BULLETIN

Volume 66, Number 1 | January 2023

MTA Adopts New Budget and Financial Plan

The MTA Board has approved the 2023 Budget and 2023-2026 Financial Plan. The financial plan contains a roadmap for the MTA's longer-term fiscal stability, safeguards essential services, enhances transit equity, and provides a sustainable foundation for the region's continued economic growth.

The plan proposed in November followed recommendations put forward in the July Financial Plan, which outlined actions from the MTA to shrink its structural deficit from $2.6 billion to $600 million in 2023 and from almost $3 billion in 2024 and 2025 down to $1.2 billion. Starting in 2023, the MTA is working to implement operating efficiencies yielding $100 million in savings in 2023 and rising to $416 million in savings by 2026.

The budget assumes the restoration of recurring biannual fare and toll increases, with 5.5 percent assumed in 2023. A board/staff fare and toll strategies working group will develop plans for fare and toll changes before the MTA Board takes additional action. In addition, the proposed budget also assumes $600 million in additional dedicated funding in 2023 and projects a need of $1.2 billion per year in recurring new revenue beginning in 2024. Absent additional support from either the State, City and/or Federal Government, it would be necessary to take other actions to achieve a balanced budget which could include service cuts, staffing reductions, higher fare increases, cancellation of capital projects, and/or the faster spend-down of remaining funds.

In calculating the future deficits, McKinsey & Company conducted an updated ridership forecast, released in concurrence with the MTA's July Financial Plan. In the four months since the forecast's release, ridership across MTA services is tracking the midpoint projection of the forecast. The farebox revenue gap based on the McKinsey forecast when compared with pre-pandemic fare and toll revenue projections averages $2.1 billion from 2022–2026. The MTA is projected to have a lower than anticipated 2022 deficit, driven by lower than forecast expenses and higher than expected revenues. The deficits in the later years exceed the July plan, primarily due to increased pension cost projections.

MTA Press Release, December 19, 2022

Electric Railroaders Association

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

Back Issues
PDFs of previous issues can be downloaded at erausa.org/bulletin

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2023 Convention, July 6–11

For its 2023 Annual Convention, the ERA returns to the Pacific Northwest, anchored by our two primary destinations: Portland and Seattle. These two spectacular cities are, respectively, the nation's 22nd and 15th most populous metro regions. For details, point your browser to erausa.org or consult the enclosed flyer if you take a hard copy mailing.

Cover Photo

S70 Avanto 401 (Siemens, 2009) has just departed the EVMV (Eastern Virginia Medical School)/Fort Norfolk terminal station at West Brambleton Avenue & Colley Avenue in downtown Norfolk, Va. on November 23, 2021. Nicknamed The Tide, this one-line light rail operation began operating on August 19, 2011, making it the first light rail system in the state of Virginia. Jeff Erlitz photo

Donations

The ERA Board of Directors express their deepest appreciation for these member donations in November 2022.

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Monthly Zoom Meeting

Friday, January 20, 2023 at 7:30 PM.

Presenting This Month: Jack May

Jack (ERA #2275) will present a program devoted to his two journeys to Europe this past year, one to France and the other to Belgium. Since 1985 the number of cities in France sporting light rail lines has increased by more than two dozen, and now it is approaching 30. Jack attempted to catch up with developments this past summer and visited eight properties.

Additionally, the Musee du Transport Urbain Bruxellois went all out to celebrate its 40th anniversary, and took over two lines of the Brussels tramway system on a beautiful Sunday this past May. Jack was there riding and photographing the array of streetcars, many over 100 years old. And with the PCC era in Antwerp drawing to a close, he also took a look at these cars on its streets, and visited that city's tram museum.

How to Join Our Zoom Meeting

A Zoom registration button will be posted on www.erausa.org about five days before Jack's presentation. You can sign in at 7:15 PM. The show begins at 7:30 PM. If you have any problems, email Bob Newhouser at bnnyc1955@aol.com, or on the night of the meeting, text or call Bob at 917-482-4235.

The History Corner

An occasional series showcasing a particular electric railway operation or locale. This month, we visit Newport News, Virginia.

Citizens Rapid Transit Company double-truck motor 43 (J.G. Brill, 1905) is seen on Washington Avenue in about 1906. Detroit Publishing Co. photo

Worldwide Suburban Electric Railway, Metro and Tramway Openings in December 2022

Date	Country	City	Segment	Distance (miles)	Rail/ Metro/ Tram
12/1	China	Ningbo	Line 2: Congyuan Road to Honglian	1.8	M
12/3	Finland	Helsinki	Matinkylä to Kivenlahti	4.3	M
12/11	India	Nagpur	Aqua Line: Sitabuldi to Prajapati Nagar Orange Line: Kasturchand Park to Automotive Square	?	M
"	Czech Republic	Brno	Line 8 Osová: to Nemocnice Bohunice	0.6	T
"	Switzerland	Zürich	Line 20 (Limmattalbahn): Altstetten to Killwangen	6.0	T
12/12	USA	Boston	Green Line: Lechmere to Medford/Tufts	3.2	T
12/19	Poland	Katowice/Sosnowiec	Line 15: Zagórze Petla (BMC) to Zagórze Rondo Jana Pawla II	1.9	T
12/23	Azerbaijan	Baku	Purple Line: Avtovagzal to Xocasan	1.4	M
12/26	China	Qingdao	Line 4: Hall of the People to Dahedong	19.1	M
"	"	Hefei	Line 5: Wanghucheng West to Jiqiao Road	9.6	M
12/28	"	Taizhou	Taizhou Railway Station to Chengnan	26.0	M
"	"	Jinhua	Yidong Line: Lingyun to Sports Center	?	M
"	"	Huangshi	Huangshi Avenue to Garden Expo	16.7	T
"	"	Shenzhen	Line 16: Universiade to Tianxin	18.1	M
"	"	Nanjing	Line 1: Maigaoqiao to Baguazhoudaqiaonan Line 7: Mufuxilu to Xianxinlu	?	M
"	"	Foshan	Line 3: Zhen'an to Shunde College Railway Station	25.3	M
"	Bangladesh	Dhaka	Line 6: Uttara North to Agargaon	7.3	M
12/30	China	Wuhan	Line 7: Garden Expo North to Hengdian Line 16: Zhoujiahe to Hannan General Airport	13.1 2.6	M
"	India	Kolkata	Line 3: Taratala to Joka	4.0	M
12/31	China	Beijing	Line 16: Yuyuantan Park East Gate to Yushuzhuang	8.9	M

URBAN RAIL NEWS WEBSITE, DECEMBER 31

Rail News in Review

New York Metropolitan Area

NEW YORK CITY TRANSIT (NYCT)

Long-Term Subway Track Outages

From 5:00 AM on Monday, December 26 and continuing until 5:00 AM on Saturday, December 31, IND Queens Line Tracks D3 and D4 from south of Queens Plaza to north of 42nd Street-Eighth Avenue were out of service continuously. Electrical work in pump rooms and fan plants was performed in the 53rd Street Tubes along with tunnel and duct bank repairs.

Taking advantage of this shutdown, Forte Construction Corp., of Holbrook, N.Y., delivered escalator equipment and accessories to the Lexington Avenue–53rd Street station.

During the shutdown, E trains operated via the 63rd Street and Sixth Avenue Lines, from south of 36th Street to south of West Fourth Street, making all stops in both directions.

During the hours when it normally would have operated to Forest Hills, M trains were rerouted via the Nassau Street Line to Chambers Street. Trains terminated in the middle and relayed on the tail track (Track R3/4) south of the station.

Starting on December 26, Tracks 1 through 4 in Concourse Yard, from the south end of the inspection barn to the bumping block on Track 1, are out service for switch rehabilitation work. Maintenance of Way's Track Department is doing this in-house work and it will continue to at least January 22. As a result, all moves into and out of the shop will need to be made from the north end only.

Fall/Winter Subway Schedule Changes

Subway service was modified on December 4 when the Fall schedule went into effect. These changes affected only the A Division (IRT). The B Division (BMT/IND) was unchanged from the June 26 Spring schedule.

The following changes were made:

- Two southbound 4 trips were moved from the 9-10 AM hour to the 5-6 AM hour;
- One northbound 4 trip was moved from the 7-8 PM hour to the 3-4 PM hour;
- One southbound 7 local trip and one southbound 7 express trip were moved from the 9-10 AM hour to the 5-6 AM and 6-7 AM hours as two southbound 7 local trips;
- One northbound 7 local trip and one northbound 7 express trip were moved from the 5-6 PM and 6-7 PM hours to the 3-4 PM and 4-5 PM hours.

As ridership patterns have changed as a result of the COVID-19 pandemic, ridership has remained relatively strong in the early shoulders of the peak period but has lessened during other peak hours, hence the above changes.

There was no net change in the total number of daily trips on the 4 and 7 lines. The number of crews that are required for 4 service was unchanged, while one less crew is now needed for 7 service.

MTA Board Meeting Agenda, July 2022

IRT Car Assignment — December 4

On December 4, new car assignments were put into effect on Division A (IRT). As with the schedule changes above, the B Division (BMT/IND) was unchanged from June 26, which was in the July 2022 ERA Bulletin.

Peak requirements on the 7 line were reduced from 36 trains to 34 trains in the PM peak. Peak requirements on all other lines and fleet size are unchanged from the June 26 car assignment. Car unavailability increased by 10 cars, to 460 cars. All 10 of those cars came from the R-142 fleet.

Line	AM Cars Assigned	PM Cars Assigned
1	310 R-62A	310 R-62A
2	350 R-142	350 R-142
3	250 R-62	240 R-62
4	180 R-142, 170 R-142A	170 R-142, 160 R-142A
5	340 R-142	350 R-142
6	370 R-62A	370 R-62A
7	418 R-188	374 R-188
S	12 R-62A	12 R-62A

Proposed Spring Subway Schedule Changes

Service adjustments will be coming to subway schedules in June that better reflect post-COVID travel patterns. The subway will reallocate scheduled service to better serve periods of higher ridership by increasing scheduled trips on the weekends and by modifying Monday and Friday scheduled service, where ridership recovery has shown to be the slowest.

