



BULLETIN

Volume 67, Number 10 | October 2024

MTA Board Approves 2025-2029 Capital Plan

The Metropolitan Transportation Authority (MTA) approved, by a vote of 10-0, the Authority's proposed 2025-2029 Capital Plan, outlining a \$68.4 billion investment in the region's subways, buses, railroads, bridges, and tunnels over the next five years to ensure New Yorkers continue to have access to reliable, accessible, and sustainable transit. The board-approved Capital Plan will be submitted to the MTA Capital Program Review Board by October 1, who will then review and approve the plan.

The proposed plan includes targeted investments to rebuild, improve, and expand the MTA system. The plan will enable the MTA to continue to provide frequent and

reliable service by putting the system on a path to state of good repair, including investments in railcars, power, and signals. The plan will also improve the customer experience, with investments in accessibility, stations, and modern fare gates, and take action on climate change, including resilience and sustainability initiatives.

The 2025-2029 Capital Plan assumes a fully funded 2020-2024 Capital Plan and looks ahead to the next slate of vital improvement projects, informed by the most detailed system-wide evaluation the MTA has ever undertaken, the [Twenty-Year Needs Assessment](#).

[MTA PRESS RELEASE](#), September 25



Electric Railroaders Association

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Back Issues

PDFs of previous issues can be downloaded at
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In This Issue

Annual Meeting Notice	3
Worldwide Electric Railway, Metro and Tramway Openings	4
Rail News in Review	4
From the Camera of Henry Wilhelm	17
Book Review	19
Travels with Jack May	20

Trip Notices

October 17-20, 2024: Motor Bus Society Fall 2024 Convention. Visit <https://erausa.org/pdf/motor-bus-society/2024-10-mbs-fall-convention-pittsburgh.pdf> for all the details.

November 22-24, 2024: Annual Meeting Weekend with visits to the Coney Island Yard maintenance shop on Friday, the Shore Line Trolley Museum on Saturday, and early entry to the New York Transit Museum on Sunday. Visit <https://erausa.org/regional-trips/2024/11/> for all the details, including booking information.

Donations

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: www.erausa.org/donate. Your donation helps to maintain ERA's 90-year long tradition of traction education and entertainment!

Monthly Zoom Meeting

Friday, October 18, 2024 at 7:30 PM.

Presenting This Month: Michael Roschlau

Retired Canadian Urban Transit Association (CUTA) President and CEO Michael Roschlau takes us on a 90-minute cross-Canada tour of the country's varied electric rail operations, from streetcar to light rail to subway. The program covers all currently operating electric rail systems with a note about their history, rationale for building rapid transit in Canada, and future prospects. The work of the Canadian Transit Heritage Foundation in promoting public transit and historic preservation is also covered.

Michael presented this program at the 2024 ERA Convention in Edmonton and Calgary. The Canadian outlook on transit nationwide is rarely presented. This presentation is concise, informative, and not to be missed!

How to Join Our Zoom Meeting

The Zoom registration link for this meeting is: https://us02web.zoom.us/join/zoom/register/tZAuceGhrTksEtf4pm_rH7p69mvJaYq9x5kh. You can sign in at 7:15 PM. The show begins at 7:30 PM. If you have any problems, email Andrew Ludasi at aludasi@gmail.com, or on the night of the meeting, text or call Andrew at 609-865-8770.

Front Cover Photo

Day Four of scheduled activities on the ERA's 2024 European tour took us to Arnhem. There, we had a trolley bus charter in the morning and a visit to the Netherlands Open Air Museum in the afternoon. The museum has on its grounds a heritage tram line that began operating in 1996. The circular route is 1.1 miles long and has six tram stops. The collection comprises 11 trams from Amsterdam, Rotterdam, The Hague, and Arnhem. One of them is a non-revenue track cleaning service vehicle (from Amsterdam). The Arnhem tram, No. 76, is a replica that was built from an ex-Rotterdam car. In this view, ex-Amsterdam 3-axle motor car 903 (Werkspoor, 7/1949) is approaching the Lint-Tuinen tram stop. Jeff Erlitz photo

Back Cover

A schematic diagram of Stockholm's rail network, effective November 1, 2020. A companion piece for Jack May's column this month. See pages 20-23. Storstockholms Lokaltrafik



Notice of Annual Membership Meeting

Friday, November 22, 2024

This combined Annual Membership/monthly Meeting of the Electric Railroaders Association, Inc. will be held Friday, November 22, 2024 at Manducatis Restaurant, 13-27 Jackson Avenue in Long Island City, Queens. There will be a cash bar opening at 6:00 PM. The meeting will start promptly at 6:30 PM, and a complimentary dinner will be served following the meeting at approximately 7 PM. We have room for 50 paid-up ERA members and their guests, but reserve by Wednesday November 15 to get in!

Please reserve your space at this dinner meeting (maximum of 50) by e-mailing your name to Michael Glikin, Treasurer at: trnsper@aol.com.

Longtime member and NYC Transit Department of Subways Supervisor Nick DiBari will be our guest speaker. Nick has been with NYC Transit for 27 years, with 22 as an Assistant Train Supervisor. Nick will show a few New York City area shots, then show Toronto, Montreal, Calgary, and Edmonton. There will also be some views of freight trains and buses.

There will be no live Zoom meeting and the meeting will not be recorded.

The following slate of candidates for the 2024 ERA Board of Directors was submitted by the Nominating Committee:

For President: **Robert Newhouser**

For First Vice President: **Jeffrey Erlitz**

For Second Vice President and Corresponding Secretary: **Subutay Musluoglu**

For Third Vice President and Recording Secretary: **Robert Colorafi**

For Membership Secretary: **Yury Maller**

For Treasurer: **Michael Glikin**

For Director: **Andrew Ludasi**

The by-laws allow any active member not included in the nominating committee's slate to be nominated by written petition of at least 25 other active members of the ERA. The petition must be submitted to the membership secretary no later than the close of the first session of the Annual Membership Meeting. If the petition is mailed to the ERA, it should be sent by certified mail and must be received by the corresponding secretary no later than November 21, 2024. The petition should be accompanied by a biographical sketch not exceeding 250 words including the name, ERA membership number and qualifications of the nominee,

and a statement of what the nominee proposes to do for the membership if elected to the board.

Respectfully Submitted,

Robert Colorafi

Third Vice-President & Recording Secretary

September 30, 2024, New York, N.Y.

Meeting Agenda

1. Call to order & Welcome by ERA President
2. Proof of notice of meeting
3. Recording of attendance
4. Moment of silence for passing of Board Director Sandy Campbell and other members
5. Appointment of Parliamentarian
6. Reading of minutes of last previous annual meeting (can be waived by attending members)
7. Reports of Officers:
 - **Treasurer:** 2023 Financial Results, 2025 Outlook, 2026 International Trip
 - **Eric Oszustowicz:** Forthcoming Brooklyn Book III, serves as next Headlights volumes
 - **First Vice President:** Bulletin (Editor-in-Chief)
 - **President:** Zoom and in-person meetings, 2025 North American convention
8. Reports of Committees
9. Election by plurality vote of the membership present and voting, of an **Inspector of Elections** for the 12 months commencing November 22, 2024
10. Election, by plurality vote of the membership present and voting, of the **Membership Committee** for the following year (2025)
11. Election by plurality vote of the membership present and voting, of the **Nominating Committee** for the following year (2025)
12. Unfinished business (if any)
13. New business (if any)
14. Adjournment



**Worldwide Suburban Electric Railway, Metro and Tramway Openings in September 2024**

Date	Country	City	Segment	Distance (miles)	Rail/Metro/Tram
9/5	Russia	Moscow	Line 1: Novomoskovskaya (ex-Kommunarka) to Potapovo	1.2	M
9/7	"	"	Line 16: Novatorskaya to Tyutchevskaya	4.5	M
9/10	China	Suzhou	Line 8: Xijinqiao to Chefang	22.1	M
9/17	India	Ahmedabad	Line 2: Motera to Gandhinagar Sector 1/GIFT City	9.6/3.4	M
9/23	Russia	Moscow	Line 2: Kostomarovskiy Most to Metro Ploschad Ilyicha	0.5	T
"	Belgium	Brussels	Line 10: Heembeek to Hôpital Militaire	2.7	T
9/24	Morocco	Casablanca	T3: Gare de Casa-Port to Hay El Wahda T4: Parc de la Ligue Arabe to Mohammed Erradi	8.8 7.8	T
9/26	China	Xi'an	Line 10: Jingshangcun to Zhaohuiguangchang Line 5: Matengkong to Yanminghu Line 6: Xi'an Int'l Medical Center to Xi'an South Railway Station	21.4 2.1 2.8	M
9/28	"	Tianjin	Line 5: Liqizhuangnan to Jinghuadongdao Jinjing Line: Jinghuadongdao to Tuanboyixueyuan	0.8 8.3	M
9/29	"	Chengdu	Line S3: Futian to Ziyang Bei Station	24.0	M
"	India	Pune	Line 1: District Court to Swargate	2.1	M

URBAN RAIL NEWS, SEPTEMBER 30

Rail News in Review

New York Metropolitan Area

NEW YORK CITY TRANSIT (NYCT)

IND Crosstown Line Resumes

On Monday, September 3, normal service returned to the  train for the first time since signal modernization and track work began back on June 28. During three separate phases of work, sections of the line were shut down for extended periods of time. (See September 2024 *ERA Bulletin*, page 4).

Wireless Connectivity on IRT 42 Street Shuttle

The 42 Street Shuttle, from Grand Central to Times Square, is now equipped with 5G wireless connectivity. Through a public-private partnership agreement with Boldyn Networks, Verizon Wireless, AT&T, and T-Mobile customers now have full cell service in the tunnel between the two stations. The shuttle serves 12 million riders annually. The network is also designed to provide seamless connectivity for first responders. With bandwidth prioritization, the FirstNet Network will be available for the public safety community's use.

This is the first subway line to receive connectivity under a public-private agreement with Boldyn Network, formerly known as Transit Wireless. Boldyn Networks has deployed a high-capacity, low-latency network for all tier-1 mobile carriers to offer fully connected services to their customers. Even during peak commutes, riders will experience an

enhanced connection on their mobile devices.

