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Pre-preemption strategies keep trains and traffic moving

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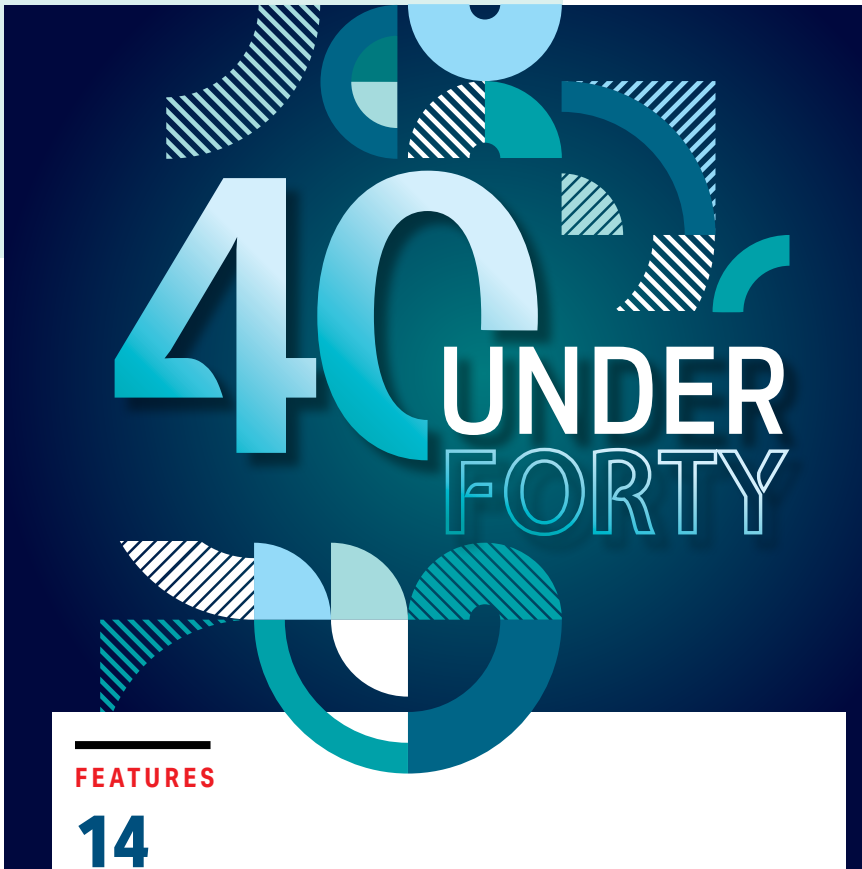
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# 2024 40 Under 40 Honorees are Purpose- Driven Professionals

This year's group of honorees exemplify the future of transit, combining professional achievements with a deep personal commitment to the industry.

Every year since 2008, the *Mass Transit* team has worked to organize, collect, evaluate and present what has become our signature program: The 40 Under 40. I am impressed with the talent, drive, ingenuity and commitment to improving this industry, communities and the experience of using transit that each group of honorees demonstrates year after year.

If Millennials are dubbed the "Purpose Generation," then the 40 Under 40 Class of 2024 embodies this label. These professionals are responsible for safety standards, best practices, data management, team management, customer engagement, digital transformation and have been key players in some of North America's largest transit infrastructure projects. They are driving sustainable business practices – not only among transit operations and fleet management, but among the transit workforce by stressing the importance of work-life balance.

Outside of work, the group enjoys a variety of hobbies, including gardening, skiing, hiking, rock climbing, baking and one honoree who tends a small flock of chickens.

This year's group of honorees has the highest number of years on average spent working in the transit industry. A typical average is between nine to 9.5 years; this year's group boasts an average of 10.9 years.

Several honorees were born outside North America and came to the continent seeking educational and employment opportunities. Others have spent significant time abroad traveling, working and gaining experiences that they have brought back to North America.

The transit industry is more than a professional space for these honorees, it is part of their daily lives. This year's group includes several car-free people and parents who are working to instill an understanding and love of transit in the next generation. Two of this year's honorees even took their local transit services to their weddings and a handful maintain a valid commercial driver's license.

Professional development outside of daily responsibilities is another foundational characteristic shared among this group. Several lead community focused interest groups through their employers, they are mentors inside and outside of the transit industry and one honoree participates in Engineers Without Borders, working on projects to improve infrastructure in less developed countries.

Enjoy getting to know the 2024 Class of 40 Under 40. I also hope these individuals leave you with a sense of pride that our industry has developed some of the most resourceful leaders who will continue to enhance mobility.



*Mischa Wanek-Libman*

Mischa Wanek-Libman,  
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# People & Places



Amtrak begins Susquehanna River Rail Bridge Project in northeast Maryland.  
Photo: Amtrak

## Amtrak begins Susquehanna River Rail Bridge Project in northeast Maryland

**Amtrak has begun the** Susquehanna River Rail Bridge Project in northeast Maryland. The Susquehanna River Rail Bridge is a vital piece of infrastructure that serves approximately 110 daily Amtrak, MARC commuter rail and freight trains. The \$2.7 billion project, supported by the Infrastructure Investment and Jobs Act, will ensure continued connectivity along the Northeast Corridor while enabling plans to expand intercity passenger rail service in the region and across the U.S.

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North Carolina Gov. Roy Cooper and USDOT have broken ground on the S-Line Project.  
Photo: USDOT

## North Carolina Gov. Cooper, USDOT break ground on S-Line Project

► North Carolina Gov. Roy Cooper and the U.S. Department of Transportation

have broken ground on the S-Line Project, the major infrastructure project that will revitalize the Southeast Corridor of passenger rail. The S-Line rail corridor is a freight line, owned by CSX, that connects Richmond, Va.,

and Raleigh, N.C., on the federally designated Southeast Corridor. The passenger rail service will provide a faster (up to 110 mph) and more direct route between Raleigh and Richmond. The 162-mile route will better connect North Carolina with Virginia, Washington D.C., and the Northeast Corridor.

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FTA Acting Administrator Veronica Vanterpool awarding the city of Detroit, Mich., \$30.8 million in FTA funding to support the city's transition to a clean energy bus fleet.

Photo: FTA

## FTA awards \$1.5 billion in bus grants

► The Federal Transit Administration (FTA) has awarded \$1.5 billion in bus grants to support 117 projects that will improve public transportation in 47 states. The funding comes from the Low- or No-Emission Program and the Grants for Buses and Bus Facilities Program, which will help transit agencies replace aging buses, reduce air pollution, provide good-paying jobs and improve the reliability of transit systems. For this year's selections, FTA prioritized awards that will help strengthen U.S. bus manufacturing, stabilize the cost of new buses and accelerate the delivery of new vehicles.

[MassTransitmag.com/55124950](https://www.masstransitmag.com/55124950)

## CTA launches Bus Vision Project

► The Chicago Transit Authority (CTA) has launched its Bus Vision Project. The Bus Vision Project will shape how CTA reimagines its bus network and what improvements it should implement in the future. A new Framing Report, released on July 2, provided an extensive analysis of the existing system and key considerations for the future.

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## PEOPLE IN THE NEWS

### Palm Tran



**Ivan Maldonado** was named executive director of Palm Tran. With nearly 20 years in the industry, Maldonado has held roles in transportation management, strategic planning and operational efficiency. He will work to enhance public transit services, improving on customer experience for Palm Tran. Maldonado will oversee all aspects of Palm Tran's operations, including bus service, connection paratransit service, maintenance and strategic initiatives aimed at improving efficiency and sustainability.

[MassTransitmag.com/55126816](https://www.masstransitmag.com/55126816)

### Central Ohio Transit Authority (COTA)



COTA has named **Garth Weithman** as the agency's deputy CEO. Weithman will help oversee COTA's transit operations, human resources and information, innovation and technology. Weithman joined COTA in 2022 as chief of staff, where he served as senior adviser to COTA's leadership team.

[MassTransitmag.com/55128568](https://www.masstransitmag.com/55128568)

### Cincinnati Metro



**Timothy M. Walker** has been named CFO for Cincinnati Metro. Walker will oversee all financial operations, including the agency's \$162.5 million budget, capital program, financial reporting, treasury management activities and investments. Walker brings more than 35 years of experience in finance and accounting to the role.

[MassTransitmag.com/55126574](https://www.masstransitmag.com/55126574)

### Toledo Area Regional Transit Authority (TARTA)



TARTA has named **James Karasek** as its CFO. Karasek will work to manage organizational budgets, secure grant funding and streamline financial processes with TARTA. He arrives at TARTA after serving as the CFO at Future Plans, Inc., in Newbury, Ohio, where he worked with his team to launch a new grant management system and oversaw a \$9.5 million budget for the nonprofit corporation.

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## People & Places

### Caltrain completes final corridor wide test prior to electrification launch

► Caltrain has successfully tested eight trains running simultaneously on the newly constructed corridor as the agency works to electrify its system, marking the final corridor wide test before the launch of electrified service

in September, as well as the last weekend service change for the electrification project. The project team installed more than 2,500 pre-engineered poles and strung more than 2.6 million feet of wire to support the Overhead Contact System, which provides power to the fleet of new, high-performing electric trains.

[MassTransitmag.com/55087871](https://www.MassTransitmag.com/55087871)



Upon the substantial completion of all major construction for the Caltrain electrification project, the agency conducted a successful test of eight trains running simultaneously on the corridor.

Photo: Caltrain

### RIPTA completes construction on state's first electric bus in-line charging station

► The Rhode Island Public Transit Authority completed construction on the state's first electric bus in-line charging station. The station can charge up to four electric buses simultaneously while they are in service. The charging station, the first of its kind in the northeast region, also features driver restrooms and various site enhancements, including an on-site snow-melt system.

[MassTransitmag.com/55093813](https://www.MassTransitmag.com/55093813)

## MORE NEWS AT A GLANCE

### Read More Online

► PhoenixEV completed a delivery on five, 40-foot ZX5 battery-electric buses in May 2024 for the University of California, Irvine.

[MassTransitmag.com/55126817](https://www.MassTransitmag.com/55126817)

► STV has signed a contract with the San Diego Metropolitan Transit System to support the replacement of five traction power substations crucial for powering the agency's electric-powered trolley system.

[MassTransitmag.com/55126630](https://www.MassTransitmag.com/55126630)

► Amtrak will be initiating the rehabilitation of the East River Tunnel in New York City later this year following the award of a construction contract to a Skanska E-J ERT Joint Venture.

[MassTransitmag.com/55126060](https://www.MassTransitmag.com/55126060)

► Jacobs has been selected as the owner's representative for the Omaha Streetcar Authority's streetcar project

[MassTransitmag.com/55125749](https://www.MassTransitmag.com/55125749)

► May Mobility and SouthWest Transit are partnering together to provide autonomous microtransit service in Eden Prairie, Minn.

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# Connectpoint Secures New Business and Awards for Innovative ePaper Signage



Photo: Connectpoint

**King County Metro in Seattle, Wash.,** TriMet in Portland, Ore., Pittsburgh Regional Transit (PRT), in Pittsburgh, Pa., Pierce Transit in Washington state and SMART in Detroit, Mich., are just a few transit agencies who have deployed and continue to install Connectpoint's multiple award-winning and industry-leading solar- or AC-powered digital bus stops.

Until 2018, transit agencies relied on static signage for bus schedules at bus stops at the bus stop level, as the high cost of installing electrical infrastructure for electronic information was prohibitive. Wood's company, CHK America, had successfully been providing static signage to agencies across the U.S. for more than 15 years but had been seeking an alternative and transformative solution for his agency clients. In 2018, the company installed the first solar-powered Connectpoint Digital Bus Stops® for PRT. Passengers applauded this new signage, providing them with real-time information, 24/7 at bus stops. As of 2024, Connectpoint has installed thousands of these innovative signs for more than 30 U.S. transit agencies.

Transit agencies worldwide are now increasingly transitioning to ePaper signage, which provides agencies with a solar-powered, eco-friendly solution to provide transit information to their passengers. The ePaper screens, manufactured by E Ink, have emerged as one of the most effective means to display passenger information across various locations, including bus stops, airports, rail platforms and more. ePaper's exceptional durability in diverse climates positions it as a leading choice for transit agencies globally.

The real-time information this signage provides encompasses various updates, including precise arrival and departure times, service changes, delays, and public announcements. These updates are typically refreshed every minute, allowing commuters to make informed decisions and adapt to any situational changes. This continuous flow of information helps in building trust between the riders and the transit service providers, ensuring that commuters feel confident about reaching their destinations on time.

The Connectpoint Digital Bus Stop offers remarkably low energy con-

sumption and seamless connectivity through wireless (cellular and Wi-Fi) or Ethernet options. It ensures continuous customer arrival information, alerts and maps across the network. Available in 13-inch, 23-inch, 28-inch, 32-inch and 42-inch sizes, these displays are designed for optimal readability in bright sunlight while advanced LED lighting guarantees clear visibility at night. Connectpoint® digital signage presents an eco-friendly, energy-efficient solution for modern smart cities, featuring an IP66 environmental rating, minimized light pollution and ADA compliance.

Timely and accurate real-time information is delivered seamlessly to passengers across an agency's digital signage with Connectpoint's easy-to-use and powerful Connectpoint Asset Management system, designed specifically for the transportation industry. This cloud-based software is intuitive and customizable, allowing agencies to deliver alerts via the agency's real-time feed, as well as schedule custom messages for riders, giving agencies the freedom to remotely control as many signs as they please through one backend system.

Connectpoint has been awarded 10 prestigious awards and in June this year, secured two wins: The 2024 Gold Globe Award for Technology for IT Solutions for Transportation and the Gold Globe Golden Bridge Award for IT Project or Initiative of the Year for the project with King County Metro. Earlier this year, the company and TriMet were jointly honored with a Smart 20 Awardee. Other awards include the 2023 Smart Cities Smart 50 Award for the project "Seattle's King County Metro Improves Passenger Transit Experience with Connectpoint's Smart City Signage;" the IoT Breakthrough Award for Overall Smart City Solution Provider of the Year; the Globe Gold Award in the Information Technology Project or Initiative of the Year for the company's work with TriMet; the Golden Bridge Gold Globe Award in the Information Technology Hardware category and a Digital Signage Award in the Technical Advances and Innovation category for displays and other devices.



# Innovative Pre-Preemption Strategies for Traffic Light-Controlled Intersections Adjacent to Railroad Crossings

Pre-preemption strategies keep trains and traffic moving by revolutionizing traffic flow and safety at busy railroad crossings in urban areas.

BY PEI-SUNG LIN, PH.D., P.E., PTOE, FITE  
AND ZHENYU WANG, PH.D., CONTRIBUTORS

**N**avigating busy intersections near railroad crossings can be a significant challenge, especially during rush hour when trains roll through, causing traffic lights to change and cars to back up. But what if this chaos could be predicted and managed before it even begins? Enter pre-preemption strategies — an innovative approach designed to keep traffic flowing smoothly and safely, even when trains are on the move. This cutting-edge technology can transform how cities handle these tricky intersections, making commutes quicker and safer for everyone.

