TRANSIT TALK

VOLUME 43

Edmonton's Valley Line West LRT Construction Officially Begins

On May 27th, officials from the federal, provincial and municipal governments officially broke ground on the City of Edmonton's Valley Line West light rail line.

The groundbreaking ceremony marked the official start of work on the line, although some work--such as relocating utilities--was already begun last year. Preparatory work for the elevated stations at West Edmonton Mall and the Misericordia Hospital characterizes some of the work to be completed in 2022. Construction on the line is expected to continue into 2027.

The 14-kilometre line will run from 102 Street near Churchill Square to Lewis Farms, with 14 stops along the way. Most of the route will be street level – for greater accessibility, officials say – except at the hospital and mall.

The City of Edmonton received $948.5 million from the federal government and $1.04 billion from the provincial government for the roughly $2.7-billion expansion. Marigold Infrastructure Partners will build the line.

"I don't think there is a modern city in the 21st century without this kind of fixed rail transit, and I think that it says a lot about the long-term vision of this city and the folks who help run it that saw that, and the residents of this city who see that," said Ward Sipiwiyiniwak Councillor Sarah Hamilton.

Meanwhile, the Valley Line Southeast connecting downtown with Millwoods is nearing completion and on track to open sometime this summer. [Sources: CTV News, May 27, 2022; Edmonton CityNews, June 22, 2022]

Vancouver Region's TransLink Plans Massive Service Expansion

In early July, TransLink's Board of Directors and the Mayors' Council approved a ten-year priorities plan, setting a new list of transportation priorities for Metro Vancouver.

This plan sees the implementation of an unprecedented increase in local bus service and continued expansion of the SkyTrain network, while also introducing Bus Rapid Transit (BRT) technology to the region. BRT will bring specialized zero-emission buses to fully traffic-separated corridors with dedicated stations where passengers will board.

"This plan outlines the biggest transportation improvements in Metro Vancouver's history. It will require a new approach to how we fund, build and operate our regional transportation system, requiring all governments – local, regional, provincial and federal – to work together in innovative ways to achieve this vision," said Jonathan Coté, Chair of the Mayors' Council on Regional Transportation. "Through collaboration, this much-needed plan will increase access to green transportation options that reduce costs and GHG emissions, as well as help address the region's housing affordability crisis and better connect our communities." (continued on Page 2)

etc

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Cracks Found in Piers - LRT to Edmonton Millwoods Delayed Again

As this newsletter was being prepared for distribution, news broke of yet another delay in the opening of Edmonton's Valley Line Southeast linking Downtown with Millwoods. The line will now not be opening in the late summer of this year, as had been announced. TransEd CEO Ronald Joncas told the media on August 10th that cracks had been discovered in three of the cement piers that hold the elevated track, and that at least 18 of the piers would require strengthening or repair before the line could open.

There was no information on how long this procedure might take, and therefore no new opening date has been proposed. "Once our engineers have completed the design to strengthen the piers and our construction experts have determined the additional construction work required, we will be in a better position to announce the target service commencement date," Joncas said. He assured Edmontonians that it is still safe to walk and drive under the elevated platforms.

The line has been plagued by delays since 2018, after a large concrete mass delayed construction of the Tawatinâ Bridge across the North Saskatchewan River. The opening was originally scheduled for December 2020, then delayed to mid-2021, the end of 2021 and then most recently to the summer of 2022. Mayor Amarjeet Sohi said that the delays have been "frustrating and deeply disappointing". He indicated that TransEd is responsible for the delay and will be held accountable to ensure that the necessary work is completed and that a line is opened that is safe to ride.

The Valley Line Southeast LRT is a public-private partnership, or P3, between the City of Edmonton and TransEd. The City expected to save about $500 million through the P3 partnership over the cost of designing and building the line itself. [Information Source: CTV News, August 10, 2022]

TransLink: Massive Service Increases Planned for Vancouver Region (continued from page 1)

Under the plan, major priorities for the Vancouver region include:

- Up to nine new traffic-separated BRT lines.
- More than doubling bus service over 2022 levels, with increases in Sea Bus service to match.
- Building the Burnaby Mountain Gondola to Simon Fraser University.
- Extending the Millennium Line from Arbutus to the University of British Columbia.
- Increasing HandyDART service by 60 percent and providing 24-hour service.
- Immediately advancing a business case to determine the best rapid transit technology on the Metrotown to Park Royal corridor, while delivering better bus service in the short term.
- Exploring potential SkyTrain extensions, including to Newton in Surrey and to Port Coquitlam.
- Building 450 kilometers (280 miles) of new traffic-separated cycling paths including bike networks in every Metro Vancouver Urban Center.

