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2021 TRANSIT

Safety & Security Report

The transit industry continues to post impressive safety statistics while looking to the future.

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Partnerships are the Backbone to Implementing Zero-Emission Technology

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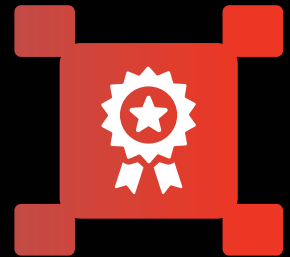
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Another year for the books

A year-end look at our top stories and what they tell us about where the industry has been, as well as where it's going.

I like to take stock at the end of the year, to reflect, to count good events, but mostly, to use the proverbial review mirror to see certain things more clearly. Part of this exercise means looking at our internal data to see what stories grabbed the attention of our readers.

Interestingly, the section of *Mass Transit's* website to see the biggest traffic jump was the jobs portal, which saw a 130 percent increase in visits in 2021. I confess my journalist heart compressed a bit that this stat wasn't occupied by a breaking news story or feature article, but with ego sufficiently in check, there was a realization that information sharing is one aspect of our role, while making connections is another. The transit industry is not immune to the Great Resignation, and we are grateful the jobs portal serves as a resource for the industry to find whatever the next opportunity may be.

Rail continued its reign as the top channel on the *Mass Transit* website. Rail specific stories also dominated our top 100 story list for the year. These included Amtrak's unveiling of its new Tier IV locomotive and newly refreshed passenger cars at Chicago Union Station in June; various high-speed rail plans and developments; and the return to service of Brightline following a pandemic-caused hiatus.

Developments in Washington, D.C., also held the attention of readers. Early in the year, it was coverage of the American Rescue Plan, the final in a trio of bills to deliver much needed emergency funding to the transit

industry as it continued to cope with the COVID-19 pandemic. This was followed throughout the summer and fall with surface transportation and infrastructure bill progress and, ultimately, the signing into law of the Bipartisan Infrastructure Deal (BID).

Taken as a whole, the news covered and read in 2021 had a more upbeat thread connecting it all. The improvements in ridership, the launch of new mobility services and the security provided by the BID is seeing 2021 end on a much lighter note than this time last year.

We wish you a joyous holiday season and a happy and safe New Year.

Taken as a whole, the news covered and read in 2021 had a more upbeat thread connecting it all.



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THE MID-COAST Extension included constructing 11 miles of double track infrastructure.

San Diego region celebrates grand opening of Mid-Coast Extension of UC San Diego Blue Line Trolley

The San Diego Association of Governments (SANDAG) and San Diego Metropolitan Transit System staff were joined by federal, state, local leaders and more than 8,500 community members to celebrate the start of service on the Mid-Coast Extension of the UC San Diego Blue Line Trolley in late November. The \$2.1-billion Mid-Coast Trolley Extension included 11 double track miles, eight bridge crossings, nearly seven miles of at-grade alignment in or near existing railroad right-of-way, nine stations and more than four miles of aerial viaduct structures. The extension provides a direct connection from the U.S./Mexico Border to the University Community. The extension provides a critical new connection for San Diego, extending the light-rail line from the Old Town Transit Center north to the University Towne Centre (UTC) Transit Center in University City.

➔ [MassTransitmag.com/21247795](https://www.masstransitmag.com/21247795)

USDOT awards more than \$175 million in RAISE grants to transit and passenger rail projects

▶ The U.S. Department of Transportation (USDOT) released a full list of awarded grants through the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) discretionary grants program. Transit and passenger rail projects were awarded more than \$175 million of the nearly \$1 billion made available in this round of grants.

Transit projects will benefit from nearly \$169 million in capital RAISE grants and \$6.83 million in planning RAISE grants. Additionally, capital and planning projects with transit-related elements have been awarded an additional \$218 million in grants. These projects have been awarded under non-transit modes but include transit elements such as stop improvements and access enhancements or improvements. The RAISE grants were known as Better Utilizing Investments to Leverage Development

(BUILD) under the Trump Administration and Transportation Investment Generating Economic Recovery (TIGER) under the Obama Administration.

➔ [MassTransitmag.com/21247530](https://www.masstransitmag.com/21247530)



THE BYPASS allows Brown Line trains to go over Red and Purple trains, increasing capacity and reducing delays.

CTA puts new Red-Purple Bypass into service

▶ The new Red-Purple Bypass, the first major improvement for Chicago Transit Authority (CTA) customers as part of the historic \$2.1 billion Red and Purple Modernization (RPM) Phase One project, began service on the Brown Line Nov. 19, 2021. The bypass is the first new section of track added to the CTA system in 28 years. The bypass eliminates a 114-year-old rail junction that had become a chokepoint for service across the CTA rail system and will allow CTA to add rail service during busy travel periods and reduce overcrowding and delays. Benefits of the bypass include allowing CTA to add trains during the busiest commute periods and eliminating capacity restrictions on CTA that were caused by the antiquated rail junction. The bypass will also provide quicker, more reliable service because Kimball-bound trains and Red and Purple trains will no longer have to stop and wait for each other to cross the junction.

➔ [MassTransitmag.com/21247418](https://www.masstransitmag.com/21247418)

Silver Line Phase 2 maintenance yard reaches substantial completion

▶ The 90-acre Rail Yard and Maintenance Facility at Dulles International Airport, a key piece of the Metrorail Silver Line Phase 2 extension project, has reached substantial completion according to the Metropolitan Washington Airports Authority. The rail yard, located on Dulles International Airport property along Old Ox Road, will enable trains to undergo maintenance and repairs and provide

storage for the trains and a range of spare parts for train and track maintenance. The rail maintenance yard was constructed under a separate contract by Hensel Phelps and follows the early November 2021 news that the six stations and mainline tracks for the project reached substantial completion. Phase 2 of the Silver Line project will extend Washington Metropolitan Area Transit Authority's Metrorail system to Dulles International Airport and farther into Northern Virginia.

➔ [MassTransitmag.com/21248716](https://www.masstransitmag.com/21248716)

Phoenix, Valley Metro and FTA sign \$158.1 million FFGA for second phase of light-rail project

► Federal, local and transit industry officials came together in Phoenix, Ariz., on Nov. 19, 2021, to celebrate the signing of a \$158.1 million full funding grant agreement between the city, Valley Metro and the Federal Transit Administration (FTA) for the Northwest Extension Phase II Light Rail Project. The grant is provided through FTA's Capital Investment Grants program and



FTA ADMINISTRATOR Nuria Fernandez, right, signs the grant agreement with Phoenix Public Transit Director Jesus Sapien.

will help fund the \$401-million project that will add 1.6 miles, three stations, three bridges, a parking structure and a multimodal transit center to Valley Metro's light-rail system. The extension will serve a corridor where 18 percent of households do not own a car and 31 percent of the population lives below the poverty level. It is expected to serve 5,700 riders each day.

