# Electric Railroaders' Assoc., Inc.



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(Cover Photo)
B-Types approach
Williamsburg Bridge
Plaza on July 5,
1963. Photographer
unknown



# BULLETIN

Volume 65, Number 2 | February 2022

# The Blizzard of January 28-29, 2022

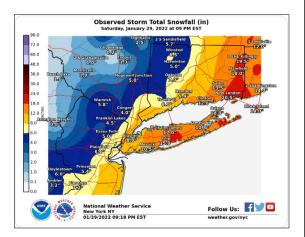
By Todd Glickman

A powerful winter storm blanketed much of the northeastern US with snow on January 28–29, 2022. This "nor'easter," was a classic textbook weather system. Upper level energy, a trough in the jet stream, dived southeastward and interacted with developing low pressure off the North Carolina coast. The result was explosive cyclogenesis – defined as a surface low pressure center that deepens at the rate of 24 millibars over 24 hours (approximately .71" of mercury over 24 hours). In recent years, the media has latched on to the terms "bomb cyclone" and "bombogenesis." It's interesting to note that this author's meteorology advisor at MIT,



One of the R-190 snow removal vehicles, ST304 (RPM Tech, 2013), is working its way northbound through Broad Channel station after the snow had stopped falling on Saturday afternoon.

Marc Hermann/MTA photo



Professor Frederic Sanders, coined those terms (in a way) during the 1970s. During our weather forecasting class, where I was Prof. Sanders' teaching assistant, he'd look at the maps in this kind of situation and say, "It's bombing out!" Then one of his graduate students, John Gyakum, remarked it was "bombogenesis." Decades later, this was twisted into "bomb cyclone" by the media. But your author still prefers "explosive cyclogenesis."

The computer simulations of the atmosphere, of which there are many operated by both government and private sector organizations, were consistent a number of days in advance that a major storm would develop. The subtleties, exactly where the low would track, how fast it would move, and how much cold air and moisture would be in place, would determine when and where how much snow would fall. Sometimes, the computer simulations can't pick up the small details that result in missed forecasts, such as more/less snow, or snow changing to ice/rain.

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But in this case, once we were within 36 hours of the event, we had good confidence in what would occur, and the forecasts were right on target.

The map below, provided by the National Weather Service, shows how varied the accumulations were throughout the metropolitan area. As you can see, the greatest snow depths were on Long Island in the vicinity of Islip-MacArthur Airport and the Hamptons.

The National Weather Service issued Blizzard Warnings for the Jersey Shore, Suffolk County, NY, and New London County, CT. For a blizzard to verify, it needs visibility of a quarter mile or less in snow or blowing snow, along with sustained wind or frequent gusts over 35 mph, for a period of at least three hours. (Note that how much snow accumulates is not part of the definition!). It was verified that blizzard conditions were met in all three areas. Snowfall totals ranged from under six inches west of the Hudson River, up into the mid-Hudson Valley, and southeastern CT. Six to 12 inches fell in most of NYC (8.5" in Central Park) and western Nassau County, and generally 12–24 inches in increasing amounts moving east through Nassau and Suffolk Counties as well as down the Jersey Shore. There were some peak amounts close to 30" noted, as well as considerable blowing and drifting snow.

On the subway, a Winter Plan 4 was operated, with yard layups being moved underground. All service was

maintained, albeit with some delays.

Metro-North Railroad operated as normal a Saturday schedule as possible but the New Canaan, Danbury and Waterbury Branches were suspended. Those branches resumed service on Sunday morning.

The Long Island Rail Road, clearly the hardest hit in our region, completely shut down at 8:00 AM Saturday morning. In reality, trains kept running all day and into the night, just without passengers. Mixed in with the "regular" trains were the railroad's snow sweeping, plowing and alcohol spray trains. All service resumed on Sunday morning with the exception of Ronkonkoma to Greenport and Speonk to Montauk. They returned in time for the morning rush hour on Monday.

NJ Transit train service, Newark Light Rail and Hudson-Bergen Light Rail ran their regular Saturday schedule, again, as best they could. Service was suspended, however, on the River Line between Camden and Trenton. It, too, resumed service on Sunday morning.

Todd Glickman is Senior Director of Corporate Relations at MIT and has also been a part-time on-air meteorologist for WCBS Newsradio-880 since 1979. Here's one of his reports as the storm wound down, at 5:58 PM on January 29: <a href="http://web.mit.edu/glickman/www/audio/WCBS\_29Jan22\_17-58.mp3">http://web.mit.edu/glickman/www/audio/WCBS\_29Jan22\_17-58.mp3</a>

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# Sunset for the Brightliners: An R-32 Retrospective

By Alexander (Sasha) Ivanoff

When most post-Baby Boomer New Yorkers think of a classic New York City subway car, generally the impression is that of the car type most resembling the R-32 fleet, the only cars rivaling that comparison being the IRT Redbirds (R-26 thru R-36 types). And there is no surprise as to why that is. Their longevity, durability and until the mid-2000s, reliability, have made them iconic in a way few subway car types have, both in the United States and abroad, except for the first-generation fleet used by BART (Bay Area Rapid Transit), the 1000 thru 6000 series cars used by WMATA (Washington Metro Area Transit Authority) or New York's own R-1/9 fleet. In fact, the iconic design of the R-32 influenced many subsequent subway cars models. It inspired NYCT's R-38 car class even though the R-38 was not entirely stainless steel. The R-32 was virtually cloned for the first cars of Sao Paulo's metro in the early 1970s. The clean, simple R-32 design was also incorporated into the design of the 1980s Budd cars built for Baltimore, Miami and influenced the original Los Angeles Red Line subway cars.

In 1963, the New York City Transit Authority (NYCTA) was preparing to make an order to replace the bulk of the remaining BMT Standards (A- and B-Types) and the D-Type cars (the Triplexes). The D-Type cars were nearing their fourth decade in service, with many of the A/B-Types even older. On June 25th of that year, the Budd Company of Philadelphia was selected to manufacture 600 cars for NYCTA, with 300 of the cars being funded by the city budget and the other 300 being funded by a revenue bond.

Despite the cars' lack of air conditioning, the R-32s as they came from the Red Lion plant were quite modern. They were the first production stainless-steel cars in the system (the BMT Zephyr and R-11 types were not full production units) and offered advantages that other cars ordered during that time did not. The cars' lighter weight necessitated less expenditure regarding power consumption and the lack of traditional steel bodes meant the cars did not need to be painted, another area where money was saved. Unfortunately for Budd, they would be a one-hit wonder for the NYCTA as they would never build subway cars for the agency after the R-32 order. However, Budd did earn contracts with the Metropolitan Transportation Authority (MTA) to manufacture over 1,200 M1/M3 cars for use on the Long Island Rail Road and Penn Central's Metropolitan Region (later, Metro-North Commuter Railroad) along with the car bodies for the M2 fleet.

Because the cars were several thousand pounds lighter than their predecessors, modifications needed to be made before the cars could enter service. Modifications to the R-32 body bolsters were approved by the TA on August 18, 1964 at a cost of \$21.25 a car. The bolsters were lowered by approximately an inch and a half.

# ANOTHER TRANSIT IMPROVEMENT!

This new stainless steel subway car is one of 600 that the Transit Authority is introducing as part of its continuing program to provide better service to the public. They will bring to nearly 4,000 the number of new cars added to the Authority's fleet of 6,600 since 1953 at a cost of \$450 million.

Each stainless steel car costs \$114,700 and includes such features for the comfort of passengers as fluorescent lighting, thermostatically controlled ventilation and heating, colorful interiors, fibreglass seats, smoother braking and quieter operation.

The use of sturdy stainless steel in the cars is expected to produce substantial savings because the new equipment is lighter in weight, more efficient to operate and easier to maintain than older cars.

Welcome to the Brightliners. Please help us keep them looking neat and clean.

1964-54

SEE YORK CITY TRANSIT AUTHORIT

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#### Original notice from 1964 that was posted in the new R-32s.

On September 9, 1964, the first train of R-32s made a ceremonial trip from Mott Haven Yard to Grand Central Terminal on the New York Central, a demonstration of the possibility of running rapid transit over a railroad. Such a proposal has never gotten off the ground in New York City, despite the proposal of a "super-express bypass" of the IND Queens Line via a right of way adjacent to the LIRR. The cars went into service on September 14, 1964, on the Brighton Line (today's B and Q trains). The bulk of the R-32 fleet was delivered by the middle of 1965, allowing for the retirement of the D-Types.

The use of an all stainless-steel body would prove advantageous for the R-32 types as the lighter weight versus the low alloy high tensile (LAHT) bodies that were used on the R-27/R-30 fleet allowed for not only better operating economics but the retrofitting of air conditioning, which was determined to be unfeasible for the R-27/R-30 types and was in part what led to those types being retired before the end of 1993 (combined with the poor reliability of those types) while the R-32 fleet would soldier on.

Before the General Overhaul (GOH) program, the R-32s had some oddballs in the fleet. Cars 3946–3949 were delivered with "Pioneer" trucks with disc brakes on December 30, 1965, and placed into service on May 26, 1966. These trucks were replaced with standard trucks in 1976. Furthermore, in 1976, cars 3700–3701 received modifications from the Garrett Corporation with 3700 receiving some energy–saving modifications including a flywheel. This technology would, with modifications, find their way into the New Technology Train (NTT) fleet in the future.

With the opening of the Chrystie Street Connection in November 1967, the cars finally made their way to the IND, with the cars running to the Bronx via the Sixth Avenue line. The first casualty of the fleet came in 1971 when car 3629 was sideswiped by R-42 4612 (which was repaired) north of 168th Street station and it was scrapped. Its mate, 3628, sat idle and unused, probably in Coney Island Yard, for four years until it got remated. (continued on page 4)

The most famous mishap with the cars came on December 1, 1974, 56 years and a month to the day after the Malbone Street wreck on the Franklin Avenue Shuttle, when car 3669 derailed at low speed in nearly the same location (at the tunnel portal, a bit north of the 1918 wreck). That mishap resulted in six injuries and 3669 was scrapped. Car 3668 was converted to a compressor car and renumbered 3669 (2nd) and 3628, missing its mate since 1971, was mated to it.