Under the agreement, all 418 track miles of subway tunnel will receive cell coverage. WiFi service will also be expanded to all 191 above-ground subway stations and 21 Staten Island Railway stations. Installation of 5G infrastructure is happening in conjunction with MTA capital projects. (Current wireless service in stations is only 4G-LTE). The next tunnels to receive connectivity are:

- IND Crosstown  and Prospect Park   Lines, Court Square to Church Avenue
- IRT Lexington Avenue   Line, Bowling Green to Borough Hall (Joralemon Street Tubes)
- IRT Lexington Avenue    Line, Grand Central to 161 Street

MTA PRESS RELEASE, September 4

IND Culver Line CBTC Update

On Monday, August 26, Automatic Train Operation (ATO) was placed into operation on the northbound local Track B2, from Kings Highway to Ditmas Avenue.

Over the weekend of September 7-8, the final segment of CBTC for this project was placed into service on Track B3-4 (middle express track) from Ditmas Avenue to Kings Highway. As was done for each segment placed into service, only Automatic Train Protection Manual (ATPM) mode was initially available. Full ATO mode began on Monday, September 30. It will be a few weeks before all of the old signal heads are removed.

Platform Barrier Installation Update

Over the weekend of September 21-22, platform edge barriers were installed at Myrtle-Wycoff Avenues Station on the BMT Canarsie L Line. Northbound trains bypassed the station on Saturday and southbound trains bypassed it on Sunday while the work was being performed.

Stillwell Yard Trackwork Continues

The July 2024 *Bulletin* had a news item about the continuing trackwork in Stillwell Yard. The work on Tracks 6-8 was originally scheduled to be completed on July 28. This work was initially extended to Sunday, September 29 but it has now been extended again, to December 31.

IRT Flushing 7 Line Structural Work Continues

We mentioned in the April 2024 *ERA Bulletin* that structural work at 61 Street-Woodside had been extended to September 30. This work necessitated the removal from service of Track M (express track) from north of 33 Street to south of 69 Street. This work has now been extended again and is currently scheduled to be completed on December 31.

As a reminder, the joint venture of Skanska and Railworks is the lead contractor on this project, contract A-46030.

Transit Museum Excursions

On Sunday, September 14, the New York Transit Museum ran two round trip excursions using R-32 equipment. The consist was 3360-3361+3351-3350+3889-3888.



The afternoon trip of the R-32 excursion is seen approaching 20 Avenue Station on the BMT West End Line with 3360 in the lead.
Marc Glucksman photo

Both trips, one in the morning and one in the afternoon, began and ended at 96 Street-2 Avenue. After leaving 96 Street, they operated south via the BMT Broadway, Manhattan Bridge, and Brighton Lines to Coney Island-Stillwell Avenue. They then operated into Coney Island Yard via the West End Line at Bay 50 Street and onto one of the loop tracks. There, they changed ends, ran back up to the West End Line and onto the middle track. The trip then proceeded north via the Fourth

Avenue, Manhattan Bridge, Sixth Avenue, 63 Street, and Second Avenue Lines to 96 Street.

Railcar Acceptance and Testing Facility

In the May 2023 issue of the *ERA Bulletin* (see page 4), we mentioned the construction of a new railcar acceptance and testing facility that was going to be built in the South Brooklyn Railway's Third Avenue Yard. All of the tracks between Third and Fourth Avenues were removed from service to enable this work to proceed.

The limit of tracks out of service extended from the Third Avenue grade crossing to the east side of the Fourth Avenue overhead bridge. This is where the home signal protecting the switch onto southbound West End Track D3 is located.

On July 8 of last year, the out of service section was extended all the way to the switch onto Track D3. This was to allow the contractor, MLJ Contracting, to replace all of Track D1 (the South Brooklyn Railway track north of the West End Line). On September 20, with the trackwork completed on this short section of track, it was returned to service.

The new railcar acceptance and testing facility has not yet been completed.

METRO-NORTH RAILROAD (MNR)

New Schedules

Schedule changes are going into effect on Sunday, October 6. The updated schedule features additional weekend service and increased service for Thanksgiving, Christmas, and New Year's. Some departure times, especially on the New Haven Line, have moved a few minutes earlier or later to improve reliability.

At Grand Central Terminal, track assignments for outbound trains will be posted 20 minutes prior to scheduled departure time, instead of 30.

Extra seasonal weekend service will operate as follows:

Hudson Line

Between October 5 and November 10, four additional trains will run between Grand Central and Poughkeepsie on Saturdays and Sundays, as follows:

- Two extra trains will depart Grand Central Terminal at 9:32 and 10:32 AM, making stops at Tarrytown, Ossining, Croton-Harmon, and then every stop to Poughkeepsie including Manitou and Breakneck Ridge.
- Two extra trains will depart Poughkeepsie at 4:39 and 5:36 PM, making every stop to Croton-Harmon, including Manitou and Breakneck Ridge, Ossining, and Tarrytown.

New Haven Line

Between November 30 and December 29, eight additional trains on Saturdays and four additional on Sundays will run between Grand Central and New Haven.

[MTA PRESS RELEASE](#), September 23

NEW JERSEY TRANSIT (NJT)

“Meet Our Rail Fleet” Event

On Sunday, September 15, the public was invited to Hoboken Terminal to join NJT in celebrating New Jersey’s rich railroad history with some of the agency’s iconic heritage locomotives and railroad equipment, all while learning about career opportunities available on the railroad. “Meet Our Rail Fleet: Past and Present” was held from 10 AM to 4 PM near Track 17 and admission was free.

Presented in conjunction with the United Railroad Historical Society and the Whippany Railway Museum, the event was a must-see for history buffs, train enthusiasts, and families alike. Attendees had the opportunity to view and photograph beautifully restored vintage equipment decked out in historical liveries of predecessor railroads. A recruiting table was also available to those interested in joining NJT’s ranks as it works to serve the next generation of passengers.



DL&W subscription club car No. 2454 (Barney & Smith, 1912) at the Hoboken event on September 15. Restored U34CH 3375 (General Electric, 4/1971) is posed next to it. Alex Martinez photo

NJT and the Whippany Railway Museum included an historic Delaware, Lackawanna & Western Multiple Unit railcar in this year’s display to commemorate the “last run” of that equipment, which occurred at Hoboken Terminal four decades ago in 1984. Known as “Subscription Club Car No. 2454,” this unique vehicle once operated on the so-called “Millionaire’s Express” from Hoboken to Gladstone and was recently restored to its 1930s splendor.

[NJ TRANSIT PRESS RELEASE](#), September 11

Delco Lead Project Advances

NJT continues to advance a resiliency project that will create a safe-haven for rail cars and locomotives during extreme weather events and allow the agency to more quickly resume service following a weather event. The NJT Board of Directors has approved a contract to initiate the construction phase of

the Delco Lead Storage and Inspection Facility Project. The project is part of NJT’s Resilience Program and calls for the creation of an additional storage location for rail cars and locomotives that will provide greater protection against future flooding. The centrally located Delco Lead along the Northeast Corridor in New Brunswick will allow equipment to be safely stored and protected from flooding during extreme weather events. The approved contract also allocates funding for the construction of a new Service and Inspection facility on the adjacent grounds to quickly inspect and return the equipment to service once a weather event has passed.

With this action, the Board authorized NJT to enter into a contract with George Harms Construction Company, Inc., of Howell, New Jersey, in the amount of \$497,977,585.35, plus 10 percent for contingencies, for the reconstruction of four miles of the existing Delco Lead track, and the construction of an adjacent track, approximately one mile long, from County Yard to North Brunswick. County Yard and Delco Lead, due to their location above the floodplain, provide an ideal storage location for rail cars during extreme weather events.

Additionally, the contract includes the construction of a 1,250-foot-long Service and Inspection Facility. The new facility will be used for inspection and light maintenance of trains, spare parts storage, two 12-car inspection tracks, and five 12-car storage tracks.

In the aftermath of Superstorm Sandy, the County Yard and associated four-mile-long Delco Lead were identified as safe-haven storage locations for rail cars and locomotives as the land and yard are above the flood plain with a minimal number of adjacent trees. Strategically located along the Northeast Corridor, the Delco Lead Project will provide resilient storage for NJT’s rail equipment in the event the Meadows Maintenance Complex in Kearny, N.J. and Morrisville Yard (Penn.) are evacuated.

A crew quarters and employee parking lot at County Yard will also be constructed as part of the project.

[NJ TRANSIT PRESS RELEASE](#), September 18

Other U.S. Systems

BOSTON, MASS.

Red Line Braintree Branch Service Suspension

Red Line Braintree Branch service was suspended between JFK/UMass and Braintree every day for 24 days from September 6 to September 29. Kingston, Middleborough, and Greenbush Commuter Rail line trains, which run adjacent to the Red Line, was also replaced with shuttle bus service between South Station and Braintree during the weekends of September 7-8 and September 14-15.

The work allowed crews to repair 18 miles of track between JFK/UMass and Braintree, resulting in the removal of over 20 speed restrictions and improving round-trip Braintree Branch travel times by as much as 24 minutes. These track

improvements laid the groundwork for the MBTA's goal of raising current Red Line train speeds above current speeds where possible.

[MBTA PRESS RELEASE](#), September 3

DENVER, COLO.

First Phase of Downtown Rail Reconstruction Completed

Denver Regional Transportation District (RTD) has completed the first phase in its downtown rail reconstruction work three weeks ahead of schedule. The multi-phased rail project, which began in early June, will resume reconstruction work in 2025. Intersections and pedestrian crossings that were previously impacted by the project have now opened and all Denver RTD-related traffic detours were lifted.

The first phase of the Downtown Rail Reconstruction Project focused on reconstructing light-rail track and infrastructure at five key intersections in the Downtown Loop. The project was initially scheduled to run through mid-September and conclude ahead of Denver RTD's service changes on September 29. The subsequent phases of the project will begin in 2025 and a final timeline is in development stage.



SD100s 120+125+101 (Siemens, 1999, 1999, 1993) operating on a route H trip are seen westbound on Stout Street just east of 15th Street on June 25, 2022. This is part of the downtown section that was out of service. Alex Krakowsky photo via Urban Electric Transit

Between June and August, crews completed a full-depth reconstruction of the intersections at Broadway and Welton, as well as the at-grade rail crossings of 15th and 17th Streets with California and Stout Streets. Each stage of the summer project was successfully completed on time or ahead of schedule.