➔ [MassTransitmag.com/21247528](https://www.masstransitmag.com/21247528)

MORE NEWS AT A GLANCE

► Metrolinx and Alstom have signed an agreement that will see 94 GO Transit coaches overhauled at Alstom's Thunder Bay, Ontario, facility.

➔ [MassTransitmag.com/21248476](https://www.masstransitmag.com/21248476)

► The city of Calgary in Alberta, Canada, has awarded a contract to CAF to supply 28 Urbos 100 light-rail vehicles for the city's Green Line Light-Rail Transit Project.

➔ [MassTransitmag.com/21247333](https://www.masstransitmag.com/21247333)

► GoRaleigh will utilize INIT's charge management solution, MOBILEcharge, to automate charging processes, manage power demands, align service schedules and proactively maintain its new electric fleet.

➔ [MassTransitmag.com/21248304](https://www.masstransitmag.com/21248304)

► King County Metro has awarded a \$40-million contract to Walsh-Stantec Progressive Design-Build Team to design and build the electrification infrastructure needed to charge and operate up to 120 battery-electric buses.

➔ [MassTransitmag.com/21248005](https://www.masstransitmag.com/21248005)

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People in the News

Jacksonville Transportation Authority (JTA)

JTA named Charles D. Frazier as senior vice president and chief operating officer.

overseeing the JTA's Transit Operations Division. Frazier's responsibilities include oversight and strategic planning for fixed bus routes, the First Coast Flyer Bus Rapid Transit network, paratransit, regional and alternative mobility services, the St. Johns River Ferry and the service planning and vehicle maintenance departments. Frazier is a member of the American Public Transportation Association (APTA) and a graduate of Leadership APTA.

➔ MassTransitmag.com/21248821



Frazier

Cincinnati Metro

Cincinnati Metro has promoted Khaled Shammout to chief strategic planning and innovation officer.

effective immediately. Shammout joined Cincinnati Metro in 2018 as director of transit development before moving up to oversee the planning department as vice president. In addition to spearheading this year's launch of the agency's long-range service improvement plan, Reinventing Metro, he also developed the five-year comprehensive strategic plan. Prior to joining Metro, he served as director of transit planning for Palm Beach County, Fla., where he managed all planning-related activities for Palm Tran.

➔ MassTransitmag.com/21248819



Shammout

Honolulu Authority for Rapid Transit (HART)

HART HAS hired Matthew Scanlon to serve as director of construction.

He will work under the direction of the HART project director to lead construction management efforts for the Honolulu Rail Transit Project. Scanlon will be responsible for construction management, schedule, budget, quality and oversight of the construction management teams. Scanlon is a licensed professional engineer with more than 20 years of experience in capital program project management, construction management of complex rail systems, civil and systems design, regulatory agency coordination, permitting, safety certification and rail integration testing.

➔ MassTransitmag.com/21248148



Scanlon

San Joaquin Regional Transit District (RTD)

Alex Clifford has been approved by the San Joaquin RTD Board of Directors to be the new CEO.

Clifford, who currently serves as CEO of nearby Santa Cruz Metropolitan Transit District, will begin his term on Jan. 31, 2022, as RTD's current CEO Gloria G. Salazar retires in February. Clifford is credible and well-known in the transit industry, joining RTD with 30 years of transit experience, inclusive of eight years on the policy side as a city councilman. With ambitious projects already in the works, RTD will grow its zero-emission bus fleet, clean energy infrastructure and the next generation of service design under his wealth of experience.

➔ MassTransitmag.com/21247631



Clifford



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Metro Transit Credits Constant Collaboration with Law Enforcement Partners as Key to Security Success

Results of this effort include a downward trend in crime numbers and an upward trend in ridership.



Taulby Roach
President and CEO
Bi-State Development

The new attitude of cooperation is helping rebuild respect and trust among the partnering organizations and with passengers.

OPERATORS OF THE METRO TRANSIT SYSTEM and its law enforcement partners have made tremendous progress since February 2020 to establish a safer transit environment for riders in the St. Louis region. The foundation for this progress is the collaboration between St. Louis Metro Transit and its dedicated partners in a shared quest to rebuild ridership and regain the region's confidence in this essential regional asset.

The journey began 22 months ago with the signing of a new security agreement by Metro Transit, regional leaders and police partners. The agreement followed two years of hard work by Metro Transit, Bi-State Development and many partners, outlining a framework for providing transit riders with safer, more comfortable trips. Subsequent contracts with all three police partners assigned to the MetroLink light-rail system – St. Louis County Police Department (Missouri), the St. Clair County, Ill., Sheriff's Department and the St. Louis Metropolitan Police Department (Missouri) – enable them to provide an armed, professional law enforcement presence, delivering additional comfort for transit customers.

Like many transit agencies around the nation, the St. Louis transit service area presents challenges. It incorporates various segmented governmental bodies in multiple communities, crossing cities, counties and even states. Constant collaboration and cooperation have been the key to rebuilding relationships between the partner law enforcement agencies and the St. Louis Metro Transit team. While they may all wear different uniforms, they are now functioning as one unit across the 46-mile light-rail system.

The new attitude of cooperation is helping rebuild respect and trust among the partnering organizations and with passengers. This diverse team may officially represent different departments, but they all train together, team up on the MetroLink system and create a proud transit




St. Louis Metro Transit

THE METROLINK system in the St. Louis region utilizes many security entities that collaborate to keep the light-rail network safe.

community. This team seamlessly works as one proactive unit, often preventing issues before they happen.

The results of this collaborative effort can be seen in both the downward trend in crime numbers, upward trend in ridership and by the progress shown in the quarterly independent scorecards tracking implementation of security recommendations outlined in the security strategy.

While the progress is clear, our resolve continues. Working closely with our law enforcement partners in eastern Missouri and southwestern Illinois, we continue to build on the accomplishments to date and are simultaneously working to improve the perception of safety for one of our region's greatest economic development assets. We are confident that, together, we will prevail. You can follow our progress at <https://www.metrostlouis.org/safety-and-security/>. 

Taulby Roach is president and chief executive officer of Bi-State Development, which operates St. Louis Metro Transit as one of its enterprises.

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Think Mass Transit is Ready for Cybersecurity Breaches? Time to Think Again.

The more connected companies and systems become, the greater the risk is of a potential security breach.



Chris Barker
Secuvant Executive Board
Member, Transportation &
Smart Cities Advisor



Jason Stokes
CISO and Vice President,
Security Services

While transportation network systems are becoming increasingly IP connected, they often use over-the-counter virus and cybersecurity software and firewalls that don't offer the security protection they need.

ACCORDING TO A STUDY BY THE UNIVERSITY of Maryland, a cyberattack happens every 39 seconds, often preventable attacks when the correct measures are in place. As mass transit systems become more IP enabled and connected to the internet, these attacks are on the rise.

Transportation relates to more than just moving people. With COVID-19, transportation services were increasingly relied upon for delivering everything from food, medicine and other vital services. COVID-19 also forced companies to pivot to remote work and a culture of working from anywhere. This transition required remote worker access to critical company computing systems via Virtual Private Networks (VPNs) and internet of things (IoT) portals, which opened up an array of gateways for hacking incidents to occur.

