BULLETIN

Volume 65, Number 9 | September 2022

Long Island Rail Road Main Line Third Track Opens for Service

At one minute past midnight on Saturday, August 13, the Long Island Rail Road placed the first major section of Main Line third track into service.

Known as "Block 1," this first segment extends from the east end of Floral Park station to 987 feet east of the east end of Merillon Avenue station, for a total length of 13,669 feet, or 2.59 miles.

A test train, consisting of 12 M7 cars (E 7746-7745+7118-7117+7170-7169+7766-7765+7196-7195+7832-7831 W), was the first passenger train to operate over this segment. Starting out of Jamaica on the afternoon of the 13th, the first pass of this test train took place starting at about 3:30 PM from Floral Park and proceeded east at no more than 10 miles per hour.

At both New Hyde Park and Merillon Avenue stations, a small group of engineers from 3TC (3rd Track Constructors, the general contractor) walked from one end of the train to the other, taking measurements at all 24 door openings between the car and the platform edge. Apparently, everything measured was within the specified tolerances and no exceptions were taken.

After taking measurements at Merillon Avenue station, the test train then proceeded east using the new crossover at Nassau 1 Interlocking from local Track 2 to middle Track 1 and continued east to just past Nassau 3 Interlocking, east of Roslyn Road in Mineola. There, they changed ends and prepared to proceed west for the second test run.

The second pass started at about 4:30 PM, was done at 30 mph ("medium" speed in railroad parlance), and the train went straight to Floral Park station without stopping.

Starting at about 4:55 PM, the third pass, east from Floral Park to Nassau 3 Interlocking again, was conducted at a speed of 60 mph. This was the first time any type of train passed over this piece of track at a relatively high speed. Your editor and two of his friends were standing on the westbound platform at Merillon Avenue station to document this event and witnessed quite a cloud of dust being kicked up into the air.

About 10 minutes later, starting at about 5:05 PM, the fourth test pass was conducted. This was done at *(continued on page 3)*

Electric Railroaders Association, Inc.

Founded August 15, 1934 by E.J. Quinby
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In This Issue

Announcements

The 2022 Annual Meeting of the Electric Railroaders' Association will be held in early November. Details with the meeting's exact date, time and location will be forthcoming.

2023 dues renewal notices will be mailed out soon. If you wish to pay online, point your browser to https://erausa.org/#renew. Please be advised that if you wish to renew or subscribe to LRTA products the deadline for 2023 is November 30, 2022.

Cover Photo

M7 7746 (Bombardier Transportation, 9/2006) leads train TEST2NA1 into New Hyde Park station at 3:42 PM on August 13. This was the very first passenger train to operate on a major section of the LIRR's new Main Line third track, Track 2. Jeff Erlitz photo

Donations

The ERA Board of Directors express their deepest appreciation for one member donation in July 2022.

$500 to $999

Dennis Furbush

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 88-year long tradition of traction education and entertainment!

Meeting

Our next Zoom Meeting is on Friday, September 16, 2022 at 7:30 PM. This month's meeting will be hosted by E.R.A. Director, Paul Grether.

Presenting This Month: Peter Ehrlich

Our September Zoom program will be presented by noted transit historian and retired San Francisco Muni motorman Peter Ehrlich. His show will be about Pittsburgh trolleys, a system he has been accumulating much material on over the last few years.

Peter will briefly spotlight the Chicago North Shore and Milwaukee Railroad and its fabulous Electroliners.

This promises to be a show not to be missed.

How to Join Our Zoom Meeting

A Zoom login button will be posted on www.erausa.org about five days before Peter's presentation. You can sign in at 7:15 PM. The show begins at 7:30 PM. If you have any problems, email Paul Grether at grether@mindspring.com, or on the night of the meeting, text or call Paul at 404-434-0453.

Trips

On Saturday, September 17, the Metropolitan New York Bus Association is having a trip to the New Jersey Bus Festival and Philadelphia. A stop will be made at SEPTA's Frankford Depot and Transportation Center. For details point your browser to https://erausa.org/regional-trips/2022/09/

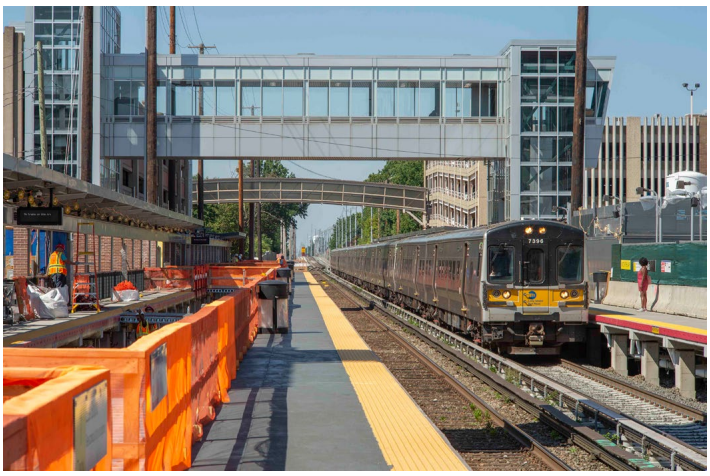
The Motor Bus Society invites our fellow ERA members to join our Fall 2022 MBS Convention in Chicago from October 13-16. Please note that this is a four-day Thursday to Sunday convention, different from previous MBS conventions which started on a Friday. For details point your browser to https://erausa.org/regional-trips/2022/10/

Maximum Authorized Speed (MAS), which for this segment of Main Line is 80 mph. The crossovers at Nassau 1 and Nassau 3 Interlockings are built with #24 turnouts and are good for a maximum speed of 60 mph.

At Merillon Avenue station, where we were standing, this trip was only accelerating above that 60 mph restriction so we did not see the operation at maximum speed.

The third pass of the test train on Track 2 is seen just west of the Merillon Avenue station at about 4:55 PM. Operating non-stop at 60 mph, quite a cloud of dust was kicked up into the air. No train, of any type, had operated at this speed before this on the new track. The railroad right-of-way here is the border between the village of Garden City on the left and the hamlet of Garden City Park on the right. Jeff Erlitz photo

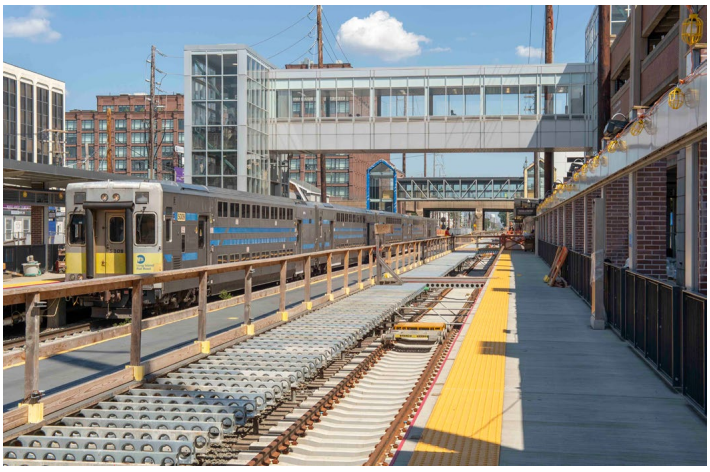
Apparently, the Transportation Department was pleased with the four test runs but another round trip test was conducted. We believe this was done for further signal system testing.



M7 7396 (Bombardier Transportation, 3/2005) leads train #2016 (Penn Station-Ronkonkoma) into Mineola station on the last day of temporary platform operation, August 25. During the midday, all eastbound trains stopped at Platform A on the north side as they "single-tracked" between Nassau 1 and Nassau 3 Interlockings. Jeff Erlitz photo

Regular service started on Monday morning, August 15, with train #1606 from Penn Station to Huntington making the very first stops on Track 2 at New Hyde Park and Merillon Avenue stations at 5:28 AM and 5:30 AM, respectively. At about 1:30 PM that same day, MTA officials and other dignitaries, including New York Governor Kathy Hochul and MTA Chair and CEO Janno Lieber, boarded a special train composed of M9 equipment at Jamaica and rode to New Hyde Park where a press conference was held.

Train #1635 (Huntington-Penn Station), with M7 7327 (Bombardier Transportation, 11/2004) in the lead, passes through Nassau 2 Interlocking and into Mineola station in this view east from the Mineola Boulevard overpass on August 25. On the right, Track 2 had just been installed here in the two weeks before this picture was taken. Jeff Erlitz photo



Train #651 (Port Jefferson-Long Island City) with C3 5009 (Kawasaki Rail Car, 10/1998) up front stops at Mineola on August 25. This is looking east along the new permanent platform with the temporary platform, partially built over new Track 2 (seen in the gap between the two platforms) just to the left. Crews had already removed the temporary railing that had been installed along the permanent platform edge, as well as two of the little "bridges" between these two platforms. Jeff Erlitz photo

Two weeks later, between August 26 and 29, the second section of new Main Line third track was prepared for service.

Known as "Block 2," this segment extends from Nassau 1 Interlocking, through Mineola station, and ends at Nassau 3 Interlocking, east of Roslyn Road in Mineola. This is the shortest of the three sections to be put into service and is 8,033 feet long, or 1.52 miles.

Thursday, August 25 was the last day of operation for the temporary platform on the eastbound (south) side of Mineola station. During that day's midday, eastbound trains operated via Track 3, the westbound local track, between Nassau 1 and Nassau 3 Interlockings, making their station stops at Platform A on the north side.