The changes will add scheduled trips to the G J and M lines on weekends, improving headways by approximately two minutes. These three lines are used by Brooklyn and Queens riders to transfer to other subway lines and have longer waiting time between trains on the weekends than many other lines.

New York City Transit is also proposing an earlier start to weekday A C express/local rush hour service to reflect post-COVID morning rush hour patterns. Manhattan-bound A express service will commence one trip earlier during the early morning rush hour to help riders in eastern Queens and the Rockaways. To complement the early start to A express service, one rush hour C trip will be shifted earlier in the morning.

To make these additional scheduled trips possible, they will make strategic reductions to scheduled trips on Mondays and Fridays on the 1 6 7 E F L and Q lines. Subway

ridership overall has been consistently lower on Mondays and Fridays than on mid-week days, reflecting the growing trend of hybrid office work.

The changes are expected to go into effect in June.
MTA Press Release, December 19

STATEN ISLAND RAILWAY (SIR)

New Clifton Maintenance Shop Opens

The new, storm-resilient Clifton Car Maintenance Shop on Staten Island was unveiled on December 7. The previous incarnation of the SIR facility suffered extensive damage that led to months of disruption following Hurricane Sandy a decade ago, and has been rebuilt to sustain Category 2 hurricane water and wind pressures up to 110 miles per hour sustained winds, plus a three foot water surge.

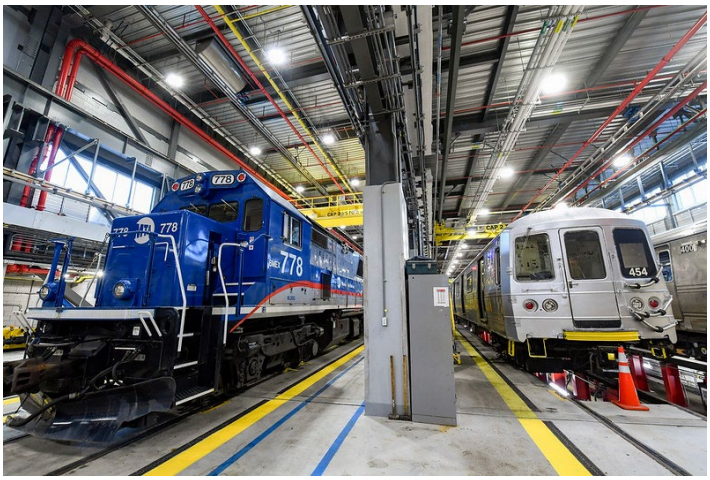
View north across Front Street at SIR's new Clifton Maintenance Shop on a rainy December 7. Marc A. Hermann/MTA photo

The facility includes a new shop, administrative offices and support buildings. Inside the shop there are four tracks for car inspections and repairs, interior car cleaning and approved car modification programs, and an overhead crane for changing roof-mounted air conditioning units and lifting car bodies for car truck maintenance.

Funding for the $165 million design-build project was allocated from the Federal Transit Administration (FTA's) Hurricane Sandy recovery program. Other components of the five-year project include:

- Demolition, removal and disposal of structures and systems including underground diesel fuel tanks;
- Reconfiguration of tracks and switches and realignment of indoor tracks, including traction power and underground utilities;
- Environmental work including asbestos abatement, lead abatement and underground fuel storage tanks removal;
- Installing communications systems including clock/timekeeping, fire alarm, public address, CCTV and security systems and sprinkler and standpipe systems.

MTA Press Release, December 7



Inside the new shop on December 7 with BL20GH 778 (Brookville Equipment, 12/2008) and R-44 454 (St. Louis Car, 3/1973). The locomotive is leased from Brookville Equipment and carries the BMEX reporting marks on the cab. Marc A. Hermann/MTA photo

LONG ISLAND RAIL ROAD (LIRR)

Grand Central Madison (GCM) Opening Delayed

December 2022 came and went and, sadly, the railroad's Grand Central Branch (as it is formally known) did not open for revenue service.

The delay is due to the station smoke extraction system not passing tests required for a temporary approval of occupancy. MTA is making changes to the system and Grand Central Direct shuttle service will start once complete.
Railway Track & Structures, December 30

Grand Central Madison Will Open with Shuttle Service

When GCM opens for revenue service, it will be with a "soft" opening and not the full schedule of trains that the public was shown in draft form last June. The full schedule will occur sometime later.

These shuttle trains will operate between GCM and Jamaica, hourly during the peak periods and half-hourly during the off-peak. It is planned to have 19 weekday westbound trips scheduled to operate from 6:17 AM to 4:47 PM and 18 eastbound trips from 9:15 AM to 7:17 PM.

On weekdays in the peak direction, the only local stop made by these shuttles will be at Woodside. In the off-peak periods, alternate trips will make all local stops (Kew Gardens, Forest Hills and Woodside) or run express between GCM and Jamaica.

On weekends, 32 trips in each direction are planned to operate. Westbound shuttles are scheduled to leave Jamaica from 7:06 AM to 10:38 PM. Eastbound, trips are scheduled to leave Grand Central Madison from 7:17 AM to 11:44 PM. The stopping pattern for off-peak weekday service will also be

operated all day on weekends.

Operationally, the train numbers being assigned to these shuttle trips will be in the 9000s on weekdays and 9600s on weekends.

Jamaica Capacity Improvements Progress

Over the weekend of December 17–18, the first half of a new medium-high speed (maximum 40 mph) crossover (#87) between Main Line Tracks 1 and 3 was installed. Part of the future "Union" Interlocking, it's located about one-third mile east of the former Union Hall Street station. This work was originally scheduled for the previous weekend but it was postponed.

This new crossover is part of Phase 1 of the Jamaica Capacity Improvement project and is the first piece of new trackwork on the Main Line east of Jamaica station. The two new crossovers of Beaver Interlocking, previously put into service, are located on the Atlantic Branch east of Jamaica station.

The other half of the new crossover is scheduled to be installed over the weekend of January 7–8.

METRO-NORTH RAILROAD (MNR)

Park Avenue Viaduct Rehabilitation Project

MTA Construction & Development (C&D) will award a $382 million Design-Build contract to begin reconstruction efforts on the Park Avenue Viaduct in East Harlem. The contract, which will be awarded following MTA Board approval, represents the first phase of a long-term project. The mile and a quarter stretch encompasses four Metro-North tracks between 110th Street and the Harlem River Lift Bridge.

This project will replace major segments of the elevated steel structure, nearly half of which was first constructed in 1893, to ensure a state of good repair. The work will include replacing existing structures, tracks, power, communications, and signal system from the north side of East 115th Street to the south side of East 123rd Street. The project is expected to reduce local noise and vibration levels compared to those from the existing viaduct by utilizing modern design and materials.

As a part of this project, the MTA will enter into a Project Labor Agreement (PLA) with the Building and Construction Trades Council of Greater New York and Vicinity (BCTC), its participating affiliated local unions and their members. The agreement, representing the first PLA since the creation of C&D, is a commitment to working with union partners to improve labor efficiency and reduce costs on capital projects without compromising worker pay or safety. Cost savings are expected through improved work rules — such as unified holidays, 40-hour work weeks, flexible start times, and maximum use of apprenticeships — as well as enabling health insurance reforms that provide better treatment of workplace injuries and reduce lost time.

As part of the PLA, the MTA and BCTC are also working together to provide meaningful training and job opportunities for the local residents of Harlem. With partners in the Apprenticeship Readiness Collective, the MTA and BCTC commit to providing pre-apprenticeship training for Harlem residents that have real pathways into union jobs created by the construction of the project.

MTA Press Release, December 21

NJ TRANSIT (NJT)

Hudson-Bergen Operation and Maintenance to Change?

NJT is preparing for the upcoming procurement for the operation and maintenance of the HBLR system by hosting an industry forum on January 11. Since its inception in 2000, the HBLR has operated under the initial design-build-operate-maintain (DBOM) contract by 21st Century Rail Corporation. As that contract gets set to expire in the coming years, NJT is evaluating all options on how best to continue the operation and maintenance of the system.

NJT is seeking feedback from industry participants to determine the interest of potential partners, inform the scope of the procurement and choice of the delivery model to help shape the upcoming procurement.

LRV 2029 (Kinkisharyo, 1999) is seen laying over between trips at the Tonnelle Avenue station in North Bergen on February 25, 2012. Jeff Erlitz photo

The virtual forum on January 11 will be held at 11:00 AM EST and is open to industry professionals at no cost. Firms interested in attending the forum are invited to visit njtransit.com/hblr to register. Upon registration, participants will receive an email describing the project, business opportunities, and information to register for the one-on-one meetings. The industry forum will provide firms with an overview of the project and opportunity for one-on-one discussions between qualified firms and NJT.

The industry forum does not constitute the start of a formal procurement process and participation in the industry forum is not a prerequisite to participate in any future procurement

of the project.
NJ TRANSIT PRESS RELEASE, December 22

Transit Oriented Development Along Proposed Hudson-Bergen Extension

NJT has been awarded a $592,000 grant from the Federal Transit Administration (FTA) to study equitable transit oriented development (TOD) along the proposed nine-mile extension of the Hudson-Bergen Light Rail (HBLR) into Bergen County. The comprehensive plan will build on efforts to establish neighborhoods and employment centers along the corridor and provide a framework for coordinated actions, creating a blueprint for success for all stakeholders.

The extension of the HBLR into Bergen County, known as the Northern Branch, will further NJT's 10-Year Strategic Plan goals of powering a stronger and fairer economy and promoting a more sustainable future.

The TOD study will assemble analysis and opportunities in a comprehensive manner that will provide holistic solutions for the entire corridor located through portions of North Bergen, Fairview, Ridgefield, Englewood, Leonia and Palisades Park, and pinpoint more customized solutions tailored to the unique character, constraints and needs of specific communities. The plan will engage local communities, governments and regional and state agencies in the many facets of transit oriented development in crafting a collective vision for the corridor. The study will also contain robust community engagement through outreach to members of the public and other stakeholders.

