



BULLETIN

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LIRR Main Line Third Track Project Reaches “Beneficial Use” Phase

At 9:59 PM on Thursday, September 29, the third and final section of Long Island Rail Road (LIRR) Main Line third track, Track 2, was placed in service, bringing to completion one of the largest infrastructure improvements the LIRR has ever accomplished.

Known as “Block 3,” this segment extends from Nassau 3 Interlocking (east of Mineola station) to Divide 1 Interlocking (west of Hicksville station), for a total length of 21,142 feet, or 4.00 miles, the longest of the three segments.

Over the weekend of September 17-18, the temporary eastbound platform at Carle Place station, which had been built over the space of the future Track 2, was removed. In its place, as had been done at New Hyde Park and Merillon Avenue stations previously, 12 temporary bridge plates (which platformed only the head six cars) were installed between the new eastbound platform (Platform B) and the center track (Track 1) where eastbound trains still needed to operate. During weekday middays, these bridge plates were rolled out of the way so track equipment could complete the installation, ballasting, surfacing and lining of the new third track.

This same process was repeated at Westbury station the following weekend, September 24-25.

During those two weeks, eastbound local trains stopped at the bridge plates extending out to Track 1 but only during the morning and afternoon peak periods. At other times, during the off-peak, eastbound trains crossed over from Track 1 to Track 3 at Nassau 3 Interlocking and stopped at the normally-westbound platforms at Carle Place and Westbury. This single-track operation had already been accommodated for in the May 23 timetable change. These eastbound trains then crossed back over just west of Hicksville station. This operation enabled crews to complete the required track work before placing Track 2 into service.

After the morning peak, the last eastbound trains to stop at Carle Place and Westbury on Track 1, using the temporary bridge plates, occurred at 9:08 AM and 9:30 AM, respectively.

On Friday, September 30, the last day of temporary bridge plate operation, for reasons unknown to us, the bridge plates were not rolled out of the way until shortly before noon.

The railroad’s track geometry car, the TC82, had operated from Babylon, where it is normally kept, to Hicksville, in late morning in preparation for testing this *(continued on page 3)*



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Announcements

The 2022 Annual Meeting of the Electric Railroaders Association will be held on Friday, November 4 at 7:00 PM. Details can be found on our home page, <https://erausa.org>.

2023 dues renewal notices have been mailed out. 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.

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, October 21, 2022 at 7:30 PM. This month's meeting will be hosted by E.R.A. Director, Paul Grether.

Presenting This Month: Paul Grether

Our October Zoom program, Kristen & Paul's Excellent Adventures: Part 2, will be presented by Kristen Fredriksen of the Pennsylvania Trolley Museum and ERA board member Paul Grether. This is a continuation of their June 2022 presentation covering the United Kingdom from their trip in September 2021 focusing on all things new, old, preserved, abandoned, obscure or otherwise interesting.

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 Paul'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.

Cover Photo

S70 108 (Siemens, 2006) is operating on Charlotte, North Carolina's Lynx Blue Line to I-485/South Boulevard. It has just left the 7th Street stop in downtown, on the Charlotte Rail Trail & 6th Street. View northeast on November 25, 2007, the day after the opening ceremonies for this new rail system. Jeff Erlitz photo

newest segment of Track 2. After about 11:00 AM the TC82 started its testing, working its way west from Divide 1 Interlocking west of Hicksville towards Westbury. However, because the bridge plates hadn't been rolled out of the way yet, it had to stop its progress just east of Westbury station.



Thursday, September 29 was the second to last day of temporary bridge plate operation at Carle Place and Westbury stations. Seen eastbound at Westbury, M7 7238 (Bombardier Transportation, 3/2004) eases Penn Station to Huntington train #1616 to a stop at 9:29 AM. This was the last train of the morning to so operate before the midday single-tracking on Track 3 began. Jeff Erlitz photo

A little before 12:30 PM it was verified that Track 2 was out of service for the midday period and the bridge plates were rolled out of the way. At this point the TC82 continued west through Westbury and Carle Place, ending its testing at Nassau 3 Interlocking, east of Mineola station.

At about 12:45 PM the TC82 resumed testing, heading east on Track 2 from Mineola. This second pass was completed at about 1:00 PM.



Friday, September 30 was the last day for the bridge plate operation. Ronkonkoma to Penn Station train #2037, led by M7 7791 (Bombardier Transportation, 12/2006) flies through Carle Place station at 10:16 AM. An hour and a half later, the bridge plates were rolled out of the way to enable track testing to begin. Jeff Erlitz photo

Because this whole process occurred much later in the day than what was done for Blocks 1 and 2, there was not enough time to operate the M.U. test train before 2:59 PM, when Track 1 needed to be returned to service for the afternoon/evening peak period service. As a result, the M.U. test train operated that night.

Governor Hochul, MTA chair Lieber and other local elected leaders gathered in the new parking garage at Westbury on Monday, October 3 to hold a press conference to celebrate the operational completion of the Main Line Third Track project.



At 12:27 PM on September 30, track geometry car TC82 (Plasser American, 2001) operates west on new Track 2 through Carle Place. It continued on to Nassau 3 Interlocking, east of Mineola, before changing ends and returning east. Jeff Erlitz photo



Exactly one half hour later, the TC82 continued testing and is seen heading east through Westbury station. After concluding its testing west of Hicksville station, it continued on to its home base at Babylon. Jeff Erlitz photo

There remains much work to be completed at Westbury station, though. The renovation of the station building, both pedestrian overpasses, the center one of which will have the elevators, and the south parking lot still need to be completed.

Rail News in Review

New York Metropolitan Area

METROPOLITAN TRANSPORTATION AUTHORITY (MTA)

Mask Wearing No Longer Required

On September 7, the MTA lifted the requirement to wear a mask while riding on the transportation network. Following guidance from New York State Department of Health Commissioner Dr. Mary T. Bassett, masks are optional on all forms of public transportation, including subways, buses, commuter railroad, paratransit services, and in stations. Free masks will continue to be available at subway station booths upon request as well as on commuter railroad trains.

[MTA PRESS RELEASE](#), SEPTEMBER 7

Second Virtual Public Town Hall Meeting on the Interborough Express Held

On September 22, a second virtual public town hall was held on plans for the Interborough Express, linking Brooklyn and Queens using an existing 14-mile right-of-way alongside existing freight railroad tracks.

The project would be built along an underused rail line that connects Brooklyn and Queens composed of two parts, the MTA-owned Bay Ridge Branch, from Bay Ridge, Brooklyn to Fresh Pond, Queens and the CSX-owned Fremont Secondary Track, from Fresh Pond to Jackson Heights, Queens (the track continues on to Oak Point Yard in the Bronx).

Since the last meeting held in the spring of 2022, MTA Construction & Development has been hard at work advancing the alternatives analysis, further exploring the engineering and operational constraints with each of the three modes under consideration and incorporating the public feedback received along the way. The three modes under consideration are bus rapid transit, light rail, or conventional heavy commuter-style rail. This town hall will provide an update on the planning process and what factors are under consideration as the project moves closer to selecting a Locally Preferred Alternative later in the fall.

Members of the public will be provided a general overview of the project and an opportunity to ask subject matter experts questions.

[MTA PRESS RELEASE](#), SEPTEMBER 9

NEW YORK CITY TRANSIT (NYCT)

Escalator Replacement at Lexington Av-53 St

The escalators in this station have reached the end of their useful lives after 25 years of use. Once work is completed, the modernized escalators will be more reliable and 11 percent faster. Passengers will be encouraged to utilize the Lexington Avenue side of the station where service impacts will be minimal.

From October 7 through June 2023, Third Avenue escalators to the subway platform will be taken out of service to be replaced. During this time, passengers can utilize the four escalators that

Worldwide Electric Railway, Metro and Tramway Openings in September

Date	Country	City	Segment	Distance (miles)	Rail/ Metro/ Tram
9/1	India	Kochi	Petta to SN Junction	1.2	M
9/11	Luxembourg	Luxembourg	Gare Centrale to Lycée Bouneweg	0.9	T
9/13	Bolivia	Cochabamba	Red Line: Estación Central San Antonio to Estación Municipal Agronomía	3.4	T
			Green Line: Estación Central San Antonio to Avenida Ferroviaria	8.2	
9/20	France	Rennes	Line B: Saint-Jacques - Gaîté to Cesson-Viasilva	8.1	M
9/22	China	Hangzhou	Line 3: West Wenyi Road to Wushanqiancun	3.1	M
			Line 10: Xueyuan Road to Huanglong Sports Center	0.9	
			Line 19: West Railway Station to Yongsheng Road	34.2	
9/28	Poland	Warszawa	Line 2: Trocka to Bródno	2.4	M
9/30	China	Nanjing	Line S8: Taishanxincun to Changjiangdaqiaobei	1.2	R
		Dalian	Line 2: Xinzhaizi to Dalian North Railway Station	7.6	M
		Zhengzhou	Line 6: Jiayu to Changzhuang	10.6	M

[URBAN RAIL NEWS WEBSITE](#), SEPTEMBER 30

will be in service located at the Lexington Avenue end of the platform, or via two stairwells.

Two platform to mezzanine stairwells will also be available for passengers. The stairwell located on the Lexington Avenue side of the platform will be operational in both directions 24 hours a day, seven days a week. The stairwell located on the Third Avenue side will be open only on weekdays and will operate in peak direction only. The Third Avenue stairwell will be closed after 10:00 PM and all day on the weekends.

On weekdays from 6:00 AM to 2:00 PM the Third Avenue stairwell will be exit only. From 2:00 PM to 10:00 PM it will be entry only.

[MTA PRESS RELEASE](#), SEPTEMBER 16

BMT Archer Avenue Line Trackwork Completed

On September 19, **J** and **Z** service resumed between 121st Street and Jamaica Center/Parsons–Archer. This trackwork replaced 12,500 feet of track and third rail, about double the length of track replaced for the IND Archer Avenue (upper level) track reconstruction work in 2020. The 40-year-old-track was replaced with a successfully proven updated design to increase durability and improve quality of service.