The major reconstruction project was the first of its kind in Denver RTD's history and focused on investing in the agency's oldest rail infrastructure. The multi-phased project will improve safety and mobility along the 30-year-old alignment.

Denver RTD notes that even though this year's reconstruction work has been completed in the Downtown Loop,

light-rail service will not return to Denver's Central Business District until September 29. At that time, Denver RTD will implement its approved service changes across bus and rail network, to increase reliability, improve on-time performance and resume routes and lines impacted by the downtown project. Service changes are also undertaken by Denver RTD to enable represented staff, including bus operators, rail operators and train engineers, to select work shifts.

Ahead of the changes on September 29, Denver RTD will also continue its preventative maintenance work and repairs along the D, E, H and R Lines. Agency staff will additionally perform planned maintenance to its overhead electrical wires.

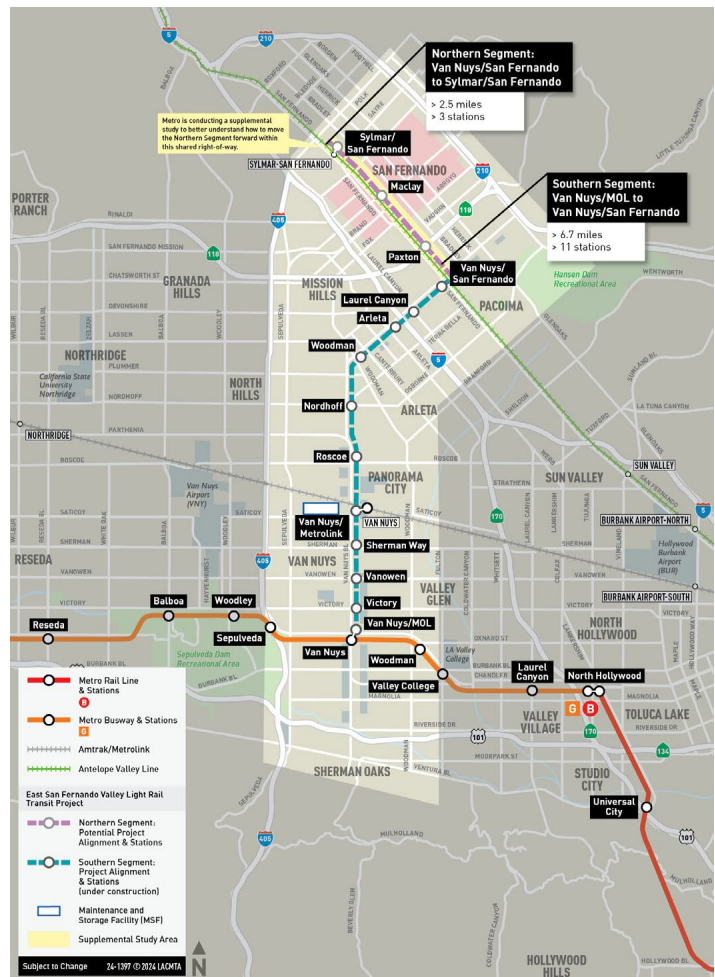
[MASS TRANSIT](#), September 3

LOS ANGELES, CALIF.

San Fernando Valley Light Rail

The Los Angeles County Metropolitan Transportation Authority (Metro) announced the U.S. Department of Transportation's \$893 million grant that will help fund construction of Metro's new East San Fernando Valley Light Rail Transit Project.

(Below) Map of the project area. L.A. Metro



The line will be built on Van Nuys Boulevard, one of the Valley's busiest corridors and will provide a new light rail alternative for the residents of Van Nuys, Panorama City, Arleta, and Pacoima, many of whom are transit dependent. It is the first local commuter rail service to return to Van Nuys Boulevard in more than 70 years. The last Pacific Electric "San Fernando Valley Line" urban electric railway rolled down Van Nuys Boulevard in 1952.

The grant will be delivered through a multi-year agreement known as a Full Funding Grant Agreement that is governed by the Federal Transit Administration's Expedited Project Delivery Pilot Program. The program seeks to accelerate new fixed guideway capital projects, among others.

Metro is now conducting advanced utility adjustment work for the \$3.57 billion project. Construction of utility work and minor street improvements along Van Nuys Boulevard is expected to start later this year. The 6.7-mile project will include 11 new light rail stations and is currently forecast to open in 2031.

The 2.5-mile northern segment of the corridor is under further study that would extend rail service from Pacoima to the Sylmar/San Fernando Metrolink station.

Approximately 19 percent of households in this area do not have access to their own car and depend on public transportation, compared to 8.8 percent transit dependency for LA County as a whole.

[L.A. METRO PRESS RELEASE](#), September 6

PHILADELPHIA, PENN.

Warminster Line Suspension

Due to scheduled track work, buses will replace trains on the Warminster Regional Rail Line starting September 7 and continuing through November 3.

On weekdays, bus substitution occurs midday only (8:45 AM to 2:45 PM) between Warminster and Roslyn stations. On weekends, bus substitution will occur for the entire service day between Warminster and Glenside Stations.

A special one-day Warminster Line schedule for Saturday, September 7 was in effect due to bus substitution between Glenside and Warminster stations.

No fares are being collected on the bus. Passengers should tap on at Roslyn Station (weekdays) or Glenside (weekends) and tap off at their final destination.

[SEPTA PRESS RELEASE](#), September 3

Parking Fees Reinstated

SEPTA reinstated parking fees, with a phased approach, beginning Monday, September 23. The SEPTA Park app is now available in the Apple App Store and Google Play Store.

In addition to paying by license plate through the app, passengers can use credit/debit cards and coins at kiosks, as well as a text-to-pay option. Vehicles must be parked so the license plate is visible from the parking aisles.

Detailed instructions are posted at stations, and SEPTA ambassadors are onsite to answer questions. Parking

Enforcement Officers will read license plates using vehicle-mounted cameras. Violations or warnings will be issued for illegally parked vehicles.

In June, the SEPTA Board awarded a \$12.3 million contract to Flowbird America Inc. to develop a new, state-of-the-art parking system that will streamline fee collection and improve customer convenience.

Daily parking rates at SEPTA-owned surface lots will increase to \$2 from \$1 and to \$4 from \$2 at the three garages: Frankford Transportation Center, Norristown, and Lansdale. The fees help offset parking lot maintenance costs. Parking at surface lots will remain free on weekends and major holidays. [SEPTA PRESS RELEASE](#), September 19

More New Fare Gates

Following a successful pilot at 69th Street Transit Center, SEPTA is expanding its program to combat fare evasion with full-length gates at nine additional stations.

The SEPTA Board approved the purchase of 100 full-length fare gates from Conduent Transport Solutions, Inc. Under the \$6.96 million contract, the new gates will be installed at Somerset, Huntingdon, Cecil B. Moore, 11th Street, 13th Street, Frankford Transit Center, Allegheny, 52nd Street, and City Hall stations.



The new fare gates at the 69th Street Transit Center. SEPTA photo

The full-length gates are designed to deter fare evaders from jumping over or crawling under the turnstiles. SEPTA loses at least \$30 million in revenue per year due to fare evasion.

In April, SEPTA started testing 20 of these gates at 69th Street Transportation Center. Coupled with efforts by SEPTA Transit Police officers to deter fare evasion, SEPTA is projecting an increase of \$300,000 in annual sales revenue at 69th Street with the full-length gates in place.

The gates are equipped with 3D imaging technology to distinguish between adults, children, and objects, such as wheelchairs, luggage, and strollers. The system is also able to accurately count fare evaders who try to piggyback or force their way through the gates.

Installation of the additional 100 full-length gates is expected to be completed by the end of 2025.

[SEPTA PRESS RELEASE](#), September 26



SACRAMENTO, CALIF.

New Fleet Enters Service

The Sacramento Regional Transit District (SacRT) celebrated the launch of its new fleet of S700 low-floor light rail vehicles at a community celebration and press conference at the 7th & Richards/Township 9 Station, which marked a milestone in modernizing Sacramento's transit system and enhancing its accessibility.

The new light rail vehicles, manufactured by Siemens Mobility, feature a low-floor design that allows easier boarding for seniors, persons with disabilities, and those with strollers or bicycles. The first of the new S700 trains began service on the Gold Line on September 1 and on the Green Line on September 3.

Siemens Mobility played a key role in the project, providing advanced technology and design for the new light rail vehicles.

Key features of the S700 vehicles include:

- Capacity of 187 people sitting and standing
- Level boarding and easy access for all riders
- Allows for riders in mobility devices to board using deployable ramps at the two center doors
- Passenger information systems displaying and announcing audibly the next station which update when approaching stations

For the first couple of weeks, SacRT is operating a mixed fleet of new low-floor and legacy high-floor trains on the Gold and Green Lines as they complete the final testing phase of the new trains.

On the Blue Line, SacRT will continue to operate the current high-floor trains, which still require riders in mobility devices and those unable to climb stairs to use the mini-high ramps at the end of the station platforms.

SacRT will begin construction on Blue Line platforms to meet the height requirements of the new low-floor trains in late September.

Siemens Mobility Inc. will begin production on an additional eight low-floor trains later this year, which are expected to be delivered to SacRT in late 2025. To date, SacRT has received funding for a total of 45 new low-floor trains, with a contract to order up to 76 new vehicles.

In related news, platform construction at Swanston Station on the Blue Line began on September 23 and was scheduled to continue to October 3. This is work to better match the platform to the new S700 low-floor cars.

[SACRT PRESS RELEASE](#), September 3

[SACRT PRESS RELEASE](#), September 18

most recently begun. Installation work can take up to two weeks to complete:

- Oakland International Airport, September 14
 - 24th Street/Mission (middle of mezzanine), September 14
- BART Press Releases, [September 13](#), [September 13](#)

WASHINGTON, D.C.

Downtown Metro Closure

Beginning December 20, Metro is altering train service and closing some Downtown Blue, Orange, and Silver stations as part of a major construction project on tracks and signaling.

Free shuttle buses will replace trains during the 11-day project and work will be completed in two phases.

From December 20-26, Farragut West, McPherson Square, and the lower level (Blue, Orange, Silver service) at Metro Center will be closed.