The Northern Branch extension is a proposed nine-mile route through eastern Bergen County from the current terminus of Tonnelle Avenue up to Englewood hospital and Medical Center with seven proposed station stops. The project, currently in the design phase, will decrease roadway congestion and improve overall mobility in the region.
NJ TRANSIT PRESS RELEASE, December 12

(Left) Map of the proposed HBLR extension into Bergen County. The orange line at the bottom of the map is the north end of the existing line, which terminates at Tonnelle Avenue. Northern Branch Corridor SDEIS, March 2017

Other US Systems

BOSTON

Green Line Medford Branch Opens

The Medford Branch of the Green Line Extension has entered service, enabling passengers to travel directly from Medford and Somerville to downtown Boston, the Longwood Medical Area and beyond via light rail.

The $2.3 billion project has extended the Green Line by 4.7 miles along two branches: the Union Square Branch, which opened in March, and the new Medford Branch.

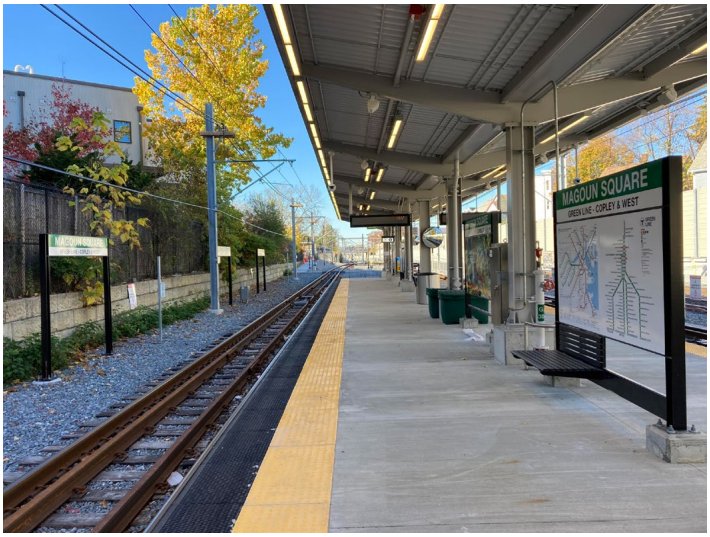
A total of seven new stations have been constructed for the project, along with a new vehicle storage and maintenance facility in Somerville. Twenty-four trolleys have also been purchased to extend the fleet.

The 3.7-mile Medford Branch has five stations – East Somerville, Gilman Square, Magoun Square, Ball Square, and Medford/Tufts and introduces services to areas that haven't had access to public transport in the past.

With the opening of both branches, nearly 80% of Somerville's residents now live within walking distance of a rail station.

Green Line trains are expected to operate every five to six minutes in the peak hours, and the Massachusetts Bay

Transportation Authority estimates the extension's opening will remove 26,000 vehicle trips from local streets daily. Railway-News, December 13



Magoun Square station on the newly-opened Medford Branch. MBTA photo

CHICAGO

ADA Improvements on Blue Line

The Chicago Transit Authority (CTA) has received $118.5 million from the Federal Transit Administration's (FTA) All Stations Accessibility Program grant program, to make the Irving Park, Belmont and Pulaski Blue Line stations with elevators and make other improvements to meet modern accessibility requirements.

The total estimated cost for the three station projects is approximately $148 million, 80 percent of which will be supported with funds received today through federal ASAP grant program. The remaining funds, approximately $29 million, will be a mix of state and/or local funds. Details regarding the scope and timeline of project work for each station will be determined following the awarding of contracts, which is expected in late 2023/early 2024.

In general, work at all three stations involve the installation of elevators with clearly defined accessible pathways to and from train platforms, bus stops, and other major modal transfer points. All features along the pathway, such as fare arrays, shelters, benches, and passenger information, will be redesigned to remove barriers and allow for universal accessibility.

In 2018, the CTA released its All Stations Accessibility Program (ASAP) Strategic Plan, a first-of-its-kind blueprint for making its entire rail system accessible to people with mobility disabilities within a 20-year time period. Currently 103 of CTA's 145 rail stations (70%) are accessible. CTA's main impediment to achieving 100 percent vertical accessibility has always been funding.

With the passage of the Bipartisan Infrastructure Law, a new $1.75 billion discretionary grant program, which takes the name of CTA's "All Stations Accessibility Program" was created and announced. This is the first federal funding program specifically for legacy transit agencies, like CTA, to help increase the number of accessible rail stations. Earlier this year, the FTA announced the first round of funding of this five-year program, which will make $350 million in grants funds available annually.

Funding has now been secured for a total of 12 stations outlined in CTA's ASAP Strategic Plan, with the CTA now focused on applying for and securing funds to further advance its visionary plan of making its entire rail system vertically-accessible by 2038.
CTA Press Release, December 20

DANBURY, CONN.

Historic Electric Locomotives Saved

The Danbury Railway Museum (DRM) has announced a major update in their efforts to save two one-of-a-kind New York Central System (NYCS) electric locomotives.

On Monday, December 19, railroad contractor Hulcher Service, Inc., successfully relocated the two historic locomotives two hundred feet east of their present location using four "sidebooms," tracked vehicles with side-mounted cranes. Hulcher Services transported both locomotives to a staging area in anticipation of disassembly into major components for shipment to Danbury.

T3a 278 and S1 100 on Beacon Island in Glenmont, N.Y., near the Port of Albany. Stan Madyda/Danbury Railway Museum photo

Built for the NYCS in 1904 and 1926, locomotives #100 (originally #6000) and #278 represent a large period of significant electric locomotive development in the early 20th Century. #100 is the world's first mainline electric locomotive, built by General Electric and the American Locomotive Company as the prototype for the "S-Motor" series electric engines. #100 was built for service in New York City's iconic Grand Central Terminal in the wake of a devastating

accident within the Park Avenue tunnels of the city in 1902 that stands as the worst train accident within city limits today. #278 is the successor to the #100, delivered 22 years after the #100 and is the most modern of the succeeding "T-Motors." #278 is the last remaining T-Motor in existence. Both locomotives are "bipolar" electrics, referring to their rare, gearless method of propulsion.

These two locomotives have been landlocked on Beacon Island in Glenmont, New York since the late 1980s. The DRM took title to the electrics in 2013, and due to a myriad of issues and geographic features, removal of the locomotives was not possible until 2019 when the Port of Albany announced plans to develop the 80-acre site. Every conceivable option has been explored since the museum took title to the locomotives. This has provided the DRM the opportunity needed to finally relocate these locomotives. Both received slight damage in the process, as would be expected when moving 100 and 120 year old locomotives, both remain intact, and the DRM is dedicated to preserving the two units. "Now that the locomotives have been moved to a staging area, we will separate them into individual components and prepare them for shipment," said project manager Stan Madyda. "This is a huge moment, but we are not out of the woods yet. Movement to a staging area was required by The Port to facilitate the construction of an access road which will later play a part in the removal of the locomotives."

Additional funding is still required to bring locomotives home. The DRM extends thanks to the Port of Albany for their support of this project. Additionally, this move would not be possible without the financial support of Henry Posner, III, chairman of the Railroad Development Corporation.
DANBURY RAILWAY MUSEUM, December 28

HOUSTON

Metro Introduces New Light Rail Vehicles

The Metropolitan Transit Authority of Harris County introduced the first of 14 new light-rail vehicles to the current fleet, which will service the Houston Metro Rail Red Line.

The new S70 vehicles have an open seating plan and nearly four feet of aisle space allow easier flow through the car and better accommodates wheelchairs, strollers, and passengers with bicycles.

(Left) An example from one of Houston Metro's first S70 fleet, 118 (Siemens, 2004), is seen at the Fannin South station on December 31, 2010. Mikhail Kolyadov photo via Urban Electric Transit website

This is the authority's fourth procurement of LRVs since Houston Metro opened the Red Line for service in 2004 with 18 Siemens S70 (Avanto) rail cars. Siemens was awarded a contract for the new vehicles in 2019.

The cars go through an extensive qualification and safety process, with one thousand miles of running time before going into service.
MASS TRANSIT, December 19

LOS ANGELES

East San Fernando Valley Light Rail Transit Project

The Los Angeles County Metropolitan Transportation Authority (Metro) celebrated the groundbreaking for advanced utility work on the first segment of the estimated $1.6 to $2 billion East San Fernando Valley Light Rail Transit Project, the first rail project to be built in the Valley since the original Metro Red Line subway was extended to North Hollywood in 2000.

The new 6.7-mile light rail line will connect the communities of Van Nuys and Pacoima along Van Nuys Boulevard, one of the Valley's busiest corridors. Another 2.5-mile segment is also planned to further extend the rail line from Pacoima to the Sylmar/San Fernando Metrolink Station. Design options for that project segment are now under study and will be built in a second construction phase.

Metro has issued a $9-million contract to W.A. Rasic Construction Company, Inc. of Long Beach, Calif. to begin relocating existing Los Angeles Department of Water & Power vaults and associated conduit infrastructure along Van Nuys Boulevard in advance of major construction. Metro anticipates awarding its main construction contract early in 2023. The first rail segment between Van Nuys and Pacoima is scheduled to open between 2028 and 2030.

The start of advanced utility work marks a significant new milestone in Metro's goal to bring street-running, local stop rail service back to the San Fernando Valley after 70 years. The last Pacific Electric Red Cars discontinued service along Van Nuys Boulevard in 1952.

With its return, Metro's new rail line is planned to connect with both the Van Nuys Metrolink/Amtrak Station as well as the station at Sylmar/San Fernando to provide Metro transit riders with greater interregional connectivity.

The rail line's first construction phase will travel along the median of Van Nuys Boulevard and include 11 new stations that will connect the cities of Van Nuys, Panorama City, Arleta and Pacoima. Destinations available along the new line will include the Van Nuys Civic Center, Panorama Mall, Van

Nuys multi-residential housing complexes and Arleta High School, among others. It will also provide key linkages with Metro bus lines, including the G Line (Orange) in Van Nuys and connect with other municipally operated bus lines.

Map of the East San Fernando alignment. LA Metro

The second planned phase of the rail line will turn northwest on the Metro-owned right-of-way along San Fernando Road and connect to the City of San Fernando, adding three new stops there.

With the construction of this line, Metro aims to improve transit equity for Valley commuters. The population of the project corridor itself is lower income and highly transit dependent. Metro's new rail line is expected to bring cost-effective mobility options and greater access to opportunity to its residents.