The 1970s and 1980s would not prove kind to the R-32 fleet, which could be found in the 1980s primarily operating out of the Coney Island and Jamaica Yards. A November 1983 car assignment sheet saw the R-32 fleet assigned to the D, N and RR services with a handful of cars assigned to the AA and B services. By the end of the decade the cars could be found on the G, N, Q and R with a 10–car set assigned to the A. In October of 1989 the first eight–car train of R-32s would make their way to the C, where no less than 96 would be assigned to the service until the fleet was mothballed in 2020.

Time caught up with the R-32s, and by the 1980s the cars were mechanically tired despite the cars being still relatively sound structurally. The November 1986 *Bulletin* reported that 10 R-32s were at General Electric's Buffalo, New York facility for

a prototype overhaul, which included Pullman Technologies providing recommendations to R-32 car body repairs. At that time, 298 Westinghouse-equipped cars were receiving new cut-off valves installed at the Coney Island Shops.

In April of 1987 Morrison-Knudsen was chosen to be the

In April of 1987 Morrison-Knudsen was chosen to be the rebuilder for 290 R-32s, later receiving another award from the TA a year later to overhaul the remaining R-32s to be rebuilt. Under the GOH, the cars received air conditioning, which necessitated replacing the front roll signs (which would no longer be accessible) with electronic "flipdot" signs, forever changing their distinct front, and other various improvements. Because of structural concerns with the door sills, Morrison-Knudsen made modifications. Improvements made to the door sill area proved to be advantageous and would help to prolong the life of the fleet, along with making a well-built car only better. Because of delays in the rebuilding program for the R-46, which Morrison-Knudsen was awarded, the R-32 rebuild was accelerated. The Phase I group (the first 296 cars) were completed before October of 1989.

The July 1989 NY Division *Bulletin* update on the cars by late Raymond Berger detailed the following:

Total R-32s	600
Less Scrap	-5
Current Total:	595

272 GOH + 148 GE non-GOH + 175 Westinghouse non-GOH, with car 3659 being an unassigned compressor car

#### **GOH Cars at Jamaica Yard:**

G & R Lines	222
Spares	+40
Total (M-K)	262

M-K: Morrison-Knudsen (Hornell, N.Y.)

don cars at 201 th Street		
A Line	10	
Spares	0	
Total (GE)	10	
GE: Ganaral Flootric (Buffalo, N.V.)		

# General Electric Non-General Overhaul Cars at Jamaica Yard:

G Line	12
R Line	50
Spares	28
Out for GOH (at M-K)	58
Total	148

Westinghouse General Non-General		
Overhaul Cars at Coney Island Yard		
N Line	90	
Q Line	30	
FS Line***	8	
Spares	+47	
Subtotal	175	

the The R-32s had differences before and after rebuilding. The R-32 Phase I cars have WABCO Air Brake packages, GE Master Controllers (Throttle) and Thermo King HVAC units. The R-32 Phase II cars have NY Air Brake equipment, Westinghouse Master Controllers and Stone Safety HVAC units. The 10 cars rebuilt by GE were rebuilt similarly to the R-38 contract. Furthermore, the main door controllers on the Phase II cars were salvaged from scrapped R-27/R-30 cars. The first rebuilt cars reentered the property in March of 1988 with the final cars reentering service about two years later, the June 11, 1990 car assignment sheet being the first without non-rebuilt R-32s. The March 1990 NY Division *Bulletin* reported that the project, except for 88 cars, was practically complete. Those numbers were from December 31, 1989.

By the mid-1990s the R-32 was the no-frills workhorse for the B Division and could be found on the C, E, N, R and the Franklin Avenue Shuttle. Another renumbering occurred in the 1990s when car 3659 became car 3348 and was mated to car 3549. Except for the Franklin Avenue Shuttle, which received R-68 singles in 1998, the R-32 fleet stayed both consistent in size and assignment through the new millennium. One change did happen in 2001 when the 63rd Street Connection opened, the F was rerouted via the 63rd Street Tunnel and some R-32s were assigned to it. By 2003 R-32s could also be found on the A. The R-32, which had cut its teeth on the BMT lines, was now mostly operating on the IND. Happily, by 2006 a small fleet of R-32s could be found back on the BMT in service on the W.

By the time the first of the R-32s were retired in 2008 the fleet, except for six cars lost in accidents, was still intact. The fact that 594 cars were still in service four decades later was a testament to not just Morrison–Knudsen's rebuilding job but Budd in designing a timeless car, a note Andrew Sparberg made in his book *From a Nickel to a Token*. The majority of the R-32s retired were stripped and sunken as artificial reefs, joining numerous IRT Redbirds off the Atlantic Coast. (*continued on page 5*)

In late 2009, a structural analysis of the R-44 fleet was troubling enough for NYCT to make the choice to put the R-44s out to pasture, except for those used by the Staten Island Railway (The R-44s were structurally compromised from the start, with St. Louis Car's decision to use high amounts of LAHT steel proving to be unwise). The R-32 and R-42 retirements were indefinitely postponed. The Great Recession and 2010 MTA service cuts changed the lay of the land for good. Despite 378 cars having been disposed of, 144 R-32s would make up C train service, with additional cars used as spares.

But the cars began to show their age mechanically. The cars would receive Scheduled Maintenance System (SMS) treatments to improve reliability and to increase the mean distance between failure. A major aspect included rewiring the cars, the second time the cars had been rewired in their life. To ease the stress on the cars' strained HVAC systems two decisions were made: to send the R-32s to the A and run R-46s on the C during the summer season, which occurred in 2012. This practice was done prior with the 10 GE rebuilt cars, which were based out of Pitkin Yard and spent their summers not in use due to HVAC reliability issues. In 2013 the decision was made to have a subfleet of R-32s "vacation" out of East New York through assignments on the J, a practice that was repeated in 2014, 2015 and 2016 that brought

96 R-160s to the C.

However, the clock was winding down on the R-32 fleet. Originally expected to be replaced in 2015 with the R-179 order, the replacement fleet from Bombardier was troubled from the start, with the bidding process a source of controversy and then the prototype shells not passing strength tests, delaying the first revenue deliveries until 2017. Ironically, history would repeat itself in that a vintage car type would prove more reliable than their successor's, which has proven eerily accurate with the R-179 fleet. With several interruptions of R-179 service after delivery, the R-32s were making their final miles.

However, two separate incidents would cause embarrassment for the R-179 fleet and allow the R-32s to go out on a high note. Despite all 318 R-179 cars delivered by Bombardier on the eve of the COVID-19 pandemic, the R-179s were still problematic and trains of R-32s remained in service through 2020. A June 2020 incident involving a 10-car train of R-179

cars pulling apart at a semi-permanent link bar at Chambers Street station forced the R-32s back into service through the end of September 2020, with the final reported revenue trip being operated on October 8, 2020 on the Z line; consist was (N) 3714-3715+3924-3925+3706-3707+3889-3888 (S).

In the end, improvements to the R-179 fleet and the COVID-19 pandemic would be the nail in the coffin for the R-32 fleet. Because of the pandemic, retirement runs of the R-32s were unable to happen until the winter of 2021/22, occurring on the IND Sixth Avenue Line on December 19 and 26, 2021 and January 2, 2022. On January 9th, 2021, the cars were formally retired when the cars ran on the BMT's Brighton and Broadway lines up to the 63rd Street Line and up along the Second Avenue Line. Cars 3360-3361 were cosmetically restored to close to original appearance, including blue doors and pantograph gates, simulated end signage, rollsigns, and modified number plates.

The R-32 fleet has also been culturally significant. The type has made appearances in numerous movies, one of the most notable cameos being the famous car chase scene in the 1971 film *The French Connection*, the chased train of R-42s crashes into an R-32. The crash itself was a simulation, with the scene being filmed backwards.

Because the R-32s were the oldest cars by the mid-2010s, the cars found themselves in high demand for filming. A train of R32s was featured in the 2015 film *Bridge of Spies*. They were the oldest available rolling stock to form a realistic 10-car train for exterior filming. Interior shots were done with a more period-appropriate R-11 (R-34) from the Transit Museum. Marvel & DC Comics movies have also received the R-32 treatment. Both the 2017 film *Spider-Man: Homecoming* and the 2019 film *Joker* feature R-32s.

The retirement of the R-32 is a sad moment for NYCT as it marks the retirement of the last fleet of cars without full-width cabs. No longer will curious children be able to look out the front of a train like their parents and grandparents did.

(Author's note: Sources for this article include NYCSubway. org, The New York Times, Wikipedia [which provided me some wonderful links] and the assistance of David Ross, Eric Oszustowicz, Edward Crew, George Chaisson, Jeff Erlitz and Bob Newhouser.)

# A Note from the Editor:

With this issue of the Bulletin, we begin a new chapter in the long history of this publication. Back in October 1996, the *Bulletin* made the leap from a typewritten publication to one produced using desktop publishing (Microsoft Publisher) on a computer. For a little over 26 years our Circulation Manager, David Ross, has produced 305 wonderful issues of the *Bulletin*, quite an achievement. David has earned a justifiable retirement from this work and so now I have taken over the production work. I am using Adobe's InDesign package, and with this, the *Bulletin*, *Headlights* and the website now have a uniform look. We hope you like it and we will continue to tweak this new look in the coming months. Please feel free to send us your comments via the address on page one.

Jeff Erlitz, Editor-in-Chief

# Paris Métro Opens a Southern Extension to Line 4

by Subutay Musluoglu

On January 13, 2022 the Paris Métro was expanded once again when Line 4 was extended south by just over one mile, from Mairie de Montrouge to an intermediate station at Barbara, and the terminal at Bagneux-Lucie Aubrac. Built at a cost of €406 Million, this is Line 4's second southern extension to have opened in the last decade. The first phase to Mairie de Montrouge previously opened on March 23, 2013.

