scheduled to begin in late 2021 or early 2022. The extension's opening is slated for 2025. (*Progressive Railroading*, April 20)

SAN FRANCISCO, CALIFORNIA

The first seven-car trainset began test runs at the Stadler manufacturing plant in Salt Lake City during April. On CalTrain's mainline, crews are continuing work on six traction power facilities in San Jose, Redwood City, Sunnyvale, South San Francisco, and San Mateo, installing catenary support infrastructure in the four short tunnels in San Francisco and erecting power poles from Menlo Park to San Jose. (*Progressive Rail-roading*, March 30)

The San Francisco Bay Area's BART metro is to withdraw alternate trains to reduce its weekday service from 15 minute to 30 minute headways from April 8 until further notice.

The operator said ridership data showed that social distancing would remain possible on all trains, while it would have greater flexibility to maintain a stable service should its staff need to take time off due to illness or to care for family members during the coronavirus pandemic.

The move will potentially save the operating budget \$3-7 million per month. BART is using the time of historically low ridership to undertake potentially disruptive infrastructure projects, with up to 400 employees shifting to capital improvement projects that are not funded by the operating budget. These have been designated as essential public works under the region's public health orders.

"Ridership is now at 7% of what is usual, and these changes allow us to increase essential rebuilding pro-

jects while also ensuring we can provide reliable and predictable service," said BART General Manager Bob Powers on April 6. "With so many unknowns about the length of the shelter in place orders and the timing of recovery, we must take steps to protect the operating budget while also protecting our ability to run a service every 30 minutes."

Weekend service will remain unchanged, as doubling weekend headways would see Saturday services at 40-minute headways and Sunday service at 48-minute headways.

BART said its early estimates showed a "bleak scenario" of possible budget shortfalls of \$258-452 million in the 2021 financial year, with federal stimulus funds bridging some but not all of the gap. (Metro Report International, April 8)

VICTORVILLE, CALIFORNIA

According to a report in the *Review-Journal*, a California finance committee unanimously approved the allocation of \$600 million in tax-exempt bonds to go toward the Virgin Trains USA high-speed rail project between Las Vegas and Southern California.

The California Debt Limit Allocation Committee approved the bonds to go toward what is formally known as XpressWest, the \$4.8 billion rail project that would run from Victorville, California to Las Vegas, according to the report.

Internal Revenue Service (IRS) guidelines allow Virgin to market up to four times the amount of the \$600 million in bonding authority, for a total of \$2.4 billion in tax-free, private equity bonds.

This is the second bond approval Virgin Trains has secured in the past few months. In March, the United States Department of Transportation approved \$1 billion in tax-free private bonds for the project.

However, there is a catch of sorts: both bond approvals are reliant upon all Virgin bonds being issued by Sept. 30. If they are not, California will put the \$600 million it approved into the state's new construction pool for affordable housing. (*Railway Age*, April 15; *Las Vegas Review-Journal*, April 14)

SEATTLE, WASHINGTON

Sound Transit began demolishing buildings in Federal Way, Washington, to make way for the agency's future Link light-rail station near the Federal Way Transit Center.

The demolition work, which will continue for several weeks, is part of critical construction on the agency's 7.8-mile Federal Way light-rail extension project, agency officials said in a press release.

To be located on S. 320th Street, the station is one of three included in the project.

The Federal Way extension will open in 2024. (*Progressive Railroading*, April 20)

HONOLULU, HAWAII

Honolulu Authority for Rapid Transit (HART) received four additional new cars from Hitachi, making up the 11th four-car consist for the automated passenger rail

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line being built along Oahu's south shore. This will eventually link downtown Honolulu with its airport to the west. The current order of 17 trains are expected by year's end. When the line is fully completed around 2025, the fleet will include 80 rail cars. The first phase of the line may open for passenger service in late 2020. (*Progressive Railroading*, April 14)

PRAHA (PRAGUE), CZECH REPUBLIC



Orientkaj station on the just-opened M4 metro line. Metro Report International photograph

Praha transport operator DPP has awarded Pragoimex a contract to supply its VarCB3LF partly low-floor tram bodies to replace the life-expired and corroded bodies of the city's Tatra Type T3R.P and T3R.PV trams.

The March 23 framework agreement covers the delivery of a minimum of 11 bodyshells per year at cost of KC3.475 million each. (*Metro Report International*, April 3)

KØBENHAVN (COPENHAGEN), DENMARK

"It was different to what we had imagined," said Henrik Plougmann Olsen, CEO of København metro operator Metroselskabet after planned celebrations to mark the opening of Line M4 on March 28 were canceled because of the coronavirus. "The trains just started running over the new section, and that was it."

