



# BULLETIN

Volume 69, Number 3 | March 2026





**Electric Railroaders Association**

Founded August 15, 1934 by E.J. Quinby  
P.O. Box 3323  
New York, N.Y. 10163  
[erausa.org](http://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](http://erausa.org/contact)

**Subscriptions**

The *Bulletin* is published monthly and sent free to all ERA members.

**Back Issues**

PDFs of previous issues can be downloaded at [erausa.org/bulletin](http://erausa.org/bulletin)

**In This Issue**

|  |    |
|--|----|
| Worldwide Electric Railway, Metro and Tramway Openings | 3  |
| Rail News in Review                                    | 3  |
| R-211S Delivery History                                | 15 |
| Rail Guide – Mapping Rail History                      | 16 |
| From the Camera of Thomas C. VanDegrift, Jr.           | 18 |
| Paul’s ERA Bookshelf                                   | 20 |
| Building the New York Subway System, Part 8            | 21 |
| Travels with Jack May                                  | 24 |

**Trip Notices/Save the Dates**

**April 4:** MNYBC Trip - New Jersey Local. Check <https://erausa.org/regional-trips/2026/04/04/> for the details.

**April 15-19:** Motor Bus Society spring San Francisco Bay Area convention. Visit <https://www.erausa.org/regional-trips/2026/04/16/> 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.

**Donations**

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

**\$200 to \$499**

Rob Scaffardi

**\$100 to \$199**

James Cocco, Robert Fried

**\$50 to \$99**

Richard Aaron, Jerome Jozak, Pierre Lehmuller, Kenneth Leonardi, James Sparkman

**Up to \$49**

Ronald Drucker, James Koryta, John Pesuit, Henry Posner, Andrew Sparberg

*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/](http://erausa.org/membership/donate/). Your donation helps to maintain ERA’s 91-year long tradition of traction education and entertainment!*

**Monthly Zoom Meeting**

Friday, March 20 (not the fourth Friday, as shown in the January *ERA Bulletin*), at 7:30 p.m.

**Presenting This Month: Lane Petrosenko & Mark Walton**

**Traction in Edmonton and Calgary:** Lane’s presentation covers the history of streetcars (and interurbans) in the Edmonton area, with focus on the overall history, roster, routes, and infrastructure of the Edmonton Radial Railway. He will also briefly touch on the Edmonton Radial Railway Society. Mark will cover the modern-day operations in Edmonton and Calgary with images he took at the ERA/Canadian Transit Heritage Foundation’s (CTHF) 2024 Convention. Edmonton and Calgary along with San Diego, pioneered the late 1970s/early 1980s North American revolution from trolley service to modern light rail.

**How to Join Our Zoom Meeting**

The Zoom registration link for this meeting is: <https://us02web.zoom.us/meeting/register/pmYlGuaUR1uI2cx8p-S4tcQ>. You can sign in at 7:15 p.m. The show begins at 7:30 p.m. If you have any problems, email Andrew Ludasi at [aludasi@gmail.com](mailto:aludasi@gmail.com), or on the night of the meeting, text or call Andrew at 609-865-8770.

**Front Cover Photo**

It's February 22 and the Blizzard of 2026 is now underway when Train 8839 from Grand Central to Poughkeepsie was caught at Spuyten Duyvil with SC42-DM No. 302 in the lead. Brandon Elliott photo

**Rear Cover Photo**

The Very New and The Old: Brand-new R-211A Nos. 3715-3716-3717-3718-3719 (Kawasaki Rail Car, 2/2026) meets 50-year-old R-46 Nos. 5546-5547-5549-5548 (Pullman-Standard, 4/1976, 3/1976, 4/1977, 6/1976) on February 16 inside the inspection shop at Coney Island Yard. Eric Oszustowicz photo

**Worldwide Suburban Electric Railway, Metro and Tramway Openings in February 2026**

| Date | Country            | City               | Segment   | Distance (miles) | Railway/Metro/Tram |
|------|--------------------|--------------------|---|------------------|--------------------|
| 2/2  | Mexico             | Mexico City/Toluca | El Insurgente: Santa Fe to Observatorio         | 5.3              | R                  |
| 2/8  | Canada             | Toronto            | Line 5: Mount Dennis to Kennedy (New line)      | 11.8             | T                  |
| 2/9  | Brazil             | Belo Horizonte     | Line 1: Eldorado to Novo Eldorado               | 0.9              | M                  |
| 2/10 | China              | Chongqing          | Line 4: Min'andadao to Shimahelijiao            | ~6.2             | M                  |
| 2/14 | France             | Lyon               | T6: Hôpitaux Est-Pinel to La Doua               | 3.4              | T                  |
| "    | "                  | Brest              | Line B: Gare Gambetta to Hôpital Cavale         | 3.2              | T                  |
| 2/22 | India              | Delhi              | New Ashok Nagar to Sarai Kale Khan              | 3.3              | R                  |
| 2/25 | Dominican Republic | Santo Domingo      | Line 2: Maria Montez to Pablo Adon Guzman       | 4.0              | M                  |
| 2/28 | Germany            | Munich             | Line 14: Fürstenrieder Straße to Ammerseestraße | 0.9              | T                  |

URBAN RAIL NEWS, FEBRUARY 28

# Rail News in Review

## New York Metropolitan Area

### BLIZZARD OF 2026

#### Second Major Snowstorm in a Month Pummels Region

The blizzard of February 22-23, 2026, was an extraordinary atmospheric event that showcased classic nor'easter dynamics and explosive intensification – something seen on average once per decade. Beginning as a coastal low off the mid-Atlantic coast around February 20, the system underwent rapid deepening — a classic bomb cyclone — with central pressure falling dramatically in less than 24 hours, fueling fierce winds and heavy precipitation along the north-east corridor. [Fun fact: In the mid-70s, my meteorology advisor at MIT, Prof. Fred Sanders, would look at storms like this and say it was “bombing out.” That led to him and one of his grad students, John Gyakum, to write a paper for Monthly Weather Review (American Meteorological Society, Synoptic-Dynamic Climatology of the “Bomb,” published in 1980), that defined a “meteorological bomb” as a low pressure center that intensified at the rate of at least one millibar of pressure per hour for a period of at least 24 hours.]

By Monday morning, blizzard conditions — defined by winds over 35 mph and visibility of a quarter mile or less for a sustained period of at least three hours — were widespread across the tri-state area. (Note that a “blizzard” is irrespective of snowfall/depth.) Snow rates locally exceeded two

inches per hour, with parts of the five boroughs buried under 15–24 inches of snow by midday. Central Park officially recorded 19.7 inches, putting this storm among the top ten snowfalls on record in the city's history.

Elsewhere in the Northeast Corridor, accumulations topped 36” in parts of southeast Massachusetts and Rhode Island. Around greater Boston, totals were 12-20”, and 10-28” were reported in central/eastern Connecticut. In New Jersey, the jackpots went to Lyndurst, with 31”, Newark and Orange with 26”, and 15-20” in portions of Hudson and Passaic Counties.

The storm's impacts were not limited to snow accumulation. Hurricane-force wind gusts produced severe drifting, downed trees, and extensive power outages affecting hundreds of thousands of customers across the region. Airports were paralyzed with thousands of flight cancellations, and mass transit systems struggled to restore normal service in the aftermath.

Your author notes that when numerical weather prediction models debuted for general consumption in the 1970s, they only looked two to three days in the future and were very limited in resolution and accuracy. Vast improvements on the US-based simulations as well as entrants from Europe and elsewhere have contributed to a much better understanding of forecasted events a week or more in the future, with increased confidence. Weather modeling is a three-legged stool: (1) the physics of the atmosphere modeled into numerical equations, (2) the initial conditions – data to feed the models, and (3) supercomputers to run them. As one of the

above improves, the other two must improve as well to keep the system working optimally. For this event, we had a good signal five days in advance there would very likely be an extreme event, but changing input data from real conditions didn't focus in on the specific strength nor placement until about 48 hours out. This, along with different solutions from various models, is to be expected; it's the task of the experienced meteorologist to compare and contrast what's being seen, and track updates looking for trends and consistency, and then communicate alerts and levels of uncertainty to support decision-making.

*(Editor's note: The above report was provided by meteorologist Todd Glickman, ERA No. 6315.)*

## NEW YORK CITY TRANSIT (NYCT)

### 125th Street **A B C D** Station Elevators

On January 30, three new elevators were placed into service, one from the mezzanine to each platform and one to the street. This was not a completely new installation; all three are replacements.

Work involved in the elevator replacement included:

- Full replacement of elevator cab and associated equipment within the cab, shaft and pit, along with new replaced elevator head house glass and canopy at street level
- Modifications to the shaft and pit needed to accommodate new equipment
- Replacement and modernization of all elevator machine room, electrical and mechanical equipment for better and more reliable service
- Upgrades to the remote monitoring equipment, fire alarm system, intercom system and cameras to enhance security and allow crews to respond more quickly and precisely if an elevator goes out of service



**Elevator EL144, on the northbound platform, on January 30.**

Marc A. Hermann/MTA photo

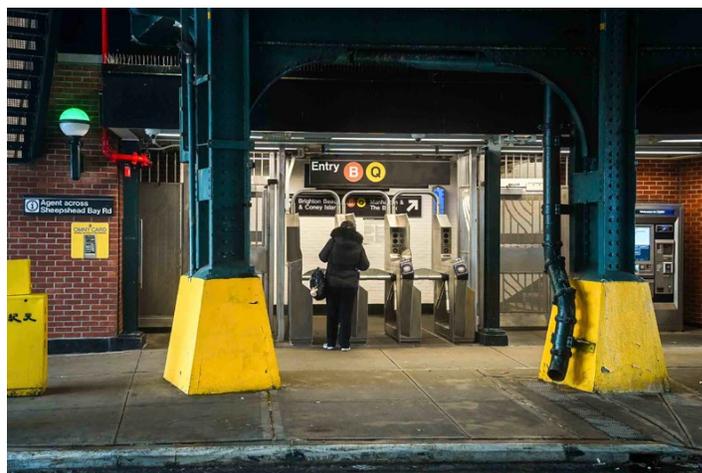
Elevators have now been replaced at 21 stations and replacements are currently under way at 13 additional stations. See <https://www.mta.info/project/station-accessibility-upgrades/>

[elevator-replacements](#) for lists of those stations.

