



BULLETIN

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Electric Railroaders Association

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P.O. Box 3323
New York, N.Y. 10163
erausa.org

Editorial Staff

Editor-in-Chief

Jeff Erlitz

Associate Editors

Subutay Musluoglu, David Ross

Circulation Managers

Robert Colorafi (Electronic)

Jeff Erlitz (Print)

Contact

erausa.org/contact

Subscriptions

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Front Cover Photo

The third day of scheduled activities for the ERA's 2026 International Tour to Scotland, Northern England and the Isle of Man was on Friday, May 2. This was the group's first "transfer" day, and we boarded our chartered coach in Edinburgh, Scotland, bound for Sunderland, England, across the Rivers Tyne and Wear from Newcastle upon Tyne. After first stopping to view and take pictures at Network Rail's famous Forth Bridge (originally jointly owned by North British, Midland, North Eastern and Great Northern Railways), we continued on to Beamish, The Living Museum of the North (<https://www.beamish.org.uk/>). This museum has many restored and operating tram cars, as well as a very large collection of vintage buses. Pictured here is Sheffield Corporation Tramways No. 264 (United Electric Car, 1907), operating clockwise around the 1½-mile loop around the park. Jeff Erlitz photo

Donations

The ERA Board of Directors express their deepest appreciation for these member donations in July 2026.

\$100 to \$199

Ronald Salyk, Robert Scaffardi, John Swindler

Up to \$49

Al Rizzo

ERA is a 501(c)(3) tax exempt corporation. Your donations are fully tax deductible and can be made either with your membership renewal or using our donation form on our website: erausa.org/membership/donate/. Your donation helps to maintain ERA's 92-year long tradition of traction education and entertainment!

No Meeting in August

Have an enjoyable and safe summer!

Trip Notices/Save the Dates

August 15-19: Motor Bus Society trip to Washington DC. Visit <https://erausa.org/regional-trips/2026/08/15/> for the details.

August 28-September 2: ERA National Convention in Chicagoland. We will visit the region's famous museums, e.g., Illinois Railway Museum, Fox River Trolley Museum, East Troy Railroad Museum, the heritage operation in Kenosha, Wis., the downtown Milwaukee streetcar, and last but not least, a trip on Chicago Transit Authority's historic "L" fleet. This is ERA's first visit since 2011. Visit <https://erausa.org/conventions/2026/> for the details.

October 1-3: Motor Bus Society Minneapolis Convention. Visit <https://erausa.org/regional-trips/2026/10/01/> for the details.

Rear Cover Photo

During the LIRR's Main Line shutdown on July 26, C3 No. 5005 (Kawasaki Rail Car, 11/1998) is seen rounding the curve east of Cold Spring Harbor Station with Train No. 6657 from Port Jefferson to Hicksville. DE30AC No. 407 (EMD, 11/1998) was pushing from behind. As mentioned in the news item on pages 5 and 6, diesel-powered revenue passenger trains are not normally seen in daylight on weekends west of Huntington. Jeff Erlitz photo

Worldwide Suburban Electric Railway, Metro and Tramway Openings in June 2026

Date	Country	City	Segment	Distance (miles)	Railway/Metro/Tram
7/1	China	Hefei	Line 7: Feicui Gongyuan to Sheng Wenhuahefeiyiguan (New line)	?	M
7/2	India	Patna	Blue Line: BL Bhootnath to Malahi Pakri	?	M
"	Brazil	São Paulo	Line 6: João Paulo I to Perdizes (New line)	?	M
7/3	"	Belo Horizonte	Line 2: Nova Suíça to Amazonas (New line)	?	M
7/12	Singapore	Singapore	Circle Line: Harbour Front to Marina Bay	?	M
7/18	Spain	Donostia/San Sebastián	Altza to Galtzalaborda	1.3	R
7/31	China	Guangzhou	Guangzhou-Shenzhen Intercity: Zhuliao to Xintang South	30.0	R

URBAN RAIL NEWS, JULY 31

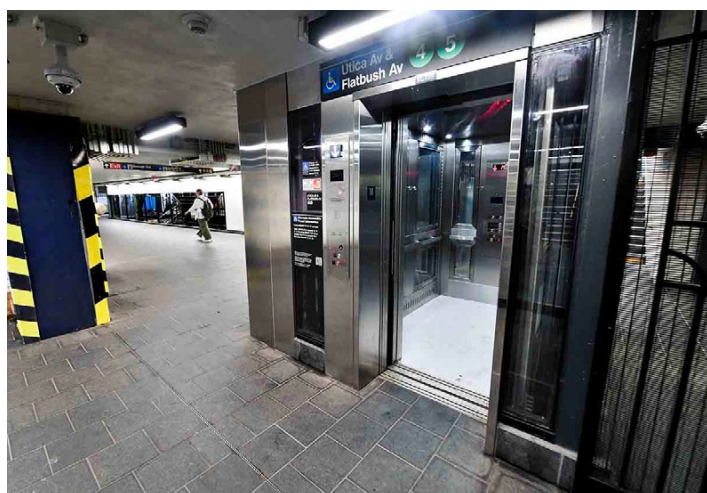
Rail News in Review

New York Metropolitan Area

NEW YORK CITY TRANSIT (NYCT)

Elevator/Accessibility/Rehabilitation News

On July 22, the [near] completion of the accessibility and renovation project at Borough Hall 4 5 Station was announced. Accessibility upgrades included three new elevators, one street-to-mezzanine and two mezzanine-to-platform elevators. In addition, project crews reconstructed platform edges and tactile strips and installed new ADA boarding areas. Other accessibility upgrades included modifications to the station agent booth and a new accessible employee bathroom.



The new elevator from the mezzanine to the southbound platform.
Marc A. Hermann/MTA photo

The project also addressed significant structural deterioration due to age and water infiltration. The station roof was renovated, and lighting, communications, fire alarm, plumbing, drainage and other station systems were

upgraded. In addition, 1,000 square feet of historic tile mosaics from the original 1908 Interborough Rapid Transit Company station were restored.

[MTA PRESS RELEASE](#), July 22

On July 24, two modernized elevators at Utica Avenue 3 4 Station were placed into service. The elevator design-builder was the joint venture of Forte-Gramercy.

[MTA PRESS RELEASE](#), July 24

It was announced on July 29 that a contract was award for the construction of accessibility upgrades at the 3rd Avenue-138th Street and Brook Avenue 6 Stations. The 3rd Avenue-138th Street station will be made fully accessible with a total of three new elevators: one connecting the street level to the mezzanine and two that connect the mezzanine to each of the platforms. The Brook Avenue station will become accessible with the installation of two new street-level elevators, one serving each platform-level fare control area. Both stations will receive new ADA compliant boarding areas.

The stations will each undergo extensive structural and architectural rehabilitation in addition to the refurbishment of mezzanines, platforms and stairs as well as new paint, retiling and upgrades to communication and drainage systems. In alignment with the MTA Climate Resilience Roadmap, several flood mitigation measures, including raised ventilator grilles, overflow systems and onsite storm-water detention and retention infrastructure will be installed at 3rd Avenue-138th Street.

[MTA PRESS RELEASE](#), July 29

Five Brooklyn Stations to be Made Accessible

The MTA has issued a Request for Proposals (RFP) for accessibility upgrades, including elevators, at five Brooklyn stations. The stations were selected to improve geographic coverage of accessible stations throughout the system. The project is being made possible with funds from congestion pricing.

The five stations are:

- Neptune Avenue **F** – one new elevator
- 18th Avenue **D** – two new elevators
- Jefferson Street **L** – two new elevators
- Nostrand Avenue **A C** – three new elevators
- Fort Hamilton Parkway **D** – two new elevators

Additional work throughout the five stations includes platform repairs, improved fare arrays, staircase replacements, and security and safety upgrades.

Fort Hamilton Parkway, 18th Avenue, Jefferson Street and Neptune Avenue were all chosen to improve geographic coverage of accessible stations throughout the system. Each of them fills in a gap of four consecutive inaccessible stations along their respective lines. Nostrand Avenue was chosen as a busy express station serving a major commercial area, and the accessibility complements the reopening of the Bedford Avenue entrance at that station.

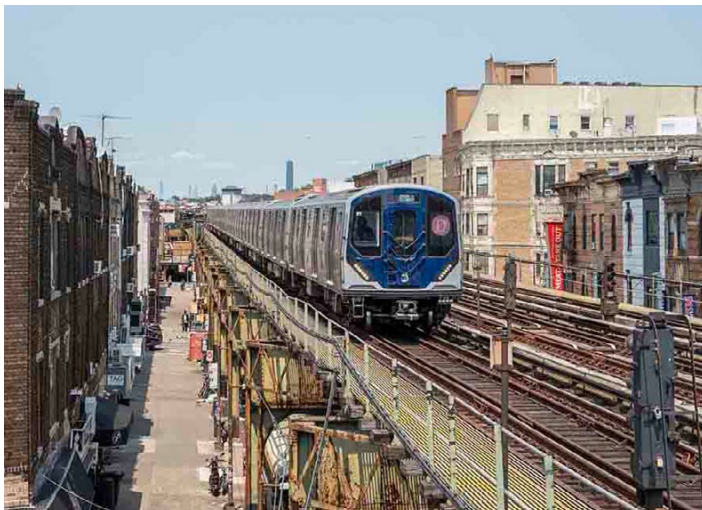
Proposals from qualified firms are due on September 14 and the MTA intends to award the design-build contract by the end of the year.

[MTA PRESS RELEASE](#), July 6

R-211s on the D Line

On Wednesday, July 1, the R-211s made their debut on the **D**. This made the sixth line to receive these cars. In addition to the **D**, the R-211s are regularly assigned to the **A**, **B**, **C**, **G** and **H** (Rockaway Shuttle).

[MTA PRESS RELEASE](#), July 1



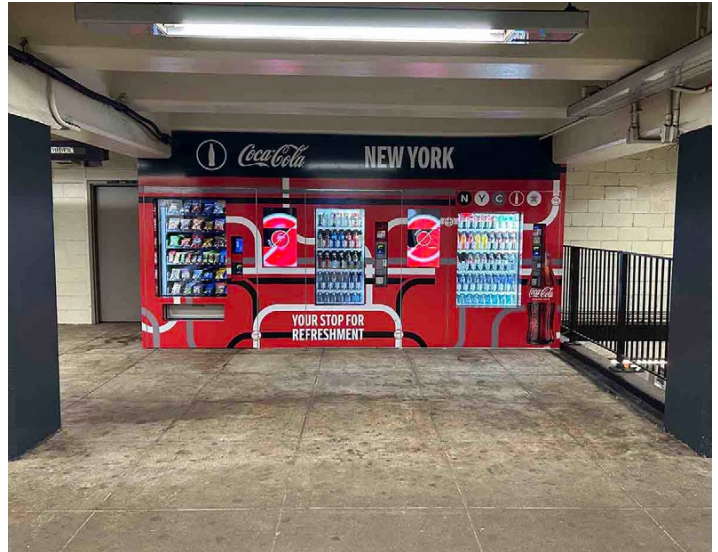
R-211A 3750-3751-3752-3753-3754+3870-3871-3872-3873-3874 (Kawasaki Rail Car, 2026) made up the 1211 from 205th Street to Stillwell Avenue-Coney Island and is seen here approaching the 55th Street Station on the West End Line on July 24. Jeff Ertlitz photo

Vending Machines Return

Vending machines selling beverages and snacks are coming to former retail units throughout the subway system, starting with three stations where machines are already open for business:

- 2nd Avenue **F**
- 23rd Street **R W**
- 116th Street **6**

By being housed inside former retail spaces, the vending machines do not take away space from platforms, and are instead seamlessly outfitted into the existing station environment flush with station walls. They offer riders a quick and easy option to purchase a snack or beverage on their subway journey and are part of the MTA's effort to activate former retail spaces while enhancing the experience of riders on the subway.