M4 services share tracks with the existing M3 ring line between København H station and Østerport, doubling the number of trains on this section. They then turn off to run over a 2.2 kilometer branch built at a cost of €310 million including 1.9 kilometers of tunnel and the elevated terminus at Orientkaj.

The branch has one intermediate station serving the Nordhavn development area, which is expected to have 40,000 residents and similar number of jobs by 2050. This also provides an interchange with S-tog rail services.

A southern extension of M4 from København H to Ny Ellebjerg with five stations is under construction for opening in 2024. (*Metro Report International*, March

30) **BERLIN, GERMANY**



BVG ran its first train on the U5 missing link through Rotes Rathaus station during March.

BVG Projekt GmbH/A Reetz-Graudenz photograph



Fit-out of the U5 station at Museumsinsel is nearing completion.BVG Projekt GmbH photograph

Three extensions of the Berlin U-Bahn network have been deemed "structurally and technically" feasible, according to a study commissioned by the city government.

Initial results presented to the Berlin Senate in March confirmed the feasibility of building extensions to lines U6, U7 and U8, which have been backed by the capital's chamber of commerce ahead of other metro and tram projects being pursued by politicians in the ruling "red-red-green" coalition.

Work is nearing completion on the U5 extension to Berlin Hbf; the 2.2 kilometer "missing link" between Alexanderplatz and Brandenburger Tor is expected to open for revenue service by the end of this year, although the cost has risen from the initial budget of €433

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million to an estimated €525 million. BVG Projekt GmbH confirmed on March 31 that fitting out work was continuing at the three intermediate stations at Rotes Rathaus, Museumsinsel and Unter den Linden.

The feasibility study is intended to inform the priorities for further development following completion of U5, starting with a proposed southern extension of U7 from Rudow to the new Berlin-Brandenberg airport at Schönefeld, which is provisionally priced at €306 million. Planning is already underway for a northern extension of U8 from Wittenau to Märkisches Viertel and potentially Senftenberger Ring, at a cost of €112 million to €386 million. The third project would see the construction of a branch off U6 to serve proposed residential and commercial developments on the Tegel airport site; this is priced at up to €607 million depending on the route selected.

Other projects under consideration include a short western extension of U7 from Spandau to Heerstraße Nord, for which BVG commissioned a feasibility study at the end of 2019. Extension of Line U3 from Krumme Lanke to Mexikoplatz is priced at €40 million, with proponents pointing out that 150 meters of tunnel for this route has already been built. Local passenger association IGEB has welcomed the proposal "unreservedly," suggesting it could be completed within a decade. The U3 extension is also backed by the SPD faction in the Senate, which is arguing for a 600 meter extension of U2 to Pankow-Kirche and a southern extension of U9 to serve new housing developments at Lankwitz. Meanwhile, the CDU reportedly favors a southern extension of U6 from Alt-Mariendorf to Lichtenrade.

However, coalition partner Die Linke has argued against further metro extensions in the short term, pointing out that BVG has a maintenance backlog estimated at more than €2 billion. Backed by the Green party, Die Linke says the immediate focus must be the renovation and technical modernization of existing U-Bahn lines, and potentially some expansion of the tram network. (*Metro Report International*, March 31)

BREMEN, GERMANY

The first of 77 Avenio trams ordered by Bremen operator BSAG arrived in the city from Siemens Mobility's Wien (Vienna) plant on March 31. Another is currently undergoing trials at the Wildenrath test center.

The Type GT8N-2 trams have been branded Nordlicht (Northern Lights, Aurora borealis). They were ordered by BSAG in two batches in June, 2017 (67) and January, 2018 (10). Following testing, the first vehicles are expected to enter service this summer, with all in use in 2023.

The four-section steel-bodied trams are 37 meters long and 2.65 meters wide, providing more passenger space than the 2.3-meter-wide cars they are replacing.

They feature air-conditioning, LED lighting, a modern passenger information system, an electric wheelchair ramp and areas with seats which can be folded to make space for wheelchairs and pushchairs. There will be some wooden seats, offering easy cleaning.

The new vehicles will replace GT8N cars, which are now more than 20 years old. These were some of the earliest low-floor trams in Germany, but according to BSAG CEO Hajo Müller "they are in such poor condition that they can no longer be sold and will be scrapped."

