TRANSIT TALK

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Edmonton's Valley Line LRT Faces Delays

It was recently announced that Edmonton's Southeast LRT line is facing another delay, pushing the project's estimated completion date to summer 2022. Issues caused by the COVID-19 pandemic are said to be behind the delay, which is not surprising given that the far reaching impacts of the pandemic have affected projects in many cities.

A few months ago, TransEd had stated the line would be open to riders by early 2022 after pandemic-related delays had slowed progress on the completion of the Tawatinâ Bridge spanning the North Saskatchewan River. But once the construction season ended this winter, subcontractors informed TransEd that the early 2022 timeline could not be achieved.

Construction first began on the Valley Line in spring 2016, with an expected completion date of December 2020. To date, 96 per cent of the construction for the 13-kilometre LRT leg has been completed. The plan for the next six months includes finishing construction and testing all system components, from lighting, to power, to traffic signals.

Brad Smith, City of Edmonton Project Manager, said the City is disappointed in the delay but remains hopeful that significant progress is being made. "We want to make sure that we do this right," he added. "These are very complex systems."

The $1.8 billion project will connect Mill Woods to Downtown with 11 street-level stops, a short tunnel from the north face of the River Valley through to the Quarters redevelopment, and an elevated station with a 1,300 vehicle park-and-ride facility in the Wagner area. It is the largest infrastructure project that Edmonton has undertaken to date. [Source: CTV News, December 2, 2021]

Baby Steps for Calgary-Banff Rail Project

According to a July 16th announcement, a proposed 150-kilometer Calgary-Banff passenger rail project is moving to the development phase following the release of a detailed Memorandum of Understanding from Invest Alberta Corp., Alberta's Ministry of Transportation and Canada Infrastructure Bank.

The proposed service could include seven stops—Calgary International Airport, Downtown Calgary, Calgary Keith, Cochrane, Morley (Stoney Nakoda), Canmore and Banff—along a dedicated line built within the existing Canadian Pacific right of way. It could offer up to 10 departures per day from the airport to Banff and run express service from Calgary International Airport to Downtown Calgary every 15 minutes.

The project carries a $1.5 billion price tag. On December 8th, Alberta Premier Jason Kenney indicated that despite the Memorandum of Understanding, the province is not ready to put funds toward the project at this time. [Source: Railway Age, July 16, 2021; CBC News, December 8, 2021]

High Speed Rail to Link Toronto with Quebec City

The Government of Canada announced in early July that it was moving ahead with an ambitious plan to build a high-frequency passenger rail service between Toronto and Quebec City, some 806 km apart, connecting Peterborough, Ottawa, Montreal and other urban centres in the country's most densely populated region.

One of the biggest infrastructure projects there in decades, the service is targeted to begin operating in 2030 with a private sector partner. Trains could travel at up to 177 km/h, cutting travel times from Ottawa to Toronto to as little as 3 hours and 15 minutes from the current 4 hours and 30 minutes.

More than cutting journey times, the so-called High-Frequency Rail (HFR) scheme is intended to solve chronic delays, low frequency departures and disruptions along the corridor arising from the fact that the existing tracks are heavily used by freight trains. With new passenger tracks, operator Via Rail believes it can triple passenger departures and improve on-time-arrival performance from an average of 67% now to 95%.

Canada's federal transport agency Transport Canada began assessing the plan in 2016; since that time $82.4 million has been spent on its development.

In 2019, a joint project office was established between the Canada Infrastructure Bank and Via Rail to spearhead the project. "Canadians deserve a fast and reliable train service," said Transport Minister Omar Alghabra, adding: "High Frequency Rail in the Toronto to Quebec City corridor is a massive project with the potential to transform passenger rail service by offering faster, more reliable, more frequent, and cleaner transportation service." [Source: Global Construction View, July 7, 2021]

St. Petersburg, Russia celebrates 85 Years of Electric Trolleybus Service

At a time when much of the world turned away from electric transit, tore down its electric transit infrastructure and aspired to the huff and puff of diesel power, Eastern Europe, and, in particular, Russia pressed forward with electric mobility to build some of the largest and most effective electric bus networks in the world. St. Petersburg, known for a time as Leningrad, had an electric streetcar network as early as 1907 and introduced trolleybus service in 1936. The trolleybuses were met with excitement and curiosity, and passengers quickly came to love them for their reliability in all forms of weather, especially harsh winter weather that posed challenges for the aging streetcars.

On October 21, 2021, St. Petersburg proudly marked 85 years of electric trolleybus service. Today, the Russian city operates some 720 modern trolleybuses on the largest network in the world, as well as continuing to provide some services with modern streetcars. On the occasion of the 85th anniversary, the Vice-Governor of St. Petersburg strongly affirmed a commitment to ensuring that the trolleybus and streetcar systems would remain a priority for development in St. Petersburg.