The new vending machine at 2nd Avenue **F** Station. MTA photo

The machines come following a competitive request-for-proposals (RFP) process in which the MTA selected CC Vending, Inc., to install and operate vending machines across the system. For the initial rollout of the program, CC Vending, Inc., has partnered with Coca-Cola to offer riders a variety of beverages and snacks. The first vending machine was installed at 23rd Street **R W** station this month.

Per the agreement, CC Vending, Inc., can expand offerings to include retail merchandise, technology products, health and beauty products, and other convenience items. The license agreement with CC Vending, Inc. is for a five-year term, with an option to extend for an additional five years.

[MTA PRESS RELEASE](#), July 30

125th Street **2 3** REVIVE Completed

Crews have completed extensive functional and aesthetic upgrades at the 125th Street station on the **2 3** lines in Manhattan's Harlem neighborhood. The work was completed as part of NYCT's Station REVIVE program, which uses planned 55-hour weekend service outages to clean, scrub, scrape, paint, brighten, repair, retile, refurbish, renovate and renew stations from top to bottom.

[MTA PRESS RELEASE](#), July 31

Tracks Out of Service Long-Term

Track A13 in Coney Island Yard was removed from service on June 1. The work, for concrete pad and electrical utility pole installation work by NYCT's Division of Facilities, was

scheduled to wrap up on July 31. The work has now been extended two weeks, to August 14.

LONG ISLAND RAIL ROAD (LIRR)

Locust Manor Station Renovation Completed

The MTA announced the rededication of the Locust Manor station in southeast Queens following a major renovation that improves accessibility, modernizes the station and brings it into a state of good repair.

Station improvements included:

- Installation of two new elevators and elevator vestibules as required for weather protection
- New elevator machine rooms, electrical room and service upgrades, communication room and safety/security systems
- Replacement of existing platform rubbing edge boards and tactile strips along new area of work
- New sidewalks connecting paths of travel to elevators and underpass and retaining wall alongside
- New and rehabilitated stairs and ramps, including landing clearances and handrails/guardrails
- Wayfinding, directional, corporate and ADA signage
- Roost free surfaces
- Weatherproof Help Point emergency/information kiosks with equipment enclosures
- New CCTV cameras and high security fencing
- Rehabilitation of 84 platform support columns under Platform A



View northeast of the new elevators, at the west ends of the platforms.
Glen Sager/MTA photo

The \$22 million project was entirely federally funded. The design-build firm was Citnalta/Scalamandre, J.V. (*Editor's Note: Joint Venture*), with Parsons Transportation Group as the Designer of Record. Major subcontractors were Bana Electric, Mid-American, Premier, Superior and Welkin.
[MTA PRESS RELEASE](#), July 2

Yaphank Station Relocated

After a one month delay, the LIRR's Yaphank Station was relocated 3.16 miles east of its former location and renamed Yaphank-BNL on Saturday, July 18. "BNL" stands for Brookhaven National Laboratory. A press conference was held at the new station on Friday morning, July 17.

[MTA PRESS RELEASE](#), July 17

Main Line Grade Crossing Eliminations

The MTA was awarded a \$7,461,000 grant to advance planning and preliminary design to eliminate three grade crossings along the Main Line: Fifth Avenue in Brentwood, Straight Path in Wyandanch and Lowell Avenue in Central Islip.

More than 63,000 vehicles use these at-grade crossings per day combined. The Fifth Avenue crossing in Brentwood ranks among the top five busiest crossings on Long Island, at over 35,000 vehicles per day. While Brentwood riders have benefited from a service increase since the opening of Grand Central Madison (*Editor's Note: And the double-tracking of the Main Line*), the crossing gates are lowered more frequently for passing trains, resulting in longer queues of cars. This is also the case for the crossings in Wyandanch and Central Islip.

These planning efforts represent the next step in a broader, coordinated strategy between the MTA and New York State Department of Transportation to eliminate street-level grade crossings. Previous federal grants have supported targeted safety improvements at grade crossings, including upgraded warning devices, roadway enhancements, improved signage and pedestrian safety measures. This grant will fund the planning, environmental review work and preliminary engineering needed to evaluate and prepare for long-term grade separation solutions at the three locations. Completing this step will position the MTA to pursue further funding for construction.

[MTA PRESS RELEASE](#), July 14

Queens Interlocking Work

The reconfiguration of Queens Interlocking, between Queens Village and Bellerose Stations on the Main Line, has been proceeding on-and-off since 2004. (See *New York Division Bulletin*, August 2004, page 6 and *New York Division Bulletin*, September 2008, pages 17-18). Over the weekend of July 25-26, this project finally came to a conclusion, at least for now.

For the entire weekend, there was no service between Jamaica and Hicksville on the Main Line. There was also no service on the Oyster Bay and Hempstead Branches. Bus service was provided for the entire area of no rail service. MU shuttle trains operated between Hicksville and Huntington and diesel trains operated between Hicksville and Port Jefferson. Diesel revenue passenger trains west of Huntington on weekends are extremely rare. There is an eastbound in the middle of the night and a westbound that leaves Port Jefferson just before dawn (and that's near the summer solstice).

On the Main Line, MU trains operated between Hicksville and Ronkonkoma. Of note were the diesel shuttle trains operating every hour between Hicksville and Babylon, via the Central Branch.

Back in 2008, three crossovers were removed and the

tracks straightened west of Bellerose Station. In addition, four very-high-speed (No. 32.7, 80 mph maximum) crossovers were installed. In the past few years, two of the very-high-speed crossovers were removed, where Elmont-UBS Arena Station was constructed. Four new crossovers were installed between Elmont and Bellerose Stations, two of which were 60 mph maximum (No. 24) replacements for the two very-high-speed crossovers.



On July 23, two days before the signal cutover, Train No. 722 (Grand Central-Hempstead) passes under and by Signal Bridges No. 2, complete with eight traditional position light signals. M7 No. 7412 (Bombardier Transportation, 4/2005) is in the lead. The view is west from Elmont-UBS Arena Station. Jeff Erlitz photo



Also on July 23, M9 No. 9045 (Kawasaki Rail Car, 8/2020) is on the point of Train No. 1533 (Huntington-Penn Station) and is about to pass under Signal Bridge No. 1 at the east end of Queens Village Station. This signal bridge, the only one remaining in Queens Interlocking from the original 1924 grade separation project here, is being kept. The new Reduced Aspect Signals were mounted in back of the lower "arms" of the position light signals. Jeff Erlitz photo

This year, between May 31 and July 19, three additional crossovers were installed, two between Queens Village and Elmont and one east of Elmont. The two west of Elmont are No. 24 (60 mph maximum) switches. These were to replace

the two remaining No. 32.7 crossovers which were, from what we had been told, maintenance headaches (each of those very-high-speed crossovers was equipped with 10 switch machines!).

The one crossover east of Elmont is a No.15, which allows a speed of 30 mph. This is an improvement over the No. 10 (15 mph maximum) crossover located just west of Floral Park Station. Non-Hempstead-bound trains that stopped at Elmont had to do 15 mph from Elmont, past Bellerose, and all the way to Floral Park to continue east on the Main Line.

In addition to the new configuration of Queens Interlocking, the entire signal system was upgraded between the east end of Hall Interlocking, east of Jamaica, and Queens Village. With all of this work, all of the remaining, classic position light signals were replaced with the new, color-light, Reduced Aspect Signals.

MTA PRESS RELEASE, July 16



Two of the Central Branch shuttles trains, Nos. 9259 (left) and 9260 (right), are seen at Bethpage Station on the afternoon of July 26, during the Main Line shutdown. Jeff Erlitz photo

Bellerose & Floral Park Station Upgrades

MTA awarded the construction contract for complete station rehabilitations of the Bellerose and Floral Park stations to make them fully accessible in accordance with the Americans with Disabilities Act (ADA). The first accessibility award of the 2025-2029 Capital Plan, these improvements, bundled into one package known as Package 3, include the installation of a new elevator at Bellerose Station and the replacement of a non-compliant escalator at Floral Park Station with a new wider, 32-inch escalator. The Floral Park station is currently accessible and has three elevators that were put into service in 2021 as part of the Main Line Expansion Project (Third Track).

In addition to the new elevator at Bellerose, all existing stairs will be replaced and crews will install new ADA-compliant ramps at the north and south entrances. Workers will extend the platform, currently eight cars long, and install a built-in snow melt system for use during the winter months. At Floral Park, all three platforms will be re-built and extended and will receive new platform waiting rooms and canopies. (Editor's

Note: The platform for Track 3 is eight cars long. The other two platforms accommodate 10-car trains.)

Both stations will undergo structural rehabilitation. This includes the rebuilding of station waiting rooms, new and rehabilitated stairs and ramps, handrails and guardrails, new lighting, as well as upgrades to security and surveillance video systems. The Carnation, Tulip and Tyson Avenue Bridges in Floral Park will also undergo minor structural modifications and repairs.

Bellerose Station serves an average of 768 weekday riders and Floral Park serves an average of 3,257 weekday riders.

This project was awarded to the joint venture of Scalandre-Gramercy JV II, consisting of Peter Scalandre and Sons Inc., based in Freeport, and Gramercy Group, Inc., based in Wantagh.

[MTA PRESS RELEASE](#), July 29



M3 No. 9895 (Budd-GE, 9/1986) leads Train No. 1927 from Ronkonkoma to Penn Station through Floral Park Station at high speed on July 23. The platform on the right has several pieces of plywood covering damaged portions of concrete. Jeff Erlitz photo

METRO-NORTH RAILROAD (MNR)

Hudson Line Summer Schedule Changes

Hudson Line weekend service to and from New Hamburg and Poughkeepsie are operating on a modified schedule between July 25 and September 13 to allow crews to perform track work between Beacon and Poughkeepsie.

During this period, weekend trains to and from New Hamburg and Poughkeepsie will generally operate every two hours. Several trains that normally begin and end at Poughkeepsie will instead begin and end at Beacon; hourly service between Grand Central Terminal and Beacon remains effective during this trackwork.

[MTA PRESS RELEASE](#), July 14

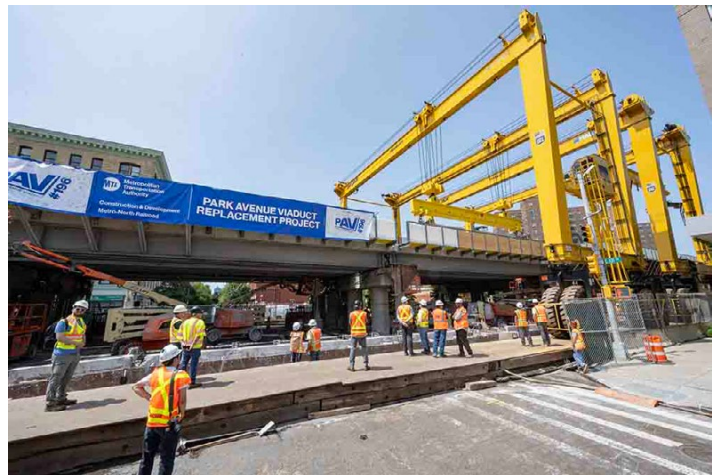
Park Avenue Viaduct Substantially Complete

The MTA announced the completion of major structural replacement work on the Park Avenue Viaduct, 60 months ahead of schedule and \$195 million under budget. Since

October 2023, crews have replaced 196 bridge structures and more than 12,600 feet of track over 28 weekends without delaying a single train. The \$765 million project fortifies the long-term reliability and resiliency of the critical corridor that carries 98 percent of all MNR service and all trains traveling into and out of Grand Central Terminal.