Because of the coronavirus precautions, he was one of just a few key staff to attend the unloading of the first Nordlicht tram. (*Metro Report International*, April 1)



The first GT8N-2 tram being delivered to Bremen. Metro Report International photograph

Warszawa (Warsaw), Poland



Mlynów station on the M2 metro extension. Metro Report International photograph

Warszawa's M2 metro line was extended by 3.4 kilometers west from Rondo Daszyńskiego to Księcia Janusza on April 4. The opening was low-key owing to coronavirus travel restrictions, with regular operations starting at 4:45 AM.

Running tunnels up to 15.2 meters deep serve intermediate stations at Płocka, Młynów, and Księcia Janusza.

Main contractor Gülermak Ağir Sanayi İnşaat ve Taahhüt was awarded a Złoty 1.148 billion contract to

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build the Wola extension on September 29, 2016, 75% financed by EU Cohesion Fund under the Operational Program Infrastructure & Environment 2014-20 signed on September 23, 2016.

Groundbreaking took place on November 25, 2016 and work was completed on November 29, 2019.

The 12.6-kilometer east-west Line M2 now extends from Trocka to Księcia Janusza with 13 stations. It is operated by 20 Siemens Inspiro trainsets. The central section of line from Dworzec Wileński west to Rondo Daszyńskiego opened on March 8, 2015, interchanging with north-south line M1 at Świętokrzyska. It was extended east to Trocka on September 15, 2019.

Metro Warszawskie plans to open a two-station western extension to Bemowo and three-station eastern extension to Bródno by 2022, as well as additional a further western extension in 2023. Construction contractors for all three sections are Astaldi and Gülermak. (*Metro Report International*, April 6)

SPAIN

More EU funding has been allocated to enhancing rail links between Portugal and Spain. The EU co-financing is part of a €1.4 billion package of European Green Deal projects in seven EU states that was announced by the Commissioner for Cohesion & Reforms Elisa Ferreira in mid-March.

The European Regional Development Fund is to provide €265 million towards the completion of the 179-kilometer section of high-speed line between the Spanish cities of Plasencia, Cáceres, and Badajoz. This forms part of the 715-kilometer Madrid-Lisboa route, which has been designated as part of the TEN-T Atlantic Corridor.

ADIF had hoped to launch high speed services to Badajoz by 2019 using bi-mode trainsets, but it is now likely to be 2023 before through daytime trains start running between Madrid and Lisboa using a mix of new and upgraded lines. Plans for a new high-speed alignment at the eastern end of the corridor between Plasencia and Madrid, potentially serving Toledo, are still to be finalized; trains will initially use the existing line.

The Atlantic Corridor is being laid with 1,668-millimeter gauge ties designed for a future change to standard gauge. The railway is intended to carry both passenger and freight traffic; maximum line speed on the new-build sections would be 300 kilometers per hour. The route will be electrified throughout and fitted with ETCS Level 2. (*Railway Gazette*, April 8)

PORTO, PORTUGAL

The European Commission has announced €107 million of EU Cohesion Funds for expansion of the Metro do Porto light rail network. This adds to €75 million allocated in the national government's 2020 budget.

The two projects being supported are Line G, where a €63.6 million contribution will support construction of a new line from São Bento main line station northwest in tunnel to Casa da Música, where it will provide inter-

change with lines A, B, E, and F. Line G will improve access to health care and higher education sites on the west side of the city center; it will be just 2.5 kilometers long with two intermediate stops.

The second package is a €43.3 million allocation towards extension of Line D from Santo Ovídio southeast to Vila D'Este. This 3.2-kilometer section with three stops will serve dense suburbs in the Vila Nova de Gaia district.

On March 27, Metro do Porto issued tenders for both projects, with proposals due by April 28. The estimated cost for Line G is €235 million while the extension of Line D is priced at €130 million. Work is due to start later in 2020 with both lines scheduled to open in 2023. The total cost of the expansion program is €407 million, and it is projected to add 10 million passengers per year.

The EU co-financing is part of a €1.4 billion package of European Green Deal projects in Portugal and six other EU states announced by Commissioner for Cohesion & Reforms Elisa Ferreira in mid-March which aim to "make public transport more appealing, reduce traffic and pollution and guarantee safer, faster, and more comfortable journeys for the passengers." (*Metro Report International*, April 2)

KRASNODAR, RUSSIA



Type 71-623-04 267.Oleg Bodnya photograph via *Metro Report International*

UKVZ has won four separately tendered contracts to supply a total of 56 unidirectional trams to the city of Krasnodar.

The orders announced on March 20 cover a total of 29 Type 71-623-04 trams to be delivered this year, and another 27 scheduled to arrive in 2021.