The East San Fernando Valley Light Rail Transit Project is just one of the transit improvements Metro has planned to improve mobility in the San Fernando Valley over the next 10 years. Other projects include the North San Fernando Transit Corridor Project, the G Line Improvements Project and the Sepulveda Transit Corridor Project. Projects are partially funded through Metro's local Measure M voter-approved sales tax measure, which funds transportation improvements throughout Los Angeles County.
LA METRO PRESS RELEASE, December 2

Eastside Transit Corridor Phase 2 Project

The LA Metro Board of Directors at its meeting on December 1 approved a Locally Preferred Alternative (LPA) for the Eastside Transit Corridor Phase 2 Project, which will extend the Metro L (Gold) Line in phases from East Los Angeles to Whittier.

The Metro Board chose staff's recommended Alternative 3 for the project's Initial Operating Segment (IOS), which will extend the Metro L Line further east from its current terminus at Pomona/Atlantic in East Los Angeles to Greenwood Station in Montebello.

The alternative chosen best meets the communities' needs by having fewer impacts related to construction, traffic, noise, and property acquisitions. This alternative also has more environmental benefits and provides additional regional connectivity.

The Board also approved the Lambert Station in the City of Whittier as the terminus for the nine-mile project and authorized the preparation of the final Environmental Impact Report (EIR) for the full project through the California Environmental Quality Act. Metro can now complete the EIR and make this project ready for construction by 2029 as programmed under the Measure M transportation sales tax measure approved by voters in 2016.

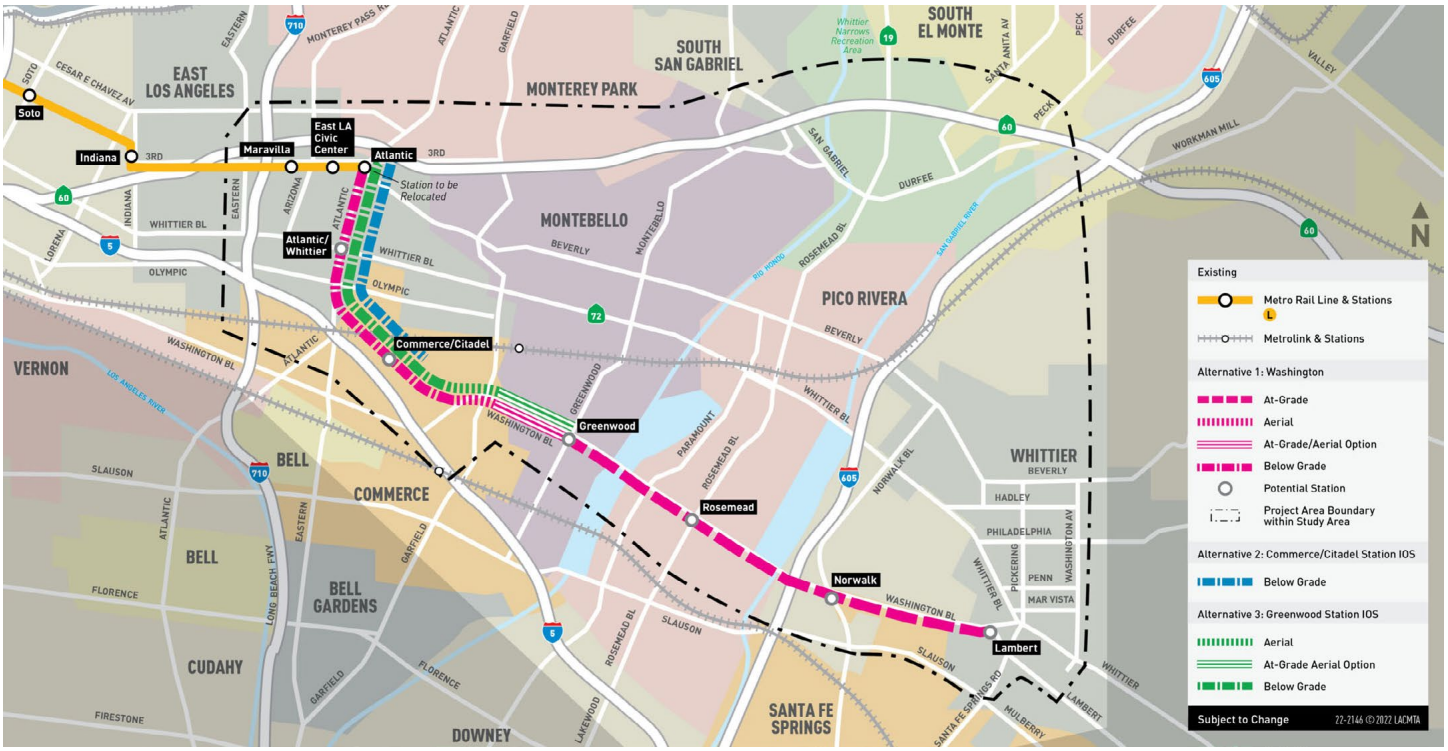
Over the last few years, Metro has been evaluating an approximately nine-mile extension of the Metro L (Gold) Line from its current terminus at Pomona and Atlantic boulevards to the City of Whittier via Washington Boulevard. When built, the new line will serve the cities of Commerce, Montebello, Pico Rivera, Santa Fe Springs and Whittier, and the unincorporated communities of East Los Angeles and West Whittier-Los Nietos.

The Alternative 3 IOS approved by the Board begins at the Atlantic/Pomona terminus station on the L Line (Gold) and ends at the Greenwood Station in Montebello. The selected LPA is approximately 4.6 miles and includes four stations. The LPA also includes design options at the Atlantic/Pomona station, a Montebello alignment and maintenance and storage facility site options and the Greenwood Station.

Three build alternatives have been studied extensively in the project's Draft Environmental Impact Report (EIR). Build alternatives consider the full project to Whittier and IOS that would construct the project in phases. A quick summary of all the alternatives studied are:

- Alternative 1 Washington: Extends the Metro L (Gold) Line further east from its terminus at Pomona/Atlantic in East Los Angeles to Lambert Road in Whittier;
- Alternative 2 IOS Commerce/Citadel: Extends the Metro L Line further east from its terminus at Pomona/Atlantic in East Los Angeles to Commerce/Citadel;
- Alternative 3 IOS Greenwood: Extends the Metro L Line further east from its terminus at Pomona/Atlantic in East Los Angeles to Greenwood Station in Montebello.

Design options were also studied, including an



Map of the Gold Line's Eastside Transit Corridor Phase 2 alignment. LA Metro

underground relocated station at Atlantic/Pomona or an underground open-air station. Other design options are aerial or at-grade segments in Montebello, including an at-grade Greenwood Station.

The Eastside Transit Corridor Phase 2 is a rail extension anticipated to provide commuters in a high travel-demand corridor relief to the limited transportation systems currently available to them. In addition, the project will provide a connection to the regional transit network via the Regional Connector, a new Metro rail extension under construction in downtown Los Angeles that will open in the spring of 2023.

Measure M allocates $6 billion for this project in two funding cycles. Cycle 1 allocates $3 billion for the Washington Alternative beginning in 2029 and Cycle 2 allocates $3 billion for the second alternative beginning in 2053. The second alternative is being evaluated through the San Gabriel Valley Transit Feasibility Study (https://www.sgvcog.org/transit-study).

Information about the project is available on Metro's website at www.metro.net/eastsidephase2.

LA METRO PRESS RELEASE, December 5

PHILADELPHIA

Mobile Ticketing Pilot Program

SEPTA is launching a mobile ticketing pilot program that offers riders an easy-to-use option to purchase tickets for one or more people using a smartphone.

"SEPTA Key Tix" is available within the SEPTA app for trips on buses, trolleys, the Broad Street Line, Market-Frankford Line, and Norristown High Speed Line. Customers can use a credit card to download a QR-code "ticket" that can be read at fareboxes and turnstiles. The Authority plans to expand the program to Regional Rail in 2023.

SEPTA Key Tix gives families and friends traveling together the capability to scan once and pay fares for up to five riders using a single bar code.

This program does not replace SEPTA Key Cards, but instead, provides a simple solution for occasional riders who want to enjoy the same benefits as cardholders, including one free transfer per Transit trip.

More than 1,200 people have already tested the program during a closed pilot last fall, and the beta is now open for anyone to join.

Interested riders can participate in the SEPTA Key Tix pilot by downloading the Android or Apple version of the SEPTA app. Detailed instructions and FAQs are available here at https://www5.septa.org/how-to-use-septa-key-tix/.

In the coming months, SEPTA will also accept contactless bankcards for trips on buses, trolleys, the Broad Street Line, Market-Frankford Line, and Norristown High Speed Line. This feature will give riders the capability to tap their credit card or phone with mobile payment services such as Apple Pay, Google Pay, and Samsung Pay. More information about this upcoming pilot program will be announced soon.

SEPTA PRESS RELEASE, December 15

ADA Improvements on the Broad Street and Market-Frankford Lines

SEPTA has been awarded $56,050,000 in federal funding to improve station accessibility on its Broad Street and Market-Frankford Lines. The funding is the first grant awarded through the Federal Transit Administration (FTA)'s All Stations Accessibility Program (ASAP), which was created in the Infrastructure Investment and Jobs Act, the Bipartisan Infrastructure Law signed into law last November.

ASAP grant funding will allow SEPTA to construct accessibility improvements at five Broad Street Line Stations — Chinatown, Erie, Fairmount, Fairmount (Broad-Ridge Spur) and Snyder — and 11th Street Station on the Market-Frankford Line, which were all built at least 50 years before the enactment of the Americans with Disabilities Act (ADA). The stations are currently only accessible via stairs, preventing individuals with disabilities that require the use of a mobility device, people with strollers or anyone who is physically unable to use stairs from traveling to and from these destinations.

Currently, 25 of 28 Market-Frankford Line Stations and 12 of 25 Broad Street Line Stations are fully accessible, and SEPTA's 12-year Capital Program includes SEPTA's commitment to make both lines fully accessible by 2034. Following the passage of the Infrastructure Investment and Jobs Act, SEPTA amended its FY 2022 capital budget to initiate design on nine Broad Street Line station accessibility projects to be better positioned for funding opportunities and accelerate construction timelines.