Recent Transportation Cyberattacks and Lessons Learned

At the heart of any functioning transportation system is reliable access to fuel. The recent cyber-attack on the Colonial Pipeline, one of the largest private fuel pipeline operators in the United States and the supplier of approximately 45 percent of the fuel on the East Coast, highlighted the problem. A compromised network password led to a ransomware attack and shutdown of the pipeline creating fuel shortages that greatly impacted East Coast transportation operations.

The attackers targeted the business side of the pipeline operations: making it clear that their motivation was money. Had they targeted the operations side of the business, the crisis could have stretched beyond a single week. While a third-party security organization was hired to determine the source of the breach, the company paid \$5 million to the attackers to restore systems.

Following the Colonial Pipeline incident, the Department of Homeland Security (DHS) issued new cybersecurity standards but some of these standards will take time and money to implement, which Colonial says it is doing.

The Colonial Pipeline hack is just one of many recent incidents impacting the North American transportation system. The San Francisco

Municipal Transportation Agency suffered a ransomware attack on 2,000 computers. Toronto suffered a similar attack on its subway system, directly impacting control operations. And Martha's Vineyard ferry service endured a ransomware attack in June of 2021.

The largest takeaway from these attacks? Mass transit systems responsible for transporting 34 million passengers a day are targets for increased cyberattacks and offer hackers and other bad actors a potential gold mine of opportunity.

Prevention and New Guidelines

One of the issues for transportation organizations is a lack of funding and internal/external staffing resources required for deploying a robust cybersecurity plan and defense against unwanted cyberattacks. While transportation network systems are becoming increasingly IP connected, they often use over-the-counter virus and cybersecurity software and firewalls that don't offer the security protection they need.

As a result, the Cybersecurity and Infrastructure Security Agency (CISA) has instituted new rules: All pipeline operators need to have a cybersecurity coordinator who can be reached 24/7 in the event of any incident. In June 2021, all pipeline operators had to report to CISA and the Transportation Security Administration (TSA) on the current state and protection of their systems and what their plans were for correcting any deficiencies.

By October, TSA also went beyond mandates for pipelines and implemented guidelines for all the major rail systems, including Amtrak and larger transit and subway systems like those in New York, Washington, D.C., and Chicago. Regulations include the requirement to have a cybersecurity response contact, that all breaches be reported to CISA and have an incident recovery plan.

Some feel that these regulations don't go far enough. Bad actors continue to develop more sophisticated ways to attack vulnerable systems, and they include not only nation-states who intend to threaten national confidence and

security, but criminal hackers and cybercriminals who are more motivated by money and ransom than the actual disruption of transportation systems.

It is important that private companies, cities, states and regulators at the highest federal levels understand the threat to various systems and the ways those threats can be mitigated.

What's the solution here? For each aspect of transportation that could potentially be impacted, a comprehensive cybersecurity plan must be developed and implemented.

The Impact of the Private Cybersecurity Sector on Mass Transit

Fortunately for mass transit and transportation companies of all sizes, there is no need to reinvent the cybersecurity wheel. Other highly-regulated industries such as healthcare and financial services are already taking steps to develop more comprehensive cybersecurity measures that can be applied for the benefit of the transportation industry:

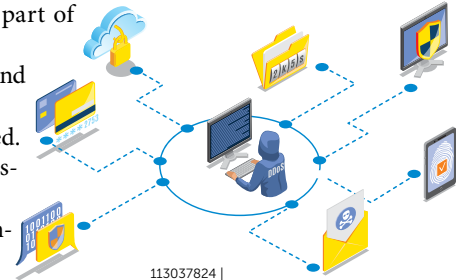
- Assess the organization using industry-standard frameworks to baseline the current state of ma-

turity. Identify gaps, vulnerabilities and threats to quantify organizational risk.

- Establish goals and milestones as part of an overall plan.
- Formalize policies, standards, roles and responsibilities in case of an attack.
- Assess and track risk until remediated.
- Fully implement and enforce processes and new procedures.
- Engage third-party expertise to identify and fill any talent or skill gaps.

With new directives and policies in place and evolving as the need arises, for many mass transit systems, it makes sense to find a trusted third-party partner. It's simpler and in many cases less costly than developing and hiring for a cybersecurity department from the ground up. Just be sure the selected company is familiar with the unique challenges of mass transit system cybersecurity and has the agility to pivot as both threats and security systems evolve.

Think your transportation system is prepared for a cybersecurity breach? It's time to think again, but not to stop there. It's time to be proactive before you're forced into a costly reaction. **MT**



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Chris Barker is a Secuvant Executive Board Member, Transportation and smart cities advisor.



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2021 TRANSIT Safety & Security Report

The transit industry continues to post impressive safety statistics, but new methods and processes are being implemented and evaluated in an effort toward constant improvement.

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

Public transportation continues to post statistics that support its reputation as being one of the safest modes of travel in North America. The American Public Transportation Association (APTA) referenced its 2016 report, “The Hidden Traffic Safety Report: Public Transportation,” in its most recent *Fact Book* when the association highlighted “cities with more than 40 annual public transit trips per person have half the traffic fatality rate of those with fewer than 20 trips per person.”

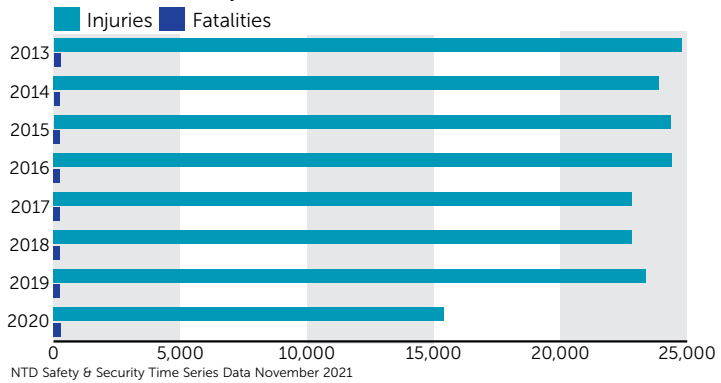
The usual round of statistics that are viewed and compiled for this annual report should be absorbed with the knowledge that the impact of COVID-19 on ridership can be seen as a contributing factor in many of the results. Improved fatality rates can be viewed as the consequence of less riders, while increased crime statistics can be seen as the result of less eyes in a system or situational escalation, such as enforcement of mask mandates.

While transit stakeholders have firm commitments to maintaining safety on every system in North America, the pandemic has caused the public to take a closer look at everyday activities – from dining out to daily travels – through the lens of safety.

