

# MASS TRANSIT

BEST PRACTICES FOR INTEGRATED MOBILITY

COVID-19 RECOVERY

RIDERS ARE  
COMING BACK BUT

## Where are the Drivers?

While the world is learning to live with COVID-19, agencies are struggling to meet new service demands due to an industry-wide labor shortage.

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Capital Programs Strike Steady Pace

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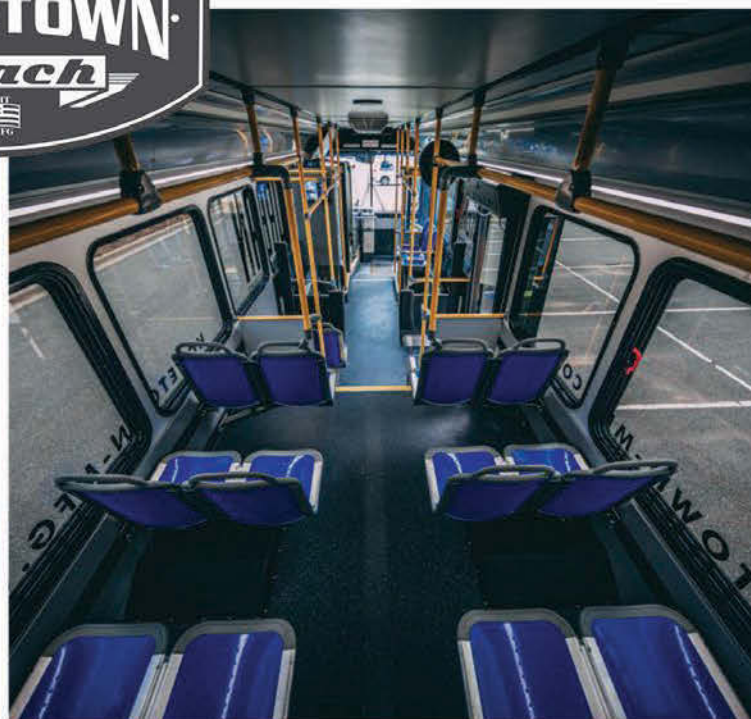
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➔ [MassTransitmag.com/21258475](https://www.masstransitmag.com/21258475)

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# Jolting awareness into rail crossing safety

Incident videos can be a jarring, but powerful educational tool in the rail safety arsenal.

**A**t a previous stage in my career, I was a regular attendee at a freight rail-focused conference where a Class 1 railroad engineering representative would start his annual presentation with a series of truly shocking videos taken from inside the cab of a locomotive during accidents at grade crossings caused by careless vehicle drivers. There were logging trucks, semis, waste hauling vehicles and others – he never ran out of new material. Even though I knew prior to viewing there was no loss of life, the sound of impact, the swooshing of the emergency brakes and the seemingly endless time between impact and when the train stopped remain with me.

A similar video was released last month by Brightline showing an incident in Lake Worth Beach, Fla. Viewers of the minute-long video see the moment a freight train exits a crossing on the adjacent track and a small car drives past lowered gates and into the path of the Brightline train. The driver survived. However, as *The Miami Herald* Editorial Board wrote shortly after the video's release, "If we had any doubt that South Florida has a problem with train accidents, the video erased it."

Florida is consistently among states with the most grade-crossing incidents and the Federal Railroad Administration (FRA) reports the state's five-year average is 2.84 incidents per grade crossing compared to 1.51 nationally.

**Let's work to find the right combination of education, engineering and enforcement to solve this industry-wide challenge.**

The Palm Beach County Sheriff's Office increased patrols along the railroad tracks where the incident above took place to educate drivers and pedestrians about safety around railroad property. Over the span of two weeks, the sheriff's office issued 226 traffic citations, 233 written warnings and 76 verbal warnings.

This recent increase in incidents in South Florida prompted FRA to call a Rail Safety Town Hall with representatives from the Federal Highway Administration, Brightline, Florida East Coast Railway, South Florida Regional Transportation Authority, Amtrak, CSX and regional city and county officials. FRA says the discussion centered around lessons learned, prevention measures and areas for improvement.

FRA Staff Director of Grade Crossing and Trespass Outreach James Payne noted the challenge is a shared responsibility and said it would take "all of us" to find a solution. This is a belief also held by FRA Administrator Amit Bose, who stressed "we must discourage trespassing and encourage pedestrians and motorists to always obey signs and signals along the railroad right of way and to always expect a train. We must work as one to save lives."

Let's work to find the right combination of education, engineering and enforcement to solve this industry-wide challenge or we will never run out of these horrific videos.



A handwritten signature in black ink that reads "Mischa Wanek-Libman".

Mischa Wanek-Libman, Editor

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**COMMUNITY LEADERS** gathered Feb. 25 to break ground on IndyGo's Purple Line BRT project.

## IndyGo breaks ground on Purple Line BRT project

The Indianapolis Public Transportation Corporation (IndyGo) held a groundbreaking event on Feb. 25 to mark the start of construction of its second bus rapid transit (BRT) line, the Purple Line. The BRT project will connect downtown Indianapolis to Lawrence – neighborhoods once served by streetcars and other forms of urban transportation. IndyGo President and CEO Inez Evans said the start of construction “symbolizes the beginning of new opportunity and growth for an entire community.” When the Purple Line opens in 2024, it will connect nearly 60,000 residents to more than 134,000 jobs all within walking distance along the 15.2-mile corridor. Of those residents living within walking distance, more than 30 percent are classified as low-income and more than 61 percent identify as minority.

➔ [MassTransitmag.com/21258449](https://www.masstransitmag.com/21258449)

## Amtrak, Penn Station Partners begin Baltimore Penn Station construction

► Construction has commenced at Baltimore Penn Station with Amtrak and Penn Station Partners, the Baltimore-based global development team leading the transformation of the city's main transportation hub, installing scaffolding, fencing and materials around the station exterior. Essential core and shell improvements, tentatively scheduled to start in summer 2022, include masonry repairs, existing window refurbishment, a new roof, new mechanical, electrical and plumbing systems, as well as updated elevators, stairs and ramps. Currently vacant, the

three upper floors of the historic station will be refurbished for new office use, able to accommodate a single anchor tenant or multiple users. New elevators and restrooms are also part of the planned office redevelopment, slated to deliver in approximately summer 2023. Just over the tracks from Penn Station, a brand-new, state-of-the-art station expansion will be integrated with the existing station and with a new planned high-speed rail platform, modernizing functions and increasing capacity. Transit functions, such as ticketing and baggage, will be relocated to the new station expansion, freeing up the concourse level of Penn Station for commercial and retail uses.

➔ [MassTransitmag.com/21258668](https://www.masstransitmag.com/21258668)

## BART restarts delivery of its Fleet of the Future rail cars

► Bay Area Rapid Transit (BART) is accepting deliveries of its Fleet of the Future rail cars after pausing deliveries in January 2021 due to reliability issues. When BART temporarily halted the new car deliveries in January 2021, it said the move would allow Bombardier “time to take steps to improve the cars’ reliability and availability, and to alleviate rail car storage constraints at BART’s maintenance yards.” BART worked with the rail cars’ manufacturer to make the necessary upgrades and modifications during the pause in deliveries. The transit agency says those modifications coupled with software improvements have improved the overall performance of the new cars. BART has received 308 new rail cars with 219 currently in service as of February 2022.

➔ [MassTransitmag.com/21257110](https://www.masstransitmag.com/21257110)



**BART IS** again accepting delivery of its Fleet of the Future cars.

## Bi-State Development to take on operation of Loop Trolley

► The St. Louis region's Bi-State Development Board of Commissioners voted on Feb. 18 to approve an agreement that will see Bi-State Development operate the Loop Trolley through June 30, 2025. The 2.2-mile Loop Trolley, a heritage streetcar project linking St. Louis' Delmar Loop district with Forest Park, opened in November 2018 and suspended operations in December 2019. The line briefly resumed service in July 2020 before halting operations due to the pandemic. The Loop Trolley's suspended service reached a new level of consequence in December 2021 when the Federal Transit Administration requested service resume by June 1, 2022, or the city of St. Louis could be asked to repay the more than \$37 million in various federal funds used to construct the line.

➔ [MassTransitmag.com/21257531](https://www.masstransitmag.com/21257531)



## Brightline completes Zone 2 of its Orlando extension

► Brightline has completed Zone 2, a 3.5-mile section of corridor that is part of its extension from West Palm Beach to Orlando International Airport (OIA). While Zone 2 is one of four zones on the 170-mile extension, Brightline says it "represents one of the most complex and challenging areas for construction in the entire project." Zone 2 is an engineered double track that travels under active airport taxiways and over tug roads running through the heart of OIA. Construction elements of this zone include six bridges, two underpasses and several airport improvements, including a new traffic interchange configuration at Cargo Road,



### BRIGHTLINE HAS completed Zone 2 of its extension to Orlando.

located north of the airport and the airport's first roundabout designed to assist with traffic flow. Brightline completed additional infrastructure on the project to accommodate future transportation

options through the airport including embankment, bridge foundations at the tug roads and a shared underpass at Cargo Road. The project was constructed in partnership with the Greater Orlando Aviation Authority.