MTA PRESS RELEASE, February 2

### Sheepshead Bay **B Q** Station Now Accessible

February 19 saw the completion of station and accessibility upgrades at the Sheepshead Bay **B Q** Station in Brooklyn. The installation of two new elevators connecting the street level to the platforms delivers full accessibility to the station and a completely new entrance (*Editor's Note: on the north side of Sheepshead Bay Road*) with three turnstiles, two exit gates and two new stairs expands the station's footprint and improves customer flow. The station serves approximately 10,000 daily riders.



**Looking north across Sheepshead Bay Road at the completely new entrance, which contains the two elevators.**

Marc A. Hermann/MTA photo



**The new fare control area, looking east towards the elevator to the northbound platform.** Marc A. Hermann/MTA photo

As part of the MTA's climate resiliency program, the new elevators and machine room include flood-resistant construction to protect critical infrastructure in this flood-prone area. Crews also made accessibility upgrades to the platforms and installed new ADA-compliant raised boarding areas and yellow tactile edge strips along the platform length.



In addition to accessibility, the project included station upgrades. Sidewalks on both sides of the station entrance have been widened for improved pedestrian flow and existing doors were modified with ADA push-button access. Other enhancements feature new lighting, emergency lights, three Help Points, updated fire prevention systems and a new speaker system. Additionally, technology upgrades include the installation of a new IP CCTV system along with expanded fire detection and alarm system to cover the new control area. [MTA PRESS RELEASE](#), February 19

## Tracks Out of Service Long-Term

Starting on Friday, February 27, and continuing through to the end of the year, the north end of Track 3 in East New York Yard is out of service. We're not exactly sure why, but it does have something to do with wheel truing machine operations inside the inspection shed.

From Monday, March 2, and continuing to Sunday, September 20, the northbound platform at Burnside Avenue 4 Station is out of service for station renovation work. This work also includes the installation of elevators. A company called MLJTC2 is performing this work under contract A-37806.

Beginning March 9 and continuing to the end of the year, the north ends of Tracks 2 and 3 in Concourse Yard (north of the inspection shed) are out of service to provide space for the demolition and reconstruction of a third rail circuit breaker house that is adjacent to the tracks.

## Subway Operates Through Blizzard

One would expect that most of the underground sections of the subway would operate throughout a blizzard and that was the case this time around. However, most of the outdoor sections, both on elevated structures and in open cuts and on embankments, also operated. There were, of course, scattered delays on many, or most, lines.

On Monday, C service was suspended entirely, with the making all local stops. Also, the A operated only between 207th Street and Lefferts Boulevard, with A "Round Robin" shuttles operating from Euclid Avenue to Rockaway Park to Far Rockaway to Euclid Avenue. That shuttle service ran until 1:30 p.m. on Tuesday, when regular service between Far Rockaway and 207th Street resumed. The last southbound "Round Robin" left Euclid Avenue at 1:21 p.m. The next two shuttles operated directly to Far Rockaway, at 1:35 and 1:58½. At 2:06 p.m., the first through A train left Euclid bound for Far Rockaway. At this time, regular Rockaway Park to Broad Channel shuttle service resumed, as well as regular C service.

---

## LONG ISLAND RAIL ROAD (LIRR)

### Blizzard Halts All Service

Due to the blizzard (see page 3), at 1:00 a.m. on Monday, February 23, the LIRR suspended all service.

There were, however, many trains operating throughout the day and into the following night. These were the alcohol spray and "patrol" trains that kept the lines passable.

On Tuesday morning, the railroad resumed revenue service, but operated on a weekend schedule, with service resuming as follows:

- 3:54 a.m. Huntington
- 4:11 a.m. Ronkonkoma (hourly only) and Port Washington
- 4:45 a.m. Babylon and Speonk
- 4:53 a.m. Port Jefferson
- 5:06 a.m. Atlantic Terminal
- 5:28 a.m. Oyster Bay
- 12:51 p.m. Ronkonkoma (half-hourly)

Service on the Hempstead, West Hempstead, Far Rockaway and Long Beach Branches remained suspended, along with the Main Line to Greenport and Montauk Branch to Montauk. Because service to Grand Central on the weekends is mostly supplied by trains on the branches with no service yet, shuttles operated between Grand Central and Jamaica.

Normal weekday service resumed on Wednesday morning. [MTA PRESS RELEASE](#), February 24

---

## METRO-NORTH RAILROAD (MNR)

### Service Operates Through Blizzard

Unlike its sister agency, MNR operated through the storm, though on a modified holiday schedule.

---

## NJ TRANSIT (NJT)

### Blizzard Curtails Rail Services

Due to the worsening forecasts, NJT suspended light rail service (Hudson-Bergen, Newark and River LINE) at 6 p.m. on Sunday, February 23. Rail service was suspended by 9 p.m. that evening.

On Monday, the 23rd, Newark Light Rail and the River LINE resumed service in the 4 p.m. hour, operating on a Sunday schedule. Hudson-Bergen Light Rail began resuming service in the 6 p.m. hour, operating on a weekend schedule.

On Tuesday, the 24th, rail service resumed, following a Presidents' Day holiday schedule with some adjustments, while the Atlantic City Line resumed its normal weekday schedule. The Morristown, Gladstone and Montclair-Boonton Lines continued being diverted to Hoboken due to the Portal North Bridge cut-in work.

[NJ TRANSIT PRESS RELEASE](#), February 22

[NJ TRANSIT PRESS RELEASE](#), February 23

---

## Other U.S. Systems

### BOSTON, MA.

#### Battery-Electric Locomotives

The MBTA announced the release of a Request for Proposals (RFP) for new battery electric and low-emissions locomotives. The procurement advances the agency's broader efforts to modernize its rail fleet and position Regional Rail for long-term improvement. The RFP, issued in partnership with

the Maryland Transit Administration, was released February 25, with an awarded contract planned for summer 2026. [MBTA NEWS](#), February 25

## LOS ANGELES, CALIF.

### Metro D Line Extension

Metro announced it will open Section 1 of the D Line Subway Extension Project on May 8. The 3.92-mile addition will soon take riders west beyond its current Wilshire and Western station in Koreatown, continuing under Wilshire Boulevard through neighborhoods and communities including Hancock Park, Windsor Square, the Fairfax District and Carthay Circle into Beverly Hills. The three new underground stations will be at Wilshire/La Brea, Wilshire/Fairfax and Wilshire/La Cienega.

The D Line extension is one of the highest-priority transit projects in Metro’s portfolio and a milestone for Los Angeles public transportation. This is another one of the completed projects in Metro’s Twenty-Eight by ’28 initiative, and part of a comprehensive plan to enhance the region’s transit infrastructure in time for the 2028 Olympic and Paralympic Games.

Section 1 of the D Line extension was funded primarily by Metro’s 2008 Measure R transportation sales taxes. Local sales tax funding also secured federal matching funds including \$1.25 billion Full Funding Grant Agreement, \$66.4 million of supplemental New Starts and \$749.3 million loan from TIFIA in May 2014.

[METRO NEWS RELEASES](#), February 26

(Below) Map of the entire extension of the D Line. Section 1, on the right, is scheduled to open in May. LACMTA



## PHILADELPHIA, PA.

### Key Tix Begins Phaseout

The launch of contactless payment, which was available on all SEPTA modes as of April 2025, has significantly decreased the demand for Key Tix. For this reason, SEPTA has made the decision to end the Key Tix app-based ticketing program in support of other, more flexible payment options.

Riders must use their Key Tix within 180 days of purchase. The last date to purchase a Key Tix is March 1 and the final date Key Tix will be accepted is Friday, August 28. After this, any unused Key Tix will no longer be valid or accepted as fare payment. No refunds will be issued for unused Key Tix.

[SEPTA NEWS](#), February 18

### New Signal System = Slower Service?

Due to the completion of the phased installation of a new signal system, trips on the D1/D2 Lines (*Editor’s Note: Routes D1 and D2 are the former Media & Sharon Hill Red Arrow routes*) could take more time, up to 10-15 minutes. On average, most riders will see their trip increase between 7-9 minutes.

Beginning on Monday, February 23, D1 and D2 trolleys will operate with a new Communication-Based Train Control (CBTC) system. Following comprehensive testing and operator training, D1 and D2 schedules have been adjusted to reflect the implementation of the CBTC system and to ensure the reliability and predictability of scheduled arrival and departure times.

SEPTA will continue to operate the same number of daily trolleys on both lines – approximately four trolleys per hour during peak service in both directions. However, scheduled

departure and arrival times have been changed to accommodate longer trip times – up to 15 minutes on D1 and 10 minutes on D2, depending on origin and destination.

*(Editor’s Note: We do not understand why the implementation of CBTC on these two routes results in slower travel times when here in New York it has resulted in faster travel times.)*

SEPTA NEWS, February 19

### Leased MARC Equipment

As we mentioned on page 8 of the February ERA Bulletin, the leased MARC equipment was placed into service on Monday, February 2. One of our intrepid photographers, Eric Oszustowicz, took a trip down to Trenton, N.J. on February 21 to catch the train set, which was laying over for the weekend.



## SAN FRANCISCO BAY AREA, CALIF.

### Alternative Service Plan Adopted

On Thursday, February 26, the BART Board of Directors adopted an Alternative Service Plan outlining specific budget balancing details to solve a \$376 million deficit for the next fiscal year if no new funds become available to BART. BART is facing a structural deficit of \$350 to \$400 million because ridership is still down 50% compared to pre-pandemic levels and BART’s current funding model relies heavily on passenger fares.

The plan includes specific cuts and financial strategies needed to balance both the FY27 (July 1, 2026–June 30, 2027) and FY28 (July 1, 2027–June 30, 2028) budgets. The plan includes service cuts, station closures, fare increases, a 40% reduction in system support services, laying off 1,200 employees and a series of deferrals and one-time resources. The plan does not name specific stations to be closed and makes clear the BART Board will be responsible for all decisions on station closures. You can read the Alternative Service Plan [resolution](#), [resolution attachment](#), and [presentation](#) to the BART Board.