## Traffic light-controlled intersections near crossings

Grade crossings necessitate that vehicles stop when a train passes. Nearly 40 percent of these crossings are situated in urban areas. These railroad crossings and adjacent intersections demand special attention, as vehicles must be halted to avoid collisions when a train approaches.

To address this, traffic lights are often installed at the intersections near these crossings. When a train is imminent, these traffic lights change to ensure all vehicles are safely stopped before the train arrives. However, the proximity of traffic lights to railroad crossings can complicate matters. If a train is approaching, the traffic light must halt vehicles not only at the crossing, but also at the nearby intersection, leading to potential backups and delays. Buses, in particular, can get delayed or even stuck at crossings or backed up onto nearby traffic light-controlled intersections, exacerbating the situation for public transit users. Effectively managing the flow of cars and trains in such scenarios requires careful planning to maintain smooth traffic movement and ensure safety for all road users.

## Safety and mobility problems

Railroad crossings, particularly those near traffic lights, create unique challenges for traffic flow and safety. When a train nears a railroad crossing, traffic lights must change immediately to prevent vehicles from getting stuck on the tracks, which can result in severe crashes and incidents. Traditional traffic signal preemption strategies are used to manage this situation by overriding normal operations of traffic lights and providing green lights to vehicles approaching or passing tracks to clear the tracks.

However, these strategies often struggle with the complexities of contemporary traffic conditions, especially during rush hours. Heavy traffic can cause long backups from the railroad crossing to nearby intersections. This congestion not only increases the risk of vehicle-train collisions at the crossing or vehicle-vehicle crashes at the nearby intersection, but also worsens traffic delays, frustrating commuters and impacting local economies.

## Understanding preemption

The *Manual on Uniform Traffic Control Devices* suggests using a preemption plan for traffic lights within 200 feet of railroad crossings to address these safety and mobility problems. This plan



changes the traffic lights in a specific way to first clear vehicles off the tracks before a train arrives and then hold red lights for those vehicle movements towards the railroad crossing during the passage of the train. Preemption is a traffic management technique used to temporarily change normal traffic light operations to prioritize specific events and vehicle movements at the traffic light-controlled intersection adjacent to the crossing. While this helps improve safety, it does not completely solve the issue of heavy traffic jams at these intersections, especially during periods of heavy congestion.

Despite its effectiveness in clearing the tracks, regular preemption has limitations. During heavy traffic, it can create extensive backups at intersections, as the sudden traffic-light changes disrupt the normal flow of vehicles. Buses and other public transit vehicles can find themselves stuck at these intersections, further delaying schedules. This can lead to other issues, such as an increased risk of rear-end collisions and significant delays for motorists not directly affected by the railroad crossing.

### The need for pre-preemption

The pre-preemption concept has been introduced to address the shortcomings of regular preemption. Pre-preemption aims to anticipate and manage traffic flow more proactively rather than reacting only when a train is near. The pre-preemption is a preemption. This involves preempting the traffic lights at intersections in advance of the regular preemption based on the detection of an approaching train much earlier along the track.

Pre-preemption relies on advanced train detection and communication systems between railroad and traffic light control systems. When a train is detected upstream, well before it reaches the railroad crossing or a train can securely communicate its location with the controller of the traffic light near the crossing one to two minutes in advance, the following actions can be initiated:

- **Early train detection and communication:** Upstream train detection



systems, such as track circuits or GPS-based technologies, identify an approaching train. This information is communicated to traffic light controllers at intersections adjacent to the railroad crossing.

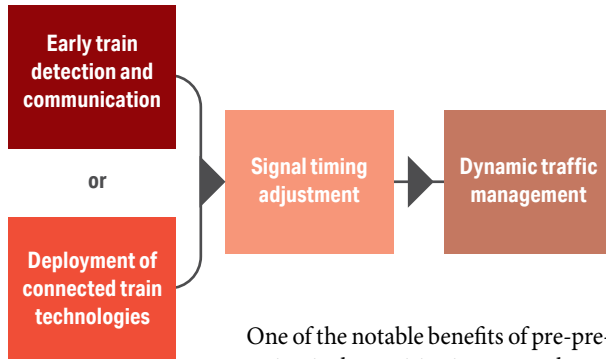
- **Deployment of connected train technologies:** Trains equipped with communication devices can send real-time data about their location and speed to roadside units, traffic management systems and traffic light controllers, allowing for more precise and timely signal timing adjustments.
- **Signal timing adjustment:** Timings at traffic lights adjacent to the railroad crossing are adjusted before a regular preemption to manage and disperse traffic in advance. For example, traffic lights can be altered to allow more green time for traffic moving away from the railroad crossing, reducing the number of vehicles that might queue up on the tracks when the regular preemption takes place.
- **Dynamic traffic management:** Smart systems use real-time data from traffic sensors to adjust traffic lights based on current conditions. This helps prevent long lines of cars and ensures smoother traffic flow. This action is optional but highly recommended.

### Benefits of pre-preemption

Implementing pre-preemption strategies offers several key benefits, with enhanced safety being a primary advantage. By proactively managing traffic flow, pre-preemption reduces the risk of vehicles being caught on the tracks, thereby preventing potential train-vehicle collisions. This proactive approach significantly enhances safety at railroad crossings. Additionally, improved mobility is another critical benefit. Smoother traffic flow and reduced congestion lead to shorter travel times and less frustration for motorists, which is particularly important in urban areas where traffic delays can have significant economic impacts.

**Traffic congestion during a traffic signal preemption triggered by train arrivals.**  
Image: ENSCO/ Transportation Technology Center

## How pre-preemption works to achieve dynamic traffic management



Flowchart: ENSCO/  
Transportation  
Technology Center

One of the notable benefits of pre-preemption is the positive impact on buses and public transit systems. By ensuring that buses do not get stuck at rail crossings or are not backed up onto nearby traffic light-controlled intersections, pre-preemption strategies enhance the safety of public transit, preventing potentially dangerous situations where buses could be hit by a train at the crossing or other vehicles at the nearby inter-

sections. Additionally, pre-preemption helps maintain more predictable travel times for buses, which is crucial for public transit schedules. Fewer delays mean buses can adhere to their timetables more reliably, improving overall transit efficiency and passenger satisfaction.

Smart systems that adjust traffic lights based on real-time traffic data also help to achieve optimized intersection operations, enabling more efficient use of intersection capacity and accommodating fluctuating traffic volumes and train schedules. Furthermore, pre-preemption strategies contribute to reduced environmental impact. Smoother traffic flow means less idling and stop-and-go driving, which can lead to lower vehicle emissions and improved air quality, benefiting both the environment and public health.

### Real-world implementation

Finding real-world examples of pre-preemption systems at traffic light-controlled intersections near rail crossings is challenging for a few key reasons. First, this is a relatively new and innovative technology so not many people know about it or understand how it works. Second, there has been limited effort to explore and integrate the necessary technology for detecting trains and communicating between roadside systems and traffic light controllers. Lastly, railroad companies often keep their train location data private due to safety concerns, which makes it harder to develop and implement these advanced pre-preemption systems effectively.

The Transportation Technology Center (TTC) in Pueblo, Colo., plays a crucial role in the development and testing of innovative transportation technologies. The center actively collaborates with researchers around the country to leverage expertise and resources to advance these technologies.

One upcoming collaboration will involve providing a venue for advancing the development of automatic traffic signal pre-preemption (ATSP) systems. Researchers will use the TTC to test communication systems between trains and roadside units, evaluate connected train technologies and assess the performance of ATSP systems. These efforts will include integrating connected train systems with traffic light controllers to develop a robust ATSP system. Ultimately, this work aims to improve safety and mobility around railroad crossings and adjacent traffic light-controlled intersections, reduce crash risks and traffic congestion and lower vehicle emissions and vehicle fuel consumption.

### Future direction and challenges

While pre-preemption presents a promising solution, several challenges must be addressed to ensure its widespread adoption and effectiveness:

- **Integration and compatibility:** Ensuring seamless communication between railroad and traffic signal control systems is critical. This requires standardization and compatibility of technologies across different regions and jurisdictions.
- **Cost and funding:** Implementing pre-preemption systems can be costly, involving significant investment in infrastruc-

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ture and technology. Securing funding and demonstrating the cost-benefit ratio to stakeholders are essential for successful deployment.

- **Public awareness and education:** Educating the public about the benefits of pre-preemption and how it works is important to gain community support and ensure compliance with traffic signal operations.
- **Continuous monitoring and adaptation:** Traffic patterns and train schedules can change over time. Continuous monitoring and the ability to adapt signal timings and strategies are crucial for maintaining the effectiveness of pre-preemption systems.

## Conclusion

Railroad crossings present complex safety and mobility challenges that require innovative solutions. By developing and adopting innovative pre-preemption strategies at a traffic light-controlled intersection near a railroad crossing, it is possible to enhance safety and mobility at the crossing and its adjacent intersections. Pre-preemption offers a proactive approach to managing traffic flow, reducing congestion and preventing train-vehicle and vehicle-vehicle collisions.

The integration of advanced detection and communication systems, real-time data and adaptive control algorithms is essential for the successful implementation of these traffic

light pre-preemption strategies. The TTC plays a pivotal role in testing and refining these technologies, ensuring they are ready for deployment in diverse traffic environments.

As cities and transportation agencies continue to seek ways to improve safety and efficiency, the adoption of pre-emptive and pre-preemptive strategies represents a significant step forward. By working together, we can create safer, more efficient transportation systems that benefit everyone. **L**

## About the authors



**Dr. Pei-Sung Lin, Ph.D., P.E., PTOE, FITE**, is the director of ITS, Traffic Operations and Safety Program at the Center for Urban Transportation Research (CUTR), a courtesy professor in the Civil and Environmental Engineering Department at the University of South Florida (USF) and the director of the Florida Local Technical Assistance Program.



**Dr. Zhenyu Wang, Ph.D.**, is a senior research faculty member at CUTR at USF.

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#1

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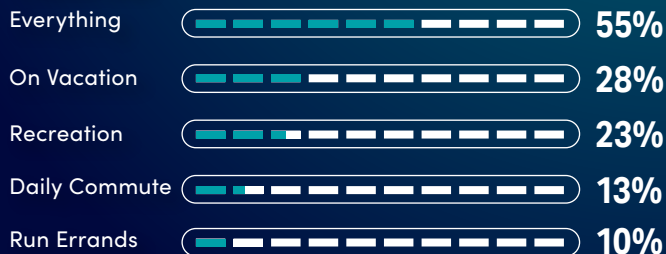
#2

Metropolitan Transportation Authority (New York)

#3

Washington Metropolitan Area Transit Authority

## Transit Use



## Inspiration found in North America and abroad

When asked about their favorite transit systems, this year's group of 40 Under 40 honorees were evenly split between systems in North America and those operating in other countries. Transport for London was the top mentioned international system while New York Metropolitan Transportation Authority and Washington Metropolitan Area Transit Authority were the top North American systems. A few honorees noted they could not pick a favorite.

## Years in Transit

Least Average Most  
5 10.9 17

## Age

Youngest Average Oldest  
29 36.1 40



For more favorites, view honorees' online profiles.

[MassTransitmag.com/40-under-40](https://MassTransitmag.com/40-under-40)

**Brian Alberts** joined the American Public Transportation Association (APTA) in 2017, where he has risen through the ranks to his current position and has played a critical role in enhancing North American public transportation safety. Alberts oversees all safety policy and standards work for APTA, serving as the industry expert on safety and advising several safety committees.

He was recently appointed to the Transit Advisory Committee for Safety by U.S. Department of Transportation Secretary Pete Buttigieg and serves on the Federal Transit Administration (FTA) Transit Standards Working Group. Before APTA, Alberts worked at the FTA, where he authored key safety regulations, including the State Safety Oversight Program Final Rule and the Public Transportation Agency Safety Plan Notice of Proposed Rulemaking.

During the COVID-19 pandemic, Alberts led efforts to develop best practices for cleaning and sanitizing transit vehicles, producing a widely praised white paper. He also addressed the rise in worker and passenger assaults by organizing sessions at APTA conferences to develop new safety approaches. Alberts transformed APTA's annual safety seminar into a major event, the APTA Safety and Risk Seminar, attracting global safety experts and officials.

**Ricky Angueira** is a senior associate working with Jarrett Walker + Associates. He has worked on transit service plans for Williamsburg Area Transit Authority (WATA), San Francisco Municipal Transportation Agency (SFMTA) and Knoxville Area Transit (KTA), among others.

Angueira helped initiate work on WATA's Transit Strategic Plan (TSP) in 2022, displaying a great commitment to meet the needs and requirements of the community. He presented several times to the agency's Board of Directors with a sense of purpose providing updates on the project that generated opportunities, ideas and suggestions.

He also presented WATA's draft TSP to its community to help generate support and incorporate feedback. Angueira continues to utilize his skillset in communicating the value and importance of public transit to various audiences. He also recently taught a graduate course at Virginia Tech on Transit Network Design.

Angueira works to draw interest and understanding of the intricacies of transit and how it works for the common rider and community members. He provides innovative ways to

“ I really enjoy getting to work with many people in different facets of public transportation, including people representing APTA's nearly 1,600 member organizations.”

Alberts also leads APTA's advisory services programs, conducting peer reviews and safety audits for transit agencies.

Known for his hard work and innovative thinking, Alberts collaborates with transit agencies to improve safety measures, engages with the National Transportation Safety Board and FTA to learn from past accidents and incidents and hosts monthly webinars on key safety issues. He is a strong advocate for equity and diversity, mentoring staff and interns and is deeply committed to the safety and security of transit workers and passengers.

**Fast Fact:** Alberts was appointed to a two-year term on the FTA Transit Advisory Committee for Safety where he leads the Cyber and Data Systems subcommittee.

[MassTransitmag.com/55130613](https://MassTransitmag.com/55130613)

“ Be honest and clear about the impacts of transit. Having transparent conversations leads to good transit planning.”

visualize systems. He has led the design of public-facing transit maps for Miami, Fla., Boise, Idaho, Oakville Transit, Ontario; and San Juan, Puerto Rico.

Helping cities have clear conversations about what transit can do for their communities is something Angueira is passionate about. Since there isn't one technical solution that works perfectly everywhere, he helps communities think through their goals and priorities. Then, together, they can design the best transit network that works for them.

**Fast Fact:** Angueira has many hobbies and interests, including sports, drawing, astronomy, languages, urban planning, wine and traveling.

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**Brian Alberts, MPP,**  
WSO-CSE, TSSP  
Senior Director,  
Safety and Advisory  
Services,  
American Public  
Transportation  
Association

40 UNDER FORTY



**Ricky Angueira**  
Senior Associate  
Jarrett Walker +  
Associates

40 UNDER FORTY



### Kara Komp

Project Manager  
II and Deputy  
Program  
Manager,  
HNTB

40  
UNDER  
FORTY

**Kara Komp** serves as project manager II at HNTB and deputy program manager for the Chicago Transit Authority's (CTA) Red Line Extension (RLE) project, which will extend CTA's busiest rail line to the far south side of Chicago, Ill., a largely economically disconnected area, while serving as a catalyst for economic development.