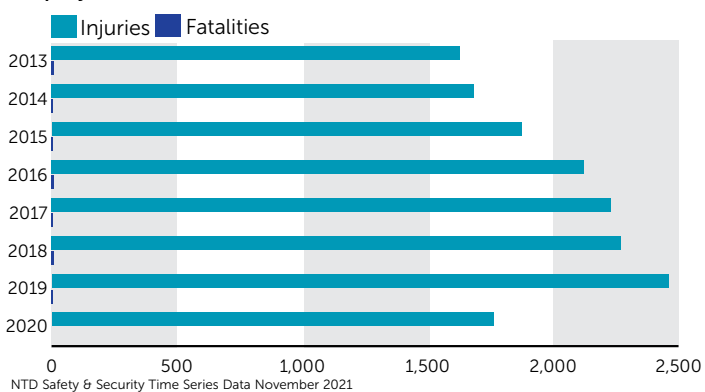
And transit agencies have a plan to help with this task. In August, the Federal Transit Administration (FTA) said more than 700 U.S. transit systems were in compliance with the Public Transportation Agency Safety Plan (PTASP) Final Rule, which was published in 2018. The rule requires all agencies that receive FTA's Urbanized Area Formula Grants to set safety performance targets in a Safety Plan that is reviewed and certified every year. The plans must include Safety Management System principles and practices, which allow management and labor to come together, address risk, analyze data and provide a safer ride for passengers, while protecting workers and operators.

On the security front, transit systems are embracing smarter ways to keep track of incidents on their systems through enhanced technology. With the continued move toward more connected and integrated systems, the need to protect all transit networks from potential cyberattacks will increase in importance.

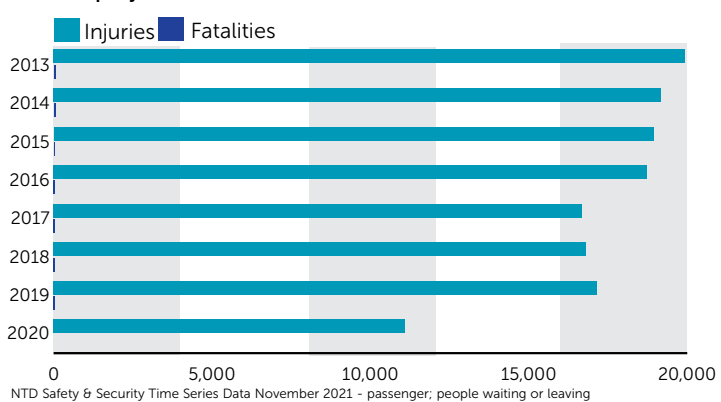
Total fatalities and injuries 2013-2020



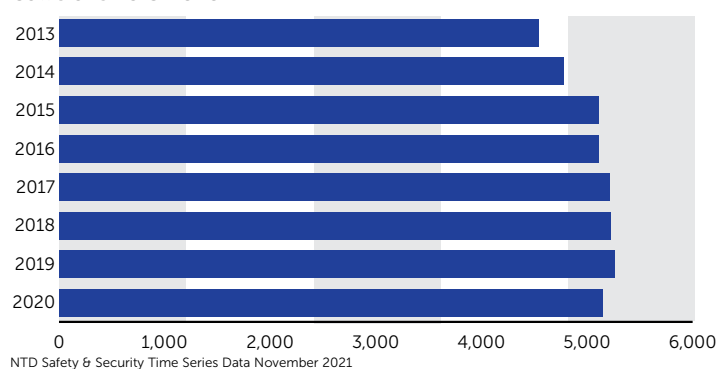
Employee incidents 2013-2020



Non-Employee incidents 2013-2020



Collisions 2013-2020



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Safety
84% of buses and 55% of rail stations have security cameras*

5% of buses have Pedestrian Detection*
*APTA 2021 Public Transportation Fact Book



Cybersecurity*

Ransomware, the most frequent tactic, technique or procedure to compromise rail victim networks since January 2020

Nefilim, Netwalker, REvil, Ransom X are the most common ransomware used

Cybercriminals target networks containing:

- Business data
- Personally Identified Information
- Credit card information from passenger ground service systems

*CISA Cybersecurity Briefing 2021 FTA Joint SSO and RTA Virtual Workshop October 2021

Total reported security events* have decreased more than

32% in the past year

*NTD Safety & Security Time Series Data November 2021. Security Events are not reported to NTD unless they meet Major Event thresholds

COVID-19's Continued Impact

COVID-19 has caused a shift in the way transit agencies operate and communicate with riders and employees. Part of a recent APTA report, "On the Horizon Planning for Post-Pandemic Travel," included case studies of six transit agencies and their pandemic response. One of the theme's the report noted was the agencies' ability to secure employee and rider safety. While the U.S. government has extended the requirement for riders and employees to wear masks while on public transit through March 2022, agencies are exploring ways to boost rider confidence.

Air filtration systems have emerged as one component where transit agencies can improve safety of both operators and riders. In 2021, Metra announced plans to upgrade the ventilation system on its railcars with a new three-stage filtration and purification process and Bay Area Rapid Transit began installation of dens-

er filters throughout its fleet of train cars. More recently, IndyGo said it will work with Lumin-Air to install air filtration systems in all IndyGo fixed route, bus rapid transit and paratransit vehicles.

Innovation is also a valuable element to transit safety enhancements. This fall, the Metrolinx Incident Command team in the Greater Toronto Area conducted a pilot study of environmental sampling, looking for the virus that causes COVID-19 in air and on surfaces. The team collected 36 samples from a busy rail station, bus terminal and inside vehicles. The team did not detect the genetic material from the virus in any of the samples.

Also in Canada, TransLink in Metro Vancouver and the Toronto Transit Commission (TTC) installed antimicrobial copper coatings on high-touch transit surfaces on vehicles following a successful pilot phase that supports copper's ability to kill up to 99.9 percent of bacteria on transit surfaces.



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Rail Safety

Another area of focus in 2021 was enhancing safety of rail components and rail transit workers.

FTA's *Rail Safety Data Report 2007-2018 (RSDR)*, which was released September 2021, shows the fatality rate on rail transit systems increased .7 percent per year on average, while the injury rate increased 1.5 percent per year on average. The *RSDR* found two percent of fatalities on rail transit systems were assigned a workforce or infrastructure probable cause. Most rail transit fatalities are due to suicide or trespassing, customer actions or public actions.

FTA recently closed a request for information (RFI) this fall seeking input on potential transit worker safety mitigations, including potential minimum safety requirements for Roadway Worker Protection (RWP) programs and transit worker assault prevention. FTA Acting Associate Administrator for Transit Safety and Oversight and Chief Safety Officer Gail Lyssy told *Mass Transit* RWP was identified by both the National Transportation Safety Board (NTSB) and FTA's Transit Advisory Committee for Safety as an area of interest with both recommending FTA action. Lyssy said the RFI will assist FTA as it evaluates potential actions to mitigate risks to transit workers.

In related rail safety news, the Federal Railroad Administration renewed the charter of the Railroad Safety Advisory Committee (RSAC) for a two-year period. RSAC includes industry representatives from stakeholder groups, including freight and passenger rail, transit, contracting, labor, supplier and manufacturing entities. RSAC was first formed in 1996 as a forum in which federal officials

and the rail industry could collaborate through the rulemaking process and program development.