With this final segment of a multi-phase project complete, the total amount of track replaced in this area of Queens is 18,800 feet, about 3.6 miles. The first part, completed in December 2020, involved the reconstruction of the upper level track between Jamaica–Van Wyck and Jamaica Center–Parsons/Archer and replaced 6,300 feet of track in 10 weeks.

This track replacement project, which began earlier this year on July 1, required a full temporary suspension of service to accommodate the work due to the replacement of direct fixation track. Unlike conventional tracks, which are most common in the subway and easier to replace in shorter time periods during low ridership such as overnight hours, direct fixation track requires the concrete roadbed to be entirely reconstructed.

[MTA PRESS RELEASE](#), SEPTEMBER 18

Security Cameras to Be Installed in All Subway Cars

New York City Transit has received a \$2 million award, through the Urban Area Security Initiative federal grant program, which will provide funding for the installation of cameras across the entire fleet of subway cars, enhancing security coverage, and, most importantly, increasing passenger confidence in mass transit safety. The Urban Area Security Initiative is a program under the U.S. Department of Homeland Security Preparedness Grants. The funding will enable the purchase of 5,400 cameras to be installed on 2,700 subway cars, two per car. Additionally, the program will fund approximately 3,800 cameras expanding coverage in approximately 130 subway stations.

The funding will further strengthen NYCT's existing security network of more than 10,000 cameras across all 472 subway stations. The new funding covers the cost of camera installation on 6,355 cars, allowing the MTA to fully outfit every subway car with cameras, supplementing an

existing camera pilot program that includes 200 cameras in 100 subway cars. Additionally, funding from the Subway Action Plan totaling \$3.5 million will enable the purchase of 7,310 cameras on 3,655 cars, two per car. The total funding to complete the installations equals \$5.5 million. When installation begins an additional 200 train cars per month will have cameras installed until the entire subway car fleet is camera-equipped, which is anticipated to occur sometime in 2025. In addition, when new R211 subway cars are delivered starting in early 2023 they will already be camera-equipped.

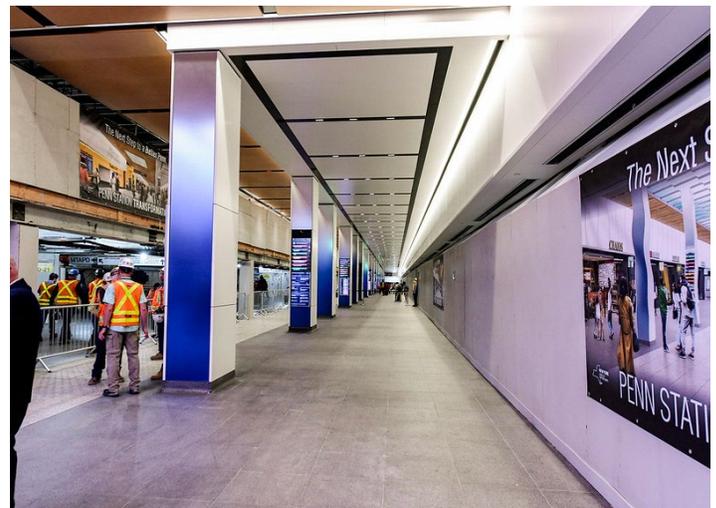
[MTA PRESS RELEASE](#), SEPTEMBER 20

LONG ISLAND RAIL ROAD (LIRR)

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

At a press conference on September 6, Governor Kathy Hochul unveiled a dramatically more spacious Long Island Rail Road Concourse at Penn Station. Crews have widened the concourse to 57 feet from the previous 30 and have raised the ceilings to 18 feet. The concourse stretches from Seventh Avenue near the **1 2 3** subway to Eighth Avenue near the **A C E** subway and now features 9,500 square feet of programmable color changing LED ceiling lights. The reopening of the concourse is a step toward the full-scale reconstruction of Penn Station into a modern, spacious, single-level terminal that is open to natural light.

[MTA PRESS RELEASE](#), SEPTEMBER 6



View looking west along the reconstructed 33rd Street concourse at Penn Station. Marc A. Hermann/MTA photo

Express Trains Restored to Draft Grand Central-Port Washington Branch Schedule

The LIRR announced that it has released revised draft timetables for the Port Washington Branch. Following comments received during public review of the first draft timetables released in June, the revised draft timetables include three morning and three evening rush hour Penn

Station express trains serving Port Washington, Plandome, Manhasset and Great Neck. They accompany a recognition by North Hempstead officials for construction of additional track space in the Port Washington Yard to allow for more expansive growth of train service on the branch in the future.

Under the revised draft timetables, three express trains stopping only at Plandome, Manhasset and Great Neck before running express to Penn Station with no intermediate stops would depart Port Washington at 7:14 AM, 7:54 AM and 8:28 AM. The trains quicken trip times by up to nine minutes from all four stations compared to earlier draft timetables released in June.

The revised draft timetables' overall morning rush hour service includes 15 trains arriving in Manhattan between 6:16 AM and 9:51 AM, up 36% from the current 11 that arrive at Penn Station between 6:21 AM and 9:34 AM. The proposed rush hour arrivals include six trains arriving at Grand Central Madison between 6:37 AM and 9:20 AM and nine arriving at Penn Station between 6:16 AM and 9:51 AM.

The LIRR is proposing to schedule three afternoon/evening rush hour trains departing Penn Station at 4:16 PM, 5:52 PM and 6:25 PM. The trains would make only a single intermediate stop at Bayside before then running express again to Great Neck, Manhasset, Plandome and Port Washington.

Overall afternoon/evening rush hour service would include 20 trains departing Manhattan between 4:06 PM and 7:43 PM, a 43% increase from the current 14 that depart Penn Station between 4:21 PM and 7:49 PM. The proposed rush hour departures include 10 trains departing Grand Central Madison between 4:06 PM and 7:43 PM, and 10 trains that depart Penn Station between 4:16 PM and 7:35 PM.

[MTA PRESS RELEASE, SEPTEMBER 28](#)

METRO-NORTH RAILROAD (MNR)

Port Jervis Service Curtailed Due to Track Work

Beginning on Sunday, September 11, at 4 AM and continuing through Sunday, November 13, at 3 AM, buses will replace midday weekday trains and all weekend trains on the Port Jervis Line as crews from MNR and NJT work to replace 10,000 wood cross-ties, three switches and perform track joint welds.

Recent Capital Program Project Awards

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

Contract	Description	Contractor	Date	Amount
181671	Upper Hudson & Harlem Station Priority Repairs	FOS Development Corp	4/4/2022	\$24,903,955
160458	General Engineering Consultant Services for the Replacement of Motor-Alternator Set & Associated Switchgears in Signal Substation S-34 at Croton-Harmon	Jacobs Civil Consultants, Inc.	4/25/2022	\$1,932,294
161513	Replacement of Park Avenue Tunnel Emergency Hatches and Stairs at 59th Street	Empire Construction Property and Management Group, Inc.	5/5/2022	\$1,248,974
168404	General Engineering Consultant Services for Design of Replacement of Harlem Line Truss Bridges in Westchester County	Henningson Durham & Richardson Architecture and Engineering, P.C.	5/20/2022	\$3,188,606

[MTA CONSTRUCTION & DEVELOPMENT WEBSITE, SEPTEMBER 30](#)

The work will enable the rail line to remain in a state of good repair, with new ties expected to last for 30 years.

During this time, trains will operate normally between Suffern and Hoboken. Passengers traveling to or from stations beyond Suffern will be able to transfer between trains and buses at the Ramsey Route 17 station.

[MTA PRESS RELEASE, SEPTEMBER 7](#)

PORT AUTHORITY TRANS-HUDSON (PATH)

First of New PA-5 Cars Delivered

The Port Authority of New York and New Jersey announced the PATH entered a new phase of its \$1 billion PATH Improvement Plan (PIP) with the delivery to Port Newark of two new rail cars, representing an important step in the scheduled addition of 72 new cars by the end of 2023 to increase capacity, reduce delays and enhance the overall rider experience.



PA-5 5300 (Kawasaki Rail Car, 2022) after its arrival at Port Newark.

Port Authority/Mass Transit photo

The two cars, built by Kawasaki and off-loaded September 18 after a trip originating in Japan, are the first installment in PATH's commitment to expand its fleet in order to increase its capacity in the years ahead. Currently, PATH has about 350 cars in service, with the new cars set to increase the railroad's rolling stock by more than 20 percent.

Expanding capacity is one of three components of the PIP, in

addition to reducing delays and enhancing rider experience through new technology and additional personnel. In the plan, which was introduced in 2019, capacity is increased through the acquisition of additional rail cars, expansion of station platforms to accommodate nine-car trains on the Newark-World Trade Center line versus today's eight-car trains, and utilization of a new signal system to run trains more frequently, particularly during morning and evening rush hours.

The beginning of the new delivery coincides with PATH's ongoing expansion of five stations to accommodate nine-car trains on the Newark-WTC line. This construction will be completed by the end of 2022. The stations have been operating with a maximum of eight cars.

After delivery, the rail cars were transported to a Kawasaki facility in Yonkers, where they will be fitted out and tested before being put into service in the PATH system. Additional rail car deliveries will continue over the next 18 months.

[MASS TRANSIT](#), SEPTEMBER 21

NJ TRANSIT (NJT)

NJT Partners with BetMGM on Naming Rights for Meadowlands Rail Line

NJT and BetMGM unveiled a new three-year sponsorship that renames NJT's Meadowlands Rail Line as the BetMGM Meadowlands Rail Line. The agreement on the naming rights is a first of its kind for NJT and will add additional non-farebox revenue over the course of the three year agreement.