Since 2017, the city's transit operator, Gorelectrotrans, has worked on expanding the trolleybus service by adding vehicles with dynamic "in motion charging" (IMC). The newest vehicles employ a lithium traction battery pack that provides for up to 15 km of autonomous operation. This has enabled Gorelectrotrans to extend service into areas without an overhead network, thereby expanding the reach of its electric service. Currently, 160 such IMC equipped trolleybuses serve 9 routes with service areas that extend beyond the wires.

Dennis Minkin, General Director at Gorelectrotrans, indicated that they have plans to purchase up to 383 trolleybuses with increased passenger capacity between now and 2024, at least 127 of which would include an IMC system. "IMC trolleybuses do not need overnight charging and do not need a large energy supply, they do not require the installation of energy charging points in depots or in designated areas along the routes. Therefore, employing them does not technically require any new infrastructure investments from our company: we simply buy these trolleybuses and can immediately implement new routes," he said. Minkin indicated that in their experience, the IMC trolleybuses were even more energy efficient than conventional trolleybuses. The battery packs are relatively small and light in weight, too, so the vehicles do not need to carry around the heavy weight of the batteries that a pure battery bus would require. [Sources: International Trolleybus News (R.C. DeArmond/S. Fedosov), October 21, 2021; UITP, October 21, 2021]

Groundbreaking on Vancouver's Broadway Subway Project signals Start of Major Construction

A virtual groundbreaking ceremony was held in mid-May for Vancouver's Broadway Subway Project, signaling the start of major construction on the project that will extend the Millennium Line a distance of 5.7 km from VCC-Clark Station to Broadway and Arbutus, adding six stations along the way.

The $2.83-billion subway project, funded by multiple levels of government, is set for completion in 2025. The six new underground stations will connect communities to make it easier and more affordable to live, work, shop and access services along Broadway. The commute from VCC-Clark to Arbutus Station on the line will take 11 minutes, saving the average transit user almost 30 minutes a day and relieving congestion along Broadway.

The majority of the line will be built underground using a pair of tunnel-boring machines. This approach, along with traffic decking on Broadway, will minimize the impact on businesses, residents and people travelling to the area. Next year, both boring machines will have a staggered launch from the Great Northern Way-Emily Carr Station. [Source: news.gov.bc.ca, May 13, 2021]

50 New Electric Trolleybuses for Milan, Italy

ATM Milano is expanding its zero-emission public transport fleet with new Solaris trolleybuses. An order for the supply of 50 Trollino Model 18 articulated trolleybuses was signed in mid-November 2021. The contract is worth 40 million Euros. This order for 50 trolleys is an extension of an agreement signed in 2018 under which Solaris had supplied 30 trolleybuses. The first of those vehicles entered in operation in May 2020.

The low-floor, articulated Trollino vehicles are extremely quiet and locally emission-free. The units for Milan will be fitted with traction motors boasting 160 kW each and 45 kWh batteries. The trolleybuses will be able to top up the energy in the batteries while driving by connecting to the overhead power grid. Moreover, they will be able to drive a distance of up to 15 km without using the overhead power supply. This is particularly handy on routes lacking overhead wires in the historic part of the city, or in the event of a failure. The articulated trolleybuses will be able to carry up to 135 passengers, including 31 seated. Travel comfort will be ensured by high-efficiency air-conditioning.

The state-of-the-art Milanese trolleys also feature an advanced surveillance system. It consists of 10 cameras, including a rear-view camera and a 10'' screen on the centre console as well as a data logger. [Source: Sustainable Bus, December 9, 2021]

Progress on Toronto's Eglinton Crosstown LRT

Slated for completion in late 2022, the Eglinton Crosstown LRT will span more than 19 route km — with more than half of the mileage underground — and feature 25 stations along Eglinton Avenue. It will link to 54 bus routes, three Toronto subway stations and GO Transit lines. The line will enable one to cross Toronto from East to West 60% faster than is currently possible.

A big step forward came in late August, as Metrolinx began testing several Eglinton Crosstown light-rail vehicles (LRVs) along surface level tracks in Toronto's east end. The tests involved vehicles coupled together, increased speed analyses, brake tests and concurrent vehicle testing, Metrolinx officials reported. Testing was expected to continue into the late Fall.

In spring of 2021, the first six LRVs were moved from the Eglinton Maintenance and Storage Facility to a test location. Since then, crews have been commissioning the vehicles, including performing tests on communications systems and signals that interact with the LRVs, and operating the vehicles at slow speeds.

An opening date has not yet been set, but when the line opens, it will be known as "Line 5 Eglinton". [Sources: Progressive Railroading, August 25, 2021; Metrolinx at www.metrolinx.com]

Ground Broken on Scarborough Subway Extension

Metrolinx officially broke ground on the three-stop Scarborough Subway Extension on June 23rd, although work was already underway. The signs of progress became even more real in the following months. At the northeast corner of Sheppard and McCowan, crews were busy constructing the launch shaft for the tunnel boring machine. Fences went up, drill rigs moved on site and crews began working hard to keep up the momentum Metrolinx has set over the past year.