In addition to these transit priorities, the plan also includes 450 km of cycling paths, 200 bike lockers and six bicycle parkades. [Source: TransLink News Release, July 5, 2022]

Edmonton LRT Expansion to Castle Downs Reinstated as Priority after Pushback

A Metro Line LRT extension to Castle Downs in Edmonton's northwest initially was not included in the city's 15-year mass transit strategy, which instead prioritized the Capital Line for expansion south of Ellerslie Road. But at a February meeting, Mayor Amarjeet Sohi and councillors on Edmonton's urban planning committee unanimously endorsed reinstating the Metro Line extension to the first phase of this plan.

The re-prioritization of the Metro Line extension was welcome news to north Edmonton resident Lynnette Thompson who noted that northwest communities have been waiting for almost three decades while other areas of the city were prioritized. Thompson, who serves on the Castle Downs Recreation Society, said the LRT network will not only allow residents to commute more quickly to Downtown and the universities, but also provide easier access to the Castle Downs YMCA, which is a key recreation facility on the city's north side.

"As citizens, quite honestly, we're angry and we're frustrated," Thompson said in her presentation to council before the vote. "North Edmonton residents are asking for reasonable, safe access to services that other areas take for granted."

Administrators had argued that extending the Metro Line to the northwest should not be a near term priority because it would have a lower impact on ridership levels, but Mayor Amarjeet Sohi countered that the northwest can't keep being put on the back burner every time the prioritization conversation comes up. He cited the possibility of increased transit-oriented developments around the site of the future LRT line and a potential uptick in ridership in the area as a result. "It is about fairness, it is about equity, it is making sure that we connect LRT to all quadrants of our city, and the northwest and Castle Downs area have been waiting for a while. I think it is important that we give people certainty that LRT will get there," he said. [Source: Edmonton Journal, February 16, 2022]

Regina Transit Master Plan includes Switch to Electric Buses

On April 19th, Regina released its Transit Master Plan (TMP) which envisions an electric future. The document recommends a switch to electric vehicles on the system beginning in 2024, with the goal of completely replacing the diesel fleet by 2040.

Currently, Regina does not operate any electric vehicles. But the TMP recommends an initial order of 7 for 2024. It is assumed these would be battery-electric buses. The plan would see nearly 50% of the fleet electrified by 2030.

The plan also proposes a large increase in transit service hours to make transit more attractive and useable for residents and visitors to the city. [Source: CBC News, April 20, 2022]

Vancouver's TransLink Commits to Net Zero Emissions

Earlier this year, TransLink released a *Climate Action Strategy* that maps an aggressive path to zero greenhouse gas emissions (GHGs). The strategy provides new emission reduction targets for all TransLink operations, fleet and facilities. It also identifies opportunities to mitigate the effects of climate change on infrastructure, as well as to provide customer safety and comfort during extreme weather.

This strategy applies not only to TransLink's fleet of more than 2,000 transit vehicles, but also to its service vehicles, facilities and administrative offices, as well. The strategy aims for net zero greenhouse gases by 2050, zero emissions for the bus fleet by 2040, and a 40% reduction in greenhouse gases over 2010 levels by 2030. Other objectives identified in the Strategy include:

- Replacing 400 diesel buses with battery-electric buses by 2030, all of them by 2040.
- Adding the first zero emission, fully electric Sea Bus by 2030.
- Equipping 100 percent of the bus fleet with air conditioning by 2028.
- Building and operating a new transit center in the Marpole area of Vancouver that will house more than 300 battery-electric buses by 2027.
- Using only renewable natural gas in the compressed natural gas fleet by 2024.