The 133-year-old Park Avenue Viaduct carries four tracks above Park Avenue from the Park Avenue Tunnel at East 97th Street to the Harlem River, supporting approximately 750 trains and 260,000 passengers each day through one of New York City's most constrained rail corridors. With nearly half of the viaduct's girders dating to the 1890s, the MTA launched the project to reconstruct critical portions of the 1.8-mile structure between East 110th Street and the Harlem River Lift Bridge, including the replacement of aging sections between East 115th Street and East 132nd Street, while maintaining full train service.

The structural replacement was completed in two phases. Phase 1, spanning East 115th Street to East 123rd Street, began in October 2023 and was completed 21 months ahead of schedule in October 2025. Phase 2, spanning East 127th Street to East 132nd Street, began in May 2024, with the final viaduct segment replacement completed during the weekend of July 25-26, 60 months ahead of schedule. With the replacement of the structure complete, the remaining work, including track replacement, cable installation and the removal of temporary fencing and girders, is expected to be completed by September 2027.



The 196th, and final, section of viaduct replacement sections has been placed. Trent Reeves/MTA Construction & Development photo

To maintain regularly scheduled train service and accelerate construction, the project used multiple custom-designed gantry systems to lift and precisely place prefabricated bridge units weighing nearly 190,000 pounds each. Unlike traditional crane operations, the gantries allowed crews to install the units during tightly coordinated weekend work windows without delaying service.

The project also used an inter-track containment system to create enclosed work zones between active tracks, allowing construction to proceed safely while trains continued operating on adjacent tracks. This approach reduced the need

for flagging personnel, lowering project costs and providing a model for performing major construction in other narrow, active rail corridors.

Bridge components were prefabricated and assembled off-site, reducing the amount of work performed on the viaduct, limiting workers' exposure to a high-risk environment and creating more predictable weekend schedules. This allowed replacements to take place seamlessly over 48-hour weekend work windows.

[MTA PRESS RELEASE](#), July 27

New Haven Line Improvements

A groundbreaking ceremony was held in Stratford on July 27 to mark the start of construction on TIME-1, the largest component to date of [TIME FOR CT](#), the state's comprehensive, multi-year initiative to rebuild, improve and expand Connecticut's rail network.

The three-phase, \$1.6 billion TIME-1 project will modernize sections of the New Haven Line, creating the infrastructure necessary to deliver faster, more frequent and more reliable rail service between New Haven and New York City. The New Haven Line is the busiest individual commuter rail line in the United States.

TIME-1 is expected to deliver one of the largest rail improvement upgrades in recent state history.

Upon completion of all three phases in 2035, trains will be able to operate at speeds of up to 90 miles per hour in designated sections of the corridor, an increase from today's maximum of 70 miles per hour in the project area. Additionally, the improvements will upgrade these sections of the line to the Federal Railroad Administration's Track Class 6 (110 mph maximum) standards, an increase from today's standards of Track Class 4 (80 mph maximum). The project, along with other capital projects and service enhancements, will enable Connecticut rail passengers to enjoy reduced travel times between New Haven and New York, culminating in a total of approximately 25 minutes saved.

The first phase of the TIME-1 project focuses on a three-mile section of track between Bridgeport and Stratford. Crews are installing new catenary structures, adding turnouts to the East Bridgeport Rail Yard, replacing the Longbrook Avenue Bridge in Stratford, upgrading track and signal infrastructure and adding new track connections (*Editor's Note: What track connections?*) to improve train operations through the corridor. The first phase is a \$340.7 million project that will support approximately 125 jobs. Funding includes \$184 million from the Federal Railroad Administration, \$145.5 million from the State of Connecticut and \$11.2 million from Amtrak.

The second phase, expected to begin in 2030, will deliver improvements at Stratford Station, including track and platform upgrades, ADA accessibility improvements, enhanced passenger communications systems and modernized electrical infrastructure with improved lighting and emergency power. This phase will also advance major corridor improvements, including catenary upgrades, bridge replacements and retaining wall installations.

The third phase, expected to begin in 2031, will continue these efforts with additional bridge replacements, catenary upgrades and infrastructure improvements to further enhance rail operations and reliability.

[MTA PRESS RELEASE](#), July 27

AMTRAK/NJ TRANSIT (NJT)

Dock Bridge Renovation Contract Awarded

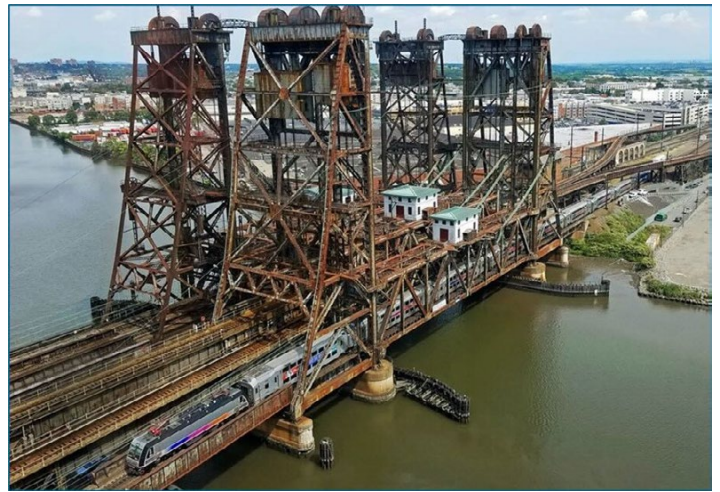
Amtrak has awarded construction and management contracts for rehabilitation of the six-track, triple-span Dock Bridge in New Jersey, a \$242 million project to begin later this year.

More than 700 Amtrak, NJT and Port Authority Trans-Hudson (PATH) trains use the bridge across the Passaic River connecting Newark and Harrison, N.J. Four tracks are used by Amtrak and NJT and two by PATH.

The project will see the bridge, opened in 1935, converted from a movable lift bridge to a fixed bridge under a permit granted by the U.S. Coast Guard in 2024. Skanska was awarded a design-bid-build contract, while LiRo-Hill received the project management contract to provide oversight and support. The Federal Railroad Administration awarded a \$188 million grant for the project; the remainder will be funded by NJT, PATH and Amtrak.

The bridge's lift span has developed reliability issues, causing delays when tracks, signals and other rail systems fail to align properly after a bridge opening. Service disruptions also result when sensors and other components fail.

[TRAINS NEWS WIRE](#), July 30



The Dock Bridge over the Passaic River, between Newark and Harrison, N.J. Amtrak photo

Other U.S. Systems

AUSTIN, TEXAS

Vehicle Builder Selected

Austin Transit Partnership (ATP) selected Stadler to provide

light rail vehicles for the Austin Light Rail system. The award marks the conclusion of a series of major procurements over 18 months outlined in ATP's delivery plan and keeps Austin Light Rail on track. The contract award approved by the Board allows ATP to execute a fixed-price contract with Stadler for design coordination, design, manufacturing, testing and delivery of light rail vehicles. Having the vehicle designer under contract now will allow for timely coordination with the teams that are currently designing the overall light rail system and Operations and Maintenance Facility.

The 21 vehicles will be based on Stadler's service-proven model, CITYLINK, which features a modern and sleek body and interior with design features to create an open, passenger-friendly experience. The CITYLINK trains incorporate a low-floor design throughout most of the train that eliminates steps within the aisle of the train. This feature, combined with level boarding from the station platform, creates a seamless, fully accessible experience for passengers.

The low-floor design also creates a spacious feel with higher ceilings and less obstruction in walkways. Large windows allow for clearer sightlines into and from the train, supporting safety and connectedness to the surrounding environment. Longer trains with multiple doorways maximize the passenger capacity to move more people, both daily and during special events.

Each train is designed to carry approximately 240 passengers, including seating areas and space for standing passengers. The design will also include ADA-compliant zones and flexible multi-purpose areas for bikes, luggage and strollers. The design process will include opportunities for the Austin community to provide input on elements such as vehicle color schemes, seating configurations, accessibility features and wayfinding elements to benefit the traveler.



Rendering of Stadler's CITYLINK vehicle for Austin. Stadler

The ATP Board authorized an initial work authorization of \$39 million for preliminary work under the approved contract that provides a thoughtful contracting approach for federal readiness and risk management while the project progresses through federal funding process. The funding for this authorization is available through existing Proposition

A revenues. Additional work beyond this initial amount will require future action by ATP's Board of Directors with a total fixed-price contract not to exceed \$352 million.

[ATP NEWS](#), July 15

MONTGOMERY/PRINCE GEORGE'S COUNTIES, MARYLAND

Purple Line Testing Continues

The Maryland Department of Transportation Maryland Transit Administration began live-wire testing of Purple Line light rail vehicles (LRVs) between the Lyttonsville Operations and Maintenance Facility and the Purple Line Bethesda Station in Montgomery County this week. The latest testing represents the first time the LRVs have undergone live wire testing in Montgomery County. Construction of MTA's Purple Line project is 90% complete, with all tracks installed as of early May. This phase of testing marks a significant step forward for the project, expanding light rail vehicle presence to the westernmost segment of the 16-mile alignment.

Systems engineers and trained operators will conduct testing on 2.5 miles of dedicated track, beginning in Lyttonsville and continuing through Chevy Chase and Bethesda. Live wire testing with light rail vehicles evaluates overall system functionality, including track integrity and electrical systems, to ensure the vehicles operate smoothly. Train operators also will test acceleration and braking at varying speeds and may periodically test the horn and bell. Testing during the first week will occur overnight from 9:00 p.m. to 5:00 a.m. and will then progress to weekdays from 7:00 a.m. to 7:00 p.m.

MTA is now conducting live wire testing in four of the seven sections of the Purple Line alignment. Crews have completed installation of all 1,187 overhead wire poles supporting the power lines essential to operating the Purple Line.

[MARYLAND MTA NEWS](#), July 16

PHILADELPHIA, PA.

Regional Rail Schedules Adjusted

New Regional Rail schedules went into effect on Sunday, July 5. The new schedules included some notable improvements that will translate to more predictable and reliable service, and greater capacity to major destinations. As SEPTA continues to increase the number of train cars available for service, trains will be longer and provide more space for riders.

Schedules highlights include:

- Longer trains and more vehicles available, with more consistent four-car sets on lines with the highest ridership
- More consistent pairings between lines on different ends of the network
- Express service on the Lansdale/Doylestown Line and Media/Wawa Line has been simplified; an express train will always make the same stops
- Trains on the Wayne Junction to Glenside corridor have

been adjusted to provide better spacing between trains
 • Penn Medicine weekday trips increase from 900 to 975
[SEPTA NEWS](#), July 2

PITTSBURGH, PA.

Penn Tunnel to Close for Repairs

The normally inactive rail line between Steel Plaza and Penn Station will be closed for nearly four months while crews complete concrete and track repairs and conduct leak mitigation inside the Penn Tunnel. The tunnel is used only during detours and special events, and the work will help ensure it remains a reliable backup route when needed.