BART has already made budget cuts across all departments and instituted a series of cost controls, including rightsizing service, labor savings, operational efficiencies and reducing BART’s office space footprint. At the same time, BART has also worked to increase revenue by installing new fare



A view from “back in the day.” Type A2 No. 1266 (Rohr Industries, 1975) leads an afternoon peak-period “put-in” from the yard at Colma Station on April 26, 2010. Built as Type A No. 266, it was rebuilt and renumbered in 2002. Jeff Erlitz photo

gates, leasing out BART parking lots, and offering new fare products such as Clipper BayPass. View a detailed list of cost savings implement by BART at [bart.gov/fiscalcliff](http://bart.gov/fiscalcliff).

### Alternative Service Plan Details (January 2027)

- 3-line service (Yellow, Blue and Orange Line service only, with limited peak service in only the peak commute direction on the Red and Green lines)
- 30-minute frequencies on every line
- Closing at 9 p.m. seven days a week
- This service plan represents a 63% reduction in train hours
- 30% fare and parking fee increases (the estimated average fare would increase from \$4.98 to \$6.38)
- Target approximately \$30 million in savings over six months from non-service budget reductions to fleet and non-fleet maintenance, police, cleaning and administrative support functions
- Continue deferrals of priority capital allocations and retiree medical contributions
- Balance remainder of FY27 with one-time resources and financial deferrals

Following the January 2027 cuts, staff will continuously assess ridership and revenue impacts and the performance of all District functions to determine if further reductions can be safely and legally implemented.

### Alternative Service Plan Details (July 2027 if feasibly safe)

- Target over \$175 million in annual cost reductions through a cumulative 70% reduction in service hours
- Maintain 3-line service, 30-minute frequencies on each line, closing at 9 p.m.
- Close up to 15 stations and/or up to 25% of system track miles
- The BART Board will be responsible for all decisions on station or line segment closures
- Increase fares and parking fees up to a cumulative 50%. The estimated average fare would increase to \$7.26
- Target annual operating expense savings of more than a

cumulative \$130 million from non-service budget reductions to fleet and non-fleet maintenance, police, cleaning and administrative support functions

- Continue to defer retiree health contributions; defer most remaining capital allocations

**Contingency**

- If at any point it is determined BART can't safely or legally operate with available resources, stop passenger service
- Use existing District tax revenues to secure system assets
- Work to determine system's future

BART can't use state loan money to avoid station closures and service cuts if no new revenue becomes available because without new revenue, there is no way to pay the loan back. The state loan primarily helps with cash flow if a November 2026 transit funding measure is successful. It is a bridge loan that gives BART reassurances money will be available to continue to deliver the best service possible until the sales tax dollars from the successful ballot measure become available for BART's use. This is projected to happen in July 2027 but could take longer. If a funding measure succeeds, BART will use \$97 million in loan funds to help balance the FY27 budget.

[BART NEWS](#), February 26

**SEATTLE, WASH.**

**Crosslake Connection Update**

Starting Saturday, February 14, Link 2 Line test trains will begin running simulated service, the final phase of testing before the opening of the Crosslake Connection. During this time, passengers will be able to ride test trains between International District/Chinatown and Lynnwood City Center stations, and service hours on the existing 2 Line between Redmond and South Bellevue will be extended until midnight.

During simulated service, two-car 2 Line trains will run between normal four-car 1 Line trains from International District/Chinatown to Lynnwood and back. Trains will arrive every four minutes during weekday peak periods, and every 5 minutes throughout the day. The addition of 2 Line trains will significantly increase capacity through the busiest part of the Link system, with double the number of trains running through the downtown Seattle transit tunnel. Passengers traveling on 2 Line trains from Lynnwood will need to exit at International District/Chinatown Station.

The Crosslake Connection will open March 28, 2026.

[SOUND TRANSIT NEWS](#), February 10

**WASHINGTON, D.C.**

**Resolution of 7000-Series Railcars Disputes**

The Washington Metropolitan Area Transit Authority (WMATA or Metro) and Kawasaki Rail Car, Inc. (KRC) announced their resolution of several ongoing contract disputes regarding, among other things, the 2021 Blue Line

derailment of a 7000-series railcar which led to the entire 7000-series fleet being grounded. A multiparty investigation, led by the National Transportation Safety Board (NTSB) and that included WMATA and KRC, found that wheel migration in the 7000-series railcars contributed to the derailment.

Following the 2021 derailment, and with support from Metro and KRC, the NTSB investigated the root cause. The NTSB investigation did not assign responsibility for the cause of wheel migration, and Metro and KRC both deny responsibility or contractual liability for the wheel migration and other technical issues that are now resolved as part of a global contract resolution. The agreement reflects a mutual desire to resolve these issues without litigation, while maintaining a strong and successful partnership for the 7000-series program.



**WMATA 7000-series Red Line train at Twinbrook on January 7, 2023.**  
John Brighenti photo via Wikimedia

As part of the global settlement to resolve wheel migration and other matters unrelated to the 2021 derailment, the parties agreed to reduce Metro's remaining contractual payment obligations by up to \$35 million, which will offset Metro's costs to implement technical changes to the 7000-series railcars, address wheel migration mitigation and other unrelated efforts, and allow Metro to reallocate funding to other projects. In recognition of KRC's contribution to the design, manufacture, and delivery of the 7000-series railcars, Metro also agreed to release contractual payments to KRC for successfully achieving reliability and maintainability testing benchmarks and to reduce the amount of KRC's required performance bond.

This year marked 15 years since Metro awarded the contract to KRC to design, produce and deliver the 7000-series railcars. KRC has delivered all 748 railcars. Based on the recommendations of engineering experts involved in the NTSB review, Metro developed a plan to press wheels on the 7000-series fleet in-house at a higher standard. Metro and KRC disputed, among other issues, whether the original standard had been a design specification or was developed in response to a performance specification. The remediation effort has been underway at Metro since 2023 and is expected to be completed in second quarter 2026.

[WMATA NEWS](#), February 5

## International

### BAKU, AZERBAIJAN

#### Tramway Network Planned

Plans to develop a tram network in Baku have been announced by Deputy Minister of Digital Development & Transport. The five proposed lines would complement the capital's existing commuter rail and metro networks, helping to reduce traffic congestion by improving public transport links between the outer suburbs and the city center.

So far details of one line have been finalized, the backbone of the network which would run from Mehdiabad in the Absheron district north of Baku to 28 May in the city center. A new station would be constructed on Baku's existing suburban rail corridor at M Rasulzada, between the existing Bilajari and 28 May stations, as an interchange with the tram line. The tramway would also offer an interchange with the metro at Azadliq Prospekt.

A design consultancy will finalize details of all five lines this year, enabling tenders for construction to be called. Completion is planned by 2030.

[RAILWAY GAZETTE INTERNATIONAL](#), February 5

### BANGKOK, THAILAND

#### Commuter Rail Expansion

Mass Rapid Transit Authority of Thailand has selected the winning bidders for two major construction contracts under its Bangkok commuter rail expansion program. State Railway of Thailand has approved a budget of 20.8 billion baht for the extensions.

Unique Engineering & Construction was awarded the contract for the 8.8-kilometer extension of the Dark Red Line from Rangsit to Thammasat University's Rangsit campus in Pathum Thani, submitting the lowest bid of 6.1 billion baht.



Dark Red Line at Rangsit Station on November 14, 2021.

Suikotei photo via Wikimedia

The UT joint venture of Uniq and Trusty Construction secured the Light Red Line works contract with a bid of 14.7 billion baht. This covers works on the corridor including three stations at Rama VI, Bang Kruai-EGAT and Baan Chim Phli, consolidating previously planned projects into a single contract covering the full 20.5-kilometer route.

Construction of both projects is expected to take 36 months, with completion scheduled for February 2029, ahead of a planned opening in March 2029.

[RAILWAY GAZETTE INTERNATIONAL](#), February 11

### BERGAMO, ITALY

#### New Tram Unveiled

The first of 10 customized trams for the future Line T2 in Bergamo has been rolled out at Skoda Group's Plzen plant in the Czech Republic. The trams are based on the Skoda ForCity Classic family, adapted to Bergamo's needs, including urban and suburban sections and operation in tunnels on the future Line T2. This route will run from Bergamo station to the village of Villa d'Alme, initially sharing the existing T1 corridor before joining the alignment of the former Valle Brembana railway which closed in 1966.



Skoda ForCity Classic Bergamo. Skoda Group photo

The five-section 33-meter-long bidirectional fully low-floor tram has 64 fixed and two folding seats and a total capacity of 281 passengers, with eight wide double doors per side for rapid passenger flows. The air-conditioned interior features LED lighting and dedicated spaces for people with reduced mobility. The cabs are designed for driver comfort and a wide view, and anti-collision system will actively monitor the area in front of the tram to help prevent accidents. There are remote diagnostic systems for real-time monitoring, and easy access to the technical equipment to facilitate cost-effective maintenance.

The tram order was announced in July 2023 as part of a larger turnkey contract for a consortium of Impresa Milesi Geom Sergio, Generale Costruzioni Ferroviarie, Impresa Edile Stradale Artifoni and Skoda Transportation to build the

11.5-kilometer Line T2. The first tram is expected to arrive in Italy during March, with all to 10 to be delivered this year. Tramvie Elettriche Bergamasche plans to open T2 at the end of the summer. The trams will complement the 14 Ansaldo Sirio trams in service on T1, which opened in 2009, with all 24 trams able to operate on both lines.

[RAILWAY GAZETTE INTERNATIONAL](#), February 18

## BRNO, CZECH REPUBLIC

### Tram Kits Ordered

Brno transport operator DPMB has signed a KC2.3 billion framework agreement for Pragoimex to supply components for the local assembly of up to 60 more EVO2 trams by 2033, which would take the total number in the city to 101.

The vehicles are to be assembled at DPMB's central workshop, with each one taking 30 staff four to five months to complete. Three trams are expected to enter service in 2026, with work underway on a further two.



Two of Brno's current EVO 2 trams, Nos. 1854+1851 (Pragoimex, 2024), are seen operating on Route 1 south of the Zoologicka zahrada stop as they cross the Svatka River on May 2, 2025.

ReksakDaniel photo via Urban Electric Transit

The low-floor air-conditioned Drak ("Dragon") trams feature USB sockets and a modern information system with LCD screens. They will replace older trams from the 1960s to 1980s, initially on Routes 1 and 4, and expanding to other routes in the coming years.