With funding, SEPTA will bring all six stations into full compliance with the ADA. Each station will be retrofitted with elevators to take customers between street level, and station mezzanines and boarding platforms. Additional accessibility enhancements will include the construction of ADA-compliant ramps, curb and sidewalk modifications, the creation of accessible paths of travel, and the reconfiguration of cashier booths to ensure that each station is fully accessible.
SEPTA PRESS RELEASE, December 19

International

BONN/BUDAPEST

Additional Trams Ordered

CAF is to supply more light rail vehicles (LRVs) and trams to the cities of Bonn and Budapest respectively after the cities' transport operators both took up options for additional units.

The new orders have a combined value of over €75 million ($78.59 million).

Last May, Stadtwerke Bonn Verkehrs GmbH (SWBV) and Elektrische Bahnen der Stadt Bonn und des Rhein-Sieg-Kreises GmbH (SSB) signed an agreement for 22 LRVs, with the option for an additional ten.

When delivered, these further ten units will join fleets running on the Bonn railway network and also provide services on part of the interurban lines that connect the city with neighboring Köln.

The 92-foot-long high-floor two-way units are similar in design and dimensions to the current Stadtbahnwagen B units, but are fitted with state-of-the-art comfort and safety features.

Impression of CAF's light rail vehicles for Bonn, Germany. SWB Group photo

CAF will also supply a further 20 Urbos five-section trams to Budapesti Közlekedési Központ (BKK).

These low-floor vehicles run at a service speed of 31 mph, with capacity for up to 326 passengers.

The original contract for 37 tram units, with the option to increase this further, was signed back in March 2014. Since then, the operator has ordered and received an additional 36 units, all of which are in now revenue service.

Deliveries from this latest order are expected to begin in the latter half of 2024.
RAILWAY-NEWS, December 2

CALGARY

Mock-Up of New LRV Unveiled

The City of Calgary has unveiled a mock-up of the new low-floor light rail vehicle (LRV) that will operate on its Green Line.

The model was built by CAF, who has been contracted to supply a fleet of 28 Urbos 100 LRVs.

It is approximately 39 feet long, which is just over a quarter of the actual LRV's length and weighs approximately 26,455 pounds, which is 20 percent of the estimated weight of the ordered vehicles. CAF constructed the model using steel, wood and plastic and has included a combination of real and simulated components.

The Urbos 100 will offer numerous accessibility improvements compared to the city's current LRVs. The low floors and level boarding will remove the need for steps and allow for easier integration with existing city infrastructure.

This mock-up will be used to validate the technical requirements and ensure that all Calgarians will be able

to use this transit option. The operator's cab has also been designed to separate from the remainder of the mock-up to be used as a training simulator for future operators.
RAILWAY-NEWS, December 1

The mock-up of Calgary's Urbos 100 LRV as produced by CAF. City of Calgary photo

COTTBUS

New Trams Ordered

Cottbusverkehr GmbH (CV) has exercised the option to order an additional 15 trams from Škoda Group for the city of Cottbus, Germany.

This is part of a contract signed in 2021 for the delivery of seven unidirectional three-unit trams for Cottbus, alongside orders made for the cities of Frankfurt (Oder) and Brandenburg.

Rendering of Škoda's ForCity Plus tram for Cottbus. Škoda Group

The new vehicles will replace the current high-floor trams operating in Cottbus.

The unidirectional ForCity Plus trams have been designed to provide passengers with comfortable, air-conditioned and wheelchair-accessible transport.

They will feature multiple information screens and a camera system for improved driver visibility and traffic safety.
RAILWAY-NEWS, December 7

CZECH REPUBLIC

RegioPanters Enter Service

The first two RegioPanter trains of Type 7Ev/Class 650 (Škoda, 2012–2018) have commenced service on the newly electrified line from Olomouc to Šumperk via Uničov in the Czech Republic.

By the end of 2022, České dráhy (Czech National Railway) will operate four of these two-car units, before a fifth joins the fleet in January. By the summer of 2024, 27 new three-car RegioPanters of the 640.2 series will then commence operations on this line.

An example of Czech National Railway's Type 7Ev (RegioPanter) (Škoda, 2016) on June 18, 2016 . Ventura35 photo via Wikimedia Commons

The first delivery of RegioPanter units of Type 20Ev/Class 640.2 series is scheduled for April 2023, and all ordered vehicles will be deployed by June 2023. This will enable a more dynamic and comprehensive timetable to come into effect thanks to the line's modernized railway infrastructure and the improved performance of the new electric units.

Czech Railways has invested more than 4 billion Czech koruna (Kč) ($175,014,000) in the purchase of these RegioPanter vehicles, while an initial Kč 1 billion ($43,750,000) will be invested in a maintenance facility to support their operations.

The new electric units will be produced by the Škoda Transportation and Škoda Vagonka consortium and will have a capacity of almost 240 seated passengers.

The trains will run at speeds of up to 100 mph and will be equipped with the most modern European ETCS safety equipment.

They will also offer barrier-free access for people in wheelchairs and will be equipped with a folding counter for changing babies.
RAILWAY-NEWS, December 23

DEN HAAG (THE HAGUE)

TINA trams ordered

Dutch transport company HTM has contracted Stadler to supply 56 TINA trams for use in Den Haag, the Netherlands from 2026.

The contract also includes an option for 44 additional vehicles and marks the first time Stadler has received a tram order from the Netherlands.

This is Stadler's fifth order for its latest-generation tram, which features rotatable bogies to provide smooth operations.

An example of Stadler's TINA tram, seen at last year's InnoTrans exhibition in Berlin. Jeff Erlitz photo

The three-section trams are each 120 feet long and can accommodate 237 people. They will operate at a maximum speed of 44 mph while operating with an energy-efficient drive.
RAILWAY-NEWS, December 19

FRANKFURT

New Trams Enter Service

The first of 58 T-series trams that Alstom is supplying to Frankfurt am Main entered service on Route 17 with the December 11 timetable change.

Operator VGF initially awarded Alstom a €100 million contract for 38 trams, based on the Citadis SX05 platform, and subsequently exercised options for a further 20 vehicles.

The orders cover 24 three-section trams which are 103 feet long with capacity for 191 passengers and 34 four-section vehicles of 131 foot length which can accommodate 248 passengers. All trams will have a passenger information system and USB sockets.

The first vehicles to enter service are the shorter three-section cars. The longer vehicles are expected to enter service on the heavily used Route 11 from the end of 2023, with all deliveries to be completed by 2025.

However, VGF has decided to make all T-series trams up to four-section vehicles to accommodate rising demand. This will require the retrofitting of an extra module to the shorter trams already ordered.

Alstom Citadis T-Type 305 at Gutleut Depot on December 9, 2022. Matthias photo via Urban Electric Transit website

Most platforms are able to accommodate the longer trams, but some will have to be extended, with the work starting in early 2023. All new or rebuilt tram stops will in future be configured to take 131-foot vehicles.
METRO REPORT INTERNATIONAL, December 22

GENÈVE

Stadler TRAMLINK Trams Ordered

Stadler and Transports publics genevois (TPG) have signed a contract for the supply of 38 TRAMLINK trams, with an option for up to 25 additional vehicles.

The TRAMLINK trams will operate on TPG's upcoming network expansion, with the first of the new vehicles scheduled to start operations in 2025.

Rendering of the new TRAMLINK for TPG-Genève. Stadler

The bi-directional vehicles are 144 feet long and 7½ feet wide. They can each transport up to 250 passengers.

Every TRAMLINK is equipped with an air conditioning system that runs on natural CO_2, contributing towards the environmentally-friendly operation of the vehicles.

In addition, the trams have low floors and are barrier-free

throughout.

This contract builds upon Stadler and TPG's ongoing relationship, which has previously delivered 41 TANGO trams to Genève.
RAILWAY-NEWS, December 13

GERMANY

First ICE 3neo Enters Service

Deutsche Bahn (DB) has put its latest generation ICE train into service ahead of schedule.

The ICE 3neo's first trip took place on December 5, from Frankfurt/Main to Köln.

When DB's timetable change took effect on December 11, passengers were able to use the train in regular service between Dortmund, Köln and Frankfurt/Main, and all the way to Munich via the new Wendlingen to Ulm high-speed route.

The train's inaugural journey is took place a week earlier than originally planned, and just two and a half years after the original order in July 2020 (additional units were ordered last February).

Siemens Mobility's ICE 3neo. Siemens photo

This is thanks to a record delivery by manufacturer Siemens Mobility, which has had to deal with pandemic-related restrictions and disrupted supply chains worldwide.

The speedy commissioning was also supported by DB training approximately 5,000 employees to handle on-board service, maintenance and operation in record time.

According to Dr Michael Peterson, DB Board Member for Long Distance Passenger Transport, ICE procurement procedures generally take twice as long.

The new ICE high-speed train will transport DB passengers at speeds up to 186 mph.

New features include reservation displays that show all reserved and free seats at a glance and specially developed windowpanes that ensure stable mobile reception.

Lighting varies according to the time of day and every seat has power sockets and pad holders. Another new development is the train's robust, easy-to-use lift installed at a door reserved exclusively for passengers in wheelchairs.

The arrival of the first ICE 3neo is part of DB's investment in the renewal and expansion of its long-distance fleet. By 2029, DB will have invested €10 billion ($10.56 billion) into new trains, including a total of 73 ICE 3neos, which provide an additional 32,000 seats and bring its fleet up to a total of 450 trains.

This will help DB meet expected passenger growth and bring it a step closer to its goal of doubling the number of rail passengers over the next eight years.

DB will gradually expand the scope of the model's operation with the delivery of further trains. By 2024, it plans to have ICE 3neos operating on international routes to Belgium and the Netherlands.
RAILWAY-NEWS, December 5

Transdev Modernizes Fleet

Transdev is modernizing its fleet in Germany with the introduction of 16 four-unit Stadler FLIRT 3 XL articulated trainsets.

These join the rail operator's existing fleet of 35 Alstom Coradia Continental trains and were ordered after Transdev-owned NordWestBahn was awarded the Regional S-Bahn Bremen/Niedersachsen franchise in 2019 to deliver additional services and increase capacity on the route.