Komp also partnered with the CTA to win more than \$130 million in competitive grants for RLE's local match requirement. She led the successful grant applications, including the \$100 million Carbon Reduction Program award (2023) and \$30 million Congestion Mitigation & Air Quality award (2021).

Since joining HNTB in 2018, Komp has been promoted five times, building her career on management projects that ranged from public finance to zoning to fleet management.

When she first joined the RLE program as an entry-level planner, Komp worked with CTA staff to understand how she could help make RLE a reality. That initiative paid off. Today, Komp is an integral team leader. As deputy program manager, Komp is charged with strategic decision-making alongside CTA executives.

Komp was also tapped to lead RLE through the Capital Investment Grants (CIG) New



### Fiona Wu

Project Manager  
HNTB

40  
UNDER  
FORTY

**Fiona Wu**, PMP, is a project engineer in rail and transit working with HNTB Corporation. Wu grew up in China, where high pollution levels caused her to develop asthma. Upon moving to Vancouver, Canada, Wu felt her symptoms had improved and she realized how much the environment impacts an individual's quality of life.

Wu is now on a mission to improve the environment through a career made in zero-emission transportation. As the manager of HNTB's Zero Emissions Implementation Project, she plays a major role in growing the practice nationally.

She has also worked on the Capital Metropolitan Transportation Authority's Electric Vehicle Transition Program and the Washington Metropolitan Area Transit Authority's Bus Services Procurement project.

Her commitment to clean energy transit was tested when the COVID-19 pandemic required her to take on greater responsibilities to accommodate a reduction in staff and changes in clients and vendors. Her work mitigated supply chain delays and agency-side limitations to ensure uninterrupted public transportation operations.

Wu conducted in-depth research around COVID-19 mitigation products, including physical barriers, air purification systems, handrail

“ Don't let perfect be the enemy of progress. Make the best decision you can in a timely fashion and just keep going.”

Starts program, which requires CTA to navigate a complex multiyear, multiphase process to secure billions in competitive federal grant funding. Her leadership over several years has positioned CTA to secure nearly \$2 billion in CIG funding, marking the largest infrastructure grant for CTA yet. Komp also partnered with CTA to secure nearly \$1 billion from a unique Transit Tax Increment Financing (TIF) district and \$130 million in competitive grants for RLE's local match requirement.

She has also served as a Women's Transportation Seminar Board member and a member of the American Council of Engineering Companies Emerging Professionals Committee, a group empowering engineers and architects to shape the future of the industry.

**Fast Fact:** Before her career in transit, Komp was a floral designer.

[MassTransitmag.com/55126751](https://www.masstransitmag.com/55126751)

“ Stay curious and connected with the private sector; both the transit and private sector need the support of each other to build a future-proof infrastructure system.”

coating and more. She then facilitated internal design improvements to be incorporated into these systems. In her current position, Wu spearheads the electric vehicle team for HNTB's Los Angeles office and the Southern California region, working nationally to increase awareness and lead education efforts across the firm around the zero-emissions industry.

Wu has been a mentee and mentor in HNTB's mentorship program. One of her biggest takeaways from serving as a mentor was communicating when it's essential to be extremely precise as an engineer and where there is space to be more courageous and take risks.

**Fast Fact:** Wu performed in the closing ceremony of the 2010 Vancouver Winter Olympics.

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# Congratulations

Kara and Fiona on being named to  
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■ **Kara Komp**  
*Project Manager II /  
Deputy Program Manager*

■ **Fiona Wu, PMP**  
*Zero Emissions Implementation  
Project Manager*



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### Christy McCree, MBA

Human Resources  
Manager – Talent  
Acquisition  
AC Transit

40  
UNDER  
FORTY

**Christy McCree**, human resources manager-talent acquisition for Alameda Contra Costa Transit (AC Transit), works to effectively handle recruitment, onboarding and training for the agency. McCree, who is complemented by an MBA, has worked to develop and execute comprehensive training programs for hiring managers to help enhance their ability to identify top talent and make strategic hiring decisions. McCree began her career at AC Transit as an intern and has spent the past 16 years with the agency, helping to improve transit in every position she has taken on.

She utilizes novel recruitment methodologies, blending traditional approaches with new techniques to attract top-tier talent. Her focus remains on diversity and inclusion initiatives and she works to implement organizational change by fostering inclusive hiring practices. McCree has also established strong partnerships with local educational institutions and community organizations and creates avenues for talent development and recruitment.

McCree has worked to demonstrate her leadership skills, especially during times of

“ Take the time to understand the demographics and cultural differences of the community your organization serves.”

organizational change and growth. She helped to maintain stability and continuity in recruitment processes while successfully adapting to evolving industry demands. Her talent acquisition expertise has helped the agency to expand its workforce with qualified professionals.

She has also driven initiatives for uniforms and housing in support of employees, which has expanded employment opportunities to those in need. She has collaborated with other HR teams inside and outside the agency, as well as with other transit agencies, to create an innovative onboarding experience for new employees.

**Fast Fact:** McCree became the youngest human resources manager in AC Transit's history.

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### Sara Barz

Product Manager  
for Transit,  
Apple

40  
UNDER  
FORTY

**Sara Barz**, product manager for transit at Apple, started in transit in 2016 with the Metropolitan Transportation Commission (MTC).

Her interest in transit payments and the opportunity that mobile devices began during her Fulbright fellowship in Paris, France, in 2012-2013. While studying bike share systems, Barz quickly discovered that she could add her Vélib subscription to her Passe Navigo, which made it so much easier to get a bike while traveling around Paris.

While working for Clipper at MTC in 2017, Barz introduced the innovation to attach a Ford GoBike membership to a Clipper card, which allowed Ford GoBike (now Lyft Bay Wheels) to launch without an additional plastic fob or keycard.

Since joining Apple in 2019, Barz has helped bring transit cards to Apple Wallet and Apple Maps in North American and Europe.

Barz is an advocate for safer streets in San Francisco, Calif., in her free time. She is a volunteer leader with KidSafe SF and Friends of

“ Genuinely trying to understand a different point of view helps build stronger, more resilient relationships.”

Slow Hearst and she serves as the District 7 representative on the San Francisco County Transportation Authority Community Advisory Committee.

In 2017, Barz co-founded Seamless Bay Area with *Mass Transit* 2021 40 under 40 awardee Ian Griffiths. During her graduate studies in city and regional planning at UC Berkeley in 2015, Barz co-authored *Seamless Transit: How to make Bay Area public transit function like one rational, easy-to-use system* with *Mass Transit* 2015 40 under 40 awardee Ratna Amin.

**Fast Fact:** Barz rode her bike across the U.S. in the summer of 2007.

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# Christy McCree

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Christy McCree, MBA  
Human Resources Manager – Talent Acquisition



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**Hamed Abshari, P.E.**  
Senior Project  
Manager  
CDM Smith

**40**  
UNDER  
FORTY

**Hamed Abshari, P.E.** is a senior project manager with CDM Smith. Early in his career, he merged his two passions—public transportation and structural design – to become a dynamic project and program manager, leading multidisciplinary teams in delivering efficient sustainability solutions for lasting infrastructure improvements. In his 17 years in the transportation industry, he has been dedicated to advancing mobility by helping public agencies use design innovation to improve service, operations, safety and infrastructure resilience.

Throughout his career, he has been exposed to the many facets of transit from capital planning to improvement programs. These experiences have helped him to build a “best practices and lessons learned toolbox” that continues to guide his career journey.

Abshari takes pride in his work, driving stronger team performance and more positive project outcomes. For Abshari, it’s about improving the quality of life of the traveling public through enhanced access, connectivity, air quality and safety.

“ Learn from great mentors around you and take advantage of valuable lessons they can teach you.”

He has worked on many projects for CDM Smith that utilized his experience as the former senior director for the Massachusetts Bay Transportation Authority’s Green Line Transformation program. His technical skillset includes designing bridges, transit facilities, transit corridors and assessing capital investment to help agencies optimize funding resources.

Abshari also provides advisory services to project teams across the country. Moving forward in his career, Abshari wants to continue working to grow and diversify transit systems teams in the Massachusetts area and nationally.

**Fast Fact:** Abshari’s favorite mode of travel when on vacation is a car or plane.

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### Hamed Abshari, PE

*Mass Transit 40 under 40—Class of 2024*

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## Ray Biggs, II

Senior Project Director, Purple Line, Maryland Department of Transportation (MDOT) Maryland Transit Administration (MTA)

**40** UNDER FORTY

**Ray Biggs, II**, is the Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) senior project director for the Purple Line. In his role, Biggs provides senior management oversight of engineering, construction and contractual obligations for the Purple Line Project, a new 16.2-mile light-rail line that will connect communities from Bethesda and Silver Spring in Montgomery County to College Park/University of Maryland and New Carrollton in Prince George's County. The project includes 21 stations with an estimated cost of more than \$9.8 billion.

The Purple Line is being delivered via a Public-Private Partnership Agreement, a method to achieve this project, expanding transportation between counties while leveraging funding and expertise from the private sector.

More than two years ago, the project sat was at 45 percent complete and revolved around utility relocations throughout the corridor. Today, nearly two years after Biggs got involved, the project is more than 65 percent complete, with segments of track and numerous station structures in place. The Purple Line's Glenridge Operations and Maintenance Fa-

“ Prior preparation prevents poor performance.”

cility is ready to welcome the project's first light-rail vehicle to Maryland early July 2024.

Growing up in rural Georgia, Biggs' community didn't have the advantage of easily accessible public transportation in what he called 'small-town America'. He began to pave his way into the transit industry through a fascination with construction at a young age, laying bricks with his stonemason grandfather at job sites throughout Monroe, Ga. and surrounding counties. His time as a bricklayer taught him the importance of quality craftsmanship and earnest focus on the job at hand.

Biggs finished college and received his MBA from George Washington University while working on a runway project at Joint Base Andrews.

**Fast Fact:** Biggs makes a great pound cake.

[MassTransitmag.com/55126458](https://www.masstransitmag.com/55126458)



## Jasmin Curtis,

WSO-CSM, TSSP  
Transit Safety & Training Manager,  
Greenville Transit Authority

**40** UNDER FORTY

**Jasmin Curtis** entered the transit industry as an operator before advancing to dispatcher and driving instructor before moving to management. During her more than 17-year career, Curtis has developed into a visionary, resourceful and compassionate leader. She currently serves as safety and training manager and interim operations manager at Greenville Transit Authority (Greenlink). Curtis developed Greenlink's Public Transportation Agency Safety Plan and earned the World Safety Organization's Certified Safety Manager Certification in 2021, making her the most decorated safety-focused manager at Greenlink.

In 2020, she addressed the challenge of hiring new bus operators by creating an in-house CDL program. The training was offered free of cost and trainees are paid \$19 per hour to empower potential new hires to choose a career in transit. This initiative has trained 26 employees and enabled a 20 percent service increase in weekday routes and plans for extended Saturday service.

Curtis, who is a certified third-party CDL trainer and tester with the South Carolina Department of Motor Vehicles, also provides CDL testing services to other city and county departments. Outside work, she volunteers with

“ As an educator at heart, I take pride in knowing that the knowledge I have shared has contributed to the success of others, even if my involvement was minimal.”

the Greenville Literacy Association, teaching a CDL permit preparation course that helps students qualify for scholarships and Greenlink's training program. Her efforts have significantly impacted workforce development and community engagement.

As the Education Committee lead for the Transportation Association of South Carolina, Curtis manages curriculum development and speaker selection. Her efforts ensure the conference offers valuable insights and networking opportunities, catering to the diverse needs of transit professionals across the state.

**Fast Fact:** Curtis is fondly referred to by her Greenlink colleagues as Safety Lady throughout the office.

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**Alex Fay**, chief commercial officer, GMV Intelligent Transportation Systems, has more than 15 years of experience inside government and as a technology executive.

Fay started his career in public service as a policy advisor within Los Angeles, Calif., city government. He staffed the city council transportation and budget committees and he served as a technology advisor to former Los Angeles Mayor Antonio Villaraigosa during his chairmanship of the Los Angeles County Metropolitan Transportation Authority (L.A. Metro) Board.

During his transit career, he has accomplished many goals, including the launch of an innovative car share pilot program in Los Angeles that helped build a multi-modal mobility ecosystem near Metro Rail stations in transit-oriented communities. At GMV he led the pursuit and successful implementation of ambitious transit technology projects for the city of Los Angeles, L.A. Metro, Metropolitan Transit Authority of Harris County and more than 50 other communities around the United States. Fay also established international cooperation between GMV's technical experts in Europe and operations teams in the U.S. to bring best in class transit technology to U.S. transit agencies.

Fay has been a regular presence at industry

“ Being authentic in your relationships and communication is critical to connecting with people professionally and personally.”



**Alex Fay**  
Chief Commercial Officer,  
GMV Intelligent Transportation Systems

conferences and presented innovations and pilot project results at numerous national and state transit conferences, including American Public Transportation Association's Annual, California Transit Association, California Association of Coordinated Transportation, Southwest Transit Association and others. He is an active member of California Transit Association's Technology Committee.

He also continues his commitment to public service as an appointed member of the Glendale Water and Power Commission in his city of residence – Glendale, Calif., where he coordinates the utility's work on electrification of the city's transit fleet to bring zero-emissions transit to his community.

**Fast Fact:** Fay has a small flock of backyard chickens and each hen lays a different color egg.

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**Marcy A. Elliott**  
General Manager  
WeDriveU - MBTA  
The RIDE contract

**40**  
UNDER  
FORTY

**Marcy Elliott's** colleagues at WeDriveU (formerly National Express Transit) say she exemplifies the “lead at the front” mentality through her active engagement with employees at all levels and across the two locations she oversees. Her leadership style focuses on growth, morale improvement and recognizing institutional knowledge and local work culture.

Elliott uses data analysis to drive informed decisions and communicates effectively with her team. She is described as a “people-first leader” who is always available to her team, listens to feedback and ensures they have the necessary tools and resources. Elliott maintains her CDL to stay connected with drivers and staff, allowing her to engage directly with clients and consumers.

Her approach to managing people and processes is credited as having positively impacted business costs, reduced turnover and absenteeism, decreased complaints and created a more supportive work environment. Since becoming general manager of 7010 – Hyde Park for Massachusetts Bay Transportation Authority's The Ride service in 2023, she has improved on-time performance by 10 percent and recruited more than 75 operators, enhancing recruitment and retention efforts.

In the workplace, Elliott promotes the three



**Stephanie Maher**  
Vice President of  
Operations (East),  
WeDriveU

**40**  
UNDER  
FORTY

**Stephanie Maher** is a collaborative leader focused on operational efficiency and customer satisfaction. Originally from Birmingham, UK, she has served as vice president of operations (East) for WeDriveU (formerly National Express Transit) since 2021 and oversees 38 contracts and 3,200 employees.

Maher excels in mentorship, fostering a culture of engagement and innovation. She co-created a three-module ‘Soft Skills Leadership Course’ for middle managers to instill company values of leading with care, compassion and empathy and led process improvement training, resulting in Lean Six Sigma certification for WeDriveU. Her efforts have expanded technology partnerships and improved customer experiences.