The terminal at Bagneux-Lucie Aubrac is arranged with three tracks serving two platforms, with tail tracks continuing beyond for approximately another 3000 feet, to allow for train storage, culminating in a new light maintenance and running repair shop. By 2025 a transfer will be available to Line 15 South of the Grand Paris Express orbital metro.

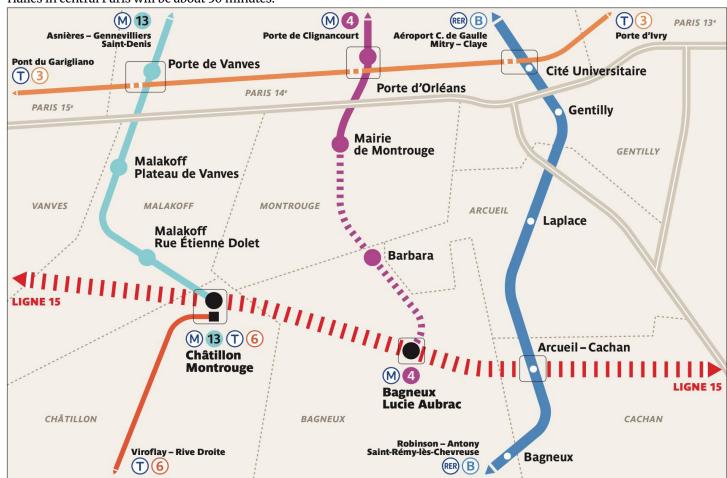
The extension fills in a gap in the first ring of southern suburbs just outside Paris, between Métro Line 13 to the west and RER Line B to the east. It is anticipated that approximately 37,000 passengers will be using this new stretch of line daily. Travel time from Bagneux — Lucie Aubrac to Châtelet — Les Halles in central Paris will be about 30 minutes.

Line 4 originally opened in three phases between 1908 and 1910 and remained unchanged until the 2013 extension. Prior to the pandemic it was the second busiest Métro line with a ridership of 700,000 daily passengers. It had been anticipated that concurrent with last month's opening would be the inauguration of the line's conversion to full automation with driverless operation, an effort which has been underway for the last several years.

As part of this work a new Siemens-supplied CBTC signal system has been installed, all platforms have been outfitted with platform edge screen doors, and the line's rolling stock is being transformed with a mix of brand new MP14 trains, and MP89 and MP05 trains cascaded from Line 14. The MP14 class was described in great detail in the December 2020 Bulletin. Testing of automated operation is anticipated to begin this summer, with full driverless operation to be introduced in 2023. Line 4 will become the third metro line to be automated, joining Lines 1 and 14.

The Paris Métro will be growing again later this year with a short, two station extension of Line 12.

(ÎLE-DE-FRANCE MOBILITÉS AND RATP WEBSITES INTERNATIONAL RAILWAY JOURNAL JANUARY 14, 2022 METRO GAZETTE INTERNATIONAL JANUARY 14, 2022)



The newly opened southern extension of Paris Métro Line 4. RATP map

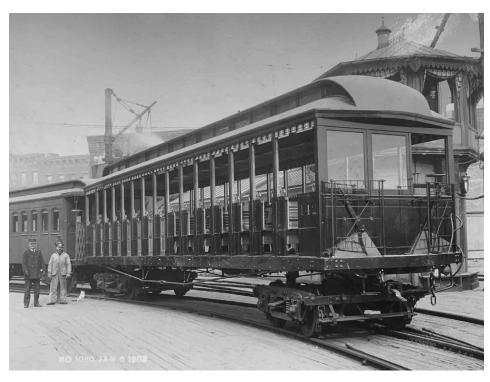
# Tales of the Interborough: The Elevated Breezers

(Part 2)

by Nate Gerstein

Concluding last month's installment of the story of the IRT's open elevated cars, here are some photos. All photographs are from the collection of Nate Gerstein, unless otherwise noted.

(Right) Car 1219 is seen here at the 99th Street Yard on January 6, 1902, possibly the day it was delivered from American Car & Foundry. As you can see, it still has its as-delivered number 142, but was renumbered shortly after this.









(Above) Undated photo looking southwest from the Chatham Square station of the Third and Second Avenue Lines with one open car in the middle of a seven-car consist from City Hall.

(Top left) From a rooftop on the corner of Third Avenue and East Sixth Street, we see a northbound five-car local passing The Cooper Union with an open car right behind the lead motor. This is in 1911 so the Dual Contracts is still a couple of years away and the Ninth Street station is still a local stop. Collection of Joseph Frank

(Bottom left) Photo of the author's O-scale model of one of these open cars showing the paint scheme they wore.

# Rail News in Review

# New York Metropolitan Area

# METROPOLITAN TRANSPORTATION AUTHORITY

Janno Lieber has been nominated to serve as Chair of the MTA Board and CEO of the Metropolitan Transportation Authority. Elizabeth Velez has been nominated to serve on the MTA Board.

Janno Lieber has been Acting Chair and CEO since July 2021. In his role at MTA Construction and Development, Mr. Lieber oversaw the agency's \$55 billion five-year capital program, including State of Good Repair investments in infrastructure and facilities of New York City Transit, Long Island Rail Road, Metro-North Railroad and MTA Bridges and Tunnels. He is responsible for upgrades to signals and other major systems, system expansions, and mega-projects such as East Side Access, the second phase of the Second Avenue Subway and the Third Track expansion of the Long Island Rail Road Main Line. He is also responsible for upgrading and professionalizing the MTA's project management capacity and for integrating real estate planning and economic development into MTA infrastructure projects.

From 2003 to 2017, Mr. Lieber served as President of World Trade Center Properties LLC, where he was responsible for managing all aspects of the Silverstein organization's efforts to rebuild the World Trade Center site, including planning, design, and construction issues; business, financing, and legal matters; and public affairs, government, and community relations.

Earlier in his career, he held positions in the administrations of President Bill Clinton and NYC Mayor Ed Koch and worked as an attorney in private practice.

Elizabeth Velez is currently the President of the Velez Organization, a second–generation construction firm started in 1972 by her father, Andrew Velez. To her credit are hundreds of projects which have come to fruition under her direction, including over 600 units of housing made affordable by State and Federal grants in the Bronx and Harlem, and over ten billion dollars of significant educational, healthcare and large–scale projects throughout New York. (MTA PRESS RELEASE, JANUARY 8)

## **Interborough Express Plan**

"Today, I'm announcing a bold idea: Take an old unused, 14-mile-long right-of-way and create what we're calling the Interborough Express, a new rail service that will connect Brooklyn and Queens," New York Governor Kathy Hochul said in her State of the State address on January 5. It's not a new idea — Hochul's plan is a somewhat truncated version of a Regional Plan Association proposal called the Triboro Rx from the 1990s — but it is indeed a substantial one, which

has the potential to improve daily life for some of the most transit-dependent communities in the country. Hochul's plan won't just be game-changing for New York; it could serve as a new, nationwide model for smart reuse of existing, underused infrastructure.



Map of the proposed Interborough Express route.

The beauty of the Interborough Express itself (are we calling it the IBE yet?) is that it fills in a bunch of gaps. The old rail lines in question — the Bay Ridge Branch of the Long Island Rail Road in Brooklyn and the New York Connecting (CSX) tracks in Queens — are now used for freight a few times per day. Adding passenger trains will create a wormhole from Bay Ridge to Jackson Heights that will turn a 70-minute commute into a 40-minute one. It will supersede awkward bus connections or looping into Manhattan to change trains. The IBE will cut north-south through two boroughs where the preponderance of subway lines run east-west, so it will connect a dozen subway lines plus a couple of commuter rail lines as well. (Contrast this plan with former New York City mayor Bill de Blasio's briefly-resurrected-but-probably-now-dead Brooklyn-Queens Express streetcar proposal,

The proposal is likely to reignite an overdue conversation about how to best reactivate rail rights-of-way. As the "rails to trails" movement swelled during the '80s and '90s, cities and states mostly converted these abandoned railways into walking and biking routes, like New York's recently completed Empire Trail and other major trail systems in cities including Atlanta, Chicago, and Dallas.

They're all valuable projects, but cities also need "rails to rails" plans that put unused or underused routes back into action as transit. Locally, the Interborough Express could become a model for how to bring other neglected lines, like the Rockaway Beach Branch that crosses Queens, back into service. It has been proposed that the Rockaway branch be made into another High Line, and sure, an outer-borough elevated park would be nice — but a lot of these train lines are still incredibly valuable as actual train lines (and cities can always thread greenways around them).

Hochul's plan still has a lot of challenges to confront. Nearly one million residents call the area around the proposed Interborough Express home, the majority of whom live in communities of color with very low rates of car ownership. As the line is built out and begins to attract residential development, special attention will need to be paid to ensure that these residents don't get pushed out. Hochul's Interborough Express map shows the project terminating in Jackson Heights instead of running all the way to Co-op City, as the original Triboro plan did. That last leg would have served tens of thousands of people who now have relatively few transit options. (A Metro-North plan in the works would serve that part of the East Bronx, although it wouldn't be as cleanly integrated into the subway system.) Hochul says planners believe the IBE can continue to carry some freight concurrently, which would introduce some complications — and a lot more stakeholders — to the project. (It's not an insurmountable logistical problem, however. Chicago manages it well, and Amtrak uses freight lines all over the country, albeit sometimes with difficulty.) Most of all, the IBE plan will at least theoretically speed up New York's awful pace when it comes to building new subway lines, because so much of the work is already done: The route is procured, and the tracks are grade-separated. The plan also offers the idea of converting the whole thing to a dedicated bus-rapid-transit line as an option, and that would go even faster. With federal infrastructure money pouring in, an MTA environmental review under way, and an eager future ridership at the ready, it would literally be fast-tracked.