M7 7534 (Bombardier Transportation, 12/2005) is on the point of train #2054 (Penn Station-Ronkonkoma) as it glides to a stop in Mineola on August 25. This train was advertised as stopping at Platform A, to the right, but surprised everyone, including the platform conductors here, when it showed up at Platform B. It was delayed a couple of minutes as the crew waited for everyone to cross over to this side. Jeff Erlitz photo

Passengers disembarking from train #2054 at Mineola on August 25, the last day of temporary platform operation here. Jeff Erlitz photo

Eastbound service on Track 1 at Mineola resumed a few minutes after 3:00 PM when Penn Station to Ronkonkoma train #2054 made its station stop. Unfortunately, the Passenger Information System signs displayed that this train was going to still stop on Platform A on the north side. Everyone was surprised when it showed up on the "wrong" platform. There was a delay of a few minutes as everyone had to scramble to one overpass to get to the other platform.

Penn Station to Ronkonkoma train #2088 was supposed to be the last train to use the temporary eastbound platform when it stopped there at 9:34 PM, assuming it was on time.

During the morning rush hours of Friday, August 26 and Monday, August 29, all eastbound trains skipped Mineola. At all other times on those two days, eastbound trains stopped at Platform A on the north side. There was no train service between Jamaica and Hicksville on Saturday and Sunday, August 27-28.

By the morning of Friday, August 26, one would never had known that there had been an eight-car platform in place south of Track 1 (the middle track). View looking west from the east pedestrian overpass as train #605 from Port Jefferson to Penn Station (direct dual-mode service) glides through without stopping. Sunny Zheng photo

Regular revenue service on Track 2 through Mineola started at 5:33 AM on Tuesday morning, August 30, with Penn Station to Huntington train #1606 once again doing the honors.

M9 9134 (Kawasaki Rail Car, 5/2021) leads the test train into Mineola at 10 mph at 1:47 PM on August 29 and will momentarily make a station stop. The consist was E 9134-9133+9056-9055+9072-9071+9060-9059+9044-9043+9024-9023 W. This was the first passenger train on this segment. During the station stop, personnel measured the car to platform edge gap distance to ensure all were within specifications. This first pass operated from Jamaica to Hicksville, where it then turned around before heading back west on the second pass. Jeff Erlitz photo

The fourth and final pass of the test train was made at "maximum authorized speed," 80 mph. This view is looking east from the Mineola Boulevard overpass at 3:49 PM as the test train flies by non-stop. On the left are the two switches in Nassau 2 Interlocking connecting Main Line Track 3 to Oyster Bay Branch Tracks 1 and 2. Jeff Erlitz photo

The third and final segment of Main Line third track is scheduled to be placed into service during the weekend of October 1-2.

Rail News in Review

New York Metropolitan Area

METROPOLITAN TRANSPORTATION AUTHORITY (MTA)

New One Stop Rail App Combining LIRR and Metro-North Trip Planning and Ticket Purchasing Launched

The MTA launched a totally revamped app – named TrainTime – the new one-stop app for commuter rail passengers in the region on August 17. The app replaces MTA eTix and adds the functionality of previously separate TrainTime apps for Long Island Rail Road and Metro-North Railroad, merging ticket purchasing, trip planning and real-time train location data.

Access your tickets purchased in eTix using your existing account information — or create a new account using your Apple ID, Google account, or a text message.

Making the app easier and more inviting to use, TrainTime users can log in using their Apple ID, Google account, or a text message, and purchase tickets using Apple Pay. These new features complement features that are already popular with MTA app users, including seat availability tracking and in-app chat with customer service.

Nearly 50,000 people had downloaded the new app within the first 15 hours of its launch.

Starting on August 17, railroad passengers can enjoy the following features:

Mobile Tickets on TrainTime

TrainTime is the first MTA app where ticket purchasing and trip planning live on the same app. Previously passengers would have to use two apps to plan their trip—TrainTime to trip plan, and MTA eTix to purchase tickets.

Now, one can search for their train and purchase their ticket in seconds. When looking up their train, a "Buy" ticket button will appear on the screen. From there, a passenger can log in using Apple, Google or their phone number and purchase their ticket. Once a ticket is purchased, passengers will see the button show "Activate" as their departure time approaches, or "Wallet" if their trip is in the future.

Previous eTix users should use their existing account information to access tickets they have already purchased.

Real-Time Train Movement and Seat Availability Tracking

A core feature of the revamped app is the real-time train tracking map. In preparation for the app's rollout, GPS sensors were installed on the entire LIRR and Metro-North fleet. When looking up a train a passenger can get the exact position of their train in real-time. Once a passenger gets on the train, they can continue to track their movement.

The real-time train tracking is complemented by the

popular seat availability tracker that the LIRR initially debuted in 2020. A passenger can check the exact position of their train while on the train, while also knowing their exact car number and monitor that car's capacity.

In-App Customer Service

In addition to the many social channels, passengers can already go to for assistance, TrainTime meets riders where they are, providing in-app chat with customer service representatives for both railroads for the first time. Users can "Chat with us" on the "Status" tab.

Cross-Rail Trip Planning

The debut of TrainTime allows for a future feature of cross-rail trips when Grand Central Madison opens later this year.

A passenger that will travel from Long Island to Metro-North region, and vice versa, will be able to plan their full trip and purchase their ticket without having to use multiple apps.

MTA PRESS RELEASE, AUGUST 17

NEW YORK CITY TRANSIT (NYCT)

Major Accessibility Improvements Coming to Queensboro Plaza

The MTA and the Department of City Planning (DCP) announced on August 4 that the City of New York has approved the second transit improvement bonus under Zoning for Accessibility (ZFA), which will provide ADA access via a new elevator to the Queensboro Plaza 7 N W subway station.

This upgrade is the second transit improvement bonus approved by the City Planning Commission (CPC) under ZFA, which enables developers to improve access to public transit in the busiest areas of the city in exchange for an increase in their building's density. This is the first use of ZFA outside of Manhattan and will bring a street-level elevator and a new, fully accessible entrance to the Queensboro Plaza station. The street elevator that the private developer will install under the agreement will complement ongoing MTA capital work at the station that includes the installation of two elevators that make the station fully accessible, one that connects the street to the station's mezzanine and another that connects the mezzanine to the platforms above.

Following the previous week's unanimous approval by the CPC on July 27, the developer of 25-01 Queens Plaza North, Grubb Properties, will build a new, fully accessible entrance inside the footprint of their building at no cost to the MTA or the City of New York. This station entrance will allow passengers to enter the station from either side of the wide boulevard at Queens Plaza for elevator access and provide a second accessible entrance into the station.

The new apartment building, on top of providing new ADA access to the station, will include over 400 new homes, approximately 120 of them affordable, as well as an expanded stairway.

Rendering of the new accessible entrance on the north side of the Queensboro Plaza station. MTA rendering

Queensboro Plaza is one of more than 20 stations across all five boroughs with accessibility upgrades currently in progress under the MTA Capital Program. The station was identified by the City of New York as a priority for accessibility upgrades and included in the MTA Capital Program with City support. In coordination with City partners, the MTA's Capital Program to

Worldwide Electric Railway, Metro and Tramway Openings in August

Date	Country	City	Segment	Distance (miles)	Rail/ Metro/ Tram
8/6	China	Chongqing	Jiangtiao Line: Tiaodeng to Shengquansi	17.5	R
8/21	USA	Philadelphia	Media Wawa Line: Elwyn to Wawa	3.5	R
8/28	China	Fuzhou	Line 6: Pandun to Wanshou	19.4	M
	Poland	Kraków	Lines 10/11/50: Lagiewniki SKA to Kurdwanów	1.0	T
8/30	China	Jinhua	Jinyi Line: Jinhua Railway Station to Qintang	36.3	R
8/31	Russia	Yekaterinburg	Line 333: Frezerovshchikov to Verkhnyaya Pyshma	5.3	T

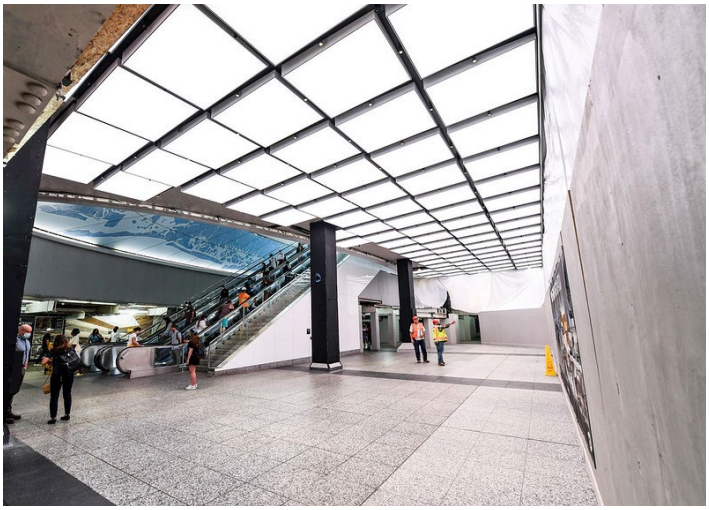
URBAN RAIL NEWS WEBSITE, AUGUST 31

make the station accessible will include one street elevator on the south side of Queens Plaza to the station mezzanine and one elevator from the mezzanine to platform level.
MTA PRESS RELEASE, AUGUST 4

LONG ISLAND RAIL ROAD (LIRR)

First Section of New 18-Foot Ceilings at Penn Station's Concourse Unveiled

The first section of the grand new ceiling at Penn Station's Concourse were revealed on Tuesday, August 2. The ceiling height has been raised to 18 feet. It is supported by an innovative structural framing system, installed by Skanska/AECOM, that allowed for the successful removal of the low-hanging 6'8" beams informally known as "Head Knockers" earlier this year.