She holds an MBA from Aston University and several international transportation qualifications, including a Certificate of Professional Competence for Transportation Management, an International General Certificate in Occupational Health and Safety, with distinction and she was awarded the 2016 Young Manager of the Year at the UK Bus Awards.

“Engaging with others is personally rewarding, contributes to my work and helps me better understand the needs of my employees, clients and customers.”

“R” philosophy – recognition, recreation and refreshments – encouraging employees to support each other and remain community-focused. She is active in various WeDriveU ERG groups and projects, including Women's Inspiration Network (WIN), UNIDOS and ONE (LGBTQ+) and was awarded Member of the Year for WIN in 2023.

For the past 16 years, Elliott has held various positions in transportation across the country with multiple modes of service, including fixed-route, paratransit, community transit and school bus. Her goal is to participate in various industry opportunities that promote her development and those around her.

**Fast Fact:** Before finding her way to transit, Elliott considered a career in chemistry or as a middle school science teacher.

[MassTransitmag.com/55130642](https://MassTransitmag.com/55130642)

“We say we're a transportation business, but really, we're a people business.”

Maher is passionate about diversity and inclusion, co-founding the Women's Inspiration Network and leading diversity, equity, inclusion and belonging initiatives. She also spearheaded an internship program to attract new talent to transit operations.

Maher is active in professional development, completing leadership courses and participating in industry organizations like WTS.

She has lived in the U.S. for the past seven years but she remains actively engaged with Women in Transport UK. As a result of her commitment and eagerness to share best practices, she was invited to present at a conference in 2019, where she highlighted the differences, particularly for women, between the U.S. and UK in terms of diversity and work life balance.

**Fast Fact:** Maher holds a valid commercial driving license for the UK.

[MassTransitmag.com/55130664](https://MassTransitmag.com/55130664)

**May Elkhattab** is passionate about transforming ideas into realities that enhance lives. She enjoys working in an industry where her efforts result in improvements to safety, connectivity, accessibility and while fostering sustainable economic and social growth in communities.

Her interest in engineering began in personal tragedy. As a teen in Lebanon, Elkhattab's older brother was left with a severe brain injury following a car accident that was caused by poor transportation planning. The accident motivated Elkhattab to pursue engineering and dedicate her professional and personal efforts to improving infrastructure in vulnerable communities.

As a project manager at Burns Engineering in Washington, D.C., Elkhattab leads high-visibility rail and transit projects on the East Coast. For the Washington Metropolitan Area Transit Authority (WMATA) Yellow Line Tunnel and Bridge Rehabilitation Project, she served as the design project manager, upgrading critical life-safety systems and increasing the life cycle of the metro system. At the WMATA Potomac Yard Metrorail Station, she managed the design approval for more than 1,000 sheets of complex technologies, enhancing train safety, communication bandwidth and supervisory control systems. As assistant project manager for the

“ Stay Resilient and confident: The industry can be challenging. Stay confident in your abilities, be assertive and advocate for yourself and those who need it.”



**May Elkhattab,**  
PE, PMP, DBIA  
Project Manager,  
Burns Engineering



Massachusetts Bay Transportation Authority Green Line Extension Project, she helped bring the project back to budget and oversaw contract documents, bid evaluation and technical reviews.

Elkhattab is also involved in supporting professional associations, including as the vice president of the Engineers Without Borders New York Professional Chapter, the Women's Transportation Seminar, DC Chapter, the Design Build Institute, MAR Chapter and the Deep Foundation Institute, where she has served on several committees and was a founding member of the Women in Deep Foundation Committee.

**Fast Fact:** Elkhattab volunteers for Engineers Without Borders where she has worked on sustainable agricultural practices in Rwanda and a water sanitation project in Guatemala.

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**Stephanie Maher**  
VP of Operations (East)



**Marcy Elliott**  
General Manager

WeDriveU (formerly National Express Transit), and the members of the Women's Inspiration Network ERG, congratulates **Stephanie Maher** and **Marcy Elliott** for being selected as honorees in the Mass Transit magazine 40 Under 40. We celebrate their passion, dedication, and contributions to the transit industry.

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**May Elkhattab, PE, PMP, DBIA**  
Railroad & Transit Project Manager

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### Kimmy Feldbauer, AICP

Chief of Staff & Strategic Transformation Officer, Washington Metropolitan Area Transit Authority (WMATA)

40 UNDER FORTY

**Kimmy Feldbauer, AICP**, joined the Washington Metropolitan Area Transit Authority (WMATA) in August 2022 as the agency's director of strategic transformation and enterprise collaboration before being promoted to chief of staff and strategic transformation officer. She has more than 14 years of experience, spending much of that time leading transformational projects across various transit agencies all over the U.S.

In her time with the WMATA, Feldbauer has demonstrated a commitment to making public transit more accessible, sustainable and reliable for the residents and visitors of the National Capital Region. Working with the WMATA Board of Directors and senior executive team, Feldbauer led and managed a team to develop a strategic transformation plan – Your Metro, The Way Forward – that has and will continue to advance the agency's goals during the next five years.

Feldbauer was instrumental in taking public comments, input from the WMATA Board, along with management guidance and direction to develop this strategic plan. Much of her responsibility was high-level stakeholder engagement with customers, elected officials, business leaders and transit advocates.



### Jessica Garcia

Service Planning Manager, San Francisco Municipal Transportation Agency

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**Jessica Garcia** has proven herself as a flexible, collaborative and ultimately transformative leader in the nine years since she joined the San Francisco Municipal Transportation Agency (SFMTA) as a summer intern.

After advancing from intern to service planner, Garcia took over as the agency's service planning manager during the height of the pandemic. Garcia spearheaded shutting down and restarting San Francisco, Calif.,'s rail system. During the course of three years, she broke down and rebuilt the entire service system multiple times, implementing innovative strategies to match service plans with available resources and adapt to evolving needs.

She coordinated across the agency to pioneer new models for tracking and projecting operator hiring to better match service plans to operator availability. She led the charge in reforming how SFMTA measures and tracks crowding data to better reflect the customer experience, incorporating exact locations and duration of crowding and shifting crowding performance metrics from measuring two-hour windows to 15-minute increments.

Garcia has played a pivotal role in launching key transit projects, including the Central Subway. Colleagues say her blueprint for testing protocols has revolutionized the way SFMTA prepares for

“ First, be kind and be direct. Second, Shirley Chisolm said it best, “If they don't give you a seat at the table, bring a folding chair.”

The plan was adopted by the board in February 2023. Since then, Feldbauer has been responsible for activating the plan by standing up WMATA's first-ever Transformation Office and regularly reporting progress made by the Transformation Team to the board and regional stakeholders.

In addition to serving as the CEO's key implementer of the transformation work and change management process, Feldbauer takes the initiative to see the impact of this work throughout the system. She volunteers for projects rides the WMATA system and engages with the agency's front-line employees at stations, bus garages and other WMATA facilities.

**Fast Fact:** Feldbauer and her husband took the bus (route 20 in Austin, Texas) to their wedding.

[MassTransitmag.com/55131020](https://www.masstransitmag.com/55131020)

“ What has helped me so much in my career is being willing to learn at least a little bit about everything and to not be shy about asking questions.”

new service launches, emphasizing exposure for personnel who will operate the services.

She manages the Muni Service Equity Strategy, an agencywide commitment to right historic wrongs and prioritize transit dependent communities. The Muni Service Equity Strategy aims to identify and address high priority transit needs in neighborhoods that rely on Muni service the most with tangible solutions that can be implemented quickly (within one to two years) and deliver measurable improvements, including improvements to safety, connectivity to key destinations, reliability, frequency and crowding. The strategy established a performance baseline for Muni routes serving each Equity neighborhood, which is updated bi-annually.

**Fast Fact:** Garcia has skied in California, Nevada, Utah and Canada but her dream is to ski in Japan.

[MassTransitmag.com/55127391](https://www.masstransitmag.com/55127391)

**Anthony Harris** works for the Washington Metropolitan Area Transit Authority (WMATA) as a senior manager in its performance and global benchmarking office; he launched and leads this branch of the agency. Harris manages a dedicated staff that works to identify, amplify and help apply industry best practices to advance WMATA's Strategic Transformation Plan. Harris oversees the team's provision of benchmarking research, recommendations and programmatic support to agency leaders supporting rail, bus and paratransit operations.

Harris's leadership has helped to grow internal desire for WMATA's benchmarking practice. The agency has seen demand rise from completing eight benchmarking activities in Fiscal Year (FY) 2018 to more than 300 in FY24. Harris' team has utilized benchmarking best practices from 47 peer agencies across five continents to help WMATA advance towards improved transit services.

A key highlight of Harris's career was coordinating WMATA's hosting of the Community of Metros (COMET) 2024 Annual Meeting. Transit leaders from 20 cities, including Atlanta, Berlin, Buenos Aires, Delhi, Lisbon, London, Newcastle, New York, Madrid, Oslo, Ottawa, Paris, Rio

“ I find great energy in coaching, connecting and collaborating so I'll say a bit about each:

**Coaching:** Great coaching starts with great listening.

**Connecting:** Building peer relationships in transit is awesome because it's a field full of motivated people working towards a common public good.

**Collaborating:** Almost nothing great gets accomplished alone, so embrace the reality that making a big impact is a team sport.”



**Anthony Harris**  
Senior Manager,  
Global  
Benchmarking  
Washington  
Metropolitan Area  
Transit Authority  
(WMATA)

**40** UNDER FORTY

de Janeiro, San Francisco, Sao Paulo, Taipei, Tokyo and Vancouver gathered to discuss best practices across several topics of shared interest.

**Fast Fact:** Harris has a passion for gardening, cultivating more than 100 plants in his yard which is nicknamed by his friends as "The Grove." It is his favorite place on earth.  
[MassTransitmag.com/55127358](http://MassTransitmag.com/55127358)

Metro congratulates Anthony Harris for being chosen as one of Mass Transit's Top 40 Under 40.



For more information, visit [www.MassTransitmag.com/10261508](http://www.MassTransitmag.com/10261508)

Metro congratulates Kimmy Feldbauer for being chosen as one of Mass Transit's Top 40 Under 40.



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**Tamar Fuhrer, AICP**  
Deputy  
Transportation  
Officer,  
City of Culver City

**40**  
UNDER  
FORTY

**Tamar Fuhrer, AICP**, is the deputy transportation officer for the city of Culver City, Calif., which operates Culver CityBus. This position allows her to apply her knowledge, aptitude for learning and focus on stakeholder engagement, to continue to evolve the department as an innovative and progressive transportation agency.

Her enthusiasm towards transportation has driven her more than 16-year career in the field. Having the opportunity to do her college and graduate studies in two major metropolises (New York, N.Y., and Toronto, Ontario), fuhrer learned just how important transportation was for people to thrive in the cities where they work and live. Immediately following graduation, Fuhrer relocated to the Los Angeles, Calif., area and joined a transportation planning and engineering consulting firm, where she had the opportunity to lead and support complex transit projects throughout the southern California region.

Fuhrer developed a microsimulation of a new light-rail junction to enable Los Angeles County Metropolitan Transportation Authority to plan headways for a new line without impacting the existing line sharing the track.

She has been an active member in the industry beyond her role, having served in leader-

“ There are things that you’ll learn from a project or job that you may think won’t matter but can help you solve a problem later on.”

ship positions in her local chapters of Women in Transportation Seminar, Association for Commuter Transportation and the American Planning Association. She has spoken at conferences throughout the industry and works on developing new and diverse panel discussions with other transportation leaders.

Fuhrer is passionate about mentorship and professional development of the next generation of transportation professionals and has been active in mentoring programs, serving as both as a mentor and protegee, in addition to taking on informal proteges. She is most proud of having remained as a resource to previous proteges as they grow from early to mid-career professionals and advance into leadership positions throughout the industry.

**Fast Fact:** Fuhrer and her husband took Toronto’s subway system to their wedding.

[MassTransitmag.com/55127344](https://MassTransitmag.com/55127344)



**Sneha George,**  
P.E., PMP  
System Design  
Engineer,  
Santa Clara Valley  
Transportation  
Authority

**40**  
UNDER  
FORTY

**Sneha George, P.E., PMP**, is a certified professional electrical engineer with more than 11 years of experience in Infrastructure design and project management and is currently the system design engineer for the Santa Clara Valley Transportation Authority (VTA) in Santa Clara, Calif.

She started her career with the Metropolitan Transportation Authority New York City Transit. As a young engineer on the team, she built a BIM/CADD library of electrical engineering and design tools. The library, utilized by a team of more than 200 engineers, significantly enhanced engineering productivity and streamlined project workflows.

George was put in charge of streamlining the opening of the Mother Clara Hale Bus Depot, which accommodates more than 150 buses. She also ventured into managing large-scale projects, including the 9.4-mile 7 Line-Steinway Tube restoration project and played a pivotal role in overseeing the project’s execution.

Another significant project George delivered was the WTC Cortlandt Street Station rehabilitation project. Severely damaged during the 9/11 attacks, the original station required extensive rehabilitation. She oversaw the integration of communications, mechanical and maintenance spaces, ensuring the successful revitalization of the station.

“ Always seek feedback to avoid being blindsided.”

George was the lead project engineer for Santa Clara VTA’s first pilot project to introduce electric buses to the fleet. George led the team to design the optimal electrical infrastructure, ensuring seamless integration of chargers while considering future expansion needs.

She also spearheaded Santa Clara VTA’s rehabilitation of Traction Power Substation to enhance the safety and security of the light-rail system. She recently led a key initiative to implement Laser Intrusion Detection Systems and Thermal cameras along light-rail corridors to mitigate accident risk.

Her contributions extend beyond project management, as George actively participates in professional associations such as the American Public Transportation Association and IEEE VTS committees.

**Fast Fact:** George loves traveling and whenever she travels to a new country or place with her family, they always try to use public transportation as much as possible.

[MassTransitmag.com/55127389](https://MassTransitmag.com/55127389)



**Ken Hendricks**, CPPO, CPPB, is a procurement and contracts manager with Sonoma-Marine Area Rail Transit (SMART). He began with SMART in 2016 and has become a vital part of the agency's effort to evolve and improve. Hendricks came into the agency during the beginning phase of SMART's railroad system construction project and became a major part of the overall transition to operations.

In addition to his involvement with initial rail operations, Hendricks also led the procurement and contracting process for the design and construction of four new rail stations, many miles of multi-use pathway, assisted with the agency's transition to becoming a freight common carrier and assisted with the onboarding of a new microtransit pilot program.

Aside from his frontline groundwork, Hendricks also serves as the agency's logistics section chief for its Emergency Operations Center and is active in the business outreach committee, a consortium of Bay Area transit and transportation agencies working together to assist Disadvantaged Business Enterprises and Small Business Enterprises by providing training and technical assistance.

“ Never stop learning and challenging yourself. Be curious, be inquisitive and continue to challenge the norm.”

