

MASS TRANSIT

BEST PRACTICES FOR INTEGRATED MOBILITY

MCTS' CONNECT 1 BRT Increases Transit Usage

Milwaukee's BRT launched in June
after a seven-year process. PAGE 18



MINIBUSES

Transit Agency Consortium Applies for FTA Waiver

PAGE 24

APTA 2023 Preview

What to expect to see at this
year's show in Orlando

PAGE 34



RIDE

THE TRANSIT EVOLUTION

Battery Electric • Zero-Emissions • Built In America

Driving the future towards a complete zero-emission ecosystem for a cleaner ride and a sustainable world.



K7M ER

30' Battery Electric
Extended Range Transit Bus



SAFEST
Battery Technology



80,000
Buses Globally



12 Year
Warranty

APTA TRANSform Conference & EXPO

Orlando, Florida • October 9-11, 2023 • Visit BYD | RIDE Booth #2221



For more information, visit www.MassTransitmag.com/11195189

ONLY ONE CAN BE #1.

ANGELTRAX CONTINUES TO BE THE LEADER IN INNOVATION.

V1202HC

- Extreme Storage Capacity
STORAGE UP TO 14TB
- Hybrid Component™ Modular Technology
MAINTENANCE IN MINUTES, NOT DAYS
- Live View. Live Tracking. Playback.
ALL IN ONE SOLUTION.

We provide the highest level of security for the most up-to-date hardware and software, protected by AngelTrax system administrators with no third parties—and ensure the utmost protection for your video and data files on AngelTrax hosted servers.



High-Definition Mobile Video
Surveillance Solutions



SOC 2®
TYPE II

- Security
- Availability
- Processing Integrity
- Confidentiality
- Privacy

COMPLIANT DATA CENTER



800.673.1788 / angeltrax.com



For more information, visit www.MassTransitmag.com/10066006

GSA CONTRACT # GS-07F-0447V
Copyright © 2023 IVS, Inc. dba AngelTrax All Rights Reserved



FEATURES

18 MCTS' CONNECT 1 BRT Bringing Public Transportation Usage Up in Milwaukee Area

WISCONSIN

The BRT launched in June after a seven-year process and the results are promising so far.

On the cover: MCTE



24 Transit Agency Consortium Applies for FTA Waiver for Minibuses

The consortium, led by HIRTA, is requesting the temporary waiver during a time when smaller transit providers face increased costs and limited supply for appropriately sized transit vehicles.

30 APTA Awards BART the 2023 APTA Rail Safety Gold Award

BART's director of fire life safety department opens up about what BART's Fire Life and Safety program is all about.

34 APTA's Big Show Returns to Orlando

The association is preparing an event that will engage and inform attendees.

42 Improve Fare Revenues and the Passenger Experience by Upgrading to a Future-Proofed Ticketing Infrastructure

Via One Interface, the latest ticket validators and readers accept any ticket, presented, in any orientation, while also accepting contactless payments.

46 Industry Insights: The Intersection of Diverse Leadership

Canada, U.S. leaders speak out on their DEI journey.

DEPARTMENTS

6 Editor's Notebook



10 People & Places

The latest industry and people news and updates

50 Products

In Focus: Vehicle Interiors

FOLLOW US

f FACEBOOK
facebook.com/MassTransit

X TWITTER
@MassTransitmag

in LINKEDIN
linkedin.com/company/11303271

✉ SUBSCRIBE TO OUR NEWSLETTERS
MassTransitmag.com/subscribe

ADVERTISER'S INDEX

American Public Transit Association.....	51
Amsted Rail.....	41
AngelTrax.....	3
Avail Technologies, Inc.....	13
BendPak.....	14
Bitimec WASH-BOTS Inc.....	22
BYD North America.....	2
California Transit Association (CalTransit).....	40
Celtis Ventures.....	44
ChargePoint, Inc.....	21
Complete Coach Works.....	20
Graffiti Shield, Inc.....	47
Hatch Associates Consultants Inc.....	35
Hitachi Rail STS USA.....	32
Irwin Car & Equipment.....	8 & 9
McLaren Applied, Inc.....	48
Nat'l Railroad Construction/Maint Assoc (NRC).....	7
ORX Rail.....	52
Penn Machine Company, LLC.....	36
Plasser-American Corporation.....	15
Power Pusher, Div. of Nu-Star Inc.....	35
PPG Commercial Coatings.....	27
Railway Systems Supplies, Inc. / RSSI.....	33
Rosco Vision Systems (Rosco Collision Avoidance).....	37
Safety Vision.....	26
Scheidt & Bachmann.....	45
Seon/Safe Fleet.....	23
Ventura Systems.....	16
Vericom LLC.....	44
Wabtec Bus Solutions (formerly Vapor Bus International).....	28
Western Cullen Hayes.....	49

MASS TRANSIT

Published by Endeavor Business Media, LLC
30 Burton Hills Blvd, Ste. 185, Nashville, TN 37215
800-547-7377

Vol. 49, No. 5

VICE PRESIDENT, MARKET LEADER - COMMERCIAL VEHICLE GROUP

Michael Uliss
(770) 516-4704 | MUliss@MassTransitmag.com

GROUP PUBLISHER Brandon Williamson
(512) 739-2102 | BWilliamson@MassTransitmag.com

EDITOR IN CHIEF Mischa Wanek-Libman
(224) 324-8532 | MWanek@MassTransitmag.com

ASSOCIATE EDITOR Brandon Lewis
(216) 298-3269 | BLewis@MassTransitmag.com

ASSOCIATE EDITOR Eman Abu-Khaled
(224) 236-3684 | EAbukhaled@MassTransitmag.com

CONTRIBUTORS Dana Nassif, Arthur Tay, Mavara Turab

MULTIMEDIA ACCOUNT MANAGER Kristy Dziukala
(920) 568-8324 | Kristy@MassTransitmag.com

MULTIMEDIA ACCOUNT MANAGER Paul Ropski
(815) 255-4118 | PRopski@MassTransitmag.com

LIST RENTALS REPRESENTATIVES InfoGroup
MICHAEL COSTANTINO
(402) 836.6266 | Michael.Costantino@infogroup.com
KEVIN COLLOPY
(402) 836.6265 | Kevin.Collopy@infogroup.com

PRODUCTION MANAGER Patti Brown

AD SERVICES MANAGER Deanna O'Byrne

ART DIRECTOR Erin Brown

AUDIENCE DEVELOPMENT MANAGER
Debbie Dumke



ENDEAVOR BUSINESS MEDIA, LLC

CEO Chris Ferrell
PRESIDENT June Griffin
CFO Mark Zadell
COO Patrick Rains
CRO Reggie Lawrence
CHIEF DIGITAL OFFICER Jacquie Niemiec
CHIEF ADMINISTRATIVE
AND LEGAL OFFICER Tracy Kane
EVP TRANSPORTATION Kylie Hirko

SUBSCRIPTION CUSTOMER SERVICE
877-382-9187; 847-559-7598
Circ.MassTransit@Omedia.com
PO Box 3257, Northbrook IL 60065-3257

ARTICLE REPRINTS
reprints@endeavorb2b.com



Mass Transit (USPS 017-230). (ISSN 0364-3484 print, ISSN 2150-413x online) is published 6 times per year in February, March/April, May/June, July/August, September/October and November/December by Endeavor Business Media, LLC, 1233 Janesville Ave., Fort Atkinson, WI 53538. Periodical postage paid at Fort Atkinson, WI, and additional mailing offices.

POSTMASTER: Send address changes to Mass Transit, PO Box 3257, Northbrook, IL 60065-3257. **SUBSCRIPTIONS:** Publisher reserves the right to reject non-qualified subscriptions. Subscription prices: U.S. (\$47.50 per year); Canada/Mexico (\$81.25 per year); All other countries (\$116.25 per year). All subscriptions payable in U.S. funds. Send subscription inquiries to Mass Transit, PO Box 3257, Northbrook, IL 60065-3257. Customer service can be reached toll-free at 877-382-9187 or at circ.masstransit@omedia.com for magazine subscription assistance or questions.

Printed in the USA. Copyright 2023 Endeavor Business Media, LLC. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopies, recordings, or any information storage or retrieval system without permission from the publisher. Endeavor Business Media, LLC does not assume and hereby disclaims any liability to any person or company for any loss or damage caused by errors or omissions in the material herein, regardless of whether such errors result from negligence, accident, or any other cause whatsoever. The views and opinions in the articles herein are not to be taken as official expressions of the publishers, unless so stated. The publishers do not warrant either expressly or by implication, the factual accuracy of the articles herein, nor do they so warrant any views or opinions by the authors of said articles.

September Offers an Important Reminder about Rail Safety

Rail Safety Month and Rail Safety Week offer ample opportunities to focus on preventing tragedies on and around railroad property.

Some of *Mass Transit's* readers may not know I began my career more than 20 years ago covering the construction and maintenance of North America's railroads. Safety, specifically safety while on or around rail property, has been a consistent subject of coverage throughout my career.

Every September, rail safety becomes the focus of efforts across the United States, Canada and Mexico, as various government agencies, nonprofit organizations and rail industry stakeholders mark Rail Safety Month, which culminates this year during the week of Sept. 18-24 with Rail Safety Week.

The goal of Rail Safety Month and Rail Safety Week is simple, but lofty: Raise awareness of safety conduct around rail project to reduce the number of injuries and deaths.

According to Operation Lifesaver, Inc. (OLI), more than 60 percent of collisions occur at grade crossings equipped with lights and/or gates more than 2,100 people are injured or killed annually in crossing and trespassing incidents in North America and trespassing along railroad rights-of-way is the leading cause of rail-related deaths in the U.S.

Unfortunately, another constant throughout my career has been how steady these statistics have been year-over-year. These statistics can be frustrating knowing the time, effort and financial investment that has been placed into various education, engineering and enforcement initiatives. These numbers are also tragic because most of these incidents are so very preventable.

This is why the industry needs dedicated partners like OLI, which never stops developing new campaigns, refining target audience messaging and outreach efforts with a goal of seeing those statistics mentioned above notch downward.

Rail Safety Week 2023 will focus on a unifying theme to "stop track tragedies" and will feature seven days of activities designed to target a broad spectrum of audiences:

- Sept. 18: #STOPTrackTragedies
- Sept. 19: Operation Clear Track, which will highlight partnerships between rail entities and local law enforcement and first responders.
- Sept. 20: Crossing safety, which will focus on mature drivers, shift workers, risk takers and others to educate on the importance of safe activity when around grade crossings.
- Sept. 21 will focus on transit safety.
- Sept. 22 is wear red for rail safety day.
- Sept. 23 will focus on trespass prevention.
- Sept. 24 will aim to educate professional and amateur photographers and social media influencers on safety activity on or around rail property.

OLI is recommending supporters get involved in Rail Safety Month and Rail Safety Week by sharing the rail safety message and make good decisions around tracks and trains.

While September's special focus on rail safety draws attention to the cause, sharing the rail safety message all year long is essential to maintain awareness that could save lives.

“

The numbers are also tragic because most of these incidents are so very preventable.

”

✉ mwanek@masstransitmag.com

☎ 224-324-8532

🌐 [linkedin.com/in/mischawaneplibman](https://www.linkedin.com/in/mischawaneplibman)



Mischa Wanek-Libman

Mischa Wanek-Libman,
editor in chief

NRC Annual Conference & NRC-REMSA Exhibition

January 3-6, 2024 | Scottsdale, AZ

Learn. Network. Advocate.

Conference Highlights

- 2024 engineering & capital spending plans (commuter rail/transit, Class I and short line)
- Noteworthy national rail project overviews
- Railroad Signals & Communications update
- FRA safety updates & best practices
- Sustainability panel
- Infrastructure outlook and legislation
- Awards

It's time to make plans

to attend the premier rail industry event of 2024.

Join us in Scottsdale for an unparalleled opportunity to connect with key decision-makers in the transit, commuter rail and freight railway industries.

Register now and lock in your room at the Fairmont Scottsdale Princess, Scottsdale, AZ

Find all the details here:



**NATIONAL RAILROAD
CONSTRUCTION & MAINTENANCE
ASSOCIATION**

Connections Happen Here

nrcma.org

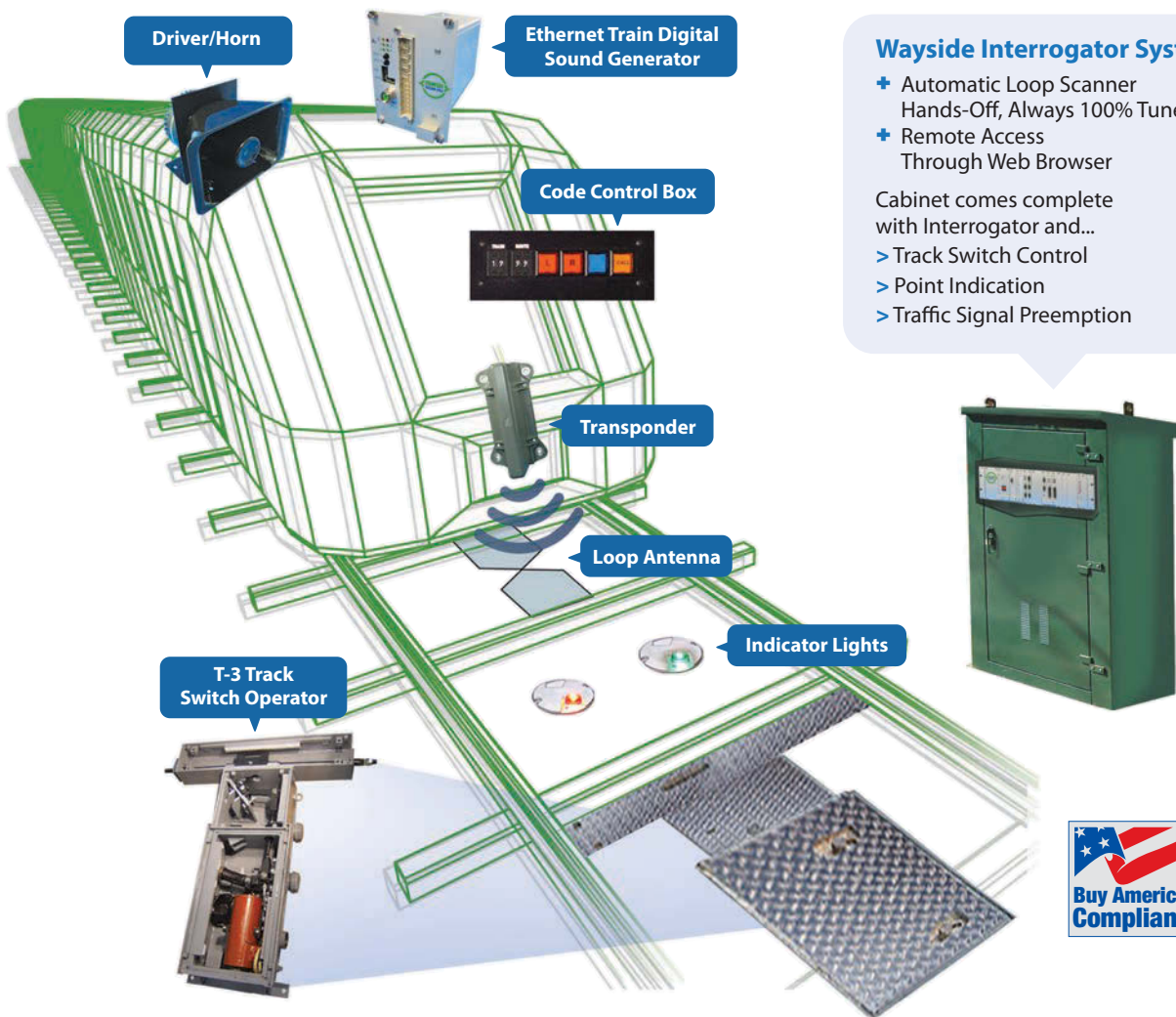
For more information, visit www.MassTransitmag.com/21084646