View of the recently opened section of Penn Station's renovated concourse. Marc A. Hermann/MTA photo

Project crews are increasing the ceiling height to 18 feet across the entire LIRR Concourse and doubling its width from 30 feet to 57 feet. Crews are improving lighting, including the installation of a new luminous ceiling, improved air flow, modern finishes, more intuitive wayfinding, and enhanced accessibility at the station. A major section of the completed 33rd Street Corridor will be open to the public this fall, with the LIRR Concourse substantially completed by March 2023. This first section of new ceilings is just the start of a gradual reveal over the next few months, which will allow for passengers to take advantage of the new space prior to substantial completion.

The existing renovations will be incorporated into a total transformation of Penn Station announced by Governor Kathy Hochul in June. Crews will replace the existing facility with a single-level, world-class, modern, spacious, light-filled station that is easy to navigate.
MTA PRESS RELEASE, AUGUST 2

Wi-Fi and Enhanced Cellular Service at Jamaica Station Debuts

Friday, August 19 saw the successful installation of Wi-Fi and enhanced mobile telephone service at the Jamaica Station. Designed, installed and managed by Boingo Wireless, Wi-Fi and cellular service are now live and add coverage to the Jamaica Station platforms, waiting room, and the Sutphin Boulevard underpass. The initial wireless carrier providing service for Jamaica Station through this new system will be Verizon, with T-Mobile and AT&T coming online over the next several months.

The new Wi-Fi and cellular service will enable passengers to better use the new, seamless TrainTime app. Launched that week, the new TrainTime app includes schedule and train-tracking information for both LIRR and Metro-North, along with the ticket-buying functionality of MTA eTix.

Boingo was selected through a competitive Request for Proposals (RFP) process by the MTA as the neutral host provider for the LIRR Atlantic Branch to bring public-facing wireless connectivity across platforms and tunnels. The Atlantic Branch encompasses LIRR's Atlantic Terminal in Brooklyn, Jamaica Station in Queens and the Atlantic Avenue Tunnel that connects the two locations. Boingo's networks for LIRR are built and managed at no cost to the MTA and are designed to generate long-term revenue for the Authority with maximum cellular carrier participation. The installation of Wi-Fi at Jamaica Station comes after Boingo brought cellular coverage to the Atlantic Branch Terminal and tunnels.

Boingo networks leverage a neutral host model that efficiently manages carrier cellular networks and can deploy a range of wireless technologies across 5G, LTE, Wi-Fi, Wi-Fi 6/6E, IoT and private networks under one managed platform. Verizon Wireless will begin providing service immediately through this system, with T-Mobile planned for this fall and AT&T scheduled for early 2023.
MTA PRESS RELEASE, AUGUST 19

Recent Capital Program Project Awards

The following LIRR construction projects have been awarded so far this year:

Contract	Description	Contractor	Date	Amount
6477	Hillside Building #1 Loading Dock Repairs and Pine Aire Yard Parking Paving	Floracon LLC	2/10/2022	$1,325,100
6378	Babylon Interlocking Signal System Renewal and Upgrade	RailWorks Transit, LLC	4/26/2022	$56,714,000
6394	Northport Platform Replacement	LoSardo General Contractors Inc	4/29/2022	$9,275,000

MTA CONSTRUCTION & DEVELOPMENT WEBSITE, AUGUST 31

Rebuilt Overpass in Huntington Reopens

The LIRR opened the newly rebuilt east end overpass at Huntington Station on Wednesday, August 24. The new overpass is fully enclosed with glass panel walls welcoming in natural light and features brighter LED lighting and CCTV security cameras. The old overpass was completely demolished and removed to accommodate the construction of the new overpass including stairs, landings, and connecting bridges to the adjacent parking garages.

The view southeast on August 29 from the north parking garage of the newly-completed east end pedestrian overpass at Huntington station. This overpass was a Town of Huntington project, not LIRR, though the railroad clearly benefits. Jeff Erlitz photo

The Huntington station, the LIRR'S fourth busiest station east of Jamaica, is on the Port Jefferson Branch and serves as a key transfer point for many passengers who travel east of Huntington. It has three overpasses and with the reconstruction of the east end overpass, Huntington passengers will benefit from having all three overpasses enclosed, convenient on days with inclement weather.

To accommodate the work, the east end overpass closed on September 7, 2020 and eastbound passengers boarded and exited trains through one of the last six or eight cars. With the majority of construction work complete by July, the full length of the platform, which can accommodate a 12-car train, was reopened last month.

Despite the challenges the pandemic posed and scarcity of resources, the east end overpass replacement project was completed on time and on budget. The work was performed by Falcon Builder Inc., a Brooklyn-based contracting company that participates in the MTA's Small Business Mentoring Program.

MTA Press Release, August 24

Jamaica Reconfiguration Advances

One part of the Jamaica Capacity Improvements project, which will reconfigure the entire track arrangement at Jamaica station, was the installation of a new interlocking on the Atlantic Branch, southeast of the station.

Known as Beaver Interlocking, it is composed of two separate crossovers and four home signals that protect those switches.

Though named Beaver, for the street named Beaver Road located immediately south of the railroad's right-of-way between 94th Avenue and 158th Street, the interlocking is actually located a little over one half mile further east of the Beaver Road undergrade bridge, at 108th Avenue.

Remotely controlled from Jamaica Central Control (in the AirTrain building just south of Jamaica station), it was placed into service over two phases. On Sunday, August 14, the four home signals went into service while the two switches went into service the following Saturday, August 20.

This interlocking will provide enhanced flexibility for trains operating on the Atlantic Branch between Jamaica and Valley Stream.

NJ TRANSIT (NJT)

Ground Broken on New Portal North Bridge Construction

Governor Phil Murphy, alongside United States Department of Transportation Secretary Pete Buttigieg, Senators Cory Booker and Bob Menendez, New Jersey Department of Transportation Commissioner and NJ Transit Board Chair Diane Gutierrez-Scaccetti, NJ Transit President & CEO Kevin S. Corbett, and several federal, state, and local officials and project partners gathered on August 1 to celebrate the official physical groundbreaking of the new Portal North Bridge. Construction of the new Portal North Bridge will greatly reduce gridlock caused by critical operation and maintenance issues of the existing 110-year-old swing bridge and improve service, reliability, and capacity for rail travel along the Northeast Corridor.

The Portal North Bridge project is a critical component of the larger Gateway Program, which will eventually double rail capacity between Newark and New York.

The current Portal Bridge will be replaced with a new modern two-track, high-level, fixed-span bridge that will improve service and capacity along this section of the Northeast Corridor. The new Portal North Bridge will rise 50 feet over the Hackensack River and will allow marine traffic to pass underneath without interrupting rail traffic.

The Portal North Bridge project will eliminate the 110-year-old swing bridge, which has been the enduring source of major service disruptions for NJ Transit and Amtrak passengers traveling on the Northeast Corridor.

The project is being funded by the U.S. Department of Transportation, New Jersey, New York, and Amtrak. In January 2021, Governor Murphy announced the signing of a Full Funding Grant Agreement which secured $766.5 million in Federal Transit Administration funding to support the project's construction.

In October 2021, Governor Murphy and NJ Transit announced the approval of a $1,559,993,000 construction

contract awarded to Skanska/Traylor Bros PNB Joint Venture (STJV) for the construction of the new Portal North Bridge. The contract represents the single largest construction award in NJ Transit's history.

The Portal North Bridge project spans 2.44 miles of the Northeast Corridor line and includes construction of retaining walls, deep foundations, concrete piers, structural steel bridge spans, rail systems, demolition of the existing bridge, and related incidental works. The Notice to Proceed given to STJV in April signified the start of the construction contract, which is anticipated to take approximately five and a half years to complete.

NJ TRANSIT PRESS RELEASE, AUGUST 1

Other US Systems

BOSTON

GLX Medford Branch to Open Late November

The Massachusetts Bay Transportation Authority's (MBTA) Green Line Extension (GLX) Medford Branch is expected to open in late November 2022.

In order to help facilitate the opening and to allow crews to perform final-phase construction work, temporary shuttle buses will replace all Green Line service between Government Center and Union Square Stations in both directions beginning August 22, through September 18. This diversion in service is also necessary to allow for continued work at the private Government Center Garage project. Regular Green Line trolley service will resume at these stops on September 19.

The opening date of the Medford Branch has been shifted from its previous target date of late summer 2022 to late November 2022 due to several contributing factors, including necessary additional work and re-testing of the Medford Branch's power systems. Much of the work to be performed during the diversion in service from August 22 to September 18 is tied to the opening of the Medford Branch, including the advancement of final-phase construction elements on the GLX project and the East Cambridge Viaduct.

The start date has also been affected by the availability of safety and operational support crews that were previously prioritized for GLX, but are now re-allocated to other critical MBTA construction work, including in the MBTA's response to the Federal Transit Administration's Safety Management Inspection directives. The MBTA says it is in full support of making these safety-related changes and appreciates the support of riders and the public as the Medford Branch is brought into passenger service.

The temporary diversion of Green Line riders onto shuttle buses will provide contractors with around-the-clock access to the tracks and overhead wire system, enabling them to safely and quickly complete work deemed critical to the opening of the new Medford Branch.