► [MassTransitmag.com/21256952](https://www.masstransitmag.com/21256952)

Continued ►

## People in the News



Holmes



Anzallo



Hansel



Bear



Belman

### Community Transit

**Mark Holmes has been named chief operating officer of Community Transit** where he will oversee transportation operations, as well as fleet and facilities maintenance for the Snohomish County, Wash., transit agency. Holmes has 35 years of experience in bus operations and bus and rail service planning with the Metropolitan Transportation Authority (MTA). He currently serves as deputy general manager of transportation for MTA Regional Bus Operations, responsible for all operations including service management, incident management and operator safety training, as well as overseeing more than 7,500 coach operators, managers and supervisors. His start date at Community Transit was March 21.

► [MassTransitmag.com/21255947](https://www.masstransitmag.com/21255947)

### Washington Metropolitan Area Transit Authority (WMATA)

**WMATA has named Metro Transit Police Department (MTPD) Interim Chief Michael L. Anzallo as the department's new chief.** Anzallo has been with MTPD since 2018 and brings more than 30 years of police experience. He currently coordinates WMATA's emergency management command response with area law enforcement and oversees transit police security programs, including transit police bureaus for patrol operations, homeland security and intelligence and investigations. He will continue to provide strategic oversight for WMATA's executive management team and board of director's on MTPD's vision for the future.

► [MassTransitmag.com/21255918](https://www.masstransitmag.com/21255918)

### Metropolitan Transportation Commission (MTC)

**Derek Hansel has been selected to serve as the chief financial officer of MTC and the Association of Bay Area Governments (ABAG).** Since 2017, Hansel has served as CFO for the San Mateo County Transit District, the San Mateo County Transportation Authority, Caltrain and the San Mateo County Express Lanes Joint Powers Authority. In April 2021, Hansel was named acting chief administrative officer for the quartet of transportation agencies. During his tenure in San Mateo County, Calif., Hansel helped achieve a three-notch upgrade in Caltrain's Standard & Poor's credit rating, among other accomplishments.

► [MassTransitmag.com/21257888](https://www.masstransitmag.com/21257888)

### Akron METRO

**Bernard M. Bear, longtime Akron, Ohio, resident, transit enthusiast and long-standing member of Akron Metro Regional Transit Authority Board of Trustees, died Jan. 27, 2022.** During his tenure, he served on numerous board committees and as board president. Bear was instrumental in securing financial stability at Akron Metro through sales tax initiatives, including the latest 0.25 percent sales tax securement in 2008. He led the formation of the Akron Metro Citizens Advisory Committee (1974), which acted as a liaison between the general public and the board to provide input and feedback, and led Akron Metro through the opening of the Robert K. Pfaff Transit Center (2009).

► [MassTransitmag.com/21257221](https://www.masstransitmag.com/21257221)

### Sound Transit

**The Sound Transit Board appointed Brooke Belman, Sound Transit's chief of staff, to serve as acting CEO** of the agency following the departure of Peter Rogoff on May 31. The agency started a national search for a permanent candidate and calls Belman a longtime agency leader, who will be tasked with carrying the agency through the transition. Since joining Sound Transit in 2004, Belman's leadership roles have included deputy executive director, land use planning and development; chief of staff of the design engineering and construction management department; and director of community engagement. Belman previously held consultant roles in communications and politics.

► [MassTransitmag.com/21258215](https://www.masstransitmag.com/21258215)



THE SAW Mill Run Boulevard Bridge repairs will take up to 12 weeks to complete.

# Saw Mill Run Boulevard Bridge fix estimated to top \$2 million; take up to 12 weeks

► The Port Authority of Allegheny County (Port Authority) estimates it will take in excess of \$2 million and between 10 to 12 weeks to repair the Saw Mill Run Boulevard Bridge, which has been closed to transit traffic since Feb. 4, when engineers noticed a joint on the deck of the bridge had expanded. The Port Authority explained the 1,052-foot span's shift of several inches was the likely result of water penetrating a portion of the concrete support structure and then freezing. The repairs will be performed by contractors who will lift the 600,000-pound bridge back into position; and replace bearings, anchor bolts and portions of the concrete deck and slab that were removed to stabilize and gain access to the bridge. The Port Authority explains there is no threat to the road traffic below the bridge and the bridge remains stable.

➔ [MassTransitmag.com/21257108](https://www.masstransitmag.com/21257108)

## Community Transit awarded \$37.1 million in CIG funds for Swift Orange Line BRT

► The Federal Transit Administration has awarded Community Transit \$37.1 million through the Capital Improvement Grants Program for the Swift Orange Line bus rapid transit project (BRT). The Swift Orange Line will be Community Transit's third BRT line after the inaugural Swift Blue Line and the Swift Green Line, which opened in 2019. The Swift Orange Line will connect Mill Creek to south Snohomish County and provide a link to the region's high-capacity transit network when Sound Transit begins service on its Lynnwood Link extension

in 2024. The 11.3-mile BRT project includes improvements to two existing transit centers/park and ride facilities, 13 vehicles, queue bypass lanes and transit signal priority. Community Transit's Swift services use an off-board payment system and all-door loading-and-unloading to provide quicker trips.

➔ [MassTransitmag.com/21257357](https://www.masstransitmag.com/21257357)

## SFMTA rolls out battery electric bus pilot program

► The first of three battery-electric buses have entered revenue service on the San Francisco Municipal Transportation Agency's (SFMTA) network, bringing the agency closer to achieving its greater

goal of an all-electric fleet and a carbon-neutral San Francisco by 2040. As part of the program, Muni had initially ordered nine battery-electric buses, three each from New Flyer, BYD USA and Proterra for an 18-month tryout. As the program evolved, Nova Bus was added to the program to bring in three additional electric buses for extensive testing. Currently, five electric buses have arrived, and the remaining seven will be delivered by the end of 2022.

➔ [MassTransitmag.com/21256871](https://www.masstransitmag.com/21256871)

## NYC Mayor Eric Adams lays out plan to address mental illness and the unhoused in subways

► New York City Mayor Eric Adams outlined his Subway Safety Plan, which aims to tackle homelessness and serious mental illness and how they are addressed and aid provided within the city's subway system. The plan includes fair and transparent enforcement of the Metropolitan Transportation Authority's (MTA) code of conduct, as well as increasing outreach personnel and services available to those in need. "It is cruel and inhumane to allow unhoused people to live on the subway, and unfair to paying passengers and transit workers who deserve a clean, orderly and safe environment," said Mayor Adams. "The days of turning a blind eye to this growing problem are over, and I look forward to collaborating with the state, the federal government, [Transport Workers Union], advocates and law enforcement to solve this challenge. It will take time, but our work starts now." The plan calls for addressing "these concurrent, and sometimes, interconnected, crises" by working with partners including the MTA, state of New York and federal officials to invest resources that bridge "gaps in the system where too many have been lost."

➔ [MassTransitmag.com/21257533](https://www.masstransitmag.com/21257533)



NYC MAYOR Eric Adams speaks on the city's Subway Safety Plan.



### **NJDOT awards \$8.6 million to boost pedestrian safety to and from transit facilities**

► Nine New Jersey counties will deliver 19 projects aimed at improving pedestrians' safe access to transit facilities with the awarding of \$8.6 million through the state's Safe Streets to Transit Program (SSTT). The FY22 awards represent the largest amount provided in a single year to the program. The SSTT encourages transit users to walk to transit stations and facilitates the implementation of projects and activities that will improve pedestrian conditions within a one-mile radius of a transit facility or station. The New Jersey Department of Transportation explains the SSTT program is one of several pedestrian safety initiatives funded through the State Transportation Trust Fund (TTF). The SSTT program provides funding to counties and municipalities to improve the overall safety and accessibility for mass transit riders walking to transit facilities. The grants range from \$150,000 to \$1 million and will help fund sidewalk and streetscape improvements, ADA ramps, walkway improvements and traffic signal improvements among others.

➔ [MassTransitmag.com/21257353](https://www.masstransitmag.com/21257353)

### **MBTA breaks ground on Quincy bus garage**

► Officials broke ground on the Massachusetts Bay Transportation Authority's (MBTA) new Quincy Bus Maintenance Facility. The existing Quincy Bus Maintenance Facility is the oldest in MBTA's system and lacks the technology and space required to support new buses. The new facility, which is located within a mile of where many Quincy bus routes begin at the Quincy Center Station, will accommodate up to 120 battery-electric buses and will allow for potential service expansion. MBTA plans to replace nine of its bus maintenance facilities to accommodate battery-electric vehicles and related infrastructure. The authority plans to invest \$100 million annually to build its zero-emission fleet, dependent on when facilities are ready to accommodate the new vehicles.

➔ [MassTransitmag.com/21256953](https://www.masstransitmag.com/21256953)

### **FTA awards \$2.2 billion additional assistance funds from American Rescue Plan**

► The Federal Transit Administration

(FTA) awarded \$2.2 billion in federal funding included in the American Rescue Plan. The funding awarded is part of additional pandemic recovery assistance that will help transit agencies with financial support to cover expenses related to day-to-day operations, cleaning and sanitization, combating the spread of pathogens on transit systems and retaining employees. Funding went to 35

entities. California saw the most awarded funds, with 13 transit agencies and municipalities receiving \$632.5 million. The smallest grant was awarded to Androscoggin Valley Council of Governments in Maine, which received \$367,832 and Metropolitan Transportation Authority in New York received the highest individual award of \$769.2 million.

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# Riders are Coming Back but Where are the Drivers?

While the world is learning to live with COVID-19, agencies are struggling to meet new service demands due to an industry-wide labor shortage.