Notable achievements also include overhauling SMART's procurement processes and procedures, resulting in SMART's Procurement Department becoming a nationally recognized and award-winning procurement department and recently leading SMART Procurement through the agency's first Federal Transit Administration Triennial review and audit with no findings.

His commitment goes beyond his day-to-day with SMART, as Hendricks has also continued to focus on advancing his education and career development by attaining Certified Public Procurement Officer and Certified Professional Public Buyer national certifications.

**Fast Fact:** Hendricks began in an administrative analyst position at SMART.

[MassTransitmag.com/55126475](http://MassTransitmag.com/55126475)



**Ken Hendricks**, CPPO, CPPB  
Procurement and Contracts Manager, Sonoma-Marine Area Rail Transit District (SMART)

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*Culver* **CITYBUS** Congratulates  
Deputy Transportation Officer

**Tamar Fuhrer**



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**KEN HENDRICKS**  
PROCUREMENT & CONTRACTS MANAGER

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## Caroline R. Kieltyka

Strategic Initiatives Manager,  
Connecticut Department of Transportation's Office of Rail

40 UNDER FORTY

**Caroline R. Kieltyka**, strategic initiatives manager at the Connecticut Department of Transportation's (CTDOT) Office of Rail (OOR), assumes a range of duties pertaining to passenger and freight rail planning, design, construction and operations within both the state of Connecticut and the broader region. She spearheaded the development of grant applications for the Federal Railroad Administration's (FRA) Fiscal Year 22-23 Federal-State Partnership Northeast Corridor Grant opportunity, ultimately resulting in the successful award of more than \$1.1 billion in federal funding for eight rail projects.

Kieltyka further leads coordination and implementation of additional federal grant programs such as the Corridor Identification and Development Program, Consolidated Rail Infrastructure and Safety Improvements Program and the Railroad Crossing Elimination Program.

As CTDOT's liaison to the Northeast Corridor Commission (NECC), she coordinates various initiatives, including managing general inquiries, facilitating data submissions for annual reports and capital investment plans and contributes to service development planning.

Beyond her role with the NECC, Kieltyka actively engages with various organizations, including coordination with the FRA, Amtrak,



## Erin McAuliff

Acting Director of Accessible Services,  
SFMTA

40 UNDER FORTY

**Erin McAuliff**, acting director of accessible services at the San Francisco Municipal Transportation Agency (SFMTA), leads the planning and execution of accessibility initiatives across all transportation modes and directs the SF Paratransit program. She has previously held roles at the Marin County Transit District, SPUR and the Coalition for Smarter Growth.

McAuliff has pioneered several projects, including Marin Transit Connect's microtransit service and the SFMTA Essential Trip Card subsidized taxi program. The broad scope of SFMTA's responsibilities, which include Muni, paratransit, parking and traffic, bicycling, walking, micromobility and taxis, has also afforded McAuliff the opportunity to center accessibility and equity in all transportation modes and a range of capital projects, including Muni's new Central Subway.

She assisted in crafting the SFMTA's first comprehensive Accessibility Strategy. The project honors the legacy of disability advocates and transit planners who made the Muni system accessible. It aims to ensure accessibility continues to be a fundamental principle of transit planning and operations in San Francisco, Calif.

McAuliff has also provided leadership for initiatives that improve culture and collaboration city-wide, including the city and county

“ Don't underestimate the power of picking up the phone and making a call.”

Metropolitan Transportation Authority's Metro-North Railroad, Transit America Services Inc., State-Amtrak Intercity Passenger Rail Committee and the States for Passenger Rail Coalition.

She played a key role in orchestrating stakeholder discussions and coordinating efforts to conceptualize improvements for the Stamford Transportation Center and its surrounding area.

Kieltyka has worked in the transportation industry for 10 years, having recently rejoined CTDOT in September 2022 after a five-year tenure in Washington, D.C., with the American Association of State Highway and Transportation Officials (AASHTO). During her time at AASHTO, she managed technical and policy activities related to transportation planning, passenger and freight rail and various modes of freight transportation.

In addition, Kieltyka leads OOR's collaboration with local university engineering programs. Furthermore, she takes charge of OOR's training and staff development.

**Fast Fact:** Kieltyka loves fun facts.

[MassTransitmag.com/55126114](https://www.masstransitmag.com/55126114)

“ It's very exciting to work on projects and initiatives that don't just support transit and paratransit riders or drivers or people walking or rolling, but support a diversity of community members.”

of San Francisco and the SFMTA's respective racial equity efforts and employee affinity groups. McAuliff has garnered prestigious accolades and appointments within the transit community, including her appointment to the Transportation Research Board's Standing Committee on Specialized, Rural, and Intercity Bus Transportation and also actively contributes to the transit community through involvement in esteemed organizations such as Women's Transportation Seminar (WTS) and National Association of City Transportation Officials.

She is also the chair of Special Events and a member of the Mentoring Program Committee of the WTS SF Bay Area chapter.

**Fast Fact:** McAuliff received her boating license before her driver's license.

[MassTransitmag.com/55127327](https://www.masstransitmag.com/55127327)

**Alexis Majied** has distinguished herself as a professional who has helped shape vision, drive innovation, enhance collaboration and promote accountability and community involvement. Majied began her career at Hampton Roads Transit (HRT) in 2007, where she engaged the workforce by launching an employee newsletter, hosting CEO roundtables, planning president’s luncheons and forming an employee activity committee. She led the children’s safety campaign for The Tide, Virginia’s first light-rail system. After leaving HRT in 2012, Majied returned in 2022 as CCO, bringing a renewed vision for the team.

In her first 24 months as CCO, Majied, with help from her team, drove innovation by launching a monthly e-newsletter, reintroducing a quarterly, printed newsletter, starting a blog and developing an annual report. She also created a crisis communications plan and conducted the agency’s first employee survey. Majied and team organized three major events: Community Resource Fairs, Transit Advocacy Day and the State of Transit: Transit Means Business event, each aimed at enhancing community engagement and highlighting the importance of public transportation.

Majied fostered collaboration by partnering

“ Majied introduced quantitative measurement of project outcomes, a move that has resulted in significant improvements in team performance.”

with the Norfolk Tides baseball team and the city of Norfolk, Va., to implement the “Ride The Tide to The Tides” initiative, which increased light-rail ridership by 20 percent and reduced stadium congestion.

Majied is described as passionate about community involvement. She has been a board member for Girls on the Run and is a troop leader for the Girl Scouts of the USA. She is also involved in professional organizations, including the Women’s Transportation Seminar, Public Relations Society of America and Conference of Minority Transportation Officials.

**Fast Fact:** Majied introduced quantitative measurement of project outcomes, a move that has resulted in significant improvements in team performance.

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**Alexis N. Majied**  
Chief Communications Officer,  
Hampton Roads Transit




*Congratulations*  
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**Alexis Majied**  
on being named one of  
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**Jihad Maksad**  
Project Manager,  
AECOM

**40**  
UNDER  
FORTY

**Jihad Maksad**—PMP, LEED AP, is a project manager at AECOM. During the past 15 years, he has dedicated his career to the infrastructure and transportation industry, which has taken him on a path from the Middle East into Europe and eventually to New York.

Maksad began in the Middle East working on the construction of a university capable of holding 40,000 students. This early experience of working hand-in-hand with construction labor workers in the field instilled in him an appreciation and passion for large-scale infrastructure projects and set the foundation for his career moving forward. He moved to Europe and found himself working on various infrastructure projects that have helped him to develop international experience and exposed him to different cultures and approaches to infrastructure planning and development.

After completing his master's degree in construction management at Columbia University in New York, he joined AECOM, where he has spent the past six years in several roles and working on many infrastructure projects that have helped to strengthen transit. He is currently

“ With encouraging levels of federal funds dedicated to transit infrastructure and electrification, it’s an exciting time to be working in this market. ”

focusing his efforts on the company’s contract with New Jersey Transit to electrify its bus fleet.

One of Maksad’s most recent achievements was being part of a core pursuit team at AECOM to develop the proposal for the \$6 billion Amtrak Frederick Douglass Tunnel in Baltimore, Md. Additionally, he has worked on studies and proposals for projects like the Washington Union Station redevelopment and is currently working with the Connecticut Department of Transportation to electrify its rail system and procure a new fleet of coach vehicles.

**Fast Fact:** Maksad’s internal dilemma is promoting the utility of mass transit while having an affinity for classic muscle cars.

[MassTransitmag.com/55126768](https://MassTransitmag.com/55126768)



**Tim Simon**  
Associate Vice  
President, Transit-  
Rail Lead,  
AECOM

**40**  
UNDER  
FORTY

**Tim Simon** is the associate vice president and Texas/Gulf Coast transit-rail lead at AECOM, working in the transit industry since he graduated from the University of Kansas, with a master’s in architecture and urban planning.

Simon first discovered his passion for the transit industry while studying abroad in Spain during his undergrad years. He began to ask himself questions such as, “Who plans transit? How can transit be planned and designed for everyone? How do I learn how to do this?”

Simon took his first transit job as an entry-level transit service planner and scheduler at the Kansas City Area Transportation Authority (KCATA) in Kansas City, Mo.

His career path into the transit world has led him to serve at Lane Transit District (LTD), then into the consulting side of transit with Alliance Transportation Group (ATG) as a transit planner. He notes that his background as a service planner provides a unique perspective that helps bridge the gap between planning, development and implementation.

“ Learn about every aspect and component of what it takes to put transit service on the street.”

Simon was a service planner for LTD in the planning, development and implementation of the West Eugene Express Bus Rapid Transit (BRT) line. The BRT line is now operational and has expanded the agency’s network.

An accomplishment Simon is looking forward to is the day he gets to take his daughters to ride the Austin Light Rail. He says he has worked for years with an amazing team, project partners and the community to make light-rail a reality for the Austin community.

**Fast Fact:** Simon is an active outdoor rock climber and loves climbing big mountains and walls.

[MassTransitmag.com/55126500](https://MassTransitmag.com/55126500)

**Caitlin Styrzula**, PMP, TDM-CP, is the director of business engagement and program services for AECOM and CTrides, a service of the Connecticut Department of Transportation. In her role, she leads the statewide public engagement team, directs programming for more than 400 partners and implements mode shift initiatives to employers, state agencies and community based organizations in 169 municipalities.

Under Styrzula's leadership, CTrides has successfully implemented outreach campaigns such as the Higher Education Road Scholar Campaign, the All About Trains K-8 Rail Education Program and the Drive Less CT Climate Challenge. The initiatives have not only increased awareness of public transportation options but have also led to tangible results, such as a significant increase in CTrail riders and a reduction in harmful auto emissions.

She is also involved with the Association for Commuter Transportation, where she serves in various leadership roles. She earned her TDM-CP in 2022 while serving as the president of the Patriot chapter, vice chair for the Employer Council, appointed member of the Events Over-

“ Don't come to a new conversation with your resolution.”

sight Committee and 2018 awardee of ACT's 40 under 40 designation.

Styrzula leads the outreach strategy and implementation of the Higher Education Road Scholar Campaign each semester to promote public transportation to 38 colleges and universities statewide. This initiative promotes the U-Pass, a student specific transit pass allowing full-time students the access to unlimited use of rail and bus transportation across Connecticut. She also leads outreach for the CTrides annual capstone event that promotes the use of public transportation and multimodal trips to all Connecticut residents.

**Fast Fact:** In grammar school, Styrzula wanted to be a bus driver and sat in the first row every day in the event that she was tapped for the task.

[MassTransitmag.com/55126401](https://MassTransitmag.com/55126401)



**Caitlin Styrzula, PMP,**

TDM-CP

Director of Business Engagement, AECOM



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We congratulate **Jihad Maksad, Tim Simon & Caitlin Styrzula** on being honored by *Mass Transit* magazine as part of its **2024 40 Under 40**.



**Caitlin Styrzula**  
Director of Business Engagement, CTrides



**Jihad Maksad**  
Project Manager, U.S. East Region



**Tim Simon**  
Associate Vice President, Transit-Rail Lead

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**Kim Magee, P.E.**  
Transit Section  
Manager,  
HDR

**40**  
UNDER  
FORTY

As a transit section manager with HDR, **Kim Magee** has spent her professional career designing and tailoring safe and reliable transit solutions to meet the needs of each community. Magee has shown an exceptional way of communicating project objectives through a collaborative approach, working to identify goals with a commitment to finding sustainable transportation solutions.

Her passion for transit and technical experience in commuter and light-rail design and construction has driven her career at HDR — from project engineer to deputy project manager to her current role.

She is leading the environmental clearance and preliminary engineering efforts on one of San Diego's largest rail projects to date. The multi-billion dollar San Diego LOSSAN Rail Realignment Project will enhance safety, reliability and increase capacity along the Los Angeles-San Diego-San Luis Obispo, or LOSSAN, Rail Corridor by relocating the rail line from the eroding coastal bluffs of Del Mar primarily to a tunnel.

Magee's involvement with the project began early in her career as a design engineer tasked with creating track design concepts for tunnel alignments and an alternatives analysis study. Her dedication to the project elevated



**Alanna McKeeman, AICP**  
Vice President  
and Senior Project  
Manager,  
Foursquare  
Integrated  
Transportation  
Planning

**40**  
UNDER  
FORTY

**Alanna McKeeman**, AICP, vice president and senior project manager, Foursquare Integrated Transportation Planning, oversees the company's activities as they relate to staff experience and engagement. She also oversees Foursquare ITP's microtransit service area.

Her high-profile projects at Foursquare ITP have included the Washington Metropolitan Area Transportation Authority's (WMATA) Bus Network Redesign and Bus Transformation Project, the original Atlanta Region Transit-Link Authority (ATL) Annual Report and Bloomington Transit's Strategic Plan in Indiana.

For WMATA's Better Bus Network Redesign, McKeeman was responsible for strategic engagement across a wide variety of activities, including strategy and planning, technical materials development and engaging community-based partners. These occurred across three engagement phases between 2022 and 2024.

For the ATL, McKeeman led development of the authority's first annual report, which provided the first-ever analysis of the performance trends of the region's nine transit operators across 13 counties. For Bloomington Transit, McKeeman worked with the board and leadership to develop the agency's first-ever strategic framework and a detailed list of strategies to guide the

“ Be willing to get out of your comfort zone. When presented with an opportunity, say yes even if you don't necessarily feel qualified quite yet.”

her to engineering manager and track lead, where she drove the development of the existing conditions reports, basis of design criteria, alternatives analysis and technical evaluation to assess the feasibility of increasing speeds on the rail corridor. She quickly established herself as a trusted advisor and expert resource for rail among colleagues and the public agency client. The successful completion of this work paved the way for the client to receive \$300 million in funding to advance the project.

Magee also knows the importance of developing and guiding the next generation of transit engineers. She works to mentor engineers at all

**Fast Fact:** As a kid, Magee spent 4.5 years growing up in the Netherlands and crossed the border every school day to attend an international school in Belgium.

[MassTransitmag.com/55126430](https://MassTransitmag.com/55126430)

“ Working on the redesign of the bus system I ride daily is the kind of project I dreamt of doing when I entered this field.”

agency's advancement during the next decade.