Scheduled activities include:

- Adjustments to the overhead wire on the East Cambridge Viaduct that will eliminate a temporary 10 mph speed restriction, allowing trolleys to operate at the system's designed speed of 25 mph on a permanent basis. The higher speed is necessary to maintain proper schedule intervals as five new Medford Branch stations are added to the system;
- The final testing and integration of track switches, power lines, signal equipment and digital communications between the Green Line's currently operating Union Branch, the soon-to-be-operational Medford Branch and the MBTA's Operations Control Center (OCC);
- The installation of the last remaining sound wall panels along the Union Branch and non-critical work items along the Medford Branch;
- Additional last work and various outstanding construction items along the Union and Medford Branches' tracks, stations and rights-of-way;
- During this temporary diversion in service, Green Line riders traveling inbound and outbound between Government Center and Union Square will board free and accessible shuttle buses, which will make stops at Lechmere Station and the Lechmere station bus loop;
- Passenger service along the GLX's first of two branches, the Union Branch, began in March. Trolley testing along the second branch, the Medford Branch, began (without passengers) on May 14. After the upcoming diversion, non-passenger trolley testing along the Medford Branch will resume and will continue until the opening day of passenger service in late November 2022.

MASS TRANSIT, AUGUST 8

CHICAGO

Red Line Extension Project Advances

The Federal Transit Administration (FTA) and the Chicago Transit Authority (CTA), in cooperation with the Federal Highway Administration, published the combined Final Environmental Impact Statement (EIS) and Record of Decision (ROD) for the Red Line Extension (RLE) project that will extend CTA's Red Line 5.6 miles south.

The RLE project is described as "one of the most critical and transformative investments for Chicago's Far South Side communities." The extended rail line would move the Red Line's southern terminus from 95th Street to 130th Street and it would be constructed as an elevated and ground level project. It will save up to 30 minutes travel time between the city's far south side and downtown, which CTA says will open the far southern communities to more opportunities for jobs and economic development.

The project is one of three major components in CTA's larger Red Ahead Program, which is designed to maintain, modernize and expand the Red Line, the city's most traveled rail line.

The communities of Chicago's far south side have been historically underserved with 24 percent living below the

poverty level. CTA estimates the RLE project would deliver a 46 percent increase in newly accessible jobs within an hour commute of the RLE Project Area.

Map of the Red Line extension. CTA

What the Final EIS/ROD means for the project

With the publication of the Final EIS/ROD, the formal environmental review for the project is complete and allows the project to advance to the next steps of the Capital Investment Grants (CIG) program as a New Starts project.

The RLE project entered the project development phase of the CIG program in December 2020. According to information in the RLE project document on FTA's website, CTA anticipates entering New Starts Engineering in the fall of 2022, receiving a Full Funding Grant Agreement by the end of 2023 and entering revenue service in mid-2029.

More information about the Final EIS/ROD is available through CTA's RLE project page on its website, https://www.transitchicago.com/rle/.

MASS TRANSIT, AUGUST 15

HONOLULU

HART Begins Trial Running

The Honolulu Authority for Rapid Transportation (HART) began the trial running testing phase for the first operating segment of Honolulu's rail system on August 29. This is the final series of testing before the system is ready for operation and teams will be looking at all aspects of the trains, stations, systems and operating personnel, including the simulation of many normal and emergency operating scenarios.

During testing, multiple trains will be operational and moving along the tracks from Kualakaʻi (East Kapolei) Station to Hālawa (Aloha Stadium) Station. Testing will occur up to 24 hours a day, seven days a week. There is no set schedule of trains running as it will vary depending on the type of testing taking place. The testing will continue until the system achieves operational readiness status, prior to the transfer of the system to the city's Department of Transportation Services (DTS) for the initial launch of service.

HART urges the public to follow safety precautions and, when driving near the rail guideway, to look ahead and not overhead. Do not watch or photograph the trains while driving and keep attention on the road.

One of the Hitachi Rail-built cars approaches the Halaulani (Leeward Community College) station on August 30. Cindy Ellen Russell/Honolulu Star-Advertiser photo

The stations may look finished, but are still active construction sites throughout the testing phase. HART is advising everyone that for safety purposes, to please avoid the stations and especially the tracks, which are now energized 24 hours a day, seven day a week

MASS TRANSIT, AUGUST 31

PHILADELPHIA

Regional Rail Extension to Wawa Opens

In celebration of service starting on Sunday, August 21,

SEPTA and Wawa leaders gathered with local officials and community members to cut the ribbon at the recently completed Wawa Station, the new terminus of the Media/Wawa Regional Rail Line.

Construction on the Elwyn to Wawa Service Restoration Project began in 2018. It restores more than 3.5 miles of Regional Rail service to a growing area of Delaware County, supporting recent activities and offering excellent opportunities for future transit-oriented development. The opening of Wawa Station marks the first extension of SEPTA's rail service since the Airport Line was established in 1985. SEPTA trains last served this area in 1986.

Silverliner V 725 (Hyundai Rotem, 2/2012), on the head of train #2309, has arrived at Wawa on August 25. Randy Glucksman photo

SEPTA will run high-frequency service to and from Wawa Station, including early-morning inbound, late-night outbound, and express trips.

The new Wawa Station, located at 1490 W. Baltimore Pike, is fully ADA accessible with a 600-space parking deck and connections to SEPTA Bus Routes 111 and 114. The building and tunnel feature artwork installations that show Wawa's rich history of transporting milk from the dairy farm to the city via Wawa Station.

This project would not have been possible without Pennsylvania Act 89, the state's comprehensive transportation funding law passed in November 2013. Act 89 has enabled SEPTA to invest millions of dollars in the transit network throughout the region, including along the Media/Wawa Line. Over the years, the Authority has rehabilitated major viaducts, replaced overhead catenary wire, and made Secane Station fully ADA accessible, among other investments.

In restoring the track segment to service, SEPTA replaced 3.5 miles of trackbed and track, replaced four rail bridges, replaced the overhead catenary power system, performed slope stabilization, and installed Positive Train Control. The project also builds on SEPTA's sustainability efforts through the rehabilitation of four stream culverts, a variety of stormwater measures along the right-of-way and at the station, the installation of a new pedestrian culvert to accommodate the future extension of the Chester Creek Trail, along with bike racks and connections to a future township trail at the station.

The Media/Wawa Regional Rail Line timetable, effective Sunday, August 21, is available for download at: s3.amazonaws.com/schedules.septa.org/current/MED.pdf.

To celebrate the first weekday of service, the public was invited to Wawa Station for Community Day on Monday, August 22, which includes free Wawa coffee from 5:30 to 10 AM and free Wawa iced teas from 4 to 6:30 PM, along with Wawa Station t-shirts to the first 100 commuters departing in the morning and returning in the afternoon.

SEPTA Press Release, August 18

SAN FRANSISCO BAY AREA

Efforts to Rebuild BART Advance

The Bay Area Rapid Transit (BART) says there are currently more rebuilding projects happening across the system than at any time in the district's 50-year history, despite the continuing impacts of the global pandemic.

That's one of the conclusions in a newly released report on BART's Measure RR rebuilding program that was presented to the BART Board of Directors at its meeting August 25.

The independent Measure RR Bond Oversight Committee's new annual report says through March 2022 $1.26 billion in Measure RR funds were invested in a total of 150 projects. Measure RR is now in its fifth year of what is expected to be a 20-year lifespan of work. Yet 35 percent of all anticipated work has been completed. That is well ahead of projections made by BART in 2016 when Measure RR was approved by district voters. Work has been progressing despite issues with global supply chains and availability of workers because of the pandemic.

The independent oversight committee wrote that based on its review of projects and data presented by BART staff that "BART is delivering rebuilding projects in a timely manner, those projects are enhancing the reliability and safety of the system, and the work is being pursued in accordance with industry best practices."

Work completed to this point includes:

- Replacement of 42 miles of worn rail
- 31 track switches replaced
- 46 miles of 34.5 kV cable have been replaced to ensure trains have a reliable source of power
- Enhancement of 59 miles of third rail protection board

As of March, a total of 36 Measure RR projects had been completed, up from 22 last year.

Measure RR rebuilding work is making a difference when it comes to the rider experience. The data indicates replacing decades old equipment that has exceeded its design life is improving system reliability and reducing delays by hundreds of trains per year. One example is the replacement of aging rail. Before the RR work BART averaged 417 train

delays for rail issues annually. Since the work that number is down to 13. BART is also seeing a decline in the number of issues requiring unscheduled maintenance. Reducing unplanned maintenance allows BART crews to focus on planned rebuilding work that will improve system reliability for decades to come.

Measure RR is a $3.5 billion bond measure that was approved by voters in Alameda, Contra Costa and San Francisco counties in 2016. The independent Bond Oversight Committee is comprised of seven members who represent a diversity of expertise. The organizations represented on the committee include the American Society of Civil Engineers, the Institute of Electrical and Electronic Engineers, the American Institute of Certified Public Accountants, the Association for Budgeting and Financial Management section of the American Society for Public Administration, the Project Management Institute and the League of Women Voters.
MASS TRANSIT, AUGUST 26

Caltrain Electrification Project Milestone Reached

Caltrain's electrification project reached a major milestone, with Caltrain's traction power substation in San Jose being energized for the first time with power from Pacific Gas and Electric Company (PG&E).

Caltrain's substation in San Jose is also one of two main substations along the Caltrain corridor, with the other one being in South San Francisco. Together, with eight other smaller facilities along the corridor, power substations provide, distribute and regulate electricity to the overhead wires which will power Caltrain's new high-performance electric trains.

PG&E's work to complete the project for Caltrain was substantial and needed to be safely conducted while maintaining reliable service to more than 20,000 customers also served by the existing infrastructure.