From December 27-30, in addition to the above three stations, Federal Triangle, Smithsonian, and the lower level of L'Enfant Plaza (Blue, Orange, Silver service) will also be closed. All stations will reopen on December 31.

Construction includes replacing grout pads, fasteners and studs, welding open joints, upgrading platform edge lighting, and more. During the closure, shuttle buses will replace train service at affected stations, providing riders with alternate access to stations. Shuttles will also use the existing bus lanes on H and I Streets to speed travel.

[WMATA PRESS RELEASE](#), September 17

New Fare Gate Installation Complete

All 98 stations across the Metrorail system now have more secure, retrofitted faregates to deter fare evasion. The improvements have led to an 82% drop in fare evasion in the Metrorail system. Judiciary Square was the last station to get the retrofitted gates.

More than 1,200 five-foot-tall gates and taller fences have been installed across all stations. The project began in July 2023.

Earlier this year, Metro finished installing credit card readers on all exit fare machines so riders can easily add funds to their SmarTrip card if they don't have enough on their card to exit the system.

[WMATA PRESS RELEASE](#), September 19

International

AACHEN, GERMANY

Regiotram Planning

A project to build a tram line running north from Aachen to Alsdorf has been allocated €5.5 million by federal and state governments to continue with planning.

Initially floated in 2017, a feasibility study reported positively in 2022, with follow-up research in July 2023 by

SAN FRANCISCO BAY AREA, CALIF.

BART Next Generation Fare Gate Installations Continue

Bay Area Rapid Transit (BART) continues the installation of their new fare gate arrays. The following stations were the

Transport Technologie-Consult Karlsruhe GmbH declaring it economically viable.

The project envisages a 20-kilometer line running from Aachen Hauptbahnhof across the city center, along the Krefelder Straße axis to Alsdorf and then continuing to Baesweiler, with a 6.5-kilometer branch from Würselen to the airport at Merzbrück. Services would run at a 15-minute interval on each line, with eight trams per hour on the core Aachen-Würselen section.

The next stage will be design and planning approval over the next three to five years, with opening projected for 10-15 years from now. Aachen has not been served by trams since the Vaals-Brand line closed in 1974.

[METRO REPORT INTERNATIONAL](#), September 30

CAEN, FRANCE

Operating Contract Awarded

The Caen la Mer local authority has awarded RATP Dev a contract to operate its Twisto-branded public transport services for six years from January 1 2025.

Currently operated by Keolis under a series of contracts which began in 2002, the Twisto network serves 275,000 people in 48 municipalities. It includes three tram and 72 bus routes, transport-on-demand, services for people with reduced mobility, bicycle parking and rental, car-sharing and park-and-ride facilities.



Citadis 305 No. 1018 (Alstom, 2019) on route T2 at Avenue du 6 Juin on March 12, 2020. Alex Krakowsky photo via Urban Electric Transit

RATP Dev said changes in 2025 would include more straightforward and comprehensible arrival times to make access to the network easier for passengers, especially at peak times. There will be more frequent bus services to Ouistreham and Lion-sur-Mer, and better interchanges between different modes of transport, rail in particular, and better cross-modal access on Sunday evenings.

These changes will be followed up in 2028 with a more ambitious overhaul to offer a more straightforward,

comprehensible and better prioritized network. This will include a new tram line T4 and a western extension of T3; 40 percent of employment locations will have a tram stop within 300 meters.

[METRO REPORT INTERNATIONAL](#), September 13

CARDIFF, WALES

Trams to Return?

Public consultation has begun on proposals to build a tramway which would link Cardiff Central station to Cardiff Bay.

This would form Phase 1A of the Cardiff Crossrail project which is being developed by Cardiff Council and Transport for Wales. Phase 1A would start at a new two-platform stop in the southern car park of Cardiff Central station, and run through Callaghan Square and on raised track to join the existing railway from Queen Street to Cardiff Bay station.

A third platform would be provided at Cardiff Bay, in addition to the second which is being built as part of the South Wales Metro railway upgrading program.

The tram project is subject to business case approval in 2025, a Transport & Works Act Order which could be confirmed in summer 2026, Traffic Regulation Orders and funding availability; Cardiff Council has secured £50 million of U.K. government funding for Phase 1A, and a further £50 million of Welsh government match funding. Opening is envisaged for late 2028 or early 2029.

Cardiff Council is working with TfW to explore the possibility of a Phase 1B connection from Cardiff Bay station to a new station on Pierhead Street, subject to additional funding being secured.

The Cardiff Crossrail project has been a long-held ambition for a long time and when fully complete will connect some of the most deprived communities in Cardiff to the railway network for the first time. Subject to funding, the Cardiff Crossrail will eventually run from the northwest of the city, all the way to the east of the city connecting with the proposed Parkway railway station.

[RAIL BUSINESS UK](#), September 16

FRANKFURT, GERMANY

Parcel Delivery by Tram

Frankfurt University of Applied Sciences, city transport operator VGF (Verkehrsgesellschaft Frankfurt am Main) and retailer Amazon are testing the use of trams to deliver parcels from the outskirts to the city center. This aims to reduce road traffic, noise, and carbon emissions in the urban area.

The parcels are taken by electric vehicle from an Amazon distribution center in Raunheim to the Stadion tram stop on the outskirts of Frankfurt. They are then transported by tram to the Zoo stop or Gutleut tram depot, for last-mile delivery by electric cargo bikes. Passengers are not carried on the tram at the same time as parcels.



The LastMileTram, a Düwag Type P. VGF photo

The one-month, live operating trial began on September 6 as part of the LastMileTram project. Launched in 2018, this has included studies, simulations, and analysis of the legal issues.

It is hoped to be able to establish the concept permanently in Frankfurt in the future and also implement it at other locations in order to significantly reduce road traffic in large cities.

Separately, the LogIKTram research project in Karlsruhe has found that small volumes of goods could be handled using freight trams. However, another pilot project in Schwerin concluded that it was not viable to transport parcels in roll containers on trams.

[METRO REPORT INTERNATIONAL](#), September 23

GOTHENBURG, SWEDEN

New Trams Arrive

Alstom has delivered the first of 60 longer and higher capacity trams that it is building for Gothenburg.

Regional transport authority Västtrafik placed a €100 million order for an initial 40 of the Type M34 trams in 2021, funded by the Västra Götaland region. It ordered a further 20 in 2022.

M34 No. 601 being delivered at Rantorget, Gothenburg's main depot and workshops. Alstom photo



The M34 from Alstom's Flexity family is 45 meters long, 12 meters longer than the Type M33 trams ordered in 2016, increasing capacity from 220 to 319 passengers and providing large spaces for wheelchairs users and baby carriages.

They are being produced at Alstom's Bautzen factory in Germany. The vehicle was unloaded at operator Göteborgs Spårvägar's depot at Rantorget on the morning of August 23, and entry into service is planned for December. Deliveries of the remaining 59 will run through to 2026.

[METRO REPORT INTERNATIONAL](#), September 2

INNOTRANS 2024

Stadler Tram-Train Unveiled

Stadler and Saarbahn have unveiled the first of the Citylink tram-trains to be completed as a part of a huge joint order placed by six German and Austrian transport agencies which have teamed up to reduce costs.

The operators launched a joint procurement to keep the price of tram-trains competitive with pure railway vehicles, which are technically easier to implement and therefore cheaper. Benefits are expected to include a lower unit cost and simplified approvals processes.

The January 2022 framework agreement covers 504 tram-trains worth €4 billion, with a €1.7 billion firm order for the supply of 246 tram-trains over 10 years from 2024 and the provision of 16 years of maintenance.



Stadler's new tram-train for Germany and Austria. Metro Report photo

The three-car vehicles to be manufactured at Stadler's Valencia plant will be largely standardized, but with the number of doors, the boarding, and coupler heights and the livery adapted to the customer's requirements.

The tram-train on show at InnoTrans is for Saarbrücken's Saarbahn network. It is a bidirectional vehicle 37 meters long and 2.65 meters wide, with 100 seats and 133 standing places.

[METRO REPORT INTERNATIONAL](#), September 26

Astra Vagoane Displays Prototype Tram

Romania's Astra Vagoane Călători unveiled a prototype tram at InnoTrans 2024.

The two-module standard gauge tram prototype was manufactured for display at the show. Astra Vagoane says that it aims to target both the domestic and international market with the design.

The 100-percent low-floor tram features an anti-collision system. It was built from a carbon steel body with Siemens trucks and the traction inverters are made by SAERP, which is part of the Astra group.



Astra's prototype tram at InnoTrans. Railway Gazette photo

Astra Vagoane says that is able to manufacture the trams in a meter-gauge variant and with two to six modules.

[METRO REPORT INTERNATIONAL](#), September 30

ITALY

Valle d'Aosta Electric Train Unveiled

The first of six FLIRT electric multiple-units ordered as part of the electrification of the Aosta line has been unveiled at Stadler's factory at Siedlce in Poland.

The Valle d'Aosta region ordered an initial five electro-diesel FLIRTs in 2015, and they entered in service from 2019 using 3 kV DC power from Torino to Chivasso and Ivrea (60 kilometers) and diesel on to Aosta (66 kilometers).

Electrification was subsequently agreed, and in 2022 the region ordered three EMUs, followed by one more in February 2023 and two in July 2024.

Designated Class ETR814, the EMUs are similar to the bi-mode units but have four rather than three passenger vehicles and no diesel powerpack.

Trains between Ivrea and Aosta are currently replaced by buses to enable the electrification work which is scheduled for completion by December 2025. The work, which is being undertaken by a consortium of Impresa Luigi Notari, SIFEL, Costruzioni Linee Ferroviarie and Rete Costruzioni Ferroviarie under a 2023 design-build contract. The scope includes three substations at Donnas, Chatillon, and Aosta,



The new Class ETR 814 FLIRT EMUs under construction at the Stadler factory in Siedlce, Poland. Silvia Savoye photo via Wikipedia

gauge enhancement of 21 tunnels and modernization of the stations at Montanaro, Strambino, Hône-Bard and Nus. The €79 million project is being financed through Italy's share of the EU Recovery & Resilience Plan.

The region also hopes to reopen the 31 kilometers from Aosta to Pré-Saint-Didier, although funding has not yet been secured.