McKeeman has led many projects at Foursquare ITP, including a fare study for Alexandria, Va., and several microtransit studies. She was the lead author of the Virginia Transit Crisis Response and Recovery Handbook for Virginia's Department of Rail and Public Transportation and is principal investigator for a Transit Cooperative Research Program synthesis about rural microtransit.

McKeeman is an active Women's Transportation Seminar (WTS) Board member. She has presented at the WTS International conference and serves as the DC Chapter's Scholarship and Fundraising Chair. She is certified by the American Institute of Certified Planners and holds a Master of Urban and Regional Planning and a bachelor's in economics.

**Fast Fact:** McKeeman's first exposure to rural transit was as an exchange student in a rural part of Germany during high school.

[MassTransitmag.com/55127976](https://MassTransitmag.com/55127976)



**Ryan Plumb's** colleagues say he has demonstrated exceptional proactivity and dedication to Torrance Transit since joining in 2019. He initially contributed to the successful implementation of the "Torrance Transit Tomorrow Plan" through public outreach and feedback collection. Within a year, Plumb played a key role in securing a \$6 million grant for the agency to purchase its first zero-emission buses. Plumb's involvement has also helped the agency secure more than \$20 million in two additional grants toward the zero-emission bus project.

Upon his promotion to administrative analyst, Plumb became responsible for the management of federal and state reporting, audits, grants, budgets, procurement and contracts.

Plumb oversaw the Torrance Community Transit Program, handling customer inquiries and vendor coordination. Additionally, his work with People First of South Bay & Harbor Area, an advocacy group for persons with developmental disabilities, offers him a chance to regularly engage with the community, providing updates and information on public transit.

During the COVID-19 pandemic, Plumb was crucial in modifying services to ensure safety

“ The best advice I would share is to know when to be patient and learn to not be afraid to say yes to something new.”

and continuity. He facilitated emergency services like meal deliveries to seniors and disabled persons. Plumb also managed multiple Requests for Proposals for various services and collaborated on a \$2 million microtransit pilot project set to launch in 2024.

Plumb contributed to the design and opening of the Mary K. Giordano Regional Transit Center, which will serve as the future terminus of the Los Angeles County Metropolitan Transportation Authority (L.A. Metro) C-Line extension into Torrance.

He was recently appointed vice chair of the L.A. Metro Bus Operations Subcommittee.

**Fast Fact:** Plumb was raised in Davis, Calif., where UC Davis Unitrans uses authentic London double decker buses for daily transit service.

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**Ryan Plumb**  
Administrative Analyst,  
Torrance Transit System



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**Shane Misztal**  
Transportation  
Engineer/Project  
Manager,  
TranSmart

**40**  
UNDER  
FORTY

**Shane Misztal** is a transportation engineer/project manager for the local consulting firm TranSmart in Chicago, Ill. He began his career working as an engineer down in his home state of Florida. In 2016, he moved to Chicago, with hopes of an opportunity to work on some local public transportation projects as an engineer. He sold his personal vehicle prior to his move to Chicago to embrace the public transit mobility options the city has to offer.

Misztal has served as the transportation lead for the Red Line Extension project that will transform the southside of Chicago. The project consists of a 5.6-mile extension of the Chicago Transit Authority (CTA) Red Line and will include the construction of four new stations.

He has also worked on the implementation of the transit signal priority (TSP) project for the north Ashland CTA Bus Line, one of Chicago's most vital bus lines. Misztal was responsible for the synchronization of intersection offsets by modeling current and future traffic conditions, which would determine the duration of TSP needed at each intersection. In addition, Misztal is working on a comprehensive city-wide project for the city of Chicago that involves traffic signal

“ You may have to go after the type of career you want, as somebody won't lay it out perfectly for you.”

modernization for its roadway network.

Misztal has also volunteered his time for the professional group Young Professionals in Transportation, an organization focused on professional development, fellowship and networking for new professionals in the transportation field. He is also very active in advocating for transit in his everyday personal life. As a local citizen, he serves on the transportation task force for the North DuSable Lake Shore Drive Project, which looks at multiple redesign options for the major north-south roadway along the lakefront of Chicago.

**Fast Fact:** Misztal was at Game 7 of the 1997 World Series when the then-Florida Marlins (now Miami Marlins) won their first World Series.

[MassTransitmag.com/55094075](http://MassTransitmag.com/55094075)



**Lucas Muller**  
Senior Project  
Manager,  
Kimley-Horn

**40**  
UNDER  
FORTY

**Lucas Muller's** passion for transit began when he was a child and he has channeled this passion into his professional work, focusing on making transit modern, safe, efficient and equitable in the Washington, D.C., area and beyond.

Currently, Muller is the consultant team deputy project manager for strategic planning on the Washington Metropolitan Area Transit Authority's Better Bus Network Redesign where he oversees policy development, engagement and financial analysis. His team's award-winning engagement efforts have set a new standard for bus network redesigns nationwide.

Muller is currently serving as contract manager for Kimley-Horn's transit planning on-call contract with the Virginia Department of Rail and Public Transportation (DRPT). He worked with DRPT and other agencies on statewide strategies and transit accessibility, contributing to the American Planning Association award-winning Transit Equity and Modernization Study. He has also led efforts in fleet technology assessment and microtransit feasibility studies, helping agencies make informed decisions about new technology.

Muller has played a key leading role in multimodal planning initiatives like the District of Columbia's Long Range Multimodal Transportation Plan and the city of Alexandria's Mobility

“ Both in and out of the office, it has been a priority for me to promote networking and career advancement opportunities for young professionals.”

Plan. His work has advanced transit initiatives such as bus priority and bus rapid transit in the D.C. metropolitan region.

One of the early members of the Young Professionals in Transportation community, Muller has served in various leadership roles, where his efforts resulted in a growth in membership and the development of a scholarship program to support students pursuing a degree in transportation.

Muller mentors a team in his local office where he encourages and supports the growth of technical skills, career advancement and ensures a balance of personal satisfaction outside of work.

**Fast Fact:** Muller took his son on his first bus ride along a route Muller helped plan as part of the Alexandria DASH system redesign.

[MassTransitmag.com/55130640](http://MassTransitmag.com/55130640)

From his early roles as a civil engineer trainee at Gammon India to his current position as director of transit planning at Palm Tran, **Yash Nagal**, PMP, has consistently shown a strong work ethic and commitment to advancing transit services. Nagal has overseen various initiatives, including service planning, strategic planning and project development, leading to tangible improvements in transit services and customer experience.

Nagal has spearheaded projects such as Route Performance Maximization 2.0, introduced first- and last-mile services and Transit Signal Priority System-Wide Implementation and leveraged technology to enhance transit operations.

He is involved in the American Public Transportation Association’s Emerging Leaders Program and actively engages with industry

“ To improve public transportation, we must hire and retain passionate people with a common goal.”

peers, participates in mentoring programs and contributes to the advancement of public transportation through research and project management expertise.

Colleagues say Nagal’s “trifecta” Leadership Style emphasizes servant, transformational and coaching approaches, fostering a collaborative and supportive work environment.

**Fast Fact:** Nagal’s favorite restaurant is Cracker Barrell.

[MassTransitmag.com/55124806](http://MassTransitmag.com/55124806)



**Yash Nagal, PMP**  
Director of Transit Planning,  
Palm Tran



**Kendel Ortiz**, MBA, deputy director, maintenance of way (MoW) operations training, Metropolitan Transportation Authority (MTA) Metro-North Railroad, has worked his way up to his current position. He has held many positions before his current role, including trackworker, foreman, surfing foreman and foreman/new hire instructor. Colleagues say Ortiz is always looking for ways to help everyone by further educating himself and asking for opinions from those who are constantly doing the job day in and day out.

He is creating a QR qualifications code for employees to use as an easy way to keep track of all the qualifications they have and need, created instructional videos on how to correctly do the newly implemented continuous welded rail policy to ensure employees do it correctly and safely. He is also working on creating several programs, including a welding, surfacing, Structures/B&B and machinist (mechanics) training program. The programs will help build depth within MoW and help develop a better and overall more knowledgeable employee. Ortiz working closely with the program

“ In today’s rapidly changing world, knowledge and skills quickly became outdated.”

development and program support teams with VR training.

Ortiz created a new hire trackworker program to ensure that from the very beginning of a railroader’s career, they get all the tools they need to succeed and grow and the knowledge to do the work correctly. He would use his personal vacation days to beef up his knowledge on safety by attending Occupational Safety and Health Administration classes and visiting other railroad facilities. Colleagues say he is always looking for the opinions of those that are in the field in how he can help them understand their job duties and how to perform more efficiently and effectively.

**Fast Fact:** Ortiz was recently on the TV game show Beat Shazam with Jamie Foxx.

[MassTransitmag.com/55127314](http://MassTransitmag.com/55127314)



**Kendel Ortiz, MBA**  
Deputy Director,  
Maintenance of  
Way, Operations  
Training,  
MTA Metro-North  
Railroad







**Cinnamon T. Paltoo, MPA, SHRM-CP**

General Superintendent of Support Services, MTA's Department of Buses

**40 UNDER FORTY**

**Cinnamon T. Paltoo**, MPA, SHRM-CP (Doctoral Candidate, '27), has more than 15 years of experience in the transit industry and currently holds the position of general superintendent of support services at the Metropolitan Transportation Authority's (MTA) Department of Buses. Colleagues say Paltoo's leadership style is characterized by her exceptional problem-solving abilities, her fervent advocacy for employee engagement and talent acquisition and her dedication to workforce development, noting she goes above and beyond in her efforts to streamline processes, implement cutting-edge technology and centralize operations within her department while maintaining an approachable demeanor that fosters trust and collaboration among her colleagues.

She spearheaded the public outreach efforts for the Bronx and Staten Island Express Bus Network Redesigns and played an integral role in the successful rollout of the Q52/53 Select Bus Service, New York's largest bus rapid transit corridor.

Her ability to innovate and lead has proven critical in the development of MTA's Department of Buses Workforce Development Program. She has tackled the industry-wide

“ No one can be you.”

impacts resulting from the post-pandemic loss of traditional knowledge and bolstered succession planning initiatives through her ability to identify emerging trends and opportunities and leverage them to drive positive change and create value.

As the co-founder and leader of Empowering Women in Transportation, an Employee Resource Group dedicated to supporting women in the public transportation sector, Paltoo has been instrumental in driving meaningful change within the industry and spends a lot of her time increasing the representation of women in leadership positions and advocates for a more inclusive workplace. She actively contributes to the betterment of her community, particularly in areas related to children and education. She is an advisor and mentor to students at Transit Tech High School and John Jay College of Criminal Justice.

**Fast Fact:** Paltoo is a proud dance and basketball Mom.

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**Luv Sehgal, PE**

Senior Rail Engineer, ARUP

**40 UNDER FORTY**

**Luv Sehgal**, a senior rail engineer at Arup, has built a reputation as a professional known for his creative drive and commitment to excellence. Sehgal grew up in India and was influenced by his father, Vijay Sehgal, and his 37-year career with India Railways.

Sehgal supported and invested time in the development of innovative digital technologies to bring significant value to projects and deliver effective solutions. Sehgal joined Arup in 2017 and has since worked on significant projects like the Metropolitan Transportation Authority Enhanced Station Initiative, the Long Island Rail Road Third Track Capacity Expansion Program and New York City Transit Sandy Resiliency project.

His role in the Green Line Extension LRT Program in Boston, Mass., involved coordinating design submittals across all rail systems disciplines. In Toronto, Ontario, he contributed to the Eglinton Crosstown West Extension Technical Advisor team, aligning requirements from all disciplines to develop essential elements of the reference concept design and technical specifications.

Sehgal's innovative mindset is evident from his research on superelevation optimization and the use of hot mix asphalt as a sub-ballast layer for ballasted track. His work has influenced design

“ Some of my greatest accomplishments have arisen from moments when I pushed myself to take on something I felt unsure I could do. It is in these moments that true growth occurs.”

guidelines and enhanced rail safety, reducing maintenance costs and derailment risks.

Active in the AREMA community, Sehgal participates in technical committees, hosting events and presenting papers. He advocates for rail sustainability and de-carbonization, speaking at various international events. He recently was awarded the Young Alumni Achievement Award from the University of Illinois.

Sehgal mentors younger staff and student chapters of AREMA, encouraging their research endeavors. He is committed to diversity, equity and inclusion, developing programs to advance positive change within the industry.

**Fast Fact:** Sehgal has lived in five cities (Jaipur, Champaign, New York, Boston and Toronto) within three countries in the past 10 years for work and studies.

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**Sam Sink, AICP, PMP**  
Project Manager,  
Kimley-Horn

**40**  
UNDER  
FORTY

**Sam Sink** is a passionate and innovative leader, driven by intellectual curiosity and a commitment to making a lasting impact on transit customers. With more than 15 years of experience in transit planning and development, she has spearheaded multiple community-driven public transportation projects at agencies, including Hampton Roads Transit (HRT) and the Greater Richmond Transit Company (GRTC).

At HRT, she rose to the role of director of transit development, leading bus rapid transit (BRT) and light-rail transit studies. Known for her technically accurate and insightful work, she was a trusted advisor for complex project problems, helping the senior leadership team at HRT make sound decisions. She also implemented innovative solutions, such as streamlining data collection processes with digital tools, saving time and money.

Sink is an alumna of the American Public Transportation Association's (APTA) Emerging Leaders Program in 2017. She actively contributes to APTA committees, including the BRT Committee and the Zero Emission Fleet Committee. At GRTC, she played a pivotal role in the Zero Emission Transition Plan and secured \$11.5 million in federal funding to replace aging diesel buses with compressed natural gas buses.



**Jing Xu**  
Assistant Vice  
President, Service  
Planning and  
Scheduling,  
Dallas Area Rapid  
Transit

**40**  
UNDER  
FORTY

**Jing Xu** the assistant vice president (AVP) of service planning and scheduling at Dallas Area Rapid Transit (DART), works to promote the access, usefulness, convenience and appeal of DART to the community. She leads and motivates her colleagues to apply new approaches to achieve the desired outcome of greater transit usage.

Xu is the youngest AVP in DART's 41-year history and oversees more than 20 staff members across four divisions within the department. Her contributions to the agency play a major role in DART's vision to strengthen the agency's purpose as a valued strategic economic and mobility asset for the community.

In her recent endeavors, she has led DART-zoom, DART's overall bus network redesign project, to work towards significantly enhancing service frequency, coverage and transit access for DART's 13-city service area. As part of this overhaul, Xu's efforts resulted in improved bus services to a larger population while reducing the size of the revenue fleet and consolidating one third of the bus stops.

“ There's a real sense of camaraderie working in a small industry where so many of us are up against the same obstacles. Folks are always willing to make time to answer questions and share lessons learned.”

In addition to her professional achievements, Sink volunteers at the Hampton Roads Naval Museum, where she helped develop volunteer management software to streamline operations.