One of the more pressing issues that developed late in 2021 has been the recommendation by the NTSB for rail transit agencies and commuter railroads to assess gauge specifications of their fleets and urge immediate corrective action should

any wheelsets be found to be outside these specifications. The safety alert follows an Oct. 12, 2021, derailment involving a Washington Metropolitan Area Transit Authority MetroRail Blue line train in Arlington, Va. NTSB's preliminary report determined the incident occurred when a wheelset on the fourth car of the train derailed. The same wheelset derailed and



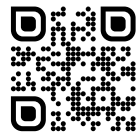
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Injuries and Fatalities

Total injuries decreased
34% between 2019 and
2020, but total fatalities
increased more than **8%***

*NTD Safety & Security Time Series Data November 2021



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

2021 Transit Safety & Security Report

then railed while moving through a pair of switches two times the day of the incident before derailling a final time.

NTSB says the Safety Alert identifies wheelset movement as a problem that carries “the potential to create a catastrophic event.”

FTA also issued a safety directive where State Safety Oversight Agencies had until Dec. 1, 2021, to report out-of-tolerance wheel gauges on all rail transit rolling stock in revenue service and conduct inspections of wheel gauges at rail fixed guideway public transportation systems in their jurisdiction.

Security

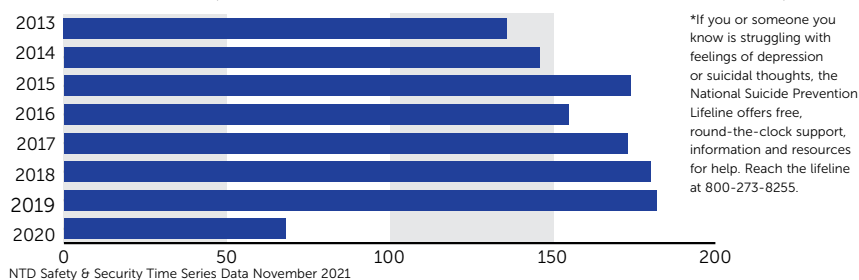
Transit agencies are working to make their systems more secure through various avenues. Bi-State Development, which operates St. Louis Metro Transit, has developed a series of partnerships to aid its efforts. Taulby Roach, president and CEO of Bi-State Development, goes into detail of why these efforts worked on page 12.

Partnerships will also be at the core of Regional Transportation District (RTD) of Denver’s recent effort to enhance security at and around the Denver Union Station area. RTD is supplementing its transit police operations through partnerships with the federal Transportation Security Administration’s Visible Intermodal Prevention and Response (VIPR) teams and the Guardian Angels nonprofit organization.

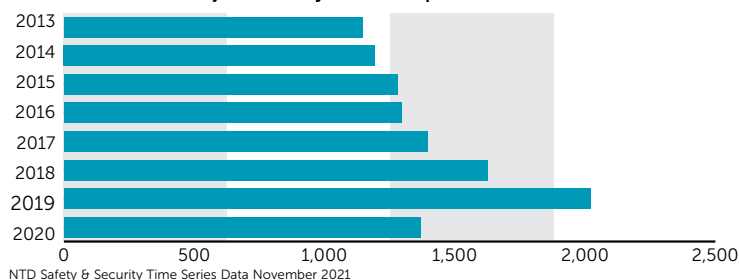
Los Angeles County Metropolitan Transportation Authority (L.A. Metro) recently extended its agreement for system patrol services with the Los Angeles Police Department, Los Angeles Sheriff’s Department and the Long Beach Police Department. L.A. Metro will also utilize alternative public safety efforts, such as dispatching police officers or homeless and mental health outreach workers, depending on the situation.

Austin’s Capital Metropolitan Transportation Authority (CapMetro) Board of Directors approved a more hands-on approach to transit safety with the approval of a resolution to establish a dedicated transit police force at the agency. CapMetro currently contracts with more than 100 off-duty Austin Police Department officers to provide security on its system. Gardner Tabon, CapMetro executive vice president and chief safety officer, explained the city’s

Suicides 2013-2020 (total of intentional acts that resulted in death or injury)*



Total number of major security events reported



Rail safety trends*

Fatality rate increased **0.7%** per year on average; Injury rate increased **2.5%** per year on average

*FTA Rail Safety Data Report 2007-2018

police force is obligated to deploy where the city needs them, which may not be where the transit agency needs these resources. Tabon also explained the authority’s three-pronged approach to public safety, which includes public safety ambassadors, intervention specialists and transit police. The CapMetro Board’s approval allows the authority to proceed with the plans, which it estimates could take up to 18 months to implement a transit police unit.

Moving away from protecting physical assets and toward protecting operational and business systems, cybersecurity will continue to develop in scope and focus for transit agencies. This year saw large and medium-sized transit agencies, including TTC and the Ann Arbor Area Transportation Authority, hit with cyberattacks and moves by the private sector to bolster cybersecurity offerings to customers. Developing improved cybersecurity for rail transport systems are the focus of an agreement between Airbus and Alstom,

Bus safety trends*

Fatality rate decreased **3.2%** per year on average; Injury rate decreased **1.4%** per year on average

*FTA Bus Safety Data Report 2007-2018

as well as an agreement between Siemens Mobility and UK-based RazorSecure.

In the U.S., the Department of Homeland Security turned its focus on rail and transit systems in its latest cybersecurity sprint. The Transportation Security Administration issued Safety Directives that will require higher risk freight rail, passenger rail and rail transit operators to designate a cybersecurity coordinator; report cybersecurity incidents within 24 hours; develop and implement a cybersecurity incident response plan to reduce the risk of an operational disruption; and complete a cybersecurity vulnerability assessment to identify potential gaps or vulnerabilities in their systems. While the requirements included in the Security Directives apply to a select group of rail owners/operators, TSA also issued an Information Circular encouraging all owners/operators to implement the actions laid out in the Security Directives.

A Siemens advertisement featuring a high-speed train on tracks. The train is blue and silver with red and white accents, and the number '605' is visible on the front and side. The train is moving along a track next to a body of water under a blue sky with clouds. The Siemens logo is in the top left corner.

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Partnerships are the Backbone to Implementing Zero-Emission Technology

Champaign-Urbana MTD leveraged private and public partnerships to be the first transit agency in the United States with a hydrogen fleet fueled entirely from its own 100 percent renewable source.

By **Megan Perrero, assistant editor**

By working with a consortium of partners, including state, federal, local, private and nonprofit entities, the Champaign-Urbana Mass Transit District (MTD)

made history this past year when it introduced its new zero-emission fleet technology, including a 100 percent renewable hydrogen production station, as well as the

nation's first commercial deployment of 60-foot articulated hydrogen fuel cell electric buses.

Private and public partnerships were the backbone in bringing this vision to reality, supporting MTD's efforts to deliver high quality traditional and innovative transportation services that are safe, reliable, environmentally responsible and user friendly.