DPMB currently operates 15 types of trams, which is to be reduced to seven by 2033 in an effort to simplify planning, operation and maintenance.

[RAILWAY GAZETTE INTERNATIONAL](#), January 30

## EUROPE

### Leo Express Unveils Talgo Trainset

Leo Express unveiled the design of the three 13-car Talgo VI tilting push-pull trainsets on February 11. It is leasing

the Talgo vehicles from RENFE (Spanish National Railway), which is LE's 50% stakeholder. The 200 km/h vehicles were built in the late 1980s and refurbished in 2019-20. The low-floor trainsets have a capacity of 350 passengers. They arrived at the Velim test center in the Czech Republic in August to undergo test runs for certification.



Leo Express's refurbished Talgo trainset, with a Siemens Vectron locomotive. Leo Express

They are to enter service on April 30 on LE's existing Prague – Ostrava – Zilina – Presov route, as well as on the Prague – Pardubice – Olomouc – Otrokovice – Stare Mesto u Uherskeho Hradiste – Bratislava service, which LE plans to launch on the same date. LE also announced its entry into the German market with a Frankfurt am Main – Leipzig – Dresden – Prague – Ostrava – Krakow – Przemysl route from June 25. It is also extending one pair of its existing Prague – Ostrava – Krakow services to Warsaw from March 1.

[RAILWAY GAZETTE INTERNATIONAL](#), February 20

## LITHUANIA

### Battery-Electric Trainset Unveiled

The first of six 4 foot, 11 $\frac{1}{2}$  inch gauge, three-car battery-electric multiple-units that Stadler is supplying for national passenger operator LTG Link was unveiled at Kaunas station on February 14.

Under a June 2023, €226.5 million contract, Stadler Polska is supplying to LTG Link with nine Flirt EMUs for inter-city services and six BEMUs with a range of 70 kilometers to replace diesel trains on non-electrified lines. The deal includes the supply of spare parts throughout the trains' 30-year life, with an initial 10-year technical support and spares agreement running to 2037.

The vehicle is currently undergoing testing, with entry into service planned in the second half of this year. The BEMUs are to be used on the Vilnius – Varena (– Marcinkonys) and Kaunas – Siauliai routes, both of which are partially electrified. Trains on the Vilnius – Marcinkonys line will stop for a battery charge at a facility to be installed at Varena.

The 65-meter-long trainset is capable of operating at up to



**Class 841 BEMU No. 001 at Kaunas station on February 14.**  
LTG Link photo

160 km/h under catenary and at up to 120 km/h in battery mode. It has three doors per side, 128 seats and space for six to 30 bicycles according to demand. It features coffee and snack vending machines as well as ramps and accessible toilets for people with reduced mobility.

[RAILWAY GAZETTE INTERNATIONAL](#), February 25

## MEXICO CITY, MEXICO

### Suburban Rail Extension

The El Insurgente suburban rail service was extended by a further 8.4 kilometers on February 2 from Santa Fe on the western edge of Mexico City to Observatorio, where interchange is provided with metro Line 1. In the future, the hub will also be served by an extension of Line 12, which is now under construction. The 57.7-kilometer double-track electrified railway links Zinacantepec in the Toluca Valley metropolitan area to the capital. The first section from Lerma to Zinacantepec opened in September 2023, and the line was extended to Santa Fe in August 2024.

El Insurgente is equipped with ETCS Level 2, and the maximum operating speed is 80 km/h. It is designed to handle 235,000 passengers per day. The route was completed 11 years after the groundbreaking ceremony at a total cost of 140 billion pesos. The main engineering challenge was crossing the Sierra de las Cruces mountains.

El Insurgente is operated by a state-owned consortium of the National Infrastructure Trust Fund and the National Bank of Public Works & Services. Trains run between 5 a.m. and midnight, with a 5- to 7-minute frequency in peak hours. An end-to-end journey costs 90 pesos and takes less than one hour, compared to more than two hours by road in peak hour traffic.

CAF has supplied 30 five-car electric multiple-units from its Civia platform, built at the manufacturer's Beasain plant in Spain. Of these, 20 are in service on El Insurgente, while the remainder have been allocated to work on the future Tren Suburbano line which is under construction. The Tren



**The new terminal at Observatorio.** Roberto Fabian Castaneda photo

Suburbano's first section is scheduled to open in March between Mexico City and the Felipe Angeles International Airport, with the extension to Pachuca expected to follow by early 2027.

[RAILWAY GAZETTE INTERNATIONAL](#), February 10

## MILAN, ITALY

### Limbiate Interurban To Return

Reconstruction works have started on the largely moribund standard-gauge Milan to Limbiate interurban light rail line. The 12-kilometer partly single-track route with 19 stops links the Comasina terminus on Milan's metro Line 3 with Limbiate Ospedale. The route has been out of service since September 2022 because of poor track conditions, but 10 new trams are already on order as part of operator ATM's framework contract for up to 80 Stadler Tramlink vehicles signed in September 2020.



**On the last day of operation, September 20, 2022, a three-car set of "Bloccati," Nos. 551+510+552, has departed the Paderno Battilocca stop of Route 179, the Milan-Limbiate interurban, on an inbound trip to Comasina. There, a connection can be made with Metro Line M3.**

Trolleybus Man photo via Urban Electric Transport

Works are being undertaken by a consortium led by Generale Costruzioni Ferroviarie Elettriche, and including Generale Costruzioni Ferroviarie, Vitali Spa Societa Benefit, Salcef Group and Project Automation SpA. Of the €182

million cost of the works, €88 million was provided by the national government.

The scope of the work includes track renewal, and the repair and replacement of overhead wires, other power supply equipment and telecommunications systems. The alignment is also to be partially double-tracked and relocated at various locations to sit in the central reservation of the Milan to Limbiate main road. The road and light rail bridge over the Villoresi Canal is also to be rebuilt. Intelligent traffic lights are to be installed, giving priority to trams, while new pavements and a cycle path are also to be built along the line. Completion of the renovation work is expected by the end of 2029.

[RAILWAY GAZETTE INTERNATIONAL](#), February 12

## ROME, ITALY

### Metro Line C Extension Contract Awarded

Rome municipality has awarded the Metro C Scpa consortium a €776 million contract covering the design and construction of Section T1 of Rome's Metro Line C. This will link Clodio/Mazzini and Farnesina in the north of the capital with one intermediate station at Auditorium.

Led by Webuild, with Vianini Lavori, Astaldi and Hitachi Rail, the consortium is currently completing Piazza Venezia station in the city center. That forms the final part of Section T3, along with the three-kilometer route from San Giovanni to Porta Metroni and Colosseo/Fori Imperiali which was opened for traffic in December.

The Metro C consortium is also working on Section T2 of the fully automated line, which will run from Piazza Venezia to Clodio/Mazzini via a tunnel under the River Tiber and an interchange with Line A at Ottaviano. That section is currently in the executive design phase, and Webuild confirmed that the award of the T1 contract meant that the two northern sections could be built in an integrated manner. This would facilitate the continuation of mechanized excavation between the two sections, avoiding a fragmentation of the works. The company valued its share of the T1 contract at €268 million.

The ability to combine advanced engineering with measures to preserve millennia-old artifacts is the hallmark of the Metro C consortium's work in Rome. They were able to overcome major engineering challenges to safeguarding the city's heritage, noting that the various construction sites offered an opportunity for cultural enhancement, with more than 625,000 square meters of archaeological excavations being managed along the first sections of Line C between Monte Compatri/Pantano and Clodio/Mazzini.

[RAILWAY GAZETTE INTERNATIONAL](#), February 2

## SANTIAGO, CHILE

### New Metro Trainset Unveiled

The first of 37 five-car Metropolis AS-22-UTO automated metro trainsets that Alstom is supplying for Santiago metro Line 7 was unveiled at the manufacturer's Taubate plant

in Sao Paulo on January 20. Under a March 2022, €355 million contract, Alstom is supplying rolling stock for the 25.8-kilometer automated metro Line 7, which is currently under construction between Vitacura in the northeast and Renca in the northwest, serving 19 stations.

The deal includes the supply of Alstom's Urbalis CBTC signaling to enable driverless operation, as well as 20 years of maintenance and a predictive maintenance system for the trains, tracks, and overhead lines. The 102-meter-long walk-through trainset has a capacity of 1,247 passengers, including spaces for people with reduced mobility. The vehicle is equipped with air conditioning, audio and visual passenger information systems, USB-C charging ports, high-resolution cameras and intercoms that allow users to communicate with the control center. Each car has four doors per side. The vehicle has a stainless steel car body that is expected to have higher durability and reduced energy consumption.



Santiago's new metro train set. Metro de Santiago photo

Line 7 is planned to be completed in 2028. It is expected to offer an end-to-end journey time of 37 minutes, compared to one hour 12 minutes by existing bus services in the same corridor.

[RAILWAY GAZETTE INTERNATIONAL](#), February 5

## SWITZERLAND

### SBB Cargo Standardizes Fleet

Nordic Re-Finance has agreed to acquire 31 Traxx AC1 electric locomotives from SBB Cargo, as part of the leasing company's ambition to expand its portfolio of modern and interoperable electric freight locos. The locos will continue to be used by SBB Cargo International under a full-service lease agreement. SBB Cargo currently has around 200 mainline locomotives of six types, but is to standardize on Stadler Euro DuFour locos by 2035.

SBB Cargo purchased 35 Traxx AC1 and 15 AC2 locos in 2002-05. Locomotives Re482 031-049 were sold to various companies between 2020-22, and the sale of Re482 000-030 to Nordic Re-Finance completes their divestment.

The acquisition is Nordic Re-Finance's second fleet acquisition since Infranity acquired a majority stake in the business in March 2025, coming after the December 2025 purchase of 15 Traxx AC2 electric locomotives from DB Cargo Scandinavia under a partial sale-and-leaseback arrangement.



One of SBB Cargo's Bombardier Traxx locomotives. SBB Cargo

[RAILWAY GAZETTE INTERNATIONAL](#), February 19

## TIMISOARA, ROMANIA

### More New Trams

Timisoara has signed a contract for Turkish manufacturer Bozankaya to supply a further 10 trams.