"This project is about delivering the reliable and modern rapid transit the people of Scarborough need," said Phil Verster, Metrolinx CEO and President. "We're so glad that shovels are now in the ground and people are hard at work to turn long-discussed plans into reality."

The new extension will bring 7.8 kilometres of subway service further into Scarborough and provide one reliable, smooth ride to and from downtown Toronto and within the city's growing east end. [Source: Metrolinx, June 23, 2021]

Electric Streetcar News

Vancouver Again Looks at Streetcar to Serve Metro Core

The City of Vancouver recently completed an analysis to determine the steps needed to preserve the option of building a 12-km-long streetcar network serving the area encompassing the Downtown Vancouver Peninsula and the Central Broadway Corridor.

The idea for reintroducing streetcars has been considered at various times since the 1990s, with previous studies having been undertaken. The latest study, accessed through a freedom of information request by *Urbanized*, shows the streetcar network would carry a total construction and implementation cost of just under $1.1 billion (in 2018 dollars). As studied, the system would encompass two routes that would overlap along Quebec Street.

Route One — spanning a length of 8.8 km — would run from SkyTrain's future Arbutus Station to Chilco Street at the edge of Stanley Park, making a U-shaped journey along South False Creek before running through Chinatown, Gastown, and Coal Harbour. It would serve other key destinations such as Granville Island, SkyTrain Olympic Village Station, Science World, SkyTrain Main Street-Science World Station, and the Waterfront Station Transit Hub. It would also be in very close proximity to the new St. Paul's Hospital campus in the False Creek Flats, and to Canada Place and the Vancouver Convention Centre.

Route Two, as conceptualized, is shorter and overlaps with Route One along Quebec Street between Prior Street and 1st Avenue. It would have a length of 3.6 km, running from SkyTrain's future Great Northern Way-Emily Carr Station at Thornton Street to Drake Street east of Granville Street — serving North False Creek along Pacific Boulevard, with stops for BC Place Stadium and Rogers Arena, and the SkyTrain's Yaletown-Roundhouse Station.

At least 18 streetcars would be needed to service the system if completely built. Estimated daily boardings would exceed those of the 99 B-Line.

Whether the streetcar will become a reality remains to be seen. [Source: Urbanized, September 16, 2021]

Battery Hybrid Streetcar Line Opens Charlotte, North Carolina

The extended Charlotte Area Transit (CATS) CityLYNX Gold Line streetcar opened for passenger service on August 30th. The streetcar operates every 20 minutes from 5:00 a.m. to 2:00 a.m., seven days a week. The service is being offered complimentary until January 2022.

Service is provided on the line by a fleet of five Siemens Mobility S700 modern streetcar vehicles. These state-of-the-art vehicles use advanced hybrid technology that features an innovative Onboard Energy Storage System (OESS), a system first demonstrated in San Diego. The streetcars run wirelessly through the heart of the city, maintaining a catenary-free zone in the central business district, while offering all the same sustainability benefits as when operating with overhead wires. Once outside the CBD, the streetcars return to drawing power from overhead wires, allowing the OESS to recharge. The vehicles operate at speeds up to 25 mph and can carry nearly 195 passengers.

The OESS uses an expandable, modular design that can be updated as battery technology evolves. The new streetcars also include features that enhance the overall riding experience such as large passenger windows for increased visibility, an interior surveillance system for safety, and an unobstructed floor concept that allows more space for bicycle storage and wheelchairs. In addition, the operational performance enhancements of the new streetcars include traffic light pre-emption and an automatic 3D infrared passenger counter. [Source: Mass Transit, August 31, 2021]

M-Line Trolley celebrates 32 years of service to Dallas

The McKinney Avenue Transit Authority (MATA) celebrated 32 years of streetcar service to Dallas, Texas residents, businesses and visitors on July 22.

MATA was founded in 1983 in an effort to return heritage streetcars to Dallas. Two Dallas residents, Phil Cobb and Ed Landrum, began championing the idea after discovering tracks on McKinney Avenue that had been paved over. On July 22, 1989, the McKinney Avenue Trolley celebrated the grand opening of its 2.8-mile route.

The M-Line has expanded several times over the years and now covers a length of 4.6 miles. A turntable was added to the line in 2011. The line is served by seven vintage cars and provides more than 600,000 rides per year. [Source: 5NBCDFW, July 19, 2021]

Metro Streetcar service returns to Little Rock, Arkansas

According to Charles Frazier, CEO of Rock Region Metro, Little Rock's streetcar system was fully back up and running by July, after taking almost a year's hiatus because of the coronavirus pandemic and Interstate 30 construction.

The streetcar system has been in operation for 18 years. Its first phase opened in 2004, and a second phase that extended trolley service to the Clinton Presidential Center opened in 2007.