NJT, through its advertising partner Intersection, entered into a comprehensive, multi-year advertising program with BetMGM. This program includes extensive print & digital advertising throughout the NJT system, as well as renaming the Meadowlands Rail Line, which operates between Secaucus Junction and the Meadowlands Station adjacent to MetLife Stadium for select events.

The newly branded BetMGM Meadowlands Rail Line is now appearing on the latest version of the NJT rail system maps which began deployment throughout the system last month and is available at njtransit.com.

[NJ TRANSIT PRESS RELEASE](#), SEPTEMBER 14

Other US Systems

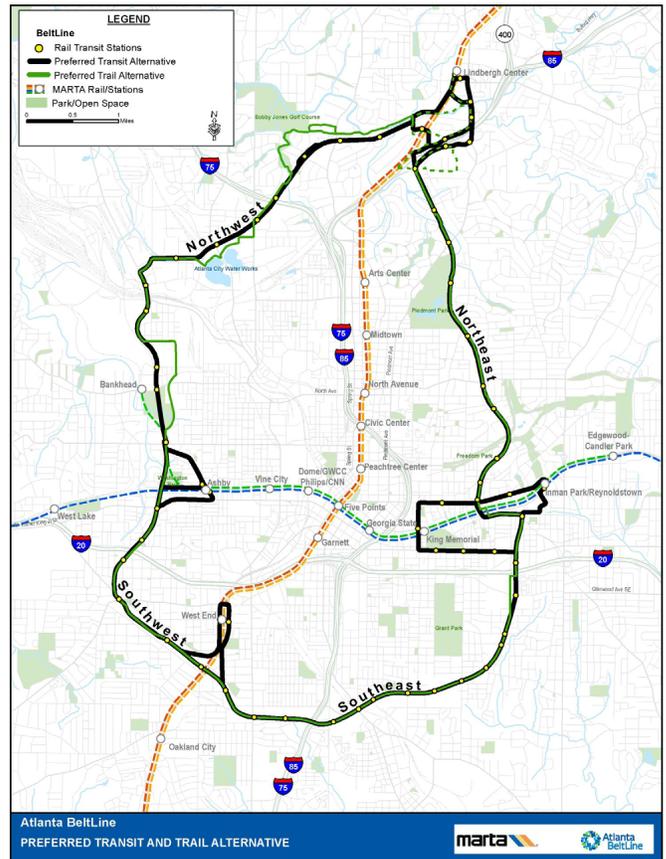
ATLANTA

Atlanta Streetcar Extension to Beltline

Metropolitan Atlanta Rapid Transit Authority (MARTA) has released new details of a streetcar extension that includes the first stretch of transit on the Atlanta Beltline.

The agency unveiled renderings of stations, crossings and other details of the two-mile streetcar extension to Ponce City Market. It also said the project will affect 150 trees along the route and announced plans to temporarily close a section

of Irwin Street to test the effect of allowing the streetcar to operate in its own lane.



Map of proposed Atlanta Belt Line. MARTA map

The design for the extension is only 30% complete. MARTA won't begin construction until 2024, and the extension won't open until 2027. But the new details paint a clearer picture of a project long sought by transit advocates.

The streetcar project is part of a MARTA expansion made possible when Atlanta voters approved a half-penny sales tax for transit in 2016. The expansion includes bus rapid transit along Capitol Avenue and Campbellton Road, a new transit line to the Emory University area and a renovation of the Five Points station.

It also includes 15 miles of passenger rail along the Atlanta Beltline. The streetcar extension includes the first segment of the Beltline transit loop.

The extension also could give new life to a streetcar with a troubled history. The city-owned transit line cost \$98 million, including \$47 million from a federal transportation grant. It debuted in 2014 to great fanfare, carrying passengers on a 2.7-mile loop between Centennial Olympic Park and the King Center.

But ridership plummeted when Atlanta began charging for the ride. And state regulators threatened to shut down the streetcar in 2016 over inadequate staffing, a failure to properly

investigate accidents and other problems reported by auditors.

Atlanta addressed the audit findings, and MARTA took over the streetcar in 2018. But a more fundamental problem remains, the streetcar doesn't operate in its own right of way and is often stuck in traffic.

At a meeting, city and MARTA officials said they'll address problems on the existing streetcar route. Among other things, they plan to deploy technology to give the streetcar priority at traffic signals to keep it moving.

But most of the meeting was devoted to the expansion. It would run along Edgewood Avenue, Randolph Street, Auburn Avenue and Irwin Street to the Atlanta Beltline. From there, it would turn north to Ponce City Market. The extension would include five stations.

Project manager Bryan Hobbs said MARTA will "maximize green space" along the line, planting hedges, shrubs and grass. It will use various types of fences to separate trains from pedestrians on the Beltline trail. And pedestrian crossings will feature signs and, sometimes, gates for safety.

The new transit line will affect about 150 trees. Hobbs said 111 will be kept and trimmed back, and the rest will be replaced with species with smaller root zones.

MARTA and the city also plan to close one block of Irwin Street for a week in October, though it will remain open to bicycles and pedestrians. The idea is to study the impact on traffic in the area if the streetcar gets its own right of way on that part of the transit corridor.

Residents who attended that meeting expressed concerns about the transit line's effect on traffic, parking and pedestrians on the Beltline. Some also wondered whether the money for the project – estimated to cost \$176 million to \$215 million – could be used for transit lines serving other areas of the city.

Former state Senator Vincent Fort asked why the streetcar and Beltline will get rail when Campbellton Road in southwest Atlanta will get bus rapid transit.

Others welcomed the streetcar extension.

Matthew Fleming, treasurer of the group Beltline Rail Now, believes the designs MARTA unveiled can be improved upon. But he was "relatively impressed" with what he saw. And he's eager for MARTA to move forward with rail along the rest of the Beltline.

[MASS TRANSIT](#), SEPTEMBER 15

BOSTON

Type 10 Cars Ordered for Green Line

The Massachusetts Bay Transportation Authority (MBTA) Board of Directors approved an \$810.93 million contract with CAF USA Incorporated to manufacture and deliver 102 Type 10 light-rail vehicles and supporting materials and equipment as part of the Green Line Transformation Project.

The Green Line Type 10 vehicles will replace the Green Line's Type 7 and 8 fleets. They will feature seven sections and be 40 feet longer than current Green Line vehicles. The

Type 10 supercars will be equipped with wider door openings, state-of-the-art technology, enhanced communication systems, which include audiovisual information screens, and the latest generation of crash-safety technology. Additionally, the design includes a closed operator's cab with increased visibility, which eliminates the likelihood of extraneous distractions and improves the safety for everyone on board.



Rendering of CAF's Type 10 vehicle for Boston's MBTA. MBTA/CAF image

The 100 percent low-floor vehicles have improved accessibility features throughout including the elimination of all stairs, a 32-inch clear aisle width throughout the vehicle, bridge plates at all double-leaf doors and four priority areas for passengers using wheeled mobility devices.

CAF USA was determined to be the best value by the MBTA's selection committee, which took recommendations based on feedback provided by a technical evaluation team, as well as an independent price evaluation team. The base contract includes the 102 vehicles, two operator training simulators, capital spares, manuals, test equipment, special tools, training and training aides, as well as a three-year full vehicle warranty.

Currently, the Type 10 vehicles are in the procurement phase with the design phase scheduled to begin in fall 2022. The supercars will be in design for a few years before pilot vehicles are introduced to the system, which is anticipated in the spring of 2026.

The first production vehicle is expected one year later in the spring of 2027. MBTA anticipates a delivery rate of two vehicles per month through the spring of 2031 when the final Type 10 vehicle will be delivered.

[MASS TRANSIT](#), SEPTEMBER 6

Orange Line Closure Work 69 Percent Complete; 60 New Cars Ready for Service

Work on the MBTA's Orange Line is 82 percent complete and track work taking place between Dana Bridge and North Station will allow for the removal of three more slow zones, which will bring the total number of slow zones removed to five.

Work taking place in this area includes track and tie replacement, rail installation, track alignment and tamping. Crews have worked to finish tie replacement work between the Dana Bridge and Community College Station with current tie replacement work taking place at the North Station portal, which began on September 9. Tie replacement work involves

crews operating hi-rail heavy equipment to remove old ties and install new ties. This critical tie replacement will remove three of the six slow zones that the T aims to address during the shutdown. Crews have already completed work to remove slow zones at Jackson Square and between Downtown Crossing and State. Finishing this important work and removing these slow zones allows for faster, more reliable service for Orange Line riders.

When Orange Line trains began running again on September 19, slow zones continued to be in place temporarily for about one week where the work was performed. After new track and ballast installation, and due to the amount of track area disturbed during work, it is a given that slow zones need to temporarily remain in place. This is because it takes time for the new track and ballast to settle as trains repeatedly run over these areas.



General Manager Poftak discusses the progress of work with members of the media at Wellington Station adjacent to some of the new Orange Line cars. Mass Transit photo

Additionally, 64 new Orange Line cars were now available when service resumed, supporting riders during peak commuting periods. This is up from 30 cars when the Orange Line shutdown first started. This is also over a full complement of new Orange Line cars ready to serve riders.

Overall, teams have completed approximately 65 percent of rail replacement and 90 percent of track replacement. The full depth track replacement includes the ballast, ties and rail.

About 99 percent of the special track work is complete. The special track renewal work includes replacing things like crossover areas.

About 99 percent of Cologne eggs and rail fastener work is finished near Tufts Medical Center station. Cologne eggs are the fasteners that allow crews to directly affix rail to the concrete pads, which are also utilized on certain parts of the Orange Line. The MBTA is in the process of installing the final five new eggs with 395 fully complete.

There has also been excellent progress on the ongoing signal testing at Oak Grove and Malden Center stations with about 84 percent of these signal upgrades complete.

[MASS TRANSIT](#), SEPTEMBER 14

OKLAHOMA CITY

Streetcar Reaches One Million Rides

The OKC Streetcar reached its one million rider milestone on September 10, since service began in December 2018, according to EMBARK officials. The OKC Streetcar was one of the 2009 voter-approved MAPS 3 public transit projects.