More frequent services came into effect after a timetable change on December 11, when the Bayerische Regiobahn (BRB) took over the line from Traunstein to Ruhpolding, and three of the new FLIRT trainsets entered service.

An example of Alstom's Flirt 3XL, this one being a Class 3428 operated by Transdev for the NordWestBahn. Transdev photo

The 285-foot trains have a maximum speed of 100 mph. Seven passenger doors on each side enable passengers to enter and exit quickly, and each vehicle has a maximum capacity of 527 passengers, with seating for 260.

The vehicles also have a modern passenger information system, wi-fi throughout and large multi-purpose areas that provide space to transport up to 30 bicycles.

Stadler's FLIRT 3 model has been a favorite of BRB for some time — 35 have been operating on its Chiemgau-Inntal network between Munich, Salzburg and Innsbruck since 2013.

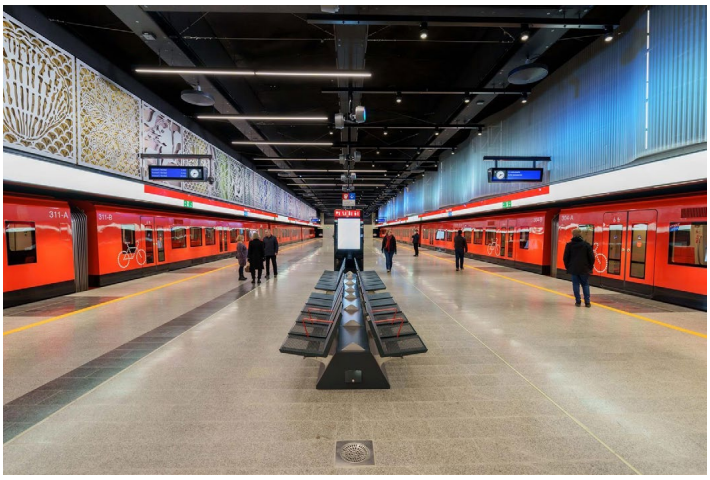
Transdev also plans to expand its fleet further with the addition of a Stadler FLIRT EMU and LINT DMU for operation around Augsburg.
RAILWAY-NEWS, December 20

HELSINKI

Metro Extension Opens

A 4.3-mile extension of the Helsinki metro network west from Matinkylä to Kivenlahti within the neighboring city of Espoo opened on December 3.

Espoo Mayor Jukka Mäkelä and Helsinki Mayor Juhana Vartiainen arrived at the opening ceremony at Espoonlahti station via the new extension.



One of the new stations on the Helsinki metro. Metro Report International photo

The wholly underground extension was completed at a cost of €1.16 billion. The journey time on the extension is 10 minutes. There are five stations, with Finnoo's 256-foot escalator being the longest in Finland. The stations are architecturally attractive, with Finnish architectural expertise at its best, and serve as business cards for the areas.

Construction of the Länsimetro project started at the end of 2009, and the first 8.4-mile section from Ruoholahti to Matinkylä opened in November 2017.

As part of the project CAF was awarded a €39.9 million contract in February 2020 to supply a further five four-car M300 metro trainsets and provide spare parts over their expected 40-year life. CAF had previously supplied 20 M300 trainsets in 2016-17.

METRO REPORT INTERNATIONAL, December 6

ITALY

First Tri-Mode Train Enters Service

Trenitalia's "Blues" battery hybrid train has begun operating in Sicily, making it the first tri-mode train to enter passenger service in Europe.

The train can reach a maximum speed of 100 mph with an acceleration of 3.5 feet per second squared. The four-car composition has a passenger capacity of 300.

Built by Hitachi Rail, the regional tri-mode train was first unveiled to the public at InnoTrans 2022 this September.

Trenitalia has ordered 135 of these trains in a contract valued at €1.2 billion ($1.27 billion). A total of 22 will operate in Sicily.

Trenitailia Blues HTR312-002 (Hitachi, 2022) at InnoTrans in Berlin on September 21, 2022. Jeff Erlitz photo

Thanks to its hybrid power options, the Blues train has the ability to travel using diesel engines on non-electrified lines, pantographs on electrified lines, and batteries for the last mile on non-electrified lines or while stopping at stations.

As well as reducing noise pollution, the train's "smart parking" switches off the engines during its arrival, stop and departure from stations, helping the Blues train to halve fuel consumption and CO^2 emissions compared to Trenitalia's current diesel trains.

Designed with sustainability in mind, the train's materials are also 95% recyclable and onboard technologies minimize energy consumption.

For example, the air conditioning system optimizes energy use based on the number of passengers on board.

RAILWAY-NEWS, December 20

LONDON

Trains to be Modified to Address Cracking

Tenders have been called for the modification of the 63 seven-car Type 96TS trainsets used on London Underground's Jubilee Line to provide a long-term solution to fatigue cracking.

Fractures were found on the longitudinal beams of underframes in 2019, and a large number of the trains had to be withdrawn until the implementation of a temporary repair which is now approaching the end of its life.

The first of the contracts being tendered cover replacement of the cross beam support brackets to improve the transfer of coupler loads into the car body structure, and changes to the inner longitude to remove the risk of continued crack propagation.

The second contract covers replacement of the coupler release system to ensure it will function correctly in a collision and to eliminate costly maintenance requirements.

Tenders are to be submitted by January 27, and the contracts are expected to run for two years from August 2023. METRO REPORT INTERNATIONAL, December 7

NETHERLANDS

NS Orders 60 Civity Units

CAF has signed a contract with Dutch national operator, Nederlandse Spoorwegen (NS) for 60 double-decker Civity trains.

The contract also includes options for further units or the implementation of train versions that can run on cross-border routes.

Impression of NS's double-decker train. Nederlandse Spoorwegen

The new trains will be used to expand NS's current intercity fleet, in addition to replacing some of its older DDZ model trains.

This model will be made up of single-deck and double-deck coaches. As a result, it offers a high seating capacity alongside improved accessibility for people in wheelchairs due to its level boarding and slide-out steps.

The order, valued at €600 million ($638.94 million), is for 30 double-deckers consisting of four coaches and 30 double-deckers with six coaches. These provide a total of 30,000 seats.

CAF has an ongoing relationship with NS, which includes supplying the operator with SNG-Civity trainsets.

Now that the contract has been signed, CAF has started work on the design phase of the project.

The first trains are scheduled to enter operation in 2028. RAILWAY-NEWS, December 13

OTTAWA

LRT Project Challenges

A report issued by the Ottawa LRT Public Inquiry, the provincially appointed entity tasked with evaluating the challenges with the Ottawa LRT project, has determined "persistent failures" in several areas led to "egregious violations of the public trust" that ultimately manifested in substandard and unreliable service.

The Inquiry Commissioner Justice William Hourigan says both the city of Ottawa and Rideau Transit Group (RTG), the consortium that built the first stage of the light-rail project, lost sight of the public interest, and the inquiry's mandate was to determine what happened, why and ensure the issues are not repeated in the future.

The final report from the inquiry names several reasons to "why" the challenges arose and includes 103 recommendations for how to fix the ongoing issues with the line and ensure they do not reoccur on other major infrastructure projects.

The commissioner found several reasons behind the delivery of the unreliable light-rail line, including:

- The city chose unproven technology for the trains that strained the limits of what an LRT system could do;
- RTG did not coordinate the work of its sub-contractors and failed to ensure the integration of the various systems and components;
- An adversarial relationship developed between the city and RTG;
- The city rushed the LRT system into service before it was ready;
- RTG and its subcontractors did not provide adequate maintenance.

Commissioner Hourigan also found that Ottawa City Council was not told the testing criteria for the LRT was lowered to allow it to pass its final testing phase.

A pair of Citadis Spirit LRVs led by 1112 (Alstom, 2018) are seen at the Tremblay Station of Ottawa's Confederation Line on opening day, September 14, 2019. Andrew Grahl photo

Among the more than 100 recommendations made to fix remaining issues with the line and mitigate future projects from experiencing similar issues was that an independent monitor keep Ottawa City Council or the Transit Commission informed about on-going corrective measures. Additionally, Commissioner Hourigan said the public-private partnership (P3) model of delivery should be examined and assessed to

see if it is the best option for future projects.

Other recommendations include:

- Collaboration and the public interest should be at the heart of the relationship between the public entity and private-sector partners;
- Systems integration must be prioritized from the design phase through to construction and manufacturing;
- Safety requirements should be designed and built in from the outset, to avoid expensive, retroactive changes. An independent safety auditor should be engaged early in the construction of complex infrastructure projects;
- Reliability and safety issues must be honestly identified and communicated to project partners and the public. The province should give legal protection to whistleblowers who bring forward concerns about major infrastructure projects;
- Trial testing requirements should be detailed in the relevant contracts and used as the basis for any performance scoring;
- There should be timely and proper responses to problems related to maintenance and operations by all parties once they arise. The safety and needs of the public should be prioritized;
- Prior to public opening, there should be an extensive running of the entire system under conditions designed to mirror those of public service.

MASS TRANSIT, December 1

PARIS

Line 13 to be Automated

Paris transport authority Ile-de-France-Mobilités and operator RATP have given the go-ahead for the automation of metro Line 13. This will be the fourth fully automated line in Paris, after lines 14, 1 and 4, and first with steel-wheel rather than rubber-tired trains.

The 14.9-route-mile line starting at Chatillon-Montrouge in the south and splitting into two branches to serve Saint-Denis-Université and Asnières-Genevilliers-Les-Courtilles in the north has 32 stations and is heavily used with 600,000 passengers per day.

The automation program will be undertaken in two phases, starting with the delivery of five-car Alstom MF19 trainsets to replace the current Alsthom MF77 fleet from 2027. The new trains will be equipped for GoA2 automated operation, with a driver operating the doors.

The second step would be conversion to GoA4 unattended fully automatic operation, requiring the installation of platform screen doors and CBTC.

This will reduce headways between Chatillon and the junction at La Fourche from 90 to 85 seconds.

The operator and authority expect the automation scheme to be complex because of the financial and operational constraints and the need to avoid closing the line for prolonged blockades. Work is to be undertaken over a 10-year period, enabling automation in 2035. The cost is put at €837 million, to be funded by IDFM.