Civic leaders maintain the trolleys have helped spur revitalization downtown and have fostered economic development. The trolleys also have been featured in materials promoting the area.

Rock Region Metro eliminated fares on the streetcars in 2019, a decision that spurred a tenfold increase in ridership.

North Little Rock Mayor Terry Hartwick said the trolley system is an asset to the city: "It's a great way for people to cross from Little Rock to North Little Rock and vice versa without having to search for parking or get back in their cars."
[Source: Arkansas Democrat Gazette, May 19 and July 11, 2021]

El Paso Streetcar Makes Summer Return

A popular summer attraction, the famous El Paso streetcar returned to the streets of the Texas community on July 29, providing service every Thursday, Friday and Saturday for downtown and uptown events during the summer.

The 4.8-mile streetcar service uses six restored PCC cars and covers a route in two loops through El Paso's uptown and downtown areas. The loops connect an international bridge, an array of businesses and restaurants, a baseball park, government buildings, historic neighborhoods, hospitals, and higher education institutions like the University of Texas at El Paso, amongst many other prominent venues. The streetcars display three different liveries, representing each of the color schemes used in El Paso in the 1950's, 60's and 70's. [Source: Sun Metro, July 28, 2021 and Visit El Paso (visitelpaso.com)]

Left to Right: The M Line in Dallas, Texas operates a variety of historic streetcars. Shown at left is car 122, nicknamed "Rosie". Shown in the centre photo is the M Line's Presidential Conference Committee (PCC) car. At right, historic streetcar 412 of Rock Region Metro in Little Rock, Arkansas. [Credits: Arts District News; Dallas Express News; Arkansas Democrat Gazette]

Down in Massachusetts: Milton, Mattapan Trolley Line overhaul Encounters Delays

In October, the MBTA's first rebuilt vintage trolley finally made its way from a facility in Everett to Mattapan, where workers will finish installing its interior components. At least one of the 1940s-era trolleys that roll through Milton on the Mattapan Line was supposed to be back on the tracks by Fall 2021, retrofitted with modern propulsion systems and brakes. The MBTA then pushed that timeline back, with hopes of getting two refurbished trolleys back in operation by December.

The trolleys, called Pullman-Standard Presidential Conference Committee cars, entered service just after World War II. The transit authority has 10 vintage cars, using four of them on a daily basis.

The MBTA project to overhaul the Mattapan Line, upgrading the old trolley cars to make them last about 10 more years, is now more than two years behind schedule. The second phase of the project, which would upgrade stations along the line to make them all wheelchair accessible, is also behind schedule. MBTA spokesman Joe Pesaturo said that unforeseen issues and the pandemic have slowed the trolley car rehabilitation.

Lead paint was found while the cars were being repaired and this required remediation, pushing the project back by one year. Significant structural damage and COVID-19 cases at the Everett warehouse pushed the project back further. About 80 percent of the cars' underframes had to be replaced, according to the T. The other cars are expected to be in better shape, and the T said the delay has had little to no impact on service.

"The technical complexities of retrofitting a 75-year old vehicle with modern technologies cannot be overstated," Pesaturo said. "The MBTA is well aware that there is much anticipation in the communities along the Mattapan Line, and the T looks forward to putting two rebuilt cars in service, and returning the remaining cars to service before ridership rebounds to pre-pandemic levels."

The T's plan is to eventually replace the refurbished trolleys with newer cars borrowed from the Green Line.
[Source: The Patriot Ledger, Oct. 12, 2021]

Orange County Streetcar now under Construction after Decades of Wrangling

More than a decade ago, Orange County transportation officials shelved plans for a large, billion-dollar light-rail system that would have connected several cities with John Wayne Airport. But with traffic worsening and rail gaining traction — particularly among young people — Orange County, California is finally getting a streetcar system, although a small one.

The OC Streetcar system, a $423-million project, will utilize only six light rail vehicles and will cover a bit more than four miles, linking the Santa Ana Regional Transportation Center to strip-mall-lined streets near Little Saigon. The trains will offer transit options without entering most of the county's suburban enclaves.

The development of the OC Streetcar comes after decades of freeway improvements and the construction of toll roads from Yorba Linda in the north to San Juan Capistrano in the south. The county is in the middle of a $1.9-billion project to widen the 405 Freeway. But some officials acknowledge that there are limits to how much more capacity they can squeeze out of road projects. "You can't widen freeways forever," said Miguel Pulido, former Orange County Transportation Authority Board Member and former Mayor of Santa Ana.

Construction on the line is now well underway, and it is slated for completion in 2023. [Source: LA Times – July 7, 2021]

BATTERY BUS NEWS

OC Transpo unveils Ottawa's First Battery Buses

Ottawa residents will soon see a new type of bus rolling down their streets, as the Canadian capital unveiled its first battery-electric buses on November 26th.

The four new 40-foot battery-electric buses will enter service in early 2022 and will be housed at OC Transpo's St. Laurent Garage. The garage has undergone significant retrofits to accommodate the vehicles, with four plug-in style charging stations installed by Envari Energy Solutions, a subsidiary of Hydro Ottawa.