By **Megan Perrero**, associate editor

**A**s restrictions begin to lift and the world shifts its attitude to “living with COVID-19,” agencies are reporting upticks in ridership, such as the New York Metropolitan Transportation Authority, the Metropolitan Council and the San Diego Metropolitan Transit System.

While the increasing ridership trend is welcome news, there has been an equal if not greater number of announcements from agencies saying they are limiting services due to a driver shortage. To highlight this phenomenon, the Shared-Use Mobility Center (SUMC) released a report in November 2021, “Managing the Labor Shortage at Transit Agencies,” that documents the drastic drop in transit industry employees, saying from “March to April of 2020, employment in the transit and ground passenger transportation industry fell from about 498,000 to 321,000 employees.”

While the drop is significant, this labor shortage has been years

in the making; it was just exacerbated by the pandemic, explains a report released February 2022 by the Alliance for a Just Society, the Labor Network for Sustainability and TransitCenter.

Take Steamboat Springs Transit (SST) in Steamboat Springs, Colo., for instance—a ski resort area with a heavy reliance on seasonal drivers. Jonathan Flint, transit manager for SST, explains filling the seasonal driver roster has always been a challenge, but was making progress by working with areas that have an opposite seasonal demand.

“We had made that successful up until COVID-19 hit, [then] we started losing some of our drivers,” Flint shared.

But agencies’ successful recovery from the pandemic rides on their ability to retain and recruit staff to meet the growing demand. This year marks a pivotal point for the industry in how it chooses to better invest in the workforce and job equity to attract and retain quality talent.

## Understanding the Labor Shortage

Flint explains the initial concerns about personal health and all the unknowns of COVID-19 back in March 2020 contributed to the loss of drivers, and while SST reports only three drivers contracting the virus, this has affected the agency’s current ability to retain and recruit drivers.

“A lot of them began to leave the market, either through retirement or resignation. It’s been an ongoing issue,” Flint said.

This trend is not unique to SST. According to the report from SUMC, as of 2020, the average age of the transit workforce was 42.2 years, while the average age for all transportation industries was 25.2 years and the average age for all industries was 23.9 years. Nate Seeskin, a program associate at SUMC, adds the work environment, compounded by the higher median age, could also be a contributing factor.

**“Even** though technology has made dramatic improvements, we still need that human interaction. We need that driver.”

**- JONATHAN FLINT,**  
transit manager, SST

"[I think the] really tough working conditions in the pandemic has accelerated a lot of people's decisions to leave their jobs," Seeskin shared.

Coupled with these challenges, when Omicron hit SST, a new issue emerged. About a third of SST's staff were out sick, impacting its ability to maintain full service.

"One [issue] was we didn't have the initial bodies to put out the full service that we had scheduled. Then, the other thing is for the drivers who were not sick, we didn't want to overuse them and make them vulnerable to becoming sick because they were just worn out," Flint said.

As this past winter season approached, SST knew it wasn't going to reach pre-pandemic staffing levels, so it built a schedule to be nearly 25 percent short of its typical full service. This way, SST offered a consistent schedule to better serve the public. And as the world continues to move forward, Flint is hopeful SST will reach pre-pandemic full staffing levels.

### Attracting and Retaining

However, that hope of returning to pre-pandemic staffing levels won't come without its own set of challenges. Attracting and retaining employees is going to require strategic investments and new approaches. Libero Della Piana, senior strategist at the Alliance for a Just Society, explains this could include adding people to the potential labor pool.

"There are a lot of inequitable barriers to jobs like minor past offenses which block many young men and women of color from these jobs unnecessarily," Della Piana said.

Della Piana and Seeskin also agree investing in pay increases can make the transit industry more competitive. Seeskin notes agencies can conduct research into how its wages compare to similar agencies and across industries by access-



**SST OFFERS** subsidized housing to its seasonal drivers since the housing market has limited and expensive options.

ing data provided by the Bureau of Labor Statistics. Agencies can also improve working conditions to create a safer and more pleasant environment. This is something many are doing by providing PPE, adding routine cleaning regimens and socially distancing operators from passengers.

With this in mind, Flint shares SST's primary focus is on retention.

"The most valuable thing that we can have is a driver who already works here, does a good job, shows up [and] is a safe driver, good with customers; that driver is gold," Flint said.

To help with retention, SST offers cash bonuses to returning drivers and full-time drivers at the start of the busy season. But SST takes another unique approach: it offers housing. Currently, SST signs on to lease apartments in the summer to offer them at a highly subsidized rate to its seasonal drivers in the winter since housing is expen-

sive and limited. But relying on the market can't be guaranteed each year. Knowing this, SST is looking to build and maintain its own housing.

"If we don't have housing, we don't have a transit system. It is a business expense that we've just had to absorb," Flint explained. "[Adding housing] will at least allow us to get drivers in the door."

### Finding and Creating Quality

To get those drivers in the door, Flint shares one thing that has worked well for them is asking how the applicant heard about SST and why they applied.

"What that's done is enabled us to focus in on the areas that are working really well," Flint said. "Even though, maybe it's more expensive to place advertisement here or do that in-person recruiting, the results of that have been very good."

One area that has been working for SST is recruiting drivers from the oil and gas industry.

"When we broadened out to other people with a CDL, but maybe weren't in the transit industry, but had a lot of the same attributes that we look for, it was actually a pretty good fit," Flint said.

Seeskin agrees this is a good approach to finding more talent, adding that agencies could consider other areas such as the construction industry. But targeting specific areas and industries isn't the only way to find quality talent. Another way agencies can invest in their workforce is to establish pipelines to transit jobs at an early age. This can help with people's perception and show that there is more to the industry than most think.

"Overall, it is imperative to start outreach early and illustrate transit's opportunities, community-based role and the nature of the work, as they align with young people's values," said Jack Clark, executive director, International



## Top Tips to Maintain an Operator Workforce

During the Southwest Transit Association Annual Conference, Mark Szyperski, president and CEO of On Your Mark Transportation, LLC, provided tips on retaining and recruiting operators during the Driver Retention and Recruiting session.

If you think the pay scale is the number one reason for operators finding work elsewhere, think again. According to Szyperski, the top two reasons operators leave is because they don't feel a sense of belonging and they don't feel a sense of fairness. Here are some suggestions to help overcome these issues:

- **Evaluate what is in the driver room and how it is being used**—Are there thank you notes or a hall of fame? Is the room being used for something other than a break room for operators?
- **Check in on social media**—what are workers saying about your agency? Consider joining operator groups, especially on Facebook, to get a pulse on drivers' issues. This also goes for Glassdoor and Google.
- **Offer retention bonuses**—Operators have said hiring bonuses are "a slap in the face" for those who have been loyal and stuck it through the pandemic.
- **Review dispatch records**—Is there favoritism in offering better schedules or overtime?
- **Create a driver council**—Listen openly to internal stakeholders on what is or is not working.
- **Catch people doing a good thing**—And then thank them for it. A little goes a long way.
- **Understand training programs**—How long does it take to train a new driver? Is there training for managers, sales and customer service staff?
- **Talk to the top drivers**—Understand how they came to the agency so you can repeat this.
- **Communicate open positions to your community**—Meet potential employees where they're at. Guest speak at community service clubs like the Rotary Club and Chamber of Commerce; visit Veterans Affairs offices; attend career days for all grade levels to introduce transit early.

Transportation Learning Center (ITLC). "But to do that, we also need to educate people who influence young peoples' career choices, including parents, principals, guidance counselors and teachers, explaining the benefits and opportunities and, importantly, how young people can access these careers."

As young people or those new to the industry learn about public transit, Della Piana emphasizes the importance of explaining how the industry touches on climate justice, racial justice, equity and more.

"I think part of it is communicating that public transit is the cutting edge of the future and not some legacy of the past," Della Piana said. "And I think if people feel like the jobs are safe, stable and secure, and they're also part of the technological advancement and improvement and environ-

mental climate response...I think that's going to attract people."

As Della Piana explains, job stability is a key factor, especially to retain employees. One way to do this is to provide continuous education. For example, the Transit Workforce Center (TWC), which is operated by the ITLC on behalf of the Federal Transit Administration, is establishing the new American Transit Training and Apprenticeship Innovators Network (ATTAIN). ATTAIN connects agencies and labor unions to new or existing apprenticeship programs for frontline workers.

"Through ATTAIN, the TWC promotes apprenticeship, advances frontline worker training, facilitates peer exchange and provides technical assistance to agencies and unions interested in devel-


oping apprenticeship programs for their frontline workforce," said Clark.

Adding language for workforce training in zero-emission bus Request for Proposals and utilizing TWC's technical assistance desk and other online materials are other ways to provide training. ITLC Program Director John Schiavone points out the rapid transition to low- and zero-emission vehicles requires immediate higher-level training, citing an Amalgamated Transit Union report that confirmed there is a perception of uncertainty about technicians' current ability to perform electrical/electronic maintenance and repair.

"We need an industry-wide mobilization to take the many separate training efforts and coordinate them in such a way to more effectively upgrade digital and other critical skills in agencies across the country," Schiavone said. "There is a lot of room for improvement and proactive training and strong workforce development programs with innovative tools like virtual learning are components of a comprehensive solution."

Providing proper training and education can help with the other two significant factors in maintaining a quality workforce: creating a sense of purpose and belonging for employees.

"It is absolutely essential that our employees have a purpose. You move a lot of people; you cut down on congestion; you do a lot to help out the community," Flint said of SST's operators. "Even though technology has made dramatic improvements, we still need that human interaction. We need that driver."