The IBE is exciting at this exact moment because it shows how a governor can champion a major urban transportation project that's guaranteed to shift a large number of car trips to transit trips. It's a much better investment than, say, widening highways. If every state leader threw their weight behind improving transit commutes in the centers of their most densely populated cities, the climate, congestion, and economic benefits for the country would be enormous. Granted, Hochul's position is a little unusual, in that she controls mass transit in her state's most populous city. But states do have a lot of control over what makes this project such a win: putting underutilized rights-of-way back to work. (CURBED, JANUARY 8)

# **NEW YORK CITY TRANSIT**

As scheduled, the R-32s made their last trips in revenue service on Sunday, January 9, operating express on the Brighton Line, where they made their debut on September 14, 1964. The consist was N-3360-3361+3841-3840+3647-3646+3895-3894-S. After the last run arrived at Brighton Beach at 7:37 PM, the consist was split in half. Those two four-car trains, and an additional six-car consist that was brought out of Coney Island Yard (S-3888-3889+3396-3397+3829-3828-N), made several fast express runs between Brighton Beach and Kings Highway starting at around 7:50 PM, much to the delight of the railfans who were present after the last run.



Looking south from the Sheepshead Bay stop on the Brighton Line, the R-32s are headed northbound to 96th Street on their second of four northbound trips (12:30 PM) on the final day of revenue service, January 9. The exteriors of the two north cars, 3360-3361, were cosmetically restored to like-new appearance with blue doors and pantograph gates, white-on-blue number boards and a decal depicting the pre-GOH front end appearance with route and destination signs, marker lights and express/local service indicators. Paul Grether photo

On January 6 it was announced that the Second Avenue Subway expansion project that would extend the line to 125th Street in East Harlem had moved to the Engineering phase of the project timeline. The Infrastructure Investment and Jobs Act that was enacted in November provided \$23 billion in new grant opportunities for transit expansion, a historic level of funding that doubled the amount of grants available for major projects like Phase 2 of the Second Avenue Subway (SAS2).

The MTA submitted a request to the U.S. Department of Transportation to allow Phase 2 of the expansion to move forward and remain eligible for funding. Phase 2 will include the construction of three new subway stations, at 106th, 116th and 125th Streets in East Harlem. The Federal Transit Administration has advanced SAS2 into the Engineering phase of the grant process, bringing the project one step closer to reality and allowing preliminary work to move forward.

Approximately 70 percent of East Harlem residents use

public transportation to get to work, much higher than the citywide average of 55 percent. The expansion of Second Avenue Subway would help advance transportation equity and would improve the local community's access to jobs, health care, and other services, while reducing congestion, both on the streets and on the Lexington Avenue subway line and improving air quality.

Phase 1 of the project extended the **©** line from 63rd Street to 96th Street and was New York City's biggest expansion of the subway system in 50 years. Service opened on January 1, 2017, with additional stations at 72nd Street and 86th Street. Since its completion, the Second Avenue Subway has carried more than 130 million passengers and carried more than 200,000 passengers on a pre-pandemic day. A tunnel segment that will be used for Phase 2 was built in the 1970s from 110th to 120th Streets along Second Avenue. (MTA PRESS RELEASE, JANUARY 6)

On January 18 three new elevators and two new staircases were opened to the public at the 170th Street subway station on Jerome Avenue in the Bronx. The elevators allow the station to be accessible to all passengers for the first time.

The station is the fourteenth to be made newly accessible in the past 22 months, the fastest rate of new station accessibility upgrades in MTA history.

At 170th Street, crews built a new elevator that touches down at the southeast corner of 170th Street and Jerome Avenue, replacing what had been a stairway. From there, passengers can ride to the mezzanine, where crews built two additional new elevators, one each between the mezzanine and the northbound and southbound platforms.



Looking south at the new elevator to the street (and some of the new stained-glass artwork) in the mezzanine of the 170th Street 4 station Marc Hermann/MTA photo

Crews also renovated two pre-existing stairways on the south side of 170th Street and built two new stairways north of 170th Street, allowing passengers from the north to reach the station without having to cross the busy street for the first time.

Additional work at the 170th Street station includes new

lighting, repair of some platform and canopy areas to ensure ADA compliance, replacement of tactile strips, some sections of rubbing boards and installation of CCTV security cameras.

An installation by artist Dina Bursztyn features a series of faceted glass windscreens and windows using the unique vantage point offered from the elevated trains and platforms.

The most recent station accessibility upgrades have come in four boroughs. In the past year, accessibility upgrades have been completed at the Avenue H ② station in Brooklyn, the 57th Street ③③③③ Station in Manhattan, the Gun Hill Road ⑤ Station in the Bronx, and at Court Square-23rd Street ⑦⑤⑤ in Queens.

The 170th Street station was built in 1916 by the Interborough Rapid Transit Corp.

The work on this project was performed under MTA supervision by Citnalta-TAP J.V., a joint venture of the Citnalta Construction Corp. of Bohemia, NY, and TAP Electrical Contracting Services, Inc., of Holbrook, NY. The elevators were manufactured by Hydraulics-Mongrain Vertical Transport and Elevator Doors & Elevator Cabs Inc and installed by Mid-American Elevator. (MTA PRESS RELEASE, JANUARY 18)

On Wednesday, January 19, service was resumed on the (Pelham Express), (Flushing Express), Rockaway Park A service, and 2. Service on the resumed on Monday, January 24.

These services had been curtailed on December 30 due to staffing shortages caused by the sudden rise in Covid-19 cases due to the omicron variant. (MTA PRESS RELEASES, JANUARY 19 AND 23)

● line subway service between Bay 50th Street and Coney Island-Stillwell Avenue resumed on Monday, January 24 following completion of storm-resilient upgrades to the Coney Island Yard Complex. New flood walls, drainage, signal, switch and traction power connections were installed to protect the system against future natural disasters and minimize the negative impacts of climate change.

Service to and from Coney Island was served by the **⑤**, **⑥**, and **⑥** subway lines and free shuttle bus service was provided between those two stations while construction was underway.

The Coney Island Yard complex is the largest of New York City Transit's (NYCT) 24 rail yards and one of the largest rapid transit yards in North America, directly serving four main routes. It includes three train yards that can store up to 881 subway cars. The complex is also home to car wash, maintenance, and repair facilities, as well as substations, signal towers, and power and communications cables that support operations.

Upgrades include a permanent perimeter wall about  $2\frac{1}{2}$  miles long surrounding the entire facility. This barrier is designed to protect the complex against the flood equivalent of a Category 2 storm, with an additional three–foot safety factor. The adaptations also include drainage improvements and added water retention capabilities. In addition, a cable bridge was constructed to relocate traction power to an

elevated, more protected position above the tracks.

This fortification project, expected to be completed in December 2022, is part of the capital program managed by MTA Construction and Development, which seeks to address resiliency needs across the entire transportation network to address climate change-related risks in the coming decades. (MTA PRESS RELEASE, JANUARY 20)

On January 21 all the switches at the 30th Street Interlocking on the IND Eighth Avenue Line were removed from service to permit the replacement of their original General Railway Signal Model 5 switch machines with Union Switch and Signal Style M-3 switch machines. L K Comstock and Co, Inc. is performing the work under the Eighth Avenue Line CBTC signal contract, S-48006.

This project will install CBTC from High Street to 59th Street-Columbus Circle and furnish new interlockings at 30th Street and 42nd Street. All of it will be controlled from the 59th Street Master Tower.

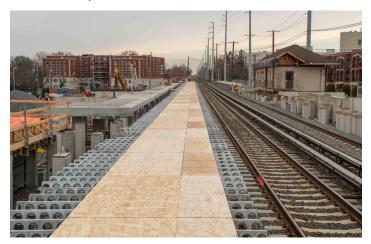
Over the weekend of January 28–31, the next segment of Communication–Based Train Control (CBTC) was placed into service on the IND Queens Line. The southbound local track, D1, was done between Forest Hills–71st Avenue and Jackson Heights–Roosevelt Avenue.

This CBTC signal project is composed of two separate contracts. S-48004 provided for the design and furnishing of the signal system. This was awarded to the joint venture of Siemens Transportation Systems Inc.-Thales, Inc. The installation contract, S-48005, was awarded to one of the Transit Authority's long-standing installers, L. K. Comstock and Co., Inc.

# **LONG ISLAND RAIL ROAD**

Over the weekend of January 29–30, presumably after the snowfall ended, station operations at Westbury were transferred from the original platforms at the east end of the station to the new permanent platforms at the west end of the station. The number of cars platformed temporarily remains at six cars until the east ends of the new permanent platforms are built.

As at New Hyde Park, Merillon Avenue and Carle Place, the



eastbound platform is a temporary one built over a piece of new third track. It is connected to the permanent eastbound platform via several "gangways" over the new third track.



Looking east at what were the existing platforms at Westbury on December 8, 2021. There were temporary platform extensions at the east ends of these platforms to enable six cars to be platformed. Notice that the extension of the westbound platform, on the left, seems to be longer than the one on the right. That was due to the tragic derailment on February 26, 2019, that occurred at the former School Street grade crossing (in the distance). About two car lengths of platform were demolished at that time and not replaced. Jeff Erlitz photo



Looking east on December 8, 2021, the new temporary eastbound platform, in front of the permanent one and built over the space of the new third track, is nearing completion. The parking garage of the Mineola Intermodal Transportation Center is on the right. On the ground floor are the bays for the connecting Nassau Inter-County Express (Nice) bus routes. Jeff Erlitz photo

(Left) Looking west from the west end of the existing eastbound platform at Westbury on December 8, 2021. The new permanent eastbound platform is on the left, the temporary eastbound platform is in the center and the new westbound platform is on the right, along with the station building, which is currently being reconstructed. These are the platforms that were just placed into service. (Jeff Erlitz photo)

Progress is also being made over at Mineola station. The new permanent eastbound platform is nearing completion. Like at Westbury in the pictures above, a temporary platform was also built next to the permanent platform over a section of third track that was laid down first. By your editor's measurements, this temporary platform will probably be able to accommodate eight cars. This will enable the contractors to demolish the remaining portions of the original platforms and construct new ones in their place. When completed, the platforms will, of course, accommodate full 12-car trains.