A project of the city's MAPS 3 program, the OKC Streetcar aims to strengthen community connections, support economic growth and enhance mobility for residents and visitors in OKC's core. OKC Streetcar construction was completed in October 2018, and the service officially launched on December 14, 2018, with fare collection beginning in February 2019. The streetcar includes two route options: the 4.8-mile Downtown Loop and the 2-mile Bricktown Loop, and serves five Downtown OKC districts, including Automobile Alley, Bricktown, City Center, Arts District and Midtown.



LRV 201806 (Brookville Equipment, 2018) eastbound on NW 4th Street just east of Robinson Avenue, passing the First United Methodist Church on September 7, 2021. Steve Morgan photo

The OKC Streetcar is the region's first local passenger rail in nearly a century. Now the Regional Transportation Authority of Central Oklahoma is conducting federal studies to bring regional commuter rail service to Edmond, Oklahoma City, Norman and Tinker Air Force base.

The first MAPS (Metropolitan Area Projects) began on December 14, 1993, when voters approved the first sales tax. MAPS for Kids was established in 2001 when voters approved a second MAPS tax, raising \$700 million and benefiting public schools located in Oklahoma City.

Voters approved MAPS 3 on December 8, 2009. The sales tax ran from April 2010 through December 2017. MAPS 4 was approved in 2019 and will raise a projected \$1.1 billion over eight years. MAPS 4 will continue the transformation of Oklahoma City's public transit system with \$97 million dedicated to dramatic new improvements, including two bus rapid transit lines and more than 500 bus shelters.

[MASS TRANSIT](#), SEPTEMBER 20

PHILADELPHIA

Design Concepts for New Trolley Stations Released

SEPTA reached a key milestone in the Trolley Modernization Program with the release of design concepts for new trolley stations. SEPTA is offering the public a number of opportunities to share their feedback.

Trolley Modernization is a once-in-a-generation opportunity to transform the nation's largest trolley network, delivering benefits across the region. It is a key initiative of SEPTA Forward, the Authority's Strategic Plan, to create a "lifestyle transit network" connecting to destinations across the region by providing accessible, fast, and easy service on the trolley system.



One of the concepts for a newly designed trolley stop, with "floating" station and dedicated bike lane. DVARPC rendering

Many trolley stops today are simple signs along the sidewalk with few amenities. Trolley Modernization will introduce new stations that make it easy to find, level boarding that makes it easy to get on, and consistent service that makes it easy to get where you are going.

The current station design concepts build on input from more than 5,000 participants who provided feedback on

what stations should include and how they can fit in with the communities SEPTA serves. The public is again being asked to provide feedback, this time on potential station designs, colors, and lighting for all trolley stations across the SEPTA system.

[SEPTA PRESS RELEASE, SEPTEMBER 21](#)

KOP/Trolley Modernization Projects Move Forward

The SEPTA Board approved measures that will allow for significant advances to two major initiatives of SEPTA Forward, the Authority's Strategic Plan, King of Prussia Rail (KOP Rail) and Trolley Modernization.

KOP Rail will extend the existing Norristown High Speed Line (NHSL) four miles into King of Prussia, providing a "one-seat" ride from any station along the NHSL, including 69th Street Transportation Center in Upper Darby and Norristown Transportation Center.

As part of the Project Development Phase, the Board voted to initiate the real estate process related to necessary permanent and temporary acquisitions of approximately 70 parcels in and around the proposed rail alignment. These acquisitions will facilitate the construction, staging, and establishment of the KOP Rail extension.

The Board's decision authorizes SEPTA to begin appraising the properties, determining fair market value, making offers, and reaching an agreement with owners. SEPTA will attempt to acquire all necessary property interests through good faith negotiations.

The Board also approved the acquisition of a 13-acre property in southwest Philadelphia for SEPTA's Trolley Modernization Program, which will transform the nation's largest trolley network into an accessible, fast, and easy-to-use system.

Acquiring the property at 5100 Grays Avenue will secure a potential site for a new facility that is centrally located and large enough to accommodate the anticipated future fleet of articulated, ADA-accessible trolleys.

The property has an existing structure that can be adapted to SEPTA's use as a facility and has sufficient additional land area to support the planned yard and employee parking. In addition, SEPTA's existing trolley tracks are immediately adjacent to the roadside of the property.

SEPTA's Fiscal Year 2023 Capital Budget commits \$390 million to advance KOP Rail to final design and progress real estate activities. The project is currently at 30% design, and construction is expected to begin in 2025 if full funding is secured. SEPTA will seek a Federal Transit Administration New Starts Capital Investment Grant to support up to 60% of the total project cost.

Funding for Trolley Modernization also comes from the Fiscal Year 2023 Capital Budget and 12-Year Program. A SEPTA-contracted independent, fair market value appraisal determined the value of the 5100 Grays Avenue property to be nearly \$22 million, and negotiations with the owners are ongoing. In comparing this site to others, a cost-benefit analysis estimated a savings of about \$20 million by purchasing this property and repurposing it for SEPTA's

intended use.

[SEPTA PRESS RELEASE, SEPTEMBER 22](#)

Tasker-Morris ADA Project Begins

SEPTA gathered with elected officials and other stakeholders at Tasker-Morris Station to break ground for a new project that will make the South Philadelphia Broad Street Line station fully accessible, and deliver modern amenities for riders.

A key element of the \$19 million project will be providing elevator access from street level to the mezzanine level and a second elevator to the platform below. This will make the station fully compliant with the Americans with Disabilities Act (ADA).

In addition to the new elevators, other planned improvements to the station include:

- New lighting and other electrical improvements;
- ADA-compliant communications system upgrades w/ emergency call boxes and HD security cameras;
- New safety and wayfinding signage;
- ADA-compliant guard rails and handrails;
- Modified fare lines for improved flow.

By the time the project is completed in early 2024, 13 of the 22 Broad Street Line stations will be fully ADA accessible.

Tasker-Morris serves approximately 3,000 riders each weekday. The station will remain open during construction.

[SEPTA PRESS RELEASE, SEPTEMBER 28](#)

PHOENIX

South Central Extension/Downtown Hub marks halfway point

Valley Metro’s South Central Extension/Downtown Hub light-rail project is 50 percent complete.

With new utilities upgraded throughout most of the project area, track installation and station construction continue throughout the corridor.

Already, more than 68,000 feet—nearly 13 miles—of new waterline has been installed on the project. Nearly 5,000 feet of track has been installed, including 13 pieces of special trackwork.

The project has also created hundreds of jobs for Valley workers. To date, 1,122 crew members, including carpenters, electricians and ironworkers, have been hired to build the extension.

To help mitigate the impacts of construction, Valley Metro and the city of Phoenix provided \$508,000 in grant funding to 64 local businesses in the project area through the Small Business Financial Assistance Program. Valley Metro’s free business assistance programs also include marketing, community events, accounting and financial planning and more to businesses in the construction corridor.

In addition to five new miles of track, the project includes new utilities, landscaping, repaved streets, sidewalks, eight new stations with public art as well as two new park-and-rides.

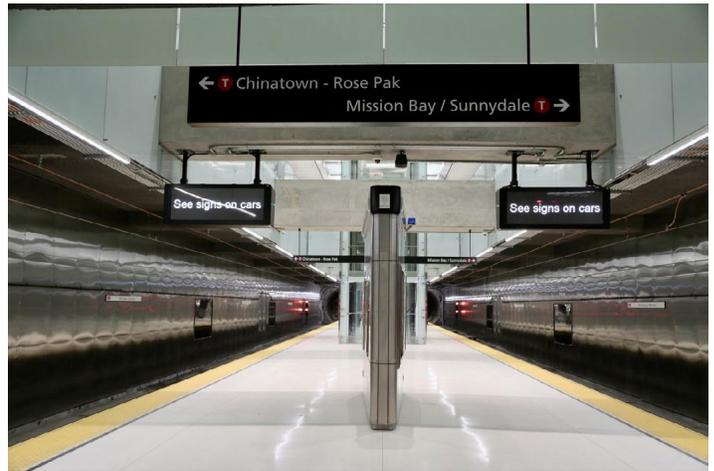
[MASS TRANSIT, SEPTEMBER 2](#)

SAN FRANCISCO

Central Subway Project To Open in November

The opening schedule for the Central Subway project was announced by the San Francisco Municipal Transportation Agency (SFMTA).

Starting November 19, 2022, the Central Subway will open with dedicated shuttle service on weekends between 4th and Brannan Station to Chinatown/Rose Pak Station, stopping along the way at Yerba Buena and Union Square where passengers can make transfers to Bay Area Rapid Transit (BART) and Market Street subway. Service specifically on this weekend shuttle for the Central Subway will be free in November and December. This soft launch will allow for additional operator training of the brand new system, while allowing the public to experience the system in service. In January, SFMTA will transition to daily service, connecting directly to the rest of the T-Third Line.



View south at the Yerba Buena/Moscone station under 4th Street.
SFMTA photo

In celebration of the soft launch, the SFMTA will be hosting community station activations during October and early November at 4th and Brannan, Yerba Buena/Moscone, Union Square/Market Street and Chinatown/Rose Pak stations. The community celebrations are by invite-only and a “Thank You” to all the neighbors SFMTA has partnered with from the start of the project.

The full opening of the Central Subway system will debut in January 2023 in time for Lunar New Year celebrations—connecting thousands to both celebrate and support San Francisco’s Chinatown.

The Central Subway Project will improve public transportation in San Francisco by extending the Muni Metro T Third Line through SoMa, Union Square and Chinatown. By providing a direct, rapid transit link between downtown and the existing T Third Line route on 3rd Street, the Central Subway will improve transportation to and from some of the densest neighborhoods west of the Hudson while connecting

communities to economic opportunities and cultural activities by cutting 20 minutes off the travel time to Mission Bay.