"I need supervisors. I need dispatchers. I need mechanics. I still need that human element. While I think sometimes the industry is really focused in on technology, I think we've got to continue to really focus in on the driver, the staff member," concluded Flint. 

**"The most valuable thing that we can have is a driver who already works here, does a good job, shows up [and] is a safe driver, good with customers; that driver is gold."**

**- JONATHAN Flint, transit manager, SST**

# Turning a BRT Line into a Successful Network

C-TRAN and Metro Transit offer examples of how expanding a BRT line to a network offers a host of opportunities to bring better service, improved efficiency and better cost-effectiveness.

By **Tom Shook and Ryan Bauman, contributors**

**A**fter the opening of a popular bus rapid transit (BRT) line, C-TRAN in Vancouver, Wash., is gearing up for the opening of a second line currently under construction. Moreover, C-TRAN is ready to enter planning for its third line.

In Minneapolis, Metro Transit is constructing its third arterial BRT line, building on the success of its first two.

These two communities in different regions share one thing: the appetite to build on their success and create not just a single BRT line, but a network. Both cities partnered with transit industry consultant HDR to help plan and design these expansions.

The \$50 million Mill Plain BRT, C-TRAN's second BRT line, will run approximately 10 miles along Mill Plain Boulevard between historic Downtown Vancouver and

**PASSENGERS WAIT** for a C Line bus in Brooklyn Center, Minn.

the growing Columbia Tech Center in East Vancouver, featuring 38 stations and a new nine-bay transit center.

The nine-mile METRO C Line, which opened in 2019, connected North Minneapolis with jobs and opportunities from Brooklyn Center to downtown Minneapolis. The line logged its millionth rider just five months after opening. Now under construction, the METRO D Line is on-deck to open later this year. This line features 77 platform locations across four cities, delivering a fast, frequent, all-day upgrade to the highest ridership bus route in Minnesota.

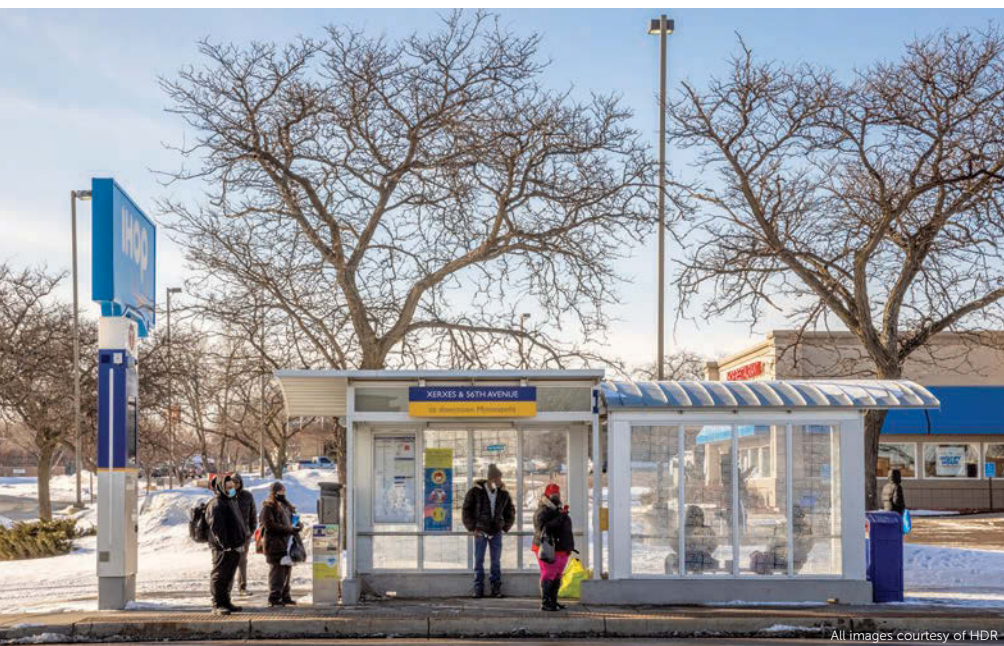
**"In the Twin Cities, we're building out a network of fast, frequent, all-day BRT services to help residents and visitors in our region make all kinds of trips without needing a car."**

**-KATIE ROTH, Metro Transit**

"In the Twin Cities, we're building out a network of fast, frequent, all-day BRT services to help residents and visitors in our region make all kinds of trips without needing a car," said Katie Roth, Metro Transit's director of arterial BRT. "With each new link in that network, we're broadening access to opportunity and making our whole system stronger."

With every new BRT line, the transit industry should challenge itself to improve. These two communities did just that — and they found success by working in the conceptual phase to gain feedback and focus improvement efforts on the areas of highest need.

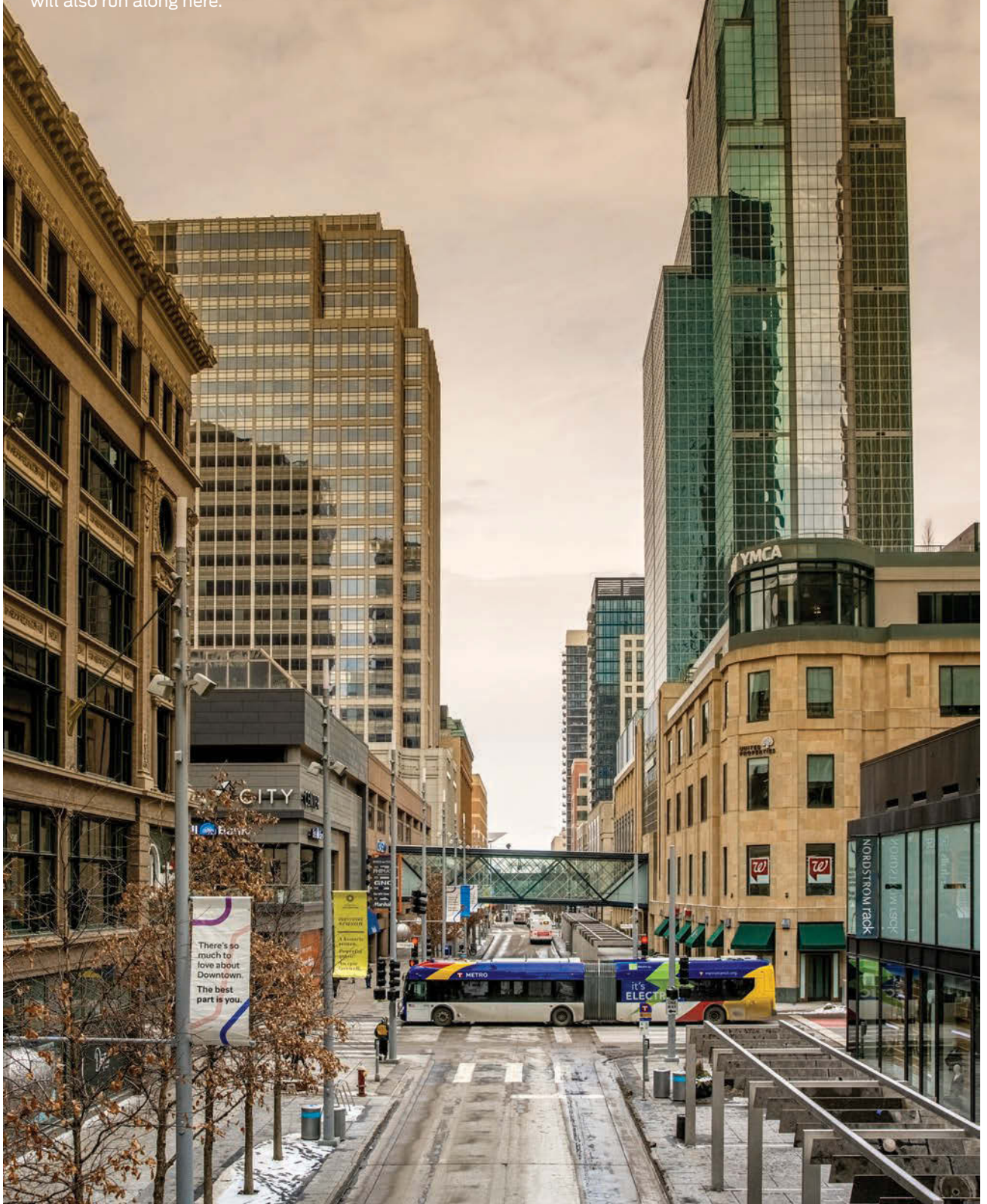
To do this, they packaged nearby projects to streamline costs, conducted outreach to improve passenger experience and solicited staff feedback. C-TRAN also designed the project to cost, exerting financial discipline to allow a community's vision to become a reality.



All images courtesy of HDR



A METRO C Line BRT bus drives on 7th Street, looking from the Nicollet Mall in Minneapolis. The D Line, under construction, will also run along here.







## Designing to Cost

C-TRAN's first BRT line had a resoundingly positive response from the community. The area wanted to quickly capitalize on that groundswell to build a second line.

"With the success of C-TRAN's Fourth Plain BRT — the Vine — there was such strong support from our community partners, elected officials and our riders to move as quickly as possible to expand BRT to Mill Plain and to do so in a manner that best fits the needs of that corridor," said Randy Parker, C-TRAN's BRT and regional planning project manager.