OC Transpo is in the early stages of a fleet conversion plan that will add an additional 74 battery buses to its fleet in 2023, with 450 zero-emission buses phased into operation by 2027 at a total cost of around a billion dollars. Diesel buses are being phased out as they reach the end of their service life. OC Transpo anticipates achieving a fully zero-emission fleet by 2036, four years ahead of the date stipulated in the city's Climate Change Master Plan.

In addition to offering a quieter ride, battery-electric buses are expected to offer savings through reduced operating costs. The buses have a range of about 250 km between charges. [Source: City of Ottawa, November 26, 2021]

Brampton Launches Battery-Electric Buses

In January of 2021, Brampton, Ontario welcomed its first Nova Bus battery powered transit vehicle at its Sandalwood Facility. By spring, there were eight battery buses—two from Nova Bus and six from New Flyer—running on Brampton streets. The buses charge en route using four 450 kWh overhead charging stations, three built by ABB Inc. and one built by Siemens. A pantograph is used to connect the buses to the charging stations.

"Brampton City Council is committed to reducing our city's carbon footprint," said Paul Vicente, Regional Councillor. "We are on a journey to reduce greenhouse gas emissions generated in Brampton by 80 per cent by 2050. These buses will save approximately 235 tonnes of C02 per year, per bus."

Alex Milojevic, General Manager of Brampton Transit characterized the test project as the first step in electrifying the transit fleet. [Source: www.brampton.ca, January 28, 2021]

Ottawa funds Laval Transit Garage Expansion

According to an August 10th announcement from the Canadian Federal Minister of Infrastructure, the Honorable Catherine McKenna, the Federal government is investing more than $85 million in the expansion of a transit garage facility for the Société de Transport de Laval (STL). The project will include approximately 100 new parking spaces to recharge battery-electric buses as well as additional vehicle maintenance and repair bays. The investment will allow the expansion of battery-electric bus service in Laval, Quebec. [Source: www.canada.ca, August 10, 2021]

NovaBus Launches Long Range Battery Bus

According to an October News Release from NovaBus Corporation, the company has launched a 100 percent electric, long-range dual charging bus for the North American market. Built on the reliable LFS platform and known as the LFSe+, it integrates the electric drive motor and next generation power electronics from BAE Systems, which use advanced materials such as silicon carbide to improve heat management. The lower weight and increased power density of the BAE Systems technology also contribute to bus performance and durability. Powered by an integrated modular system, the electric drive motor reduces maintenance costs and it does not generate any greenhouse gas emissions.

Powered with up to 564 kWh of on onboard energy, the LFSe+ will soon be on the streets of several cities across America, including Broome County, N.Y. [Source: Nova Bus Corporation Media Release Oct 28, 2021]

Regional Transit Service (RTS) of Rochester NY Orders Battery Buses

RTS of Rochester has ordered 10 battery-electric coaches. The vehicles are 40-foot Xcelsior CHARGE NG™ battery-electric heavy-duty transit buses from New Flyer of America.

RTS is a regional transit authority serving eight counties, including Monroe, Genesee, Livingston, Ontario, Orleans, Seneca, Wayne and Wyoming in New York State and provides more than 15 million trips per year. RTS is working to meet New York State's goal of having all fleets be 25 percent zero-emission by 2025 and 100 percent by 2035. [Source: NFI of America press release, October 28, 2021]

King County Metro's Battery Fleet Grows

In October, the Seattle Area's *King County Metro Transit* received its latest installment of battery buses since the arrival of 60-foot battery powered vehicles back in April. These newest vehicles are 40-foot New Flyer coaches and can seat up to 36 people, including the driver, and have a range of approximately 220 miles on a single charge.

After testing, these new coaches will become part of a King County Metro fleet making the transition to zero-emission vehicles powered by renewable energy. By early 2022, the agency hopes to have at least 40 battery-electric coaches in service.

In Fall 2020, King County Metro retired its last diesel-only buses, joining only a handful of large transit agencies in the U.S. that have a fleet that does not include fully-diesel coaches. King County Metro says it has committed to purchasing only zero-emission buses beyond 2023 and building the infrastructure to support them. These steps will help the agency meet its 2035 zero-emission goal.

King County Metro also recently awarded a $40-million contract to Walsh-Stantec Progressive Design Build Team to design and build the electrification infrastructure needed to charge and operate up to 120 battery-electric buses. The Interim Base Electrification Project is estimated to cost a total of $67 million and is located just south of King County Metro's current South Base facility in Tukwila, Washington. King County Metro recently built prefab buildings on its 543,900-square-foot site with the intent of operating up to 120 battery buses to serve South King County.