The project dates to 2017 when the MTD submitted a successful application to the Federal Transit Administration (FTA) for the Low- or No-Emissions program, which resulted in a \$1.45-million grant. The agency also secured other state and federal funding to cover 94 percent of the project through grants that support clean, zero-emission and sustainable initiatives. MTD partnered with the Center for Transportation and the Environment (CTE) to plan the project and coordinate the various aspects.

For this technology to be truly zero emissions, MTD worked with private sector partners to develop an array of solar panels to produce clean energy, which then powers



the hydrogen production station by using solar power to turn water and electricity into hydrogen that is then used to fuel the buses. And finally, when the buses are in service, the only thing they will emit is water vapor.

'It's Significant, It's Real'

"This isn't quite Star Trek level technology, but it's on the path. It's significant and it's real," MTD General Manager Karl Gnadt told the crowd of project partners, stakeholders, as well as local, state and federal officials at a press event to demonstrate the new technology.

MTD's two zero-emission, hydrogen fuel cell electric, 60-foot Xcelsior CHARGE H2™ heavy-duty transit buses from New Flyer of America (New Flyer) were first unveiled at MTD's maintenance and storage facility in Urbana, Ill., on Oct. 14, 2021. The event not only celebrated industry firsts but also the sheer number of collaborators, including the FTA, it took to see this project through.

"The new buses, which will run on hydrogen and produce no emis-

sions, represent the kind of innovation we're proud to support at the [U.S.] Department of Transportation," said FTA Administrator Nuria Fernandez during the event.

The agency elected to pursue hydrogen fuel cell in lieu of battery-electric technology because hydrogen eliminates the agency's fossil fuel consumption while having minimal impact on operations. This is because hydrogen fueling takes about 10-15 minutes, on par with a conventional diesel bus, so MTD doesn't have to change the way it operates. And, these buses can drive up to 300 miles on a single refueling, allowing MTD to keep a bus in service all day instead of scheduling down time for charging with battery-electric buses.

In addition, more than 15,000 gallons of diesel fuel per bus will be saved each year, with one hydrogen fuel cell bus reducing greenhouse gases up to 135 tons annually. During low winter temperatures, fuel cell vehicles use waste heat from the fuel cell to keep the inside of the vehicle warm, saving significant energy.

Maintaining the Buses Safely

New Flyer has been another partner to MTD, helping the agency's maintenance personnel learn how to use and troubleshoot the new technology.

"The preventative maintenance schedule and the preventative maintenance that the [hydrogen fuel-cell] was going to require versus what it's replacing couldn't be more different," said Josh Berbaum, maintenance director, MTD. "So, the training on that side to ensure that we know how to properly maintain this vehicle, that's probably the biggest challenge that we've had."

Berbaum explains New Flyer technicians have been onsite since MTD received the buses and will continue to be onsite, working side by side with the agency to address any fault codes, trialability issues or whatever else may come up.

"We've also been really good at relationship building with not only New Flyer, but Ballard, which is the maker of the fuel cell. So, we've got engineers that we call when we have an issue and

Project Partners

New Flyer/NFI Group: supplied buses, trained maintenance staff

Trillium: designed, built, operates and maintains the fueling station

PDC Machines and IVYS Energy Solutions: supplied the compression and dispensing equipment as part of the fueling station

Nel Hydrogen: supplied the electrolyzer for MTD's hydrogen production station

Ballard: produced the fuel cell

Fiedler Group: provided design/engineering services for maintenance facility modifications and hydrogen production station

ONE OF MTD's two 60-foot hydrogen fuel cell buses pulls into the fuel island, recently upgraded to incorporate fueling with hydrogen, produced on-site.



they can walk us through remotely. So, we've got a lot of good relationships," Berbaum added.

In addition to learning new maintenance protocols, MTD contracted with Fiedler Group and Natural Gas Fueling Solutions/Cissell Mueller to make modifications to the storage facility to ensure a safe storage and maintenance of the vehicles.

"We've put a hydrogen leak detection system throughout this entire storage facility. And there's a screen that's in our break room where almost all of us staff reside. And so, if there's ever an issue, a hydrogen leak or anything gets detected, it will basically sound off alarms so that we know there's an issue, we need to evacuate the people or evacuate the buses out," Berbaum said.

Despite the changes, Gnadt adds staff have embraced the new technology, noting the team has been "excited, interested and accepting of the project."

"No one has the expertise and the resources to do it alone."

- PAUL SKOUTELAS

The Fuel Source

The partnerships don't stop there. In order to construct MTD's 100 percent renewable hydrogen production station, the agency had to plan meticulously while relying on the private sector to innovate and take risks, notes Paul Skoutelas, president of the American Public Transportation Association.

"No one has the expertise and the resources to do it alone," Skoutelas said during the October event.

Some of the companies that pooled their resources for the project include Trillium Transportation Fuels, which designed, built,

and will operate and maintain the fueling station; Hembree Contracting completed much of the construction work of the station; PDC Machines and IVYS Energy Solutions supplied the compression and dispensing equipment as part of the station; Nel Hydrogen supplied the electrolyzer; and Ballard provided the fuel cell in the bus.

"I think that we're all experts in our own way, but this [was] a complicated project with a lot of nuance. And I think bringing together all of these experts on this project is what has made this to really be, I think, a landmark project," Ryan Erickson, vice president of Trillium, said.

To power the hydrogen production, MTD leased an unused plot of land from the Urbana-Champaign Sanitary District that sits across the street from the agency's maintenance facility to install an array of solar panels—5,500 panels to be exact. This is still under construction but is expected to be complete by 2022.

In order to calculate how much power would be needed, a software program from the National Renewable Energy Laboratory will analyze information taken from the solar panels with historical weather data to help MTD determine how much power should be produced.

The solar energy produced is then stored on the utility grid, allowing MTD to sell back any unused clean energy to the community or pull it back off the grid when needed. What's more is that sustainability is applied through the whole lifecycle of the solar panels, called cradle to cradle. This allows the manufacturer to strip out useful materials and turn the panels into new products.

The solar power generated is transferred to the hydrogen production plant and powers the electrolyzer. The electrolyzer uses water and electricity to make the hydrogen. The hydrogen is then moved to compressors, which takes the hydrogen from a low

Project Partners

(continued)

Hembree Contracting: prime contractor for hydrogen production station

Federal Transit Administration: provided grant funding

Illinois Department of Transportation: provided grant funding

CTE (Center for Transportation and the Environment): provided project management

NGFS: prime contractor for facility modifications

Urbana-Champaign Sanitary District: leasing land to MTD for solar panels

Dewberry: engineering for solar array

Sunpower: produced solar panels

Lyons-Pinner Electric: prime contractor for solar array

PSI, around 500, and gets it to a higher pressure, around 7,500 PSI, shares Kareem Afzal, CEO, PDC Machines.

"This is so there's enough energy in a small amount of volume allowing the bus to have the same range or longer than a diesel bus. There's no compromises. You only have to fill it once per day and hydrogen gets you throughout the entire day," explained Afzal.