The trams will feature adaptive climate control systems instead of conventional air-conditioning, more vandal-resistant seat designs than older vehicles and various technology upgrades.

The cost per tram averages 31.6 million rubles, which the city says is significantly lower than anticipated. As a

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result, it plans to procure at least 11 more trams of the same type. (*Metro Report International*, March 24) *Moscow, Russia*



The station at Yugo-Vostochnaya on metro Line 15. Metro Report International photograph

Mayor Sergei Sobyanin inaugurated a 14.4-kilometer, six-station extension of Moscow Metro's Line 15 from Kosino to Lefortovo on March 27.

Also known as the Nekrasovskaya Line, Line 15 serves the capital's eastern suburbs. Construction began in 2012, with the outmost section between Kosino and the terminus at Nekrasovka opening on June 3, 2019.

Completion of the second phase brings the line to a total length of 22.3 kilometers with ten stations.

Between Kosino and Nizhegorodskaya the line runs in a 10-meter diameter double-track tunnel, rather than the twin single-bore tunnels used elsewhere on the network. Cut-and-cover techniques were used to build the station at Nizhegorodskaya.

Sobyanin said construction of the extension had been complicated by the high number of utility pipes that had to be removed or relocated.

The innermost 2.7-kilometer section between Nizhegorodskaya and Lefortovo, with the intermediate station at Aviamotornaya, is due to become part of the outer circle Line 11 when that is completed in 2022-3. Line 15 would then run from Nekrasovka to Nizhegorodskaya which provides interchange to the Moscow Central Circle orbital Line 14 as well as Line 11 and is due to be developed as one of the major hubs on the city's transport network.

A further extension of Line 15 west from Nizhegorodskaya towards the city center is also planned, along with expansion of the line's Rudnyevo depot.

Sobyanin predicted that opening of the second phase of Line 15 extension would provide significant relief for the congested Tagansko-Krasnopresnenskaya Line 7. Deputy Mayor of Moscow and head of the Department of Transport & Road Infrastructure Development Maxim

Liksutov added that it would reduce journey times for passengers from the east of the city by up to 30 minutes.

In parallel with the metro opening, 24 local bus routes were modified. (*Metro Report International*, March 31) *EDINBURGH, SCOTLAND*



Urbos 3 (CAF, 2012) at the St. Andrew Square stop. Metro Report International photograph

Edinburgh Council has instructed contractors Morrison Utility Services and Sacyr Farrans Neopul to cease site works for the construction of the tramway extension from York Place to Newhaven.

The contractors are to make the construction sites safe by the end of the week before shutting down. Work will continue off-site, operating to strict social distancing guidelines. This will include design, planning, and scheduling work, as well as drawing up a remobilization strategy for returning to the site once the restrictions have been lifted.

"Of course, this will impact on the wider project, but nothing is more important than the public's safety," said Council Leader Adam McVey on March 25. "We will, of course, be working with contractors to mitigate the impact of these necessary actions and carefully planning our strategy for returning to the site once restrictions are lifted." (*Metro Report International*, March 26)

CHENGDU, CHINA

CRRC Sifang has completed a fleet of 26 trains for Chengdu's 66.2-kilometer metro Line 18, with commissioning and trial running underway ahead of the planned start of services this summer.

Each eight-car set is 187 meters long, with 3-meter-wide bodies giving a capacity of 2,096 passengers, or up to 2,958 with crush loading. The trains are fitted with air pressure adjustment and airtight doors for comfort when running at speed.

Line 18 will serve the new Chengdu Tianfu International hub airport, due to open later this year. From a station serving Terminal 1 and 2 the line heads northwest to

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Expo City where there is interchange with lines 1 and 6. It then parallels Line 1 north to Chengdu South for interchange with metro lines 1 and 7.

The line is electrified at 25 kV 50 Hz and designed for 140 kph running. An express service with four intermediate stops will provide a 35 minute end-to-end journey time, while a local service calling at all 12 stations will take 50 minutes. (*Metro Report International*, April 7) *Hong Kong, China*

The government of Hong Kong has given MTR Corporation the go-ahead to proceed with detailed planning and design for the proposed Tung Chung Line Extension on the northern side of Lantau island.

The project has three components. A new intermediate station at Tung Chung East between Sunny Bay and Tung Chung would serve the Tung Chung New Town Extension (East) development. The existing line would be extended to a new terminus at Tung Chung West, both to serve current residents and to support future housing developments including the Tung Chung New Town Extension (West) planning area. At the Hong Kong end of the line, the Airport Railway Extended Overrun Tunnel (Remaining Section) project would see the existing tunnels extended eastwards from Hong Kong station to improve reversing capacity and facilitate a future increase in train frequencies.