IRWIN TRANSPORTATION PRODUCTS

Keep You on the Right Track

Train to Wayside Communications Systems -
Audible Warning Systems - Track Switch Machines

VECOM USA: THE INNOVATIVE MARKET LEADER FOR TWC & AWS



Wayside Interrogator System

- + Automatic Loop Scanner
Hands-Off, Always 100% Tuned
- + Remote Access
Through Web Browser

Cabinet comes complete with Interrogator and...

- > Track Switch Control
- > Point Indication
- > Traffic Signal Preemption

We supply the products that keep you MOVING

VECOM USA is the industry's leading provider of **BUY AMERICA COMPLIANT** train to wayside communications (TWC) and track switching solutions.

- > One-way or Bi-directional Data Transmission between Vehicle Equipment & Wayside System
- > T-3 Electric-Mechanical Switch Machines
- > T-3 Electro-Hydraulic Switch Machines
- > Aftermarket Support and Diagnostic Test Equipment

If high reliability, outstanding engineering & customer service, and fast response time are critical to your success, then it's time to switch.

vecom-usa.com

irwincar.com/transportation-products

tcoomer@irwincar.com

SWITCH MACHINES dcolussi@irwincar.com



A Division of Irwin
Transportation Products

Your One-Stop Shop for Rail Transit Products & Technical Services

UKM Transit Products

STANDARD & CUSTOM PRODUCTS THAT MEET OSHA, ADA & OTHER REQUIREMENTS

Our products, services, and certifications include:

- Car Door Thresholds
- Ramps, Steps, Trapdoors & Step Wells
- Modern Integrated Manufacturing Capabilities
- AWS Certified Welding
- Custom Design & Engineering Capabilities
- ISO 9001 Certified

We offer metalworking, plasma spray, powder coating, and finishing to ensure superior craftsmanship, quality, and durability.

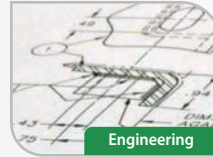
Experience the UKM difference.

ukmco.com

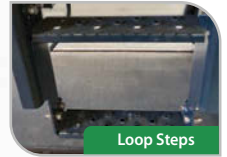
fweisbecker@irwincar.com



Thresholds



Engineering



Loop Steps



Buffet Arrangements



Thresholds & ADA Ramps



Specialty Products



A Division of Irwin
Transportation Products

PROVIDING TRANSIT AGENCIES NATIONWIDE WITH PART KITS, TRUCK REBUILDS & REPLACEMENT PARTS

Since 2006, **Gray Manufacturing Industries (GMI)** has been supplying transit agencies with overhaul kits for the in-house maintenance of rail vehicles.

Our expertise in project sourcing and reverse engineering of components no longer supported by OEMs helps transit agencies prolong the operating lives of their vehicles.

Our customers include the Chicago Transit Authority, Niagara Frontier Transportation Authority (Buffalo), and Southeastern Pennsylvania Transportation Authority (SEPTA – Philadelphia).

Put our manufacturing excellence and engineering expertise to work for you.

gmihornell.com

tcharles@irwincar.com

For more information, visit www.MassTransitmag.com/10065017



Truck Overhaul



Cables and Wire Harnesses



Material Kits



A Division of Irwin
Transportation Products

People & Places



A rendering of the Portal North Bridge project.

Photo: Amtrak

Portal North Bridge project reaches 25 percent completion

In partnership with New Jersey Transit (NJ Transit), Amtrak continues to advance project construction on the Portal North Bridge and achieved 25 percent completion over the summer. The project remains on schedule and on budget, with a target completion date expected in late 2027. The Portal North Bridge is a key Phase I project in the Gateway Program and will create a modern, high-level, fixed-span structure to replace the century-old Portal Bridge – a moveable swing-span that creates a major bottleneck along the Northeast Corridor (NEC). The completed Portal North Bridge will remove conflicts with maritime traffic, improve reliability for Amtrak and NJ Transit passengers, allow for increased train speeds and provide for expanded capacity along the NEC.

[MassTransitmag.com/53069817](https://www.masstransitmag.com/53069817)

station's Connecticut-bound platform. The garage is owned and operated by Metro-North. The Harrison project is expected to be a transformative project for the station and the central business district of Harrison and is a three-way win for the partnership.

[MassTransitmag.com/53068530](https://www.masstransitmag.com/53068530)



Caltrain is going to pilot the first battery-equipped electric multiple unit train in the U.S.

Photo: Caltrain

Caltrain to pilot first battery-equipped electric multiple unit train

► The California Transportation Commission approved the allocation of \$80 million from a California State Transportation Agency grant to Caltrain for one battery-equipped electric multiple unit train (BEMU) and the associated research and development. The approval to use the grant will allow Caltrain to be operable with zero-emission trains on both the electrified service area of the corridor, as well as the portion of the corridor from Tamien Station in San Jose to Gilroy that does not yet have overhead electrified lines. The BEMU train, which will be purchased on a contract option with Stadler, Caltrain's electric train manufacturer, is an electric multiple unit train with additional energy storage capacity.

[MassTransitmag.com/53069821](https://www.masstransitmag.com/53069821)

MTA Metro-North Railroad completes first transit-oriented development project

► The Metropolitan Transportation Authority (MTA) Metro-North Railroad marked the completion of Avalon Harrison, a transit-oriented development at the Harrison Metro-North station built with support from the MTA. The first phase of the two-phase project opened Aug. 23, 2021, and included the construction of a 598-space commuter parking garage located steps away from the Harrison



MTA Metro-North Railroad has completed the Avalon Harrison transit-oriented development project.

Photo: MTA



Metropolitan Council and Hennepin County have agreed to funding agreement for the Green Line Extension Light Rail Transit Line.

Photo: Metropolitan Council

Metropolitan Council, Hennepin County agree to funding agreement for Green Line Extension Light Rail Transit Line

► The Metropolitan Council and Hennepin County, Minn., have reached a funding agreement for the Green Line Extension Light Rail Transit Line. The two entities have collaborated for several months to define funding sources and reach a resolution to close the remaining funding gap. The funding agreement has the Metropolitan Council responsible for the startup costs prior to the line opening and contributing 45 percent of the funds needed to complete the capital construction of the project. The Metropolitan Council's share will primarily come from federal capital formula program funds over the next three years. Hennepin County will provide 55 percent of the capital costs from their transit sales tax.

[MassTransitmag.com/53069976](https://www.masstransitmag.com/53069976)

NYC DOT completes bus priority project along Northern Boulevard in Queens

► The New York City Department of Transportation (NYC DOT) has completed the bus priority project along Northern Boulevard in Queens, the longest bus lane installation NYC DOT is delivering in 2023, to make service faster and more reliable for 17,000 daily riders. The Northern Boulevard bus priority project delivers five miles of bus lanes from Woodside to Corona, in addition to proven street improvements along a Vision Zero priority corridor. The improved street design assists five bus routes – the Q66, QM2, QM3, QM20 and QM32 – with 17,000 weekday riders, and connects to the

PEOPLE IN THE NEWS

City of Greensboro, N.C.



The city of Greensboro, N.C., named **Reginald Mason** as the city's first transit department director. Mason will now be responsible for city-wide transit planning and transit management activities, as well as developing long-range public transportation plans. He will also provide leadership to the Greensboro Transit Agency management team and manage all existing transit services, including oversight of in-house and contracted transit services.

[MassTransitmag.com/53071219](https://www.masstransitmag.com/53071219)

Chicago Transit Authority (CTA)



Denise W. Barreto was appointed as the CTA's first chief equity and engagement officer. She will spearhead the CTA's ongoing efforts to deliver efficient and equitable transit services throughout its service area. Barreto served as the inaugural director of equity and Inclusion at Cook County for the past three years and spent more than a decade as a private sector consultant to local government, corporate and philanthropic entities.

[MassTransitmag.com/53070987](https://www.masstransitmag.com/53070987)

Los Angeles Department of Transportation (LADOT)



Laura Rubio-Cornejo joined LADOT as the general manager of the agency. Rubio-Cornejo brings more than 20 years of municipal, regional and state transportation experience. She currently serves as the city of Pasadena's director of transportation and previously held senior roles at Los Angeles County Metropolitan Transportation Authority. Rubio-Cornejo will focus the department on executing solutions that make communities safer and more livable.

[MassTransitmag.com/53071008](https://www.masstransitmag.com/53071008)

M, R, subway lines at Broadway and Northern Boulevard.

[MassTransitmag.com/53068691](https://www.masstransitmag.com/53068691)

Amtrak places order for 10 additional Airo trainsets

► Amtrak's Airo trainsets are in high demand, with another contract option to order 10 additional trainsets being executed, bringing the total contract order to 83 trainsets. The first Amtrak Airo trainset is scheduled to debut in 2026, and the new trains will operate on routes throughout the country. Amtrak's Airo trainsets are geared to be more fuel efficient, producing 90 percent less particulate emissions in diesel operations. They also include dedicated water stations on each trainset to provide chilled and filtered hydration while reducing the need



Amtrak places order for 10 additional Airo trainsets.

Photo: Amtrak

for disposable plastic bottles. Airo trainsets will have enhanced accessibility features, including spacious and accessible restrooms, vestibules and Café cars with integrated boarding equipment for customers with reduced mobility and contemporary food service, which will allow for a grab-and-go experience.

[MassTransitmag.com/53069991](https://www.masstransitmag.com/53069991)



TTC CEO Rick Leary speaks Aug. 10 to provide details about a new option to use debit and credit cards as fare payment on TTC starting Aug. 15, 2023.

Photo: Government of Ontario

Debit, credit cards can now be used to pay for TTC fares

► The Toronto Transit Commission (TTC) launched fare payments by debit or credit cards on Aug. 15. The expansion of fare payment options on TTC follows the start of debit and credit payments on transit services throughout the Greater Toronto and Hamilton Area in May 2023. Riders can use their debit and credit cards, as well as their smartphone and smart watches to pay for transit fares at any PRESTO device. Debit and credit card fare payment options are available on GO Transit, UP Express, Brampton Transit, Burlington Transit, Durham Region Transit, Hamilton Street Railway, MiWay in Mississauga, Oakville Transit and York Region Transit, as well as paratransit services in Burlington, Durham Region, Hamilton, York Region, Oakville and Ottawa.

[MassTransitmag.com/53068933](https://www.masstransitmag.com/53068933)

MBTA Operations Control Center makes two policy changes to comply with FTA safety standards

► All Massachusetts Bay Transportation Authority Operations Control Center employees have been in sustained compliance with two policy changes that further ensure employees have sufficient time off to recover between shifts and are not dual scheduled for dispatcher and supervisor duties. The policies close out two Federal Transit Administration (FTA) findings issued in a Special Directive Letter on June 15, 2022. The FTA reported that the

PEOPLE IN THE NEWS

Corpus Christi Regional Transportation Authority (CCRTA)



CCRTA selected **Gordon Robinson** as managing director of operations where he will oversee approximately 275 employees and contractors and manage a \$26 million budget. He joined the organization as the director of service development in 2013 and is a certified planner through the American Institute of Certified Planners and a project management professional.

[MassTransitmag.com/53070127](https://www.masstransitmag.com/53070127)

King County Metro Transit



Ernest Kandilige stepped in as King County Metro Transit's permanent deputy general manager after serving as King County Metro's interim deputy general manager since January 2023. Kandilige credits his upbringing in Ghana with his ability to be resourceful. He will be focused on supporting operations in vehicle maintenance, bus operations, transit facilities, safety and security and marine and rail. Kandilige served as senior continuous improvement manager for King County's Office of Performance, Strategy and Budget and has many years of experience in the private sector.

[MassTransitmag.com/53070182](https://www.masstransitmag.com/53070182)

Detroit Department of Transportation (DDOT)



G. Michael Staley stepped into the role of interim executive director of transit for the DDOT in January 2023. Staley was hired in June of 2022 as executive paratransit manager. During the first seven months of service (Jan. 1, 2023 - July 31, 2023), on time performance improved to 97 percent and the number of performed trips resulting in a customer complaint went down to 0.10 percent. Prior to his position with the DDOT, Staley had 29 years of experience in the paratransit industry, much of it at the executive level.

[MassTransitmag.com/53070172](https://www.masstransitmag.com/53070172)



MBTA Operations Control Center has made two policy changes to comply with FTA safety standards.