HDR, partnering with C-TRAN, adhered to a rigid budgeting process, evaluating each item to determine if cost savings could be realized. The project used the Federal Transit Administration (FTA) Capital Investment Grant (CIG) project justification warrants procedure to streamline the application and review process. This decision was made even before planning began to streamline delivery. This meant that the design team targeted an exact project cost, \$50 million, and had to design to budget.

The team remained laser-focused on budget as they made design decisions, keeping the scope of the project narrow enough to remain within budget while still delivering a successful BRT project. These decisions included:

### HDR DESIGNED

a new nine-bay transit center to accommodate Mill Plain BRT and future service extensions.

- Strategically placing stations to minimize utility impacts and near pre-existing signalized, protected pedestrian crossings.
- Lowering fleet costs through C-TRAN's leveraging of a pre-existing state contract that provided a discount.
- Reducing right-of-way costs by shifting berthing at stations farther into the street. This also had the benefit of reducing the frequency of buses hitting curbs and damaging tires.
- Focusing improvements within close proximity to stations to ensure that the budget was directly tied to BRT project costs.
- Increasing the average distance between stations from a third of a mile to half a mile. This was in response to passenger requests for faster service, but it also meant lower station costs.

## Leveraging BRT Investment for Broader Corridor Improvements

In the Twin Cities, both the A and C Lines were built in coordination with significant roadway enhancements planned and funded by local partners. Early in the METRO D Line design, the team recognized the value of coordinating local priorities for pedestrian, safety, lighting and signal improvements in one construction project focused on BRT stations. The cost savings for construction and the ability to streamline design coordination and construction oversight supported this collaborative approach. This can add complexity but provides additional cost savings and reduction in construction impacts to stakeholders.

For example, the project improved pedestrian safety all

**FTA ADMINISTRATOR**  
Nuria Fernandez, fourth from left, attends a groundbreaking for the Mill Plain BRT in September 2021 after C-TRAN won a Small Starts grant for the project.



along the corridor. The BRT line came with a suite of safety improvements around the stations, including additional pedestrian level lights, CCTV camera coverage and emergency telephones. Packaged in with the construction were ADA-compliant upgrades including curb bump-outs. This approach also provided the opportunity to complete a critical missing link in the bike network near one of the BRT stations.

With the project past the mid-way point of construction, this approach has reduced costs and yielded a better built environment for corridor users. The project is ahead of schedule and disruptions to residents and businesses along the route have been minimized.

## Soliciting Feedback to Enhance Passenger Experience

Agencies can improve upon even the best-designed BRT lines. Community members can effectively use the first line as a test and, if agencies are listening, current riders can offer valuable input for the next BRT line.

C-TRAN showed the importance of public outreach and customer feedback. The Washington State School for the Blind is located along the new Mill Plain BRT route. C-TRAN officials brought students and administrators on a tour of the existing BRT route along Fourth Plain Boulevard. This led to changes in how users navigate the station, wayfinding and safety improvements and other items that allow for safer access to stations and the bus doors.

C-TRAN also listened to the customers of the first BRT line to make subtle, yet important amenity modifications. The benches under the station canopies were slightly adjusted to be better protected from the elements, particularly in a location that experiences a lot of rain.

Engaging the community on the front end allowed their feed-



back to be built into the design. Conducting meaningful, equity-aware outreach takes time and effort, but it makes a project a truly integral part of the community. And proactively looking for opportunities to improve a second BRT line creates a stronger network that works for everyone.

## Learning from Operations & Maintenance Employees

One key benefit to implementing a network of BRT lines is that lessons learned from operations and maintenance staff can directly influence the design details of subsequent lines. In Minneapolis, Metro Transit held workshops and brought together staff to identify ways to improve or build on the success of the first two BRT lines. The project team then incorporated this feedback

**AC Line BRT bus drives in downtown Minneapolis, near the Target Center.**

**Tom Shook** is the bus rapid transit lead and transit project manager for HDR.

**Ryan Bauman**, P.E., is HDR's north-central BRT lead and Minnesota/Wisconsin transit manager.

into station design revisions that remained compatible with the existing line and established brand. The key to success was coordinated stakeholder communication from the beginning; this allowed the feedback to shape the foundation of the new line versus a copy-and-paste approach.

Enhancements suggested by staff included:

- Connecting fiber to every station, eliminating the long-term costs of internet service connections.
- Locating station amenities so that more snow could be cleared by machine, rather than by hand, across more of the station site.
- Eliminating additional cabinets at platforms by modifying aesthetics of the real-time sign pylon to allow communications components to fit within the sign itself.
- Planning for the unexpected and positioning stations so that the most expensive equipment is shielded from traffic, mitigating the potential outage if struck by a car or other vehicle.

Additionally, the team established thresholds for when a station should include certain elements, such as lighted handrails, trees and seat walls. This ensured that the decision to add these at future stations will be an equitable one.

Addressing these kinds of changes can help minimize ongoing operations and maintenance costs as a BRT line expands into a BRT program.

## Bringing it Together

These two agencies challenged themselves — and succeeded — in consistently improving upon their BRT experience. Expanding a BRT line to a network offers a host of opportunities to bring better service, improved efficiency and better cost-effectiveness. When an agency reaches inward and outward for inspiration, it can create a new BRT line that helps transform an entire community. 



# Capital Programs Strike Steady Pace

**TESTING OF** the Crenshaw/LAX Light Rail project along Florence Avenue in Inglewood, Calif.

Transit agencies with rail networks are continuing investments to maintain, modernize and expand their systems.

By **Mischa Wanek-Libman**, executive editor

Capital budgets – especially those at rail transit agencies – have weathered the pandemic relatively well. There have been high profile delays, as well as acceleration of certain work to take advantage of lower ridership.

Bay Area Rapid Transit (BART) leveraged reduced service hours brought on by the pandemic to push forward on a list of system improvement projects, including the replacement of track components between the South Hayward and Union City BART stations and preliminary work to build a new railcar storage facility. Additionally, BART accelerated work on its downtown electrical cable replacement projects, as well as work on its third rail



Los Angeles County Metropolitan Transportation Authority

replacement program, rail profiling program and modernization of its El Cerrito del Norte Station.

What 2022 will bring to agencies responsible for rail networks will be more critical maintenance work, investments in modernization of components and systems and new openings as long-planned projects are scheduled to enter service. What follows is a snapshot of what large agencies across the United States are planning for the year.

## L.A. Metro

The Los Angeles County Metropolitan Transportation Authority (L.A. Metro) Board of Directors adopted a balanced \$8 billion Fiscal Year 2022 budget, which includes \$476.3 million for State of Good Repair and \$3.2 billion for transportation infrastructure developments and regional rail programs. L.A. Metro notes the transportation infrastructure development and regional rail program numbers are more than 24 percent higher than FY21, which it says is because various projects have moved into the construction phase – the costliest phase – of project delivery.

L.A. Metro has arguably the most active rail expansion program in the U.S. with nearly \$2.3 billion of the authority's \$2.5 billion transit expansion budget in FY22 slated for rail projects. Projects that will continue to advance this year include the Airport Metro Connector, East San Fernando Transit Corridor, E Line (Expo) Light Rail Transit project, L Line (Gold) Foothill Extension 2A to Azusa, L Line (Gold) Foothill Extension 2B and all three sections of the Westside D Line (Purple) Subway Extension. Additionally, L.A. Metro is scheduled to open two light-rail projects in 2022: the Crenshaw/LAX Light Rail Transit project and the Regional Connector.

The Crenshaw/LAX Light Rail Transit project began construction in 2014 to construct an 8.5-mile light-rail line from the Metro E Line (Expo) to the Metro C Line near Interstate 105. The project includes eight stations and a new maintenance facility. In a February 2022 meeting of the L.A. Metro Construction Committee, the project was reported to be at 99.5 percent completion with the remaining work being system integration testing and punch-list repair. The line is anticipated to open in late summer 2022. However, the opening date is dependent on the project's contractor reaching substantial completion and proper testing occurring.

The 1.9-mile Regional Connector, also referred to as the missing link, will connect L.A. Metro's L Line (Gold) to the 7th St./Metro Center Station. The extension will provide a one-seat ride for travel across Los Angeles County. In the February Construction Committee meeting, the project was reported to be 90 percent complete with an anticipated opening in the fall of 2022.



Los Angeles County Metropolitan Transportation Authority

## CTA

The Chicago Transit Authority (CTA) has planned a FY22 capital budget of \$1.076 billion as part of a five-year capital improvement program that is targeting nearly \$3.5 billion in investments through FY26. CTA's five-year capital plan tells the tale of an agency focused on modernizing and maintaining its assets with strategic expansion projects included. CTA notes its capital program fits within a regional context and major projects come with the consideration of how they would match the Regional Transportation Authority's Regional Transit Strategic Plan and Chicago Metropolitan Agency for Planning's 30-year plan.

CTA began 2022 with the wrap up of the Red-Purple Bypass project and started the North Belmont Red-Purple Reconstruction project, which are both part of the authority's largest reconstruction effort in history—the \$2.1 billion Red and Purple Modernization (RPM) Phase One project. Additionally, CTA's multi-year Your New Blue program entered the final phase of a signal upgrade project at the start of the year.

The signal component is the largest part of the Your New Blue modernization program, which is designed to provide more reliable service along the O'Hare branch of the Blue Line.

In FY22, CTA is targeting an estimated \$125 million of its capital program budget on rail projects, including more than \$95 million on the planned Red Line Extension, more than \$179 million on the North Main Line – RPM, nearly \$11 million on signal replacements and upgrades, more than \$52 million on infrastructure safety and renewal programs and nearly \$125 million on rolling stock.