The infrastructure upgrades from PG&E include:

- Construction of two, double-circuit 115 kV transmission connections from the East Grand Substation in South San Francisco and the FMC Substation in San Jose to Caltrain traction power stations in those communities;
- Rebuilt the East Grand and FMC substations that enabled PG&E to support Caltrain's request for redundant transmission feeds;
- Additional upgrades to three PG&E and two third-party remote end substations.

As Caltrain crews continue to install more poles and wire for the electrification system, Caltrain is embarking on a public outreach campaign to educate passengers, residents and businesses about best safety practices along the corridor. The agency has sent out mailers, hosted community meetings and embarked on social media campaigns to remind everyone that all overhead wires on Caltrain property should be assumed to be energized now.

The electrification of the Caltrain system will deliver major benefits to the communities that it serves. Electrification will reduce Caltrain's greenhouse gas emissions and eliminate the particulate matter caused by the aging diesel engines. Engine noise created by the trains will also be reduced.

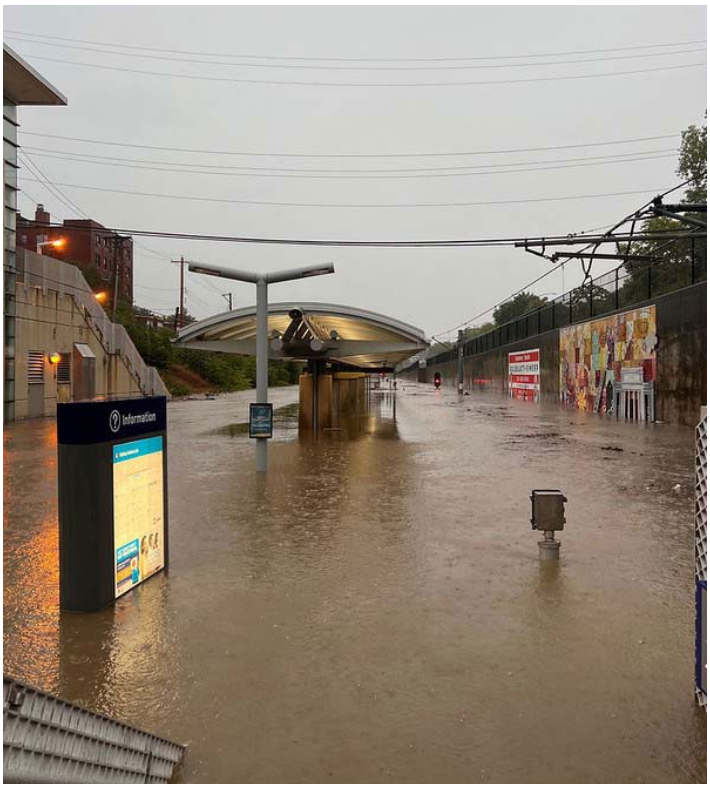
Service will become both more frequent and more comfortable, as state-of-the-art electric trains replace the 30-year-old diesel fleet. Caltrain electrification has also created thousands of jobs locally and throughout the country, both to electrify the corridor and to assemble the new trains. The infrastructure that is being installed will be compatible with future high-speed rail on the corridor.

The Caltrain Electrification Project is expected to be completed in 2024.
MASS TRANSIT, AUGUST 30

ST. LOUIS

Metro Recovers from Flood Damage

St. Louis Metro Transit provided an update regarding repairs made on its MetroLink system after it sustained damage following historic rainfall during a July 26 storm. The extreme weather event caused flooding after more than nine inches of rain fell in a 24-hour timeframe.



The flooding at the Forest Park-DeBaliviere MetroLink Station. Tony Nipert/Bi-State Development photo

Shortly after the storm, the agency estimated damage to the system ranged between $18-$20 million, but in its most recent update, said only that damage is "estimated to be in the millions of dollars." Whatever the final price tag may be, the infrastructure tally is significant and includes:

- Nearly five miles of damaged light-rail trackbed;

- Total loss of one MetroLink train stranded at Delmar Loop Station, as well as the DeBaliviere MetroLink signal house;
- Substantial damage was sustained to the MetroLink communications and fiber optics system;
- MetroLink signal systems housed in two communication rooms and four signal houses all sustained substantial damage;
- Both station elevators at the Forest Park-DeBaliviere Station must be replaced.

The more significant damage is concentrated between MetroLink's Forest Park-DeBaliviere Station and the Delmar Loop Station.

Within 72 hours of the storm, crews were able to perform trackbed repairs that allowed the Red Line to resume service. However, Red and Blue Line trains are unable to move through the Forest Park-DeBaliviere Station because of the loss of the DeBaliviere signal house. The two lines meet at the station with the signal house playing a critical role in maintaining safe operations at the junction. Bus shuttles remain in place to transfer passengers between the two lines.

Metro continued that its main focus will be on making the transfer between the Blue Line and Red Line as seamless as it can be with a plan forthcoming on additional options.
MASS TRANSIT, AUGUST 17

International

CALGARY

Two Shortlisted for Green Line Project

Two consortia have been shortlisted for a contract to design and build the first phase of Calgary's Green Line light rail project, covering the 11.2 miles from Shepard to Eau Claire with 13 stops.

They are:

- Bow Transit Connectors: Barnard Constructors of Canada, LP, Flatiron Constructors Canada Ltd, and WSP Canada;
- City Link Partners: Aecon Infrastructure Management, Dragados Canada, Acciona Infrastructure Canada, Parsons, and AECOM Canada.

The Green Line board said Phase 1 would be the largest infrastructure project in the city's history, and would cover the most technically complex section of the line. Future expansion to the north and south is planned for the longer term, which could take the Green Line to 28.6 miles and 29 stops.

The requests for qualification were evaluated against technical capabilities, approach, experience and financial capacity.

A request for proposals is to be released by the end of the third quarter 2022, with the board aiming to select preferred proponent as the development partner in early 2023. A 12-month development phase would then begin with collaboration and design progression to gain a better understanding of risks and costs.

Map of the Green Line LRT. City of Calgary

In 2021 the city of Calgary selected CAF to supply 28 seven-section Urbos 100 low-floor trams to operate the first phase of the Green Line, with an option for up to 24 more.
METRO REPORT INTERNATIONAL, AUGUST 9

CANBERRA

Battery Trams Ordered

CAF has been awarded a contract supply five battery-equipped light rail vehicles to Canberra from 2024.

It will also retrofit the city's 14 existing five-section Urbos 100 vehicles with batteries, so that the entire fleet will be able to operate on the catenary-free extension to Commonwealth Park and on a future extension to Woden.

The five extra LRVs are due to be delivered ahead of the extension opening, enabling the existing vehicles to be taken out of traffic for modification without impacting on services. The depot at Mitchell will be expanded by mid-2024 to accommodate the larger fleet.

The LRV order is a critical milestone for the delivery of the Stage 2A extension of light rail to Commonwealth Park and supports future services to Woden.

The 7.5-mile first phase of the Canberra light rail line from Gungahlin Place to Alinga Street in the city center was opened in April 2019. Stage 2A will extend the line south by 1.1 miles to Commonwealth Park, including a catenary-free section. Being

jointly funded by the Australian and ACT governments, this section is scheduled for completion by 2024.

Stage 2B would add a further 5.8 miles, taking the route across Lake Burley Griffin and south to Woden. A commitment to construction of this extension forms part of the ACT Labor and Green parties' Parliamentary & Governing Agreement of the 10th Assembly.

METRO REPORT INTERNATIONAL, AUGUST 11

EDMONTON

Valley Line Southeast LRT Delayed Again

The 8.1-mile Valley Line Southeast light-rail transit (LRT) project that runs from downtown Edmonton to Mill Woods has hit another delay. Ronald Joncas, CEO of TransEd Partners, the consortium building the line, told a press conference August 10 that he had hoped to celebrate the opening of the line in September, but instead announced a delay with no definitive timeline for a solution in place.

The cause of the delay is the discovery of cracks in about 40 percent of the project's concrete piers that support the elevated guideways. The cracks were discovered in mid-July by city crews who were inspecting the project; TransEd was notified and then inspected all piers, finding cracks in 18 of 45 piers.

In a separate press conference, Edmonton Mayor Amarjeet Sohi and City Manager Andre Corbould expressed their disappointment in the news and all parties – city and contractor – noted the cost overruns associated with the delay would be shouldered by TransEd, not taxpayers.

Next steps will be for TransEd to complete a root cause analysis, then design and implement a solution. Joncas could not speculate on timing of when this would happen, but at the afternoon city press conference, Edmonton Deputy City Manager Adam Laughlin said a plan from TransEd to repair the piers could be two weeks to a month away. The city says information on repairs would be shared as it becomes available.

Joncas said the lead indicator of the damage appears to be lateral terminal load. He explained TransEd was looking at strengthening the piers rather than replacing them but noted "there will be no sacrifice on safety, quality [or] on the pier lifespan as they are being strengthened."

Mayor Sohi called the news "frustrating and deeply disappointing."

The mayor said the city's lack of oversight on public-private partnerships needed to be acknowledged and called on the city to undertake a review of how it builds large projects to improve transparency and accountability. The review will begin immediately.

MASS TRANSIT, AUGUST 11

EUROSTAR

Adapting to a Changed Market

It's been a rough couple of years for Eurostar, the passenger rail operator providing services between the United Kingdom and continental Europe via the Eurotunnel under the English Channel. The travel restrictions that were in effect during the coronavirus crisis hit Eurostar much harder than any other European train operator. During the peak of the pandemic, ridership fell by 95 percent and services had been reduced to a single daily round between London and Paris and one on the London-Brussels-Amsterdam route.