Road-based transportation represents the largest single source of GHGs in the greater Vancouver region, accounting for 35 percent of all emissions. While TransLink's GHGs only account for 2.7 percent of those emissions, the agency still says it needs to accelerate action to ensure the transit system makes no negative contribution to the changing climate.

"The climate emergency is one of the most difficult challenges in human history, and we are seeing the devastating impacts of extreme weather in our region first-hand," said TransLink CEO Kevin Quinn. "With an all-electric SkyTrain system, a large fleet of electric trolleybuses and growing fleet of battery electric buses, transit is already one of the most sustainable ways to travel in Metro Vancouver. That said, businesses and individuals have a collective responsibility to do everything they can to address the climate emergency. This strategy will eliminate TransLink's carbon footprint and lead to a cleaner and greener future for generations."

The next steps include a *Climate Action Plan* which will detail how TransLink will achieve the goals set out in the *Climate Action Strategy*. That plan is due to be released later this year. [Source: TransLink, January 20, 2022]

Battery Buses to come to Victoria, BC

BC Transit's first series of battery buses and charging equipment will be coming to Victoria as part of the goal to transition to an entirely electric fleet by 2040.

After a rigorous procurement process, the contract to build and deliver the first 10 heavy-duty battery buses to BC Transit at a cost of $20 million has been finalized and formally awarded to Proterra. The non-exclusive contract will enable BC Transit to advance its Low Carbon Fleet Program. A potential 500 diesel-powered buses are expected to be replaced in the next 10 years.

As part of the project, one battery bus will be deployed in Victoria in Fall 2022 in preparation for the 10 built-to-order buses that will be delivered starting in Summer 2023. The contract allows BC Transit the option of purchasing more battery buses, charging equipment, and supporting services in the future.

The project is being cost shared with the Government of Canada, contributing 40 per cent, and the Province of BC, contributing 40 per cent of eligible costs. Federal funding for the buses, charging equipment, and the associated infrastructure is provided through the Investing in Canada Infrastructure Program. [Source: BC Transit, May 24, 2022]

Brampton, Ontario gets Funding for Battery Buses

With diesel buses being one of the biggest contributors to Brampton's carbon footprint, the City of Brampton has now been granted funding to explore better alternatives. On July 5, Brampton North MP Ruby Sahota announced $175,000 in funding through the Canadian Urban Transit Research and Innovation Consortium (CUTRIC) to support a study of Brampton Transit's efforts to reduce greenhouse gas emissions while also meeting ridership demand.

The Transit Feasibility Study will look at the potential for battery and fuel cell bus deployment in the city, assessing which local routes will be suitable for battery electric buses (BEBs) and which could be served by hydrogen fuel cell electric buses. The City of Brampton envisions the deployment of up to 450 zero emission buses by 2027.

Brampton currently operates just over 100 diesel hybrid buses in BRT service, and introduced 8 battery electric buses back in May of 2021 which test different charging technologies. [Sources: Supply Professional, July 25, 2022; In Brampton, July 5, 2022; Newswire, April 4, 2022]

A trolleybus pulls up at a boarding island along San Francisco's Van Ness BRT Corridor on Opening Day [SF Chronicle]

SF MUNI's historic Flyer trolleybus 5300 carried passengers on MUNIs Heritage Day on June 4th [SFMTA]

Three of the historic vehicles that participated in MUNI's Heritage Day: Marmon Herrington trolleybus 776, PCC car 1040 and Mack motorbus 2230 [Market Street Railway, R. Laubscher]

Conceptional image illustrating the design of the Hess LightTram19 trolleybus for the Swiss cities of Neuchatel and La Chaux de Fonds [Hess]

Hess 3-axle `Swisstrolley` operated by transN in Neuchatel, Switzerland [UTM, T. Johansson]

Officials in Prague in the Czech Republic mark the beginning of construction of transit's future: new trolleybus routes that will replace existing diesel services [Expats_cz]

Indianapolis to build Zero Emission BRT

Stantec, a global leader in sustainable design and engineering, has been selected to lead construction management of a US$220 million BRT project in the City of Indianapolis, known as the Blue line. Once completed, the Blue Line will be the city's third BRT route, providing critical connections to the airport, the existing Red Line, the planned Purple Line, and other frequent and local bus routes. The 24-mile, all battery-electric bus route will follow the path of the existing Route 8, providing safer and more reliable services to communities that rely on transit and have the largest concentration of zero-car households.