T Third Line trains will travel mostly underground from the 4th Street Caltrain Station to Chinatown, bypassing heavy traffic on congested 4th and Stockton streets.

[MASS TRANSIT](#), SEPTEMBER 21

Caltrain's New Electric Trainsets Unveiled

Caltrain provided the first public viewing of its new electric train cars on Saturday, September 24, at an event attended by federal, state, regional, local officials and community members. Caltrain calls the new train cars the centerpiece of its electrification project, which not only brings a new power source to the Caltrain fleet, but will also deliver an increase in service and train speeds.

The project will electrify a 51-mile corridor from San Francisco's 4th and King Caltrain Station to the Tamien Caltrain Station and replace 75 percent of Caltrain's diesel service with electric.



Caltrain's new EMUs at San Francisco's 4th and King Caltrain Station on September 24. Mass Transit photo

In July 2016, Stadler US, Inc., was awarded a contract to manufacture the new electric multiple unit (EMU) trainsets. The 19 trainsets will offer smoother quieter rides and additional capacity. The cars include passenger experience enhancements such as on-board signage, roomier seats, power sources at every fixed seat, ADA-compliant restrooms, additional storage space and two dedicated bike cars per seven-car trainset.

The first EMU was assembled at Stadler's Salt Lake City facility in 2020 and was tested in Pueblo, Colo., before arriving at Caltrain. Once the EMUs arrive in California, they will undergo additional testing before they enter passenger service in 2024.

FTA and Caltrain executed a Full Funding Grant Agreement in May 2017 for \$647 million through FTA's Capital Investment Grants Program for the electrification project. Federal formula funds, as well as state bonds, grants and local funds will help pay for the project. In the summer of 2021, Caltrain announced pandemic-related supply chain challenges, as well as challenging signal systems installation

that resulted in cost increases on the electrification project, as well as a delayed service start date from the second quarter of 2022 until late 2024. Caltrain explains the project requires an additional \$462 million to complete and it is working with its partners and stakeholders to bridge the gap.

In addition to improving service, Caltrain notes electrification will also help meet ambitious regional and state climate action goals by lowering greenhouse gas emissions, improving air quality and relieving traffic congestion. Additionally, electrified service will advance equity along the corridor by reducing noise and air pollution while increasing access for priority equity neighbors. It will also set the framework for California's future High Speed Rail network.

[MASS TRANSIT](#), SEPTEMBER 26

WASHINGTON, D.C.

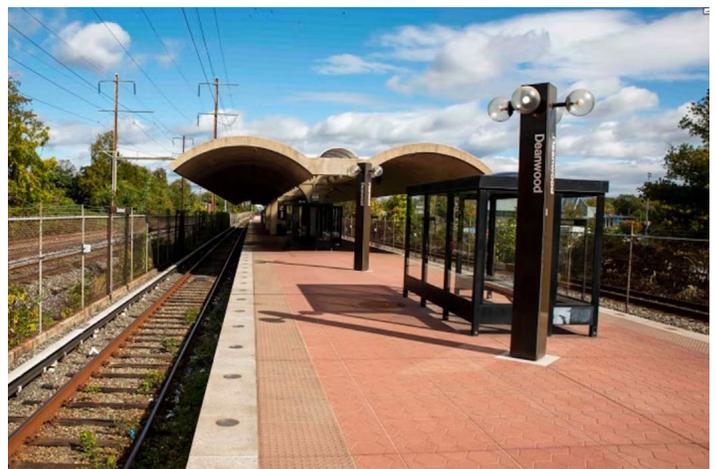
Orange Line Stations Reopen

Five Washington Metropolitan Area Transit Authority (WMATA) Orange Line stations reopened September 6.

Riders will see a brand-new look at the five Orange Line stations that includes new slip-resistant tiles, brighter energy-efficient LED lighting, larger digital display screens and rebuilt platform edges. The upgrades were completed at New Carrollton, Landover, Cheverly, Deanwood and Minnesota Avenue Stations.

Over the summer, WMATA closed the stations for platform reconstruction, passenger improvements and to conduct safety-critical repairs on several bridges along this segment of the Orange Line.

The reopening of the five stations marks the completion of a four-year program to rehabilitate and modernize 20 outdoor stations across the Blue, Orange, Silver, Yellow and Green lines. The project, which began in 2019, used a new construction strategy to close stations during construction, consolidating years of work into months.



Deanwood was one of five stations to undergo improvements. WMATA/ Mass Transit photo

Funded by WMATA's Capital Improvement Program, the project has been the largest, most complex capital construction project completed since WMATA opened in 1976. Today, these stations provide customers with safer, modern and more accessible stations including:

- Rebuilding 25,200 feet of platform edges to create safer, more accessible stations;
- Installing more than 467,000-square feet of slip-resistant tile to provide better traction in wet conditions;
- Completing nearly three million passenger trips on free shuttle bus service during station closures to keep the region moving;
- Installing 89 stainless-steel platform shelters with power outlets and digital screens to provide a more convenient rider experience;
- Enhancing more than 2,800 speakers for clearer announcements.

On September 6, Orange Line trains resumed normal service to all stations between Vienna and New Carrollton and parking fees were restored. Some additional work in and around the stations may continue after stations reopen, including the eastside bus relocation at New Carrollton and portions of Park & Ride and Kiss & Ride lots that will be closed through September and as late as October.

[MASS TRANSIT](#), SEPTEMBER 2

Additional 7000-Series Trains Return to Service

WMATA will be able to return up to 20 of its 7000-series trains to daily service starting September 12, under an updated return to service plan that has been approved by the Washington Metrorail Safety Commission (WMSC). The updated return to service plan was developed based on data analysis accumulated during the first phase of the 7000-series trains service reentry, which includes an accumulation of more than 860,000 miles of train travel.



Two 7000-series trains at WMATA's Navy Yard station. WMATA/Mass Transit photo

The increased number of trains marks the start of the second phase of WMATA's return to service for the 7000-series fleet; the first phase saw up to eight trains enter daily service. The third phase will be determined by WMATA and approved by WMSC at a later date.

Phase One saw nightly inspections of the trains and Phase Two will implement a four-day inspection interval. WMATA reports it inspected 234 cars 24,000 times during the summer and the return to service plan says the authority has 56,000 data points for back-to-back and journal bearing gap with no measured failures or observable movement.

WMATA installed the first automated inspection system this spring. The authority intends to install six of these systems to inspect wheelsets of its 7000-series railcars in real time. WMATA says any railcar with wheel measurement changes would be removed from the fleet.

The return of more 7000-series trains will also mean improved train frequency for Metrorail customers. WMATA released updated service times on September 6. Lines are currently running service every 10-15 minutes on weekdays and every 20 minutes during the weekends on the Blue, Orange and Silver Lines. Starting September 12, service will operate daily at every eight minutes on the Green Line, every 10 minutes on the Red Line and every 15 minutes on the Orange, Silver and Blue Lines.

[MASS TRANSIT](#), SEPTEMBER 6

International

KRAKÓW

Tramway Extension Opens

A 1.1-mile extension of the Kraków tram network from Łagiewniki SKA to Kurdwanów has opened to connect two existing lines in the south of the city.

The tramway extension has been built as part of the Trasa Łagiewnicka ring road scheme, which also involved 2.2 miles of road including a 1.2-mile tunnel, and 3.1 miles of bicycle lanes.



Opening day ceremony at Łagiewniki SKA with Tango NF2 #825 (Stadler, 2019) entering the station. Metro Report International photo

The extension, which opened on August 27, was developed over a four year period by special purpose company Trasa Łagiewnicka, which will be responsible for maintenance

until 2042.

The 840 million zloty cost was financed with a grant from the European Union's Cohesion Fund and loans from the Polish Development Fund, Bank Gospodarstwa Krajowego and a European Investment Bank loan guaranteed under the European Fund for Strategic Investments.

Mayor Jacek Majchrowski said this offered a financial model for other cities intending to carry out major investments.

[METRO REPORT INTERNATIONAL](#), SEPTEMBER 2

LIVERPOOL

Merseyrail Class 777 Displayed

On display at InnoTrans in Berlin (see page 20) was one of the seven battery-equipped independently powered electric multiple-units that Stadler is supplying as part of an order for a total of 53 custom-designed Class 777 EMUs for use on the Merseyrail network around Liverpool.

The 53 four-car EMUs are equipped for 750 V DC third rail operation at up to 75 mph on the Merseyrail network. They have small batteries for independent movement around depots, and provision to add the capability of using 25 kV 50 Hz electrification on any future network extensions. In the meantime, the seven IPEMU versions of the EMUs have been fitted with larger lithium-titanate-oxide batteries and a traction converter in the space that would be occupied by a transformer and other AC equipment.

The IPEMU battery can be charged from the third rail to provide a range of 15½ miles on non-electrified routes at a maximum speed of 50 mph.

Battery power will initially be used between Kirkby and a station which is currently being constructed at Headbolt Lane on the line towards Wigan; this route is operated today by Northern Trains DMUs. Kirkby to Headbolt Lane is a distance of around 1¼ miles, and will enable transport authority Merseytravel to evaluate battery power for use on other proposed extensions of the Merseyrail network.

[RAIL BUSINESS UK](#), SEPTEMBER 22

LONDON

Elizabeth Line's Bond Street Station Opening Date Set

Transport for London has announced that Bond Street Station on the Elizabeth Line will be opened on October 24. The opening comes exactly five months to the day since the line's core section opened on May 24.

Bond Street is anticipated to become one of the line's busiest stations, projected to eventually serve nearly 140,000 daily passengers. It is located in the heart of London's West End neighborhood, adjacent to Oxford Circus, one of Europe's busiest retail districts. It will offer transfers to the Underground's Central and Jubilee Lines, resulting in a combined 225,000 daily users across the entire station complex.