[RAILWAY GAZETTE INTERNATIONAL](#), September 19

JAKARTA, INDONESIA

Second Metro Line Begun

Construction of Jakarta's second heavy metro line began at a ground-breaking ceremony on September 11.

Japanese companies are to provide construction, mechanical, electrical and signalling equipment under a ¥140.7 billion loan agreed by the Japanese government on May 13 2024.

East-West Line's (EWL) Phase 1 (Stage 1) covers 24.5 kilometers from Medan Satria, just over the regional boundary in Bekasi city, to Tomang on the west side of Jakarta's Inner Ring Road with 21 stations. Opening is due in 2031.

The eastern end of the route will be elevated for about 15 kilometers from Medan Satria to Galur. Here it will descend into an eight-station underground section, including interchange with the North-South Line at Thamrin/Sarinah, before resurfacing at Tomang.

EWL's 9.3-kilometer future western continuation from Tomang to Kembangan is now due to form Stage 2 of Phase 1. After this, Phase 2 is projected to extend the line at both ends to reach a total length of 84.1 kilometers: for 29.9 kilometers west from Kembangan to Balaraja with 14 stations, and for 20.5 kilometers east from Medan Satria to Cikarang with eight stations.

Jakarta's first heavy metro line, the 15.3 kilometers, 13-station North-South Line, opened in March 2019 from Bundaran Hotel Indonesia southwest to Lebak Bulus. Work on the 5.8-kilometer Phase 2A extension north from BHI to Kota is now around 40 percent complete. It is due to open



A view of Jakarta's currently-operating North-South metro Red Line. MRTJ 1000 (Series K1 1 18) No. 03 (Nippon Sharyo, 2018) is arriving at the Blok M station on April 23, 2023.

Yury Maller photo via Urban Electric Transit

to Thamrin/Sarinah and Monas in 2027, continuing to Kota in 2029. A two-station 5.2-kilometer Phase 2B from Kota to Ancol has also been approved.

[METRO REPORT INTERNATIONAL](#), September 24

LIEGE, BELGIUM

Tram Plans Curtailed

Test running has started on the north-south tram route in Liège, which is now expected to open on January 31, 2025, around three years later than envisaged.

The 11.7-kilometer line connecting Coronmeuse and Liège-Expo with Sclessin-Standard via Place St. Lambert and Guillemins is being built by the Tram'Ardent consortium of Colas, CAF and the Dutch Infrastructure Fund under a design-build-maintain concession now due to run until 2052. Services will be run by regional transport operator OTW (Opérateur de transport de Wallonie).

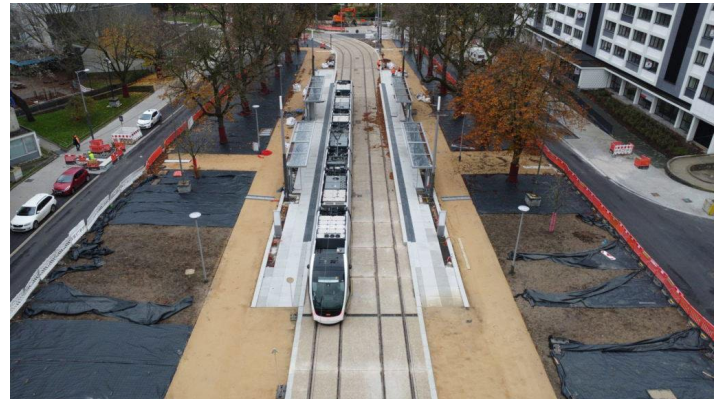
A first run was undertaken on August 21, with the CAF Urbos tram moving along at a walking pace and accompanied by safety officials. The vehicle ran from the depot, via Feronstrée, to a stop in front of the town hall, where it was officially welcomed by the mayor of Liège. It then continued to Place Général Lemans and back.

Testing is expected to ramp up over the coming months, culminating in a period of full operations without passengers, ahead of the public opening. Official projections envisage that the line will carry 90,000 passengers per day, but commentators suggest this may be optimistic.

According to figures published by the European Investment Bank, the project was originally budgeted at €558 million. DIF is contributing €429 million, including an EIB loan of €193

million, with other funding coming from Belfius, AG Insurance, Nataxis, another French bank and Spanish bank BBVA.

However, Colas Belgium ran into financial problems due to the Covid pandemic and rising costs, and had to seek financial support from parent company Bouygues. It threatened to walk away from the tram project, but following mediation the Wallonnie regional government agreed to contribute €79 million to compensate for the extra costs, subject to strict timing conditions, and to increase the annual availability payment to the concessionaires to €32 million per year until 2052.



A test run with an Urbos tram at Parc Reine Astrid, the first stop after the depot. CAF's SRS system is used to recharge the onboard energy storage at each stop. Tram Ardent photo

The total cost of the 17-kilometer project including two planned extensions has been reported by local media at around €1.4 billion, or €82 million per kilometer.

Following long deliberations, the regional government, comprised of the PS (Socialist), Ecolo (Greens) and MR (Liberal) parties, earlier this year approved proposals for the long-planned extensions. One would run north for 2.9 kilometers from Coronmeuse to Bonne Campagne via Herstal, and the other south by 3.2 kilometers from Standard to Seraing and Gare de Jemeppe.

Rather than adding the extensions to the PPP concession, the government instructed OTW to procure the works directly from local contractors. Total cost of the additional 6.1 kilometers has been estimated at €335 million against a reported budget of €115 million.

However, the general elections on June 9 saw a change of control in Wallonnie. The Ecolo vote collapsed, and MR became the largest party. A new regional government was formed by MR with Engages (Christian Democrats), displacing PS and Ecolo.

The new administration inherited severe budget problems, which are not as bad as Brussels but worse than Flanders. With deficits heading for six percent of GDP against an EU norm of three percent, budget cuts seemed inevitable. After reviewing the cost and revenue projections, OTW indicated that it was concerned about potentially unquantified increases in the cost of the two extensions, which could instead be operated by buses.

In the light of this, the government confirmed on August 21 that the extensions would not go ahead.

Preliminary work had reportedly been about to get underway, even though the contracts had not been finalized. The mayors of Liège and Seraing both expressed disappointment with the decision, although there has been no comment from Herstal.

[METRO REPORT INTERNATIONAL](#), September 3

LONDON, ENGLAND

New Trams for Croydon

Four companies have pre-qualified for a potential contract to replace the oldest trams on the London Trams network centered on Croydon.

Transport for London announced on September 10 that it had issued invitations to tender to Alstom, CAF, Hitachi Rail and Stadler Valencia. Any order would be subject to funding, with TfL saying it continues to discuss its capital funding requirements with the government.

The initial contract would be for 24 trams to enter service in the late 2020s. These would provide a one-for-one replacement of the Bombardier Transportation CR4000 cars which date from the opening of the 28-kilometer Tramlink network in 2000. They are becoming less reliable as they reach the end of their design life, and one was withdrawn after being damaged in the fatal derailment at Sandilands in 2016.



Both generations of trams are shown here at the New Addington terminal in West Croydon on April 26, 2019. On the left is Variobahn No. 2558 (Stadler Rail, 2012) while on the right we see CR-4000 (Flexity Swift) No. 2552 (Bombardier Transportation, 1999). Jeff Ertlitz photo

TfL said the new trams would offer a more comfortable and reliable service, with a redesigned interior, air-conditioning, the latest audio and visual real-time travel information, mobile device charging points and the latest safety features. There would be a multi-use area, primarily for wheelchair users but also able to accommodate baby carriages and luggage when not in use.

There would be an option to order more trams to replace

the 12 Stadler Variobahn trams introduced in two batches from 2012 and 2015. To make best use of capacity at Stadler's Berlin Pankow factory, the first three of these were diverted from a batch of five originally ordered for Bergen in Norway.

[METRO REPORT INTERNATIONAL](#), September 10

MEXICO CITY, MEXICO

El Insurgente Passenger Trains Reach Mexico City

The El Insurgente passenger train service that links Zinacantepec and Toluca to Lerma was extended by a further 29 kilometers to Santa Fe on the western edge of Mexico City on August 31.

The 57-kilometer double-track electrified railway was planned to link an interchange with the Mexico City metro network at Observatorio and run west to Zinacantepec in the Toluca Valley metropolitan area, serving five intermediate stations. The first 18-kilometer section between Lerma and Zinacantepec opened in September 2023.



El Insurgente at an unidentified station. Roberto F. Castañeda photo

The line is branded Tren Interurbano or El Insurgente in honor of Mexican public figure Miguel Hidalgo. The double-track line is electrified at 25 kV AC and is equipped with ETCS Level 2. The maximum operating speed is 80 km/h. El Insurgente is designed to handle 235,000 passengers a day.

The route crosses the Monte de las Cruces through an 80-meter high viaduct and a 10-kilometer tunnel. A further 17 kilometers of viaducts have been built in order to overcome the hilly terrain, with gradients as steep as six percent on the section between Toluca and Mexico City.

El Insurgente was initially planned to be inaugurated in 2017 at a cost of 38 billion pesos, but technical and financial difficulties led to the opening being repeatedly delayed and costs to rise to nearly 100 billion pesos.

Construction was carried out by a consortium led by CAF and including Thales, Isolux-Corsán and AZVI.

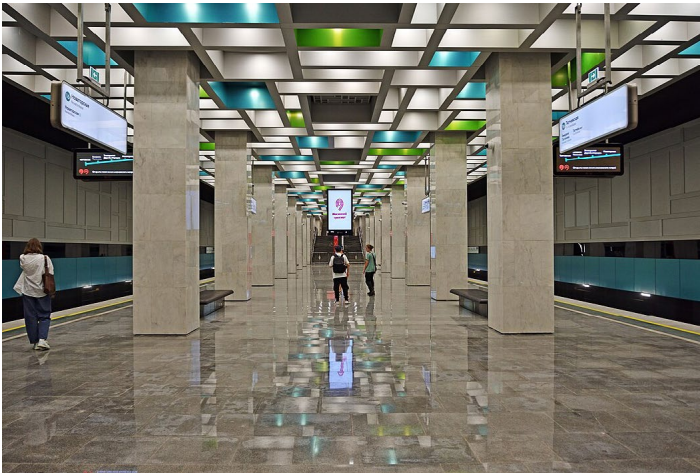
[RAILWAY GAZETTE INTERNATIONAL](#), September 9

MOSCOW, RUSSIA

Metro Extensions Open

Early September saw the opening of two extensions to the Moscow Metro, improving access to the growing Novomoskovsky district southwest of the city center.