King County has targeted 2035 to have battery-electric buses operating from all of its bases, and it continues to move forward with planning and budgeting to accomplish that goal. The mid-biennial budget proposal included $65.8 million in additional appropriation to accelerate fleet electrification. [Source: King County Metro, Oct. 12, 2021, November 24, 2021]

LA Metro replaces CNG Buses with Battery Vehicles on G Line

L.A. Metro has phased out its 60-foot articulated CNG buses on the G Line — the type that has run on the dedicated bus rapid transit line since it opened in October 2005 — and replaced them with 40 new, 60-foot articulated battery buses manufactured by New Flyer of America. At a cost of 1.15 million each, the buses employ advanced technologies such as a high energy propulsion system with high energy traction batteries; they use two drive axles for better acceleration and employ regenerative braking to recapture energy. They have an active suspension system that ensures a smooth ride for passengers, and also employ dual electrically powered air conditioning units. Customers can charge their portable devices using USB ports in the bus seats. The buses also have public Wi-Fi access to better connect bus customers on the go.

Rapid en-route chargers installed at North Hollywood, Canoga and Chatsworth Stations give the buses an all-day operating capability along the 18-mile corridor. L.A. Metro says the buses have about a 150-mile range on a single charge.

L.A. Metro first began converting its bus fleet to battery-electric buses in July 2020. They logged 900,000 miles on electric buses in 2021.

The agency is planning to utilize electric buses on the J (Silver) Line that operates between San Pedro and El Monte via the Harbor Gateway Transit Center. They are working with Caltrans, Los Angeles Department of Water and Power and Southern California Edison on charging designs for the J Line corridor. The conversion of the line is anticipated in about two years.

L.A. Metro has ambitious plans to transition from a CNG to a zero-emission bus fleet in the years ahead. In 2017, the L.A. Metro Board unanimously adopted a motion endorsing a plan for a 100 percent zero-emission bus fleet by 2030. The agency currently operates approximately 2,300 CNG buses. The agency originally had envisioned a massive conversion from diesel to electric trolleybuses back in the early 1990's, but plans were thwarted by the promise of "soon-to-be" fuel cell technology— something that never really materialized. Instead, the agency invested massively in CNG buses, a technology which has matured over time, but has not been without issues. [Sources: METRO The Source, October 13, 2021; Mass Transit, October 14, 2021; Electric Trolley Bus Study for the RTD and LACTC (BAH), June, 1991]

St. Louis adds Gillig Battery Buses to Fleet

St. Louis Metro Transit recently received six new Gillig 40-foot battery-electric buses, including the 100th battery-electric bus produced by Gillig. The agency has been partnering with bus builder Gillig since 1992. The recent delivery brings the battery fleet up to ten vehicles.

The battery-electric buses provide a substantial savings in fuel and maintenance costs – up to $525,000 over the life of each bus, according to the agency. As zero-emission transit assets, these buses will provide a reduction of 100 to 160 tons of greenhouse gas emissions when compared to a diesel bus.

The 40-foot Gillig battery buses also deliver a transit experience with the latest features and amenities, including a Thermo King Electric HVAC system with integrated thermal management, and superior ride quality with low noise levels and smooth, seamless acceleration.

The Gillig vehicles are built in Livermore, California. [Source: METRO, November 19, 2021]

Spokane's city transit line Delayed Again

New opening date set for July 2023

Readers may recall reading of the much-talked-about Spokane City Line in Spokane, Washington – a 6-mile transit route envisioned as a continuous and quick loop through downtown linking Browne's Addition with the Spokane Community College campus. Originally planned as a high profile electric trolleybus route, then later scaled down and redesigned to use battery buses, the line has been slow to materialize.

Construction crews have been busy building ramps and concrete platforms along the route, but the battery buses now won't start running until July 2023. The year delay is apparently due to a national shortage on rolled-tube steel, which the authority planned to use as structural support for the bus station shelters, said Brandon Rapez-Betty, Spokane Transit Authority's Communications and Customer Service Director.

"We looked at everything we could possibly do, including changing the shelters altogether," Rapez-Betty said. "But this shelter was designed uniquely for the City Line. And this is the shelter that we showed to the public when we talked about this project. … To change entirely this late in the game felt like it would be changing course without the input of the public, who saw the original design."

Construction on the $92.2 million project started in May 2020. "The buses almost act as electric trolleys," Rapez-Betty said, with the battery buses running in mixed traffic. The line will utilize 60-foot-long vibrant purple buses that are battery-powered and emission-free, Rapez-Betty said. They will also have near-level boarding, where there's no step to get from the platform to the bus floor. He explained that the authority also promised a wait time of 7 ½ minutes "so people can use it without having to know the schedule, they can just walk out to a station and hop on," thereby increasing access to public transit. [Source: Spokesman Review, October 8, 2021]

AC Transit releases its first Zero-Emission Transit Bus Technology Analysis

The Alameda-Contra Costa Transit District (AC Transit), together with Stanford University's Precourt Institute for Energy, published its Zero-Emission Transit Bus Technology Analysis (ZETBTA) study this past summer, which created a "scholarly reinforced roadmap to aid transit agencies in planning, procurement, training and, most importantly, a guide to curtailing costly mis-steps toward zero-emission conversions."