There are multiple reasons for the delayed opening, though it had been accepted from the project's outset that the use of the station's site as one of the key access shafts during the Elizabeth Line's construction was critical to the schedule. Bond Street was used as the primary delivery point for the installation of tunnel segments, and later for the installation of railway systems components.



View of Bond Street station during construction. Rail Insider photo

The station site continued to be used long past the point where other sites had been closed up. Once station finishes work were commenced, additional technical hurdles needed to be overcome to ensure the station's integration with the rest of the line core section. These delays continued through last winter, leading to the decision to delay the opening.

Opening Bond Street will be the latest achievement of the Elizabeth Line, which has already served over 45 million trips through September. Additional milestones will be reached on November 6, when passengers traveling from Reading and Heathrow will be able to travel east to Abbey Wood without changing at Paddington, while customers traveling from Shenfield will be able to travel west to Paddington without changing at Liverpool Street. Journeys to onward destinations, including to Heathrow Airport or towards Reading, can be made by changing trains on the same platform at any of the central London stations.

Full end-to-end trips, with a service of 24 trains per peak hour between Paddington and Whitechapel, will be implemented when the final timetable is implemented in May 2023 (See the September Bulletin for a map and additional details).

[CROSSRAIL PROJECT WEBSITE PRESS RELEASE](#), SEPTEMBER 28

LUXEMBOURG

Luxtram Extends Southeast

Luxtram light rail route T1 has been extended southeast to Lycée Bouneweg, following a formal inauguration by Minister of Mobility François Bausch and the city's mayor Lydie Polfer on September 11.

The 0.9-mile extension from Gare Centrale takes the line to a total length of 5.3 miles. It follows Rue d'Alsace south before turning east onto a rebuilt and widened Pont Jean-Pierre

Buchler spanning the station's southern approach. The route then curves south to reach an intermediate stop at Dernier Sol at the start of Boulevard de Kyiv, a new roadway forming the axis of an urban regeneration project. Reserved track continues south from here to Lycée Bouneweg, where there is a bus interchange.



Luxtram Urbos 3 #121 (CAF, 2020). Metro Report International photo

The new section of route is equipped with 750 V DC overhead electrification, with trams reverting to overhead power at Gare Centrale after using CAF's ACR onboard energy storage to traverse the 2.2-mile catenary-free city center section, recharging the supercapacitors at stops along the route.

The Luxtram fleet of CAF Urbos 3 trams has been increased to 33 following the completion of deliveries of 12 more vehicles in 2021. Around 20 trams are deployed in service each day, an increase of six over the previous requirement.

Further extensions are under construction at either end of the route, and both are expected to open by 2024. Work is expected to start in October on a further 3.0-mile southwest from Lycée Bouneweg to the Cloche d'Or development zone; this will serve the CFL station at Howald opened in 2017, and a park-and-ride facility at the Stadion terminus. At the northern end of the route, a 2.4-mile extension is already under construction from Luxexpo to Findel airport; this will include a viaduct over the A1 motorway and will serve a park-and-ride hub at Héienhaff.

Meanwhile, Luxtram has been commissioned to undertake preliminary studies for a tram route on Avenue de la Porte-Neuve as part of the 2035 national mobility plan published in August. This projects an increased demand for public transport of almost 40% over the next decade, and envisages that the expanded light rail network will eventually be carrying 300,000 passengers per day.

[METRO REPORT INTERNATIONAL](#), SEPTEMBER 12

RENNES, FRANCE

First Cityval Light Metro Line Opens

Rennes Line B was opened on September 20, the first to use Siemens Mobility's Cityval version of its Neoval rubber tire automated light metro platform. The 8.7-mile Line B runs

from Saint-Jacques-Gaîté through the city center to Cesson-Viasilva with 15 stations.

Plans for Line B were finalized in 2007, following the success of Line A which opened in 2002 using the VAL208 system and now carries 140,000 passengers per day.

Siemens Mobility won the Line B contract in 2010, and construction began in January 2014.

Line B includes 5.3 miles of bored tunnel, a cut-and-cover section at La Courrouze station and 1.5 miles of viaduct with three elevated stations. The maintenance and storage depot is at Saint-Jacques-de-la-Lande, while the control center is co-located with Line A to reduce costs and facilitate network-wide co-ordination.

Keolis has the contract to operate public transport services in Rennes under the STAR brand. The company has 80 people working on the operation and maintenance of Line B, a third of whom were internal transfers and all are able to work on both lines. Maintenance is undertaken with support from Siemens Mobility.



Rennes metro Line B. Metro Report International photo

The Line B project has cost €1.342 billion, and was funded from Rennes Métropole (€576.30 million), loans (€520 million), the national government (€90.7 million), Bretagne region (€90 million), Ille-et-Vilaine département (€30 million) and the European Union (€14 million).

The end-to-end journey time on Line B is 21 minutes, and at peak times services run every 2 minutes 15 seconds. Ridership is predicted at 110,000 passengers per day, which was exceeded with 120,000 passengers on the opening day.

The opening of Line B puts 73 percent of Rennes municipality residents near a metro station, and on October 24 the bus network will be reconfigured to provide better connections with the new line and across the metropolitan area.

Rennes municipality expects the city's transport network to carry 112 million passengers in 2025, a 25 percent increase on current numbers.

At the opening Laurent Bouyer, CEO of Siemens Mobility France, said Line B would be a showcase for Cityval, which would help win further orders for the latest iteration of the VAL

light metro system which was first launched in Lille in 1983.

Cityval is supplied as a turnkey package, with development undertaken in Chatillon, Toulouse and Lille and manufacturing in Vienne. There are many French sub-suppliers including Texelis and Saft.

It features Siemens Mobility's Trainguard Mass Transit CBTC, and platform edge screens from Kaba Gilgen.

Cityval trains have rubber tires running on a concrete track, with a central guide rail and 750 V DC power supply fed from near the central rail. The maximum gradient is 12 percent, maximum vertical curvature is 656 feet radius and horizontal curvature 98 feet, enabling Cityval lines to take a winding course. The maximum design speed is 50 mph, and the minimum headway is 60 seconds.

Line B has 25 trainsets, with the timetable requiring 21 in traffic. The two-car trainsets are 73½ feet long and a little over 8½ feet wide with wide gangways, rapid acceleration and braking, and a little less than 6½ foot wide doors. They have a capacity of 179 passengers, including 26 seated.

The trains have CCTV and passenger information screens. They have ventilation, but the operator opted against air-conditioning, because of the short journey times and with much of the route being in tunnel.

Cityval offers the ability to insert cars up to a maximum of nine per trainset, and Line B has provision for future extension of the trains to three-car sets 115 feet long.

Siemens Mobility is currently building Neoval metros for airports in Bangkok and Frankfurt, with opening planned for early 2023 and July 2024.

[METRO REPORT INTERNATIONAL](#), SEPTEMBER 27

TORONTO

Line 1's ATC Up and Running

The Toronto Transit Commission's (TTC) Line 1's Automatic Train Control (ATC) signaling system is now fully operational, bringing with it improved service and reduced operating costs.

Portions of the TTC's previous signaling system dated back to the 1950s, when the subway first opened. This included a "fixed block" signaling system where trains needed to have large gaps between them as they entered and exited each "block." With ATC, train speed and separation between trains is controlled automatically through a computerized moving block system. Train location can be monitored more accurately, allowing more trains to operate closer together. This means more frequent and reliable service for customers and fewer signal-related delays.

The completion of ATC on Line 1 also means that trains can use electricity more efficiently, leading to lower operating costs for the TTC. In addition, it will allow for more service flexibility if there is an operational issue on the line, with additional turn-back locations now available.

The project was completed on schedule according to the updated plan approved by the TTC's Board in April 2019.

Due to the scale of the project, the installation and testing

process for ATC could only be done during non-revenue service hours and was completed during weekend and early weeknight closures.

Crews performed special track work in the tunnels, installing thousands of pieces of trackside signaling and radio equipment. This includes two thousand beacons, two hundred and fifty-six signals and more than one million feet of cable.

Over the weekend of September 27-28, crews completed testing and commissioning and the system went live during the subway closure on that Saturday.

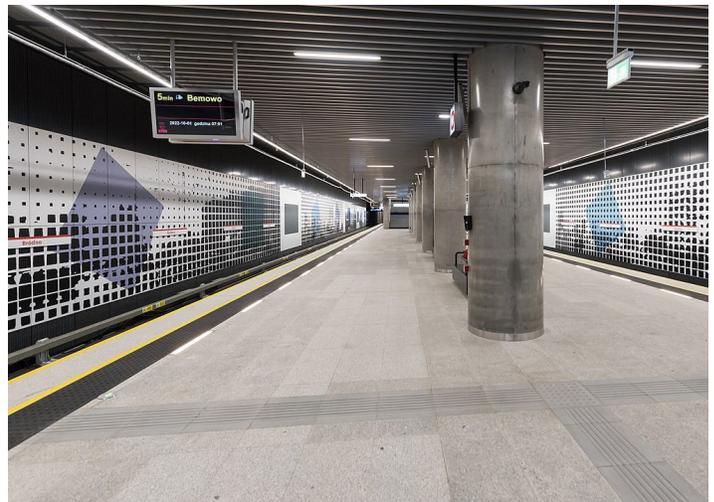
[MASS TRANSIT](#), SEPTEMBER 30

WARSZAWA (WARSAW)

Metro Line 2 Extension Opens

On September 28, Warszawa Mayor Rafał Trzaskowski presided over the opening of a 2.42-mile northern extension of Metro Line 2 from Trocka to Bródno. With intermediate stations at Zacisze and Kondratowicza, Line 2 is now 11.55 miles in length. The latest extension is the fourth since the line's opening in 2015. At Bródno, transfers can now be made between the metro and tram routes 1, 3, 4 and 25.

A fleet of 20 six-car Inspiro trains built by Siemens-Newag holds down Line 2 services. During the opening ceremony Mayor Trzaskowski announced that peak headways on Line 1 will soon be reduced to 2 minutes, 20 seconds and on Line 2 to 2 minutes, 50 seconds.