Looking east on January 22, along the essentially complete temporary eastbound platform. Jeff Erlitz photo



**Looking northeast on January 22 at the permanent westbound platform, still under construction.** Jeff Erlitz photo

Since the last update in the November 2021 issue of the Bulletin, 16 more M9s have been delivered to the railroad:

Cars	Date	
9151-9152	10/15/2021	
9153-9154	10/15/2021	
9155-9156	11/21/2021	
9159-9160	12/10/2021	
9161-9162	12/10/2021	

9165-9166	12/15/2021	
9167-9168	1/14/2022	
9171-9172	1/21/2022	

## **NEW JERSEY TRANSIT**

The final hurdle needed to qualify for federal funding to start building the \$12.3 billion Gateway rail Tunnel was cleared Thursday when the Federal Transit Administration raised its rating of the project.

FTA officials announced the tunnel project's rating had been raised to "medium-high," meaning that the Hudson River Tunnels are eligible to move forward in the Capital Investment Grants (CIG) program process to access federal funding for the project.

Federal funding could be as much as \$5.6 billion, or approximately 44% of the project's cost to build two new rail tunnels under the Hudson River and rehabilitate the existing 111-year-old tunnels. Amtrak would fund \$1.4 billion and has purchased Manhattan property needed for the project. The state governments of New Jersey and New York would fund up to \$6 billion, through low interest, long-term railroad infrastructure loans.

The FTA had previously rated the tunnel project medium-low, meaning it did not qualify for federal grants. The new rating came after an evaluation of a financial plan released in August. by the GDC and Port Authority, FTA officials said. Gateway must complete several CIG program requirements before the project is eligible to advance into the next phase of the CIG process, which is entry into Engineering, FTA officials said.

Gateway was one of six projects re-rated by the FTA and was name checked by U.S. Transportation Secretary Peter Buttigieg in the announcement.

Gateway officials praised the FTA's announcement, pledging to "work hard with our Federal partners to meet the requirements of the grant so we can get to a Full Funding Grant Agreement rapidly, and move to full construction that finally stops the delays that are costing our commuters and travelers thousands of hours in lost time and the nation billions in productivity."

The tunnels did not receive a ranking in the proposed 2022 Federal Transit Administration budget as a candidate for \$5.5 billion in New Starts grant funds because the project was "under review." One reason is that the GDC formed in March and was "expected to transition into the project sponsor to lead the project, which may affect project details that influence the rating," officials said.

Last month, the New Jersey Turnpike Authority agreed to negotiate with the state about the Authority making the state's estimated \$81 million annual payment for Gateway loans after completion.

The tunnels are used by 450 NJ Transit and Amtrak trains a day. If one tunnel had to be shut down, it could strand 60% of the New Jersey workforce that commutes to New York by rail and have major economic repercussions, supporters said.

Amtrak officials warned in October 2014 that due to damage from flood waters driven by Hurricane Sandy, the tunnels needed to be shut down and gutted.

But local officials had also accused the Trump administration of playing politics in the tunnel rating.

The New Jersey and New York congressional delegation kept funding for Gateway in the federal budget, even after then President Donald Trump threatened to shut down the government over the issue in 2018. In 2020, Trump's opposition to the tunnels eased after he announced federal grants would help fund an allied project to replace the Portal Bridge that carried the Northeast Corridor rail line over the Hackensack River.

Questions also were raised by Trump administration officials if rehabilitation of the existing tunnels could be expedited using a process similar to what the MTA used to rehab subway tunnels that had been damaged by Hurricane Sandy.

In November, Gateway Development Corporation officials said they hoped federal financing to build the tunnel could be in place by the end of 2022 which could allow a 2023 construction start.

Gateway got a boost in February 2021 when the FTA said it would allow states to use U.S. government loans to cover their share of a project, making it eligible for federal funding. (Mass Transit, January 21)

NJ Transit announced on January 27 that work will begin to renew electrical systems that power trains parked in Hoboken Yard, part of a major resiliency project. This work, which will continue for about four years, will affect passenger boarding at Hoboken Terminal on weekends and when certain tracks are unavailable on select days. (NJ TRANSIT SERVICE ALERT, JANUARY 27)

# Other Systems

# **WASHINGTON, D.C. AREA**

# **Purple Line**

It was safe to assume the Maryland Department of Transportation (MDOT) Maryland Transit Administration (MTA) Purple Line would not open in 2022 per its original schedule. However, a revised project schedule from state transportation officials shows the 16-mile line is estimated to open in the fall of 2026.

The project has experienced a contractor change, dealt with legal challenges and the impacts of the COVID-19 pandemic. With a new lead contractor on board and full-scale construction expected to begin this spring, MDOT MTA and Purple Line Transit Partners (PLTP) continue to press forward with the project that will connect New Carrollton in Prince George's County and Bethesda in Montgomery County, which are two of Maryland's most populace counties.

In November 2021, MDOT MTA, with input from PLTP,

selected Maryland Transit Solutions (MTS), comprised of Dragados USA Inc. and OHL USA Inc., to be the project's design-build contractor. PLTP holds the public-private partnership agreement with MDOT MTA to design, build, finance and operate the light-rail project.



A rendering of the Purple Line UMD station. MDOT MTA photo

The original lead contracting team on the project pulled out in May 2020 citing delays and rising costs. A \$250-million settlement was reached, a new lead contractor selected and, with the Maryland Board of Public Works approval of an amendment to the P3 Agreement that includes MTS' involvement – possibly at its Jan. 26 meeting – full scale construction will commence on the project in the spring 2022. MDOT MTA mentions in the report that procurements of this size typically take 18 to 24 months to complete, but the design-build contract was accomplished in slightly more than one year.

Light-rail vehicle assembly is progressing on the 28 needed cars with eight of the cars ready for shipment, eight undergoing testing and eight being assembled.

One other piece of good news, the report says the entire light-rail line with 21 stations will open at the same time in 2026 rather than in phases.

The report also provided updated costs of the P3 Agreement, which have increased approximately 66 percent over 2016 numbers. In 2016, the P3 Agreement cost was \$5.59 billion. Updated costs put the P3 Agreement at \$9.28 billion – a \$3.69 billion increase. The new design-build contract has increased \$1.4 billion – 75 percent – from \$1.97 billion in 2016 to \$3.44 billion in 2022.

State officials cite "rising material costs across the industry, a smaller labor force, material shortages due to supply chain challenges, increases in the insurance market and other factors" for the steep increase in cost. The officials note the challenges impacting costs on the project are also being experienced on other major projects across the United States.

PLTP will finance the added cost through a combination of debt and equity that state officials say will be repaid through availability payments made by the state. PLTP will need to achieve operational and performance targets outlined in the P3 Agreement before it receives those availability payments.

Despite the delay in project delivery and rising costs, MDOT MTA says the P3 model and its financing components make expansion into "a critical region of the state" possible without incurring additional costs to operate outside of its core area of Baltimore. (MASS TRANSIT, JANUARY 14)

The Maryland Board of Public Works (BPW) approved a modification to the Purple Line Public-Private Partnership Agreement (P3 Agreement) on January 26, which sets the project up to begin full-scale construction in the spring of 2022 and move on from a challenging era in the project's development.

The modified P3 Agreement between the Maryland Department of Transportation (MDOT), Maryland Transit Administration (MTA) and Purple Line Transit Partners recognizes Maryland Transit Solutions (MTS) as the project's design-build team; a selection made in November 2021 following a competitive proposal process.

The cost of the agreement has been updated to \$9.284 billion, which includes the new MTS design-build contract of \$3.4 billion. As previously reported, state officials noted the project cost increases could be attributed to rising material costs and material shortages, increases in the insurance market, as well as a smaller labor force — all factors being experienced on other U.S. projects.

Full-scale construction is expected to begin in the spring of 2022 following commercial and financial close. The project, which will be delivered all at once rather than in phases, is expected to open in the fall of 2026.

# **Additional contracts awarded**

While the P3 partners worked to secure a new design-build team, MDOT MTA took over the management of the existing Purple Line contracts – numbering more than 150 – to advance design components, secure critical stormwater management permits and complete numerous outstanding utility relocations. MTS will assume most of those contracts and five new MDOT MTA contracts were approved by BPW in a separate agenda item to complete outstanding projects, including utility relocation, concrete and other construction work.

BPW also approved a 48-month, \$15-million contract modification for General Engineering Consultants to continue technical oversight of the design and construction work. (MASS TRANSIT, JANUARY 27)

# **ATLANTA**

Metropolitan Atlanta Rapid Transit Authority has unveiled the designs for the CQ400 metro trains to be supplied by Stadler from 2023.

This follows a public outreach program which MARTA said led to its users choosing "comfort and technology for the interior and sleek minimalism for the exterior" of the trains.

The interiors will meet ADA accessibility requirements, and will feature wide gangways, large doors, a mix of forward and inward facing seats and "spacious" areas for luggage

and bicycles.

There will be charging point, digital network maps and service information and "small upgrades that make a big difference on the daily commute" including wind screens near the doors and improved heating, cooling and lighting.



Rendering of MARTA's new subway cars. (Stadler photo)

The "minimalist' exterior design option selected by the public is an "understated work of art." It features a "smile" which will be illuminated in Red, Gold, Green or Blue according to the line color of the route on which the train is running.

The rolling stock contract awarded to Stadler in 2019 covers 254 cars worth \$646 million for delivery in 2023–28, with two options each for 50 cars.

The contract was the largest single rolling stock order placed by MARTA or won by Stadler, and will enable the existing fleet to be withdrawn.

The vehicles will be assembled at Stadler's factory in Salt Lake City, with the company being contractually obliged to create at least 60% of the project's value in the USA. (METRO REPORT INTERNATIONAL, JANUARY 18)

## **CHICAGO**

Leaders from the Chicago Transit Authority (CTA) were joined by city and state dignitaries to celebrate the completion of the Red-Purple Bypass project, as well as the start of the North Belmont Red-Purple Reconstruction project.

Both are part of the CTA's \$2.1 billion Red and Purple Modernization (RPM) Phase One project, which is the largest reconstruction effort in the authority's history. RPM will improve rail service reliability, comfort and convenience to passengers by modernizing and replacing century-old structures and rail stations from Belmont to Linden in Wilmette, IL. RPM Phase One includes three major components:

- New Red-Purple Bypass construction followed by the reconstruction of Red and Purple Line track structure between Belmont and Newport/Cornelia.
- Reconstruction of the Lawrence, Argyle, Berwyn and Bryn Mawr Red Line stations into larger, 100-percent accessible

stations and replacement of track structure totaling six track-miles that is nearly a century old. Major track and station reconstruction began in spring 2021 and is expected to be substantially completed by the end of 2024.