The planned Red Line Extension is another multi-year, long vision project that will extend the

**A CROSSOVER** viewed inside a tunnel as part of L.A. Metro's Regional Connector project.

## "Investment

in transit infrastructure has always been an investment in a strong future for the city."

**-DORVAL CARTER, JR.,**  
CTA President





**THE CTA'S Red-Purple Line Bypass project was completed at the beginning of 2022.**

CTA's busiest rail line 5.6 miles to the southern city limits, providing transit access and connectivity to the Far South Side of Chicago. The project has been accepted into the New Starts Project Development Phase of the Federal Transit Administration's Capital Improvement Grants program and CTA plans to complete the project's Final Environmental Impact Statement in 2022.

Additional capital projects CTA plans to continue or begin in 2022 include the All Stations Accessibility Program to make its rail system 100 percent vertically accessible; track and power improvements along the Blue Line Forest Park Branch, which is the first phase of a comprehensive rebuild; and an expanded and accelerated rail station improvement program called Refresh & Renew.

At the time the CTA's FY22 budget proposal was released, CTA President Dorval Carter Jr. noted the correlation between a strong CTA and a strong Chicago.

"Investment in transit infrastructure has always been an investment in a strong future for the city," Carter said. "Further, continued investment in transit is directly tied to our city's economic recovery, a way

to promote jobs and opportunities at a time when the city needs them most."

### WMATA

The Washington Metropolitan Area Transit Authority's (WMATA) FY22 capital budget of \$2.6 billion continues the authority's focus on prioritizing safety and reliability investments. The authority's six-year capital investment program includes \$12.3 billion in investments and the past four years has seen WMATA invest more than \$6 billion through its capital program. The authority has also met or exceeded in delivering 95 percent of its capital budget each year.

In its six-year capital investment program, WMATA explains it is trying to chip away at the accumu-

lated backlog of safety and state of good repair work following decades of underinvestment and deferred maintenance.

In FY22, WMATA plans to spend more than \$342 million on railcar and rail facilities, \$272.3 million in rail systems, \$342.9 million in track and structure expenditures and \$572 million in stations and passenger facilities.

WMATA is planning to invest between \$92 million and \$100 million annually through FY27 in its track rehabilitation program, which includes track stabilization, tamping, track bed cleaning and replacement or renewal of track components such as cross-ties, fasteners, group pads and switches.

WMATA will also invest a planned \$220.3 million in the fourth phase of its station platform rehabilitation program in FY22. WMATA will advance work at five Orange Line stations during a summer 2022 shutdown. The stations include three outdoor stations (New Carrollton, Landover and Cheverly) and two adjacent stations (Deanwood and Minnesota Ave.). The work will include concrete platform repair, granite edges, paver tile, signage, shelters, station communication systems, life safety systems, bathrooms and other work.

WMATA is planning a major rehab of the Yellow Line tunnel and bridge with work scheduled to begin concurrently in September. WMATA says its chief engineer has identified the steel-lined tunnel near L'Enfant Plaza as the agency's top structural priority, with repairs needed to stop water intrusion and strengthen the tunnel lining. This work will require a shutdown between Pentagon and L'Enfant Plaza Stations, closing the Yellow Line crossing of the Potomac River for seven to eight months.

During that time, crews will rehabilitate the Yellow Line Bridge spanning the Potomac River and repair the steel lined tunnels between Pentagon and L'Enfant Plaza Stations, both of which date to original construction more than 40 years ago. WMATA will also remove and rewire miles of critical

**"In** order to maintain a healthy system, Metro needs an aggressive capital program."

**-PAUL J. WIEDEFELD,**  
WMATA General  
Manager and CEO

communications cabling used by multiple jurisdictions and make repairs to the Yellow Line bridge. The project and associated bridge closure is expected to begin in September and be completed in spring 2023.

Perhaps the greatest change to the Metrorail system this year will be the anticipated opening of the Metrorail Silver Line Phase 2. The Metropolitan Washington Airports Authority (MWAA) determined the 11.5-mile extension reached substantial completion in November 2021. WMATA is currently working with MWAA on the remaining open issues with the construction of the extension. According to a project update in January 2022, seven issues concerning tight gauge at yard switches, cracked impedance bonds, turntable deficiencies and others were being remediated. A new issue involving heat tape failures was discovered during operational readiness testing and the entities continue to work on how to address the issue. WMATA will establish an opening date for the extension after all identified deficiencies have been resolved and testing on the line has concluded.

"In order to maintain a healthy system, Metro needs an aggressive capital program. We will continue working with our regional partners to advance



construction and rehabilitation projects that ensure a state of good repair for critical regional infrastructure. While service outages can be disruptive, we know they are foundational for maintaining safe and reliable service," said WMATA General Manager and CEO Paul J. Wiedefeld. "We have a lot of work to do this year and we will tackle major state of good repair projects while also introducing new service. We are committed to providing our customers with reliable alternatives and frequent updates on the work as it is conducted." **MT**

**WMATA SAYS** its chief engineer has identified the steel-lined tunnel near L'Enfant Plaza as the agency's top structural priority, with repairs needed to stop water intrusion and strengthen the tunnel lining.

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# How the Village of Bedford Park and Uber Connect People to Jobs

Partnering with the private sector generated demand for transit by providing improved last-mile and late-night connections.

By **Daisy Wall, contributor**

Industrial areas are major sources of employment across North American cities. Access to these employment centers is critical for propelling a thriving economy, but sprawling land uses, 24/7 shift changes and last-mile gaps make it difficult to provide frequent, fixed-route transit service to these industrial areas. Executives and planners from cities, business parks and transit agencies are seeking ways to usher in more convenient options for these difficult-to-reach areas.

For employers, access to transportation and traffic congestion can be a significant barrier for hiring and retaining workers and can impact both employer and worker satisfaction.

The village of Bedford Park, an inner-ring suburb of Chicago, is taking this issue head on and has partnered with local transit agencies, businesses and mobility providers to test and deploy creative strategies for tackling these transportation and workforce challenges. As a result of these efforts, 400 businesses and more than 27,000 employees have access to easier public transit commute options.

## Multi-stakeholder Support Plus a Community-driven Approach

The Connect2Work pilot program emerged through Bedford Park's last-mile mobility planning efforts. In 2018, the village was awarded

funding through Cook County's "Invest in Cook" program to develop a last-mile mobility study and action plan. These guiding documents—and the stakeholder engagement efforts that informed them—identified the need for both pragmatic and innovative transportation solutions for challenges like traffic congestion, gaps in the sidewalk network and limited access to transit. Connect2Work is one of several multimodal solutions that Bedford Park is currently advancing and the preliminary findings are promising.

To make this happen, numerous planning initiatives had to take flight, including community engagement administered through mobility surveys and meetings with employers, employees, transit agencies and other community stakeholders. A Mobility Day was also held to gather community feedback on main concerns.

One of the biggest community concerns with the status quo was safety. The existing route to and from transit was not pedestrian friendly. Employees would have to trek through busy cross-streets half a mile to and from the transit stops to their workplace. Others cited concerns around limited transit availability after hours or during shift changes.

“Finding solutions that work in Bedford Park will help inform the county’s work in other industrial corridors,” said Jennifer “Sis” Killen, superintendent of the Cook County Department of Transportation and Highways. “We can implement this model in other communities with similar transportation challenges both locally and across the country. Providing more equitable access and better transportation options are both core objectives for the county and this important program is critical to that mission.”

Hearing this feedback, Bedford Park wanted to find a way to take advantage of the area’s existing transit infrastructure, generate demand for transit and close gaps where there was limited transit frequency or hours when transit was not running.

The project required coordination from multiple stakeholders, including Bedford Park, Cook County Department of Transportation and Highways, Regional Transportation Authority (RTA), Chicago Transit Authority (CTA), Metra and Pace. The one-year pilot, which started in December 2020, was intended to create an equitable and integrated transportation network. Collaboration was key.

## Partnering with Uber

To do this, Bedford Park partnered with Uber to provide last-mile connections to transit and late-night service as part of its multi-modal Connect2Work program.

Eligible program participants are Bedford Park employees. Em-

ployees become eligible by enrolling in the Connect2Work program and were offered discounted Uber rides to transit locations from 6:00 a.m. to 9:00 p.m. on weekdays and late-night service from 9:00 p.m. to 6:00 a.m.

The Connect2Work program covers 50 percent of a ride, up to \$7. For example, if the fare is \$5, a rider would only pay \$2.50. If the fare is \$10, the rider only pays \$5. If the fare is \$21, the rider will pay \$14. Bedford Park employees are eligible for two discounted rides per weekday.

In addition, Connect2Work also provided a free shuttle service on weekdays during peak times/rush hour and a Mobility-as-a-Service journey planning app through other technology providers.

At the launch of the program, Bedford Park partnered with the Uber Transit marketing team to raise awareness and educate Bedford Park employees on this new benefit. Marketing support included a launch email, re-engagement communication, performance marketing and educational materials that they shared through employer events. The village saw 10 percent increases in ridership after each marketing touchpoint. Overall, since the launch of the program, rider adoption has increased with riders taking first-mile connections into transit at least three times a week and weekend service has been added to help third shift workers.