On September 7, Line 16 (also known as the Troitskaya Line) of the Metro was inaugurated. An initial 8.3-kilometer section runs from Novatorskaya to Tyutchevskaya with intermediate stations at Universitet Druzhby Narodov and Generala Tyuleneva.



One of the new stations on Line 16, Universitet Druzhby Narodov. Ludvig14 photo via Wikimedia Commons

Two days earlier, a 2.4-kilometer southern extension of the Sokolnicheskaya Line 1 from Novomoskovskaya (known as Komunarka until July 3) to Potapovo had opened. Alongside this section, a new depot is under construction at Stolbovo. This is due to open in 2025, servicing both lines 1 and 16.

Line 16 construction began in 2019, and when complete it will relieve pressure on adjacent south radial Lines 1 and 6. The 9.5-kilometer section now under construction runs northeast from Novatorskaya via interchanges with Lines 6 and 9 to terminate at ZIL on Central Circle Line 14. In the opposite direction Line 16 is being extended south for seven kilometers from Tyutchevskaya to an interchange with Line 1 at the renamed Novomoskovskaya. Together these will make the line 25 kilometers long with 11 stations, with service headway due to be as little as 100 seconds. Line 16 is projected to continue a further 14.5 kilometers southeast from Novomoskovskaya to Troitsk with five intermediate stations.

Line 1's extension continues along the center of the Solntsevo-Butovo-Varshavskoye Shosse highway, with Potapovo station at grade and accessed by pedestrian bridges. The station is enclosed in a futuristic shell structure allowing it to be heated, and it is forecast to be used by up to 20,000 passengers per day.

[METRO REPORT INTERNATIONAL](#), September 16

SAMSUN, TURKEY

Plans for Tram Line

The national Ministry of Transport & Infrastructure is to take over responsibility for developing a planned tram line in the Black Sea port city of Samsun.

The 10.2-kilometer line with 11 stops would link the city's main hospital (Şehir Hastanesi) with the existing 33-kilometer coastal tramway at Kılıçdede, with a branch to the town hall at Kamu Kampüsü.

The official gazette of August 31 announced that the planned line is to be included in the presidential investment program for 2025, with civil works tendering to follow.

Construction is expected to be completed within five years at a cost of TL5 billion.

[METRO REPORT INTERNATIONAL](#), September 9

STRASBOURG, FRANCE

Tramway Expansion Advances

Tracklaying has begun on Strasbourg's Tram Ouest project, and planning is under way for a northern expansion of the network.

A ceremony was held on August 26 to officially install the first rail for the four-kilometer double track Tram Ouest extension of Route F west from the current terminus at Comtes to Wolfisheim. The project includes eight stops, six kilometers of bicycle paths, and a redesign of the streetscape in the districts served.

Tram Ouest is intended to support urban development in the west of the greater Strasbourg area, serving 20,300 people and 7,100 jobs and proving a 30-minute journey time from Wolfisheim to the city center.

A 35 percent increase in ridership on Route F is expected after the extension opens at the end of 2025.

The €122 million cost is being funded by Eurométropole de Strasbourg, the national government, transport project financing agency AFITF, and operator CTS.

Services will be operated by 41 Alstom Citadis trams supplied in 2005 which are currently being refurbished by the manufacturer.

Meanwhile, planning is underway for the Tram Nord extension to Schiltigheim in the city's northern suburbs.

Opening is planned for 2027, with routes on the existing tram network to be reconfigured.

This will improve access between the city's main railway station and institutions including the European Parliament.

In 2023 CTS awarded Alstom a €250 million framework contract for the supply of at least 22 Citadis trams.

So far firm orders have been placed for 12, which will be 45 meters long and 2.4 meters wide with eight doors per side and a capacity of 286 passengers.

Deliveries are scheduled to start in March 2025 for entry into service by the end of the year.

This will enable the withdrawal of the oldest of



From the newest group of trams in Strasbourg we see Citadis 403NG No. 3035 (Alstom, 12/2021), operating on route D at Kehl Rathaus on June 14, 2022. František Vaňásek photo via Urban Electric Transit

Strasbourg's distinctive ABB Eurotrams dating from the opening of the modern network's first routes in 1994.

[METRO REPORT INTERNATIONAL](#), September 10

More Parcel Delivery by Tram

The delivery of parcels to the city center by tram and cargo bike being tested in Strasbourg.

The project is being undertaken by La Poste, Alstom, local authority Eurométropole de Strasbourg and operator CTS (Compagnie des transports strasbourgeois). A member of postal staff accompanies around 100 parcels in the front section of the tram, which leaves Hœnheim Gare terminus at 9:00 AM and travels by Line B to Broglie in the city center. A second member of postal staff then loads the parcels onto a cargo bike for delivery to the inner city.

A second service is to be added in the early afternoon.

This trial under real-world conditions from September 16 to October 26 aims to establish whether parcels can coexist with passengers, without impacting on passenger comfort, tram operations, or the parcel delivery service.

Alstom said urban goods transport accounts for 20 percent of urban traffic and 30 percent of road use, but is responsible for 50 percent of diesel consumption and 25 percent of greenhouse gas emissions and 35 to 45 percent of particulate emissions.

[METRO REPORT INTERNATIONAL](#), September 19

SUZHOU, CHINA

Metro Line 8 Opens

On September 10, Suzhou Rail Transit inaugurated Metro Line 8, adding 35.6 kilometers and serving 28 stations. The line opened only 2½ months after Metro Line 6 had entered service.

Running from Xijinqiao on Line 3 to the west of the city center, Line 8 loops north then east via interchanges with Lines 6, 4 and 2 before meeting Line 3 at two interchange stations on the northeast side of the city. The line then

continues south crossing Lines 1, 6, 5 and 2 to terminate at Chefang in the southeast, where the line's depot is located.

On June 29, Line 6 had opened from Suzhou Xinqu in the northwest to Sangtiandao in the east, adding 35.2 kilometers and 30 stations. Its depot is at Xushuguan in the northwest, beyond the Xinqu terminus.

Both lines are operated by Type B trainsets built by CRRC Nanjing Puzhen. Line 6 has 40 six-car trainsets and Line 8 has 41 of the same length.

[METRO REPORT INTERNATIONAL](#), September 17

ZAGREB, CROATIA

Tram Order Signed

A firm order for Končar KEV to supply a further 20 low-floor trams to Zagreb operator ZET was signed on September 3.

A €37.8 million order for an initial 20 trams was signed in June 2023, financed by the EU-backed National Recovery & Resilience Plan for 2021-26.



Currently the newest tram in Zagreb's fleet, TMK 2200 No. 22140 (Končar, 2010) is seen operating on route 11 at Trg bana Josipa Jelačića on June 6, 2024. GarfieldHR photo via Urban Electric Transit

The 40 three-section trams now on order will be 20.8 meters long with four double leaf doors, a capacity of 115 passengers, a wheelchair ramp, and USB ports.

These will be the first new trams in Zagreb in 15 years. The first ones are expected by the spring of next year.

By the end of the year ZET will call for a tender for 40 longer low-floor trams, worth around €120 million. That is a total of €200 million of investment in new trams.

[METRO REPORT INTERNATIONAL](#), September 6

From the Camera of Henry Wilhelm (ERA #1968)

Henry Wilhelm, who joined the ERA on March 25, 1955, was always interested in the signal and interlocking systems of railroad and transit systems. He traveled extensively through the northeastern U.S., recording on paper and film

just about everything he saw. Starting this month, we are presenting some of Henry's historic images. The negatives for these images are in the collection of the Western Connecticut Chapter-NRHS, whom we thank for their use.



(Above and below) Two views looking out the windows of VA Tower in Valley Stream on the Long Island Rail Road's Montauk and Atlantic Branches sometime in 1929, four years before the grade separation project. In the upper view, looking west, the MU yard can be seen on the left, situated this side of the Far Rockaway Branch (turning to the left beyond the signal bridge). This yard handled the overflow from the MU yard at Far Rockaway. Franklin Avenue crosses the tracks just beyond the signal bridge. In the lower view, looking east, the express house and station building are on the right and Rockaway Avenue crosses the tracks at the ends of the platforms. All of the signals here were still lower quadrant semaphores.





Two more views in Valley Stream sometime in 1929. In the view above, we are looking east from the Franklin Avenue crossing towards the station. The Far Rockaway Branch turns off to the right, with the MU yard just beyond it. The top of VA Tower can be seen above the stored MU trains. Below, we are looking north from the Roosevelt Avenue crossing on the Far Rockaway Branch, which curves to the left. Curving to the right is the east leg of the wye, which connected to Track 2 of the Atlantic Branch. In between them is the MU yard.

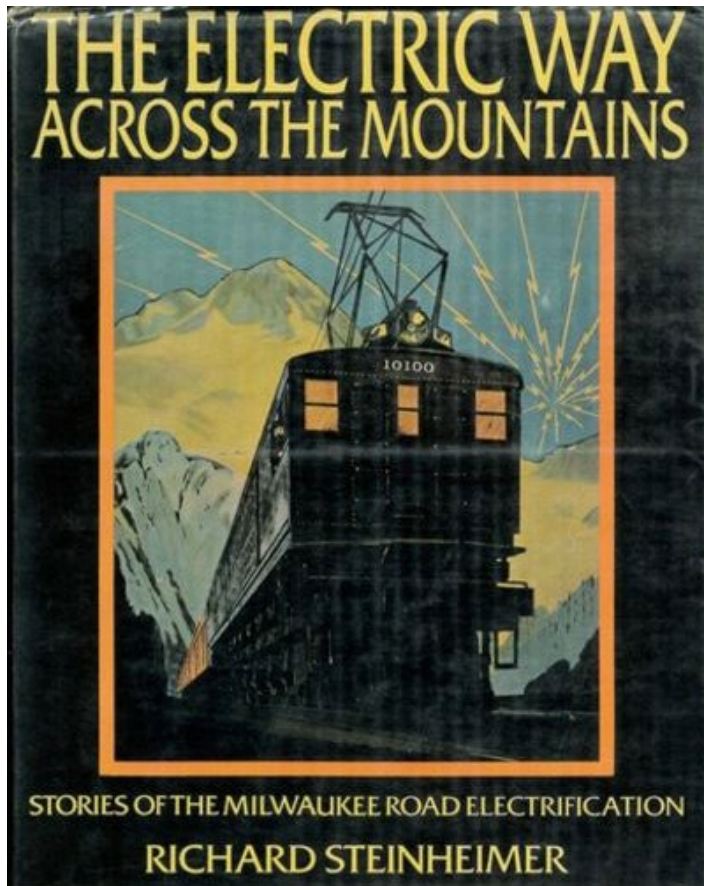


Book Review

Paul Grether (ERA #6933)

Electric Way Across the Mountains: Stories of The Milwaukee Road Electrification by Richard Steinheimer, published by Carbn Press, Tiburon, California in 1980, hardcover, 168 pages, with extensive black-and-white pictures, bibliography and index. ISBN 978-0934406000.