 Installation of a new signal system on 23 track miles between Howard and Belmont.

RPM Phase One executed a \$956.6-million Full Funding Grant Agreement with Federal Transit Administration under the Obama Administration in January 2017. The balance of the project is being funded with Congestion Mitigation and Air Quality Funds, CTA funds and two different Tax-Increment Financing District revenues.

# Red-Purple Bypass project

The Red-Purple Bypass project is designed to unclog a junction originally built in 1907 where Brown Line trains had to cross over four tracks used by Red and Purple Line trains. The new bypass allows Brown Line trains to operate along dedicated tracks above the Red and Purple Line tracks. In addition to more reliable service, the new bypass allows additional Red Line trains to operate. Significant because the Red Line carries 30 percent of all CTA rail passengers.

Construction of the bypass began in the fall of 2019 and the significant piece of infrastructure began hosting Brown Line trains on November 19, 2021 (see December *Bulletin*). CTA reports the bypass was the first new section of track added to its system in 28 years.

#### **North Belmont Red-Purple Reconstruction**

Fluor Corporation and its joint venture partner Walsh Construction Company broke ground on the next phase of the RPM One project that will demolish, rebuild and realign the CTA's section of tracks between Belmont Station and West Cornelia Avenue. This portion of the RPM Phase One project should be completed in 2025.

The tracks were built more than 100 years ago with a large curve to avoid the Vautravers Building, whose owners at the time of construction refused to sell. The curve slowed track speeds. In late summer 2021, CTA and its contractors moved the Vautravers Building 30 feet to the west, which preserved the historic building and allowed CTA to proceed with the track straightening project.

Along with removing the curve in the tracks, the Fluor joint venture will build a new closed-deck track structure with sound walls on the North Main line that is expected to reduce train noise for residents and pedestrians in the neighborhood. Fluor explains the new elevated tracks will create a brighter, cleaner, safer pedestrian environment at street level.

The city notes the project has been a catalyst for development of neighborhoods in the project corridor, as well as throughout Chicago.

CTA works with two workforce assistance agencies, HIRE360 and the Chicago Cook Workforce Partnership, to recruit economically disadvantaged candidates for career opportunities related to RPM and other large projects. Additional workforce events and programs have included professional career opportunity events with local contractors and trade unions, as well as a webinar series to educate Chicago Public School high school students about the construction industry and entering the building trades as a profession post-high school.

CTA also launched in 2020 the annual CTA Elevating Futures Scholarship Fund to provide scholarships to disenfranchised Chicago students to pursue four-year degrees in construction and engineering.

To increase the number of small businesses participating in the RPM and other major capital projects, CTA launched its "CTA Building Small Businesses" program in 2019. The program has provided technical and funding assistance to more than 100 small businesses. (MASS TRANSIT, JANUARY 25)

# **LOS ANGELES**

Both Los Angeles County Metropolitan Transportation Authority's (L.A. Metro) tunnel boring machines (TBMs) have completed the excavation of the tunnels between Century City and the Wilshire/Rodeo station under downtown Beverley Hills for Section 2 of the Purple (D Line) Extension Project.

In early February, the TBMs are anticipated to start digging the tunnels between Wilshire/Rodeo and Wilshire/La Cienega stations. The tunnels on 3.9-mile Section 1 of the project — between Wilshire/Western and Wilshire/La Cienega — were completed in 2021.



**LA Metro's tunnel boring machines.** LA Metro photo

Construction is also underway on Section 3 of the project between Century City and the Westwood VA Hospital — including a key station at Wilshire and Westwood boulevards that will provide access to Westwood Village and the UCLA campus.

Here are the vital stats on the tunneling on Section 2:

- The two TBMs named Ruth and Harriet began digging at Century City on April 30, 2020, and traveled to the east.
- Both TBMs excavated for 5,811 feet (or about 1.1 miles) between Century City and the Wilshire/Rodeo station.
- · The first TBM, Harriet, reached Wilshire/Rodeo on Jan. 11.

The second TBM, Ruth, made it to the station box on Jan. 28. The Purple (D Line) Extension project is extending L.A. Metro's D Line subway from its current terminus at Wilshire/ Western for nine miles to the Westwood VA Hospital in Westwood. The project is funded mostly by Measure R, Measure M and federal grants. Section 1 is forecast to open in 2024, Section 2 in 2025 and Section 3 in 2027. Travel time between Westwood and downtown L.A. is expected to take about 25 minutes. (MASS TRANSIT, FEBRUARY 1)

Los Angeles Union Station was approved to be the northern terminus of the West Santa Ana Branch Transit Corridor Project at the Los Angeles County Metropolitan Transportation Authority's (L.A. Metro) board of directors meeting.

The 14.8-mile Slauson/A Line to Pioneer route was also approved as the Locally Preferred Alternative (LPA) for the project's initial segment between Artesia and Downtown Los Angeles.

Spanning 19.3 miles, the new light-rail project will include 12 stations connecting the Gateway Cities of Artesia, Cerritos, Bellflower, Paramount, Downey, South Gate, Cudahy, Bell, Huntington Park, Vernon, the unincorporated Florence-Graham community and Downtown Los Angeles, with 1.4 million residents living near the route. The project will provide relief to the limited mobility and transit options currently available to these communities.

Together, the Gateway Cities have populations and employment densities that are five times higher than the L.A. County average. In addition, the new light-rail line will provide transfers to the Metro C Line (Green), Metro A Line (Blue) and the L.A. County regional transit network.

L.A. Metro staff will proceed with completing a Final EIS/R by spring 2023 for the initial segment, allowing for a groundbreaking in 2023 and the delivery of this 14.8-mile segment between 2033-35. At the same time, L.A. Metro staff will identify a cost-effective route in lieu of the aerial and underground route previously evaluated for the 4.5-mile Slauson/A Line (Blue) to Union Station segment.

The project is estimated to reduce end-to-end transit travel time to 40 minutes in the corridor. The project is funded by Measure R and M voter-approved transportation sales taxes as well \$300 million in state funding. With these board actions, L.A. Metro can also aggressively pursue more federal funding for the project.

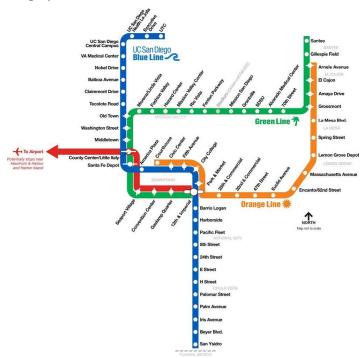
The board also approved L.A. Metro's recommendation to build a maintenance and storage facility for its light-rail vehicles in Bellflower. The approved site has the fewest community and economic impacts of the options that L.A. Metro studied. (MASS TRANSIT, JANUARY 31)

# **SAN DIEGO**

San Diego's Metropolitan Transit System board has determined that a light rail extension to the city's international airport is feasible and could be built in the next 10 years at an estimated cost of \$1.5 to \$2 billion.

A preliminary feasibility study undertaken by Mott

MacDonald considered an elevated route or two underground options connecting to the existing Green and Blue lines near Hawthorn Street, around 1½ miles from the airport terminal. MTS has selected the underground options for further development and will now seek federal and state grants for the project.



Map of the San Diego system showing the proposed Red Line heading west to the airport. SDMTS photo

Possible extensions beyond the airport could include Point Loma, Liberty Station, Sports Arena and beach communities. It would also be possible to provide a direct service from the airport to the future Bayfront convention center in Chula Vista with an estimated journey time of 14 minutes. (METRO REPORT INTERNATIONAL, JANUARY 10)

# **MONTREAL**

CDPQ Infra announced a solution optimizing the route of the REM de l'Est in response to consultations with citizens and stakeholders held over the past year.

CDPQ Infra has secured an option to purchase from Canadian National (CN) a segment of the Souligny railroad right-of-way in the heart of Mercier-Est, which will avoid the need for a section of route on the Sherbrooke Street East commercial corridor. This adjustment to the route of more than 2.8 miles provides a solution to one of the main issues to come out of public consultations, and follows discussions and work conducted since last fall.

By bordering the Tétreaultville neighborhood, the REM will be able to serve a substantial population pool lying farther away from the green line of the métro, reuse an existing railroad right-of-way and incorporate the route into

a broader transit corridor, thereby reducing impacts in this sector. The agreement between CDPQ Infra and CN signed on December 30, 2021, covers a segment situated between Honoré-Beaugrand Street and Georges-V Avenue.



Map of the REM de l'Est routes. CDPQ Infra

The exact insertion of the REM de l'Est through this new corridor will be determined following discussions to present this new solution to stakeholders and citizens, answer their questions and obtain their input on this portion of the route.

Using this railroad right-of-way in the heart of Mercier-Est brings the portion of the REM de l'Est route running on existing private or underground rights-of-way to 50 percent.

### **Proposed solutions**

Over the course of 2021, which was a year of listening, consultation and analysis for the project team, three major points for improvement were identified in the REM de l'Est reference project:

- · The passage on elevated structures in downtown Montréal
- The passage close to Morgan Park
- The passage along Sherbrooke Street East commercial corridor

Each of these issues has been carefully considered, through consultation and rigorous analysis of possible options. This announcement is a concrete proposal for a solution to avoid routing the project on Sherbrooke Street East in the Tétreaultville area.

A similar process is underway to propose solutions for the route near Morgan Park. Regarding downtown Montréal, a first step in the solution was identified in the fall, with part of the route running underground. Once the report by the independent expert committee has been received, the architectural and urban integration vision will be presented to the public, providing details of enhancements to the project made by the architects, working together with the experts.

The architectural proposal will then be the subject of a new phase of discussions with the public and stakeholders. The quality of the proposal, both in terms of architecture and urban planning, will also help alleviate concerns that have been raised.