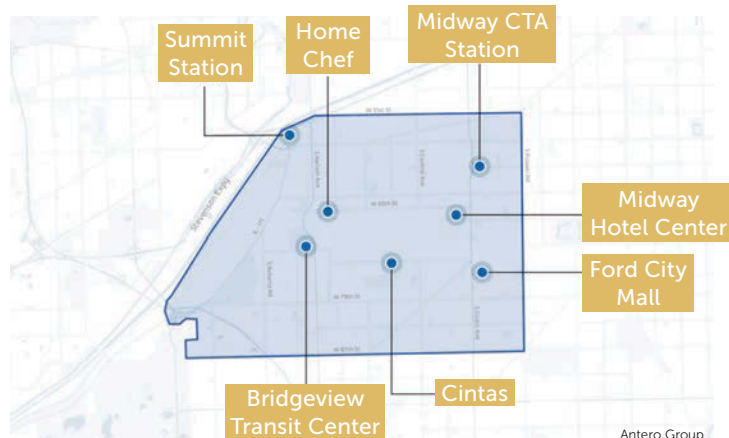


**“We** can implement this model in other communities with similar transportation challenges both locally and across the country.”

**-JENNIFER KILLEN,** superintendent, Cook County Department of Transportation and Highways

“Connect2Work represents innovation that increases access to opportunity and for us is a chance to develop strategies we can help support across the region,” said Leanne Redden, executive director, RTA. “Now more than ever, it is essential that we collaborate with public and private partners to build momentum towards implementing effective, scalable and sustainable last mile mobility solutions.”

**MARKETING PLAYED** a significant role in the success of the Connect2Work program. Each marketing touch saw a 10 percent increase in ridership for the program.



**A DIAGRAM** showing the service area of the Connect2Work program in the village of Bedford Park, Ill.



As of July, the program expanded to include weekend service on both the first/last mile and late-night rides programs. Adoption has increased week over week and this past August reached a program high in utilization.

More than 6,000 individual commute trips have been improved since the launch of Connect2Work last December. Approximately 400 employees from more than 100 different Bedford Park businesses have taken a free shuttle or discounted Uber ride thus far and the number of new riders signing up for the program has increased every week since launch. Taken together, preliminary findings suggest that there is a strong demand for last-mile transportation services that connect transit hubs, like the Midway CTA station, to places of employment.

“Every week, we learn more about workers’ travel behaviors, the effectiveness of different marketing and outreach strategies and the feasibility of different partnership and business models. We’re also learning more about how ride hailing, micro-transit and other shared mobility services can be leveraged to extend the reach of Chicagoland’s transit network while providing an alternative to driving alone,” said Curtis Witek, senior project manager, Antero Group.

The next phase of this effort will include final reporting, identifying a sustainable business model and scaling Connect2Work accordingly.

“The Connect2Work program has been successful in addressing long-standing mobility issues for our local employers



Antero Group

and helping their employees gain better access to transportation options in Bedford Park,” said Bedford Park Mayor David Brady. “We are excited to see how Connect2Work continues to evolve in the village.” **MT**

**Daisy Wall** is head of market expansion for Uber Transit.

**COMMUNITY OUTREACH** efforts included surveys, as well as a Mobility Day to gather feedback from the community.

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# MASS TRANSIT

BEST PRACTICES FOR INTEGRATED MOBILITY



# Sound Transit Driving Consensus Against All Odds

Compromise on this scale should be impossible; fortunately, no one told the project team.

By **Arthur Schurr**, contributor

**T**he Sound Transit Operations and Maintenance Facility East (OMF East) is unique in many ways, but one really stands out. Yes, it will be a state-of-the-art facility that will transform Sound Transit, the city of Bellevue, Wash., and several significant stakeholders. That's the future. But it's already done something quite unusual even in today's NIM-BY\*-plagued world. It somehow managed to completely unite and galvanize a powerful and disparate opposition against the project almost instantly.

"A [Bellevue] city council member who later became a county council member said, 'I have to note that this project received





an absolute unanimous rejection vote from the Bellevue City Council the first time it came up. In fact, it brought the council together in opposition, which I didn't think was possible," explained Sound Transit New Facilities Project Director Jon Mikhels. "Later, she also spoke at the groundbreaking/ribbon cutting for the facility, except this time she said that the project had done 'a complete 180-degree turn and the entire city council was in full support of it now.' That never happens. So, you know this project is different."

He's right. But the difference might not be expected. A \$449 million design-build project, the LEED Gold-certified OMF East will service and store up to 96 light-rail vehicles—approximately half of Sound Transit's fleet—and help that fleet triple in size to 184 vehicles when light rail service extends to Northgate, Bellevue, Mercer Island, Redmond, Lynnwood and Federal Way by 2023. Complete with 14 light-rail vehicle service bays, it will operate 24 hours a day, 365 days a year.

That alone is notable. But that's not what sets the facility apart. As with all real estate, it was location, as the optimal site for the OMF East complicated things.

"After examining 12 project sites, we chose three and took them through the draft environmental impact statement process. Then, we identified a preferred alternative. And that's pretty much when all hell broke loose," explained project manager Fran Wall, a vice president and civil engineer for design firm Huitt-Zollars.

Huitt-Zollars served as the prime consultant in preparing the design-build procurement package for the Stantec-Hensel Phelps design-build team.

"Every known stakeholder in the area was against the project. At issue was that we were going to take about 25 acres out of an area that Bellevue had rezoned for an approximately \$4 billion mixed-use redevelopment that included prospective participants like Global Innovation Exchange, Facebook, retail, restaurants, etc. So, from the city of Bellevue to developers to the Children's Hospital to the Cascade

**AN AERIAL**  
southern  
view of the  
Sound Transit  
Operations and  
Maintenance  
Facility East in  
Bellevue.

Photos by Sound Transit







**LIGHT-RAIL VEHICLE** trucks await installation in the Sound Transit Operations and Maintenance Facility East.

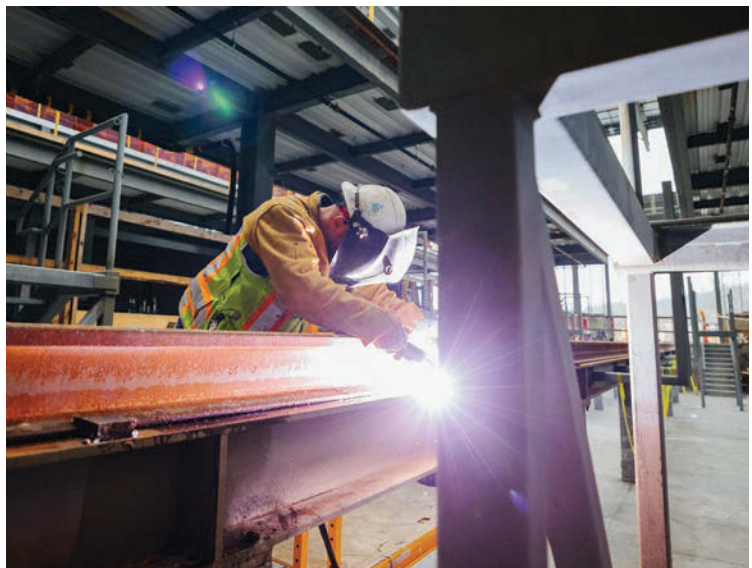
Bicycle Coalition to community equestrians, there were at least 50 different people and organizations that all lined up against the project.

Sound Transit Environmental Planning Director Kent Hale agrees with Wall's perspective, adding that "moving mountains is not an inaccurate way to characterize what we faced."

"With NIMBY projects there are rarely easy answers. The monumental challenge with Bellevue was its transit-oriented development (TOD) vision for the BelRed Corridor," said Hale. "They wanted the light-rail station as part of that but weren't too keen on losing prime development land and replacing it with a maintenance facility next to their development site. And that makes perfect sense. Development around a light-rail station helps make both successful. But the approximately 25-acre site is pretty constrained.

"The south end is closest to the light-rail station. The north end is hemmed in mostly by a wetland. And the west side is a former BNSF rail corridor, now a regional rail utility corridor and bike trail. Huitt-Zollars essentially pushed the maintenance facility element as far north as possible to create as much developable space on the south end for TOD without affecting the wetland. But we also had to deal with perceptions about what a rail maintenance facility would look and sound like. Only through a concerted effort to educate and align everyone could we get this done," Hale noted.

With opposition fierce and united, the project team went to work. Known for proactively engaging stakeholders, Sound Transit partnered with Huitt-Zollars and held a series of comprehensive workshops that included experts from the Urban Land Institute. The workshops covered virtually every stakeholder want and concern, from multi-million-dollar development to regional bike



**A CONSTRUCTION** worker welds beams in the construction of Sound Transit's Operation and Maintenance Facility East.

path integrity to open-space advocacy. Then, they walked the site with relevant stakeholders to give them a visceral sense of the discussion. While the charrettes educated and aligned stakeholders, there was still another critical element.

"We started out by doing a lot of listening, really understanding what the stakeholders' concerns were," said Huitt-Zollars Vice President and Director of Planning Christof Spieler. "We catalogued those concerns. And we also really understood the vision the city had, so that we could identify ways to approach a solution. We gained a lot of goodwill from the stakeholders early on because of that. We didn't try to ram through a solution, but we listened to what they wanted, feared and needed. We came in with open minds, as did Sound Transit, much to their great credit. And we took the stakeholders' concerns very seriously."

It worked. Using the charrettes and workshops to examine the site and each stakeholder's require-

ments, the project team made some surprising discoveries that led to pivotal design decisions.