The closure began Thursday, July 23, and is expected to continue through November. Riders will see no impact to service with this closure. However, two weekend closures between First Avenue and Steel Plaza, tentatively scheduled for August 7-10 and August 14-17, will be needed to allow crews to work on the tracks that lead to the tunnel. During those weekends, shuttle buses will connect First Avenue Station and Steel Plaza.

[PRT NEWS RELEASES](#), July 23

PORTLAND, ORE.

Service Cuts Begin

Changes are coming to the transit system beginning Sunday, August 23 to help address the current \$158 million long-term budget deficit. The adjustments affect 33 bus lines and the MAX Green Line. The service adjustments are part of TriMet's multi-year strategy to resolve the deficit by reducing expenses and increasing revenue. These changes streamline the service, focusing on areas where people are most likely to ride, while reducing duplication and eliminating service where ridership is very low.



In better times: a pair of SD660 cars, 214+321 (Siemens, 1997+2003) are seen running down SW 5th Avenue in downtown Portland on a MAX Green trip to City Center/PSU. This is south of the Pioneer Place/SW 5th stop on June 22, 2017. Jeff Erlitz photo

The MAX Green Line will run a shorter route, operating only between Gateway and Clackamas Town Center transit centers. Riders will be able to connect with other MAX lines at Gateway, and for many, a bus line may provide a faster option to reach Downtown Portland.

[TRI-MET SERVICE CHANGES](#), July 14

International

BELO HORIZONTE, BRAZIL

Metro Line 2 Opens

A short first phase of Belo Horizonte metro Line 2 opened on July 3, when services began operating on the 1.6-kilometer from Amazonas to Nova Suíça, where there is an interchange with Line 1. Trains are initially running between 9:00 a.m. and 4:00 p.m. on weekdays, with all-day operation to be introduced gradually.

Line 2 follows a surface alignment, making use of a partially completed railway corridor where construction began in the late 1990s before being abandoned in 2004. The project was revived and redesigned after Metrô BH (Belo Horizonte) was awarded a contract to operate and extend the metro in 2023. Alstom was awarded a contract to supply automation systems for Lines 1 and 2, and in June 2024 CRRC Changchun was awarded a R\$700 million contract to supply a fleet of 24 four-car 1,600 mm gauge metro trainsets for use across the two lines.

Line 2's Nova Gameleira, Nova Cintra and Vista Alegre stations are now expected to open in 2027, with the full opening to Ferrugem and Barreiro stations in 2028 taking the line to 10.5 kilometers. Studies are continuing for a second phase which would extend Line 2 in tunnel from Nova Suíça into central Belo Horizonte, with proposed stations including Barroca, Pio XII, Raul Soares, Praça 7, Palácio das Artes and Hospitais.

[RAILWAY GAZETTE INTERNATIONAL](#), July 7

BERLIN, GERMANY

North-South S-Bahn Operations & Rolling Stock

A consortium of S-Bahn Berlin, Siemens Mobility and Stadler has been formally awarded a contract to operate the capital's North-South and Stadtbahn subnetworks for 15 years, and to supply and maintain 350 four-car fully walk-through trainsets.

The contracting authority is Berlin-Brandenburg transport authority VBB, on behalf of the Länder of Berlin and Brandenburg. The legally binding notice was issued on July 8 after Alstom ended its challenge to the award of the SBSNS-II contract. With this contract, Stadler will in the future manufacture all modern U-Bahn and S-Bahn trains for Berlin. The 350 trains will be built in Berlin and for Berlin.

In December 2015 S-Bahn Berlin awarded Stadler and Siemens a framework contract for up to 1,380 electric

multiple-unit cars, with a base order to supply 85 four-car and 21 two-car sets to be used on the Ring and southeastern branches of the network. Stadler was responsible for mechanical and structural assembly at its Berlin Pankow site, with Siemens responsible for the electrical components. Entry into service was completed in September 2023.

Siemens and Stadler said the vehicles in the latest order which are scheduled to enter service from early 2032 to 2038 would be an advancement of the ones for the Ring. The distinctive design remains unchanged, but the proven concept is being refined with a more modern driver's cab, updated fire protection, the latest cybersecurity measures and further optimization of the traction system to increase energy efficiency.



An example of S-Bahn Berlin's latest equipment, similar to what is going to be ordered, would be Class 483 No. 005 (Stadler/Siemens, 2020), seen at Berlin-Köpenick while operating on Route S3 to Friedrichshagen on September 20, 2022. Jeff Erlitz photo

A newly designed multi-purpose area includes a wheelchair space, a height-adjustable seat and additional options for companions of passengers with reduced mobility. The Stadler air-conditioning system is being redesigned to use an environmentally friendly halogen-free refrigerant and innovative chilled-water technology which can reliably cool the interior even at high temperatures. There will be warmer interior lighting, and a USB-C charging port at every second seat.

The contract includes 30 years of maintenance, which will be managed via a central digital platform using Siemens Mobility's Railigent X system. This will monitor vehicle condition in real time, analyze operating data and support the creation of tasks to enable predictive maintenance. Maintenance processes will be digitally planned and controlled from materials and asset management through to workforce planning. There will be additional cybersecurity services such as software maintenance and vulnerability monitoring. Existing workshops will be modernized, and the construction of a new workshop in Fredersdorf-Vogelsdorf is planned.

[RAILWAY GAZETTE INTERNATIONAL](#), July 21

Urbanliners Enter Service

The first of the longest trams ever ordered for Berlin

entered service on July 15. The nine-section, 50-meter-long Urbanliner trams are intended to increase capacity on Route M4, which carries around 100,000 passengers per day with a service of up to 18 trams per hour per direction. The new vehicles, with capacity for 300 passengers, are replacing coupled pairs of Adtranz GT6N trams. Alstom is supplying 65 Urbanliner trams; a further 14 are due to enter service by the end of the year, with the remaining followed by 2030.

[RAILWAY GAZETTE INTERNATIONAL](#), July 22



Flexity Berlin 2 (XLZ), aka "Urbanliner," No. 5001 (Alstom, 2025) is heading southwest on Route M4 on Greifswalder Strasse just north of the Hufelandstrasse stop on July 25, 10 days after entering revenue service. Pascal photo via Urban Electric Transit

BONN, GERMANY

Stadtbahn Vehicles Suddenly Withdrawn

Bonn local transport operator SWB Bus und Bahn has temporarily withdrawn 60 of its 75 Stadtbahn light rail vehicles from service following the discovery that some components may be suffering from material fatigue. The neighboring city of Cologne is providing 20 replacement trams to cover while urgent inspections take place.

The affected vehicles were built by Düsseldorfer Waggonfabrik (Düwag) between the 1970s and 1990s, and belong to both SWB and the SSB joint venture with Rhein-Sieg Kreis. Routine inspections had revealed that certain components could experience premature material fatigue.

To mitigate some of the widespread service disruption, Cologne operator KVB stepped in to help. The operator slightly reduced its own timetable during summer light riding, freeing up 20 vehicles for use in Bonn. This transfer has enabled SWB operate a near-full Stadtbahn timetable, although with reduced capacity as the services are being operated with single units rather than pairs. Specific services like Route 68 will not operate due to lower demand during the summer, while Route 66 will skip certain stops in Oberkassel. The exact timeline for resolving the fleet issues remains subject to the ongoing technical reviews. SWB hoped to see the first vehicles return to service around mid-August.



Seen at the Oxfordstraße stop of Route 66 on May 9, 2024, B100S No. 8376 (Düwag, 1983) is in the group of vehicles affected by the withdrawal from service. Yury Maller photo

SWB had already ordered 22 light rail vehicles from Spanish manufacturer CAF in 2022 to start renewing its aging Stadbahn fleet, increasing the order to 32 units seven months later. The first pre-production vehicle was expected to arrive in Bonn around January. It would take around a year of testing on the tracks to gain formal approval before the new vehicles could be put into service.

[RAILWAY GAZETTE INTERNATIONAL](#), July 29

BRESCIA, ITALY

Light Rail Line Ground Breaking

A groundbreaking ceremony was held in the Italian city of Brescia on July 6 to mark start of construction of the 11.3-kilometer light rail line T2. The new line will connect Pendolina in the northwest of the city to Fiera in the southwest. It will have 22 stops and interchange with the automated metro line at San Faustino along with the Italian State Railways main line station. The depot will be located at Fiera with a secondary facility located at Pendolina.

The Temporary Grouping of Companies (RTI) led by Manelli Impresa with Hitachi Rail and Alstom was awarded the contract to build and equip the line in June 2025.

8.1 kilometers of the route will be built on a dedicated right of way with the remainder in mixed traffic. Power to the 18 LRVs, which Hitachi Rail is supplying, will be provided using conventional overhead contact wire on an 8.2-kilometer section of the line. The LRVs will use battery power when operating on the remaining 3.1 kilometers to minimize visual impact in urban areas.

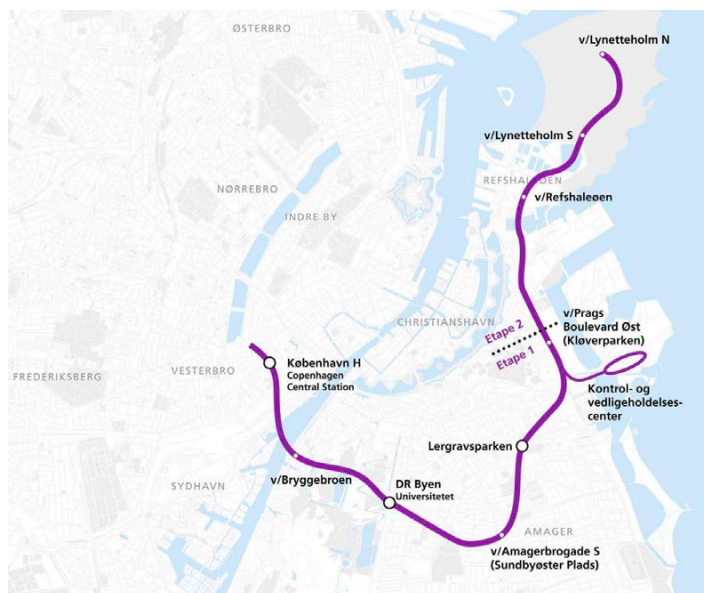
The €426 million project is expected to take four-and-a-half years to complete. The project is majority funded by the Italian government with a €3.7 million contribution from the Municipality of Brescia.

[INTERNATIONAL RAILWAY JOURNAL](#), July 16

COPENHAGEN, DENMARK

Metro Line M5 Progresses

Copenhagen metro authority Metroselskabet has called two tenders with a combined value of €1.35 billion for the construction of the first phase of Line M5. The standalone Line M5 will serve existing urban areas on the island of Amager, as well as new developments in the Østhavnen area, and will also increase metro capacity across the harbor where peak demand is already high.



Map of the new metro Line M5. Metroselskabet

Phase 1 will include a 6.5-kilometer twin bore tunnel, two underground crossovers and five cross passages, two kilometer of viaduct, an elevated junction, short sections of embankment and a control and maintenance center. There will be six underground stations, at København H (main railway station), Bryggebroen, DR Byen, Amagerbrogade Syd and Lergravsparken, as well as one elevated station at Prags Boulevard.

The stations will be designed to be connected with their surroundings and offer passengers a short route to the trains. They will feature full-width skylights to admit daylight, and colors and materials making visual reference to the urban spaces they are part of.

The opening of the first phase of Line M5 is planned for 2036. [RAILWAY GAZETTE INTERNATIONAL](#), July 8

GDANSK, POLAND

Pesa to Supply Long Trams

Operator Gdańskie Autobusy i Tramwaje awarded Pesa Bydgoszcz a contract to supply 20 Twist 3.0 five-section tram vehicles.