#### **Ongoing optimization**

Since the REM de l'Est project was launched in December 2020, CDPQ Infra has made constant efforts to consult the public and answer their questions about the project. Close to 32,000 people have taken part in these consultations. Citizens' concerns were analyzed by the CDPQ Infra teams, leading to changes in the project. This process will continue in the coming months.

The announcement follows substantial optimizations to the project announced during 2021, particularly:

- The addition of an underground section in Montréal-Nord (May 3, 2021)
- The addition of a tunnel section in the downtown area, including the development of an underground station (September 2, 2021)

The REM de l'Est project is still at the detailed planning stage: several major steps remain to be completed, particularly the entire information and consultation process with the Bureau d'audiences publiques sur l'environnement (BAPE). When complete, the REM de l'Est is designed to handle more than 130,000 trips per day, becoming a credible alternative to solo driving in the East of Montréal. It will serve important economic hubs, relieve the isolation of certain neighborhoods and contribute to growth in Montréal East. (MASS TRANSIT, JANUARY 26)

# **SANTIAGO, CHILE**

Metro de Santiago has selected Alstom to supply and maintain for 20 years the driverless trains and train control systems for the 16-mile metro Line 7 now under construction.

Expected to open in 2028, the fully automated line will link Vitacura in the northeast to Renca in the northwest, with 19 stations. It is intended to serve rapidly developing districts to the north of the capital which are home to around 1.3 million inhabitants.

In winning the US\$395 million contract, Alstom beat off strong competition, with 12 international companies reported to have submitted bids. These included CAF with Thales and CRRC in partnership with Hitachi and Temoinsa. Alstom has been supplying trains to Santiago since rubbertired Line 1 opened in 1975, but CAF was selected to supply rolling stock for the capital's most recent steel-wheeled lines 3 and 6.

The 37 five-car trains will be manufactured at Alstom's Taubaté plant in São Paulo. The first are expected to arrive in early 2025, with deliveries continuing at two trains per month until mid-2026.

The 9½-foot-wide air-conditioned trains will be 334 feet long, with capacity to carry 1,250 passengers, including two dedicated wheelchair spaces per train. As well as onboard CCTV for security, the driverless trains will have external forward-facing cameras to monitor the track. Emergency evacuation doors will be provided at each end of the train, while four help points per car will enable passengers to

communicate with the control center staff. (METRO REPORT INTERNATIONAL, JANUARY 6)

## LONDON

### Elizabeth Line/Crossrail

Elizabeth Line services over the new Crossrail regional metro are inching closer to reality as the new Canary Wharf Station was formally handed over to Transport for London (TfL) for final testing and commissioning, as announced on January 25. This leaves just Bond Street Station as the only station still in the final construction phase. While TfL has yet to announce a final opening date, all indications are strongly pointing to a window sometime between March and June. It is possible that Bond Street will be bypassed if work there cannot be completed in time for the opening of the line. TfL is being extremely cautious, having learned the lessons of missing previous opening date targets. The Elizabeth Line was initially scheduled to open in December 2018. As we described in the December 2021 Bulletin (p. 13), TfL is currently engaged in an intensive Trial Operations phase, running a full timetable of trains without passengers, simulating a wide variety of scenarios including service disruptions, and will soon proceed to simulated emergency incidents involving staff and volunteers and London's emergency first responder services. (CROSSRAIL PROJECT WEBSITE)

### GERMANY/AUSTRIA

A consortium of six German and Austrian transport bodies has awarded Stadler a framework contract for the supply and maintenance of up 504 tram-trains worth €4 billion, the largest contract in the Swiss company's history.

The VDV TramTrain framework contract was awarded on January 14 by Karlsruhe's VBK and AVG, Saarbrücken's Saarbahn Netz, Schiene Oberösterreich, the Land of Salzburg and Zweckverband Regional-Stadtbahn Neckar-Alb.

It includes a €1.7 billion firm order for the supply of 246 Citylink tram-trains over 10 years from 2024, and the provision of 16 years of maintenance. There are options to order up to 258 more vehicles and to extend the maintenance to 32 years.

••••••

Tram-train framework contract

Operator	Firm order	<b>Delivery from</b>	Options
AVG	75	2025	73
Neckar-Alb	30	2027	57
Saarbahn	28	July 2024	21
Salzburg	20	2026	5
Schiene Oberösterreich	20	2026	50
VBK	73	2026	52
Total	246	-	258

# Keeping the price down

The operators developed the concept of a large joint procurement in order to keep the price of tram-trains competitive

with pure railway vehicles, which are technically easier to implement and therefore cheaper. Benefits are expected to include a lower unit cost, and simplified approvals processes.

Baden-Württemberg's Land -owned rolling stock body SFBW will finance the vehicles for lease to AVG and the future operator of Stadtbahn Neckar-Alb services, using its high creditworthiness to secure attractive financial terms.

### Customization

'We spent hours developing a common set of specifications', said Thorsten Erlenkötter, Project Manager at VBK which is leading the project. 'We defined a standard with up to five further versions to meet the operator-specific requirements such as boarding height, paintwork and place of use. You can compare the project to a grafted fruit tree bearing different varieties of the same fruit. There is only one stem but different tastes and harvest times', he added.

All of the vehicles will have three sections, air-conditioning and multi-purpose areas with two wheelchair spaces. However, the length, number of doors, boarding height and coupler height will vary to suit each passenger's needs.

customization will includ a toilet and cycle racks on the vehicles for AVG, and luggage racks on the cars for Schiene Oberösterreich.

The Citylink is developed and manufactured at Stadler's Valencia plant. The company told Metro Report International that production for the latest order would depend on passenger call-offs and capacities, as well as other projects which are underway, but would be undertaken within the group.

The manufacturer said its Citylink is a proven design, with more than 650 now sold in six countries.

The first four pre-series vehicles will be delivered to Saarbahn in 2024, with 24 more to follow by 2027 at cost of €140 million. Saarbahn has options to order 21 more to support network extensions.

Schiene Oberösterreich has ordered 20 tram-trains for delivery from 2026, to strengthen the fleet and replace old vehicles on the Land's local railways. There is an option for a further 50 tram trains for the local railway network which is planned to serve the Linz area from the end of the 2020s. (METRO REPORT INTERNATIONAL, JANUARY 17)

# **HAMBURG**

The Hamburg city government and the German national railway Deutsche Bahn have signed an agreement to study the feasibility of building a second cross-city S-Bahn tunnel linking Hamburg Hauptbahnhof, Dammtor, and Altona. The stations are presently linked by the four-mile long, four track Verbindungsbahn line, used by a mix of long-distance and S-Bahn services, and supplemented in the late 1970s by the City S-Bahn Tunnel.

First opened in 1866, the Verbindungsbahn today is almost at capacity, used by close to 300 long-distance and 900 S-Bahn trains per day. The concept being envisioned would move all S-Bahn traffic off the Verbindungsbahn into the

new tunnel, freeing up the legacy line to handle main line traffic exclusively.

The Hamburg S-Bahn is electrified with a 1.2 kV DC third rail system, and its rolling stock fleet includes dual-voltage EMUs equipped to operate off the German national standard 15 kV AC overhead catenary to extend the reach beyond the third rail network.

It was determined to be more practical to put the S-Bahn in tunnel instead of the long-distance services as the S-Bahn trains are lighter and can handle steeper grades, reducing the overall length of the tunnels, and the third-rail power supply could allow for a smaller tunnel cross section.

Hamburg is just the latest German city to embark on an effort to add a cross-city railway tunnel. We reported previously on the start of planning and consultation of a main line tunnel under Frankfurt (September Bulletin, p.15). Construction is currently underway on a second S-Bahn tunnel in München, and in Stuttgart work continues on the massive Stuttgart 21 project, which is converting the city's Hautbahnhof from a surface terminal to an eight-track underground through station and placing all the connecting lines in tunnel, allowing for a complete reordering of regional and intercity services there upon completion. A new north-south tunnel was built in Berlin as one of several components which transformed the German capital's railway network, the centerpiece of which is the Central Station opened in 2006. (METRO REPORT INTERNATIONAL JANUARY 26, 2022)

# **TEL AVIV**



Rendering of CAF's Urbos LRV for Tel Aviv (CAF photo)

Tel Aviv urban transport project promoter NTA Metropolitan Mass Transit Systems has selected a consortium of the CAF Group and construction firm Shapir as preferred bidder to design, build and finance the light rail Purple Line and provide 25 years of maintenance.

The  $16\frac{3}{4}$  mile line with 45 stops is scheduled to open in 2027. It will start at the 2000 Complex bus station next to the ISR main line station at Arolozorov and run west and south

to HaHagana station from where it will run east, splitting into a northern branch serving the Bar Ilan University area and a southern branch to Yehud-Monoson and HaTayyasim.

CAF's share of the €1.015 billion contract announced on January 31 is worth more than €525 million. This includes the supply of a fleet of 98 five-section Urbos low-floor trams around 115 feet long, with an option for a further 32 trams, as well as the signaling, power and communications and systems integration. CAF will also have a 50% stake in the company formed to manage maintenance.

CAF and Shapir already manage the Jerusalem light rail network under a 15-year concession which began in 2021 and includes the construction of extensions. (METRO REPORT INTERNATIONAL, JANUARY 31)

# **HONG KONG**

Hong Kong's Mass Transit Railway (MTR) has started trial operations on the extension of the East Rail Line from Hung Hom Station to Admiralty Station, with one intermediate station at Exhibition Centre. As of February 1, staff training has commenced, as well as exercises to simulate various operating and emergency scenarios. Opening is anticipated for June or July. The project represents the final component of the Sha Tin-Central Link program which has been underway for well over a decade, completing an effort which establishes the fourth underwater rail crossing of Victoria Harbor, linking Kowloon on mainland China to Hong Kong Island. The East Rail Line is the modern-day designation of the legacy Kowloon-Canton Railway (KCR), which first opened in 1910 as the first mainline railway built in Hong Kong. A modernization program was completed in 1983 featuring electrification and equipping with high-capacity EMUs, allowing for the establishment of an running an intensive regional rail service. KCR later opened the West Rail Line in 2003, followed by the Ma On Shan Line in 2004. In 2007, the KCR was merged with the MTR, which had been building and operating Hong Kong's subway network since 1979. Over the last 15 years much effort has been spent on integrating the once separate networks into a cohesive system. The West Rail and Ma On Shan Lines were both extended into downtown Kowloon, combined into one and renamed the Tuen Ma Line in 2020, comprising the earlier phases of the aforementioned Sha Tin-Central Link.