"The Blue Line is a critical component of the Marion County Transit Plan," said Jennifer Pryz, Chief Development Officer at IndyGo. "This project will change the way our residents and visitors use public transportation in Indianapolis, especially to and from the airport."

A major source of funding for the Blue Line is the Federal Transportation Agency's (FTA) Capital Investment Grants Program, totaling US$100 million.

"The Blue Line BRT Project demonstrates an important investment in communities that need transit, and BRT is particularly well-suited to medium-sized cities looking to make effective infrastructure investments," said Brian Norris, senior vice president and construction project manager at Stantec. Stantec's Transit team has delivered over 15 linear BRT projects from inception into construction across North America and is currently or has recently been involved in BRT projects or studies in Los Angeles, CA; Boston, MA; Cleveland, OH; Jackson, WY; Toronto, ON; and Calgary, AB.

[Source: Stantec News Release, June 14, 2022]

San Francisco's Van Ness Trolleybus BRT Corridor launched April 1st

It took nearly 27 years to become a reality since the plans were first conceived, but BRT transit service on San Francisco's Van Ness Avenue finally debuted on April 1st. The opening was marked by two ceremonies, one at each end of the corridor. Trolleybuses 7279 and 7282 carried dignitaries and invited guests between the two ceremonies.

The BRT service, featuring boarding islands and centre-running exclusive transit lanes, was a key feature of a major area improvement project carried out along a two mile stretch of Van Ness Avenue. The BRT is used by the 49 Van Ness/Mission trolleybus route, as well as the 90 San Bruno Owl and Golden Gate transit services.

The new Van Ness Bus Rapid Transit corridor features nine northbound and nine southbound boarding islands offering off-vehicle fare collection and all-door boarding. Bus Rapid Transit on Van Ness is a part of Muni's Rapid Network, which prioritizes frequency and reliability for customers. The improvements are expected to cut travel times for Golden Gate Transit, Muni's 49 Van Ness/Mission and the 90 San Bruno Owl buses by 32%. In addition to dedicated transit lanes and boarding islands, enhanced traffic signals optimized for north-south travel with transit signal priority are installed and give buses the green light as they approach an intersection.

The Van Ness Avenue corridor serves as a vital connector of neighborhoods and a regional link for travel between Marin, San Francisco and San Mateo Counties. Van Ness Avenue is one of the busiest north-south corridors in the city, serving over 16,000 Muni customers daily on the 49 Mission/Van Ness and 90 San Bruno Owl bus routes as well as Golden Gate Transit customers.

[Source: SFMTA, accessed July 28, 2022]

SF Celebrates Transit History with Heritage Day

Emerging from a two-year hiatus due to the pandemic, the San Francisco Municipal Transportation Agency's first in-person Muni Heritage Day returned on Saturday, June 4, from 10 a.m. to 4 p.m. MUNI brought out its unique fleet of vintage buses and streetcars for free rides. There were also various interactive activities and displays for kids and adults alike. All of the day's free rides began outside the SF Railway Museum at Steuart Street and Don Chee Way and shuttled eager Muni riders to and from various destinations.

Muni Heritage Day has become a staple in SF ever since the inaugural Trolley Festival was held in 1983. At the time, Muni ran its first special service using its collection of vintage streetcars, many of which were procured over decades from around the world. Fast forward to the present day, and many of those same old-school public transport vehicles were observed this past weekend carrying throngs of passengers. Among the vehicles at this year's event were streetcars 1, 578 and 1040 and historic trolleybuses 776, 5300 and 5538. [Source: SFiST, June 6, 2022]

30 Hess "Light Tram" Model 19 Trolleybuses for Neuchatel and La Chaux de Fonds, Switzerland

In February, it was announced that 30 Hess "Light Tram" Model 19 3-axle trolleybuses will be supplied to Neuchatel and La Chaux de Fonds in Switzerland. The order will be split between the two cities, where the transit systems are operated by the same entity. The vehicles will be painted the same, so that they can be used in either locale, depending on service and maintenance requirements.