There are several good sources for the history of the Milwaukee Road electrification. William Middleton's standard reference work, *When the Steam Railroads Electrified*, has a detailed chapter on the electrification that pioneered long distance [almost-] transcontinental electric operations. Other sources include the C.E.R.A. reprint of *Electrification* by G.E., Brian Inslee's *The Milwaukee Road: Electrification*, Karl Zimmerman's *Milwaukee Road Under Wire* and Noel Holley's *Milwaukee Road Bi-Polar Electrics*. There is spectacular photography in Frederick Hyde's *The Milwaukee Road* all-color photo album.



With this collection a reader would have a great technical and photographic overview of the Milwaukee Road 3,000 volt D.C. electrification including the “Box-Cab,” “Quill,” “Steeple-Cab,” “Bi-Polar,” and “Little-Joe” locomotives. Steinheimer takes a different perspective. His book tells the story of the electrification from the point of view of the people and the places. The book is organized by time period. Within

each time period the text is a combination of the storytelling of the history of the railroad, including the infrastructure, equipment, trains, and the economics. Woven in with this story are frequent anecdotes directly from the people who managed and operated the railroad and the people who photographed it. These anecdotes cover interesting, dramatic, funny, and sad events. These include a sitting U.S. President (Harding) operating a train (note – his private Pullman car ‘Superb’ that was in the train is preserved at the Southeastern Railway Museum near Atlanta, Georgia), a tug of war between a steam engine and an electric and multiple crashes and incidents. Many of them are based on interviews conducted by the author first-hand with the people who experienced the electrification, impossible information to gather today.

This style of covering an electric railroad is unique but also makes for an engaging read. The photography, while all black-and-white, is of high quality and gives an awesome impression of the 60 years of electric operations. There is still significant coverage of the technical details but the storytelling adds a dimension of reality and consequence to what would otherwise just be facts, figures, and train pictures. In the end it is a tragic ending, as with many North American electric railways, but one worth reading especially since the pioneering Milwaukee Road electrification stood as the model for so many similar projects around the world. Almost all of the infrastructure is gone, so the evidence and scale of what happened remains only in the stories.

Note: A Second Edition was published in 2005 by Signature Press that expands Steinheimer's original text and includes 20 additional pictures, some in color.

Link to book information: www.libib.com/u/grether?solo=127665497



Milwaukee Road Bi-Polar electric locomotive at the St. Louis Museum of Transportation, August 27, 2023. Paul Grether photo

Travels with Jack May

Britain and the Baltics — Part 31

By Jack May (ERA #2275)

Thursday, August 31.

We awoke to a rainy morning, and while the forecast indicated the precipitation would stop, the skies would not be very inviting; it would remain overcast all day. Thus we decided to postpone riding the City Spårväg tram (route 7) until Friday and instead would start our activities by going out to the Roslagsbanan. We took the Green Line to T-Centralen and then rode the Red Line to Tekniska högskolan (Technical high school), which is adjacent to the Stockholms Östra station (Stockholm East). See <http://www.urbanrail.net/eu/se/stockholm/stockholm.htm> to follow our activities.

The Roslagsbanan now consists of three narrow-gauge commuter lines that run to the north and northwest. Once part of a railway system that extended far into rural areas from Sweden's capital, including Hallstavik, some 65 miles north of the city, the 891-mm gauge system ("Swedish three-foot gauge" actually 29/32 inches short of three feet) still terminates at Stockholms Östra. Its first line opened in 1885 and the initial portion of the system was electrified with 1500-volt DC catenary some ten years later (Sweden's first railroad electrification). Overhead wire continued to be pushed northward on the mainline and along various branches until 1949. In 1969 the system was taken over by the state, and in the 1970s and early '80s the complex of lines was cut back to three branches with a total length of just over 40 miles. Now frequent EMU service is operated by Arriva over the 39-station network.

(Author's note: The line to Uppsala was eventually abandoned, and now is a museum line operating narrow-gauge steam-hauled trains. This branch opened as a separate railroad in 1876, as did some others, which were later incorporated into the Roslagsbanan. See <https://translate.google.com/translate?hl=en&sl=sv&u=https://www.roslagsbanan.com/historia/&prev=search> for a table of opening and electrification dates for the entire network.)

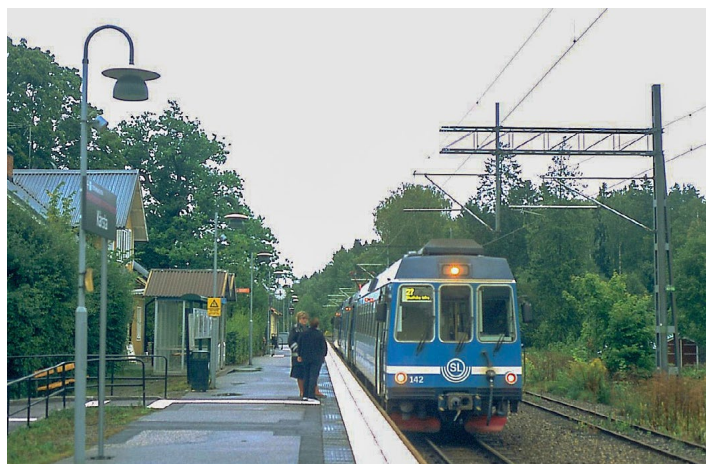
Richard Solomon and I rode a small part of it on our first visit to Stockholm in 1960, when ancient wooden EMU cars were operated, some possibly dating back to soon after the original electrification. At that time many of the massive trains continued for just under a mile into Stockholm's business district at Engelbrektsplan over street trackage (I don't remember, but I suspect it didn't share the rails with the local tramway because of the difference in gauge. Unfortunately, I have not scanned my slides from that trip).

Currently, the mostly single-track system connects with the Red Line of the T-bana at Tekniska högskolan Station, but there are plans to extend the narrow gauge trains via a new tunnel directly to T-Centralen. Unfortunately, Karl-Heinz and I were unable to ride the entire network, as

the branch to Österskär was shut down for trackwork. Thus the route 28 train we boarded was diverted to Örmsta on the Kärsta line, from which we continued aboard a 27 to the outer terminal, and then rode all the way back to Östra Station, where we then proceeded to make a round trip over the Näsbyark branch (route 29). Service is quite frequent, with full runs and short turns leaving every 15 minutes on routes 27 and 28, and every half hour on route 29 (every six minutes combined). In rush hours trains run out of the terminal every four minutes.



(Above and below) Two views of the current fleet of EMU cars in drizzle under overcast skies at Örmsta and Kärsta, respectively. The 35 traditional three-car sets (motor-trailer-trailer) were built by ABB (whose railcar manufacturing business was a part of Bombardier, now Alstom) between 1988 and 1995, and are capable of speeds up to 50 mph. They're equipped with 2-and-2 low-back seats. Augmentation and eventual replacement of these units began in 2021 with the delivery of 22 three-car partially low-floor X15P Stadler EMU trains, which have a maximum speed of 75 mph. There are options for 45 more.



Upon finishing our work on the Roslagsbanan at around 1:30 PM, we decided to ride the Saltsjöbanan, so we headed to Slussen via a Red Line train and that's when we found out the suburban railway was shut down for rebuilding (we could have learned that after we walked to that station en route to our hotel on the preceding day, but that was not on our minds at the time). Oh well. So instead we decided to ride what we could of the portion of the Tvärbanan below Alvik. Most of it was being operated by buses, in conjunction with the construction of a new terminal at its southern end, Sickla. We rode back on a Red or Green Line train from Slussen to T-Centralen and then transferred to the Blue Line for our first ride on the Tunnelbana's newest route (1975), which we took to Sundbybergs centrum after observing some of the line's beautiful station architecture.

We rode a Tvärbanan (route 22) tram as far as it would go, which was to Stora Essingen (on an island two stops south of Alvik), where we transferred to the substitute bus (22B) for a [very slow] ride paralleling the tramway. I had ridden this part of the 22 twice before, but Karl-Heinz hadn't yet had the opportunity. The bus took us to the end of the line at Sickla udde and then we walked along the extension to the future joint station with the Saltsjöbanan (line 26) at Sickla. The Tvärbanan will continue in the center reservation of Båtbyggargatan and Uddvägen and then turn off onto prw to join the Saltsjöbanan at Sickla, which looks like it will have two platforms for terminating Tvärbanan trams and one serving the Saltsjöbanan's way station.

It was still overcast, but there were signs of coming relief in the sky, so we then rode a route 414 bus to Slussen and then a Green Line train to Hörtorget, where we decided to try our luck with route 7 again. But by now it was well after 4:00 PM and the shadows were beginning to get too long for good photos. We did ride it however. We finished our day by taking the Pendeltåg from Stockholm City station back to Odenplan, where we walked to our hotel and then had dinner at an Asian (Korean and Thai) restaurant.

All in all, the day was pretty much a bust for photos, but we did accomplish a great deal, riding some interesting portions of Stockholm's rail system.

Here are some views of the Nockebybanan from our ride in better weather on the previous afternoon. In 1967, with the change to Sweden's rule of the road, most of Stockholm's trams were abandoned rather than being upgraded with new or rebuilt cars. But two lines escaped the axe, the Lidingöbanan and the Nockebybanan. The former (route 21) was described in Part 1, and now it's time to look at route 12. The original tram line came from a western extension to one of Stockholm's local lines from its city center in 1912. It reached Alvik in 1914 and from there was gradually pushed along private right-of-way to Nockeby, at the western edge of a built up area (1923 to 1929). It received the number 12 in 1919.