Meanwhile, Line 8 is also to be modernized in a €480 million two stage program, starting with the refurbishment of 44 MF77 sets in 2023-26 before they are replaced by new MF19 trains in 2030 with the deployment of CBTC to follow.

METRO REPORT INTERNATIONAL, December 14

New Generation Train for RER Unveiled

The first RER New Generation (NG) 426-foot-long train has arrived at SNCF's Technicentre in Villeneuve Saint-George.

Staff will now receive operational training before it's put into passenger service on the RER Line E at the start of the 2023 school year.

The new train offers improved lighting, air conditioning and heating, as well as USB charging points and a real-time information system.

The trains have been designed with reduced mobility passengers in mind and are equipped with an audible location assistance system for the visually impaired.

The doors are also approximately 6½ feet wide to make it easier for wheelchair users, as well as larger numbers of passengers, to enter and exit the train.

First RER NG train at the Technicentre in Villeneuve Saint-Georges for training SNCF operating teams. Île-de-France Mobilités photo

Inside, the vehicle has open gangways. It has two levels and spacious entrance areas. This enables travelers to move around inside the vehicle and find a seat more easily.

The introduction of the RER NG is part of Île-de-France Mobilités' project to modernize the Ile-de-France network's rolling stock, improving the reliability of services and customer comfort.

A total of 255 NG trains will be deployed across both the RER lines D and E (130 on the Line D and 125 on Line E), and are expected to transport 1.23 million passengers each day.

These will be built in France by Alstom, which was awarded the contract back in 2017.

RAILWAY-NEWS, December 19

SPAIN

Additional Coradia Stream Trains Ordered

Renfe, Spain's national railway, has ordered an additional 49 Coradia Stream high-capacity trains from Alstom.

The contract, valued at €370 million ($393.48 million), follows an order for 152 trains made by the Spanish rail company in March 2021.

This purchase was part of Renfe's plan to renew and improve 50% of the Cercanías and Media Distancia fleet, which includes vehicles that are over 30 years old.

This latest order brings the total cost to €1.8 billion ($1.91 billion). The contract also provides the supply of spare parts and 15 years maintenance for 56 of the vehicles.

Coradia Stream rendering corresponding to Alstom's initial proposal. Alstom

Each train will be 328 feet long, with a maximum capacity of 900 passengers.

This is thanks to their mixed configuration of single and double-deck cars, interior configuration and flexible spaces. This capacity will enable Renfe to transport 20% more passengers per hour through Spain's busiest rail hubs, including Madrid and Barcelona.

Efficiency is also improved via the trains' access doors and large entryways that expedite passenger entry and exit, in turn decreasing the time spent on station stops.

Alstom will manufacture the trains at its Santa Perpetua, Barcelona facility. They have been developed according to eco-design criteria to provide optimal energy efficiency during operation. They also have a recyclability rate of over 98% at the end of their working lives.

In order to complete this large-scale contract, Alstom is investing in the development and digitalization of the Santa Perpetua site, which will include the creation of the company's largest automated workshop.

RAILWAY-NEWS, December 16

Madrid-Murcia High-Speed Line Opens

Spanish Prime Minister Pedro Sánchez and King Felipe VI have inaugurated the Madrid-Murcia high-speed railway line.

Thanks to an investment of more than €410 million, which includes the installation of advanced signaling technology, AVE journey times between Murcia and Madrid have now been reduced to 2 hours and 45 minutes.

Seneca laboratory train undergoing testing on the Madrid-Murcia high-speed line. Adif photo

This investment is part of the country's commitment to sustainable mobility and territorial cohesion through the expansion of its high-speed rail network.

The inauguration of this line follows the successful testing of high-speed trains on the Murcia high-speed line.

This opening completes the Monforte del Cid-Murcia section of the Mediterranean Corridor, and was co-financed by the European Regional Development Fund.

RAILWAY-NEWS, December 21

TBILISI

Order for Metro Trains Canceled

The city of Tbilisi has canceled an order for TMH's Metrowagonmash subsidiary to supply 11 four-car metro trains. The European Bank for Reconstruction & Development (EBRD) is unable to finance the previously announced order because of international sanctions imposed following the Russian invasion of Ukraine.

Negotiations were underway with EBRD for the purchase of trains from alternative suppliers.

The rolling stock order announced in 2021 was valued at €49.2 million with deliveries to be completed in early 2025, but EBRD suspended the associated payments in March this year.

The Tbilisi metro currently uses trainsets supplied by Metrowagonmash in 1977-91, with mid-life overhauls and upgrades undertaken locally by Tbilisi ZREPS.

Metro Report International, December 5

North American Transit Project Openings Scheduled for 2023

By Randy Glucksman

Based on the latest available information, 10 projects are proposed for completion this year, including six holdovers from previous years.

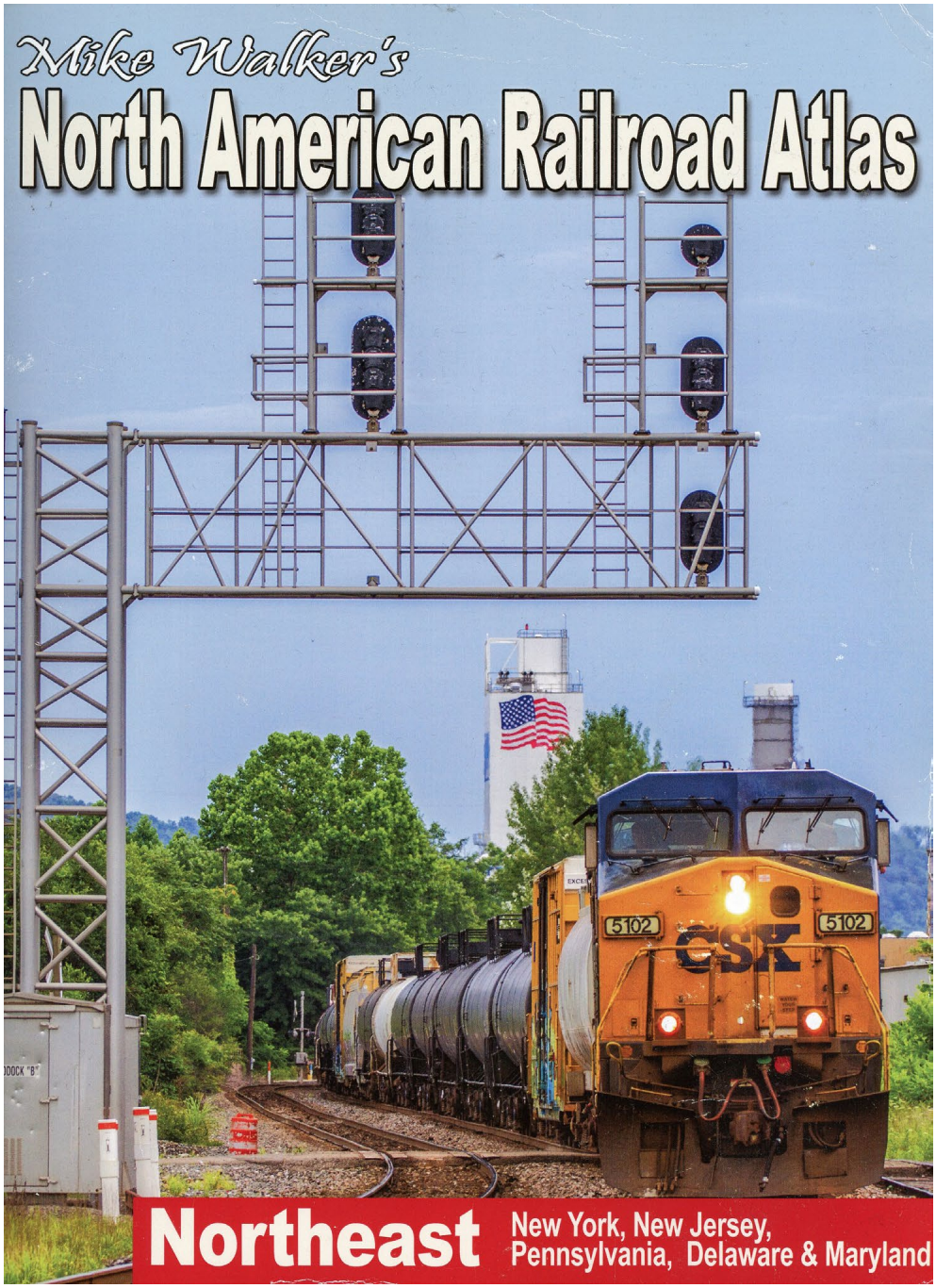
Date	Agency	City	Type	Line	Details	Notes
January 23	Rhode Island DOT	Pawtucket, R.I.	CR	Northeast Corridor	Pawtucket/Central Falls Station opens	From 2022
January ?	MTA Long Island Rail Road	New York, N.Y.	CR	Grand Central Madison (East Side Access)	Harold Interlocking to Grand Central Terminal 3.75 miles	From 2022
Early	Honolulu Authority for Rapid Transportation	Honolulu, Hawaii	LR	Honolulu Rail Transit Phase I	East Kapolei to Aloha Stadium 10.8 miles, 9 stations	
Early	Los Angeles County Metropolitan Transportation Authority	Los Angeles, Calif.	LR	Downtown Regional Connector	Little Tokyo/Arts District Station to 7th Street/Metro Center Station 1.86 miles 3 stations	From 2022
May	Washington Metropolitan Area Transit Authority	Washington, D.C.	HR	Blue and Yellow	Potomac Yard infill station (between Washington National Airport and Braddock Road) opens	From 2022
August	City of Milwaukee	Milwaukee, Wis.	SC	The Milwaukee Streetcar Connector	Extension to Lakefront 0.4 miles, 3 stations	
Late	Sound Transit	Tacoma, Wash.	LR	Tacoma Hilltop Extension	Theater District to St. Joseph 2.4 miles six new and one relocated station	
?	Toronto Transportation Commission	Toronto, Ont.	LR	Eglinton-Finch Ave. West Crosstown 5 Phase I	Kennedy to Mt. Dennis 11.8 miles, 25 stations	From 2022
?	Edmonton Transit	Edmonton, Alb.	LR	Valley Line Southeast Phase I	102 St. to Mill Woods Town Center 8.07 miles 11 stations	From 2021
?	Toronto Transportation Commission	Toronto, Ont.	LR	Finch West 6 LRT	Etibicoke to Finch Ave. 6.83 miles 18 stops	

Legend	
CR	Commuter Rail
HR	Heavy Rail
LR	Light Rail
SC	Streetcar

Book Review

By Paul Grether

Mike Walker's North American Railroad Atlas (Third Edition) by Mike Walker, published in 2021 by RailfanDepot.com, softcover, 149 pages, maps with indexes.