The ZETBTA study is a robust side-by-side evaluation of four propulsion technologies in use at transit agencies worldwide: the fuel-cell electric bus (FCEB), the battery-electric bus (BEB), the diesel hybrid and the conventional diesel bus. AC Transit operates all four technologies and so was in a good position to be able to evaluate them in this study.

The study's initial results can be summarized as follows: From July 2020–December 2020, the BEB had the lowest cost per mile when applying warranty and low carbon fuel standard credits ($0.78). The FCEBs had the highest cost per mile ($2.82), as they were outside the warranty period. The diesel fleet was the most reliable (15,226 miles between road calls) and available (94%), but it also produced the most carbon emissions (275 metric tons of CO^2). The FCEB fleet was the least reliable (3,024 miles between road calls), and the BEB was the least available (57%).

The BEB fleet experienced out-of-service periods due to high-voltage battery issues resulting in the vehicles' 57% availability on the planned workdays. The hybrid and FCEB fleets achieved an average availability of 85 percent; defects occurred throughout the test period.

The authors cautioned that it is important to note that some of the results do not reflect what will become a standard performance matrix. The entire study can be viewed at: https://www.actransit.org/sites/default/files/2021-07/EDT-060420_Report-ZETBTA.pdf [Sources: AC Transit; Mass Transit, July 20, 2021]

New York MTA Approves 60 New Flyer Battery-Electric Buses

In reference to their price tag, they've been called the "million-dollar buses of the future". But officials at New York's Metropolitan Transit Authority hope they will put the agency on the path to one of the largest battery-electric fleets in North America. The MTA Board approved the purchase of 60 of them in mid-November, with an eye towards eliminating all fossil-fuelled buses from its fleet by 2040.

The new battery buses come from New Flyer of America, who leased five battery buses to the agency back in 2018 that ran in a pilot program on the slow-crawling M42 route. Each of the $1 million buses are 40 feet long. New Flyer will maintain them and train NYC Transit crews on how to work on them. The buses will be charged overnight and can run up to 120 miles per day. The agency has a $39 million agreement with the New York Power Authority to install at least 50 overhead electric bus chargers in four of its depots.

The 60 new buses will begin arriving in September 2022 and will bring the MTA's fleet of battery buses to 75. Officials plan to buy another 475 battery buses, according to the agency's 2020-2024 capital plan. [Source: New York Daily News, November 19, 2021]

New Jersey Transit Embarks on Zero Emissions Path

NJ TRANSIT's Board of Directors marked a milestone in the agency's history in October by giving approval for the purchase of NJ TRANSIT's first battery-electric buses. The eight zero-emissions buses will be part of a limited deployment in the Camden region based out of the Newton Avenue bus garage and represent NJ TRANSIT's commitment to transitioning to a 100% zero-emissions bus fleet by 2040, per New Jersey Governor Phil Murphy's Energy Master Plan.

NJ TRANSIT President & CEO Kevin S. Corbett explained that the battery-electric buses "will be used as part of a bus demonstration project in Camden that will allow us to thoroughly assess their performance while operating on existing bus routes."

The buses will be supplied by New Flyer of America, and the contract contains an option allowing for the purchase of up to 75 additional zero-emission buses.

In January 2020, Governor Murphy signed legislation establishing goals to increase the use of zero-emissions vehicles in New Jersey. By December 2026, 50% of all new bus purchases must be zero-emission vehicles, transitioning to 100% of all purchases by December 2032.

Customers will begin using the electric buses when a prototype is delivered in the second quarter of 2022. The remaining buses are due in the fourth quarter of 2022.

The Newton Avenue Bus Garage will be fitted with electric vehicle charging stations and other associated infrastructure to accommodate battery-electric vehicles. That project is targeted to be completed in the first quarter of 2022, which includes testing and commissioning.

New Jersey Transit recently reaped heavy criticism for the purchase of 118 diesel buses back in April. The agency claimed that it needed the vehicles to replace 20-year old diesels that had become unreliable, but the argument fell flat among transit advocates who pointed out that the purchase meant noisy, smoky vehicles on community streets for another 18-20 years. [Sources: New Jersey Transit News Release, October 20, 2021; NJ Advance Media, April 14, 2021]

Austin, Texas: CapMetro Board approves Large Battery Bus Procurement

Capital Metropolitan Transportation Authority (CapMetro) of Austin, Texas plans to receive 197 battery-electric vehicles over the next five years, expanding its fleet to over 200 vehicles. The plan, worth around $254 million, could turn out to be one of the largest battery bus procurements in the United States at this time. The base contract includes 56 vehicles--26 40-foot buses from both Proterra and New Flyer, as well as four 60-foot electric buses from New Flyer. The contract includes an option for 126 40-foot battery buses and 15 60-foot battery buses, as well as chargers, training and warranties.