Construction is expected to commence in 2023. (*Metro Report International*, April 8) *WUHAN, CHINA*



Wuhan metro station Hongshan Square. *Metro Report International* photograph

Revenue service has resumed on the Wuhan metro network following the coronavirus outbreak, with special precautions put in place to protect travelers. Work has also restarted on a number of expansion projects that had been put on hold.

Metro service in the city had been suspended on January 23 and restarted on March 28. Just 183,000 pas-

sengers were carried on the first day, compared to an average of 3.3 million/day in 2019.

All passengers are required to maintain a minimum separation, wear a mask, and scan QR codes with their health and personal details which will be used to trace their journeys in the event of any new outbreak. Body temperatures are recorded at stations by infrared devices.

Construction and fitting out work has restarted on the extensions of lines 6, 8, and 11, which are all scheduled to open this year, as well as new lines 5 and 16, which are due to open in 2021, and a further four projects that are scheduled for completion in 2022-5. (*Metro Report International*, April 8)

OSAKA, JAPAN



Metro Report International photograph

A three-section low-floor tram supplied by Alna Sharyo has entered service on the Hankai Tramway in Osaka, where it is operating alongside the oldest trams in the country which are still in commercial service rather than run as heritage vehicles.

The two-line Hankai Tramway serves the Sakai district, using a diverse fleet of vintage vehicles dating back to the late 1920s. To improve accessibility, it introduced three modern low-floor trams in 2015.

The latest vehicle is designated Series 1100 and is similar to Alna Sharyo's Series 1001 Little Dancer Type Ua design.

The expansion of the fleet will enable the operation of low-floor trams to be increased from one to two trams per hour between 7 AM and 7 PM, interspersed with the less-accessible older vehicles running at 12-minute headways. (*Metro Report International*, April 2)

SYDNEY, AUSTRALIA

The 3.2 kilometer five-stop light rail branch from Moore Park to Juniors Kingsford via Anzac Parade South was opened for revenue service on April 3, completing Sydney's CBD & South East LRT network.

The branch is operated as route L3, running through from Juniors Kingsford to Circular Quay to give a total length of 12 kilometers. Trams operate from 5 AM to 1

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AM each day, with a headway of 8 to 12 minutes. In conjunction with route L2 from Randwick, this gives a combined headway of 4 to 8 minutes on the common section from Moore Park to Circular Quay.

The network is worked by a fleet of 60 Alstom Citadis X05 five-section LRVs, which operate as 67-meter-long coupled pairs. The network is electrified at 750 V DC overhead, apart from the two-kilometer city center section along George Street between Circular Quay and Town Hall where Alstom's APS ground-level power supply is installed.

Construction of the CBD & South East LRT began in October 2015, with route L2 from Circular Quay to Moore Park and Randwick opening on December 14, 2019. The network has been developed by the ALTRAC Light Rail consortium under a PPP concession valued at A\$2.1billion, which provided four years for construction followed by 15 years of operation and maintenance. The consortium brings together Alstom, Transdev Sydney, Acciona Infrastructure Australia and Capella Capital, together with equity investors John Laing, First State Super and Acciona Concesiones. (Metro Report International, April 6)

Tendering for the construction of the 24-kilometer Sydney Metro West driverless metro line between the city center and Parramata was formally launched by New South Wales Transport Minister Andrew Constance on April 7.

Transport for NSW has invited expressions of interest for the two major infrastructure packages, which cover the boring of around 50 kilometers of twin tunnels between Westmead and The Bays.

One contract will cover the outer section of the route between Westmead and a worksite near the Sydney Olympic Park. The second will cover the section from Olympic Park to The Bays redevelopment zone at Rozelle, three kilometers west of the city center. The authority anticipates that the four tunnel boring machines will start work around the end of 2022.

The city's second driverless metro line would run entirely underground, linking the Westmead health and education campus west of Paramatta with the central business district, where interchange would be provided with the Southwest metro line now under construction, as well as Sydney Trains suburban services. Offering a journey time of around 20 minutes between Parramatta and the city, it is expected to double rail capacity in the busy western corridor. Intermediate stations are envisaged at Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, and The Bays Precinct, with provision for future stations at Silverwater and Pyrmont.