Throughout 2020 and 2021, Eurostar managed to stay afloat through a combination of reduction of expenses, staff furloughs, and direct government support from the French State, which owns a 55.75 percent stake in Eurostar through France's national railway SNCF. The U.K. government had previously sold its 40 percent Eurostar stake in 2015 to the Quebec pension fund Caisse de Dépôt et Placement du Québec. As such, the U.K. felt it did not have an obligation to provide any financial support during the lockdown, ignoring pleas by Eurostar and despite providing similar support to U.K.-based airlines and other transport providers such as cross-channel ferry services.

Old and new Eurostars at Paris Gare du Nord in December, 2015. In the foreground is Eurostar e300 3006 (U.K. class 373, GEC-Alstom/ Brugeoise et Nivelles, 1992) which was scrapped less than a year later, and on the far track stands Eurostar e320 4018 (U.K. Class 374, Siemens Mobility, 2013). Michael Bunn photo

Eurostar has spent the last year trying to rebuild its ridership while consolidating and streamlining its operations and management structure. A big step occurred this past spring, when Eurostar completed its acquisition of Thalys, the high-speed rail operator which provides services between the Netherlands, Belgium, Germany and France. The Thalys brand is now being phased out. Traffic between London and the continent is still relatively low but has been rising over the past year, and Eurostar has responded by scheduling additional round trip trains.

Another recent move was the announcement on August 22 that Gwendoline Cazenave will assume the role of CEO of the Eurostar Group, effective October 1. Ms. Cazenave brings deep experience to the position, most recently serving for

two years as a partner at a management consultancy working on the French and European transport markets with a focus on rail sector strategy and transformation. Prior to that she had a long career as an SNCF executive with a variety of roles in operations, finance and legal. The appointment of Ms. Cazenave was followed by setting out ambitious goals for the future. In 2019 Eurostar carried 19 million passengers and it has now set a goal of reaching 30 million annual passengers within 10 years.

However other moves have not gone over so well. On August 23, Eurostar announced that it will continue to not serve either Ebbsfleet or Ashford International stations in the U.K. during 2023, and cannot make a commitment for at least another two to three years. Services at the two stations were suspended at the start of the pandemic lockdown, and starting them back up is not seen as a priority right now in the face of greater challenges and the need to focus on the key services between the capitals. It is further complicated by the implementation of a new and advanced automated border and customs check system at the two stations to fulfill post-Brexit requirements. The urgency will be to get the system up and running successfully at Eurostar's London terminal at Saint Pancras International and at the European stations.

This news was not received well by elected officials, transport advocates and business groups in southeast U.K., especially in Kent County where Ebsfleet and Ashford are located. They are demanding that Eurostar work harder to restore service to the two stations as soon as practical. Further news then came on August 26 when Eurostar announced that as of June 2023 it will cease to operate a direct service between London and Marne-la-Vallée, the station east of Paris which is directly adjacent to Disneyland Paris. Eurostar stated the change is necessary for similar reasons of border check requirements and need to focus on the core routes, and will revisit the issue in 2024.
RAILWAY GAZETTE INTERNATIONAL, AUGUST 22, AUGUST 24, AUGUST 26

FRANCE

More TGV-M Trains Ordered

French national passenger rail operator SNCF Voyageurs announced on August 18 it has exercised a €590 million option with Alstom for an additional 15 Avelia Horizon high speed trainsets. This is the second option under the original €2.7 billion TGV of the Future framework signed between SNCF and Alstom in July 2018, and brings the total order to 100 trains.

Designated as the TGV-M, the sets are configured with two power cars at the ends and nine intermediate double deck trailers. The "M" designation is meant to convey advancements in modernity, modularity, management, and maintenance. As such, the new trains are notable for having several innovative design and engineering features, the culmination of over 40 years of experience accumulated by the operation of TGVs in France.

The power cars are of a new reduced length, compact design with a shorter wheelbase, and the sets can be configured with seven or eight trailers to meet seasonal demand and varying market conditions. With the shorter power cars, a full length train effectively has an extra passenger car when compared to TGV sets in current service. Additional changes to the interior configuration arrangements will accommodate up to 740 passengers per train, reflecting a 20 percent increase in capacity over current TGVs which will yield increased revenue to SNCF.

Alstom's Avelia Horizon high speed trainset. Alstom rendering

A remotely monitored diagnostic system will track all onboard systems in real time, facilitating predictive maintenance and reliability. SNCF's current TGV maintenance shops are being modified to meet the technical needs of the new trains' advanced systems and the commensurate staffing modifications, leading to more effective utilization of manpower.

In conjunction with other innovations to lower energy consumption by 20 percent and reduce maintenance costs by 30 percent, the TGV-Ms will be the most cost-efficient and energy-efficient high speed trains to operate anywhere on the planet.

The power cars are being built in Alstom's Belfort plant, and in April the first two were transferred from there to Alstom's La Rochelle facility, where they will be mated to the first intermediate trailers rolling off the line there. This will be the manufacturing process for all of the subsequent trainsets.

The TGV-M will be equipped to run off of the four major European line voltages 25 kV 50 Hz, 1.5 kV DC, 3 kV DC, and 15 kV 16.7 Hz and will operate at 198 mph in regular service, though it will be pushed to higher speeds during testing. It should be noted the TGV-Ms share a common design lineage with Amtrak's new Avelia Liberty trains, which despite some teething issues during testing, should be running on the Northeast Corridor by the middle of next year.

The first TGV-M set is due to be delivered for testing sometime early next year, and both SNCF and Alstom are pushing hard for an introduction to revenue passenger service in 2024 to coincide with the occasion of the Olympic Summer Games being hosted by Paris. Deliveries should run

through at least the early 2030s.
INTERNATIONAL RAILWAY JOURNAL, AUGUST 19
RAILWAY GAZETTE INTERNATIONAL, AUGUST 19

GENOVA (GENOA), ITALY

Metro Expansion

Genova municipality has approved plans for a 1.9-mile western branch of the metro with four stations.

This is to branch off the existing line at Dinegro and run west to Fiumara with three intermediate stations, including an interchange with the rail network at Sampierdarena.

The project is expected to cost €400 million with completion planned by 2027.

A two-car trainset of Genova's original metro equipment, led by car 06 (Breda, 1985), is heading back in to Brin station from the turnback tracks west of the station on April 19, 2016. Jack May photo

The municipality has also called tenders for the construction of a second metro line linking Brignole to Molassana through the Bisagno Valley. The four-mile elevated line would be fully automated.

Work on a northern extension of the existing line to Canepari is underway for opening next year, and an eastern extension to Piazza Martinez is scheduled to open by 2024. On the existing line, Corvetto station is to be built between De Ferrari and Brignole stations by 2025.
METRO REPORT INTERNATIONAL, AUGUST 29

LONDON

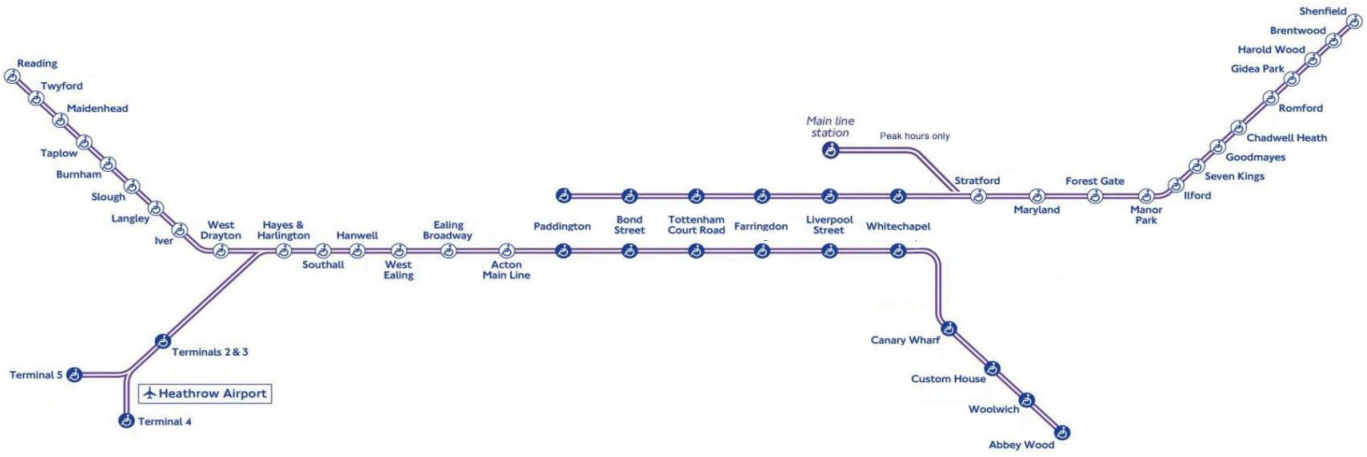
Dates Set for the Elizabeth Line's Next Phases

Transport for London (TfL) has announced the next phases of the Elizabeth Line will be introduced in November. Since opening on May 24, the core section of the regional metro has been operating between Abbey Wood and Paddington, which includes the central tunnel between Canary Wharf and Paddington. That same day, the services operating from the west from Reading and Heathrow Airport into Paddington main line station, and from the east from Shenfield into Liverpool Street main line station, previously operated as "TfL Rail," were also branded as Elizabeth Line. Passengers wishing to continue their journeys have had to transfer between the core section and the main line terminals.