Photo: MBTA

finding on mandatory rest hours between shifts has been lifted and the finding on eliminating dual scheduling

for dispatcher and supervisor duties has also been lifted.

[MassTransitmag.com/53069077](https://www.masstransitmag.com/53069077)

The Importance of SOC 2[®] Examinations

- Access control
- Two-factor authentication
- Encryption
- Encryption
- Access control
- Network/application firewalls



- Quality assurance
- Processing monitoring

- Network/application firewalls
- Two-factor authentication
- Intrusion detection
- Performance monitoring
- Disaster recovery
- Security incident handling

In today's increasingly digital world, where technology is in almost every aspect of our lives, the need for a strong culture of security has never been more crucial. Cyber threats continue to evolve and pose significant risks to individuals, organizations and even nations. Building a culture of cybersecurity is essential to protecting our sensitive information, preserve our privacy and ensure the integrity of our digital infrastructure. By instilling a shared responsibility and awareness of cybersecurity best practices, we can collectively defend against cyber threats and create a safer online environment for ourselves and our customers. Avail Technologies, Inc., recent SOC 2[®] examination shows that Avail is ensuring the security and integrity of our organization's systems and services, especially when it comes to handling sensitive data and providing services to clients.

What is SOC 2[®]?

SOC 2[®] stands for "System and Organization Controls 2." It's a framework developed by the American Institute of CPAs to evaluate the controls an organization has in place to ensure the security, availability, processing integrity, confidentiality and privacy of the data it processes on behalf of its clients. A SOC 2[®] report is relevant to organizations that provide services and handle sensitive data, like cloud service providers, data centers and Software-as-a-Service (SaaS) companies.

SOC 2[®] examinations involve an audit process where a third-party auditor assesses the organization's controls and practices against the criteria defined in the SOC 2[®] framework. The goal is to ensure that the organization has adequate safeguards in place to protect the interests of its clients and the integrity of their data.

Why is SOC 2[®] important to Avail and its customers?

A SOC 2[®] report provides our clients or partners a layer of confidence that Avail is properly ensuring data security and control and is the most widely accepted form of criteria to demonstrate IT and data controls. For security-conscious transit agencies, an SOC 2[®] examination is a minimal requirement when considering a SaaS provider. Also, as an ERP software provider that stores personal information, such as human resource and payroll documentation, it is critical that we have the customer's trust that their personal information is secure and Avail has processes in place to prevent and respond to data breaches. Having SOC 2[®] reports proves to our customers that we are the right vendor for the job because we commit to keeping their system operational and secure.

How can your agency benefit by choosing a software provider, like Avail, who regularly completes SOC 2[®] examinations?

Risk mitigation: By adhering to the stringent security controls set forth in SOC 2[®] controls, we reduce the chances of data breaches, downtime and other security incidents that could disrupt operations and harm the reputation of both our organization and yours.

Transparent accountability: SOC 2[®] reporting ensures that our processes and controls are audited by an independent third party, assuring our clients that their data is being handled responsibly and that there's external validation of your security practices.

Long-term partnership: Our commitment to security isn't a one-time effort – it's an ongoing commitment. Our clients can trust that we'll continue to invest in security measures to stay ahead of emerging threats to continually pass our SOC 2[®] examinations.

Peace of mind: SOC 2[®] reporting ultimately provides peace of mind for both our organization and our clients. You can focus on your core operations, knowing that your sensitive data is in capable hands, and that any potential issues will be handled efficiently and transparently.

How is Avail innovating to be at the forefront of cybersecurity to help agencies?

As a technology partner, not just a provider, Avail is taking a holistic approach to security. This approach is guided by a cybersecurity committee and INFOSEC policy to secure our entire range of products and services. Our entire back-office suite of Enterprise Transit Management software is cloud based to enable agencies to migrate away from reliance of on-premise servers and hardware. Now that Avail has SOC 2[®] auditing and reporting, our customers know that we have enhanced intrusion detection, security logging retention and audit reports available to support agency regulation compliance, as well as increased limits on cyber insurance.

About the author



Brian Farabaugh, Director of Engineering at Avail Technologies, Inc.

People & Places

Metropolitan Transportation Authority (MTA)



Catherine Sheridan will serve as president of MTA Bridges and Tunnels. She has served as interim president since March 4, 2023. Sheridan joined MTA in 2019 and served as chief of staff at MTA Construction & Development since October 2021. Sheridan also served in the United States Army as a combat engineer from 1989 to 1997, reaching the rank of Captain.

[MassTransitmag.com/53069526](https://www.masstransitmag.com/53069526)

San Joaquin Regional Transit District (RTD)



Curtis Moses was named the San Joaquin RTD director of safety and security. Moses holds certifications in Transit Rail and Bus Safety and Security Professional, Certified World Safety and Security Director, Certified Auditor, Certified FEMA Emergency Management and Terrorist Liaison Officer. He has traveled to multiple countries engineering and managing projects for various industries.

[MassTransitmag.com/53069209](https://www.masstransitmag.com/53069209)

North County Transit District (NCTD)



Paul J. Ballard began as interim executive director for NCTD on Aug. 28, following the retirement of Executive Director Matthew O. Tucker. Ballard's four-month contract will include the oversight of operations for NCTD, as well as support of the NCTD Board during its executive director selection process. Prior to NCTD, Ballard served as the CEO of the Nashville Metropolitan Transportation Authority and the Regional Transportation Authority of Middle Tennessee before becoming president and CEO of Trinity Metro in Fort Worth, Texas. He retired from Trinity Metro in April 2019.

[MassTransitmag.com/53069242](https://www.masstransitmag.com/53069242)

CityLink



CityLink's new director of finance is **Sherry Thomas**. Thomas joins CityLink with more than 22 years of experience in the financial field with a strong focus on the public sector. Thomas has been a member of the Government Finance Officers Association (GFOA) of the United States and Canada since 2008, and she has actively participated on the GFOA Treasury and Investment Management Committee.

[MassTransitmag.com/53068329](https://www.masstransitmag.com/53068329)

FEEL THE CHILL

CONTROL YOUR CLIMATE. JUST ADD WATER.™

BEAT THE HEAT SALE GOING ON NOW

LEARN MORE

Space-saving and energy-efficient Cool Boss evaporative air coolers are made for quiet operation and portability, allowing you to use them indoors or outdoors. Just hook up to a standard garden hose or fill the portable water tank, turn it on, and start chilling. It's just that simple! Learn more at [COOLBOSS.COM](https://www.coolboss.com) or call 1-855-2BE-COOL.

FEATURES

26° F Cooling*



Auto-refill



Easy-to-use Control Panel



Large Cooling Area



COOL BOSS™
A Division of BendPak Inc.

©2023 CoolBoss™. A division of BendPak Inc. All rights reserved. BendPak® is a registered trademark.*Your specific location may require a combination of multiple models and/or sizes to provide the most effective cooling experience.

For more information, visit www.masstransitmag.com/21207835

Future Rail Treatment - NOW



Photo: Plasser American

What is the significance of the rail for wheel-rail system behavior?

The rail is a central component of the wheel-rail system, as it defines the wheel-rail contact patch together with the wheel. Although the rail sits at a central point of the system, it cannot be classified as the most important component. Every component of the system (subgrade, ballast, ties, fastenings, etc.) has an impact on system behavior and thus has a direct or indirect impact on the other components of the system, as well. Only by choosing a holistic approach that considers these components and their interactions can the whole system be optimized.

What can be done to extend the life of the rail (and the system)?

The term "rail treatment" is used to summarize strategies, measures and technologies to extend the life of the rail and the system. The infrastructure owner can choose from several tools in the rail treatment toolbox, so to speak. First, measurement technology is a requirement, or even a precondition, for using any other tool, as you can only manage what you can measure. Measurement technology includes transversal and longitudinal profile measurement, surface crack detection systems and ultrasound systems.

Next, the most suitable rail grade needs to be selected for the application scenario in question. and these rail grades need to be joined with a reliable, high-quality joining technology, such as flash butt welding, so the rail and rail connection have the same service life. Optimized rail

(and wheel profiles) reduce contact stresses and improve vehicle steering, thereby extending the life of both components. A track in very good condition has low dynamic forces, which delays the formation of rail damage. Conversely, a damage free rail in very good condition delays track degradation. Friction management, the combined application of gauge face lubrication and top of rail friction control, reduces contact and steering forces between the wheel and rail, which delays the formation of rail damage.

Finally, rail maintenance (rail grinding, rail milling) is the only tool in the toolbox that does not delay the formation of damage. Instead, it can counter rail degradation by removing surface damage and restoring the rail profile. It is important to highlight these rail treatment tools must not be seen as stand-alone solutions. Instead, they need to be applied considering their direct or indirect interaction.

Rail grinding and rail milling – competitive or complimentary technologies?

Rail grinding and rail milling are the two main technologies for rail maintenance. Rail grinding is an abrasive process that allows for low to medium metal removal per machine pass, creating the desired rail profile as a slightly polygonised shape. The process allows for "on the fly" profile adaptation by adjusting the grinding stone angle and pressure. The bi-directional process results in sparks and dust that can be adequately controlled through various measures (spark

shielding, fire-suppression equipment, a dust collection system). The resultant surface quality (roughness) can be adjusted through the process parameters. Rail grinding machines are available in various sizes, ranging from a small eight-stone high-rail vehicle to a 120-stone production grinder. Rail grinding can achieve passing speeds of up to 20 mph.

Rail milling is a dry, spark- and dust-free, rotational cutting process in which the rail material is removed from the rail surface in the form of milling chips. The chips are collected and stored on the machine for later recycling. The resultant rail profile is defined by the negative shape of the cutting head. A different profile requires changing the cutter head. Rail milling has a wide range of metal removal capabilities, ranging from 0.3 mm to several millimeters per pass, depending on the machine size. Due to the integrated polishing process, rail milling creates a high-quality surface finish with low roughness. The directional process can achieve up to 1.85 mph per pass.

Considering the properties of both technologies, it is evident that grinding and milling are mostly complimentary technologies. Rail grinding has the highest productivity in preventive, low metal removal scenarios, whereas rail milling has the advantage in regenerative or heavy corrective scenarios that require high metal removal. There is a limited competitive overlap in corrective applications requiring medium to high metal removal. Of course, specific customer requirements and technological properties may shift the application window toward one maintenance technology or the other.

What is the future of rail treatment?

The future of rail treatment has already begun today, with Plasser American offering a wide variety of innovative technologies and services as a full-service provider in the areas of rail measurement technology, rail welding and rail maintenance, as well as track maintenance machinery / technologies.

About the author

Richard Stock is global head of rail solutions at Plasser American.

NYC is set to become the first large city in the world to have a rideshare fleet that is entirely zero-emissions or wheelchair accessible by 2030.

Photo: City of New York



NYC set to become first large city to have rideshare fleet that is entirely zero-emissions or wheelchair accessible by 2030

► New York City (NYC) is requiring the transition of the city's rideshare fleet to either zero-emission vehicles or wheelchair accessible vehicles by 2030. The initiative, known as Green Rides, lays crucial groundwork in creating a cleaner and more accessible transportation system for NYC. The proposed rules will also make NYC the first large city in the world to have a rideshare fleet that is either zero-emissions or wheelchair accessible. The Green Rides program and the set of proposed rules delivers on a commitment from NYC Mayor Eric Adams' Working People's Agenda to electrify the high-volume for-hire vehicle fleet in NYC without imposing new costs on individual drivers.

[MassTransitmag.com/53069505](https://www.masstransitmag.com/53069505)

+ reliability
+ interior space
+ passenger flow

Our **Plug Sliding door** creates a barrier free doorway that allows passengers to get on and off the bus quickly and safely.

This **overhaul free** door system is designed to last the lifetime of the bus, offering the **lowest life cycle cost.**



VENTURA
SYSTEMS



Ventura Systems Inc.
160 Gibson Ct.
Dallas N.C.

www.venturasystems.com

For more information, visit www.MassTransitmag.com/53042448

MORE NEWS AT A GLANCE

► The Connecticut Department of Transportation confirmed an order for 60 single-level rail coach cars from Alstom.

[MassTransitmag.com/53068825](https://www.masstransitmag.com/53068825)

► Charlottesville Area Transit is partnering with Via on its new low-emission microtransit pilot program, which is launching in Albemarle County, Va., this fall.

[MassTransitmag.com/53069483](https://www.masstransitmag.com/53069483)

► La Habra, Calif., awards Iteris contract for traffic signal synchronization project.

[MassTransitmag.com/53070359](https://www.masstransitmag.com/53070359)

► Metrolink awards contract to Kenaidan Contractors Ltd for construction of pedestrian connection.

[MassTransitmag.com/53071173](https://www.masstransitmag.com/53071173)

► Tolar Manufacturing Company to deliver 19 bus shelters to PSTA in December.

[MassTransitmag.com/53071176](https://www.masstransitmag.com/53071176)

► Denver RTD contracts WSP USA to transition RTD's facilities and fixed-route fleet to low/no-emission operations.

[MassTransitmag.com/53070594](https://www.masstransitmag.com/53070594)

Career CENTER

Moving Transit Careers Forward

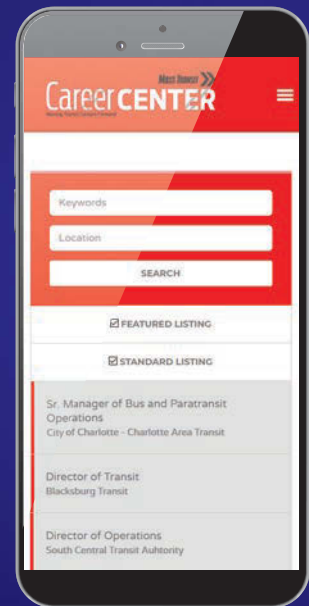
Start your search.

Access your next

Career Opportunity.

Mass Transit Career Center:
Your guide to open positions
in the transit industry

Start your search
Jobs.MassTransitmag.com



Jobs.MassTransitmag.com

MCTS' CONNECT 1 BRT Bringing Public Transportation Usage Up in Milwaukee Area

The BRT launched in June after a seven-year process and the results are promising so far.