The project is expected to create more than 10,000 direct jobs and 70,000 during the construction phase. (*Metro Report International*, April 8)



Metro Report International photograph



An impression of the planned West Bays Precinct station. *Metro Report International* rendering

TEL AVIV. ISRAEL

Israel Railways operated its first electric test train to Tel Aviv's Hashalom and Savidor stations on April 5, following energization of the 25,000-volt 50-Hertz overhead line equipment on the core cross-city Ayalon Corridor.

Electrification of this section had been due for completion in June, but principal contractor Sociedad Española de Montajes Industriales was able to accelerate the work following ISR's decision to suspend all passenger services during the coronavirus (COVID-19) pandemic. This freed up access to the infrastructure and cut the completion time by around two months. (*Railway Gazette*, April 8)

NEW YORK CITY SUBWAY CAR UPDATE

"Essential" subway service, as was begun at the end of March, includes a standard interval of 10-15 minutes every day (including weekends) for the basic routes. On Subdivision "A," these were the 12346 and 7 in whole, while on Subdivision "B" these were the **DBBGUUMNORS**-Franklin and Far Rockaway A in whole. Each also incorporated pre-existing midnight hour variations, while there were as well shortterm changes possible on weekends (one example being the interim operation of **M** trains to 96 St-Second Avenue). Trains are being dispatched on the general headways shown above to match the available operating personnel. Some headways have frequently been even longer when operating crews are unavailable. At the end of March, 5 trains from Dyre Avenue were initially truncated at E. 180 Street, then extended to the "weekend" terminus at Bowling Green by Saturday, March 28. S-42nd Street service was suspended at the same time, "for the duration." Weekday-only Subdivision "B" routes **B** and **W** were suspended after March 27. Lefferts Boulevard (but not Far Rockaway) (A) trains then operated local service briefly along with the **©**, but the latter was additionally put on hiatus during the evening of Sunday, March 29.

First and foremost, throughout the system is a rigorous and constant, ongoing cleaning protocol related to disinfecting every train (and other facilities). This results in ever-repeated cycling for the trains which are used in passenger service, such that the otherwise underutilized fleet can easily stay busy enough to create shortterm rolling stock shortages on occasion. The only change in the equipment assigned for each route, as existed prior to the start of the Essential Subway Schedule (on or about March 27) were the removal of the few R-143 trains left on the **①**. **ⓒ** trains have been extended to full-length, 8-car R-46 and R-68/68A cars, with at least one known occasion where there were a handful of 10-car R-160s on the **G** briefly borrowed from Jamaica. Though the **G** is currently the most common place to find R-68/68As, a noticeable number of those assigned to Coney Island remain laid up from the inactive **B** service at Concourse Yard in the Bronx. Most noteworthy of the March 29 suspension of the @ was a (long-term?) lay-up for all 88 R-179s (3150-3237) assigned to the 6 from 207 Street. Furthermore, if not incidentally in this vein, that last 10-car set of R-179s (3040-9) was finally accepted as the thirteenth such consist assigned to the A on March 25, thereby completing the incorporation of all 318 cars of the order (some $7\frac{1}{2}$ years after their origination in July, 2012).

As a consequence of the steep, immediate drop of ridership which actually happened during the week of March 9-13, all 58 surviving Phase I R-32s on the G were variously used on March 16, 20, and 23: 3396-7, 3414-5, 3448-9, 3460-1, 3476-7, 3488-9, 3512-5, 3520/3891, 3614-5, 3646-7, 3654-5, 3664-5, 3672-3, 3708-9, 3714-5, 3726-7, 3736-7, 3778-81, 3798-9, 3804-5, 3810-1, 3840-1, 3856-7, 3864-5, 3894-5, 3924-5, and 3928-9. For the morning © put-in of March 26, these four eight-car Phase I R-32 trains were fielded: N-3501-3500-3716-3717-3628-3669-3381-3380-S; N-3460-3461-3396-3397-3928-3929-3714-3715-S; N-3489-3488-3514-3515-3646-3647-3520-3891-S; and N-3574-3575-3376-3377-3888-3889-3775-3774-S. One of those consists was used as the finale for the R-32 fleet after 55-plus years, with the honor being performed by the 8:43 AM G from Euclid Avenue to 168 Street. Shown as the line-up of the **©** on that last rush hour for the Budd-built cars were four trains of Phase I R-32s, seven sets of R-46s, and five eight-car consists of R-179s. Note that the first and fourth consists were suddenly revived (for undisclosed reasons) from storage for these final hours, which temporarily re-inflated the Phase I R-32 fleet from 58 to 74 cars. All but eight of the 222 Phase Is were then officially listed as "retired" on April 8, at which time just these eight R-32s (3430-1, 3780-1, 3798-9, and 3804-5) were undergoing conversion for ongoing work service. Other R-32s may perhaps be similarly transformed at a later date.