The Hess vehicles will permit a return of trolleybus service in La Chaux de Fonds, where trolleybus operations ceased back in 2014. In Neuchatel, they will be used to replace 12 articulated trolleybuses that are 30 years old. The new vehicles will arrive in two batches in 2023 and 2026.

Thanks to powerful traction batteries, the new Hess vehicles will enable the extension of the existing three trolleybus lines 101, 102 and 107 in Neuchatel without the need to invest in new overhead infrastructure.

In La Chaux-de-Fonds, the new trolleys will operate on lines 301, 302 and 304 and replace diesel and hybrid buses. On most parts of these lines overhead is still in place, but will nevertheless be renewed. In addition, the power supply system and part of the depot installations will be adapted to the new vehicles.

Hess electric trolleybuses carry close to a million transit riders every day in Switzerland, in quiet, emission-free comfort. [Source: Urban Transit Magazine, February 10, 2022]

Pardubice Celebrates 70 Years of Trolleybus Operation

Pardubice is a city of about 89,000 inhabitants in the Czech Republic. On May 14, the city marked 70 years of electric trolleybus operation. To commemorate the occasion, 12 different types of trolleybuses were operated on the system, including a number of historic vehicles. Not all of the historic vehicles were original to Pardubice. One vehicle, a blue and white 1954 Skoda model 7Tr, was loaned to Pardubice for the occasion by the Brno Technical Museum. It was originally a Brno trolleybus. A trolleybus from Prague was also featured, a 1953 Tatra model T400. The Railway Historical Society of Pardubice also lent a vehicle for operation on the system that day.

Other events of the day included an "open day" at the trolleybus depot, where visitors were welcomed and given tours, as well as a parade of historical trolleybuses through the downtown.

Trolleybus operation in Pardubice began in 1952, and the city has continued to expand the electric bus service since that time. Two new trolleybus overhead extensions were recently completed, and ten new Skoda 32Tr trolleybuses are currently on order. A portion of the new vehicles will be fitted with batteries that will allow regular off-wire operation of up to 12 km, the others will have battery back-up that is sufficient for emergencies. [Source: G. Mackinger, Urban Transport Magazine, June 5, 2022]

Prague to Convert Bus routes to Trolleybus Operation

The city of Prague in the Czech Republic began construction on new trolleybus routes in January of this year. A large portion of the existing Route 140 will be electrified with 14 km of overhead wire, and this will become trolleybus Route 58 when the trolleybus service is commissioned. A total of at least 11 trolleybus routes are currently being planned, including the conversion of bus routes 142, 174, 184 and 225, which was recently approved by Prague City Council. These conversions are slated to be completed by 2030.

As part of the work, new technology will be put into the former trolleybus substation on Příborská Street in Letňany, so that after more than 55 years it will return to its original purpose pf powering trolleybuses.

Trolleybuses operated in Prague between 1936 and 1972, when the service was shut down, following a popular "trend" at the time. "With the electrification of line No. 140, we are correcting a mistake made 50 years ago by the communist administration of Prague, when trolleybus operation in Prague ceased," Prague Deputy Mayor Adam Scheinherr, who is responsible for transportation and also Chairman of the DPP Supervisory Board, said. "We will replace the diesel buses with emission-free articulated trolleybuses. We are improving the environment and also improving passenger comfort because the trolleybuses offer a smoother and quieter ride," Scheinherr said.

Service on the new trolleybus routes will include articulated and bi-articulated trolleybuses with off-wire capability. Prague intends to make use of the concept of "In-Motion Charging", and therefore routes will include unwired sections. The design will maximize the use of the investment in overhead infrastructure.

Commenting on the modern trolleybus installation, DPP Technical Director Jan Šurovský said, "I am glad that in this case, we have been able to learn from history and instead of cancelling tram and trolleybus services, which happened under the previous regime or is still sometimes happening in some cities today, we are going in the opposite direction." He indicated that in addition to trolleybuses, Prague would also be expanding its tram network.