Sink has also strived to share her knowledge with co-workers. Her peers note her willingness to ask questions and push for better solutions for clients. Sink's ability to manage diverse groups of stakeholders and overcome project hurdles has made her a valuable partner to clients and a strong mentor for her peers.

**Fast Fact:** Sink is planning her first multi-day hike on Scotland's West Highland Way with her mom this fall.

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“ Be empathetic and motivational.”

Xu has also led a community- and data-driven approach to transforming DART's GoLink program from a small pilot to the major micro-transit system. She engaged communities and stakeholders to expand the reach and visibility of GoLink through a 360-square-mile area that transports 5,000 daily users.

Xu enjoys developing services for DART customers, using policy research, data analytics and partnership building with an empathetic mindset. She recently led DART's first comprehensive fare study to explore fare policy industry best practice, structure and new programs that align with the agency's future vision and community feedback.

**Fast Fact:** Xu enjoys riding transit with her son, CJ.

[MassTransitmag.com/55126504](https://MassTransitmag.com/55126504)



**Stephen Bacchus, MBA, PMP, B.Eng,** manager, transit fleet, engineering and asset management for the city of Mississauga, Ontario, is directly responsible for the asset management strategies, policies and objectives for roughly 500 Mississauga transit buses and 80 transit support vehicles. He manages the technical support, procurement, asset management and data analytics teams that provide evidence-based recommendations to inform budgets, strategic plans and operations and maintenance. He also leads the design, planning and implementation of innovative zero-emission fleet projects.

Bacchus and his team have implemented many important projects that have benefited the city from a social, environmental and economic sustainability perspective. In 2019, the city of Mississauga declared a climate emergency and made ambitious targets to reduce greenhouse gas emissions by 80 percent by 2050.

Bacchus submitted a Socio-Economic Business Case to the government of Canada and the government of Ontario to request C\$360 million (US\$263.3 million) to purchase only low-emission hybrid-electric buses instead of conventional diesel buses to achieve the city of Mississauga's climate change goals. He also implemented further fuel consumption reduc-

“ Each time I see a passenger hop on board, I'm reminded of the difference we're making in people's daily lives.”



**Stephen Bacchus, MBA, PMP, B.Eng**  
Manager, Transit Fleet, Engineering and Asset Management,  
City of Mississauga, Ontario



tion improvements on the hybrid buses, which include stop/start technology, aggressive braking regeneration and electric vehicle geo-fencing.

Bacchus is the Mississauga lead for the Pan-Canadian Hydrogen Fuel Cell Electric Bus (FCEB) Demonstration Trial. The project aims to have 10 FCEBs in Mississauga, which would be the first hydrogen FCEB operating in Ontario.

As a volunteer within the community, Bacchus also actively participates on various industry-wide committees. He is currently involved with the Canadian Urban Transit Association as the secretary on the Maintenance and Vehicle Engineering Committee. He is also the vice chair on the Zero-Emission Bus Committee at Ontario Public Transit Association.

**Fast Fact:** Bacchus is an avid chess player and won tournaments in his younger days.

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## Schneider St. Preux

General Superintendent,  
Miami-Dade County  
Department of  
Transportation and  
Public Works

40 UNDER FORTY

**Schneider St. Preux**, general superintendent, Miami-Dade County Department of Transportation and Public Works (DTPW), oversees the largest cohort of employees for the DTPW. His strategic vision and hands-on approach has been instrumental in driving operational efficiency and excellence within the bus operations section.

He has spearheaded the successful launch of DTPW's redesigned bus network. St. Preux played a pivotal role in preparing staff through comprehensive training initiatives, ensuring a seamless transition and enhanced service quality for passengers.

Under his direction, bus operations staff were able to identify some key issues that impacted DTPW's On-Time Performance (OTP) after the launch of the network. He was able to put forth an initiative on some underperforming routes that yielded a notable improvement, with OTP rising from 65 percent to 72 percent. The enhancement led to greater reliability and punctuality of services, reduced passenger wait times, increased satisfaction, optimized



## Andrew Zalewski, AICP

Vice President  
and Senior Project  
Manager,  
Foursquare  
Integrated  
Transportation  
Planning

40 UNDER FORTY

**Andrew Zalewski**, AICP, vice president and senior project manager, Foursquare Integrated Transportation Planning (ITP), helps guide the strategic direction of the company, managing the implementation of its strategic plan and overseeing the client experience.

Since joining Foursquare ITP in 2011 as a transportation planner right out of graduate school, Zalewski has served in many roles. He helped launch Foursquare ITP's Boston, Mass., office in 2016 and now oversees Foursquare ITP's Philadelphia, Pa., office, where he helps mentor more than a dozen staff members.

Zalewski leads the company's Strategic and Financial Planning practice and previously helped stand up Foursquare ITP's Micromobility Planning practice. Some of his most notable projects in this area include leading Hampton Roads Transit's Capital Improvement Plan for the past decade and playing a key role in Kansas City Area Transportation Authority's inFocus strategic plan in Kansas City, Mo., in 2024, the 2022 strategic plan for CapMetro in Austin, Texas, and the Jacksonville Transportation Authority's MOVE2027 Strategic Plan in Jacksonville, Fla., among others.

He has helped secure more than \$40 million for bikeshare systems and active transportation infrastructure. He helped lead the country's first bikeshare expansion plan for Arlington County,

“ Leave the agency that I work for in a better state than when I first began.”

resource allocation and a more efficient and dependable service on those specific routes.

His commitment to advancing the field of transportation extends beyond his daily responsibilities. As an active member of Conference of Minority Transportation Officials and participant in several American Public Transportation Association Bus committees, he actively contributes to industry dialogue, sharing insights and best practices to drive continuous improvement and innovation. St. Preux is also affiliated with the Eno Center for Transportation as an alumnus of the Transportation Executive Program.

**Fast Fact:** St. Preux owns a barbershop.

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“ Be curious and never be afraid to ask questions. Often if you don't understand something, somebody else in the room doesn't understand it either.”

Va., in 2012 and has since led similar plans in Washington, D.C., Austin, Texas, Philadelphia, Boston and Detroit, Mich.

Zalewski helped establish Foursquare ITP's Design Team and oversaw the team responsible for the public report and renderings for the New York Metropolitan Transportation Authority's Interborough Express Feasibility Study.

He has contributed to the industry state-of-practice as a principal investigator and co-author on multiple studies, including a micromobility guidebook for the National Center for Applied Transit Technologies, an American Public Transportation Association report about supporting late shift workers and several Transit Cooperative Research Program reports.

**Fast Fact:** Zalewski and his husband became dads last year and are working to get their daughter hooked on public transit from a young age.

[MassTransitmag.com/55128014](https://MassTransitmag.com/55128014)



**Douglas Teator, P.E.**, is director of the multi-modal planning and design group working with LaBella Associates. Teator is charged with expanding the transit market in the northeast, mid-Atlantic and southeast.

Teator's previous experience includes serving the transit market sector lead at a previous consulting firm and being the leader of the transit focused discipline group, where he grew the revenue and expanded the firm's footprint geographically. His group consisted of 12 staff and served more than 10 clients across New York state.

Teator has worked with clients, including the Capital District Transportation Authority (CDTA) where he has spent the past 15 years as an extension of internal staff through his commitment to technical expertise, delivery expectations, a high level of communication and an interest in the roles of his agency's partners and staff and how their work lives can improve through his effort.

He is now working to support CDTA on expansion plans, including electrification of the fleet. Teator has helped CDTA deliver 40

“ If there is a solution or an idea that you really believe will address a problem or need, don't compromise easily. There are other places to compromise in life.”



**Douglas Teator, P.E.**

Director of Multi-Modal Planning and Design  
LaBella Associates

**40 UNDER FORTY**

miles of bus rapid transit (BRT) along three lines with more than 13 queue jumpers and 125-plus TSP-enabled intersections, expanded bus garages and the region's first mobility hubs.

Teator has dedicated time to elevating himself through the transit industry by participating in the Public Transit Leadership Institute, a year-long training program hosted by the New York Public Transit Association. Through this program, he participated in and embraced learning about all aspects of a transit agency's responsibility to the public.

**Fast Fact:** Teator once visited the Louvre and got lost in the basement and couldn't find his way out.

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# Friction Management: Implementation and State of Good Repair

Incorporating friction management into an asset investment plan and having a program to manage an inventory of consumables and spare parts helps ensure returns on investment.


BY JEFF TUZIK, CONTRIBUTOR

A top of rail friction management system installed on transit track.

Photo: LB Foster







Friction management is a well-established technology in the rail transit industry. Its significance is such that it is considered one of the five pillars of wheel/rail interface management. Davey Mitchell, commercial manager of Friction Modifier at L.B. Foster Rail Technologies, told delegates at the 2024 Rail Transit Wheel/Rail Interaction Conference, of which *Mass Transit* is the presenting sponsor. The other four pillars are:

- Wheel and rail profiles
- Rail grinding and wheel truing
- Track geometry and vehicle dynamics
- Metallurgy and welding

Friction management works in conjunction with these other pieces by improving wear rates of wheels and rail, mitigating defect growth, improving steering and train dynamics, reducing noise and effectively lowering the stress state of the entire system.

Friction management encompasses both top-of-rail (TOR) friction modifiers, as well as gage-face (GF) lubricants. GF lubrication mediates contact between the wheel flange and GF of the rail and is designed to drop the coefficient of friction as low as possible. It's also used to treat restraining rail and back-of-wheel wheel flange, in some cases.

TOR friction modifiers are designed to constrain the coefficient of friction within a specific range (typically 0.3 to 0.4). A third type of friction modifier called traction gel is designed to raise the coefficient. These products are used on the top of rail when the surface is too slick, typically due to the accretion of compacted leaf matter during the fall months.

"You need consistent friction on the top of rail for traction and braking and you want to introduce positive friction characteristics to eliminate stick-slip oscillation," Mitchell said.

These stick-slip oscillations are one of the common ways in which corrugation develops and propagates.

Many railroads and rail transit systems use specialized combinations of friction management consumables and wayside application devices to address specific issues at specific track locations. System-wide issues or locations without easy wayside access tend to lend themselves better to on-board delivery systems.

The proper application of a product can mitigate problems like noise and vibration, rolling contact fatigue (RCF), corrugation, excessive flange wear, broken fasteners and many others but each issue may have a different optimal solution in terms of the friction modifier product and application strategy, Mitchell noted. He recommended working with a supplier or consultant who specializes in friction management to maximize the return on investment.

Dialing-in the right FM solution for the problem and location is an involved process but the benefits of doing so are notable and well documented. Immediate benefits include:

- 25 percent to 60 percent reduction in wear
- 5 dBA to 10 dBA reduction in noise
- Three- to five-percent improvement in fuel economy

- Enhanced safety by reducing lateral-over-vertical ratios and high wheelset angle of attack associated with wheel-climb derailments.

And longer-term benefits include:

- An average ~50 percent reduction in required rail grinding interval frequency
- An ~50 percent reduction in new defect development
- A 20 percent to 80 percent reduction in fastener damage/destruction
- Improved ride quality due to improved steering characteristics and reduced corrugation and RCF

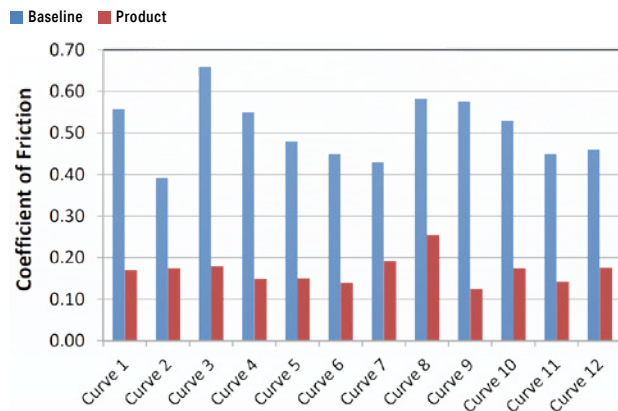
"In our experience, friction management implementation typically produces a return on investment in less than a year," Mitchell said.

### Implementation and asset management

Given the potential benefits of an optimized, well-implemented friction management program, transit agencies want to know how to realize and quantify these benefits and how systems fit into a broader framework, such as the American Public Transportation Association's (APTA) recommended practices for asset management and maintaining a state of good repair (SGR).

The APTA Standards Committee defines the state of good repair as "a condition in which assets are fit for the purpose for which they were intended." Mitchell said that in the case of friction management, the intended purpose is to improve asset reliability, extend asset life, reduce emissions and enhance safety. The following case studies, all referencing past APTA presentations, illustrate how relatively basic asset management planning has enabled transit properties to keep their friction management systems in a state of good repair and to reap the benefits of doing so. Each of these studies notes the purpose of the friction management program, the asset inventory, asset condition (including maintenance practices) and the asset investment plan, which includes inventory control, long-term planning and expansion of the program.

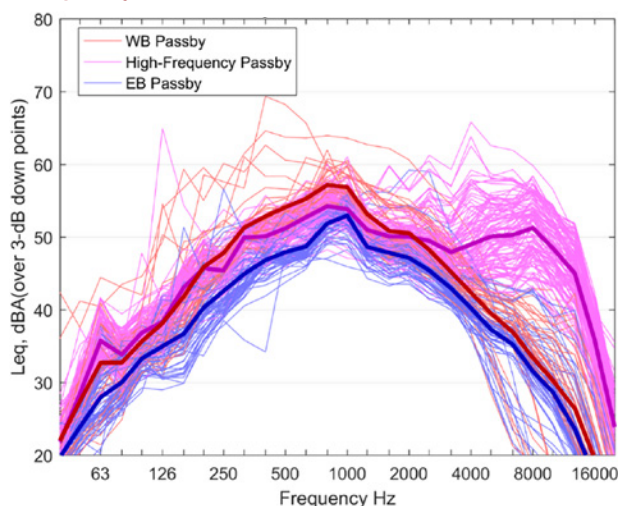
### North American LRT Gauge Corner Friction Level Measurements



**Figure 2. The coefficient of friction on sharp curves at the gage face prior-to (blue) and after (red) implementation of gage-face lubrication.**

Graphic: 2024 Rail Transit Wheel/Rail Interaction Conference

### Train passbys from 5/26/2016-5/27/2016



**Figure 3. Noise levels measured at a test-site curve prior to friction management implementation. Note the cluster of high-frequency events in purple.**

Graphic: ATS Consulting

The first case study comes from a transit agency in western Canada. The impetus for implementing a friction management (FM) program was primarily to reduce noise systemwide and, secondarily, to reduce curve wear, according to Mitchell. The agency’s inventory consisted of 40 wayside GF lubricators ranging in age from new to 30-years old. In terms of maintenance, this transit agency had two workers who, in addition to other duties, visited each applicator twice a week to inspect, refill

and repair the units. The agency also had a well-developed asset investment plan that included a stock of spare parts that is replenished monthly, spare applicators ready to be deployed and a plan for expanding the FM program in tandem with an upcoming new line extension.

Figure 2 shows the coefficient of friction on sharp curves (greater than or equal to 4.5 degrees) on the property before and after the implementation of GF lubrication. Mitchell said the agency has been able to maintain these levels by adhering to an effective asset management plan over the years.