BY BRANDON LEWIS, ASSOCIATE EDITOR



B

us rapid transit (BRT) systems are becoming the modern way to travel using public transit. In Milwaukee, Wis., the Milwaukee County Transit System (MCTS) launched the CONNECT 1 BRT system in June. The BRT travels alongside a nine-mile route, providing service from downtown Milwaukee to the city of Wauwatosa. The BRT features 33 bus platforms on its route.

The process of designing and constructing the BRT project took almost seven years. When the concept was first brought up in 2016, Milwaukee County supervisors wanted to see a modern transit system that used electric buses to transport Milwaukee residents from point A to point B.

Anna Schryver, marketing and communications manager for MCTS, notes a BRT system is significantly less expensive than a rail line, something the Milwaukee County supervisors took under consideration when planning the eventual CONNECT 1 line.

“During the planning phase of the project, the thought was that the BRT could bring all the benefits of light rail, including frequency and an established route. It could bring everything that cities and counties look at in a light-rail service without the cost associated with a light-rail service,” Schryver said.

The timeline

In 2016, Milwaukee County Supervisors conducted a feasibility study on the proposed new BRT line. During the years of 2017 and 2018, MCTS worked with the

**Riders board
a MCTS
CONNECT
1 LFSE+ bus
from Nova
Bus.**

Photo: MCTS



Federal Transit Administration (FTA) on the development of the project and conducted an engineering/environmental review. MCTS would continue to tinker with the final design until 2020 when it received a Capital Investment Grant of \$40.9 million from the FTA for the project.

MCTS selected HNTB, who had been working with MCTS since the beginning of the project, to be the construction manager for the BRT following a request for proposals.

Construction on CONNECT 1 started in mid-June 2021 amid the COVID-19 pandemic. The project was supposed to launch in October 2022 but was pushed back multiple times due to supply chain issues related to the pandemic. HNTB Project Manager Mike Zabel noted there were a range of items that were delayed, which were critical to completing construction, including electrical components and batteries for battery electric buses (BEB).

Battery electric buses

Part of the delays on the project had to do with the lack of BEBS MCTS had received. As *Mass Transit* previously reported, the supply chain challenges impacting the transit industry's manufacturing base, including bus manufacturers a combination of inflationary pressures and pricing volatility.

MCTS selected Nova Bus to provide 15 LFSE+ buses for the project in March 2021. The first 11 of the vehicles were set to arrive in November 2022 to run exclusively on the CONNECT 1 BRT while four additional vehicles were set to join MCTS regular routes. As of August 2023, MCTS has only received nine of the 15 vehicles due to supply chain issues related to the pandemic. The agency is hoping the rest of its order arrives by the end of 2023 or early 2024.

"A big part of the delay of the BRT line had to do with the electric buses," said Dwyane Reese, director of maintenance at MCTS. Every bus company in the Unit-

ed States has dealt with the same supply chain issues due to COVID, so we're not blaming Nova. It's just reality."

Further complicating the CONNECT 1 project is the recent news that MCTS pulled all of the Nova Bus LFSE+ BEB's off the project in late August due to a manufacturing recall. Nova Bus sent MCTS the notice of the recall via letter. While MCTS said Nova Bus had tested the buses and they're safe to drive, MCTS made the decision to only run clean diesel buses until the batteries on the BEBs have been replaced. The batteries will be replaced at no charge to MCTS.

Schrivver says MCTS does not anticipate any changes to its relationship with Nova Bus or its plans to add more BEB vehicles due to the recall of the LFSE+ buses.

MCTS is not yet transitioning to a full zero-emission fleet, but that is the goal someday. For now, it is using a combination of BEBs and clean diesel buses. CONNECT 1 currently features seven BEBs and five clean diesel buses.

BEW
COMPLETE COACH WORKS

TRANSIT SALES INTERNATIONAL

SBL
Shuttle Bus Leasing

Your Transportation Solution Providers

Rehabs Repowers Retrofits

Complete Electric Conversions • HVAC Upgrades • Brakes & Suspensions • Interior Facelifts • Mechanical & Electrical Repairs • Body Work • Fire Damage • Painting & Decals • Emission Upgrades • Major Collisions • Sales & Leasing • Glass Repairs & More

1-800-300-3751 completecoach.com

For more information, visit www.MassTransitmag.com/10065706

Pull ahead with electric

Deploy on time, on budget and with the experts.



Get on board with electrification.

Rely on ChargePoint® solutions for scalability, easy serviceability and maximum uptime.

Measure performance.

Track route readiness, driver efficiency and vehicle performance with EV telematics.

Optimize your investment.

Maximize value by integrating telematics with charge management.

Electrify with the experts.

Deploy your strategy with ChargePoint, focused on the electrification of transit since 2007.



Start charging in days, not months, with innovative solutions by ChargePoint.

Scan the QR code to book a meeting with us at APTA 2023 (Booth #2930)
chargepoint.solutions/apta2023

Charging station

As part of electric buses coming to the CONNECT 1 Line, MCTS implemented a charge management plan. The fleet is charged overnight and an ABB-manufactured charging station for topping off a vehicle's charge was constructed by HNTB along the BRT route in Wauwatosa at the Park & Ride lot.

Every third lap, the buses go to the charging station during a route's six-minute layover. Reese notes the buses receive a 30 percent charge at the layover before proceeding to their next destination.

Ridership feedback

Despite only being open for a few months, MCTS officials are seeing an increase in public transit usage with the BRT. In the first week of CONNECT 1 service, the BRT line delivered approximately 16,800 rides.

The BRT line features service every 10 minutes on weekdays during peak times and midday and every 15-30 minutes

during off-peak hours. On the weekends, CONNECT 1 runs every 15 minutes during peak hours and 20-30 minutes during off-peak hours.

"The feedback we're getting is overwhelmingly very positive," Schryver noted. Riders are enjoying the silent ride on the electric buses, as well as the reliability. At every station, there's a real-time sign that tells riders when the next bus is coming and that's been a welcomed feature."

"We've seen entire families give the BRT a try. We have a huge festival schedule, and people really are enjoying riding it to the lakefront festivals that Milwaukee is known for, and what we're seeing is people are building a new route into their everyday life as part of what they're doing in the community," Schryver said.

"Having the opportunity to partner with Milwaukee County on the first BRT route in the state of Wisconsin and help deliver a route that supports economic development, greater access

to jobs and advances the region's overall transportation network was special," Zabel said. "It has been a great experience being involved in this project from the very beginning and helping the vision become reality."

Another BRT?

The CONNECT 1 BRT is not the only BRT project MCTS is planning. Milwaukee County is currently in the process of planning its north-south BRT line, which is scheduled to open in 2028. Construction for the north-south BRT line is also being done by HNTB.

Within the next decade, MCTS is hopeful many of its residents will use one of the two BRT lines for their everyday commutes and personal needs.

"The CONNECT 1 BRT is the future of public transit and the future of MCTS and we can't wait to expand our BRT footprint with the north-south BRT we are planning to launch in 2028," Schryver commented. **L**


WHY US?

**FEATURES!
FEATURES!
FEATURES!**


- ✔ DOUBLE CONTROLS
- ✔ STAINLESS STEEL FRAME
- ✔ PURE 24V DC POWER
- ✔ BRUSH ONLY INCLINATION
- ✔ NON-SLIP TRACTION


AVAILABLE IN:

- ✔ ELECTRIC
- ✔ BATTERY
- ✔ GASOLINE



USA'S #1 NAME IN
BUS WASHING



BOOTH 4475

APTA EXPO

PUBLIC TRANSPORTATION'S
PREMIER SHOWCASE

For more information visit the link WWW.WASH-BOTS.COM

For more information, visit www.MassTransitmag.com/21272732

SAVING LIVES PREVENTING INJURIES & MAKING FLEETS MORE PRODUCTIVE

SMART SAFETY AND
EFFICIENCY SOLUTIONS
FOR **TRANSIT FLEETS**

BECAUSE THE RIGHT SMART SAFETY AND EFFICIENCY SYSTEM GETS YOU:

- Safer passengers and pedestrians
- More satisfied customers
- Lower operational risk
- Better performance



APTA EXPO

Visit **Safe Fleet**
in Booth **#2777**
at **APTA EXPO**



Make Your Fleet Safer: safefleet.net/mass-transit

SAFE  FLEET

Driving Safety Forward™

1.877.630.7366 | safefleet.net

For more information, visit www.MassTransitmag.com/53042344

Transit Agency Consortium Applies for FTA Waiver for **Minibuses**

The consortium, led by HIRTA, is requesting the temporary waiver during a time when smaller transit providers face increased costs and limited supply for appropriately-sized transit vehicles.

BY MISCHA WANER-LIBMAN, EDITOR IN CHIEF

On Aug. 11, a consortium of 10 smaller transit providers, led by the Heart of Iowa Regional Transit Agency (HIRTA), filed a temporary Buy America waiver for a low floor, 20-foot, zero-emission minibus with the Federal Transit Administration (FTA).

If granted, the temporary waiver would provide a new option for fleet renewal among the group of agencies that have experienced a limited procurement landscape complicated by supply chain issues and rising costs. A successful waiver could also provide a roadmap for peer agencies who are facing similar issues.

The vehicle procurement challenges rural, small city, paratransit and nonemergency medical transportation providers in the U.S. have experienced during the past 18 months have reached a dire stage. The increased costs and long lead times mean transit vehicles that were meant to have a useful life of between five and seven years are now operating between 12 and 14 years. Funds that should be put toward operations are being used to maintain aging fleets.

A Community Transportation Association of America (CTAA) survey conducted in August 2022 found smaller transportation providers saw price increases between 30 and 70 percent, growing wait times and order cancellations with 80 percent of survey respondents reporting they felt “highly concerned with the state of standard vehicle replacements.”

In a letter to support the waiver application, CTAA, The Bus Coalition and 21 state transit associations wrote, “Today, the demand for small buses (particularly body-on-chassis vehicles) far outstrips supply with estimates of 20,000 small bus purchases currently backlogged. That number is expected to grow to 26,625 in 2025.”

Julia Castillo, executive director of HIRTA, explained pre-pandemic, the agency would expect to pay around \$100,000 for a

cutaway bus that would be delivered in approximately four months. Now, the cost has increased 75 percent and the delivery time is between 24 to 36 months.

“We’re not talking months anymore, we’re really talking years,” said Castillo. “Iowa has the second oldest fleet of small vehicles in the United States and if we didn’t do something, this was not going to be beneficial or safe for the people we serve or for our staff.”

HIRTA Business Manager Brooke Ramsey explained HIRTA’s fleet was undergoing a right sizing post-pandemic but the process was made more difficult with vehicle supply issues. She noted HIRTA placed an order for Ford Transits in January 2022 and, as of press time, the earliest delivery date for those vehicles would be the end of the current calendar year.

Photo: Adobe Stock | 273796811



APPROVED

“Even with trying to downsize the fleet, we aren’t solving the crisis with procuring vehicles. Pre-pandemic, HIRTA’s fleet was 60 percent past the federal useful life. Today, it’s sitting at 86 percent and we’re not alone. This is a dire situation for us, and it will become a pull-out issue where we can’t pull vehicles out to deliver service,” explained Ramsey.

In parallel with the development of the small vehicle procurement crisis, HIRTA had been part of a successful Iowa Department of Transportation application for a grant through the FTA Low- or No-Emission Grant Program. The HIRTA team found cutaway buses with an electric component would cost \$128,000 more and have the same useful life as a non-electric cutaway.

“Brooke and I started to look at what else was available to us and that’s when Brooke saw the eJEST at a conference,” said Castillo.

The eJEST is a 20-foot, accessible, electric minibus manufactured by Turkish company Karsan Automotive and distributed in North America by Damera Bus Sales Canada Corp. Damera has developed a phased approach to meet the 70 percent domestic content and final assembly requirements of Buy America within two years. The consortium’s supporters believe a successful waiver

Consortium members:

- Heart of Iowa Regional Transit Agency
- Santa Maria Regional Transit
- Kings County Area Public Transit Agency
- Tulare County Regional Transit Agency
- East Central Iowa Council of Governments
- Southwest Iowa Planning Council
- Southeast Iowa Regional Planning Commission
- Link Transit
- City of Delano, Calif.
- Fresno County Rural Transit Agency



The eJEST on display at CTAA EXPO, which was held in Oklahoma City, Okla., in May 2023.

Photo: Mass Transit/Mischa Wanek-Libman

will incentivize domestic manufacturing and assembly.

“It’s a purpose-built bus and it has a 12-year useful life, but it didn’t meet Buy America,” said Castillo. “We believe in Buy America, but we can’t really do it now because it will take two to three years, which is not conducive to what

we need, so, we asked ‘how can we do something different?’”

Developing new expertise

Something different meant pursuing into two mechanisms of the transit industry HIRTA had no previous experience in: Writing its own Request for Proposals (RFP) and applying for the FTA waiver.

Ramsey explains several peer agencies found themselves in the same situation as HIRTA where they could not find a solution to their vehicle procurement issues and smaller agencies didn’t have the staff to find individual solutions, which led to the forming of the consortium and the development of an RFP for a right-sized vehicle that could be delivered in 12 months.

“HIRTA has been around since 1981 and we had never done our own vehicle procurement. We had relied on our state to do those for us but this is a time when we needed something different, and we just decided to undertake that process to become the lead agency on the RFP. We went

into it with the other transit systems really trying to solve the problem,” said Ramsey.

Another step to solving the problem was applying for the temporary waiver. Ramsey, who describes her writing style as short and succinct, explained the waiver needed to contain detailed information to ensure nothing was left out.

“I try not to make things longer than they need to be, but we needed to use all the words for the waiver because we wanted to make sure we didn’t miss anything,” said Ramsey.

In brief, FTA has three criteria to potentially qualify for a Buy America waiver, including if the application of Buy America is inconsistent with the public interest; the steel, iron and goods produced in the U.S. are not produced in a sufficient or reasonably available amount and if the inclusion of domestic material would increase the cost of the project by more than 25 percent for rolling stock.

Ramsey and Castillo explain the consortium’s waiver request meets all three

SafetyNET5™

VIDEO MANAGEMENT SYSTEM

SN5™ was built to meet today’s needs and adapt as future challenges change.