The status quo reigned until 1952, when the T-bana's Green Line was extended from the city westward over the route to Alvik, and then beyond on a different alignment, forcing the 12 to be cut back to its present eastern terminal. The

double-track route was converted to right-hand running in 1967 and continues its role as a heavy feeder to the subway. The 3½-mile, 10-station line is very attractive, and provides a pleasant ride through hill and dale in a middle to upper middle-class residential area. Its reserved track generally cuts across the street patterns of the neighborhoods it serves at grade, very much like what Red Arrow (now SEPTA) trolleys do through Philadelphia's western suburbs. (One could say that Alvik is the equivalent of 69th Street and the Tvärbanan connects there just like the P&W does in Upper Darby.)

Service operates every six minutes in the morning rush and seven in the evening peak. Off-peak headways are 12 minutes in the morning and 10 in the afternoon. The rolling stock is described in detail below the photos.



(Above and below) Two views of the Nockebybanan at its Älstenstgatan stop, about halfway along the route. Outbound car 427 is a three-section low-floor Flexity Swift (A32) unit built by Bombardier in 2009.



The Nockebybanan shares its rolling stock with the Tvärbanan at a common carhouse near Alvik. Both operate on 750-volt DC current as do the other tramway lines. The pool of rolling stock consists of 37 low-floor three-section A32 articulated cars built by Bombardier Transportation between 1999 and 2007 (401-437), and 15 CAF-built A35 cars from 2013 and 2014 (451-465) that share some of the same characteristics. The details are actually more complicated,



Outbound Flexity Swift car 411 stops at the Alléparken station, just before crossing the inbound track (whose platform is behind the photographer). The crossover was constructed in 1967 when the Nockebybanan was converted from left-hand to right-hand running, except for its access to the across-the-platform transfer point with the T-bana's Green Line at Alvik station.

as cars 432 to 437 were built for 1,500-volt operation over a railway line in the Netherlands (RijnGouwe), where they were mixed in with regular EMU trains (much like Karlsruhe and Kassel tram-trains). They ran between Gouda and Alphen aan den Rijn from 2003 to 2009 and when the demonstration project ended (unsuccessfully), were bought by Stockholm. And one of the CAF A35s, No. 461 is now operating on the City Spårväg line to Djurgården (tram route 7, to be covered in Part 32). As mentioned in the preceding segment, the Lidingöbanan uses A36 cars from CAF, which basically are A35s with a fourth section added.

The two tram lines (12 and 22) are operated by Arriva, a subsidiary of Deutsche Bahn, as are also the Roslagsbanan and Saltsjöbanan.

Now for the Tvärbanan in a little more detail. After World War II, Stockholm, like many large European and [almost all] American cities, went through a period where ideological transportation “experts” deemed that urban transportation should be limited to subway and bus lines exclusively. The only tramlines to be retained would be those with infrastructure that did not interfere with the movement of motor traffic. This explains why the only two tramways left in Stockholm after 1967 were the Lidingöbanan and Nockebybanan (and why certain routes were retained in cities like Marseille, Lille, Newark, Boston, Philadelphia, Cleveland and San Francisco — although even the existence of the Kingsway subway didn't prevent the abolition of trams in London).

That approach clearly didn't work, and cities in countries that lost almost all their tramways began to see the light (LRT pun intended) in the late 1970s and 80s, certainly in Canada, the United States, Britain, France and Spain. The dissatisfaction with buses as a method to satisfy traffic demand that was smaller than what was being served efficiently by heavy rapid transit wasn't lost on Stockholm, and after much controversy starting in the 1980s, it was



The Solna terminal of the Tvarbanan is underground. The last Flexity Swift built by Bombardier for Stockholm's tramways, in 2009, emerges from the portal just east of the Solna Centrum station.

decided to build a new circumferential tramway in 1996, which became the Tvärbanan (crosstown line). The first portion of the new route 22 opened in 2000, and it has been extended since into its current 11.4-mile, 25-station semicircular configuration from Solna north of the city center to Sickla in the south via Alvik in the west.



An A35 (CAF, 2013) tram crosses the bridge over SJ and Pendeltåg tracks, approaching the Sundbybergs centrum multi-modal station (Tvarbanan, T-bana Blue Line and Pendeltåg — and plenty of buses).



Two views just west of the Tvarbanan's Solna Business Park station. The left photo shows two Bombardier A32 cars passing, while the trams in the right picture are CAF A35s at the right-angle turn for the bridge over SJ and Pendeltåg tracks.

A southbound train of CAF A35 cars has just left the Tvarbanan stop at Alvik and are about to enter a tunnel. Passengers of the route 22 service can transfer here to either the T-bana's Green Line or the Nockebybanan (route 12), which both cross over the Tvarbanan tracks on the same structure. This view of a Tunnelbana train crossing above the trams was taken from a pedestrian walkway that rises alongside the tunnel portal.



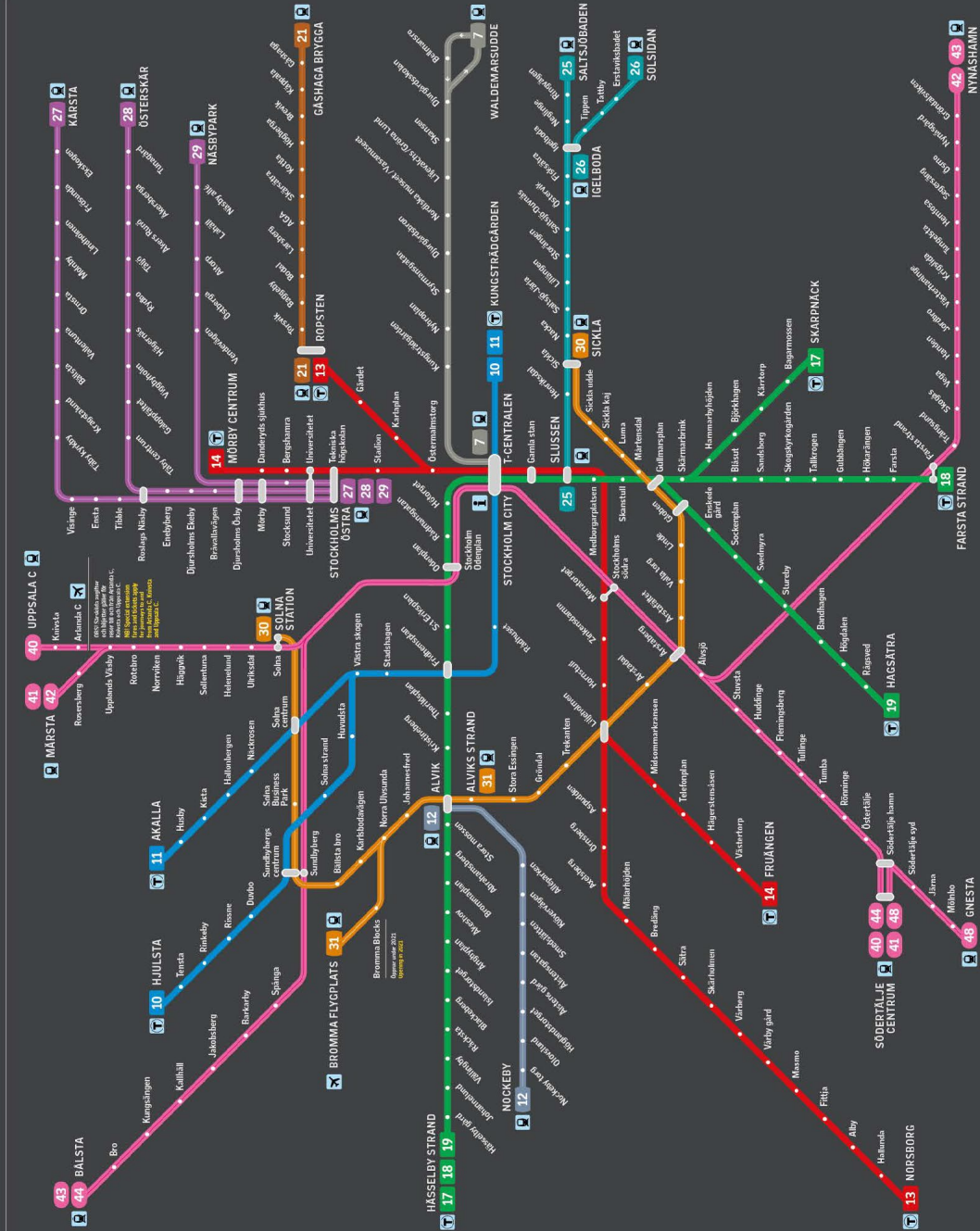
The line is an excellent advertisement for the flexibility of the light rail mode, with sections of route in tunnel, on elevated structure, on private right-of-way and in the street mixed with motor traffic. There is even a portion of right-of-way shared with the southern portion of the T-bana's Green Line. On weekdays, service operates every 7½ minutes in both base and rush hour periods.

Part 32 will describe our last day in Stockholm (and my trip back to the U. S.), as well as containing a series of photos of the 7 line to Djurgården.

(Right) The southern portal of the short tunnel traversed by route 22 cars below Alvik. The platforms of the Alvik strand station are behind the photographer. A CAF A35 is to the left of a Bombardier A32.



Stockholm - Spårtrafikarta Rail Network Map



Tunnelbana Metro	10 11 Blue Line 13 14 Red Line 17 18 19 Green Line
Pendeltåg Commuter rail	40 41 42 43 44 48
Spårsvagn/Lokalbanan Tram/Light rail	7 12 21 30 31 25 26 27 28 29

Förklaringsnyckel Key to symbols	Byggnads Interchange station SL Kundtjänst SL Customer Services
Trafikinformation Service information	Byggnads Interchange station Interchange station within walking distance
Biljetter Tickets	For information about tickets and sales outlets, please see SL entities, SL Customer Services or the SL app or contact the staff. SL tickets and SL tickets apply for journeys to and from Arlanda C, Kista and Uppsala C.