Prague Deputy Mayor Petr Hlubuček, responsible for infrastructure and a member of the DPP Supervisory Board, said the return of trolleybuses reduces emissions in public transport and fulfills Prague's climate plan. "Internal combustion engines in transport are one of the biggest environmental polluters and cause a range of respiratory diseases. By 2030, at least 75 percent of the DPP bus fleet will be replaced by clean vehicles: emission-free electric buses, battery trolleybuses, and low-emission buses," he said.

Petr Witowski, Chairman of the Board and CEO of DPP, said this year will be a turning point for Prague's bus service. In addition to the trolleybus, DPP began operation of its first battery buses on lines 154 and 213 in January.

[Sources: Expats_cz, Jan. 11, 2022; Urban Transport, February 19, 202

Trolleybus News Snippets

- In Bergen, Norway, a new trolleybus extension to Lyngbø was completed and placed into service at the end of March.

- Bucharest, Romania has placed an order for 100 new two-axle trolleybuses rather than converting Mercedes Benz-Citaro diesel buses to trolleybuses, as had been originally planned.

- Mexico City continues to receive new two-axle Yutong trolleybuses from China.

- Salzburg, Austria has ordered more three-axle Hess LightTram19 trolleybuses for delivery in 2023-24, which will raise the number of such vehicles in its fleet to 42.

- Beijing, China is on a path to electrify its transit fleet and has converted a further two diesel bus routes to trolleybus operation.

- St. Petersburg, Russia has announced that it will renew its trolleybus fleet with at least 587 new trolleybuses between 2022 and 2028.

- An extension at the end of trolleybus Route 12 in Bern, Switzerland was placed in service at the end of March.

- Geneva, Switzerland held a public event to mark 80 years of electric trolleybus service on May 15th. The ceremonies featured historic vehicles.

Trolleybuses prove their Mettle in War-Torn Kharkiv

As hostilities settled down in May in the Ukrainian city of Kharkiv, the municipality went to work on the difficult task of restoring damaged municipal services, not the least of which was the public transit system. Numerous transit vehicles sustained damage, include a number of trolleybuses and a large portion of the city's diesel fleet.

In order to provide transit service to as much of the city of Kharkiv as possible, trolleybuses were pressed into service on at least three routes previously served by diesel buses. The vehicles used overhead where available, and traversed unwired sections using battery power. With the growing popularity of "In Motion Charging" in many European cities, it is expected that these route conversions to trolleybus will become permanent. On May 16, Kharkiv Mayor Igor Terekhov told reporters that the authorities had found the trolleybus operation so successful that the city plans to purchase more battery hybrid trolleybuses for Kharkiv so that the city will be the first in the country to launch a full system using this modern and environmentally friendly mode of transport.

Repairs to damaged sections of trolleybus overhead in Kharkiv have progressed apace, with more and more trolley routes re-opening as the month of June approached. Trolleybuses were also pressed into service to provide replacement service for a section of damaged metro between Kvitnya Street and Zashchitnikov Square.

On May 2nd, the Czech City of Brno announced that it will send two trams and six trolleybuses to Kharkiv to assist in the efforts to restore public services. In a press release, the Mayor of Brno Markéta Vaňková explained that donating public transport vehicles is an effective and rapid way of helping Kharkiv in this crisis. [International Trolleybus News (R. C. DeArmond) June 4, 2022; The Mayor.EU, May 5, 2022; AROGED, May 17, 2022]

Tempe Streetcar service launched on May 20

Serving the Tempe ASU campus, downtown Tempe, Gammage Auditorium, Sun Devil Stadium, Tempe Beach Park and connecting many small businesses and neighborhoods, Tempe's streetcar line began service on May 20, 2022. No fares will be collected for the first year of service; after that, a fare of $1 will be imposed.

The modern streetcar operates on Mill and Ash Avenues from Rio Salado Parkway and Marina Heights to Dorsey Lane and Apache Boulevard. It shares the roadway with vehicle traffic. The three-mile route has two connections to light rail, 14 sheltered stops with public art and landscaping and is ADA and bike accessible.