That will begin to change on November 6, as services from both the west and the east will be routed into the tunnel. Reading and Heathrow trains will continue on to Abbey Wood, while Shenfield trains will be extended to Paddington. Being a Sunday, November 6 will also mark the start of Sunday services for the Elizabeth Line. In advance of that, on Monday, September 6 operating hours will be increased to 5:30 AM to 11:00 PM.

TfL also announced that Bond Street Station, which has been hindered by delays and was not ready to open in May along with its sister stations, will in fact be opened prior to the November 6 changes. Bond Street will be a key station, located in the heart of London's West End shopping district and providing transfers to the Underground's Central and Jubilee Lines.

Since opening, the Elizabeth Line central section has been a success, carrying over 11 million passengers so far, which works out to over 200,000 riders a day. Those numbers are



Map of Elizabeth Line services effective November 6. TfL map

sure to grow with the coming changes, as the frequency of services in the central section between Paddington and Whitechapel will increase from 12 trains per hour to 22 trains per hour during the peak periods and 16 trains per hour during off-peak times. More changes are coming in May 2023 when the final timetable is introduced, with Shenfield services extended west beyond Paddington, full end to end through services across the entire Elizabeth Line, and a peak period frequency of 24 trains per hour between Paddington and Whitechapel.
INTERNATIONAL RAILWAY JOURNAL, AUGUST 23
RAILWAY GAZETTE INTERNATIONAL, AUGUST 23

Transport for London Funding Secured Through to 2024

On August 30 Transport for London (TfL) reached an agreement with the United Kingdom national government on a plan which ensures TfL has sufficient funding to maintain operations until March 31, 2024. The agreement calls for £1.2 billion of base funding, with a provision for ongoing revenue support to the same date if ridership does not recover at currently projected rates.

With this deal, large scale cuts to services and operations will be avoided. However, funding gaps will remain and the terms of the agreement call for TfL to address these with various measures including seeking operational efficiencies and cost savings (above and beyond what has already been implemented over the last year), pension reform, and introducing driverless trains, which will undoubtedly present great engineering and operational challenges to implement on some of the oldest metro lines in the world.

As we have reported previously (see the March and July *Bulletins*), TfL's funding uncertainties date back to the early days of the coronavirus pandemic, when government mandated lockdowns resulted in dramatic decreases in ridership on public transit in London, just as it did in New York City and most of the world's major cities. However, it should be noted that TfL is more dependent on fare revenue as a share of covering day to day operating costs in comparison with their international peer operators, many of which receive direct central government support. The ridership collapse forced TfL to seek additional funding which has been provided by the government through a series of short-term agreements.

Moreover, unlike New York's MTA, which received assistance in the form of three multi-billion dollar grants from the Federal government covering longer periods of time, the short term agreements have created uncertainty for TfL's future capital plans.

TfL's current capital expenditures include finalizing the delivery of the full Elizabeth Line, completing the Bank Station Capacity Upgrade, procuring new trains for London Underground's Piccadilly Line and for the Docklands Light Railway, and the ongoing modernization of the District, Metropolitan, Hammersmith & City and Circle sub-surface lines. Future plans include additional rolling stock purchases for the Bakerloo, Central, and Waterloo & City Lines. There are also proposals for much needed capacity upgrades at other busy station complexes, similar to what was done at Bank. Looking further out, there are hopes for more network expansion such as a southern extension to the Bakerloo Line (currently on hold) and Crossrail 2, a southwest to northeast regional metro line similar in concept to the Elizabeth Line. Of course, any large scale expansion will be dependent on future ridership trends.

For now, TfL can count on stability for the next 19 months. Not ideal, but better than what had been happening for the last two years.
METRO REPORT INTERNATIONAL, AUGUST 30

ROMA (ROME)

Narrow Gauge Line to be Rebuilt

Modernization and extension of Roma's Termini – Giardinetti light rail line, including rebuilding from narrow to standard gauge, is set to begin next year, with the route to be branded as Line G.

This 5.6-mile line had been known as Ferrovia Roma-Giardinetti and was originally just a portion of the much larger, 85-mile-long, Ferrovia Roma-Fiuggi-Alatri-Frosinone. Since 2010 it has been operated by ATAC-Azienda Tramvie e Autobus del Comune, Roma's transit agency.

ATAC 424 (Carminati e Torelli, 1926, modernized 1959-60) and two other cars are about to enter the Porta Maggiore stop on their way to Giardinetti. On the right is one of Roma's urban tramways operating on either route 3, 5, 14 or 19. Benjamin Zelki/Metro Report International photo

The project includes three elements. The first is the complete modernization of the existing 5.6-mile Termini – Giardinetti line, which will be rebuilt from 950 mm to 1,435 mm (standard) gauge. Revenue services are currently only running between Termini and the metro Line C interchange at Parco di Centocelle.

The second is the construction of a 2.2-mile extension from Giardinetti to Tor Vergata to serve universities and hospitals.

Map of the Roma-Giardinetti light rail line. Wikipedia

The third element will be the procurement of 22 light rail vehicles.

The total cost is put at €214 million, with completion planned by 2025.

In the longer term, a further 2.5-mile extension from Tor Vergata to a future park-and-ride site is also proposed.

METRO REPORT INTERNATIONAL, AUGUST 22

SWEDEN

Inter-Regional Trains Ordered

Swedish national passenger service operator SJ has awarded CAF of Spain a €300 million contract for 25 five-car inter-regional EMUs, with options for an additional 35 units. Based on CAF's Civity Nordic platform, the trains are equipped for 125 mph operation and will be specially built to cope with extreme winter conditions and temperatures down to -40° F.

The EMUs can be coupled to form up to three-unit trains with seating up to 1,000 passengers and are scheduled to enter service in 2026, replacing older trains on the Stockholm-Västerås-Örebro-Skövde-Göteborg; Stockholm-Uppsala; Linköping-Norrköping-Stockholm-Arlanda-Uppsala-Gävle-Ljusdal; and Kalmar-Göteborg routes.

This is the latest in a series of rolling stock moves made by SJ over the last year. As we reported in the April *Bulletin*, SJ ordered 25 high speed trainsets from Alstom and has also embarked on a refurbishment program of the X2000 high-speed trainsets.

RAILWAY GAZETTE INTERNATIONAL, JULY 8

TORONTO

Eglinton's Second Tunnel Starts

The second tunnel for Metrolinx's Eglinton Crosstown West Extension is now underway.

Tunneling on the project started this past spring, with Renny, one of the two tunnel boring machines (TBMs) digging the roughly 3.7-mile tunnels, leading the charge.

And Renny has been busy. Since April, the massive machine has tunneled more than 2,132 feet, making tremendous progress in a short amount of time – not bad for a 750-ton machine travelling 32.8 to 49.2 feet a day.

Now it's Rexy's turn.

There are a few reasons why Rexy and Renny didn't start tunneling at the same time. One is that the space inside the launch shaft can only accommodate one TBM launch at a time. Each one is taller than a giraffe and, stood on their ends, a quarter of the height of the CN Tower.

The other reason is that the tunneling team can learn a lot from the first TBM that they can apply when the second machine starts tunneling.

Rexy and Renny will continue this pattern over the next 20 months. Renny will reach the extraction shaft just west of Scarlett Road first, with Rexy following behind.

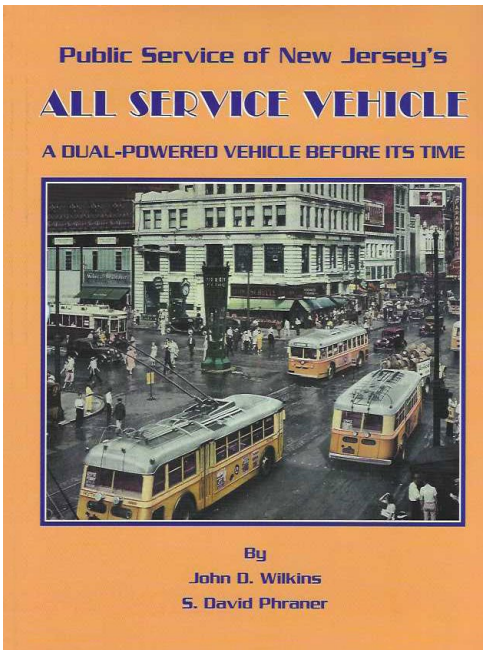
These tunnels will form a large part of the Eglinton Crosstown West Extension, which will expand the Eglinton Crosstown light-rail transit (LRT) line another 5.7 miles west, to Renforth Drive. Plans are also being explored to extend the line even further to Pearson International Airport.

After the TBMs are pulled out of the ground near Scarlett Road, the route will transition to an elevated section, passing over the Humber River, before heading back underground just east of Jane Street, where the extension will connect to the Eglinton Crosstown LRT at Mount Dennis Station.