After the hydrogen is compressed, it's stored in high pressure tubes until a bus needs to be refueled. Hydrogen can be stored in these tubes as long as needed without losing any energy. In order to dispense the hydrogen into the bus, a nozzle is placed onto the bus receptacle, a lever is turned, a button is pushed and fueling begins.


"When you connect that nozzle to the bus, it's just high-pressure hydrogen flowing to a low-pressure tank," Afzal said.

Once fueled, the buses run on MTD's highest capacity routes, which typically serve the University of Illinois at Urbana-Champaign campus, as well as the surrounding community.

What's Next

The clean hydrogen produced is expected to power 12 to 15 hydrogen fuel cell buses, and MTD anticipates adding 10 more hydrogen fuel-cell buses to its fleet in the next three years.

"The community has been very excited about the launch of this technology. We have a very science- and tech-oriented focus in our university town [and] I think that has led to a very easy adoption for us. The aspect of truly being green by powering the electrolysis with solar power is what has really tendered the excitement," concluded Gnadt.

For now, MTD's zero-emission fleet operates alongside diesel-electric hybrid buses, which currently make up 97 percent of the 118-bus fleet. In 2022, the agency's entire fleet will be low- or no-emission vehicles. 

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Chad Sleiman,
CEO



The outbreak of COVID-19 has created awareness of our surrounding air quality more than ever. Under this present crisis, SanUVAire has been helping its customers fight the war against the virus with its Ultraviolet Germicidal Irradiation (UVGI) Systems and re-usable UV resistant air filters. The company offers customized solutions for air purification and surface sanitization applications.

SanUVAire embarked on this venture after learning that many people suffer from some respiratory issue such as asthma, COPD and other lung matters. After much research and analysis, SanUVAire realized the essential need to improve indoor air quality because it is five times worse than outdoor air quality according to leading health organizations such as: EPA, WHO, CDC, etc. Thus, the company launched its air purification product line to various industries but, primarily, to the public transport sector with a concern for its vulnerable ridership. "Most of us, and specifically public transit agencies, are not well-equipped for major public health crises. People talk generally about air conditioning, filtration and humidity, but people do not focus on the risks associated with the significant contaminants in our indoor air which are re-circulated and inhaled all

the time," says Chad Sleiman, CEO of SanUVAire. "People are contained in such small and crowded places all day, every day, which only increases the risk of spreading airborne disease." So it was a global idea to incorporate ultraviolet germicidal irradiation (UVGI) technology into SanUVAire's goal to sterilize indoor air and offer a safer and healthier indoor environment. "We are blessed with the Sun which emits UV-C rays to disinfect our atmosphere and cleanse the air we breathe. SanUVAire harnessed the same UV-C rays in its technology to sterilize indoor air and specifically the re-circulated air in transit vehicles "Our solutions are specially designed with certain UV-C emittance for public transport but also SanUVAire carries product lines for other applications including healthcare, commercial facilities and our own homes", adds Chad .

Moving forward, with its SanUVAire360™ approach, its UVGI technology and product lines, SanUVAire believes it is offering a significant and healthy trend for the evolving human lifestyle. It all can be used in advanced vehicles and modernized facilities. "We feel positive about our company's future prospects. We are poised and prepared to overcome any problem related to indoor air quality," concludes Chad. Learn more at: WWW.SANUVAIRE.COM



Photos by Mass Transit

APTA EXPO 2021 Recap

The transit industry reunited in Orlando for the association's event to learn and strategize about what is next.

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

The transit industry converged in Orlando, Fla., this past November for the American Public Transportation Association's (APTA) 2021 TRANSform Conference & EXPO that had attendees reflecting and celebrating transit agencies' efforts throughout the COVID-19 pandemic, as well as drumming up excitement for the years ahead.

The event, like many other in-person meetings, was delayed

more than a year and underwent a location change due to the COVID-19 pandemic.

Despite these initial hurdles, an estimated 10,000 professionals were in attendance, with this being the return to in-person events for many.

"We were confident about bringing transformational change to public transportation. Never did we imagine that transformational change would be thrust upon us by a global pandemic,"

APTA CEO Paul Skoutelas, left and on screen, and APTA Chair Jeff Nelson speak during the opening session of APTA TRANSform Conference and EXPO on Nov. 8.

APTA President and CEO Paul Skoutelas told attendees during the conference's opening session.

Skoutelas and APTA Board of Directors Chair Jeff Nelson encouraged attendees to think about what was overcome since March 2020, with the men calling the event a "reunion and a celebration."

The overall theme focused on "What's Next" for the industry. The timing of the event lent itself for the theme to be showcased in several ways. The industry continues its pandemic recovery efforts and as ridership has started to return on many systems, it remains reduced overall. Mobility has evolved rapidly during the past 21 months from an acceleration of contactless technologies to more on-demand micromobility deployments.

Nelson noted the industry's willingness to embrace new mobility concepts during the pandemic will help shape the future of transit.

"Creating greater connectivity among modes, transitioning from being a service provider to a mobility manager, making transit more convenient, flexible and

customer focused – these are new mobility goals that are familiar to all of us, but they will require focus and funding,” said Nelson.

The Bipartisan Infrastructure Deal was passed two days before the show’s opening sessions and with only a presidential signature remaining before the bill became law, there was considerable buzz about what was next for the industry and the \$107 billion the bill included for transit and \$102 billion included for passenger rail.

“The importance of this achievement for our industry cannot be overstated,” Skoutelas told attendees of the bill’s passage. “This portends a promising future for public transportation.”

The show also saw the release a new APTA report, “On the Horizon Planning for Post-Pandemic Travel,” which offered case studies from five transit agencies’ efforts to contend with operations during the pandemic and provided recommendations to ensure equitable access to mobility during and after pandemic recovery. Those recommendations included institutionalizing best practices from the COVID-19 period; more effectively prioritizing social equity; leveraging opportunities to expand ridership and keeping abreast of changing trends.

Transit equity

Several sessions during APTA’s TRANSform Conference approached the concept of equity from different angles. The conference included seven sessions that included presentations on the subject and how it related to organizational make up, new technologies and fare collection and how to prioritize and put into action equitable service.

This fall, APTA introduced its Racial Equity Commitment Pilot Program, where member companies are provided a tangible roadmap for advancing racial equity in their own organizations and supporting communities where

THE ORANGE County Convention Center rolling out the welcome banner for APTA EXPO.

they operate. The pilot program asks APTA members to commit to five core principles:

1. Make racial equity an explicit strategic priority for your organization.
2. Undertake an annual diversity, equity and inclusion climate assessment of your organization on the perceived employee experience of existing policies, practices and procedures.
3. Review and analyze demographic data covering both what is internal as well as external to an organization to develop a baseline on how existing policies, practices and programs impact racial equity.
4. Put in place evidence-informed policies, practices, programs, and processes for creating and maintaining an inclusive and equitable environment for employees and customers including identifying best practices for responding to the use of hate-related behavior/language/signs.
5. Establish programs, tools and dedicated resources that engage executive and board leadership and staff at all levels on the meaning and importance of racial equity.