Each streetcar has a capacity of 125 people, with service every 15-20 minutes.

Similar to modern trolleybuses, the streetcar also features an off-wire mode that is utilized in Downtown Tempe. The off-wire feature helps preserve the natural canopy of trees that has long been a feature of the area. Expansion of the streetcar route to serve the Tempe Marketplace is planned. [Sources: Community Impact, Tempe and Mass Transit, April 29, 2022]

Nancy, France to replace Guided Buses with Conventional Trolleybuses

Nancy, a city of 110,000 in France, has become well known for its Bombardier Guided Light Transit TVR system, essentially a guided electric bus system, that was launched in December of 2000.

Although the electric traction part of the operation has been successful, the guided portion of the operation has been fraught with various issues since its inception. Hence, the city has announced that it will be replacing the guided vehicles in 2024 with new conventional trolleybuses provided by Hess. An order for 25 vehicles was placed with the company earlier this year.

The cost savings in converting the line to regular trolleybus operation are significant, and the new vehicles will be larger and provide for 10% more capacity at 200 passengers per vehicle. The existing Bombardier vehicles will run until 2023, when they will be temporarily replaced by buses while work on the overhead lines takes place to prepare the route for trolleybus operation.

[Source: Sustainable Bus, January 13, 2022]

Czech Cities Order New Trolleybuses

An order for ten Skoda Model 32Tr trolleybuses, with an option for a further 30, has been placed by the City of Brno in the Czech Republic. The vehicles are to be fitted with traction batteries to provide for 10 km of off-wire operation. The longevity of trolleybus vehicles is attested to yet again in that nine trolleybuses being retired by Brno are being moved to Usti nad Labem for further service.

Prague has also ordered new trolleybus vehicles, with an order for 20 double-articulated Solaris Model 24s having been placed in February. The buses will be manufactured by Solaris and Skoda Electric and will be powered by two traction motors that source power from a 58kWh battery. The vehicles are powered by the city's overhead lines but can also switch to traction battery mode to cover areas without overhead wires for up to eleven kilometres. Each vehicle can accommodate 179 passengers. These vehicles will be used to service the new trolleybus Route 59 serving the airport, which replaces diesel bus route 119. The route will feature unwired sections and is one of the routes covered in the above article on Prague. [Sources: Sustainable Bus, February 18, 2022; Bus News, February 22, 2022; CEE Transport, February 22, 2022]

U.S. and Canada see steady increases in Zero Emission Buses

A report released by CALSTART early in 2022 shows a steady increase in the number of Zero Emission Buses (ZEBs) on North American roads since 2020.

According to the report, the number of ZEBs in the U. S. increased by 725--a 27 percent increase since 2020. California leads all states with the greatest number of ZEBs in service. Typically, most ZEB fleets at this time tend to be small in size. 3,533 full-size ZEBs were in service in the U. S. as of September 2021. The number of fuel cell buses in service has doubled in the time frame studied, moving from 87 to 169.

In Canada, the number of ZEBs virtually doubled over the same period with the addition of 307 new vehicles. 606 full-size ZEBs were operating in seven provinces as of September 2021. Ontario had the largest number with 423 ZEBs. Fuel cell technology is still not very popular, with only 10 fuel cell buses included in the total number of vehicles. [Sources: Calstart, Jan. 5, 2022; Mass Transit, Jan. 5, 2022]

Frames Crack on SEPTAs Battery Buses

SEPTA's Proterra battery buses, introduced to Philadelphia in 2019 in a move that was heralded as a step towards greening the city's large diesel fleet, have been out of service for nearly a year. The problem: cracked frames. Apparently, the problem was discovered as some of the buses were entering service. Now the vehicles sit idle in a facility in South Philadelphia.

SEPTA indicates that it is pursuing a resolution with the bus manufacturer, but the problem has supposedly given SEPTA management cause to rethink its plans to move towards battery-electric buses. This is not surprising, given that SEPTA management has been well known for having a lukewarm attitude towards electric vehicles in the transit fleet, despite the fact that Philadelphia continues to operate a number of electric streetcar and trolleybus routes. The authority pulled electric trolleybus service from routes in South Philadelphia some years ago and has continually put forward excuses for not reinstating it despite community objection to diesel buses. Long service interruptions on streetcar routes are also not uncommon in Philadelphia, often for years, leaving residents to wonder if they will ever return.