(METRO REPORT INTERNATIONAL FEBRUARY 2, 2022; INTERNATIONAL RAILWAY JOURNAL FEBRUARY 3, 2022)

# Vienna-Bratislava-Ukraine

# Part 14 (conclusion): Thursday, June 22, 2017

by Jack May (Photographs by the author)

Another day in Kiev with time to cover the Metro and the streetcar lines operating on the east side of the Dnieper. Routes 4 and 5 are the rapid tramline routes over there, but I found out much to my dismay that you can't get past the penultimate station, Henerala Vatutina, in off-peak hours, as the line only runs to the final station, Troeshina-2, in rush hours. As I mentioned previously, the Metropolitan Railway runs only during peak periods, which also coincides with the operation of the 4, whose route is confined specifically to the express tramway; the 5, which runs beyond the northern end of the fenced-in express line, operates all day. So, as a note of caution, if you are interested in seeing the whole line make it the first or last part of a weekday. I reached it by first riding Metro line 1 to its terminal at Lisova, where I transferred to tram route 28 via a long walk through a bustling market. Then, near its northern end, I transferred from the 28 to the 5 (which can be accomplished at any stop between Saurova and Miloslavska). Again, see http://www.urbanrail.net/eu/ua/kiev/tram/kyiv-tram-map. htm for a route map. I should also mention that while I was covering the express line, a two-car train of T3s carrying the tour group passed me in both directions.

The lines on the east side of the river are characterized by a great deal of modern center reservation and side-of-the-street trackage, with very little operation in pavement. I did not have the time to ride every line, but rather than trying, I preferred to get decent photos when the sun cooperated.

During this period I rode and photographed some other unusual cars on Kiev's roster in addition to those I had seen on Routes 1, 2 and 3.

Finally, page 15 contains some photos of Metro Line 1 at the Dnipro station. I stopped there in the morning when en route to the rapid tramway, and then again in the afternoon while returning to the hotel. All of the 5 stations east of Dnieper are on the surface, but the stations are covered so well-lit photos can be taken only from the platform ends. However, since the line goes through a park, if one wants to pass through fare control and walk along various paths, some overpasses that are well-situated for photos can be found.

Now, the rest of the story. After riding Metro line 1 back to University and walking to the Ibis, I found Clare in the room resting. But it was not contented relaxation. She told me she slipped and fell after finishing her tour of the Lavra Monastary with its Scythian Museum of Gold, and a good Samaritan had helped her into a taxi. She was in pain but indicated that maybe we should wait for an hour or two before doing anything about it, as it might get better.

It did not. To make a (very) long story short, x-rays at the "American" hospital indicated Clare had fractured three ribs, but the doctor said that other than pain medication, she would just need rest to accomplish a full recovery over the next three to four months. Fortunately, we had used frequent flyer miles for the trip so our return to the U.S. on the next day was not expensive. When we arrived home, Clare's family doctor confirmed the Ukrainian diagnosis, and as it happened, she was back to her old self in about two months.

That is why this is the last episode of this series. Stay tuned next month, when we start a new trip report: Britain and the Baltics.



Two views of Tatra T3 PCCs operating over the rapid tramway on the east side of the Dnieper served by Routes 4 and 5. I do

not know which came first, the line or the high-rise residential development, but I can guess. The photo at left was taken at



Oleksandra Saburova while the right-hand view is from one station to the north, Maryny Tsvietaievoi.



Oleksandra Saburova loop, about a mile to the east of the station of the same name on the rapid tramway that appeared in one of the photos on the previous page. Routes 5 and 33, running end to end, terminate at this location, while the 28 continues, duplicating the 5 until Miloslavska, the beginning of the express line.





Zakrevskoho Street is a long north-south arterial with tracks shared by the 28 and 33 lines running on reserved track along its side. The left view features car 353, which looks like a Tatra T6 PCC, but it is actually a K1M streetcar produced by Tatra-Yug (Tatra-South), a Ukrainian company in

Dnipro set up by aerospace manufacturer Yuzhmash, which acquired Tatra technology when the Czechoslo-vakian company went out of the tram business. Without a low-floor offering until a recent test car, it got a boost from a sale of 15 two-section high-floor units to Alexandria,

car rebuilt with a new low-floor body. These units have been given the name, "Kashtan," which, according to Google, translates from the Russian as "Chestnut" and from the Ukrainian as "I am crazy."

# **BULLETIN**

February 2022



(Left) The last of the modern-day trams I saw in Kiev was 701, a one-of-a-kind low-floor unit built in 2012 by Bogdan Motors, a Ukrainian bus and trolleybus manufacturer. I was lucky to come upon it, as I was told later that it had been used on part of the group's charter activities. I guess it went into regular service after the fantrip was over.





(Above) An unnamed alley near the Karelski Provalok stop of the 8, 23 and 28 lines in an area whose immediate surroundings seem un-touched by time. The left photo shows a Tatra T6 PCC passing a T3, while the right view is of another T3.

(Right) This busy section of track along the median of Myropilska Street hosts Routes 22, 23, 28 and 33. A pair of Tatra T3s is operating southward approaching the Andriya Malyshka Street stop.





(Above) Most of Metro Line 1's rolling stock consists of Type E subway cars built by Vagonmash (St. Petersburg) and similar 81-717 cars built by Metrovagonmash (Moscow) between 1965 and 1980. Many have been renovated to various degrees, with this view showing a train with modernized ends about to pass a traditional looking train at the Dnipro station. This stop is at the

eastern portal of the under-ground portion of the line, which remains outdoors for its crossing of the Dnieper River and the rest of its route.

(Below) Two views looking eastward at the Dnipro station. The left photo shows the rear of a train of modernized E cars about to pass a west-bound train while crossing the Dnieper River with Hydropark, a major recreational complex, in the background. The right photo shows the station itself with a statue of a boy releasing a model of the original Sputnik satellite. Another statue, on the westbound platform, shows a girl releasing pigeons. Note the stylized end of this train of 81-717 cars, a slightly newer version of the E cars.







# Our next Zoom Meeting is on Friday, February 18, 2022 at 7:30 p.m.

# Presenting This Month: Eric & Mary Oszustowicz

Our February Zoom program will consist of videos by both Eric and Mary Oszustowicz. Footage shot in 2021 and 2022 of the New York subway system and New York City-area commuter lines will be shown especially for the benefit of our non-New Yorker viewers. A sample video is on the ERA website at <a href="https://www.erausa.org/monthly-meetings/2022/02">www.erausa.org/monthly-meetings/2022/02</a>.

During road trips in 2021, Eric and Mary visited the light rail systems of Charlotte and Norfolk in addition to the historic New Orleans trolley system. An extensive section of the presentation will include scenes of the Chicago elevated and subway lines taken in May.

Videos were also taken of various freight and passenger railroads. Of special importance in the freight category was a trip along the Kansas City Southern (KCS) main line in Louisiana and Texas. Due to the merger with CP Rail, the KCS system may undergo major changes.

During early 2001, Eric took videos at all stations on the New York Subway system through which the now retired "Redbird" R26 through R36 subway cars traversed. Eric also took videos on the IND and BMT of the now retired R32, R38, R40, R40M, R42 and R44 subway cars in regular service. All of these videotapes have been digitized, and we will of course see many of them.

Eric presented a similar program in February 2021 that was viewed by a record setting 175 participants. Some "best of" videos may also be included for those who didn't see that presentation. You don't want to miss this interesting meeting!

# How to Join Our Zoom Meeting

A Zoom login button will be posted on <a href="www.erausa.org">www.erausa.org</a> about five days before David's presentation. You can sign in at 7:15 p.m. The show begins at 7:30 p.m. If you have any problems, email **Bob Newhouser** at <a href="mailto:bnnyc1955@aol.com">bnnyc1955@aol.com</a>, or on the night of the meeting, text or call Bob at **917-482-4235**.

# **Important Announcements:** President Bob Newhouser

**ERA Trips Are Back!** Our 2022 convention, based in San Diego from July 7-10, will be headquartered at the Best Western Plus Hacienda Hotel Old Town in San Diego's historic Old Town district. We have planned several exciting trips throughout Southern California. Check <a href="https://www.erausa.org/conventions/2022">www.erausa.org/conventions/2022</a> and our convention flyer for details! **If making hotel reservations by phone, the correct number to call is 619-298-4707.** The phone number on the flyer is incorrect.

ERA international tours also return in 2022 with an exciting trip to Greece, starting and ending in Athens from September 8-17 (leaving the U.S. on September 7). We will travel on high-speed railways, a narrow-gauge steam train, and a luxury tour coach. Check www.erausa.org/international-tours/2022 and our tour flyer for details!

**Save the Date!** Our next Zoom meeting will be on Friday, March 25, at 7:30 p.m. ERA's board director and *Bulletin* editor Jeff Erlitz will be our next speaker. Jeff's content will be announced. Check <a href="https://www.erausa.org/monthly-meetings/2022/03">www.erausa.org/monthly-meetings/2022/03</a> for further details!

If you have not yet **renewed your ERA membership for 2022**, please do so as soon as possible before your subscription expires! We have mailed each of you a printed form for your renewal. OR, if you prefer, renew quickly online on the following pages of the ERA website:

- 2022 membership renewal can be found at: <a href="www.erausa.org/renew">www.erausa.org/renew</a>
- 2022 membership card can be found at: www.erausa.org/card

ERA greatly appreciates your prompt membership renewals and your donations. It's our primary source of income and makes possible the monthly programming, *Bulletin* issues and the *Headlights* magazine that we all count on and enjoy!