Sign up for an in-booth SN5 Demo at APTA EXPO '23 and receive a special FREE Gift!

BOOTH #3083

Scan to Sign Up!

For more information, visit www.MassTransitmag.com/10065116

Coating solutions built on success



The **PPG DELFLEET®** brand offers a wide selection of premium coating technologies and field experts who can configure a system that precisely meets your needs for durability, color matching and productivity.

- **Premium-quality basecoat and direct gloss options**
- **State-of-the-art digital color tools**
- **Warranty coverage—up to 7 years**
- **Industry-leading training and support**

Contact your local PPG distributor to learn more.

For more information, visit www.MassTransitmag.com/10066419

The PPG Logo and Delfleet are registered trademarks of PPG Industries Ohio, Inc. ©2023 PPG Industries, Inc. All rights reserved.





Driven by Design, Reliability & Performance



Vapor • Ricon • Graham-White • Stemmann

Brands you know and trust, Wabtec Bus Solutions companies are business units of Wabtec Corporation, leading global provider for the passenger transit and freight rail industries.

We are driven by design, innovation and our commitment to industry-leading reliability and performance. Every product we produce is engineered to deliver the lasting value of low life cycle costs and backed by the highest safety standards.

See Us at APTA Expo Booth #1942



WabtecCorp.com/Transit-Bus

For more information, visit www.MassTransitmag.com/10065314

criteria. Ramsey said vehicles are not available for delivery, which takes care of the second criterion, and HIRTA determined the price of the project would increase 33 percent by using domestic products, which exceeds the 25 percent threshold. When describing the reasons for meeting the “inconsistent with public interest” component, Ramsey did not sugarcoat the potential predicament HIRTA and other small agencies could face.

“If we can’t get vehicles delivered, at some point, there will be a service disruption because of a long repair or we can’t get parts and then we’re going to have to decide who we can’t take,” said Ramsey. “Is it the cancer patient? Someone who needs dialysis? A group of people going to work or school children who can’t get to school? We provide rural transportation. There isn’t another option for people.”

Partnering on a solution

With the waiver submitted, the consortium and its supporters wait to see if their efforts are successful. Throughout both the RFP writing process and waiver application process, both Castillo and Ramsey recognize the support and work of their partners in carrying both endeavors through.

“We didn’t do this alone. We brought in partners we knew would be helpful,” said Castillo.

These partners included elected officials, the FTA Region 7 office, as well as various transit associations and a consultant to shared expertise for the RFP.

A successful waiver would benefit smaller systems in several ways: Incorporating these vehicles into U.S. fleets will allow transit systems to meet climate objectives and requirements, improve competition, alleviate the strain on the supply chain and provide the service capabilities needed by the transit riding public.

“We hope in this temporary situation; that the vehicle that was selected through our RFP will become Buy America compliant. In the meantime, we have an emergency that we need to solve,” said Ramsey. “This isn’t just an Iowa issue. This is a national issue that we need to have some type of resolution for and, hopefully, we’ve done that.”

Get up-to-date industry news and product information delivered right to you.

Sign up for the *Mass Transit* newsletters! Stay in the know...



Visit MassTransitMag.com/Subscribe

- » Mass Transit Daily
- » Rail Update
- » Safety & Security News
- » Transit Bid Tracker



MassTransitmag.com/subscribe

MASS TRANSIT

BEST PRACTICES FOR INTEGRATED MOBILITY

**BART's three pillars
of fire safety get the gold:
APTA awards
BART the
2023 APTA
Rail Safety
Gold Award**

BART's director of fire life safety department opens up about what BART's Fire Life and Safety program is all about.

BY EMAN ABU-KHALED, ASSOCIATE EDITOR



Thomas Moloney, Director of Fire Life Safety at BART, accepts the 2023 APTA Rail Safety Gold Award on Tuesday, June 13, 2023.

Photo: BART

There are many threats to consider when it comes to running a multi-jurisdiction public transit system like Bay Area Rapid Transit (BART). Fire is a major concern in the often-times hot and busy tunnels housing tracks that carry trains 16 to 19 hours per day. It is important to consider all forms of preventative methods to combat and handle a fire in any situation at BART.

BART is no stranger to pulling out all the stops to maintain the safety of its riders, staff and employees. That is how BART's Fire Life Safety Program came to be.

Tom Maloney, BART's director of fire life safety, said BART realized its need for this program while the department was making some changes to one of its stations. The local fire department wasn't exactly thrilled with the lack of communication that had transpired while the changes were being made.

"We had run into some heated discussion. They felt that there should have been communication in this process and to be honest, they were right. We should have been talking with the local fire departments," Maloney said.

Maloney realized the importance of communication and collaboration in terms of new changes to a station and what the best practices would be in the event of a fire or emergency.

And so ensued the three pillars of the Fire Life Safety Program.

BART's three pillars

The first pillar, Maloney explained, encourages familiarization through exercises and practice.

"With an outreach towards approximately 23 different fire agencies, we rotate through many exercises and drills; everything from tabletops to actual full blown wet drills in the wee hours of the night," Maloney said. "We have a familiarization program where we take time to go and join the local fire department's training centers and embrace their work in terms of educating them about what it is that they experience when

they come inside the BART gateway."

Maloney says a main consideration is the different environment and circumstances firefighters will experience at BART stations and properties compared to fire safety events happening in the outside world.

"When firefighters enter a BART station, they are leaving the regular world behind. There's an inherent risk for firefighters, especially considering electrical apparatus when they come up to our property. We want to make sure we're really working with them to lock in on that kind of information and give them a comfort zone when they come to support us," Maloney noted.

One of the bigger fire safety training exercises that BART does is held in part to honor and remember a fatal fire that occurred in 1979. The fire itself was a result of an aluminum switch box cover about the size of a serving tray breaking off a Daly City-bound BART train rolling through the Transbay Tunnel. The switch box cover had hit against the train car and rebounded into a 1,000-volt third rail and insulators. The incident brought on the worst fire the tunnel and BART had seen at the time.

Many lessons were learned from that day and were implemented into the procedures BART conducts as a part of its Fire Life Safety Program.

The safety exercise, called the Transbay Tube exercise, is held in the first couple weeks of January in the tunnel itself. BART conducts drills and practices with the Oakland and San Francisco fire departments, along with five other agencies in the area. Maloney takes part in these drills.

“I will tell you drills and exercises are so much fun to do and I really enjoy them but planning them can be a giant headache,” Maloney remarked.

Maloney’s next point was raised in the second pillar of the BART Fire Life Safety Program: Inspection of BART’s properties and stations in the form of a program based on California’s fire and safety protocols.

“We track these standards on our properties to completion using all the Safety Management Systems (SMS) protocols and hold them as our standard here in the business,” Maloney said.

Maloney goes on to note the inspection program has become a full annual rota-

tion that started out in the BART stations and expanded out to all BART properties.

The third pillar in BART’s Fire Life Safety Program is to plan standards for future structures and projects with full consideration to fire life safety protocols.

“Our end objective here is to satisfy not only our partners in fire (firefighters), but also to give our patrons and our public a safer system to ride on with all of this intact,” Maloney said.

To ensure BART remains a safe space for riders now and in the future, the BART Santa Clara Valley Transportation Authority (VTA) partnership committee was formed to safety screen the VTA BART Silicon Valley Phase II tube extension project. The BART extension through San Jose into Santa Clara is being led by VTA in partnership with BART.

Maloney serves as chair on this committee, which is currently reviewing the extension project.

“My role has been to initiate and chair the Fire Life Safety and Security Commit-

tee for the project. This brings together key stakeholders, including the fire marshals from both cities as [authorities having jurisdiction] oversight, to analyze and secure the fire code and operational components of the project design,” Maloney noted.

This collaborative approach between local fire departments and the agency was a crucial element that earned BART’s Fire Life Safety Program a Rail Safety Gold Award from the American Public Transportation Association (APTA) at the association’s Rail Conference this past June.

Communication and documentation

Communication and data keeping is essential when handling the many spread out properties of BART. To support outreach and maintenance in BART’s jurisdictions, many SMS implementations were adopted, including fire and incident maps to track and acknowledge problem hot spots on BART properties.

The data collected from these “heat

VISIT US AT OUR **APTA EXPO BOOTH #2121**

HITACHI
Inspire the Next

**HAWAII'S FIRST EVER
AUTONOMOUS PASSENGER RAILWAY**

CONNECTING THE
FUTURE OF MOBILITY

For more information, visit www.MassTransitmag.com/21208472

maps” is shared with local fire departments and reinforcements.

“We can use that distilled information and data to work with fire partners to zone in on where we know these situations are happening now and then concentrate on follow up efforts to try to prevent and mitigate that situation,” Maloney said.

From data collected from these maps, Maloney said most incidents the Fire Life Safety program helps fire fighters encounter aren’t even fire related.

“There’s not a day that goes by where we do not have fire response somewhere on the map,” Maloney said. “It’s not always fire; the medical responses, the engagements with trespassers and even something as simple as a stuck elevator. It’s about being robust in terms of serving our customer base as well.”

Program provides sturdy foundation

James Allison, BART’s media relations manager, said the recognition from APTA

is a sign that shows BART’s ability to change with the times.

“I think it is a reflection of say, the past five years that we’re not afraid to shake up the organization chart and reconfigure the way we’re doing things,” Allison said. “We’ve done it in different ways, through different departments and the creation of a fire life safety department that didn’t exist before is a reflection of that.”

While BART had always had emergency and fire safety systems, it had never really dedicated a department to such things.

“We’ve had robust plans, but Fire Life Safety Program and department really takes those plans and builds upon them and pours a stronger foundation for those plans to flourish should we have to engage them,” Maloney said. “It is important to really fill a void in terms of us having a lesser embrace, on the partnership that we must have with fire agencies.”

When asked what part of the job is most rewarding for Maloney as BART’s director of fire life safety, his response was simple:

“I’m the luckiest guy at BART for having the good fortune of having this position and being able to work with so many positive passionate people I love working with these people and firefighters. They run in when we run out and they’re always looking for solutions, no matter how many challenges the transit world provides for them, they will find a way to fix it.”

For agencies wanting to implement their own fire safety program, Maloney recommends communication between the agency’s surrounding law enforcement and fire departments. Opening a dialogue on how to make things easier and more accessible for fire and law enforcement can ultimately make things more efficient and safer for riders, employees and first responders alike.

“That approach right there is exactly what fire departments want to have because they’re all about getting ahead, moving out and getting things done protecting property and protecting people,” Maloney said. L

**RAILWAY 2023
INTERCHANGE®**

OCTOBER 01-04 INDIANA CONVENTION CENTER
INDIANAPOLIS, IN

AREMA | RSI | REMSA | RSSI

The largest railway exhibition
and technical conference in
North America

railwayinterchange.org

For more information, visit www.MassTransitmag.com/10920316

APTA's big show returns to **Orlando**

APTA signage on the exterior of the Orange County Convention Center during the 2021 meeting of APTA TRANSform and EXPO.

Photos: Mischa Wanek-Libman



Following a successful APTA TRANSform and EXPO in 2021, the association is preparing an event that will engage and inform attendees.

**BY MISCHA WANEK-LIBMAN,
EDITOR IN CHIEF**

The American Public Transportation Association (APTA) will reconvene in Orlando, Fla., Oct. 8-11, 2023, for APTA TRANSform and EXPO, the largest gathering of North America transit professionals. The event will return to the Orange County Convention Center, where the industry met in 2021 for one of the first in-person gatherings following shutdowns brought on by COVID-19. While the 2021 event was a success and celebrated the industry's achievement serving communities throughout the pandemic, lingering travel restrictions prevented many international attendees from traveling to APTA TRANSform and EXPO. The 2023 event will mark the return of international transit professionals and their valuable perspectives. APTA expects more than 600 global suppliers and more than 12,000 industry professionals from 88 countries to attend the 2023 show.

The event will offer time to reconnect with industry colleagues, expand professional networks and broaden industry knowledge with engaging educational sessions.

The event's opening and closing keynote speakers will inspire attendees and provide thought-provoking speeches on two of the event's key themes: Cutting-edge technology and equity.

The opening keynote will take place on Monday, Oct. 9 at 8:15 a.m. Duncan Wardle, former head of innovation and creativity at Disney will deliver a speech, "AI is Not Your Enemy." As head of innovation and creativity at Disney, Wardle helped teams at Disney Parks, Lucasfilm, Marvel, Pixar, Imagineering and Animation to innovate, creating magical new storylines and amazing experiences for consumers around the globe. He now brings his Disney experience to audiences around the world, delivering a series of keynotes, masterclasses and ideation forums that help people capture unlikely connections, leading to both disruptive thinking and revolutionary ideas.

Wardle's Monday morning keynote is one of several technology focused sessions attendees can find in the TRANSform program, which include:

- **Oct. 10, 11 a.m. – 12 p.m.;** Transforming Transit: Harnessing the Power of AI and Augmented Reality
- **Oct. 10, 11 a.m. – 12 p.m.;** Fast Tracks: A Showcase of Rail Transit Innovation

- **Oct. 10, 3:45 p.m. – 4:45 p.m.;** The Best of Innovation in 7 Minutes or Less

The closing keynote of the event will be delivered on Wednesday, Oct. 11 at 8:30 a.m. – 9:45 a.m. Speaker Piers Kowalski, human performance coach and consultant, will deliver a speech covering why DEI matters in the workplace. Kowalski is described as an average father of two with a not so average story. Kowalski realized at 36 that he was transgender. He shares his story of pain, self-discovery, fear, love and hope to help others better understand the transgender experience, community and humanity. After sharing his personal story, Kowalski invites the audience to ask questions – extending openness to all, gratitude for the willingness to learn together and grace for mistakes that are a part of learning and growth.

Kowalski's closing speech will wrap up an important focus on equity that attendees will see throughout the show. Several sessions covering the topic are planned, including:

- **Oct. 8, 3 p.m. – 4 p.m.;** Racial Equity Commitment Round Table: A year of progress
- **Oct. 10, 11 a.m. – 12 p.m.;** Building Equity Together: The Power of Partnerships
- **Oct. 10, 3:45 p.m. – 4:45 p.m.;** Painting a Mosaic: How Women Executives Are Advancing Diversity, Equity, and Inclusion
- **Oct. 11, 10:30 a.m. – 11:30 a.m.;** Equity and E-Payments: Navigating the Transition to Cashless



+ Smarter solutions for the world's toughest challenges

Transitioning to zero-emissions operations can be challenging, but it's an opportunity to optimize your system around new technologies. You need a partner who is innovative and will work with you to develop better ideas.