An example of one of Timisoara's existing Bozankaya trams, Model 2021 No. 1039 from 2024, is seen operating a Route 1 trip on **Bulevardul 16 Decembrie 1989** on April 16, 2025.

FraZel076 photo via Urban Electric Transit

The three-section, 20-meter-long 100% low-floor trams are to be delivered by spring 2027 and will have a capacity of more than 150 passengers. The 105.8 million lei+VAT order placed on February 19 is being financed through EU cohesion policy programs for western Romania in 2021–27.

Bozankaya has previously delivered 40 five-section trams to the city under earlier contracts.

[RAILWAY GAZETTE INTERNATIONAL](#), February 23

## TOKYO, JAPAN

### New EMUs in Service

Keio Electric Railway put the first of its Series 2000 EMUs into commercial service on January 31, operating on its 37.9-kilometer Keio Line linking Tokyo's Shinjuku hub with the western suburb of Hachioji.

Keio Corp. announced last year that it had ordered four 10-car trainsets from J-TREC for operation on its 1,372-mm-gauge network, which has a through running connection with Toei's Shinjuku metro line. All four are scheduled to be delivered by August 2027, allowing the replacement of older rolling stock. Each unit is formed of five motored and five trailer cars. The two driving trailers are 19.9 meters long and the intermediate vehicles are 19.5 meters. The car bodies are 2.8 meters wide with a maximum height of 4.08 meters above rail. Individual vehicle weights vary from 25 to 34 tons. The motor cars are fitted with VVVF (Variable Voltage Variable Frequency) inverter traction controls using SiC components, which will improve energy efficiency by 20% compared to its Series 7000 EMUs with conventional VVVF drives.



Keio Electric Railway's new Series 2000 EMU. Akihiro Nakamura

Car 5 has been designed with a large open multifunctional space with no seating, designed for passengers with wheelchairs or children in carriages. This vehicle has large windows to improve the view for smaller children and wheelchair users; it has been nicknamed Hidamari, or "Sunny Space." The vehicle has been positioned within the train to ensure that it is close to the station lifts at each stop, further improving accessibility.

[RAILWAY GAZETTE INTERNATIONAL](#), February 12

## TORONTO, CANADA

### Line 5 Eglinton Opens

Toronto's Line 5 Eglinton light rail route opened with a day of free travel but without public ceremony on February 8. Toronto Transit Commission is operating an "introductory"

service, pending the launch of the full service once the new line has demonstrated a high degree of reliability in real-world conditions.

The 19-kilometer line runs from Mount Dennis in the west to Kennedy in the east, with a 10-kilometer section in twin bore tunnel and 25 stops, including interchanges with metro Lines 1 and 2, 68 bus routes, the Kitchener and Stouffville GO commuter rail lines and UP Express airport services. When the full service begins, there will be an end-to-end travel time of approximately 50 to 55 minutes, compared to up to 105 minutes by bus. The line is to be further extended, with the 9.2-kilometer seven-stop Eglinton Crosstown West Extension from Mount Dennis to Renforth Drive, and there will be interchanges with the metro's Ontario Line and the Scarborough Subway Extension.

Initial construction works for the Eglinton Crosstown LRT project began in mid-2011, with boring of the tunnels getting underway in 2013 and being completed in 2016.

The Crosslinx Transit Solutions consortium of ACS-Dragados, Aecon, EllisDon and SNC-Lavalin (now AtkinsRealis) was awarded a C\$9.1 billion construction and 30-year maintenance contract covering the track and railway systems in November 2015, when opening was scheduled for 2021. However, the project was delayed and costs have increased as a result of construction problems and the coronavirus pandemic.

Alstom, as successor to Bombardier Transportation, supplied the communications-based train control system, along with 76 Flexity LRVs. The 100% low-floor vehicles, with a capacity of 200 passengers, were manufactured and tested at Alstom's Kingston site and will be maintained



Officials at the soft opening of Line 5 at Yonge Street Station on February 8. Alstom photo

by the supplier. TTC is responsible for operations, staffing, security and revenue control under agreements with Greater Toronto & Hamilton Area transport agency Metrolinx and the City of Toronto.

The phased opening of new light rail lines was one of 103 recommendations in the 2022 final report of the public inquiry into Ottawa's troubled Confederation Line project which opened in 2019. TTC will deploy shuttle buses to keep customers moving in the event of service disruptions during the introductory period. The operator said it would announce the start of full service once all partners are confident in the line's performance, and a celebratory event will be held at that time.

[RAILWAY GAZETTE INTERNATIONAL](#), February 13

(Below) Map of the entire Toronto rail system, showing all three of the recently-opened light rail lines. TTC



# Staten Island Railway R-211S Car Delivery History

By Jeff Erlitz (ERA #3997)

Following up on last month's delivery history of the base order of NYCTA R-211A and R-211T cars, we now present the

complete list of all R-211S deliveries for the Staten Island Railway's order of 75 cars, in car number order.

| Car Number | Delivery Date |
|------------|---------------|------------|---------------|------------|---------------|------------|---------------|
| 100        | 5/4/2023      | 119        | 8/5/2025      | 138        | 3/18/2025     | 157        | 4/15/2025     |
| 101        | 5/4/2023      | 120        | 5/20/2025     | 139        | 3/18/2025     | 158        | 4/15/2025     |
| 102        | 5/4/2023      | 121        | 5/15/2025     | 140        | 4/2/2025      | 159        | 4/14/2025     |
| 103        | 5/3/2023      | 122        | 5/14/2025     | 141        | 4/2/2025      | 160        | 5/30/2025     |
| 104        | 5/3/2023      | 123        | 5/13/2025     | 142        | 4/2/2025      | 161        | 5/29/2025     |
| 105        | 8/29/2024     | 124        | 5/12/2025     | 143        | 4/1/2025      | 162        | 5/29/2025     |
| 106        | 8/28/2024     | 125        | 6/25/2025     | 144        | 3/31/2025     | 163        | 5/28/2025     |
| 107        | 8/27/2024     | 126        | 6/25/2025     | 145        | 2/10/2025     | 164        | 5/28/2025     |
| 108        | 8/23/2024     | 127        | 6/24/2025     | 146        | 2/7/2025      | 165        | 6/11/2025     |
| 109        | 8/22/2024     | 128        | 6/24/2025     | 147        | 2/6/2025      | 166        | 6/11/2025     |
| 110        | 7/24/2025     | 129        | 6/24/2025     | 148        | 2/6/2025      | 167        | 6/1/2025      |
| 111        | 7/23/2025     | 130        | 4/30/2025     | 149        | 2/5/2025      | 168        | 6/10/2025     |
| 112        | 7/23/2025     | 131        | 4/30/2025     | 150        | 2/20/2025     | 169        | 6/10/2025     |
| 113        | 7/22/2025     | 132        | 4/29/2025     | 151        | 2/17/2025     | 170        | 7/10/2025     |
| 114        | 7/22/2025     | 133        | 4/29/2025     | 152        | 2/13/2025     | 171        | 7/9/2025      |
| 115        | 8/7/2025      | 134        | 4/29/2025     | 153        | 2/13/2025     | 172        | 7/9/2025      |
| 116        | 8/6/2025      | 135        | 3/19/2025     | 154        | 2/13/2025     | 173        | 7/9/2025      |
| 117        | 8/5/2025      | 136        | 3/19/2025     | 155        | 4/17/2025     | 174        | 7/8/2025      |
| 118        | 8/5/2025      | 137        | 3/18/2025     | 156        | 4/16/2025     |            |               |



R-211S 114-113-112-111-110 (Kawasaki Rail Car, 7/2025), operating on Train No. 83 from St. George to Tottenville, departs from the Arthur Kill Station on October 28, 2025. Jeff Erlitz photo

## Rail Guide – Mapping Rail History

By William Reed (ERA #7480)

Whenever I meet new people, whether they're dedicated railfans or urban planners who want to learn more about America's railway history, one thing I always show them is Rail Guide; an app/website that showcases every single past and present rail line in the United States, Canada and Mexico. Seeing that this is my first article for ERA, and as a relatively new member to the organization, it's even more fitting for me to introduce myself to you with an article about Rail Guide and its latest update as it pertains to electric railroading.

This interactive map, compiled from several Google Earth map files from over the years, has several layers that showcase various features, with each line being color coded by their respective present and former owners. Some lines, such as the Northeast Corridor, are more detailed as they show features such as line names, mileposts, control points, and other railroad locations.

Rail Guide includes the following layers:

- Current: All existing rail lines (with gray representing miscellaneous owners)
- Classic: Former owners (with thin black representing miscellaneous owners)
- Current/Classic: Present day owners superimposed on top of the former owners
- Early Owners: Original owners of the respective tracks, with more color-coded railroads dating back to the mid-19th century
- Abandoned: Lines that no longer exist, ranging from main lines to freight sidings
- Attractions: Nearby railroad museums, preserved engines and former roundhouse/turntable locations

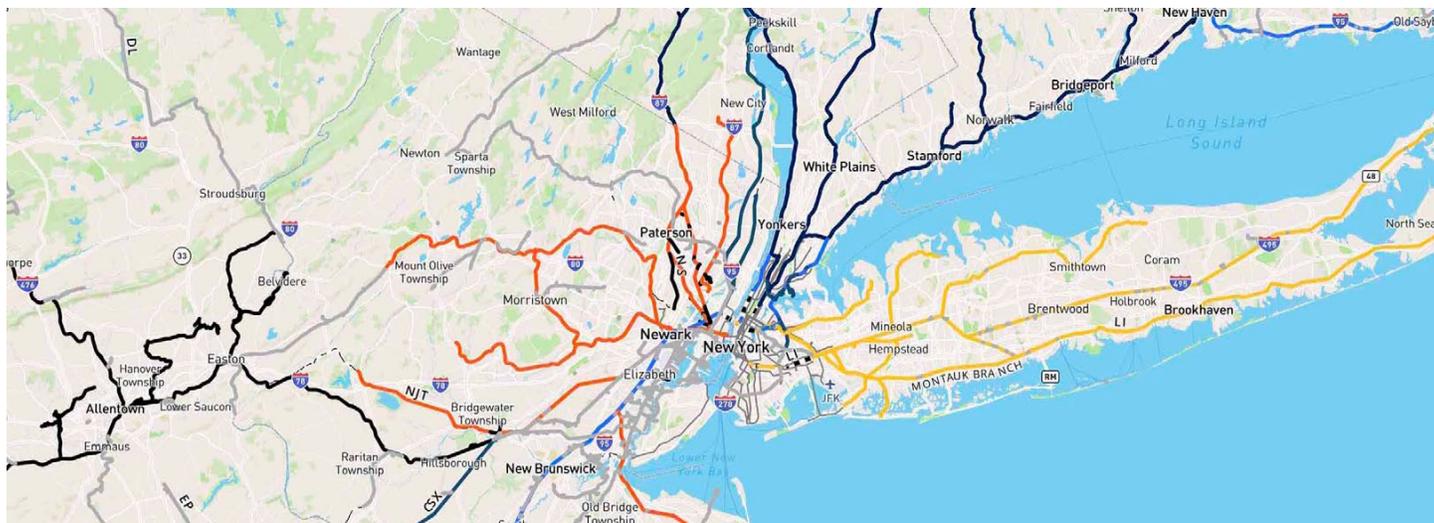
I personally use the "Current/Classic" layer on an almost daily basis due to showcasing which rights-of-way are abandoned and who owned them, as well as indicating what possible alignments could be taken if these routes were to be restored. Furthermore, some maps showcase especially detailed track maps of former yards and maintenance facilities in larger cities such as San Francisco, Pittsburgh and