Pesa's 524.2 million złoty bid beat Škoda's offer of 524.5 million, although GAIT had to increase its original budget of

516.6 million złoty to reflect the offer prices. The domestic supplier also earned higher points for technical parameters including inside and outside noise levels and body width.

The contract is expected to be signed after the standstill period, from which point Pesa will be due to deliver all the trams in three years. GAI T envisages that the 46.8-meter-long vehicles will be the longest trams operating in Poland. They are expected to be similar to the cars that Pesa is building for Kraków, which will be 43 meters long.

The low-floor vehicles will have a design capacity of 321 passengers, including 100 seated. They will be equipped with seven wide doors on each side, LiDAR, radar sensors and cameras. Each tram will have four powered trucks, all of which will be steerable, making them significantly quieter than the city's existing rolling stock. Internally, the new cars will be fitted with 17 passenger information screens, USB-A and USB-C charging sockets, and automatic air-conditioning.

The deal is being financed by a preferential loan backed by the European Union's National Recovery & Resilience Facility. [RAILWAY GAZETTE INTERNATIONAL](#), July 27



Rendering of the new tram for Gdansk. Pesa Bydgoszcz photo

ISTANBUL, TURKEY

Contract Signed to Build Gebze Metro Branch

Infrastructure investment agency AYGM has awarded Metgün İnşaat a contract to build the Gebze – Çayırova – Birlik OSB (Industrial Zone) metro line. The line will operate as a branch of the 15.4-kilometer, 12-station Gebze – Darica metro line which is currently under construction for opening by the end of 2026. This will serve Gebze railway station, which is the eastern terminal for Istanbul's Marmaray regional rail line, as well as Turkish State Railways intercity services.

The 5.7-kilometer branch will have three stations. Six firms submitted bids in the tender held in June, with Metgün submitting the lowest bid of TL27.98 billion. The contract includes civil works and the supply and installation of all electromechanical systems. A completion date has not been announced. A planned second phase would see the line extended to Istanbul's secondary airport, Sabiha Gökçen.

[RAILWAY GAZETTE INTERNATIONAL](#), July 21

KATOWICE, POLAND

New Trams in Service

On June 25 and 26, the first three of the latest 40 batch of Pesa 2017N-10 trams entered service on the Tramwaje Śląskie network centered on Katowice. They were ordered in February 2025 to replace Konstal 105N trams built in 1975.

[RAILWAY GAZETTE INTERNATIONAL NEWS ROUNDUP](#), July 15



A representative of the first batch of Twist 2017N trams, No. 1038 (Pesa, 2021), is seen operating on route 13 in Chorzów (just outside Katowice) on January 5. XXL1219 photo via Urban Electric Transit

LE MANS, FRANCE

Extended Tram Enters Service

The first of 34 Le Mans trams which Alstom is lengthening to 44 meters has re-entered service. The first was modified at Alstom's Aytré plant in La Rochelle, and the work on the rest will be carried out at the tramway's Antares depot.

[RAILWAY GAZETTE INTERNATIONAL NEWS ROUNDUP](#), July 15



The first of the Citadis 302 trams that was extended from five to seven sections. SETRAM photo

MADRID, SPAIN

Metro Line 11 to be Extended

The Comunidad de Madrid has given the go-ahead for an extension of metro Line 11 from Mar de Cristal to serve the northern suburban development area of Valdebebas Norte. The cost of building the 7.2-kilometer extension, for which approval was announced on July 8, is put at €880.5 million, including four new stations at IFEMA-Cárcavas, Ciudad de la Justicia, Hospital Isabel Zendal and Valdebebas Norte. There will be modifications to two existing stations at Mar de Cristal (Lines 4 and 8) and Aeropuerto T4 (Line 8, RENFE suburban service C-1 and future high speed services).

Line 11 currently runs for 8.5 kilometers from La Fortuna to Plaza Elíptica with seven stations. A 6.6-kilometer extension from Plaza Elíptica to Conde de Casal is under construction for completion in late 2027 or early 2028. A planned 2.2-kilometer extension from La Fortuna to Cuatro Vientos is being redesigned, as the Ministry of Defence objected to the original scheme which involved tunneling beneath the Cuatro Vientos airfield and demolishing a number of buildings. There is currently no timescale for the construction of the 8 kilometers between Conde de Casal and Mar de Cristal.

When complete, Line 11 would be 33.5 kilometers long with 20 stations.

[RAILWAY GAZETTE INTERNATIONAL](#), July 13

PRAGUE, CZECH REPUBLIC

Trams to be Air-Conditioned

Polish company Enik has won one of its largest export orders, a €16.2 million six-year framework agreement to supply air-conditioning units for retrofitting to up to 123 Škoda 15T ForCity trams.

The trams were delivered in two batches between 2010 and 2019. While the 125 trams in the second batch were fitted with air-conditioning from new, the first 125 were not. Retrofitting has been discussed for many years, and a pilot scheme saw two trams modified in 2012 and 2019.

In October 2025 operator DPP called tenders for the supply of air-conditioning units for the remaining 123 vehicles, attracting three bids. The winner was Łódź-based Enika, which supplies traction systems, static converters and charging infrastructure for public transport vehicles and since 2016 has also developed a range of tram air-conditioning systems which have been supplied to Kraków, Łódź, Wrocław, and Gdańsk.

The air-conditioning units for the Škoda 15T fleet are being developed specifically for the project. They are based on Enika's iGlacio product family, and are designated iGlacio 17AC/6AC. Each unit will provide 17 kW of cooling capacity and 6 kW of heating capacity in winter and each tram will have three units. Installation will be carried out in Łódź in co-operation with city transport operator MPK Łódź, which will provide workshop facilities as well as specialist



One of the 15T trams to be equipped with air-conditioning, No. 9230 (Škoda Transportation, 2011), is seen operating southbound a little north of the Zelená stop on a Route 18 trip to Pankrác Depot on September 19, 2025. Jeff Erlitz photo

personnel. One tram will be transported from Prague to Łódź every two weeks, while another vehicle will return.

[RAILWAY GAZETTE INTERNATIONAL](#), July 24

SALVADOR, BRAZIL

Service Starts on Tram Line

Passenger-carrying trial operations started on the initial four-kilometer section of the modern tramway in Salvador on June 29, following an opening ceremony.

Limited services on the six-stop starter section between Calçada and Lobato operate from Mondays to Fridays between 8:00 a.m. and 4:00 p.m. When completed, the full 16.6-kilometer light rail line will run from Calçada to Ilha de São João in the north of the city. The project was reported to be at 75% completion on July 13.



One of the Urbos 3 trams, presumably at the Calçada terminal at the south end of the new line. CTB photo

The light rail corridor follows the alignment of a former suburban railway that had been dismantled. The city had

initially planned to replace the railway with a monorail, but that scheme was subsequently aborted. Construction of the three-line tram network in Salvador, totaling 36.4 kilometers, started in the summer of 2024. The second 9.2-kilometer route will run from the coastal area of Paripe inland to Águas Claras, while the third line would provide a 10.5-kilometer route to connect Águas Claras with Piatã on the Atlantic coast.

The rolling stock comprises 40 seven-section CAF Urbos 3 light rail vehicles for use on all three lines. These were purchased second-hand from the state of Mato Grosso under a July 2024 contract worth R\$820 million. The vehicles had originally been ordered in 2012 for the Cuiabá light rail project, which was subsequently canceled. At the request of Salvador operator CTB (Companhia de Transportes del Estado de Bahía), the fleet received an overhaul and modifications to the interior and a new livery at the original manufacturer's Hortolândia factory.

[RAILWAY GAZETTE INTERNATIONAL](#), July 16

New Metro Cars Ordered

The Bahia state government has selected a consortium of CRRC Changchun Railway Vehicles and CRRC Brasil Equipamentos Ferroviários to supply 10 four-car metro trainsets for use in the city of Salvador. The contract has a value of R\$490.4 million and is expected to be signed after the customary regulatory standstill period. CRRC's bid beat rival Alstom's R\$614.4 million offer.

The trainsets are to be used on metro Lines 1 and 2 to increase capacity. They are also being deployed to support the extension of Line 1 by 1.1 kilometers from Lapa to Campo Grande in the city center. Start of construction on this short stub was authorized on May 29.

[RAILWAY GAZETTE INTERNATIONAL](#), July 17



One of Salvador Metro's current cars from Hyundai-Rotem, at the Aeroporto terminal station of Line 2 in 2018.

Leandro de Castro photo via UrbanRail.net

SÃO PAULO, BRAZIL

First Section of Metro Line 6 Opens

The first 5.2-kilometer section of São Paulo's metro network's Line 6 (Orange) opened on July 2, with a limited trial service running between João Paulo I and Perdizes. Água Branca is now the deepest metro station in South America at 47.8 meters, overtaking Santa Cruz on Line 5 at 41.5 meters. Line 6 services are initially operating between 10:00 a.m. and 3:00 p.m. from Monday to Friday, with travel being free of charge.

Extensions at each end will eventually take the line to 15.3 kilometer, connecting Brasilândia in the north with São Joaquim in the city center. The 15 stations will serve destinations including schools and seven higher education institutions, leading to the alternative name "The University Line."

A journey that currently takes up to 90 minutes by bus will be reduced to 23 minutes, and the line is predicted to carry 633,000 passengers per day when complete.



Line up of Alstom Metropolis train sets for new Line 6. LinhaUni photo

A concession to build, operate and maintain Line 6 was originally awarded to the Move São Paulo consortium by the São Paulo state government in mid-2013. Construction began in January 2015, but came to a standstill in 2016 when the concessionaire ran into financial difficulties. The contract was eventually terminated in December 2018. An agreement was subsequently reached for work to be restarted by Linha Universidade. The civil works are being carried out by Acciona, the majority shareholder in the concessionaire, and Alstom is supplying the rolling stock.

Alstom has so far delivered 12 of the 22 six-car Metropolis trainsets that it is building for Line 6 at its Taubaté plant. The 80 km/h stainless steel trainsets are designed to be light, energy-efficient and durable with a life of more than 40 years. They have a capacity of 2,044 passengers, and the interior was designed with the help of simulations carried out in Alstom's Lab 4.0 virtual reality laboratory. Features include passenger counting systems, dynamic line maps, information screens and CCTV. The CBTC will support Grade of Automation 4 unattended driverless operation in the future.

[RAILWAY GAZETTE INTERNATIONAL](#), July 3

SINGAPORE

Circle Line Completed

The continuous loop of the metro network's Circle Line was completed with the opening of the final stage of the 30-year project on July 12. The 4.3-kilometer Stage 6 has closed the gap between Harbour Front and Marina Bay, adding underground stations at Keppel, Cantonment and Prince Edward Road, which were named following a public vote.

The line operated by SMRT is now 39 kilometers long, including the 35.5-kilometer ring and a branch to Dhoby Ghaut. It has 33 stations, of which 12 are interchanges. There are connections with all other metro lines, enabling passengers to avoid the busy interchanges at City Hall and Raffles Place.

The first stage of the Circle Line opened in 2009. The construction of Stage 6 was particularly challenging, as it required working in a dense urban environment adjacent to the port, tunneling beneath the operational Keppel Viaduct and the removal of previously undocumented underground coastal structures. The three stations are designed to integrate with the urban and heritage character of their surroundings. They offer full accessibility, with lifts, escalators and tactile guidance to key touchpoints. The stations feature energy efficiency technologies including smart lighting, motion-sensor controls and hybrid cooling systems. Bicycle parking and sheltered linkways aim to encourage walking and cycling.