Out of the 197 new electric buses, 124 will be replacement vehicles and up to 73 will be used to expand service for the new Expo Center and Pleasant Valley MetroRapid lines. The first shipment of new electric vehicles is scheduled to arrive by the end of 2022. [Sources: Sustainable Bus, September 29, 2021; Mass Transit, September 28, 2021]

Knoxville, Tennessee launches Battery Buses

A ribbon-cutting ceremony in Caswell Park on September 16th marked the introduction of battery buses to Knoxville, Tennessee. The order of 18 vehicles, five of which had already arrived, represents a step toward a clean and resilient future for Knoxville, and progress toward the city's goal of reducing carbon emissions 80 percent by 2050. When the last electric bus arrives, 26% of the total fleet will be battery-electric, with another 41% being hybrid diesel-electric vehicles. The vehicles will be deployed on routes 17 and 31 covering Sutherland and Magnolia Avenue. [Sources: WVLT 8 News, September 16, 2021; Mass Transit, September 17, 2021]

San Diego's Iris Rapid Route to get Battery Buses

In early October, The San Diego Metropolitan Transit System announced the purchase of a dozen 60-foot battery-electric buses to provide service on the new Iris Rapid route. This new route is intended to provide fast, limited-stop service in the South Bay area, from Otay Mesa to Imperial Beach via state Route 905 and Coronado Avenue. It is scheduled to open in early 2023.

"The purchase of these buses for the first all-electric Rapid route in our region is a huge leap forward towards a greener future, environmental justice, sustainability, and better air quality," said Nathan Fletcher, MTS Board Chair and Chair of the San Diego County Board of Supervisors. "MTS will also put five new 40-foot battery buses into service over the next few weeks, adding to its existing fleet of eight battery-electric buses. When the Iris Rapid comes online, MTS will have 25 battery-electric buses in operation."

The transition to an all-electric fleet is part of the MTS Zero- Emissions Bus program, which seeks to reach a fully zero-emission bus fleet by 2040. The Iris Rapid will connect riders with the UC San Diego Blue Line Trolley at the Iris Avenue Transit Center.

Vehicles in the latest MTS order will be supplied by New Flyer of America. [Source: ABC 10 News San Diego, October 8, 2021]

Colorado launches North America's Largest Fleet of Driverless Electric Shuttles

If you're walking around the Colorado School of Mines in Golden, Colorado, you will notice the campus buses don't have a steering wheel. Amidst the wildfire smoke that blanketed California this past summer, the school launched a fleet of emission-free driverless shuttles to transport students around campus. It is a project intended to test the technology and inspire future engineers.

The shuttles aren't intended to replace regular buses. Only six people at a time can ride them, and they don't go faster than 20 miles per hour. Instead of a bus driver, Mines will employ students to oversee trips, make sure the vehicles run correctly and keep passengers safe.

The school is contributing just over $512,000 towards infrastructure and operations for the vehicles, a part of which is funded with student fees.

A total of nine autonomous shuttles will operate along three fixed routes in and around the Mines campus. Rides are free to students. [Source: CPR News, August 12, 2021]

"Welcome to Golden" – Students at the Colorado School of Mines in Golden, Colorado will be transported around campus by autonomous electric shuttles. [Courtesy CRP News]

In Memoriam – William George MacDonald

The Edmonton Trolley Coalition mourns the loss of long time ETC member and transit supporter Bill MacDonald, who passed away unexpectedly on October 15, 2021 in Victoria, B.C. Bill was a passionate supporter and advocate of electric transit. He was a supporter of LRT and served as the president of the Victoria LRT Society where he sought to bring LRT to Victoria. His advocacy work and his efforts to create awareness of electric transit modes were known far and wide. Bill travelled the world and made many professional quality videos depicting the operation of electric transit systems. His photography depicting the operation of electric modes in many cities appeared on countless post cards. Bill's contributions to the world of electric transit have been enjoyed and appreciated by many, and he will be dearly missed. We would like to take this opportunity to recognize the contributions that Bill made to our organization in its past efforts to retain electric trolleybus service in Edmonton as well as in its efforts to promote electric transit modes.

In Memoriam – Dr. David Schindler

The Edmonton Trolley Coalition mourns the loss of long time environmentalist and University of Alberta Ecology Professor Dr. David Schindler, who passed away on March 4th, 2021. As a researcher, Schindler was most known for his research involving freshwater systems and his efforts to protect them from industrial harm. He repeatedly sounded the alarm on acid rain and the ecological damage caused by the oilsands. He was a well-known local advocate and gave feedback and input on many Edmonton civic issues, including issues related to public transit. Schindler stepped up to the plate on several occasions at the time when Edmonton's electric trolleybus system was threatened by city administrators, exposing the push to decommission the fume-free system as folly. We take this opportunity to recognize his efforts toward making Edmonton a better city.