Bródno, the terminal station on the new extension. Adrian Gryczuk photo via Wikipedia

Together with the 14.04 mile long Line 1 (opened in 1995), the Warszawa Metro is now 25.59 miles in length with 38 stations. Line 2 is due to be extended again, west to Karolin with three additional stations currently under construction. Two new infill stations are planned for Line 1, and a new Line 3 is currently in planning.

[RAILWAY GAZETTE INTERNATIONAL](#), OCTOBER 5

Book Review

by Paul Grether

The Trams Return: Celebrating 1000 issues of Tramways & Urban Transit

by Simon Johnston. Published in 2021 by the Light Rail Transit Association (United Kingdom / A4 format), softcover, 224 pages with 260 color/33 black and white photographs, five maps, £28 before shipping.

The Trams Return is published to celebrate the 1,000th issue of Tramways & Urban Transit (T&UT) by the Light Rail Transit Association (LRTA). This volume covers the global context of the state of the tramway (streetcar) and light rail resurgence from a UK perspective. It begins with a forward from Mohamed Mezghani, the Secretary General of the International Association of Public Transport (UITP) who notes that the UITP started in 1885 as the Association of Tramways.

Each chapter is written by various familiar T&UT contributors and LRTA authors, including the occasional photo credit to ERA members. For those who read T&UT, the detail included for each subject reflects significant research and subject matter knowledge. Following a brief history of the LRTA T&UT publication and the various contributors over the years, the decline of the tramway (and the rise of the automobile) in the UK is documented. Concurrent developments on “the Continent” are detailed to set the context. The text then transitions to the resurgence of urban rail and light rail in particular. Developments in the USA are not ignored, both historical and current modern light rail and streetcar systems receive significant detailed coverage.

While softcover, the volume is nonetheless printed on high-quality glossy paper, the layout and editing is of the high-quality typical of LRTA and photo reproductions are excellent.

This book will appeal to anyone with a passing or



significant interest in streetcars or light rail. The global perspective of the lot of the industry makes for an interesting and compelling read while also functioning somewhat as reference material to keep handy on the shelf. This is particularly true of the detail of all of the systems deemed “The Great Survivors” and new systems opened since 1978, all covered in detail. Many of the systems visited by ERA on past international trips are included.

New York Transit Museum's 2022 Parade of Trains

On Saturday, September 17 and Sunday, September 18, from 11:00 AM to 4:00 PM each day, the New York Transit Museum held their annual Parade of Trains event. As has been the custom over the years, the various trainsets made express shuttle runs from Brighton Beach to Kings Highway on the BMT Brighton Line. This year, there were five different sets of trains operating, as follows:

- Brooklyn Union Elevated: N 1407+1273+1402 S
- BMT B-Type (Standards): N 2390-2391-2392 S
- R-1/9s: N 1802+103+1300+1000+401+381 S
- R-10s/16: N 6387+3184+3189 S
- R-32s: N 3828-3829+3889-3888 S

Once again, the weather cooperated and a beautiful day was enjoyed by all who attended.



Gate car 1407 (Jewett Car, 1907) is on the north end of the BU set at Brighton Beach on September 18. Amazing to think that this car is 115 years old and still going strong. BU 1273 was built in 1903 by Laconia Car so it is 119 years old! Subutay Musluoglu photo



BMT B-Type 2392-2391-2390 (American Car Foundry, 1917) sails through Neck Road station on its way to Brighton Beach on September 18. Subutay Musluoglu photo



R-9 1802 (Pressed Steel Car, 1940) is on the north end of the six-car train of mixed R-1/9 cars as they roll through Avenue U station on September 18. Alex Martinez photo



On one of their northbound trips to Kings Highway, R-16 6387 (American Car Foundry, 1954-1955), along with R-10s 3184 and 3189 (American Car Foundry, 1948-1949), are seen north of Neck Road station on September 18. R-10 3189 was making its public debut this day, resplendent in its 1964-era paint scheme. Paul Grether photo

InnoTrans 2022

By Jeff Erlitz (Photographs by the author)

InnoTrans is the world's leading trade fair for transport technology. It is a four-day exposition and is normally held every two years. It is always held at the Exhibition Grounds (Messe) in Berlin, Germany. The 2020 show was postponed due to the pandemic and then finally cancelled. It returned last month and was four days long, from the 20th to the 23rd. After having been on my "bucket list" for many years, I finally was able to attend, along with fellow ERA member Noah Caplin. There were 2,834 exhibitors from 56 countries that presented the mobility sector's entire range of products and services. To say this fair was large would be an extreme understatement as 137,394 international visitors from 131 countries attended. Here are a few scenes from the outdoor and indoor exhibits.



Siemens exhibited their Vectron MS for the Czech National Railway (České dráhy). These units are capable of 143 mph operation under multiple line voltages (25 kV/50 Hz AC, 15 kV/16.67 Hz AC, 3 kV DC and 1.5 kV DC).



Siemens also showed their new Type X subway car for the Vienna U-Bahn (Wiener Linien). They are building 34 six-car trainsets and there is an option for an additional 11 trainsets. These are designed for fully automatic operation as well as with an operator.



Hitachi Rail and Trenitalia (Italy) unveiled the tri-mode "Blues" battery hybrid train at InnoTrans. The tri-mode train can operate using pantographs under overhead catenary, diesel fuel or battery power and can switch seamlessly between these three modes. Upon commencing operations in Italy later this year, this will be the first battery hybrid train to enter passenger service in Europe.



GDS - Global Display Solutions SpA, of Italy, had a few examples of their handiwork on display indoors. Included in their display were signs for individual tracks at platform level and a pole-mounted display suitable for transit stops.



Stadler's CITYLINK tram-train for Transport for Wales.



Stadler's IPEMU (Independently-Powered Electric Multiple Unit) for Liverpool's Merseyrail.



Stadler's Flirt H2 for California's San Bernardino County Transportation Authority, operating on fuel cells or battery.



Stadler's TINA (Total Integrated Low-Floor Drive) tram for Darmstadt operator HEAG-Mobilo. Baselland Transport (BLT) and Rostocker Strassenbahn AG (RSAG) have now also opted for the TINA tram.



Alstom's Coradia Stream HC (High Capacity) for CFL (Société Nationale des Chemins de Fer Luxembourgeois).



Siemens Mobility's Mireo Plus B for Nahverkehrsgesellschaft Baden-Württemberg operates on 15 kV AC or battery.

Travels with Jack May

Britain and the Baltics — Part VIII

By Jack May (Photographs by the author)

Friday, August 18

Today was getaway day from Manchester. After breakfast Richard and Andrew would head directly to Birkenhead to ride the museum tramway, while I would do that in the afternoon after a morning on the Manchester Metrolink network, which I had yet to sample on this trip, despite having spent four nights in the city. I had ridden a smaller version of the system in 1995 and 2005, but since then a number of new lines were built, which I was anxious to see. A half-day would not do the job, but it would be a start, with all of the following Sunday providing additional time to ride the network. As a result I will hold off on reporting on my morning activities in Manchester and instead combine that narrative with the events of Sunday the 19th, in a later chapter.

I checked out and found out that the Ibis would charge me a pound to store my bags, but this was hardly the first time that a large organization would nickel and dime its passengers. My plan was to return to the hotel later, pick up my luggage, and then roll the large carry-on to the railway station, where I would store it until late Sunday afternoon, right before I'd be heading to a hotel near East Midlands Airport prior to my flight to Riga on Monday morning. Thus I deposited my toiletries and two changes of underwear in my camera bag, which I would take with me to the Isle of Man this evening.

I suspected I'd be getting to Birkenhead after my friends completed their inspection of the property, as Andrew was anxious to get back to his new home a short distance away and Richard would be continuing out to John Lennon Airport on the other side of the Mersey for his flight to Douglas on the Isle of Man. As for me, I would ride and photograph Metrolink until about 12:30 PM and get to Piccadilly station in time to stow my carry-on at the privately-operated overpriced Left Luggage facility and then ride the 1:37 PM train to Liverpool. And that's exactly how it worked out.

The morning's weather in Manchester was a mixed bag of sun and clouds and then in Birkenhead some rain was added to the stew. My DMU left three minutes after the advertised, but arrived at Liverpool Lime Street two minutes early, at 2:29 PM. Service is very frequent between Manchester and Liverpool, with trains leaving from both Manchester Piccadilly and Manchester Victoria terminals, as well as some way stations. They say the shortest and fastest line is the former Cheshire Lines Committee (CLC)* route through Warrington. This line is not electrified and, before the Beeching "rationalization," ran from Manchester Central to Liverpool Central, two mainline stations no longer used (the one in Manchester was repurposed to become the

Merseytravel to evaluate battery power for use on other proposed extensions of the Merseyrail network. G-Mex Convention Centre, although recently it was renamed Manchester Central again, but with no trains other than Manchester Metrolink trams). My East Midlands train ran over that line, as do services provided by Northern and TransPennine. The other line runs further north, and was George Stephenson's original Manchester and Liverpool railroad of 1830, the first ever to operate scheduled intercity services. It later was absorbed by the former London & North Western (L&NW), and is now electrified and served by EMUs. While this line is a bit longer than the CLC route, with the operation of EMUs it may become faster for services that stop at way stations, due to the superior technical qualities of electrically-propelled trains. Oddly enough, a non-stop service taking only 33 minutes is operated by TransPennine from Victoria station to Lime Street with DMUs operating under the wire. There is also another line, that ran from Manchester Victoria station to Liverpool Exchange Street, part of the former Lancashire & Yorkshire Railway (L&YR). That one is even further north, and is also a bit longer, but in order to use that route nowadays passengers have to change from a DMU to an EMU along the way.

(*Author's note: The CLC was originally jointly owned by the Midland, the Great Central and the Great Northern railways, and served as their access to the busy and lucrative Manchester-Liverpool market.)