Prince Edward Road Station Platform. Land Transport Authority photo

The Land Transport Authority said Cantonment Station has been sensitively integrated with the old Tanjong Pagar railway station, which is a designated national monument. Parts of the former station's platforms were removed to facilitate construction of the metro, and on completion the

canopy structures were reinstated to retain the sense of heritage of the old railway terminus.

The opening of Stage 6 has been supported by the delivery of 23 Class C851E Alstom Metropolis trainsets. These were supplied from Spain and began entering service in April, supplementing the existing C830 and C830C class fleets to provide a fleet of 87 trains for the line. To cater for future needs, Kim Chuan Depot has been expanded to almost double its capacity from 70 to 133 trains.

[RAILWAY GAZETTE INTERNATIONAL](#), July 14

SYDNEY, AUSTRALIA

First Airport Metro Trains Arrive

The first of 12 new trains for the Sydney Metro - Western Sydney Airport Line have arrived in Sydney. The next-generation train traveled 23,000 kilometers from Vienna, where the new train sets are being manufactured at the Siemens Mobility Production Plant. Each train is constructed in three separate carriages and transported via a specialized cargo vessel, with the journey typically taking between 45 to 61 days. After arriving at Port Kembla, the carriages were individually transported by truck to Sydney Metro's new Stabling and Maintenance Facility at Orchard Hills, where the train was assembled.



One of the new carriages being offloaded from the ship at Port Kembla. Sydney Metro photo

The new trains include design features to facilitate the high-volume movement of travelers with luggage, including:

- Wide, accessible aisles through the center of the train, approximately 30 centimeters wider than those on M1 Line trains, to allow for ease of movement for passengers traveling with luggage
- Room for luggage storage below seats
- High-resolution displays showing real-time flight information via a direct feed from the airport
- Multiple seating choices in each carriage, including front and rear facing seating for groups, plus traditional longitudinal seating
- Designated wheelchair spaces and accessible areas

- Hearing loops in all carriages for enhanced accessibility
- Four bicycle storage spaces on every train

A standout feature within the new trains is the Indigenous seating upholstery design that reflects connection to Ngurra (Country) and Badu (Water) by Dharug artists Leanne Watson Redpath, Tina Barahanos and Alexandra Byrne. The artwork draws on ancient pathways and cultural journeys across Dharug Country and was selected to reflect the communities along the line.

[SYDNEY METRO NEWS](#), July 6

Southwest Metro Extension Progress

Test trains have begun running through from the existing Sydney Metro Line M1 onto the Southwest extension, which has been handed over to operator Metro Trains Sydney and is expected to open later this year.

The 13-kilometer Southwest extension from Sydenham to Bankstown is a conversion of the former suburban railway line T3, which was closed in 2024 to enable it to be rebuilt to metro standards. Some of the automated metro trains running in service on the existing M1 route between Tallawong and Sydenham are now continuing empty over the extension to Bankstown. End-to-end operations will progressively be ramped up, culminating in every service running through to Bankstown ahead of the opening.

The exact opening date is to be confirmed following the successful completion of trial running and receipt of all regulatory approvals. The New South Wales state government said on July 14 that 22,000 of the required 30,000 kilometers of test running had been completed, along with more than half of the required 9,000 hours of testing.

[RAILWAY GAZETTE INTERNATIONAL](#), July 16

announced on [the TTC's page for this project](#):

- November 2026 to August 2027: From Close to Dufferin, and from Portland to Spadina
 - March 2027 to late 2027: From Shaw to Bathurst
 - June to August 2027: Intersection of King & York
- (The map at the bottom of this page is taken from a report at [Toronto & East York Community Council on July 8-9](#).)

Two areas will be affected starting November 2026: Close to Dufferin, and Portland to Spadina. At the end of February 2027 work will begin between Shaw and Bathurst Streets.

The following services will operate over the 504 King corridor:

- 504 streetcar from Broadview Station to Dundas West Station diverting both ways via Queen between Roncesvalles and Spadina
- 504 bus service from the Distillery District to Sunnyside Loop
- 503 Kingston Road bus service from Bingham Loop to Dufferin Loop
- Not shown in the map below is the 508 Lake Shore car, whose summer 2026 suspension appears to continue through the construction period

Night service will be provided by:

- 304 streetcar over the same route as 504 King car
- 304C bus over the same route as 504C King bus

Projects planned for 2027 include water main work and intersection reconstruction at King and York. This was originally expected in Fall 2026, but has been pushed back into the next construction year. TTC advises that King/York is scheduled to start in late June 2027 with the intention of completion before the film festival in September. Other projects will affect King West in 2027, but details for this work have not been announced. Traffic regulations will be changed at several locations to assist transit vehicle movement during the construction.

[STEVE MUNRO TRANSIT & POLITICS](#), July 6

TORONTO, CANADA

King West Construction Plans

Water main construction, coupled with track repairs, will force the diversion of 504 King streetcars from November 2026 to early Summer 2027.

The dates for various stages of the work have been



Paul's ERA Bookshelf

By Paul Grether (ERA #6933, Photographs by the author)

Piedmont and Northern: The Great Electric System of the South by Thomas T. Feters and Peter W. Swanson, Golden West Books, San Marino, Calif., 1974, hardcover, 170 pages. Illustrated text with back-and-white pictures, maps and locomotive drawings. Several appendices include the line equipment for the power distribution system, detailed equipment rosters, freight equipment and an index.

(Author's Note: Periodically this column examines books published that are no longer available in print but are of interest because they were researched at a time when interviews with former employees or other primary research materials were available to authors no longer available today. Sometimes these books are the only in-depth documentation available for certain properties and topics and can be considered standards. Many are readily available on the used book market.)

The Southeastern United States was not a location where inter-urban railways were developed in any significance like in the Northeast, Midwest or Pacific Coast. While streetcar systems developed in many southeastern cities, there were only a few interurban suburban lines in Atlanta and Nashville, and a line from Augusta, Georgia to a resort area in Aiken, South Carolina, but that was it. The Piedmont & Northern Railway became the big exception.

James Buchanan Duke was a wealthy owner of tobacco trust interests in the Carolinas. He became very interested in expanding the economy and his business in the Piedmont region, which was largely rural and undeveloped at the turn of the twentieth century. Duke focused his efforts on promotion of industrialization of the Piedmont, and he would facilitate this effort in two ways, development of electricity generation and distribution, and the construction of railroads.

After an in-depth market analysis Duke was convinced that a large electric railroad system serving the Piedmont would generate enough passenger and freight revenue to justify the significant investment required. Construction of two separate divisions, the Greenville, Spartanburg & Anderson Railway in South Carolina and the Piedmont Traction Company in North Carolina started in 1911 with limited services starting soon after. The story then gets interesting with an effort to connect the two divisions, which was challenged by the competing big steam railroads, primarily Southern Railway, at the Interstate Commerce Commission and eventually the U.S. Supreme Court. The story is well documented in Feters & Swanson's book.

The P&N operated like a large electric railroad in many respects, long freights with cabooses, heavy 1,500 V DC electrification, big mainline motive power and interchange with the steam railroads. The P&N was an early adopter of streamlining and had fascinating home designed attempts at rebuilding equipment and even new equipment ordered with unique streamlined designs.

Feters & Swanson both had a personal interest in the P&N and their coverage of it does the topic justice. For those interested in traction in the Southeastern United States, fights between electric and steam railroad interests and cutting-edge electric railway equipment designs this book deserves a place on the bookshelf. Chapters in the book cover the purpose and justification of the investment of the line, the construction, details on the electrification and equipment designs, operations, surviving the traffic decline with the Great Depression, World War II and the traffic "super-electric" operations, and the long post-war decline ending with diesels facilitating the final switch-off of the power. The railroad was later merged into the Seaboard Coast Line, also covered in the book.

Link to book information:

www.libib.com/u/grether?solo=63554444

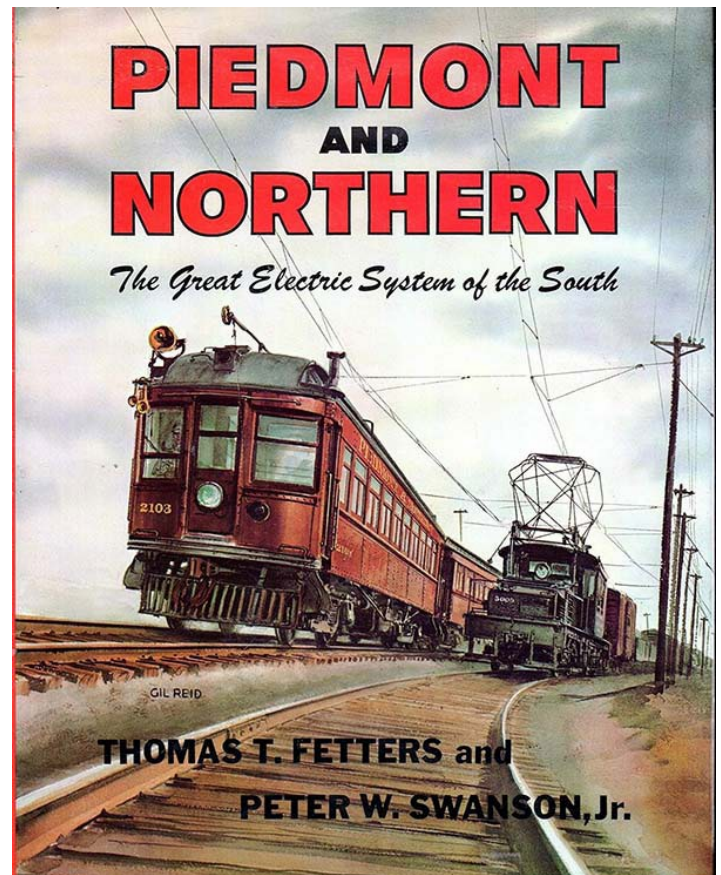
Further reading:

Piedmont Prodigy: the story of the Piedmont and Northern Railway

by Thomas G. Lynch - www.libib.com/u/grether?solo=63555586 (the official P&N company history)

Greenwood County and its railroads, 1852-1992 by James H Wade -

www.libib.com/u/grether?solo=63554382



Building the New York Subway System, A Photographic Journey

Construction Route No. 16 — Part 5

By Jeff Erlitz (ERA #3997)

This month, we continue with Construction Route No. 16, the IRT Jerome Avenue Line. This group is from January and March of 1916.

These photographs are in the Subway Construction Photographs Collection of the New York Transit Museum via the New-York Historical Society.



It's January 11, 1916 and we are looking north along the northbound platform of Belmont Street Station. It seems to have been renamed Mount Eden Avenue in May of 1919. The woodwork of the platform canopies appear to be finished, as well as a good portion of the platforms themselves. The photographer is standing next to one of the stairways down to the mezzanine.

Charles Manchester/PSC photo



It is now March 30, 1916 and Mr. Manchester is back on the Jerome Avenue Line photographing the progress of this line's construction. The view is north on the northbound platform at 176th Street Station. The walls along the outer edges of the platforms appear to have been completed, though the windows are yet to be installed. The canopies have not received their planking, as we can see the shadows of the canopy cross beams casting shadows on the platforms.