As for the ongoing "swap" between Jamaica (EFR) and Coney Island (GNO), no further Siemenssupplied R-160Bs were transferred to Jamaica after March 6, where 1,165 universally interchangeable R-160s (in general) were already on site. At that time there were 24 R-46s left at Jamaica for the **R**: 5498-5501, 5506-9, 5570-7, 5734-7, and 5802-5. For some reason, R-46 link 5826-9 was then returned to Jamaica (R) on March 11. All 28 then remained in isolated use until the last such R trip, the 7:50 PM from 95 Street to Forest Hills-71 Avenue on April 9: N-5802-5803-5805-5804-5736-5737-5735-5734-S. The next day all 28 of the remaining Jamaica R-46s were transferred in total "on paper," with at least 20 being physically shifted to Coney Island. Through April 20, all have been "frozen" in the yard, pending a further level of disinfection and deep cleaning before their restoration to passenger use on the \mathbf{G} , \mathbf{N} , or \mathbf{Q} .

A VISIT TO OLD PENNSYLVANIA STATION by Jeff Erlitz

These photographs of New York's old Pennsylvania Station were taken by an unknown photographer working for the Detroit Publishing Company. Detroit Publishing was, and still is, known for its photography using 8" x 10" view cameras with glass plate negatives. The result of having a negative of that size is the incredible amount detail seen in any of the photographs.

These were all apparently taken in early to mid-1910

before the station opened to the public. Designed by McKim, Mead, and White and considered a masterpiece of the Beaux-Arts style, Penn Station opened for Long Island Railroad traffic on September 8, 1910, in conjunction with the opening of the East River Tunnels. On November 27, 1910, Penn Station was fully opened to the public.



Looking east along the platform between Tracks 5 and 6. To the left are Tracks 7 and up. The light in the distance is the open excavation area for the Hotel Pennsylvania. The staircase just left of center goes up to the lower mezzanine while the stair on the far left ascends to the upper mezzanine.



View north on upper mezzanine.

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A Visit to Old Pennsylvania Station (Continued from page 13)



View north at platform level at Track 6.



View northeast on upper mezzanine, Tracks 9-18.



View north on upper mezzanine. LIRR train on Track 15.



View southwest, corner of Seventh Avenue & W. 33rd Street.



View west at Seventh Avenue & W 32nd Street.



View west in around 1911.

SOUTHWEST UNITED STATES by Jack May (Continued from April, 2020 issue)

(Photographs by the author)

Saturday, April 15

One of the principal objectives of this visit to Southern California was to ride San Diego's heritage PCC line. Called the Silver Line, it is operated by the Metropolitan Transit System (MTS) as part of the San Diego Trolley, the area's light rail system. A PCC car runs over a 2.7-mile clockwise loop around the downtown section of the city four days a week, Tuesday, Thursday, Saturday, and Sunday. I had made two previous attempts to ride the service, but on both occasions after arriving there I found that the line was not operating due to "mechanical problems." I hoped that the saying, "third time's a charm," would hold for this attempt.

Originally I had a choice of either Thursday or Saturday, but as it turned out there were a number of reasons to choose the latter. First, my plan for Wednesday had been disrupted because of Gold Line track work and I thought I might need an extra day on the rails in Los Angles; second, that the weather forecast for Thursday was cloudy; and third, the most important, is that when I checked Google Maps for the route I found that the 130-mile journey would take as much as 180 minutes (3 hours) during a weekday rush hour but only 105 on a Saturday morning, all because of traffic congestion on I-5. Why was I going to drive? In order to take Amtrak I would have to get a lift to the Expo Line station, ride to Metro Center, and then change to the Red/ Purple Line to get to Union Station, which would take about an hour (with a built in cushion for possible delavs). After that it would be a three hours more on the train. So, with 105 much better than 240, I am sad to report that this rail advocate had to choose rubber for the day.