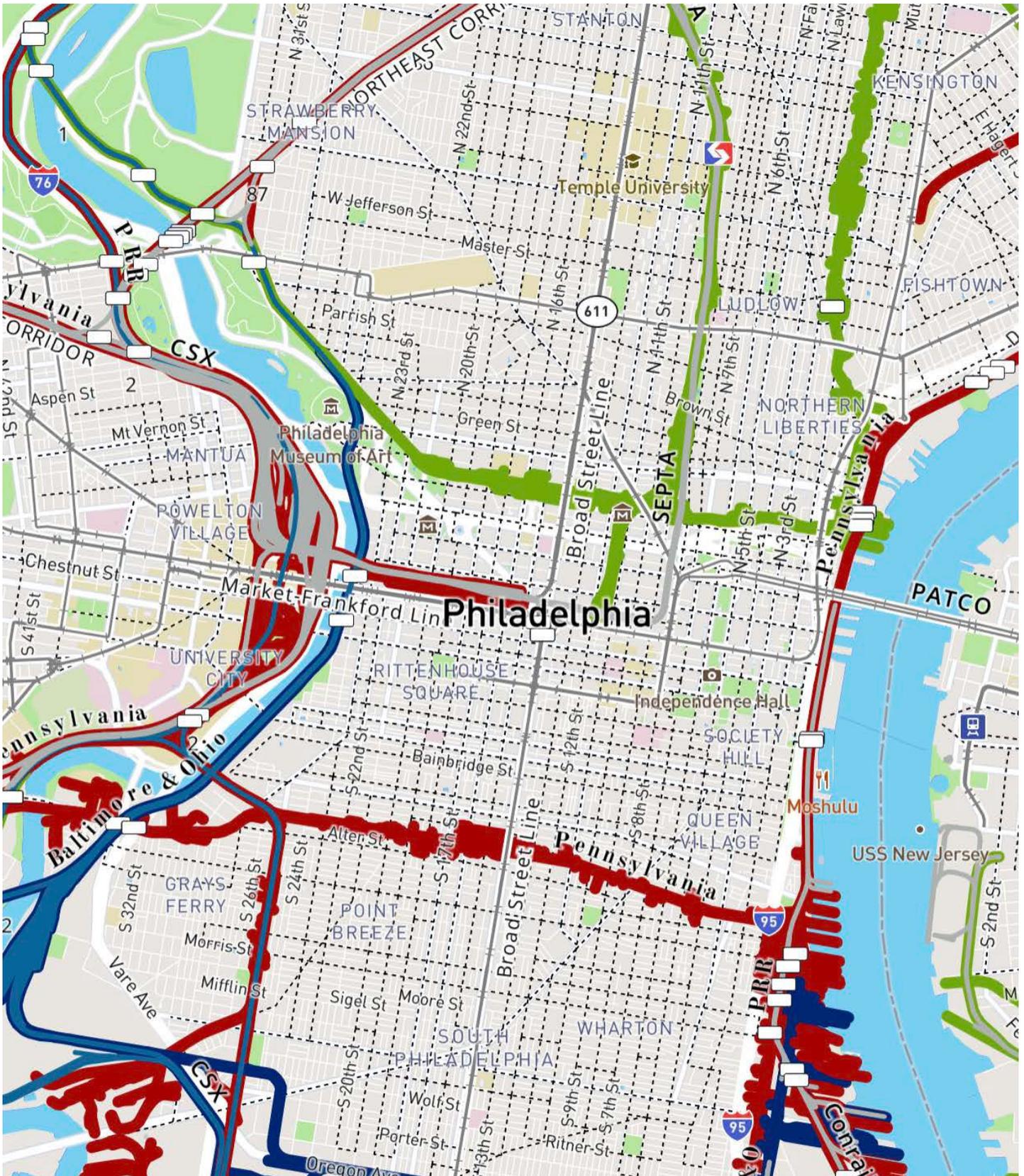
Chicago, thus showcasing where each individual track of a larger heavy rail facility used to be located.

Sometime ago, I wrote to the developers of Rail Guide asking them to showcase existing metro and light rail lines on the app as well, seeing how several second-generation North American light rail lines were constructed on former heavy rail rights-of-way, as said rights-of-way (such as the Staten Island Railway) were somewhat inaccurately shown as abandoned. I'm glad to report that as of their most recent update in December, they have not only fulfilled my request by superimposing existing metro and light rail lines on the "Current" and "Current/Classic" layers (represented by a white outline on a gray line), but they have once again gone above and beyond by showcasing the former rights-of-way of several streetcar and interurban lines in the "Current/Classic" layer (represented by thin dashed black lines), hence the purpose of this article.

At long last, the various streetcar and interurban railways can now be viewed alongside present and former heavy rail alignments in an interactive map, as these extensive grid-like streetcar networks are especially present in eastern cities such as New York and Philadelphia, in addition to smaller isolated streetcar and interurban systems such as the Buffalo, Lockport and Rochester interurban, and the Poughkeepsie City and Wappingers Falls streetcar. Even though some southern cities still have to be added to Rail Guide, this is still an amazing feat that the developers at Rail Guide have undertaken. It is another reason as to why I use and recommend this app/website as it now showcases even more existing and former railroad, interurban and streetcar right of ways, showcasing how large North America's railway network once was. Rail Guide can be downloaded on the Google Play Store and Apple App Store, in addition to being accessed online at [rail.guide](http://rail.guide). (no need for .com at the end.)

(Below) Sample of Rail Guide, zoomed in on the New York Metro area.





(Above) Close-up view of Philadelphia with the Rail Guide’s “Current/Classic” map style selected. As you can see, all of the legacy Philadelphia Transportation Company’s trolley lines are shown, in a thin, dashed line type, on the streets that they operated on. The railroads are color-coded; dark red is Pennsylvania, light green is Reading and blue is Baltimore & Ohio.

## From the Camera of Thomas C. VanDegrift, Jr. (ERA #794)

Thomas C. VanDegrift, Jr. lived in Detroit, Mich. and joined the E.R.A. before World War II. Recently, his son, Thomas VanDeGrift III, shared with us photographs his father took

during the last couple of years of original streetcar operation in Detroit. In this installment, we present images from the last weekend of PCC operation, April 7-8, 1956.



PCC No. 280 (St Louis Car, 1949) is operating southbound on Woodward Avenue, south of Kirby Street, and is passing the Detroit Institute of Arts. All of Detroit's remaining PCCs were sold to Mexico City. They were all cleaned up and renumbered by adding exactly 2000 to their existing numbers. No. 280 here became STE-Servicio de Transportes Electricos (Electric Transport Service) No. 2280. This view is looking northeast.



Looking out the front window of the PCC he and his family were riding, we see PCC No. 227 up ahead as they pass an iconic, old theater, the 6 Mile Uptown. In the center is one of the PCC's replacement vehicles, a new 1956 GMC TDH-5105 bus.



Tom went to the rear window of his car to catch this view looking southeast of the PCC that was following his, No. 254. This is at the stop just north of W. McNichols Road (6 Mile Road). On this last day of operation, there was a parade of some 24 PCCs out on the line, as well as the parade, with brass band on the truck bed no less, to the left. This is over three miles north of where today's Q Line streetcar terminates.



We have come to the north end of the Woodward Line, at the Michigan State Fair Grounds. PCC No. 277, which had been following Tom's car, is coming out of the terminal loop and is about to head back down Woodward Avenue, with No. 224 following it. We are looking southeast here.

# Paul's ERA Bookshelf

By Paul Grether (ERA #6933)

**The Forgotten Borough — Staten Island and the Subway** by Kenneth M. Gold, published by Columbia University Press, New York and Chichester, West Sussex in 2023, softcover, 384 pages. Primarily text but some black and white illustrations and charts. Included is a list of abbreviations, extensive end notes and an index.

While Staten Island still has one of the extant lines of the former Baltimore & Ohio Railroad's three-line Staten Island Rapid Transit System, operated today as MTA Staten Island Railway (SIR), the borough remains unconnected to the greater New York City Subway system. Until Robert Moses oversaw the construction and opening of the Verrazzano–Narrows Bridge in 1964, allowing vehicular traffic between Brooklyn and Staten Island, there were multiple unsuccessful efforts to build a rapid transit connection to and from Staten Island. Transfers between the subway in Lower Manhattan and the SIR still require passengers to take a ride on the Staten Island Ferry.

This work is the culmination of almost twenty years of research by Kenneth Gold. The effort started with a seminar at the College of Staten Island that fostered interest and kicked off detailed research from many archives and sources of Staten Island and transportation history. The Skyscraper Museum hosted an online lecture and discussion with the author which has been published on YouTube: [https://www.youtube.com/watch?v=Ah\\_DYzT0FBE&t=1606s](https://www.youtube.com/watch?v=Ah_DYzT0FBE&t=1606s)

There are eleven chapters divided into three parts, along with an introduction, conclusion and epilogue. The first part summarizes the consolidation of New York City in 1898. The second part details the various proposals for a subway connection, including debates about a connection under The Narrows to the Fourth Avenue subway, as preferred by Staten Islanders and Brooklynites, versus other alternative routes. The Dual Contracts era was probably the closest when construction of a tunnel could have been built, highlighted by the election of John Hylan as mayor in 1917, who advocated for a dual-purpose freight and passenger railway tunnel.