Charles Manchester/PSC photo



The four images on these two pages were all taken on March 30, 1916. This is, once again, looking north along a northbound platform, only this is at New York University Station. Located at Burnside Avenue, the street name was added to the station name by 1924. Charles Manchester/PSC photo



Looking southwest from the south curb of East 170th Street, off Jerome Avenue. The windows along the outer edges of this platform have been installed and the woodwork of the mezzanine is well under way. Note that the hole cut out for the mezzanine window has only been partially trimmed for the eventual installation of the windows. Charles Manchester/PSC photo



Looking north from just east of the southeast corner of River Avenue and 167th Street, the steelwork for the mezzanine appears to be nearly complete. The wooden structures on the far corner have long since been replaced with single-story commercial brick buildings. Charles Manchester/PSC photo



Mr. Manchester is standing on the south side of 161st Street and west of River Avenue. This is looking northeast at the mezzanine and what will be the stairways down to the street. Note the tracks of the 163rd Street Crosstown trolley in what is now only the eastbound lanes of 161st Street. Like at Mosholu Parkway Station near the end of this line, this mezzanine and street stairs will be clad in concrete. Charles Manchester/PSC photo

Travels with Jack May

France 2018 — Part 1

By Jack May (ERA #2275, Photographs by the author)

After returning from Scotland in May, Clare and I discussed additional trips for the year and settled on a September–October journey to Ukraine, to pick up where we left off in 2017. Another couple we know with ties to that country also was interested in traveling there during the same time frame, so that would be perfect. In addition, I wanted to catch up on some tramway extensions in Paris, while Clare was interested in spending some time with her slightly younger sister, so we decided that such activities could take place concurrently in mid-August.

However, fate would extend its hand, and Clare was injured again toward the end of July, when she slipped in our back yard. It was rather painful, and after trips to the emergency room and consultations with various doctors, the consensus was that there was no permanent damage, but it would take some time to heal and to return to normal activities because of bruising. Meanwhile, I had already made plans for my European trip, including the purchase of airplane tickets, and had arranged for a traveling companion, so it was going to be a tough decision on whether to abort or not. But with our children nearby, especially our son and daughter-in-law just two miles away, and Clare's sister indicating she would stay at our house while I was away, Clare urged me to go ahead with our original plans, especially after she began driving again.

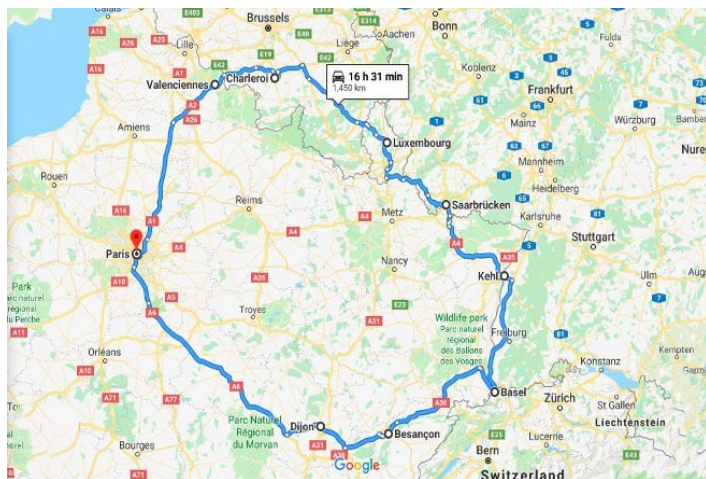
My traveling companion would be German traction enthusiast Karl-Heinz Roeber, with whom we previously spent time in North Africa, and who roomed with me on a German railfan group's tour of the Baltic states the previous year. We both had similar agendas, so coming to a consensus about our itinerary was easy. Basically, the most important activities we wanted to undertake were reflected in the following:

- Many new tramlines were introduced in Paris since our respective last visits
- Three new international tram operations were created in the Basel and Strasbourg areas, plus there was an older international tram train from Saarbrücken to Sarreguemines
- New tramway systems were opened in Luxembourg and Besançon
- A special festival event was going to take place at the tram museum in Thuin (near Charleroi) during the period of our trip

In looking at a map it was clear that we could include visits to Valenciennes (a second tram line) and various other heritage/museum type diesel tramways in our itinerary, so we did just that, but that precluded the use of public transportation for the start of our clockwise circle. As a result, we decided to rent a car for the five days between Paris and Luxembourg. Our major constraints in planning the exact itinerary was that we had to be in Thuin on Saturday, August 18 for the festival and that Karl-Heinz had to be back home for an important family event as early as possible on

Saturday, August 25. It turned out that the latter could be accomplished from Basel, so we decided to reverse the days of our visits to Besançon and the Swiss city.

In searching for auto rental possibilities we found we could avoid steep drop-off charges by returning our car to any city in France, so we initially planned to drop it in Metz after our visit to Luxembourg and continue by rail to Saarbrücken. But soon afterward we were surprised by a great piece of luck: I received an email from Auto Europe, indicating that for a brief time they were offering seven days of driving for the price of five, for cars provided by Europacar. That turned out to serve us very well, as it would allow us to keep the auto after Luxembourg and continue by road to Saarbrücken and Kehl, and finally drop the vehicle off in Strasbourg. Our final itinerary is shown here in an outline map (unfortunately Google only allows 10 locations, Strasbourg is across the Rhein from Kehl, and the two diesel tram operations are pretty much on a straight line between Charleroi and Luxembourg).



Once the auto was arranged and route settled, we made hotel reservations and were pretty much ready for the trip. Although the narrative will cover it in detail, it is fair to say that our experiences with the car (I drove and Karl-Heinz navigated) were pretty much without incident, although we got lost briefly a few times and had to contend with being in the path of a bicycle race on one occasion.

The weather for our journey turned out to be a mixture of clouds and sun, with temperatures ranging from hot and humid to cool enough for sweaters and jackets, but fortunately we encountered only a modicum of precipitation and it was light.

Sunday, August 12 to Monday, August 13

I've had a great deal of luck traveling on Norwegian

Airlines in the past few years and was pleased they had begun operating between Newark and Paris, so I thought I would be able to take advantage of their low fares. But as I checked flight timetables and prices, it turned out Delta was matching the budget carrier's price and was offering more free amenities and better schedules in both directions, so I purchased my ticket from the legacy carrier. We left home at 4:20 p.m. and Clare dropped me at Newark's Terminal B at 4:52; before 5:30 I had completed by navigation of Security. Delta's lowest cost alternative called for my seat assignment to be provided at the gate, and it turned out to be 27D, in the center of the center section of a row (2-3-2 configuration), probably the worst possible location to get in a full Boeing 767. And on top of that the lady in seat 27C was l-a-r-g-e. But I knew that scenario had been a possibility and I really didn't mind, it was only to be for 7½ hours. The aircraft pushed away from the gate at 6:43 (27 late), but it wasn't until 7:21 that we left the ground. Unfortunately, the complimentary dinner contained probably the blandest food I've ever eaten: chicken, carrots, broccoli and a roast potato in a tasteless sauce. The highlight of the meal was the roll and butter.

On the other hand, the flight was quiet and smooth, and the entertainment was good. Soon enough we were over the English Channel, hitting the continent just north of Brest. We then proceeded south of Caen to Charles De Gaulle Airport, landing in overcast weather at 7:57 a.m. and making it to the gate at 8:03, only eight minutes late. The non-EU passport line moved slowly, and it took from 8:17 to 8:52 for me to officially enter France. Then I had to get on another line to buy my Navigo pass for public transportation in the Paris area. Most tourists who want to get around Paris by public transportation buy Paris Visite tickets, which range in price from one day, three zones at €12 to five days, all five zones at €65.80. (*Author's Note: A one-day two-zone Mobilis ticket costs only €7.50.*) With my transportation needs to include a round trip from CDG Airport (we would be picking up the car there on Thursday) and wanting the greatest flexibility to ride all the tram lines, some of which reach into Zone 4, I'd be stuck with the highest rate, which would cost over \$70.00. But Paris also offers Navigo weekly and monthly passes, which are aimed at regular riders and cover all zones. The weekly version, which runs from Monday through Sunday, would be perfect for those like me arriving on a Monday, because its cost is only €22.80. There was a slight hitch however, as users have to present a passport-like photo and pay €5 for a Smart Card. Thus, I took a selfie and printed it out before leaving the U. S., and when I purchased the pass at the airport, encountered no problem other than having to wait in a long line. Presumably, now possessing the Smart Card, I can purchase my next Navigo without the €5 fee.

By 9:30 I had accomplished all my housekeeping (including acquiring up-to-date maps and finding out exactly where the Europacar office in the airport was located) and I reached the platform for RER Line B trains in time for the 9:38. It was an express, and reached Paris Nord at 10:13, where I detrained and made my way to our hotel. We chose the Rocroy, only a few blocks from the railroad terminal and its

transit interchange, as the price was right and it had very good reviews. As it turned out we were not disappointed, our twin room was clean and comfortable, and the breakfasts were excellent. And upon my morning arrival the desk clerk indicated that the room was ready for occupancy. We were staying in three-star hotels for the entire trip (as opposed to four- and five-star ones), and were quite satisfied, as the reviews from Booking.com and TripAdvisor were accurate. In addition to the location, I generally look for two things in the user commentary when I choose hotels: references to cleanliness and breakfast quality. Like so many (but not all) railfans I occasionally travel with, we prefer having large breakfasts, which allows us to skip lunch (except for maybe an ice cream cone), and then settling down for a good dinner once shadows get too long.

Karl-Heinz had indicated that his train was due to arrive at Paris Nord a little after 12 noon, but we would not have to meet up until dinner time, so at about 11:30, when I had freshened up and rested sufficiently, I got out onto the road. But before describing this and our other tram riding experiences, I think it would be desirable to provide an overview of the wonderful Paris rail transit system. Paris itself is the capital of France, its largest city and the center of all that is French. Unlike New York and Washington, which are the economic and political centers of the United States but disdained by many Americans for various reasons, Paris stands for all that is French, its culture, sense of style and gastronomy. France has a population of 67 million in its 250,000 square miles (a little less than Texas) on the mainland of western Europe. It is split into 12 administrative regions (equivalent to states or provinces). Paris is part of the Ile de France, the nation's smallest in area (the size of Maryland), but largest in population (12 million, Ohio). The city of Paris has a population of 2.2 million and occupies only 41 square miles. But for its residents the transportation system is regional; it covers the entire Ile de France, employing a single fare structure, even though the owners and the operators of the multitude of lines may be different. It is administered and coordinated by the STIF (Syndicat des transports d'Île-de-France, now Île-de-France Mobilités), while its main operators are the RATP (which grew out of the Paris municipal transit system) and the SNCF (France's national railway system).

Its main components are the famous Métro, its commuter rail system (RER and traditional suburban railways), and now, its tram lines. There are currently 14 Métro lines (16, if you count two shuttles that used to be branches), covering 133 miles of route, utilizing both traditional steel wheels and rubber tires. Some of these lines are totally automated, driverless as we say today (see https://en.wikipedia.org/wiki/Paris_M%C3%A9tro). The RER system was built by connecting most of the commuter lines, which once stub-ended at separate railroad terminals, via new tunnels through the heart of the city. It now consists of five lines, with the E not yet completed, but soon to be connected with the suburban lines emanating from St. Lazare station (see <https://en.wikipedia.org/>

[wiki/R%C3%A9seau Express R%C3%A9gional](#)). When that is accomplished the only commuter trains running from Paris that will not be part of the RER system will be those using Montparnasse station.