But other cities have also reported problems with battery electric buses. Proterra battery buses were also taken out of service in Duluth, Minnesota, after officials realized that hilly routes and heaters were draining batteries too quickly. A battery fleet from Chinese manufacturer BYD was taken out of service in Indianapolis due to range issues, while officials in Albuquerque, New Mexico, returned 15 BYD buses for similar reasons. The CEO of a major battery-powered truck start-up, Nikola, resigned after a report accused him of lying about the technical capabilities of long range vehicles.

Professor Jeremy Michalek, Director of Carnegie Mellon University's Vehicle Electrification Group, said he worries incidents like the failure of SEPTA's battery fleet will scare others away from zero-emission vehicles. "I definitely worry about those kinds of things," he said. "If we push too fast, too early, and people have bad experiences, they may be reluctant to try again. There are only a few ways to move people around without emissions, and electric vehicles are one of them." [Source: Article from July 2021 featured on WHY PBS, February 16, 2022]

Canada Infrastructure Bank to invest in Battery Buses for Durham Region

Canada Infrastructure Bank (CIB) has signed a memorandum of understanding with the Regional Municipality of Durham, Ontario that would see an investment of up to $68 million in support of Durham Region Transit's (DRT) purchase of up to 100 battery-electric buses by 2027. The partnership is intended to help the region provide cleaner public transportation for future generations.

The CIB's investment will contribute a portion of the capital acquisition costs of the battery-electric buses. When compared to diesel buses, electric vehicles are anticipated to have reduced operating costs over time. Repayment of the investment is therefore expected to be covered through the reduced operating costs of the ZEBs as compared to diesel buses.

“Thank you to our partners at the CIB for their investment in battery electric buses, a key priority that supports the region of Durham's Corporate Climate Change Action Plan and Community Energy Plan,” said John Henry, Regional Chair and CEO, Durham Region. “Durham Regional Transit's commitment to reducing energy use, costs and greenhouse gas emissions with the electrification of transit vehicles will create a cleaner, low-carbon future.”

The implementation of up to 100 battery-electric buses is estimated to save approximately 8,000 tons of carbon emissions per year. [Source: Mass Transit, June 10, 2022]

In Memoriam – Colin K. Hatcher

It is with sadness that we must report the passing of Colin Hatcher on June 18th, 2022. Colin was a very well-known transit historian and supporter in Edmonton and beyond. He was a long-time active member of the Edmonton Radial Railway Society, where he volunteered on the streetcars and as an archivist. He had a strong interest in electric transit and was the author or co-author of a number of books on the subject, not least among them *Edmonton’s Electric Transit*, *Saskatchewan’s Pioneer Streetcars* and *Calgary’s Electric Transit,* and a contributor to many more. He served as editor for a yet unpublished work on Regina’s trolleybuses. In addition to his transit interests, Colin also had an interest in railways.

Colin was born in Montreal in 1939, where he gained an appreciation for the streetcars of Montreal Tramways on the Lachine line in the suburb where he lived. His family moved to Sudbury, Ontario in 1944, where he was exposed to a wide variety of street and steam railway operations. As streetcars began to fade from the transit scene, Colin took the opportunity to develop his photographic skills and began to record moments in history on film.

In 1958, Colin became a student at Sir George Williams University in Montreal. There he met others with a keen interest in railways and electric transit. In 1961, Colin moved to Regina and finished the balance of the coursework for his degree at the University of Saskatchewan, transferring the credits and receiving the degree from Sir George Williams University. In Regina, he lived just off Albert Street South, where he witnessed the extension and contraction of that city’s electric trolleybus system firsthand. As the trolleybuses disappeared from Regina streets in 1966, Colin and his family moved to Edmonton, where he remained.

Colin will be dearly missed by many friends in the organizations in which he was involved. On behalf of the Edmonton Trolley Coalition, I would like to express our appreciation for his support over the years, and extend sincere condolences to his family and friends.

Brian Tucker, Chair