Finally, disagreements between the various organizations involved, including the City of New York, the Port of New York Authority and the Pennsylvania and Baltimore & Ohio Railroads, all conspired against progress. Despite ground being broken for preliminary work, the tunnel was never to be finished. Finally, part three summarizes the switch, starting after World War II, to advocacy of a roadway, rather than a rapid transit connection, culminating in 1964.

This book will appeal to those with an interest in the history of Staten Island, but especially the transportation politics of New York City in the twentieth century and how that shaped the larger region. Gold is an academic, so the text is detailed. The subject matter is engrossing, and Gold's writing style nonetheless tells a good story, so this book is readable. The book concludes with the outcome that the lack of a subway connection is what makes Staten Island so different than the rest of New York City and continues to define its future development, politics and population. Gold's

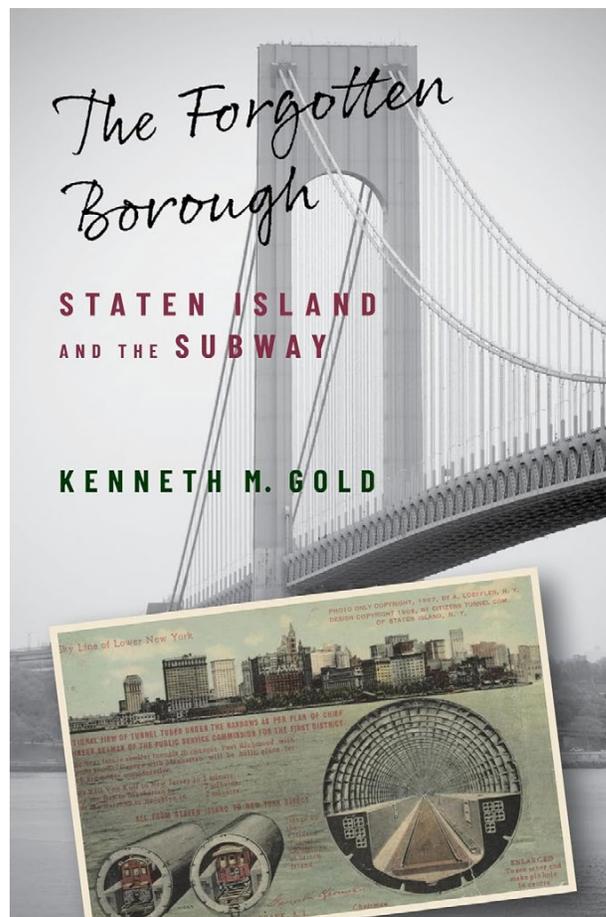
story makes us think about what Staten Island could have been like if one or more of the proposals had been built, and perhaps one day could be.

Link to book information:

[www.libib.com/u/grether?solo=157981113](http://www.libib.com/u/grether?solo=157981113)



A trio of Staten Island Railway R-44 train sets, with Nos. 438, 440 and 388 (St. Louis Car, 1973) on their ends, are seen in active storage at Tottenville Yard on October 28, 2025. Note that No. 388 was formerly NYCTA, with the same number. Jeff Erlitz photo



# Building the New York Subway System, A Photographic Journey

## Construction Route No. 18 — Part 8

By Jeff Erlitz (ERA #3997)

A few months ago, we received a message from one of our readers wondering why it took so long for the White Plains Road Line to be extended one stop from Nereid Avenue, which opened on March 31, 1917, to the terminal at 241st Street, which opened on December 13, 1920. That is three months short of four years! Initially, we did not know why, but after combing through more of these subway construction photographs, we found the answer.

It turns out that when the line was being constructed up White Plains Road between 1914 and 1917, it was completed all the way to 241st Street. However, they built a simple, three-track structure between Nereid Avenue and the terminal. There

were no extra structural sections built for leads into what became the 239th Street Yard! Originally, there doesn't seem to have been any thought to having a storage yard at the north end of the line. At some point, perhaps in 1919, they decided to go ahead and construct the 239th Street Yard. Amazingly, they then disassembled the three-track structure in the vicinity of where the yard leads would go, that they had just completed, and made the alterations for the additional steelwork for those yard leads. Hence, the four-year delay in opening to 241st Street.

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



This is looking north up White Plains Road at East 239th Street on January 9, 1917. As you can see, this is only a standard, three-track structure. This is the section that was removed and replaced to construct the yard leads. The chalk markings on the sidewalk seem to refer to the elevated “bent” numbers, but this one, and the ones on page 22, do not correspond to the bent numbers in use today.



The same day as in the previous image, slightly north of East 239th Street. Off in the distance the street, and structure, curve slightly to the right before entering 241st Street Station.



A good 300 feet further up White Plains Road, with 241st Street Station in the distance. This is about where the widened structure will be, with the northbound local track at a higher elevation (to clear the yard leads underneath).



It is now March 25, 1920 and the three-track structure north of Nereid Avenue Station is being demolished and replaced with the four-track structure, complete with elevated northbound local track for the grade separation between it and the yard leads. Unlike the previous three photos, this one references an elevated bent number, 407, that is in use today. This is about 200 feet north of the north end of the platform.

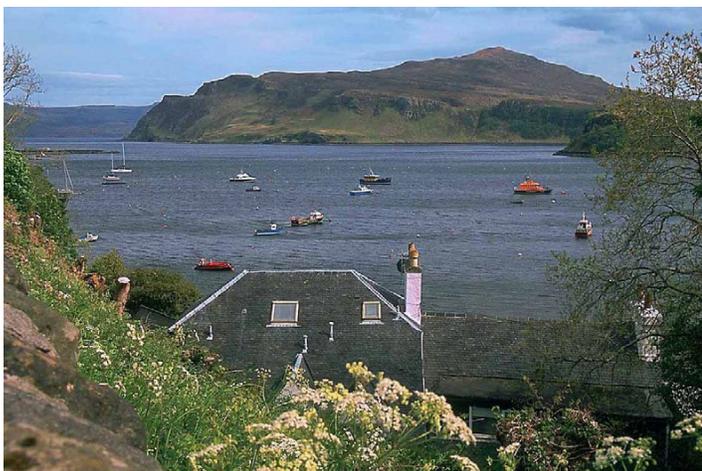
## Travels with Jack May

### Scotland-Ireland 2018 — Part 5

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

Part 4 left off upon our arrival in Portree, Skye's capital and largest city (if you can call a place with a population of 2,500 a city). Its harbor on Loch Portree is lovely and lined by houses painted in various pastel colors. While everyone was scurrying for lunch, we spotted an ice cream parlor and sated our sweet teeth (tooths?). And then, while looking around the town, we ran into the young couple from Cape Breton Island (as mentioned in one of part 4's captions), which gave Clare some time to relive her childhood visits.

We were back on board the bus at 4:20 p.m. after our

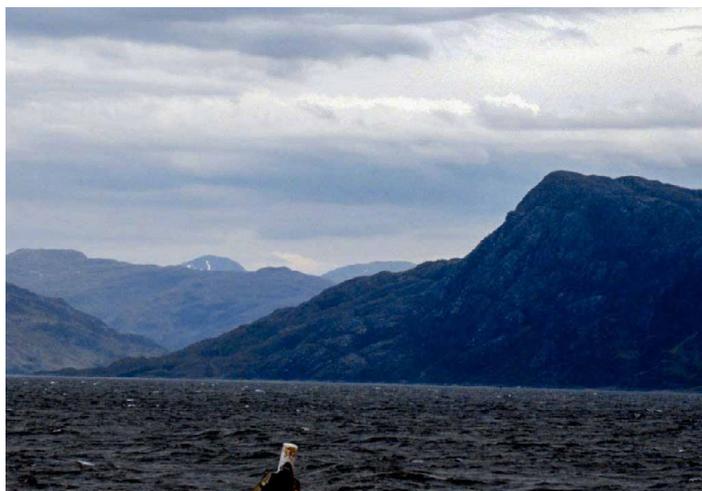


(Above and below) Portree. Two photos from the road entering Skye's capital from the north.

hour-long stop for refreshment and were now headed for Broadford, specifically the junction of the road to the bridge and one that headed for Armadale, the location of the landing for the ferry to Mallaig. As we approached that point our tour guide called the taxi company to remind them we were coming, and upon our arrival at the proper crossroads, we said our goodbyes to everyone, the driver unloaded us and our baggage, we shook hands with him and the guide, tipping them, and now we were on our own. It was 5:10 and by the time I finished taking some photos, a middle-aged woman in a car pulled around a corner and picked us up.

We were running early, and on our half-hour drive to the ferry we learned a great deal about living in Skye from the driver, who had two kids in school and was enjoying the relaxed pace of life on the island. We arrived at the ferry terminal well in advance of the 7:10 departure and serendipitously found out the company had added an extra trip due to demand, and it was scheduled to leave in a half hour, at 6:10. The ferry was loading motor vehicles as we arrived and was soon at capacity. Meanwhile it was getting colder and darker every minute and once we bought our tickets and boarded the vessel the skies opened. It also became very windy, so it was difficult to hear the sound of the sleet while we were crossing the Sound of Sleat, much less take photos of the rough sea from the deck. But, of course, we weathered the storm, and the rain stopped just after we alighted at 6:55. Thus there was no need to hire a taxi for the five-minute walk between the dock and the Hotel Marine.





The Sound of Sleat was rough, due to rain, sleet and heavy winds. But we made it to Mallaig on time, albeit slightly damp.

After checking in and freshening up we looked around the charming town (population under 800 and a center for hiking and boating), and found what turned out to be a very good restaurant for dinner. The seafood was as fresh as any we've ever had, and the company was good as well, as the man at an adjacent table was Dutch, and grew up in The Hague during the period we lived there, so as we all related our adventures, we were quite familiar with the territory.