Together we can create positive change.
hatch.com

HATCH

For more information, visit www.MassTransitmag.com/21272729

SAFELY PUSH OR PULL UP TO 225 TONS WITH POWERPUSHER®



PowerPusher's line of electric tugs including Rail Movers™ and more are a safe, cost effective way to move massive railcars on and off rail.



PowerPusher®
If It Rolls... We Can Move It.™

www.powerpusher.com | 800.800.9274

For more information, visit www.MassTransitmag.com/21287277

Your Trusted North American Transit Partner

Visit us at Booth 1386



Lowest Operating Cost Per Mile

Penn Machine has over 400,000 wheel units in service.



Solid Wheels



Resilient Wheels



Gears



Gearbox Overhaul

Safety Excellence
Improved Asset Utilization
Enhanced Rider Experience



PENN MACHINE COMPANY LLC

106 Station Street
Johnstown, PA 15905
814.288.1547

310 Innovation Drive
Blairsville, PA 15717
724.459.0302



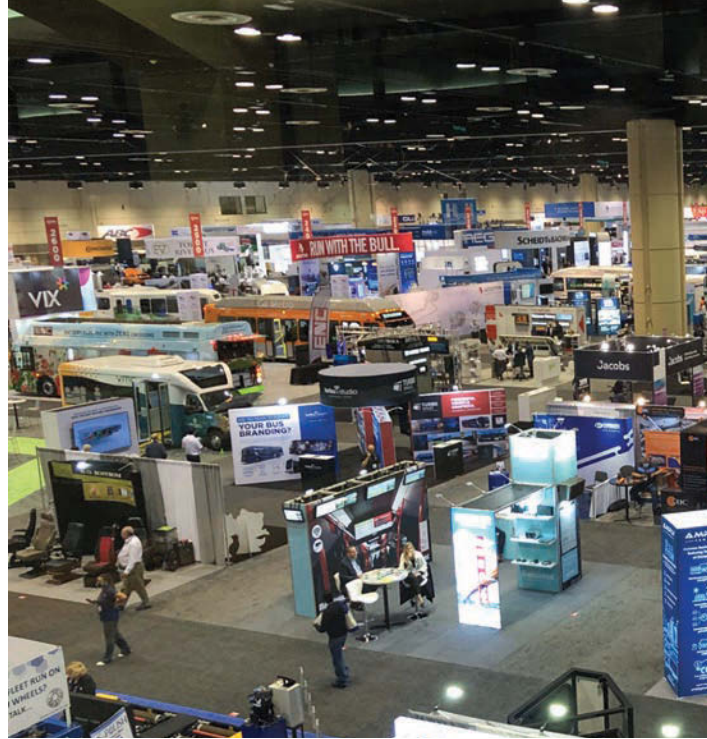
A Marmon | Berkshire Hathaway Company



www.pennmach.com

For more information, visit www.MassTransitmag.com/10065912

APTA EXPO



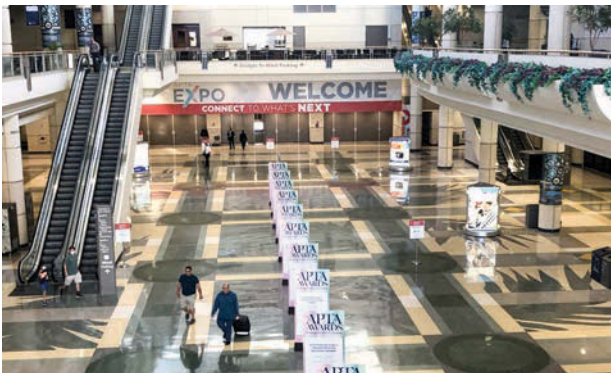
The 2023 APTA TRANSform Conference and EXPO will also feature the first Equity Summit, which will take place prior to the official start of the show on Oct. 6 from 1:30 p.m. – 7:00 p.m. APTA says the Equity Summit is designed to acknowledge and leverage transit's vital role in communities and help APTA members innovate and maintain a competitive advantage by embracing equity to drive impactful change within their organizations and within their communities. Experts will equip attendees with the tools needed to ensure equity principles continue to be valued and pursued.

Another specialty learning track to be organized at this year's show is a Procurement Summit, which will include two sessions on Oct. 9, three sessions on Oct. 10 and two sessions on Oct. 11 focused on elevating and navigating procurement strategies and solutions.

The learning and networking opportunities extend to the APTA EXPO show floor, where more than 600 vendors will have their products and service on display. APTA EXPO opening will occur on Oct. 9 at 10 a.m. after the opening general session. The EXPO floor will be open Oct. 9, 10 and 11. In addition to hands-on opportunities to learn about products, the show floor will offer free learning zones. The Innovation Zone will feature products and technologies changing the way the industry looks at the rider experience, sustainability and the overall business of public transport. The Solutions Zone will feature applications and service-based presentations offering solutions to common industry challenges, including outcome-based procurement, tire monitoring and zero-emission fleet planning and deployment. Hot Topics Zones I and II will feature the latest developments impacting and disrupting transit



There will be more than 600 vendors displaying products and services on the APTA EXPO show floor.

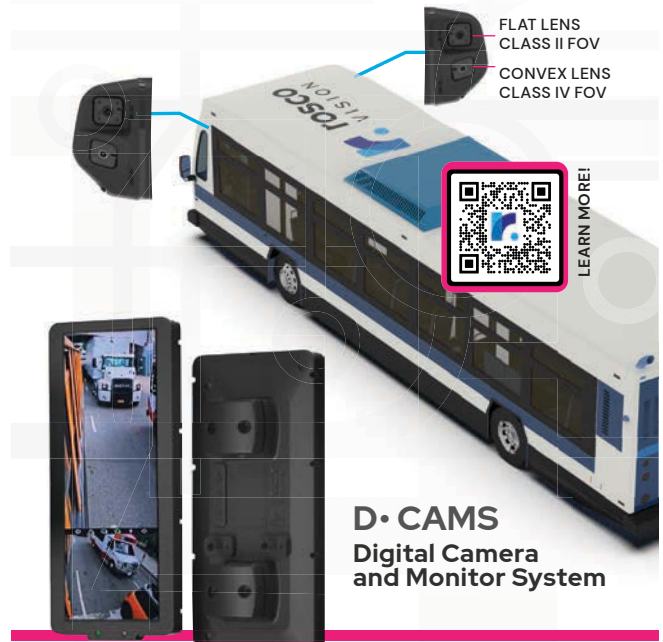


A quiet moment during the 2021 APTA TRANSform and EXPO. The 2023 event will return to the Orange County Convention Center in Orlando, Fla., Oct. 8-11.

systems. The Procurement Zone will help attendees determine strategies for more effective procurements to bring greater value to agencies.

APTA EXPO will also feature an autonomous vehicle demonstration where attendees can take a ride on the latest autonomous vehicles. There will also be a headshot station where attendees can get a free professional headshot, APTA Central, which features a variety of APTA products and services, and a relaxation station for attendees to take a break and recharge before heading to their next educational session or exploring more of the show floor.

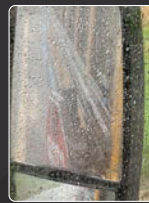
To view the program, a list of exhibitors and to register, visit aptaexpo.com. **L**



D•CAMS Digital Camera and Monitor System

The new mirrorless camera system! Offering better rear visibility around the vehicle, the Rosco D•CAMS has been engineered to replace exterior rear vision mirrors on commercial vehicles.

- Wider and deeper Field-of-View (FOV)
- Smaller blind zones
- Better visibility and brighter images during the day and night
- Clearer images in all weather conditions
- Aerodynamic design offers fuel savings and efficient operations

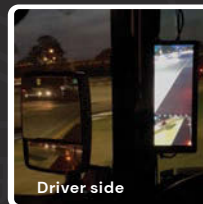


TRADITIONAL MIRROR VIEW WHEN RAINING



HIGHLY IMPROVED VISIBILITY WHEN USING ROSCO'S DCAMS

LOW LIGHT CONDITIONS



Driver side



Door side



www.Rosco-DCAMS.com
800.227.2095

For more information, visit www.MassTransitmag.com/10066392



Enhance Your Brand: Extensive Color Offering and Custom Transit Logos

Booth 2530

Visit us at APTA Expo in booth 2530 to see how we can enhance your brand with our extensive color offering of seat inserts and options for the application of custom transit logos. American Seating provides smart, strong, and ergonomically superior seating and securement solutions for all heavy-duty transportation needs.



For more information, visit www.MassTransitmag.com/10065868



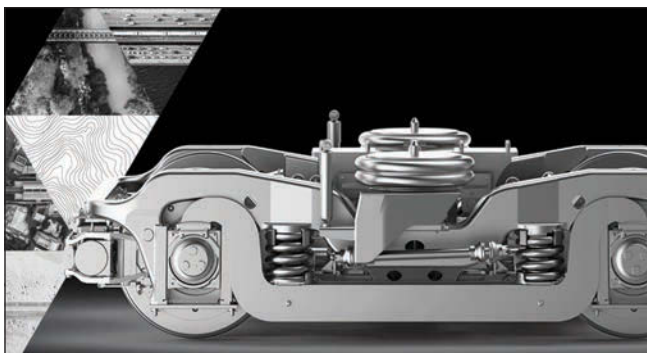
Transforming Transit Security: Safer Journeys with Axis Communications

Booth 2631

Axis solutions help you protect your people, passengers, and operations to build even more confidence in your service. See where technology is taking safety and security for public transportation – go somewhere new with Axis at APTA Expo booth #2631



For more information, visit www.MassTransitmag.com/10066180



Over a century of unmatched reliability and performance in rail

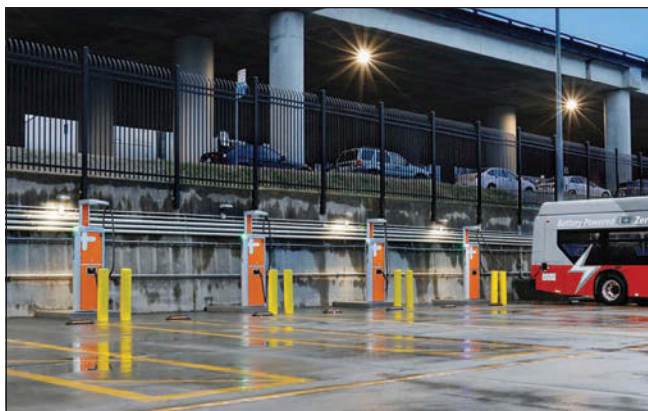
Booth 1311

Visit APTA Expo booth 1311 to learn why Amsted Rail has been an industry leader for generations. Our service-proven, USA-made transit portfolio includes bogie and end-of-car systems and components for OEM and aftermarket applications. Plus, our state-of-the-art engineering and production capabilities enable full-service system overhauls. Learn more at amstedrail.com/transit.



AMSTEDRAIL.COM/TRANSIT

For more information, visit www.MassTransitmag.com/12379727



Electrify with the experts

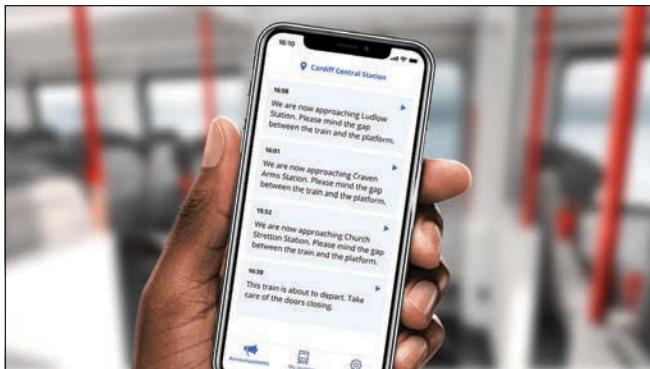
Booth 2930

Since 2007, ChargePoint has been helping electrify transit with powerful charge management software and rigorously tested EV charging hardware. Track route readiness, maximize uptime, measure EV performance and optimize your investment.

Go electric with confidence — go electric with ChargePoint.



For more information, visit www.MassTransitmag.com/21108704



Accessible Wayfinding for Passengers with Hearing & Sight Loss

Booth 2372

HEAR Accessible Announcements software solution that broadcasts onboard announcements to passengers' own devices

Visor Passenger Information through NaviLens BIDI codes for a WCAG 2.0 compliant solution



For more information, visit www.MassTransitmag.com/10066740



Saving Lives, Preventing Injuries & Making Fleets More Productive

Booth 2777

Helping our customers improve productivity and reduce risk of injury, the Safe Fleet transit product line includes advanced technology, mobile video surveillance, mirrors, roof hatches and lighting. Together, these products form an integrated platform to help transit fleets create better drivers, smarter vehicles, and safer fleets.



For more information, visit www.MassTransitmag.com/12089141



Leading Provider of Mobile Video Technology and Software Solutions

Booth 3083

Our suite of products can fit any fleet size and can be custom tailored to your operations. Solutions are designed to increase your efficiency and provide a system that increases passenger safety and satisfaction.



For more information, visit www.MassTransitmag.com/10065116



Visit us!
APTA Expo
Booth #4343

Fare Collection Made Easy: Your Full System Partner

Booth 4343

Scheidt & Bachmann is a premier global and North American provider of fare collection solutions. We combine innovative products and services with the expertise of our international team, resulting in dependable, user-friendly fare systems that promote accessible and sustainable mobility. We'll take you there.



WWW.SCHEIDT-BACHMANN.COM

For more information, visit www.MassTransitmag.com/10064929
SEPTEMBER/OCTOBER 2023 | MassTransitmag.com 39



Innovative door systems for urban transport

Booth 3231

Ventura Systems is the leading manufacturer of innovative door systems for urban transport. Our products are delivered worldwide to many renowned manufacturers of heavy-duty transit buses, urban trucks and autonomous vehicles. We focus on development of reliable, safe and state-of-the-art door systems for high intensive use.