Wallasey No. 78 lays over between trips in the museum courtyard at the end of the line.

Upon my arrival at Lime Street I quickly bought a Merseyside Saveaway day pass for £5.20, which would cover my ride to Birkenhead and then later to John Lennon Airport. I easily found the entrance to the underground Wirral Line

at this busy station and rode a third-rail powered MU train three stations to Birkenhead on the other side of the Mersey River. Service is quite frequent (eight trains per hour) so I did not have to wait long for the five-minute ride, and arrived at the Hamilton Square station at 2:45 PM.

I found the skies threatening upon emerging onto the street after my long elevator ride from the subterranean platform, and I hurried along the sidewalk for the four-block walk down the hill to my ultimate destination, Woodside Pier.* The complex is a terminal for hourly river cruises originating in Liverpool and Birkenhead, but most importantly, is the starting point of the heritage tramway, which runs every half hour. Wallasey double-deck tram 78 was waiting at the loop and I scurried aboard, just in time for its 3:05 PM departure. I risked the open platform of the upper deck and fortunately the rain held off during the eight-minute ride to the museum's headquarters and storage barn. The skies opened up a few minutes after the tram's arrival, but by that time I was indoors.



The four-wheeler is about to leave Shore Road and enter paved reservation, near the museum end of the line.

(*Author's Note: The Great Western Railway had a major railroad station on this site. Among the services that this company operated were through trains to London Paddington station, which disappeared under the Beeching axe. Apparently the running time, including the ferry ride across the Mersey from Liverpool, was competitive with the other "all land" routes. In the golden age of railroading there was unbridled competition for Liverpool-London travelers, with the L&NW running to Euston from Lime Street, plus three routes from Central station over the CLC: the Midland to St. Pancras, the Great Northern to Kings Cross and the Great Central to Marylebone. In a way this is reminiscent of the competition for New York-Chicago passengers, with the New York Central and Pennsylvania providing all-land service, while the Erie, Lackawanna-Nickel Plate and

Baltimore & Ohio routes involved a short ferry ride across the Hudson.)

The Merseyside Tramway Preservation Society's museum (<http://www.mtps.co.uk/index.htm>) is a high-quality operation with friendly and enthusiastic volunteers, on the par or better than many of our similar American establishments, albeit a bit small. In a sense it's reminiscent of the Baltimore Streetcar Museum. The organization owns nine trams, of which seven are double deckers that originally operated in the Mersey area. The building contains informative displays (including photos and maps), some trams in various states of restoration and the usual facilities needed and expected by visitors, ranging from lavatories to a book/souvenir shop. Most of its single track line (there is a passing siding) runs at the sides of quiet roads that serve light industrial establishments. Unfortunately the ride is short, a length of only 56 "chains," or just under $\frac{3}{4}$ of a mile.

The rain was only a passing cloudburst and I began walking the line for photos (briefly getting caught in some stray drizzle). With the last trip of the day scheduled for 4:05 PM I spent only an hour on the property, and wasn't able to get photos at more than four locations. Fortunately, as time went on the clouds began breaking up and so I had some sunlight at the end of my visit. The lovely Wallasey four-wheeler that I rode and photographed was built by Brush in 1920, but only ran until 1933, when the nearby town (about four miles from Birkenhead) converted to bus operation.

After the departure of the car's last trip at 4:05 PM, I headed up the hill to the underground railway station. With no need to get to the airport until about 6:30 PM for my 8:10 PM flight, I explored the Wirral line's underground loop (https://en.wikipedia.org/wiki/Wirral_line), which is operated by Merseyrail and connects Liverpool with the Wirral peninsula (hence its name). The railroad dates back to 1886, when the Mersey Tunnel was constructed for operation with steam power. It was electrified as a fourth rail 600v DC line in 1903. Originally running to Liverpool Central Station, it connected with trains of the CLC to Manchester and thus trains to London via the Midland Railway, Great Central and Great Northern. See https://www.merseyrail.org/_common/map/networkmap.htm for a clear map of the Merseyrail system. Regarding the three routes from Liverpool to Manchester discussed above, note that the lower horizontal red line is the former CLC line to Manchester and the upper one is the original 1830-built Liverpool & Manchester, which became part of the L&NW (and is now electrified). The blue line to Kirkby and then gray beyond, was the L&YR route to Manchester, but now you have to change between EMUs and DMUs at Kirkby to make a through trip.

The line was converted from fourth rail 600-volt to third rail 750-volt operation in 1955. In 1977 the Liverpool end of the Mersey Railway's underground line was expanded into a four-station clockwise loop, which now also serves the former L&NW's Lime Street station. The government chose the L&NW's line to Euston Station in London for its first major mainline electrification (now operated by Virgin Trains), while the other mainline stations in the city, Central and Exchange, suffered the "Beeching Axe."

In order to get to the airport I rode around the single-track loop and noticed that the second platform at James Street is still extant, and retains the beautiful tiling on its wall from the original tunnel line. Apparently, it is still used when the loop line has to be closed and trains under the Mersey are cut back to that point. In order to get to the airport, I decided to ride a commuter train to the South Parkway station and then transfer to a bus. On my trip from Manchester to Lime Street I had already ridden to the terminal through South Parkway in a DMU under 25kV AC catenary, and now I noticed that I could also get there by riding Merseyrail's Northern line, another third rail electrified line that had been modified and extended as part of the railway rationalization.

Formerly starting at Liverpool's Exchange station, the L&YR's lines to Southport and Ormskirk date from the 1850s. They were initially electrified as a fourth-rail operation between 1904 and 1913, but soon afterward converted to third rail (as was the case for the Wirral line, whose conversion, in 1955, finally made the two Liverpool electric lines compatible). The former L&YR lines were routed into a new north-south tunnel to connect with the former CLC mainline to Manchester, whose trains were relocated from Central Station to Lime Street in 1966, via a connection near the new South Parkway stop. (Central Station was closed and torn down in 1973.) And so I detrained at the loop's Central Station stop to make the connection between the two underground lines.

Service over the Northern Line to Southport and Ormskirk is frequent, with eight EMUs running every hour on each branch during the peak period and four on each during base hours, an EMU train every 3¾ minutes over the joint section. But only the Southport line runs southward beyond Central Station. Nevertheless I didn't have to wait long for a Hunts Cross train and rode the 5:14 PM for the five-stop 13-minute trip to South Parkway, and then easily found my way to the main section of the station and the bus "stands" right outside the entry doors. A number of bus routes run to the airport from various parts of Liverpool via this station and I caught the 5:45 PM Arriva route 86A, which took only 12 minutes to reach the terminal building.

Now the bad news hit. My 8:10 PM flight on Flybe airlines (fly-in-the-ointment airlines?) was going to be delayed for two hours. The stated excuse was "ATC in Birmingham," whatever that meant (could this activity have delayed the plane: <https://www.youtube.com/watch?v=W5eVM-mobAWE?>) Just as bad, Richard's earlier 5:40 PM flight was also being delayed for 2½ hours. And as I reached the gate's

waiting area, there was Richard, and we commiserated together while he told me about his visit to Birkenhead. When his flight was finally called at around 8:00 PM, I tried to get on it, but was told it was "too late to make the change" (implying there were available seats). Clearly the same aircraft was shuttling back and forth between Liverpool and Ronaldsway Airport on the Isle of Man, so if his flight was late, my flight was also going to be late. With the timetable indicating a scheduled elapsed time between departure and arrival of 45 minutes, I suspect the minimum amount of time I'd have to wait would be two hours. I was getting hungry so I grabbed a bite just before the snack bar closed and then waited.

As it happened, I had to wait 2½ more hours (bringing up the total to well over four hours), with the flight finally being called at 10:15 PM. I found my window seat and we left the gate at 10:30 PM, hitting the wild blue yonder at 10:40 PM. The Stobart Air ATR-72 turboprop, flying under the Flybe (fly-by-night?) name, had comfortable two-and-two seating and was about ¾ full. The voyage was uneventful, but when it became clear to me that I would miss the last bus* to Douglas (which left at 10:13 PM and would stop near my hotel), I mentioned that to my seat mate, who said he couldn't help me as a friend was picking him up and they would be driving in the other direction. But another passenger must have overheard the conversation, for as we were filing off the aircraft the young man offered to drive me to my hotel, indicating it would only be a little out of his way. He said his wife was picking him up and as long as she was still waiting (she was), everything would be OK. That was very nice, as I had no idea how much a taxi would cost, but I knew the bus charged only £3.10 for the 10-mile run (I found out later that the cab fare would have been about £23).

(*Author's Note: It is also possible to use the steam trains of the Isle of Man Railway to reach the airport. Its Ballasalla station is a mere 10-minute walk from the terminal. There is also a Ronaldsway flag stop, that is connected to the airport by a path that takes less than five minutes to negotiate. But service is limited to just a few tourist trains every day.)

It turned out Max was an amateur rugby player and was returning home from a match in Ireland. His regular job was in banking, and he and Jenna were looking forward to a major motorcycle race to take place on the Island the next day. I responded that I hoped it wouldn't interfere with the operation of the Douglas horse trams or the Manx Electric Railway (it didn't). Anyway, I was quite lucky that these folks were so kind to me. I reached the Penta Hotel at around midnight, and a very sleepy middle-aged lady (meaning younger than me) greeted me and gave me the key to my room. I told her how grateful I was that she had waited for me and she indicated that she knew my flight would be late and it was "no trouble." My room was huge and clean, and I fell asleep immediately after a very long day.

My exploits on the Isle of Man continue in part IX of the report.



(Above and below) The sun shines in Birkenhead. Although Wallasley 78 was built in 1920, most consider it old-fashioned in design, as it has open balconies on the upper deck (all the better for for taking videos). It was saved because it was acquired by a North Wales farmer and put to use as a storage shed. Restoration began in 1987 and it emerged from the shop in 2002. These two views are near the Woodside Pier terminal of the museum line.