For the 25 years or so the Steam Powered Video (SPV) Atlases have been the go-to for comprehensive maps of North American rail infrastructure. The SPV Atlases include current and historic alignments of railroads and electric interurbans including various physical characteristics such as tunnels, towers, bridges, stations, etc. The Atlases were developed by Mike Walker for SPV in the United Kingdom (!) and divided into many volumes covering specific geographies. The SPV atlas is an indispensable tool for field exploration and indoor research.

The Northeast volume covers New York, New Jersey, Pennsylvania, Delaware and Maryland. The previous 2007 edition became rare, and used copies are hard to find and expensive. RailfanDepot.com worked with Mike Walker to make updates to the atlas adding rapid transit lines, interurbans and logging railroads, enlarging the size and making other minor updates for the new 2020 Enlarged Edition.

The maps show rail lines by type, current and historic owner/operators, station location, certain mileages and many other attributes. Other than state lines and bodies of water there are no geographic elements shown other than rail lines. Roads are not shown. There are many detailed large scale maps of significant towns or complex junctions. A great feature are all the large map reference indices which list thousands of geographic locations by name, historic and current railroads by reporting mark and name, and a New York City list of stations by railroad/subway line.

This atlas will appeal to those with both an interest in the historic development of [electric] railroads and current operations configurations. The maps are designed to be used both in the field to find and/or understand abandoned/active rail rights-of-way and for home study. The maps are particularly useful for understanding railroad geographic context. The 2020 Enlarged Edition is a good opportunity to get a copy of this once rare information at a retail price.

Travels with Jack May

Britain and the Baltics — Part XI

By Jack May (Photographs by the author)

(Author's Note: I have been corrected by some readers for referring to the Snaefell Mountain as a rack, or cog, railway. Mike Jackson wrote: "I can't agree that the Snaefell line is a 'cog' railway—it operates purely by adhesion with the Fell rail being used nowadays only for emergency braking as the cars now have dynamic braking [most of the time anyway!] and the Fell brake still works well as you heard. I'm sure you know that the cars have two bow collectors to enable continuous contact with the slackly-rigged overhead wire. In the pre-dynamic braking days the Fell brake pads were often changed, sometimes several times a day.

"The only places where I've heard of where Fell rail was used for traction for climbing was on the Rimatuka incline in New Zealand and on the 50-mile Mont Cenis line on the border of France and Italy on whose closure much of the equipment went to a line near Rio Janeiro."

Russ Jackson added: "A Fell rail is not a rack rail. When the Snaefell line was built, the concern was not getting up the grade, but getting safely down the grade. They could have employed mechanical track brakes as the cable cars do. But for some reason, perhaps documented somewhere, they chose to use a Fell rail. A crank on the rear platform (only) would operate a scissors-type mechanism to squeeze the Fell rail with iron brake shoes. The Fell rail brake supplemented the wheel brakes. Because the contact surfaces on the Fell rail were vertical the likelihood of any surface contamination, as occurs on running rails, was minimal. It was a cheaper way to go than building a cable line and conservative enough from a safety standpoint to justify it instead of a track brake."

I guess this proves that you can look at the track, but not always see it.

Here, from the internet, is a photo of a Fell brake, highlighting the "scissors-type" mechanism.)

Saturday, August 19 (continued)

Part X ended after Richard and I completed our exploration of the Laxey area, between our ride on the Snaefell Mountain Railway and the continuation of our Manx Electric Railway trip over its outer portion to Ramsey. After a few photos of MER car 2 and our our visit to the steam-powered mine railway, we returned to the station and boarded a motor-trailer lashup to cover the final 10 miles of the electric railway.

G. F. Milnes built No. 2 for the opening of service over the Douglas and Laxey Coast Electric Tramway (D&LC) in 1893. It operated on the 11:10 AM short turn from Douglas to Laxey and is shown having the direction of its pole reversed during the process of running around its trailer prior to its return trip at 12:55 PM. The second oldest tram on the MER roster (No. 1 has that honor—and is lettered for the D&LC), it has four 25 hp motors and accommodates its passengers on two longitudinal wooden benches.

The Manx Electric Railway is a gem of an interurban tramway that dates from a long gone era and still pleases its riders in the third decade of the 21st century. Some of the most endearing qualities appreciated by electric traction enthusiasts that visit the island include its use of trolley poles for current collection and its open-bench rolling stock.

The line was opened in pieces starting in 1893, and finally attained its full 17¾-mile length in 1899. After a short period in bankruptcy it became the Manx Electric Railway in 1902. It was acquired by the Isle of Man Government in 1957. For the most part, the double-track three-foot gauge railway traverses a verdant rural landscape, running through bucolic fields and meadows on a route that also includes some stunning views of the Irish Sea. It runs virtually entirely on reserved track electrified at 550 v DC. Apparently, for a short time after the line's opening, the trams used bow collectors,

but all were retrofitted with traditional trolley poles by the turn of the twentieth century.

The timetable available to the public shows only nine intermediate stations, but in reality there are some 70 "official" places to board and alight on request (mostly flag stops with names). All of the overhead wire poles are numbered (e. g., Derby Castle is pole 2, Ramsey number 1903), with the designation generally displayed on a small green plaque strapped to the wooden mast about 10 feet above the ground. All MER stops are also listed by the number of their closest pole.

Trailer 43 sits forlornly after motor 19 had been uncoupled and operated back to the station's outbound track. After the switch is thrown, it will roll back to the station on the other track.

As for the rolling stock, almost all of the 25 motors and 23 trailers that remain on the roster were built between 1893 and 1906, although three trailers were constructed in 1930 to replace others lost in a fire. Some other units were destroyed over the years as well, but retaining a total of 48 cars from that era is nothing short of remarkable. In general, trains are made up of a closed motor pulling an open trailer, but there are exceptions, especially during special events and bad weather. On a previous trip Clare and I rode in the open motor of an all-toastrack lashup. And although I've seen photos of three-car trains, operation of a motor pulling two trailers is apparently rare.

A few minutes before its 12:10 PM departure time, motor car 19 and trailer 43 arrived at the Laxey station, and we observed most of its passengers transferring to car 6 of the Snaefell Mountain Railway to continue their route to the summit. We joined the remaining riders on the train, Richard in the motor and me in the open-bench trailer, as I wanted to experience the thrill of rolling along in the breezer at good speed over the 10-mile long outer section of the line to Ramsey. I truly enjoyed it, although when the sun ducked behind clouds as it did frequently, I was glad I was wearing my jacket.

A new terminal was under construction at Laxey and so a temporary station (platform actually) had been built across Parsonage Road on a relatively narrow spot, with homemade bumper blocks installed just short of the grade crossing. Despite the "No Trespassing" signs at that location, the crew was okay with us walking down the track to observe and photograph the activities taken to reposition the motor and trailer for the return trip. This was accomplished immediately after our arrival at 12:55 PM. Once all the passengers were unloaded, the motor-trailer unit reversed across the crossover at the end of the temporary platform to the opposing track and then were uncoupled. After the motor headed back into the station the way it had come, the operator threw the switch and the trailer used gravity (and a mechanical brake) to roll down to the makeshift bumper block on the inbound track. The motor then reversed again over the crossover and finally followed the trailer into the station, where the two cars were coupled. The motor was not back poled so the operator was very busy, lowering, turning and raising the pole five times before the job was completed. The following four photos illustrate the process (I know, a video would be much better).

(Above and below) The upper photo shows trailer 43 approaching the bumper block where it stopped a few moments later. The lower view shows the car after motor 19 took the switch and moved onto the inbound track.

The two-car set was not scheduled to return until 1:40 PM, so we could now grab a bite, but we figured there wasn't sufficient time for a sit down meal. Thus, we ended up consuming take-out food at a picnic table located at the

Ramsey Heritage Center adjacent to the MER's terminal building. The hot chocolate I drank was a wonderful antidote for the effects of my outward journey in the open-bench trailer and thus, for the return trip to Douglas, I sat in the closed motor.

Finally, Motor 19 has been coupled to trailer 43. All that still needed to be accomplished before the two-car unit was ready for its return trip to Douglas, was having its trolley pole reversed.

It was still a great ride and we arrived at Derby Castle on time at 2:55 PM. It wasn't the 120 minutes of a one-way trip on the Electroliner between Chicago and Milwaukee, but 75 minutes of continuous streetcar riding in well-maintained

The equipment for our ride from Laxey to Ramsey and then back to Douglas is shown after its arrival at Derby Castle. No. 19 is one of four "winter saloons," built by G. F. Milnes in 1899. It has four 25 hp motors and its interior is equipped with two-and-one reversible transverse cushioned seats. Toastrack trailer 43 was built by Milnes in 1903 and contains 11 benches.

ancient equipment is also quite remarkable. I took the second photo below from car 19 as we slowed down to make our final stop at Derby Castle.

It was now time for a horsecar ride to the Sea Terminal and a trip on the steam-operated Isle of Man Railway, which will be covered in Part XII of this report.

A slight reflection of light from the windows of my tram is shown in this photo of two MER motors in the yard of their Derby Castle carhouse and shop facilities. No. 21 is virtually the same as car 19 (photo at top) except for its livery; it is British Railways green, the color applied to virtually all rail vehicles throughout the United Kingdom when the railways were nationalized. No. 7 is one of 6 "tunnel" cars built by Milnes in 1894, so called because of their long and slender interiors. In 2011, a year after it received its present color scheme and "Douglas and Laxey Electric Railway" lettering, its interior was changed from longitudinal seating to a two-and-one transverse pattern.