For more information, visit www.MassTransitmag.com/53042448



Performance Proven Solutions

Booth 1942

Vapor Bus International, Ricon, Graham-White, and Stemmann are business units of Wabtec Corporation, leading global provider for the passenger transit and freight rail industries. Representing industry-leading manufacturers, Wabtec Bus Solutions provides performance-driven door systems and windows, e-bus charging equipment, mobility access lifts and ramps, and quality air dryers.



For more information, visit www.MassTransitmag.com/10065314



CALIFORNIA TRANSIT ASSOCIATION'S
58TH ANNUAL
FALL CONFERENCE & EXPO

CONNECTING US

NOVEMBER 15-17, 2023

PASADENA CONVENTION CENTER

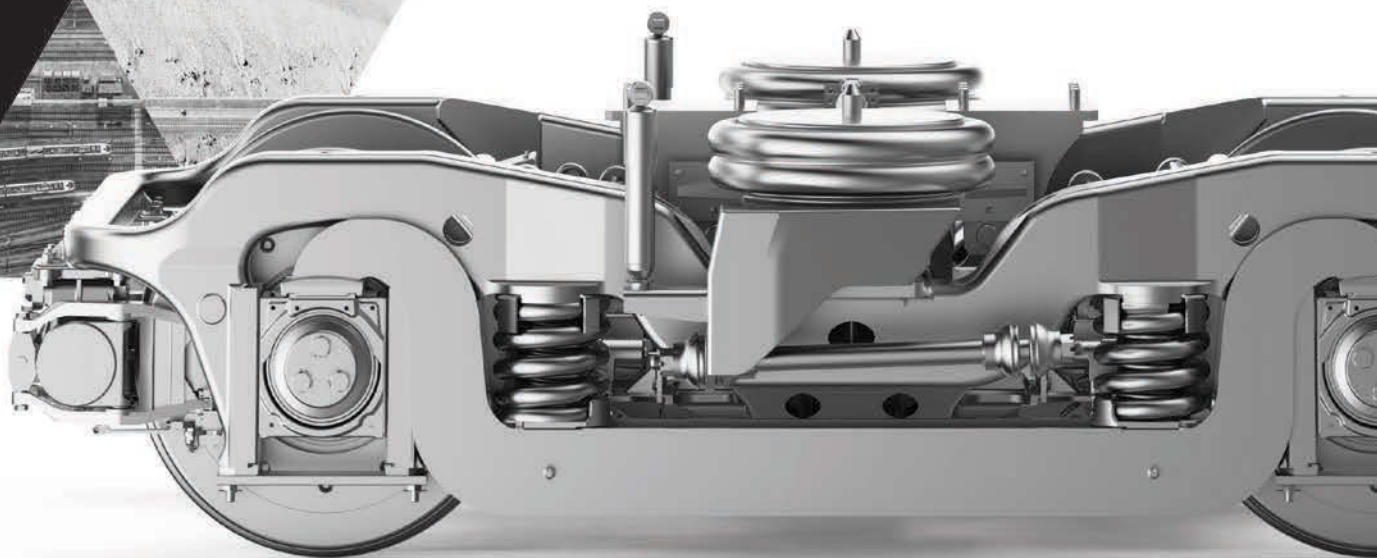
Caltransit.org (916) 446-4656 info@caltransit.org

For more information, visit www.MassTransitmag.com/11320297

Amsted Rail



**DESIGNED TO PERFORM,
WHEREVER THE TRACKS MAY GO.**



VISIT US AT

APTA EXPO BOOTH 1311

OCT 9-11, 2023 IN ORLANDO, FL

For more information, visit www.MassTransitmag.com/12379727

amstedrail.com



Improve Fare Revenues and the Passenger Experience by Upgrading to a **Future-Proofed Ticketing Infrastructure**

Via One Interface, the latest ticket validators and readers accept any ticket, presented, in any orientation, while also accepting contactless payments.

BY ARTHUR TAY, CONTRIBUTOR

Growing consumer demand for “smart ticketing” solutions is being driven by rapid urbanization, as well as technological advances such as radio frequency identification (RFID) and near field communication (NFC). Today’s solutions are used in mass transit applications, ranging from ticket vending machines (TVMs), gates and turnstiles to stand-alone platform validators and on-board products. Transportation authorities and operators who have not adopted these technologies operate with an outdated ticketing infrastructure that puts them at risk of irritating passengers and losing revenue. They must modernize their mass transit systems or risk losing passengers - perhaps permanently.

Contactless ticketing has also slowly been incorporated into public transportation ticketing processes over the past 20 years, which accelerated during the pandemic. As ridership continues its rebound, post-pandemic, now is the time for transit authorities and operators to upgrade their aging ticket-reading hardware and move toward a more digital or mobile paradigm that will enhance the passenger experience and maximize revenue. The latest readers give passengers a single point of presentation for



any ticket, regardless of orientation and the ability to make contactless payments, all via a single interface. They also offer a range of benefits to operators, not only today, but continuing into the future.

What consumers and operators want

Passengers want to go beyond the “ticket to ride” experience of physical tickets or tokens. A growing number of riders want to access their digital tickets from an app and add them to their digital wallets. Many also want to use the same method of payment on a mass-transit trip that they use when shopping or entering a hospitality venue.

Public-facing transportation ticketing systems must address these ticketing and payment preferences to a diverse audience. Each category of passengers has different needs, learning curves and technology access. Every group must be accommodated, from technophiles to the unbanked and those who prefer to remain anonymous in the system.

Transit authorities have their own needs, including reducing ticket fraud and using transit journey information to make data-driven, real-time operational decisions. They also need to optimize passenger throughput during passenger ticketing and boarding while providing a seamless and intuitive customer journey and they want a path to contactless payments so they can reduce the expenses associated with handling cash.

Operators can’t afford any disruptions during the transition to a new system, nor can they complete the cut-over process so quickly that people have insufficient time to gradually adapt to and adopt the new capabilities at their own speed.

Benefits of upgrading ticket-reading technology

There are multiple benefits to be realized from using, upgrading and expanding the capabilities of a ticketing hardware system:

- Increased ridership and maximized revenue: Expanding the ticketing system to include state-of-the-art, multi-format ticket readers and validators enables more convenient and enhanced transit journeys. Accepting tickets from all media, including mobile phones, smart wearables and paper tickets, is especially

important for citywide systems where the population's ticket medium of choice can be highly diverse.

- **Delighted customers:** Passengers want an efficient, technology-driven fare payment and ticketing experience using a single point of presentation for barcode, NFC and contactless EMV payments, making it easier and faster to board or pass through ticket barriers, regardless of their preferred ticket medium.
- **Greater operational efficiency:** Investing in the right ticket-reading hardware and contactless payment infrastructure allows for efficient upgrades and additional enhanced features. With digital fare payment hardware and mobile apps, it is also significantly quicker and more efficient to roll out new fares and ticket types.
- **Revenue protection:** New ticket-reading technologies effectively cut down on ticket fraud. For example, the latest systems and devices can automatically detect tickets that have already been used by another passenger or those

that have expired. Additionally, cashless transactions eliminate fraud committed by system employees and passengers.

- **Actionable data:** Migrating to a contactless digital ticket reading system allows data to be gathered about when and how passengers travel. It also enables transit operators to efficiently track payments, create fare caps and discounts, carry out refunds and collect and use transaction data. The latter capability enables operators to make smarter decisions and improve route planning to maximize ridership and system revenues.
- **Improved passenger and driver health and safety:** Eliminating personal contact in processing tickets reduces risks to the health and safety of passengers and transit operators. While this has always been a priority, the COVID-19 pandemic reminded everyone it should be a top priority.
- **Compatibility with the latest secure ticketing standards:** Upgrading ticketing hardware is critical for most transit

operators to ensure compatibility with common standards such as ITxPT, as well as appropriate open, secure ticketing standards such as Calypso®. Calypso-certified ticketing hardware supports the necessary security and interoperability requirements of contactless ticketing systems to ensure long-term usability.

Best practices for deployment

Transit authorities should choose ticket readers that support converged technology, including open-loop contactless payment cards, scanned QR/Barcodes (1D and 2D symbologies) and virtual barcodes on a smart device screen, as well as closed-loop RFID. Additionally, readers should support NFC/RFID tickets or tokens that can be read, in any orientation, on a mobile phone, tablet or wearable. These types of readers reduce customer transaction time.

Readers and validators also must offer a high level of usability at every step of the passenger journey. This includes

The Trusted Brake Meter for 30 years

Portable. Simple. Quick.

» Brake Testing in 3 Seconds

VERICOM
MOTION PERFORMANCE INSTRUMENTS

VericomComputers.com

For more information, visit www.MassTransitmag.com/12078201



Ride METRO to Protect Our Monterey Bay

Every ride on Santa Cruz METRO donates to our partners in protecting the environment.



scmtd.com/onerideatatime



For more information, visit www.MassTransitmag.com/53029334

providing a single point of presentation that gives users a window to present the chosen ticket medium using an intuitive and quick interface for data reading and writing. Deploying devices that read barcodes rapidly when presented at multiple angles and orientations also enables efficient passenger processing.

The addition of contactless payments provides the convenience and speed of a single touchpoint for ticket validation and payments on-board vehicles, on platforms, at railway or subway gates and turnstiles or in kiosks. On a bus, the driver can clearly see the ticket type and its validity, and passengers can also present their mobile app to a vehicle-mounted validator. Ticket validation and boarding become simple, fast and efficient processes – even when the driver is busy operating the vehicle.

Another key consideration is support for open architecture and other future-proofing measures. Non-proprietary, open-architecture readers and validators maximize flexibility and long-term usability

by working with any ticketing software and payment service provider. Mass transit operators can install ticketing devices with all the built-in capabilities they will need in the future, knowing they can enable these features when needed without having to replace or upgrade hardware.

Security is also important. To ensure devices incorporate the latest cryptographic elements and secure communication for closed and open-loop payments, select ticket readers and validators that are ready for EMV Level 1 and EMV Level 2 industry standards.

The final consideration is ease of installation. Look for features like the use of a single cable connection to the host and the consolidation of ticket reading and payment into one module or reader to conserve space and minimize maintenance.

Meeting expectations while improving operations

With the right system in place, mass transit operators can meet passenger

expectations and improve operations. They will also be prepared for such future developments as the growing adoption of payment methods on wearable devices and adding transportation to the NFC-enabled badges and IDs that, for example, university students and employees already use for physical access to parking facilities and buildings. A well-designed and future-proofed digital and mobile ticketing system with modern readers and validators, as well as contactless payment support, will enable transport authorities to meet these and other needs in the years and decades to come. [L](#)

About the author



Arthur Tay is a seasoned product marketing manager for the Access-IS business unit, part of HID's Extended Access Technologies business area.

Arthur is a former global product manager for Motorola, Hewlett-Packard, Vertu and others.

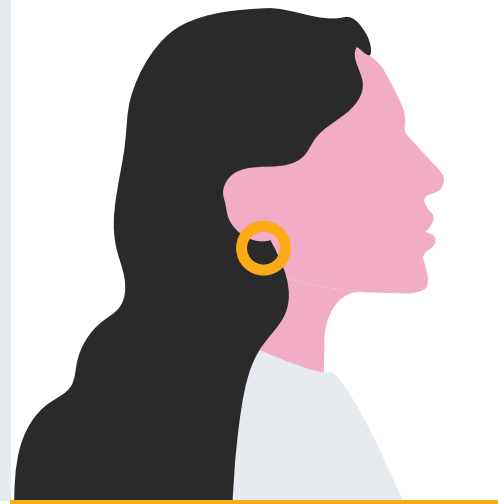
We make travel easy for every passenger

Fare collection systems that help make sustainable transportation accessible to everyone

Visit us at **APTA Expo – Booth #4343**
or at www.scheidt-bachmann.com

SCHEIDT & BACHMANN 

(We'll take you there.)



Industry Insights:

The Intersection of Diverse Leadership

Canada, U.S. leaders speak out on their DEI journey.

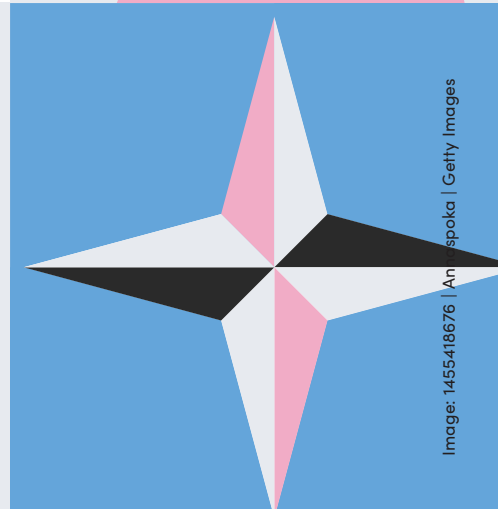
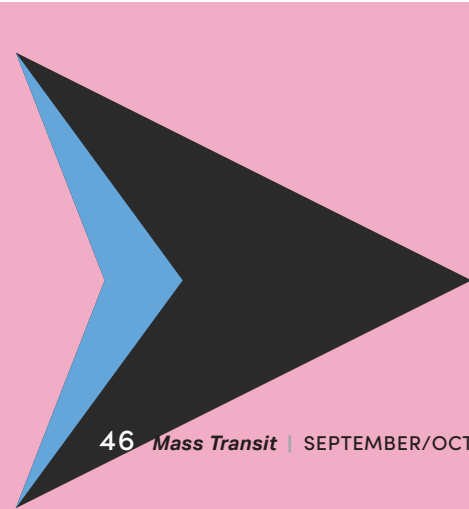
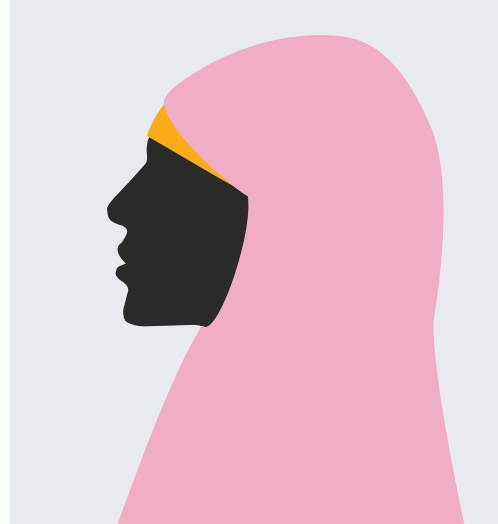
BY MAVARA TURAB AND DANA NASSIF, CONTRIBUTORS



The face of transit is changing in North America. Our industry is becoming more inclusive, more balanced and more representative of the diverse populations of our clients and the communities we work in.