MASS TRANSIT, AUGUST 9

Book Reviews

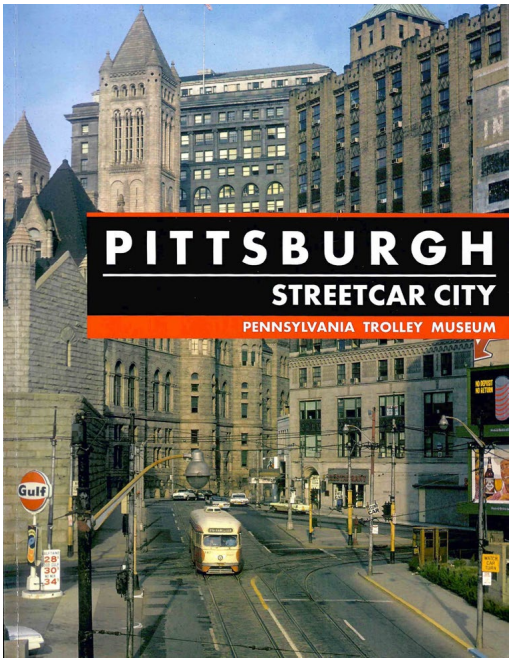
by Paul Grether



Public Service of New Jersey's All Service Vehicle: A Dual-Powered Vehicle Before its Time by John D. Wilkins and S. David Phraner. Published in 2021 by 4th Lake Publishing, hardcover, 168 pages with over 200 black and white pictures, maps and tables. $60.00 list price.

The Public Service of New Jersey (PSNJ) All Service Vehicle (ASV) was a dual-powered coach that could operate as a trolleybus or as an [off-wire] gas-electric bus. The authors delve deep into the topic and cover the history of why PSNJ ended up developing and significantly investing in the ASV platform, the hurdles faced by PSNJ, the people involved and the operations. Those interested in the technical details will not be disappointed with a large number of diagrams and appendices, including vehicle specifications, that explain the development of the unique technology. The D900 prototype, the final ASV and pinnacle of the PSNJ ASV technology, is extensively covered. Detailed ASV route maps and descriptions for all PSNJ ASV divisions and a division-by-division photo chapter are included.

The high-quality book features heavy gloss paper and sharp photo reproductions. The comprehensive and thorough coverage of the ASV is provided though a well-organized text with many supporting illustrations and maps. This topic is one that many interested in transit history likely have only tangential awareness, and it is fortunate that the authors preserved records and conducted research resulting in this mostly untold transit story being documented. While the PSNJ ASV was not a rail vehicle, this book will appeal to those interested in electric transit in the northeast, those interested in the unique technology from a technical and business perspective, and those interested in New Jersey transit history.



Pittsburgh – Streetcar City by the Pennsylvania Trolley Museum. Published in 2022 by the Pennsylvania Trolley Museum, softcover, 185 pages with hundreds of color and black and white photos and a selection of large folded maps. $29.95 list price.

This book covering the history of the Pittsburgh rail transit scene follows an interesting and unique concept. The core text is from a 1960s Light Rail Transit Association (LRTA) publication by Tom Parkinson, a British citizen who spent time in Pittsburgh in the 1960s. Originally a series of articles in the LRTA monthly magazine, the Pennsylvania Trolley Museum (PTM) team has updated and expanded the text and curated a wonderful selection of photographs from its archive to illustrate the book. This successful update makes it mostly a photo album organized into chapters covering the history, geography and the people of the transit company itself. The majority of pictures feature the PCC cars, but horse cars, earlier streetcars, the inclines, modern light rail and even the Westinghouse "Transit Expressway" Skybus are included.

The real strengths of this book are the wonderful selection of high-quality images and the superb layout and crisp graphics design. The reproduction of the photos is excellent. The photo selection includes well-composed urban street scenes and images that illustrate the history being described. This is a book that readers interested in Pittsburgh, rail transit or even city planning and urban history will love. The high-quality makes it one of the few softcovers that qualifies as a coffee-table book.

Travels with Jack May

Britain and the Baltics — Part VII

by Jack May (Photographs by the author)

Thursday, August 17

(Continued from August Bulletin) As mentioned in Part VI, once back in the city center, we headed out the Yellow Line to Meadowhall Interchange. Much of this route, which passes the system's carhouse and shop, operates near or alongside railroad rights-of-way before it terminates at Meadowhall Interchange, a joint station with the railway system adjacent to a busy shopping mall. By now clouds had moved in so we did not stop for photos along the way. When we arrived at the terminal John decided it would be much quicker to return home from this station via Doncaster and King's Cross (East Coast Main Line) compared to going back to Sheffield and riding the Midland route to St. Pancras. So, we bade each other farewell, and I began heading back to the city center. (See http://www.urbanrail.net/eu/uk/sheff/sheffield.htm for a map.)

But miracles do happen and the clouds vanished, prodding me to stop off at the Valley Centertainment station for photos of the Yellow Line and then to see what I could see at the carhouse. I was amply rewarded when I arrived at Nunnery Square as I was able to walk along the driveway leading to the shop without trespassing and get a telephoto shot of the dual powered Vossloh Citylink tram-train car 207 again.

The tram-train itself is an interesting story. The success of providing commuter train riders a one-seat ride into the city centers of Karlsruhe and other German cities led to pressure on the UK's Department for Transportation to examine this combination of modes, which it did, designing a demonstration (or pilot) project to test the concept between Sheffield and Rotherham. To quote a paper, "its objective is to demonstrate the costs and benefits of operating a standard kind of continental design of Tram-Train on the national rail network...Its benefits include the potential for lower infra-structure capital and maintenance costs compared to heavy rail service..." Thus, the idea was to see whether it would be worthwhile to adopt the technology for cities throughout Britain. Part of a freight line running parallel to Sheffield's Yellow tram line would be electrified, a connection would be built, and service would be extended for three miles to the center of Rotherham (population 260,000) and then two miles further to another shopping mall (Parkgate), which could be a major traffic generator for the line. The plan calls for service to be operated every 20 minutes from the center of Sheffield via the Yellow Line to South Meadowhall and then onto the ex-Great Central freight line to Rotherham Central station and beyond to Parkgate Retail Park. We did see the junction with the "Tinsley Chord," the electrified connection to the parallel freight line that will soon see tram-train operation. Running time is slated to be 26 minutes, which

(Above and below) In the upper photo, Supertram cars 106 and 121 pass just east of the Yellow Line's Valley Centertainment station. The tracks at right are used for freight service over Network Rail and were originally built by the Great Central Railway. The stop serves a "leisure park" that contains family entertainment venues including movie theaters, miniature golf, bowling, an amusement park, and lots of food. The lower view is of dual-voltage car 207 (the same one out earlier in test service) at the company's carhouse and shop. The seven low-floor Vossloh cars will use a new stretch of track, called the Tinsley Chord, to reach former Great Central rails (shown in the upper view at right) at a point two stations further northeast of the Valley Centertainment stop, and operate over that line to Rotherham.

The "bowstring" (or tied arch) Park Square Bridge was built in 1993 at the lower end of Sheffield's business district and brings all three Supertram lines to higher ground east of town. The structure carries pedestrians and trams over a major traffic circle (roundabout) and was necessary because of the city's unusual topography, as its downtown portion is in a bowl surrounded by hillsides.

Siemens-Düwag car 113 winds along West Street near the outer end of the city center near the University of Sheffield and City Hall.

compares to the current Yellow Line schedule of 19 minutes to Meadowhall Interchange and the regular mainline rail service over the former Midland Railway from Sheffield to Rotherham of 11 minutes (express) to 18 minutes (stopping at Meadowhall Interchange). Since the mall at Meadowhall would still have to be served after the tram-train is inaugurated, Supertrams other than the three per hour going to Rotherham would also have to be scheduled.

As a result seven cars were ordered from Vossloh for the project (see photos in the preceding segment and this one), which are similar to those recently delivered to Karlsruhe. These units went into service prior to the end of 2017, a short while after John and I saw the one being tested. Dual-powered, they can run on 750-volt DC current (which is used on the Supertram and will also be used on the extension to Rotherham Parkgate over Network Rail), as well as 25 kV AC, which is the standard for Britain's [now dormant] plan for the electrification of the Midland mainline from London St. Pancras to Sheffield.

The tram-train service was duly inaugurated on October 25, 2018, some three years later than originally planned, and at a much higher cost. It has proven quite popular, with base service to and from Cathedral Square running every half hour over trackage shared with the Yellow line. The Yellow

(Above and below) Cathedral Square is the center of downtown Sheffield, where cars of the Purple Line terminate. Compare the rolling stock's two different liveries, the lower being a tribute to the colors used by the legacy tramway that quit in 1960.

line continues to be through-routed to Middlewood and runs every 12 minutes. Thus service frequency between Cathedral Square and Arena/Olympic Legacy Park over most of the route is seven LRVs per hour, or an almost nine-minute headway. This is a reduced frequency from the original plan to operate the tram-train every 20 minutes, with the Yellow line running every 10 minutes, because of COVID-related staffing shortages.

Once back in the city center, I took a few more photos and rode the remainder of the system: to Middlewood (Yellow Line) and Malin Bridge (Blue Line), both of which are entirely street running—think of a slick and speedy version of Philadelphia's former PCC route 23. (I should mention that

(Above and left) Additional views at Cathedral Square. The photo on the left reflects the reason behind the stop's name. Sheffield's Anglican cathedral (Church of England), officially known as the Cathedral Church of St. Peter and St. Paul, dates from Norman times (as a parish church) and its slogan is "God has been worshiped on the site of Sheffield Cathedral for over 1,000 years and counting." The cruciform-shaped structure dates from the 15th century.

traditional fare collection is employed; all cars have either one or two roving conductors that sell a full array of ticket types, ranging from local to interurban distances and from single trip to day tickets and even weekly passes. Tickets can also be purchased at municipal offices and online.)

I arrived back at the station in time for the 6:11 PM Trans-Pennine train for which I had bought an Advance ticket, and this time there were no reliability problems. The crowded three-car DMU arrived in Manchester on the advertised at 7:03 PM, well in time to meet Andrew and Richard for dinner. They had an excellent trip to Llandudno and showed me some great digital photos of the ancient cable tramway they rode.