I got into the rental car at 8:10 (Cathy had offered me her car if I would have gone on Thursday) and found relatively little traffic on my route, which was west for a short distance on Culver Boulevard to I-405 (Sig and

Cathy's house is a block away the boulevard), followed by a straight run via the 405 (San Diego Freeway) and I-5 to Exit 20 at Old Town. There was hardly any congestion on the freeways, except for a few minutes between Carlsbad and Encinitas. I turned left onto Rosecranz from the Pacific Coast Highway and found a free parking place along the curb on Calhoun Street near Taylor (Rosecranz becomes Taylor) just a block from the San Diego Trolley station. It was now 10 o'clock and as I walked on Taylor toward the car stop, bells began ringing and the crossing gates came down, so I hurried to get my first photograph of the day, of an inbound three-car train on the Green Line just north of its Old Town stop. The gates went back up, but before I walked the next 10 steps, the bells began to clang again. Just west of the San Diego Trolley tracks, a single parallel track carries Amtrak and Coaster trains across the same street and the 7:25 AM train from Los Angeles was slowing to make its scheduled Old Town stop at 10:10. So now, my second shot was exposed.

After a 10-minute ride to the Santa Fe station and some photos I crossed the street to the America Plaza platform just in time to board a PCC at 11 AM, the first of the day, which actually sneaked up on me. I was very pleased and quickly tapped my *Compass* card before boarding. Only a few passengers were on the streamliner. The ride was soon interrupted, at the Civic Center station, as police held up all traffic on C Street for a demonstration passing along Third Avenue. I asked the operator to let me out for a photo, and he complied; I am sure he would have shut the PCC's center door if I had thought of asking him. Today was April 15, tax return day, and there were marches in many cities demanding that the President release his tax returns. Lots of luck.

We moved forward about five minutes later. (To be continued in the next segment.)

Southwest United States

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Taylor Avenue just north of the Old Town stations of the San Diego Trolley and Amtrak/Coaster. The three-car Green Line train shown in the left view is en route to the 12th & Imperial Transit Center and made up of a 2000-series high-floor car (SD100) sandwiched between two 4000-series low-floor units (S70s) at the front and rear. Amtrak Pacific Surfliner 564, with an EMD F59-PHI at the point, crosses just west of the Trolley tracks. The five-car train left Los Angeles at 7:25 and is about to arrive on time at Old Town at 10:10, with an expected arrival at the Santa Fe Depot at 10:21.





San Diego's Santa Fe Depot at the edge of downtown San Diego. In the left view a two-car Orange Line train prepares to begin its journey to El Cajon in front of a three-car revenue Green Line train that is entering the station. Both the Orange and Blue Lines terminate in the area, with the Blue Line reversing across the street at America Plaza while the Orange uses this pair of tracks to change direction. Because of the congestion brought about by this arrangement, in July the Orange Line was cut back to share the Blue Line terminal across the street. This was planned as a temporary fix, as it would just relocate the bottleneck. The long-term solution was a new single-platform terminal for the Orange Line on the south side of C Street between State and Union, about three blocks away, which opened on April 29, 2018. The right photo shows the position of the Amtrak/Coaster and Trolley tracks. The Amtrak train I photographed just a few minutes earlier at Old Town has discharged its passengers, loaded new ones, and will start its three-hour return trip to Los Angeles at 10:41 (20-minute turnaround time). I was lucky I did not choose to come two weeks later, as the sign indicates I would have missed seeing any railroad activity. To its right the machine prominently displays the target for tapping Compass cards before taking a ride on the trolley.

Southwest United States

(Continued from page 17)

Wish I took a photo from the angle shown below, but after the trip I received this digitized postcard from Skip Gatermann of the good old days, not that this day was not good.





A Blue Line train has just terminated at the futuristic looking America Plaza station. It will soon leave for its return trip to San Ysidro, a few steps from the border of Mexico.



530, in all its glory at the Civic Center station, between Second and Third Avenue. The ex-Minneapolis, ex-Newark PCC is operating clockwise around a loop that circumscribes San Diego's city center.

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Around New York's Transit System

NYC Transit Employees Dead From Coronavirus

At press time, 62 NYCT employees had passed away from COVID-19. Most were front line employees such as Bus Operators, Train Operators, Conductors, and car and station cleaners. Despite being classified as essential employees providing critical services to keep New York City working, measures to protect them were late in coming, such as rear door boarding and alighting on buses and providing working conditions conducive for establishing proper social separation from potentially

infectious customers as well as fellow employees. Gloves and N95 masks were not immediately provided at the onset of the crisis and then only provided on a limited basis (one set per week). This probably contributed to the high death toll amongst employees, as well as staffing shortages which prevented NYCT from increasing service frequencies on the more heavily patronized routes, exacerbating the social separation issue for employees and riders alike.

LOCOMOTIVE HONORS CORONAVIRUS WORKERS



Belgian freight operator Lineas has unveiled a Bombardier Transportation Traxx locomotive which has been branded to honor people working to fight the coronavirus pandemic. Metro Report International photograph, April 9