We slept very well that evening, and as soon as we finished breakfast on Sunday morning, May 20, we headed for the railway station (about a minute's walk) and boarded (after photographing) our 156-class DMU train for the southward ride to Crianlarich, where we would transfer to an up train from Glasgow en route to Oban. The 156 units, built by Metro-Cammel in Washwood Heath (Birmingham) from 1987 to 1989, seemed a bit roomier than the 158s.

It was cloudy bright when the train left Mallaig on time at 10:10 a.m., but soon we plunged into a gray fog, which unfortunately limited visibility. The first major sight that we were looking forward to was Glenfinnan Viaduct, the iconic structure that defines ScotRail's West Highland line, considered the most scenic in Scotland. The curving single-track concrete viaduct was built at the turn of the 20th century across the River Finnan and its valley for the extension of the line from Fort William to Mallaig, which opened in 1901. It is used by four DMU round trips on Mondays to Saturdays, but only three on Sundays. But more important to railfans, this symbol of the area also carries the Jacobite\* steam train, which runs during most of the year.

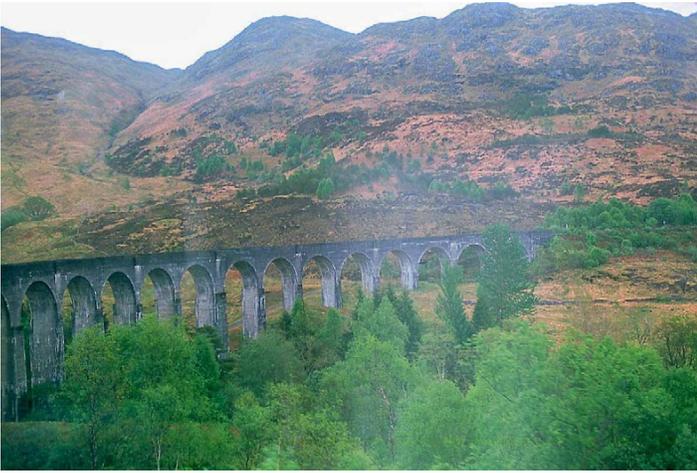
I had tried to figure out an itinerary that would allow us to either ride over the viaduct under steam, or at least travel to an outlook to photograph the train (there is local bus service available in the area). But it just wouldn't work out. We were in the area during the period when only one round-trip excursion per day was being operated, and only on weekdays. Service would be increased to weekends the following Saturday, while a second weekday-only train would be added on the day after our planned ride from Mallaig to Fort



(Above and below) Two views at Mallaig, the northern terminal of ScotRail's West Highlands line. The 156-class DMU cars were built earlier than the 158s and seemed to be roomier than their sisters. The upper photo was taken from a window in our hotel's breakfast room. Note the Sound of Sleat in the background and the Scottish Gaelic translation of ScotRail below those words on the side of the DMU. All station signs on Scotrail seemed to be bilingual as well, with the Scottish Gaelic in smaller letters below the English.



South of Mallaig the views from our train's windows were blunted by fog and haze.



**Glenfinnan Viaduct, between Mallaig and Fort William, from the windows of our DMU train.**

William. Both Jacobite round-trips are based out of Fort William and we were coming from Mallaig, so the only choices we had were to either ride or photograph the train's 2-6-0 or 4-6-0\* on the viaduct on Monday, but then we would have to spend two more nights in the area before getting to Glasgow, with little to do other than ride the train's 2-hour 10-minute one-way schedule. We decided to forgo that in the hope we'd have another opportunity to accomplish good coverage on a future trip.

*\*(Author's note: For a good view of the Jacobite train in operation, see it as the Hogwarts Express in Harry Potter films. The Jacobites were supporters of King James II after he was deposed in the revolution of 1688. Mostly Catholics, they tried to restore the House of Stuart to the thrones of England, Scotland and Ireland in the 17th and 18th centuries (as per Wikipedia). It also should be noted that Gaelic is a very common language spoken in the territory. The Broadway Musical, Brigadoon, is set in the Highlands of Scotland.)*

At 11:15 we paused at Loch Eil Outward Bound\* station for eight minutes for what appeared to be no reason at all until I saw a crew member on the ground inspecting our train.

*\*(Author's note: I should have asked a crew member about the name of that station. The first thing I thought was that we were on a section of railroad similar to the Denver to Pueblo line in eastern Colorado, where southbound and northbound single-track lines operated on separate alignments because they were originally built as bi-directional lines by two different companies (ATSE/D&RGW and C&S). But we were running inbound, so what were we doing at the "Outward Bound" station? True, we were on single track, but it didn't seem logical that there was ever a need for competing lines here among the mountains in the highlands. Later, when I was able to interrogate the internet at one of our hotels, I found out that "The Outward Bound Trust is a learning charity, which equips young people with social and emotional skills through learning and adventure outdoors. We use the mountains, lakes and rivers on our doorstep to support our participants to build their confidence and achieve their goals." I took that to mean that Outward Bound is an institution that offers a therapy program for troubled teenagers.)*

We continued without incident until arriving at Fort William, the area's principal tourism center, at 11:41 (nine late) for what was supposed to be an eight-minute stop to change ends and add two more cars to our consist. And we did roll slowly into another pair of 156 units to hook up before passengers were allowed to detrain. Many more boarded than alighted, and we now had some standees. We were a bit worried that we'd be asked to surrender our seats as almost all of the places in our train had reservation tags, and we hadn't made [free] reservations. But events then occurred that made that issue moot. We began moving at 11:45 (five late, only four minutes after our arrival), but ground to a halt before we were even beyond the long platform. And there we sat for a while, the crew eventually announcing that "we are being delayed due to a fault on this train." For my benefit and amusement, we were alongside a string of five or six Jacobite coaches, adorned in a bright [perhaps Tuscan] red color scheme. After about 20 minutes the crew told us we would have to alight and walk down the platform to the rear of the train, which we did, with me hurrying so I could be sure to grab two adjacent seats in the polite scrum. Clearly reservations would no longer matter in this free for all, and Clare waited with the bags on the platform while I boarded. Once I claimed the seats (leaving my jacket on them) I brought the luggage in, and since the baggage storage area was already filled, I found that our carry-ons would fit into the overhead racks, something that was not possible on the newer 158 class.

The train finally left at 12:22 p.m. We were now a bit worried that we might miss our "connection" with the 2:18 train to Oban at Crianlarich, as now we were 42 minutes late, and we only had 51 minutes according to the official schedule. So, we became a bit anxious, and I consulted our timetable carefully at every stop, hoping we would not fall further behind. We did, as loading was very heavy, but only by a little bit, an additional four minutes. We rolled into our transfer point at 2:05, but couldn't get off, at least not immediately, as again our cars were combined with another pair (ones that came from Oban), before the doors were opened. We still made the connection, by a sneeze.

Our new train had come up from Glasgow on time at 2:12, and the six-car consist was split into a four and a two, with the rear two units continuing up to Fort William and Mallaig, where we had just been. It was now drizzling but we did not have to go very far to make the transfer, just across a wide platform. It was an hour's ride to Oban on a mostly empty train. We departed Crianlarich on time at 2:18 and arrived at our seaside destination at 3:28, just one minute off the advertised. The branch was quite scenic, and we were hoping for better weather on our return trip, three hours later.

I should mention that there is bus service from Fort William to Oban, which had it been convenient would have allowed us to see additional scenery and avoid doubling back over the same line, but it was scheduled to leave a few minutes before the arrival of the train from Mallaig. It would not surprise me that there is a reason for this: You can't miss a connection if there's no connection. [An old saying from

the Donald J. Russell playbook.]

Upon our arrival we were surprised to see the Royal Scotsman parked in the station, and we were able to inspect its exterior, which included an observation car, two diners and a number of “Stateroom” cars. We were fortunate that there were lockers in the small station building, which allowed us to store our bags while we explored the town. On the other hand, it was now raining harder and when we found the restaurant we had selected (because of its acclaimed seafood), it was closed “between lunch and dinner.” Fortunately, we had a plan B, and that was eating in an establishment more like the type of seafood shack that can be found on the Maine coast, hardly fine dining. But at least its seating area was covered by a tarpaulin, albeit its sides were open to the cold wind coming off the waters of Loch Linnie (which reaches the North Atlantic Ocean via the Firth of Lorn and the Gulf of Corryvreckan). In other words, it was cold and wet. But the food was good, I gorged on fresh shrimp, scallops and oysters.

We left Oban on the same four-car train in which we had arrived on time at 6:11. Our return trip was relatively uneventful, except upon arrival at Crianlarich we stopped for a long period. I asked a crew member why and was told that the train from Mallaig was late and we had to wait for it, as it had to be attached. I guess standard operating procedure was not to run an extra section to avoid delaying passengers, no doubt it would mean paying an extra crew, and this explains exactly what privatization is all about.



**Waiting for the two-car train from Mallaig to arrive in Crianlarich. Our trip to Glasgow would soon continue with a six-car lashup.**



**A view from the windows of our Crianlarich to Oban train as we neared the end of the line.**



**The buildings along an inlet off the bay in the town of Oban. With a population of only 8,500, the “Gateway to the Hebrides” is a tourist spot known for its fresh seafood and pleasant scenery.**

The DMUs from the North finally arrived at 7:33, we were hooked up by 7:35 and we left at 7:39, only seven minutes late. The scenery remained good (at least until dusk) and we actually made up all but two minutes, arriving at our final destination, Glasgow Queen Street, at 9:21. I observed that we began running under wire (25 kV AC) at Helensburgh Upper, but beyond Dalmuir we were back on non-electrified track.\* It was a quick, two-block walk to the Z Hotel, whose staff was expecting us and had our room ready. Mileage for today was:

- 105 Mallaig to Crianlarich
- 42 Crianlarich to Oban
- 42 Oban to Crianlarich
- 34 Crianlarich to Helensburgh
- 25 Helensburgh to Queen Street
- 248** Total for our all day journey, but hardly a New York-Washington trip.

*\*(Author’s note: I later found out that there are two lines from Dalmuir to Glasgow Queen Street, with the non-electrified one reaching the upper (outdoor) level of the station from the north and the electrified one operating in an east-west trajectory through a tunnel used by suburban EMU trains. Think of the Reading from Neshaminy Falls to Wayne Junction, with the electrified line running via Jenkintown and the partly non-electrified “B&O New York Short Cut” running via Cheltenham.)*

Continued in Part 6.