But the main purpose of this visit to Paris was to cover the newest of the tram lines. The legacy streetcar system had been completely converted to bus operation by 1938, but in 1992 the tram was reintroduced to the Métropolitan area as modern light rail transit. None of the new lines reach the heart of the city; while a pair operates along a circumferential route, connecting various Métro and RER lines, most of them are radial in nature, reaching into the suburbs and feeding heavier rail lines at their inner ends. The system has been very successful and now consists of nine lines and will soon be expanded further. The table at the below describes the network at the beginning of 2019. *(Author's note. That has been completed.)*

As can be seen from the table, the T6 was inaugurated in 2014. Its terminal is directly under the elevated tracks of Métro Line 13, with tail tracks continuing beyond the platforms for cars to cross over and lay over. The line is virtually all on private right-of-way, which must be paved to accommodate the rubber tires of its 28 Translohr STE6 cars. This would be my first ride on these six-section units, as the T5 uses the STE3 model, which has half the number of sections and is approximately half the length.

I rode the entire 8.7-mile long, 21-station line, stopping off here and there for photos. Service was operating every eight minutes (four in rush hours), and the platforms, just like those at all other rail stations in the Paris area, were equipped with annunciators indicating the arrival of the next cars (or trains in the case of heavy rail). I didn't find much difference in comfort between the T6 and the other Translohr lines I've

Line	Opening Year	Year of Latest Extension	Length in Miles	Number of Stops	Running Time	Power	Notes
1	1992	2012	11.0	36	69m	750v DC	TFS-2 70% low-floor cars
2	1997	2012	11.1	24	44m	750v DC	Most on a former railway alignment
3a	2006		7.7	25	45m	750v DC	Circumferential along original walls
3b	2012	2018	8.9	26	50m	750v DC	Circumferential along original walls
4	2006	2020	4.9	11	20m	750 v DC/25 kv AC	Tram Train former railway route
5	2013		4.1	16	25m	750v DC	Lohr rubber-tired system
6	2014	2016	8.7	21	42m	750v DC	Lohr rubber-tired system
7	2013		7.0	18	33m	750v DC	Radial feeder to Metro south of city
8	2014		5.3	17	17m	750v DC	Two branches, 16m and 18m
11	2017		6.8	7	14m	25kv AC	Tram train alongside freight route Grade separated
Future							
9	2020		5.1	19	30m	750v DC	Radial feeder to Metro south of city
10	2023		6.4	14	21m	750v DC	L-shaped crosstown south of Paris
12	2022		12.0	16	40m	750 v DC/25 kv AC	Northwest-Southeast Tram Train south of city
13	2021		11.7	11	31m	750 v DC/25 kv AC	North-South Tram Train west of city

We hadn't ridden lines T6, T7, T8 and T11 yet, so our work was cut out for us.

The weather forecast for my arrival date had indicated overcast skies, with some sun in the late afternoon, and that turned out to be accurate. In fact, the same was forecasted for Tuesday. The least essential of my "must do" lines was the T6, as to me rubber-tired tramways do not rate as important as steel-wheeled ones. Thus, I headed out to the T6 by riding Métro Line 4 from Gare du Nord to Montparnasse-Bienvenue (14 stops), where I transferred to Line 13 and continued out to its Chatillon Montrouge terminal (seven more stops), which is also the inner terminal of the streetcar line. It was a time-consuming trip to the other side of town, made especially onerous by the l-o-n-g underground walk to make the connection between Lines 4 and 13 near the Montparnasse railroad station.

sampled in the past. Thus, I will repeat my negative review of rubber-tired tramways, which comes from riding on the Translohr system in Cleremont-Ferrand (where it was introduced), Padova and Venice, as well as on earlier trips to Paris. Touted as being less costly than light rail, from the numbers I've seen it appears to be actually more expensive in both capital expenditures and maintenance. I found the ride in the Lohr cars noisier and bumpier than in equivalent steel-wheeled units. Much of the latter seems to come from the fact that the exact same areas of the concrete right-of-way are pounded by all the guided vehicles, causing the grooves they make to crumble. Nevertheless, at least when the line is relatively new, the ride is acceptable (I rode the guided trolleybus system in Nancy back in 2007, where I was almost thrown out of my seat on several occasions due to deterioration of the rolling stock and roadway). The best I can say about

the Translohr system is that it is more attractive than Bus Rapid Transit.



The Chatillon Montrouge terminal of rubber-tired tramway route T6, directly under Paris Metro line 13, whose entrance and exit are in the shadows on the left. Passengers board the car on the left while others detrain from the one at right, which will soon head away from the camera to cross to the outbound track. The rails shown serve to guide the trams and return the electric current to the powerhouse.



(Above and below) Two views along Avenue de Verdun in a neighborhood called Division Leclerc. Named after General Philippe Leclerc, a World War II hero (see https://en.wikipedia.org/wiki/Philippe_Leclerc_de_Hauteclerc), who some (lacking patriotism) might describe as a loser, because he had been a Prisoner of War. After escaping he served under General Patton.



The rear of an outbound T6 tram near its inner terminal. The construction of the line has resulted in development along the Avenue de Paris, an arterial road.



The most unusual portion of the T6 is the mile-long tunnel (completed in 2016) at its outer end. I did not take photos of the two attractive underground stations as there was insufficient light for my ISO 100 film. However, Karl-Heinz and I did come back in better weather for additional photos of the line on Tuesday afternoon, including some at the tunnel portal, so I'm including examples from both trips in this series of views.

I transferred to a St. Lazare station-bound EMU at Viroflay Rive Droite, (Author's Note: Rive Droite (R. D.) refers to the right bank of the Seine, while the other station in Viroflay, Rive Gauche (R. G.) indicates the left bank. Both stations, which also serve the T6, are just short of their lines' corresponding terminals in Versailles. The left and right bank designations relate to the destinations in Paris of the trains serving those stations (the



A Lohr T6 descends the grade toward the entrance of the line's mile-long tunnel through the hill between Velizy and Viroflay. This photo was taken from the road above the portal.



Another view, this of the actual tunnel portal. I suspect it will be fun to repave the roadway inside the tunnel once it has deteriorated from erosion caused by the constant pummeling of a portion of its road surface. Maybe someone will invent a road-grinder.

Seine not going through Versailles)), the terminal of the T6 line, which is in a deep cavern. The stop is one on a group of lines that operate from various points in Paris to Versailles, home of one of France's greatest tourist attractions, the Palace of Versailles. I toured the chateau on previous visits, but transportation to the city has changed significantly since my first trip to France's capital. In 1960 trains on two of the three lines operating to Versailles were powered by third rail (from Invalides and St. Lazare), while the one from Montparnasse used 1.5kV DC overhead. I would now ride the line to St. Lazare in an EMU under 25kV AC catenary (but would be alighting at the intermediate La Defense stop). In the period between my first and current visit, that line and others emanating from St. Lazare were electrified or re-electrified (and soon some will become an extension of RER Line E), while the one that stub-ended at Invalides was tunneled through to Orsay station (the building is now an important museum), and electrified at 1.5kV DC to become the central trunk of RER Line C. The line to Montparnasse has not changed.

It took 17 minutes to get to La Défense, where I transferred to the T2 tram for a ride to its northern terminal, Pont de Bezons. The T2 was inaugurated in 1997 to operate trams over one of the third-rail lines that connected the St. Lazare routes with the Invalides line. The area through which it operated had grown and had become a prime location for a high-frequency service. It was a success immediately and has been since extended on both ends and also has had its platforms extended to serve two-car trains of trams. One of its principal features is its architecturally significant station buildings, which have been preserved and renovated, which I photographed on previous trips. But this time I wanted to ride to the north again, as it was raining hard on my only previous visit to the extension, and I hadn't gotten any decent photos.

As I emerged from the gloom of the underground platforms aboard a T2 car, I saw that the clouds were starting to



A Francilien, or Z 50000 train, is shown operating outbound to Versailles R.D. at the Viroflay R.D. station of the network of lines serving Paris St. Lazare station. The third rail is long gone. These articulated EMU trains of seven or eight cars were built by Bombardier starting in 2009 mostly to replace the SNCF push-pull operation that served the traditional suburban lines running to the north and west of Paris, which date back to steam locomotive days. I found the train to be smooth running and comfortable.

dissipate and I was optimistic about getting some photos in sunlight. And my wish was granted. The cars were running every eight minutes so I could take my time and wait for the confluence of sun and tram.

I then returned to La Défense as the sun was in the right place to shoot a photo of one of the new cars on Métro Line 1 crossing the Seine with a Paris landmark in the background. There is a promenade that looks over the river at the appropriately named Esplanade de La Défense stop of the automated rapid transit line, so I rode for one station to get there. It was already getting a little late, so I had to use a telephoto setting to get past the shadows from the skyscrapers in the La Défense complex.

That completed, I then rode the T2 further south, to cover the remainder of the line. Shadows were long, but when I saw a clear area a few stations before the terminal at Porte de Versailles, I took a stopover at Henri Farman. It was now the heart of the rush hour and service with two-car trains was operating every 3½ minutes.

It was now time to head back to the hotel, meet Karl-Heinz and actually eat some food. It was getting close to midnight in the New York area and I was getting a bit tired, having succeeded in my fight against jet lag. There were several direct routes to Gare du Nord, and the best were Métro Line 12 to Montparnasse-Bienville and then Line 4, or tram Line T3a for a couple of stops to Balard, followed by Métro Line 8 to Strasbourg-San Denis and then the Line 4. Of course I did the latter, as it meant another tram ride, albeit brief. In thinking back on my half-day's activities, I realized I had covered more than I thought I would, although my photographic production was a bit short of my usual output. While it wasn't a surprise, I truly felt a renewed appreciation for the French capital's mass transit system. I rode three different tram lines, and interestingly, saw the difference the



(Above and below) Two views on the northern extension of Line T2, which opened in 2012. Two-car trains of stylish Citadis 302 cars are now the norm on this busy line, as shown in the upper photo of a southbound pair of units entering Charlebourg station. The tail tracks at the Pont de Bezons terminal are the subject of the lower photo. A fleet of 66 cars serves the 11-mile long T2.



width of rolling stock makes with regard to the number of riders that can be carried and their comfort. The Translohr cars on the T6 are 2.20 meters wide, the Citadis 302s on the T2 have a width of 2.40 meters, and the Citadis 402s on the T3a (and T3b) are 2.65 wide. The difference between the widest and narrowest is more than one and a half feet.

Karl-Heinz arrived back at the room a half-hour after I did and we discussed our respective afternoon activities. His train from Germany arrived at Paris Nord a half-hour late, and he related his successful activities on some of the other tram lines. We found a good restaurant and ate outdoors. The next table was occupied by an American ex-pat from Glenview, Illinois, who was living with her German husband in the City of Lights, and appreciated our intense avocation; both the food and conversation were enjoyable. But I was happy to get back to the hotel and fell asleep as soon as my head touched the pillow.

To be continued in Part 2.



The Arc de Triomphe at Place Charles de Gaulle Etoile, is in the background of this view looking east across the Seine from the Esplanade de La Défense. La Défense began becoming a major center of commercial activity when the first RER line (A) was being built in the mid-1960s (see https://en.wikipedia.org/wiki/La_D%C3%A9fense). Line M1 is the heaviest used of all Métro lines and became fully automated in 2012. Its fleet of rubber-tired MP05 type cars, built in 2011 by Alstom, operate at 1½-minute headways during peak hours. Although it is the oldest Métro line in Paris, dating from 1900, the extension to La Défense wasn't opened until 1992.



A two-car train of Citadis 302 cars is shown operating southbound to Porte de Vincennes near the line's Henri Farman stop. This extension, to a junction with the Métro and tram line T3, was opened in 2009.