Another case study comes from a transit agency in the western United States. Here, too, noise complaints in curves were the primary reason for implementing friction management. However, in this case, the agency opted for a TOR friction modifier rather than GF lubrication. The inventory consisted of nine wayside TOR applicators, all of which were eight years old at the time of reporting. This agency did not perform any maintenance on the units (or keep any spare parts in inventory) except to ensure they were kept filled with product and were inspected multiple times per week.

Figure 3 shows high-frequency noise events in roughly 50 percent of the agency’s trains prior to the implementation of TOR FM. Although these are primarily flanging noise signatures, the transit agency was unable to use GF lubrication due to specific safety concerns. Nonetheless, TOR FM was able to improve truck steering enough to reduce these noise events.

Figure 4 (left graph) shows high-frequency noise events in 20 percent to 45 percent of trains shortly after FM implementation. To improve this lackluster performance, the agency made adjustments to the applicator bar height and placement and product flow rate. Figure 4 (right graph) shows that after these optimizations, only five percent of trains generated high noise events.

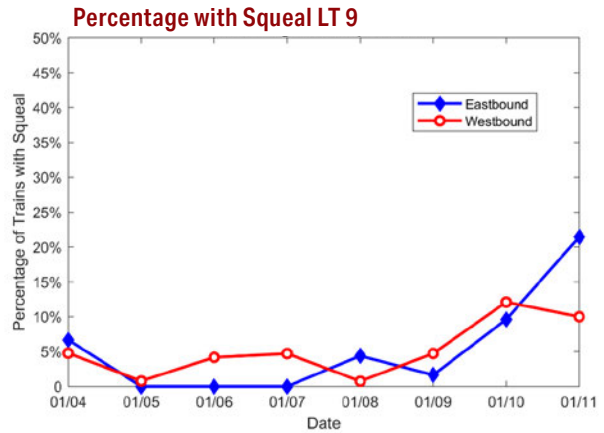
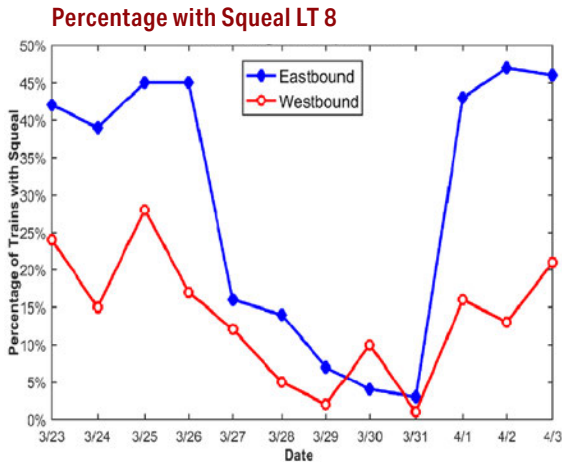
“It’s important to remember that optimization has to be part of the asset management process if you want to get the best results,” Mitchell said.

A third case study, also from a western U.S. transit agency, shows the efficacy of good asset management in conjunction with on-board friction management. For this agency, the primary motive for FM implementation was to reduce flange wear; a secondary motive was to reduce noise. The agency’s fleet consists of several vehicle types. At the time of this study, 30 percent to 60 percent of its cars (depending on type) were equipped with solid-stick friction management applicators — lubricating sticks on the wheel flange and friction modifier sticks on the wheel tread. The applicators were inspected and refilled when the vehicles were in the shop for their scheduled 10,000-mile maintenance cycle. Mitchell noted aside from keeping the applicators filled with product, alignment of the FM applicator is the primary challenge of on-board systems.

“Flange alignment can be particularly sensitive because as the wheel wears, the angle of the stick has to be adjusted to optimize coverage,” Mitchell said.

The study showed that by treating the friction management equipment like any other component of the vehicle on their





**Figure 4. High-frequency noise events (by train population) immediately after FM implementation (left) and after applicator optimization (right).**

Graphic: ATS Consulting

maintenance checklist, the agency was able to keep the FM application system in a state of good repair.

For inventory management, the agency kept spare parts and consumables in stock with automatic inventory control and re-order triggers. Friction management was also later included in their vehicle procurement specifications, a much less costly prospect than having to retrofit vehicles after delivery, Mitchell noted.

This friction management/asset management plan has proven to be very effective for the agency. The flange wear rates after implementation fell to 0.002 mm per 1,000 km (~7 hundred-thousandths of an inch per ~621 mi) — a figure well below the predicted 0.01 to 0.02 mm per 1,000 km wear rate that is typically forecast for wheels with this friction management setup.

Another case study looked at the efforts of a transit agency in the eastern U.S. to use onboard solid-stick friction management to reduce derailment potential after experiencing 10 wheel/rail-related derailments during a two-year period. The agency equipped 33 percent of each vehicle’s wheels with solid-stick flange lubrication units. Like in the previous case study, the agency inspected and filled the applicators as part of its regular preventive car maintenance cycle and kept spare parts and consumables in inventory.

As part of the friction management plan, the agency modeled the predicted effect of flange lubrication on derailment potential. The agency models indicated that flange lubrication would increase the lateral-over-vertical load required to initiate a derailment by 74 percent — an improvement that would effectively put all its potential wheel/rail interactions below the derailment threshold, according to Mitchell. The modeling also predicted an average flange wear reduction of 40 percent to 70 percent.

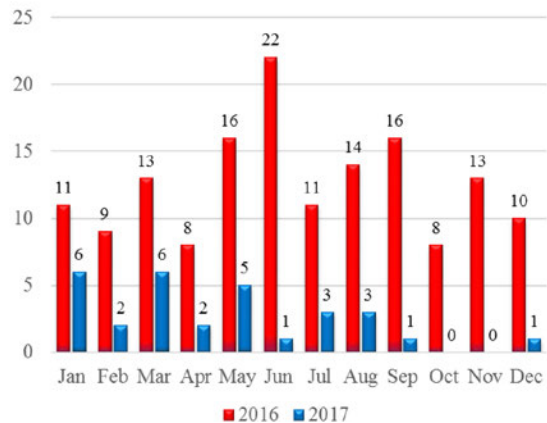
Since implementing the friction management program in 2017, the agency has not had any derailments and flange wear has been reduced. Figure 6 shows wheel replacements



**Figure 5. Examples of misaligned on-board flange lubrication.**

Graphic: L.B. Foster

### Wheel replacements



**Figure 6. Wheel replacements prior to (red) and after (blue) wheel flange friction management implementation.**

Graphic: 2018 APTA Rail Conference Proceedings

due to wear in the year prior to flange lubrication implementation (in red) and the year after implementation (in blue) — an 80 percent reduction.

“For a roughly \$220,000 capital investment, the agency saved \$1.26 million on wheel replacement and associated costs in the first year,” Mitchell said.

Taken together, these case studies show that transit properties that get the most out of their friction management programs share some basic characteristics in terms of their asset management.

They know the specific issue(s) they are addressing with their friction management programs. Through consultation and research these agencies deployed the optimal product and application method for their target and operating environment.

“It certainly helps to have a champion within the agency who is committed to the project,” Mitchell said.

They track their inventory and know what equipment they have and where it’s located.

They maintain their assets. These agencies have trained personnel who regularly perform inspections, keep applicators filled, and generally incorporate friction management into their preventive-maintenance practices.

“It’s not necessary to have [a worker] dedicated only to friction management,” Mitchell said while noting proper training and some man-hours dedicated to friction management is critical.

They have an asset investment plan that incorporates friction management into their specifications and capital planning

and a program to manage an inventory of consumables and spare parts.

Following these principles, transit agencies can ensure they’re achieving the expected results and return on investment. Not every friction management program will or should look the same, of course. Some agencies choose to outsource maintenance of their equipment and/or spare parts inventory to the supplier, some incorporate remote monitoring of their equipment into their asset management plan, some collaborate with suppliers and consultants regarding investment planning.

Mitchell notes there are many ways such programs can be fine-tuned to an individual agency or property’s needs but the basic calculus is simple: A good asset management plan keeps friction management systems in a state of good repair, which, in turn, enables the system to deliver the expected return on investment. L

**About the author**

**Jeff Tuzik** is managing editor of *Interface Journal*.

This article is based on a presentation made at the 2024 Rail Transit Wheel/Rail Interaction Conference.

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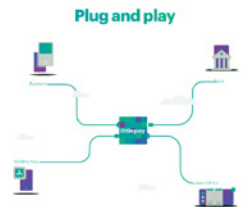
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# Growing Workforce

Wage benefits, mentoring, training programs

## Improving Service on St. Louis Region's Metro Transit System



By **Charles Stewart**  
Chief operating officer  
Metro Transit

**ST. LOUIS, MO.** • As we all navigate national workforce shortages, the success of hiring initiatives directly impacts the ability of public transit systems to serve customers. During the past year, Metro Transit has implemented a comprehensive, multi-faceted initiative that has successfully drawn more qualified candidates to apply for transit driver/operator positions in the St. Louis, Mo., region, leading to more job offers being extended and helping to keep those new hires on the job.

Our transit operator workforce and the number of individuals undergoing operator training have grown significantly during the past year due to our special efforts. This encouraging trend is helping us address continuing workforce shortages while sustaining a steady uptick in the number of operators joining Metro Transit. Rebuilding our workforce is essential to improve service for bus, light rail and paratransit customers.

A key driver of the successful hiring initiatives has been the marketing and promotion of monthly in-person hiring events. That has increased attendance at those

events, as well as online applications. We conduct on-site interviews with qualified candidates, which result in on-the-spot job offers for many applicants. The hiring events produced 999 on-the-spot job offers from June 2023 to June 2024 alone. Additionally, a special \$5,000 signing bonus established in June 2023 for operator positions, mechanics and electricians has raised interest and attendance at these hiring events. The \$5,000 signing bonus remains in place for paratransit operators and mechanics.

Other elements of our hiring initiative that have also contributed to more positive hiring trends for Metro Transit, include:

- Increased wage benefits for new and current operators and mechanics.
- A new mentoring program that involves a partnership with the Amalgamated Transit (ATU) Union Local 788 and International ATU that pairs veteran transit operators with new hires to give them guidance, insight into their new positions, to manage expectations and to move them forward toward successful careers.
- Updated training programs to better prepare new team members for their operator positions.
- Increased participation in recruitment efforts at all levels by Transit Operations and more consistent contact with applicants from the Talent Acquisition team.

The combined impact of these efforts can be seen in our numbers. Since January 2024, we have been able to increase frequency on 32 bus routes and evening service resumed on four high-demand routes. At our June hiring event, the number of applicants offered operator positions on the spot totaled more than 100, nearly doubling from June 2023. Eighty of those offers were for paratransit operators.

Not everyone who receives a job offer will end being hired for a variety of reasons, ranging from background checks to drug tests to accepting another job. That is why it is critical that we continue to grow the pipeline of individuals who want to explore a career in public transportation that could become a rewarding lifetime career. Interested individuals can learn more at [WorkAtMetroSTL.com](http://WorkAtMetroSTL.com).

Charles Stewart is chief operating officer of Metro Transit, which operates the main public transportation system in eastern Missouri and southwestern Illinois.

Marketing and promotion of monthly in-person hiring events has increased attendance at events.





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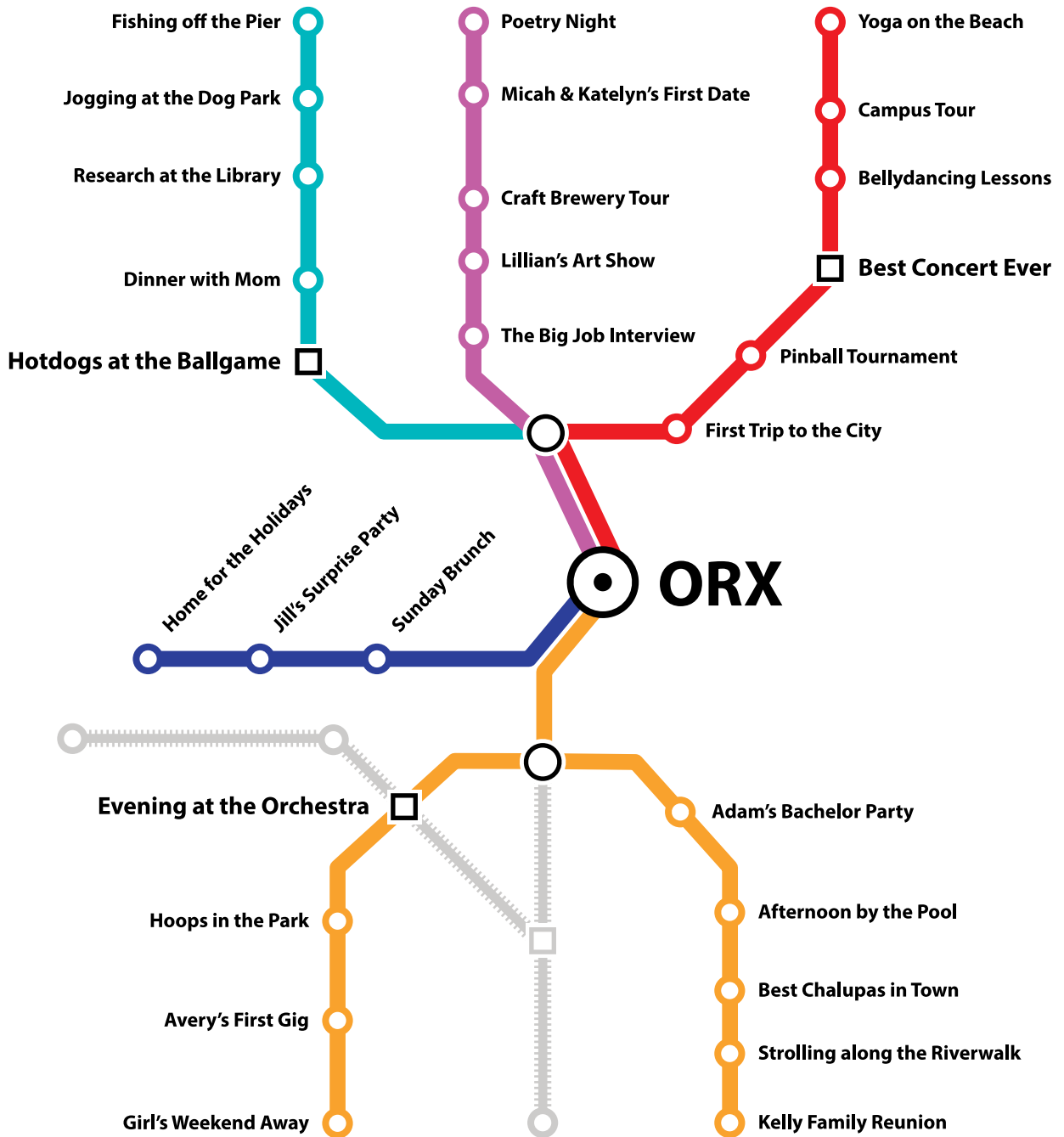


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