It's a slow transition, as previously marginalized groups are being recruited and retained as professionals in our business but we are seeing it happen in corporate offices and municipal boardrooms across Canada and the United States.

At our company, WSP, we are fortunate to have many leaders who are breaking glass ceilings and ushering in this important change in our industry. As an example, two female executives who have navigated the corporate landscape to climb to senior roles, lead their organizations, participate boldly in industry associations and provided mentorship and sponsorship for the next generation to continue their progress.



Understanding the current DEI climate

As the company's global rail and transit leader, Jennifer Verellen is attuned to how issues of diversity, equity and inclusion differ depending on geographic location and political climates. This knowledge allows her to effectively conduct business with clients from around the globe.

"The principles of diversity, equity and inclusion are universal. However, I do tailor the implementation to account for local societal norms and professional cultures. Some regions require a more concentrated effort to ensure the value of DEI is well-understood, whereas other regions, including Canada, require a focus on allyship and sponsorship. I provide opportunities for all regions to share their DEI initiatives and successes at my global meetings and conferences. This knowledge-sharing is very important and cuts through the cultural gaps," said Verellen.

Jannet Walker-Ford, senior vice president and national transit and rail business line leader for WSP USA, is also the chair of WTS International, the organization that works to advance women in the transportation industry. Her experience working with WTS has helped her understand that to be successful, decisions to take action on DEI issues must be intentional.

"I recently joined a board that was traditionally all males. Recognizing a lack of diversity, important changes to the

board were made. It was intentional in rectifying a gap, adding missing voices and insights and including broader representation. Our board has been a beacon for advocacy and other boards are noticing and following suit," said Ford.

With an appreciation for how DEI is impacting the sector both in corporate and association settings, these women are taking actions that allow for positive progress to be made that open new opportunities for under-represented populations in the industry.

Creating positive interactions

Helping women from under-represented populations thrive is something that both Ford and Verellen are doing on a daily business through their discussions with their teams.

For Ford, it's the continuation of the idea of being intentional and how that permeates at the team level. In her experience, it was especially something that had to be introduced to the hiring process,

Does the View Resemble Your Agency?



Protect Your Fleet with
Anti-Graffiti Films from
Graffiti Shield.

WATCH
OUR
GSML
VIDEO!

GRAFFITI SHIELD®

COST EFFECTIVE • QUICK LEAD TIME • NO MINIMUMS



714.575.1100



www.graffiti-shield.com • sales@graffiti-shield.com



For more information, visit www.MassTransitmag.com/11299231

removing the potential for conscious and unconscious biases to dictate who would be the newest individual added to the team.

“As soon as I joined WSP, the first thing I said to my male leaders, as it relates to hiring was, I expect you and your direct reports are taking that additional step and time to ensure a

diverse pool of candidates before you make offers, so, before it comes to me for approval, I’m assuming that you’ve done that. We’ve got to be intentional about how our teams are showing up and how they represent the clients and communities we serve in all aspects. This is important to WSP and to my team as we work to attract the best and brightest

in our industry. We get excited when we attract phenomenal woman or minority candidates for roles in transit and rail leading to a more diverse and competitive team,” Ford said.

In Verellen’s case, being a leader of both national and international teams in her role, it takes doing the work necessary to ensure people are engaged, heard, and understood, to then know how better to support and sponsor the members of her team from under-represented groups.

“I have been actively engaging by being an ally for underrepresented groups to challenge biases and promote inclusivity in the industry. This involves listening, learning and empathizing with individuals from marginalized communities, especially making sure the team consists of diverse members from the underrepresented groups, members of the LGBTQ2SA+ and indigenous communities,” Verellen said. “I go beyond allyship and actively sponsor individuals from underrepresented backgrounds. This involves providing guidance, mentorship and career opportunities to diverse employees, particularly those who may face systemic barriers to advancement such as women in engineering or neurodiverse individuals. By leveraging my position, I help talented individuals gain visibility, access to networks and opportunities for growth within the organization.”

These interactions, at the individual and team levels, help to develop DEI values throughout the workplace, leading by example to demonstrate the value of creating diverse teams that better serve our clients and our communities.

Engaging the next generation

One of the greatest challenges facing DEI growth in the sector has nothing to do with biases or career growth; it’s appreciating how to engage the next generation of under-represented individuals to the industry. From Ford’s perspective, it starts with changing how and when we engage students.

“I have been advocating that we go beyond ages 12-17 in terms of

McLaren
APPLIED

Halo 300 – 5G intelligent edge antenna.
The next step in transport connectivity.

- Integrated router & access point
- Dual modem
- 4x4 MIMO cellular & WiFi
- Multi-band GNSS
- Single hole installation
- Highly compact: 211.4mm diameter

Pioneering a connected future
mclarenapplied.com

For more information, visit www.MassTransitmag.com/21276880

“

We've got to be intentional about how our teams are showing up and how they represent the clients and communities we serve in all aspects.”

Jannet Walker-Ford, senior vice president and national transit and rail business line leader, WSP USA

our focus for our programming as an example. It's often too late to start attracting young girls to our industry and especially young girls of color where there is an underrepresentation,” Ford said. “We have to be more intentional about going to them, going to historically black colleges and universities and others to recruit young girls as an example, but also, going to communities where young girls may not know about broad array of careers in science, technology, engineering and math, WTS or accessibility to

either. I passionately believe five-year-olds are not too young to start to showcase the profession and its possibilities, so they can see role models who look like them.”

Once we get them into internships, get them onto our teams, the work begins to retain them as valuable members of our respective companies and understanding their vital importance to our work.

“When we understand our teammates through diverse lenses, we open communication, leading to innovation and

creativity. Making people feel welcome no matter what race, religion, sexual orientation or gender enables teams to get wider perspectives and input for faster problem-solving,” Verellen said. “Creating open and diverse teams brings people together with emotional connections to each other resulting in a strong commitment to deliver and contribute to team success. Allyship results in higher-performing teams where people look forward to working together.” L

About the author



Mavara Turab is a senior project manager, Rail and Transit, for WSP in Canada.



Dana Nassif is a rail systems engineer for WSP in Canada.



**EDNA A. RICE
EXECUTIVE RECRUITERS, INC.**

The world's most accomplished executive search firm specializing in rail, transportation, and mobility, since 1988. We possess the industry-specific expertise needed to consistently deliver exceptional results for both our clients and our candidates.

(713) 667-0406 • info@ednarice.com
www.ednarice.com

Hydraulic Bumpers

Western-Cullen-Hayes manufactures a wide range of hydraulic bumping posts for the transit and freight markets, please contact us with your special requirements.



WESTERN-CULLEN-HAYES, INC.
120 N. 3rd. Street • Richmond, Indiana 47374
(765) 962-0526 • Fax (765) 966-5374
Web Site: www.wch.com
E-mail: wch@wch.com



For more information, visit www.MassTransitmag.com/10064901

For more information, visit www.MassTransitmag.com/10065991



OPERATOR SAFETY

vShield® Operator Protection Door

Wabtec's vShield® Operator Protection Door features a large safety glass and heavy-duty lower door that provides a defensive barrier to protect against assaults and unwanted interactions. Other features include power windows, two variable-speed cockpit ventilation fans and an anti-rattle door latch. Anti-glare laminated safety glass functions as sneeze guard with contoured design for unobstructed views to mirrors and quick replacement glazing. An optional MERV 15 filter improves air quality and removes airborne bacteria and irritants.

WABTEC BUS SOLUTIONS

www.wabteccorp.com



BUS

INSIGHT-PRIME+®

INSIGHT-PRIME+ combines lightweight design with superior strength and durability. Its unique insert design creates an inviting interior without the unnecessary weight, maintenance or expense of upholstered seat coverings. INSIGHT-PRIME+'s unique surface design repels the dirt and moisture that may otherwise collect in crevices, making it easy to clean and sanitize. INSIGHT-PRIME+ integrates with all American Seating ADA compliant systems for faster, easier and safer mobility aid securement.

AMERICAN SEATING COMPANY

www.americanseating.com



PASSENGER SAFETY

SeatLink™ System

SeatLink™ is a seat information tracking system that displays, tracks and stores the occupancy and seat belt status of passenger seats. An alert sounds if an occupant sits but does not buckle or buckles before sitting. A head unit provides visual warnings to the driver.

The system also records and stores data that can be retrieved in case of an event.

Freeman Seating Company

www.freedmanseating.com

BUS

Apex Exterior Bike Rack

Compatible with E-bikes, the Apex Exterior Bike Rack is Sportworks' premium exterior transit bicycle rack. The racks feature modular trays, support for bikes up to 75 lbs. and tire widths up to 3.2 inches wide standard (up to 5.5 inches wide with optional fat-tire trays). For interior rail, bus rapid transit and bus bicycle transport, Sportworks supplies a variety of solutions with compact footprint for vertical storage and E-bike friendly roll-in (no lift) design.

SPORTWORKS

www.sportworks.com



sportworks

View more products at MassTransitmag.com/directory



NEXT

STARTS

HERE

Join us for this global gathering of public transit professionals at the industry's most influential event, October 9-11, 2023, in Orlando. You will discover the latest, cutting-edge solutions to increase ridership, revolutionize the rider experience, boost convenience, enhance security, and improve system-wide reliability and sustainability.

Orlando, Florida

EXPO: OCT. 9–11, 2023

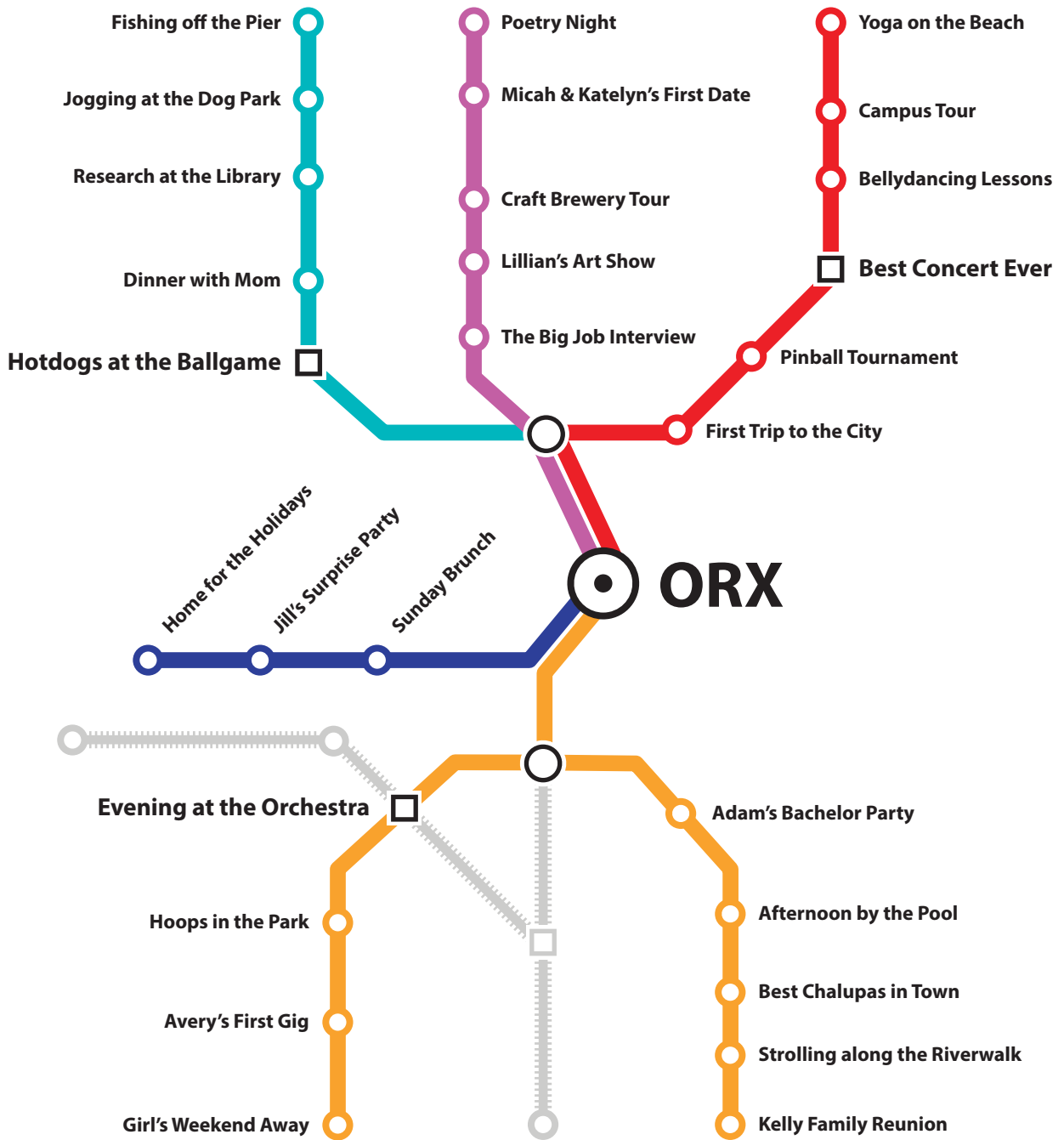
TRANSform Conference: OCT. 8–11

TRANSform Conference Presented by **HNTB**

Sign Up for
Updates



Register Now



We get why your riders ride.

For over 40 years, professionals in the rail transportation industry have depended on ORX to keep them running smoothly. Innovative technology, bearing housing conversions, axle designs, gauging, tooling, complete wheel set designs, and more. Our team is here to meet your demands, exceed your expectations, and fulfill our promise to deliver *The World's Highest Standards in Railroad Wheel Sets*.