“For example, the most valuable land in development terms was not actually land we needed for the trains,” shared Spieler. “We realized that the site topography could actually help us, as part of the site was elevated and could minimize the impacts of the trains and essentially hide the maintenance facility from view, providing natural noise and visual mitigation. Through operations and economic development analysis and a series of realignments we were able to meet all the stakeholders’ requirements. Of course, there was compromise, but we managed to make everyone buy in to the design. The crux of the solution, though, really focused on listening, understanding and respecting what everyone wanted and then showing them how they could get it.”

Spieler credits the charrettes, graphic displays and technical data in helping get everyone on board. And the stakes could not have been higher. Sound Transit had delivery already scheduled for 96 new light-rail vehicles, each costing between \$4 to \$5 million. Though they would be commissioned at an existing facility, OMF East would create the required space for commissioning and testing. In addition, Sound Transit’s full-funding agreement for the \$2 billion Lynwood Link was tied to having OMF East’s final record of decision on its environmental process.

For Bellevue, in addition to 700,000 to 800,000 developable square feet, the city also sought 6.5 acres for two affordable housing projects, commercial office space, retail and market-rate housing. The city was also counting on the development and light-rail line to drive revenue and help complete its BelRed Corridor plan. Each stakeholder had vital interests riding on OMF East and its resolution.

“You really do need to pause and reflect on your partners’ positions and interests,” said Mihkels. “Then you need to look for those ways to align them or find win-win solutions. That’s opposed to approaching it as a quid-pro-quo battle or something to that effect. In a perfect Sound Transit world, we’d have spread the facility out more. But the facility is completely functional in its concise design. We couldn’t give that up. Knowing what the must-haves and desires for all parties was key.”

Wall agrees.

“We took the pitchforks and torches charging against us, found out what they wanted, and then helped Sound Transit resolve those issues so that everyone could come on board,” he said.

At present, the OMF East facility is up and running, but not yet connected to Sound Transit’s system. In fact, its older light-rail vehicles are being trucked to the facility so that the new vehicles can be commis-

**“We** took the pitchforks and torches charging against us, found out what they wanted, and then helped Sound Transit resolve those issues so that everyone could come on board.”

—FRAN WALL, vice president and civil engineer, Huitt-Zollars

sioned and tested in its current facility. Though not ideal, that was part of Sound Transit’s compromise.

“We needed this facility to be done by a certain date. So, we had an open-door policy with stakeholders, complete transparency,” said Hale. “The city even sat in on our selection committee and attended all briefings. It was that level of involvement, but that’s exactly what helped get this done. We hid nothing. They heard the same things we did. We weren’t the 800-pound gorilla telling everyone what we wanted and for them to work around it.”

A compromise on this scale should be impossible. Fortunately, no one told the OMF East project team that, so they just delivered the impossible. **MT**

\*NIMBY: Not In My Back Yard



**Arthur Schurr** is a New York-based freelance writer who reports on transportation infrastructure.

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# Zero-emissions bus planning - how do we get it right?

Ten tips for a successful transition to zero emissions.



Measurement is critical for continual improvement of a zero-emission transition plan.

- **Secure stakeholder buy-in:** Organizational alignment is key in this transition. Work with suppliers who can create a shared understanding, using robust and bankable data. Route level models provide confidence to decision-makers, and depot emulation provides confidence to operations teams.
- **Establish protocols and standards before procurement:** Focus on being vendor-agnostic but understand (and demand) standards compliance.
- **Re-evaluate procurement strategies:** There are multiple ways to approach procurement, i.e., purchasing assets, financial leasing and operating leases. Understand your options and find a strategy that works for you.
- **Measure what you manage:** Measurement is critical for continual improvement, but also for funding mechanisms such as Low Carbon Fuel Standards credits.
- **Move from plans to frameworks:** Adopt a framework model that allows you to keep the transition updated and current each year. Capture learnings and integrate them into the plan.
- **Seize grant and funding opportunities:** Familiarize yourself with grant opportunities to fuel your transition—there are plenty out there.



**By Sasha Pejic**  
Managing partner  
Everenrgi's North American  
operations

**WASHINGTON, D.C.** • With the United States' stated commitment to achieving net-zero emissions by 2050, transit agencies across North America are focusing on the adoption of zero-emissions technology for their fleets.

While this is a must-have for the transportation industry, planning a zero-emissions bus network can bring new challenges. A zero-emissions fleet requires shifts in procurement, planning, operations and maintenance.

How do we overcome these barriers so that we can reduce the risk and increase financial and environmental benefits?

At Everenrgi, 100 percent of our focus is on the zero-emissions transport market. Using our experience with hundreds of

clients globally, we've identified the following steps for a successful transition.

- **Approach with a willing mind, without prejudice:** The more transitions we've done, the more we see that individual context drives different outcomes. Try to stay away from perceived accepted approaches. This is still a new area and individual context, in terms of barriers and opportunities, matters.
- **Approach your transition systematically:** Charging, scheduling, battery-sizing and impact on labor requires a systems approach. Each can impact the other (charging can impact battery life, for example).
- **Iterate towards solutions:** There are many interdependencies, so be iterative in your approach.
- **Data is power:** The quality of the transition will relate to the quality of data analytics.

**A zero-emissions fleet requires shifts in procurement, planning, operations and maintenance.**

Ultimately, there's a right and wrong way to approach these transitions. The wrong way will leave you with reports that are quickly out of date, oversized infrastructure and high-risk decisions that cost time and money. The right approach will ensure you have a framework that provides you with the agility and intelligence required to make good decisions and operational insights to allow you to refine the strategy as you move forward. **MT**

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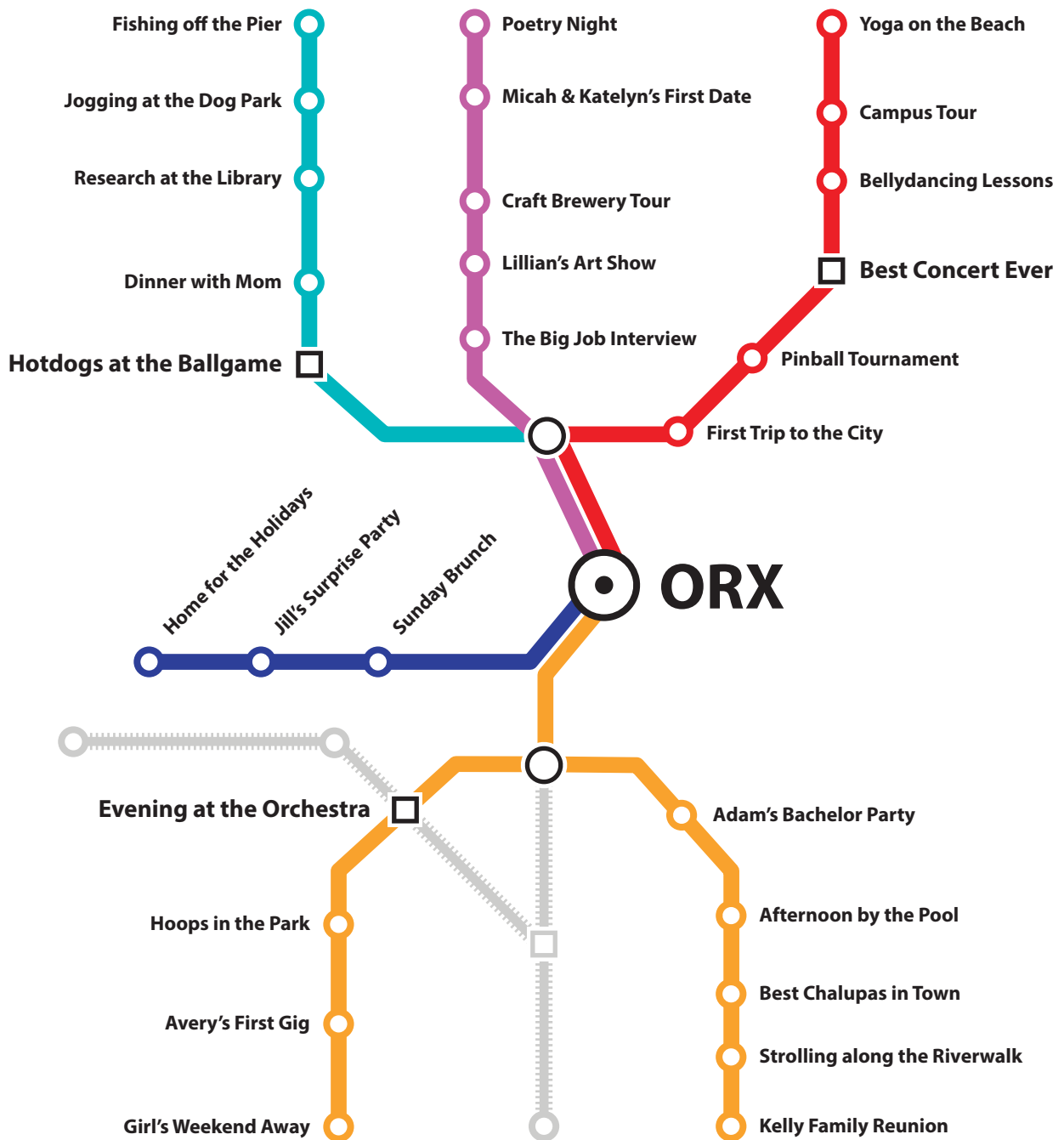
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