Following the two-year pilot program, APTA will publish a report that will include recommendations for improving the program and the association says the success of the program will be measured in member engagement, the effectiveness of peer learning mechanisms and educational resources provided, as well as tangible racial equity outcomes based on implementation of the core principles.

Pinellas Suncoast Transit Authority (PSTA) says it was the first agency to sign the pledge with PSTA CEO Brad Miller explaining the agency had focused on creating a more equitable work environment prior to the pilot program’s launch.



AN AERIAL view of the EXPO hall.

“We’ve been working on this internally over the past 15 or 16 months. We basically started our program off with three main initiatives: recruiting, promotion or workforce development and then community engagement. I’m really proud that we’re pretty far along on a lot of the initiatives and I was positive about APTA doing this as a big association,” said Miller during an exclusive interview with *Mass Transit*.

Miller recognizes the value of measuring the impact of efforts such as the APTA Racial Equity Commitment Pilot Program, but explains this commitment to racial equity doesn’t have an end; it has a permanent place among his agency’s values.

“I want to always try to inject some new energy in it to keep it alive, to keep it at the forefront of what we do, because we’re very busy providing transportation. This is important,” said Miller. “Public transportation is a key component to how our community at large addresses, race, equality and equity.”

The Show Floor

More than 700 companies had their wares on display as part of the show's exhibition with several themes emerging: products and services will continue to become smarter and more connected and the transition to electric fleets has entered a new chapter.

On the connected technology front, new fare validators and contactless ticketing solutions, as well as intelligent tire sensors, cloud services, data transfer technology and a contactless holographic stop button designed for use on buses were among the technologies on display.

Vehicle manufacturers attending the show brought a variety of models with many being electric powered. Most were electric buses, but one rail technology to debut at the show was Siemens Mobility's S700 streetcar. The hybrid

model entered service earlier this year in Charlotte, N.C. The streetcar is designed to run wirelessly and Siemens says the hybrid battery technology offers the same sustainability benefits as when the vehicle is operating with overhead wires. While Siemens notes the Onboard Energy Storage System allows the streetcar to operate wirelessly for more than half of a mile, John Lewis, CEO of the Charlotte Area Transit System where the streetcar is in service, told members of the press during a tour of the EXPO floor that the transit system has run the vehicle offer wire for five miles.

EXPO attendees also had a chance to get up close and personal with several different technologies. This included a ride in two different zero-emission autonomous vehicles—one from Perrone Robotics and one from Beep, as well



SIEMENS DEBUTED its S700 hybrid streetcar in the company's booth. The streetcar entered revenue service this year in Charlotte, N.C.

as a tour of the host agency Lynx's electric bus charging station.

APTA also highlighted exhibiting companies that qualify as Disadvantaged Business Enterprises and offered educational sessions at five Learning Zones with themes including innovation, solutions, procurement and two for hot topics.

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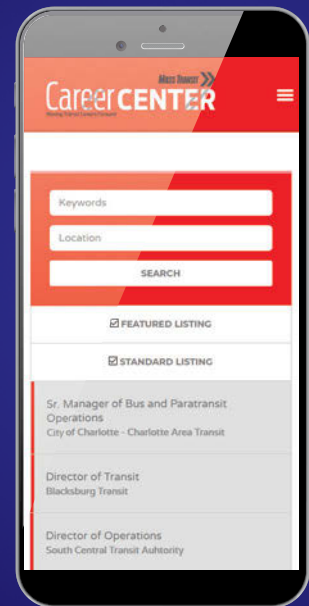
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A comprehensive listing of companies involved in the transit industry.

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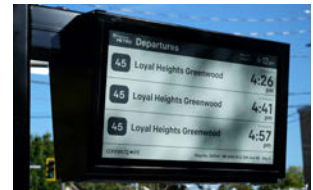
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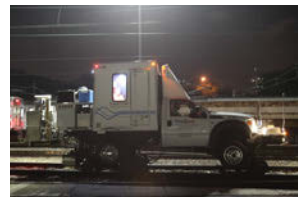
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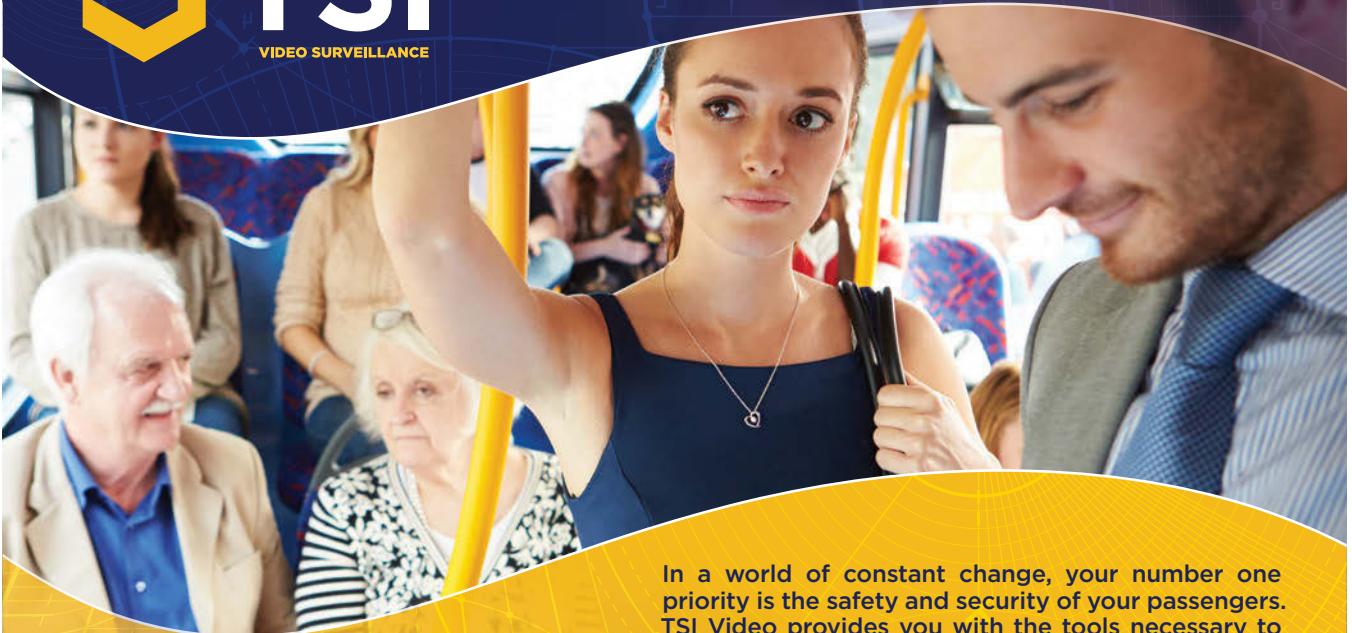
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Bridgestone Firestone Mileage Sales
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CDM Electronics
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 Seifert Graphics Inc.
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 Company (TAPTCO)
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 Bridgestone Americas Holding Inc.
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 Solutions (BBTS)
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Westmatic Corporation
Whiting Corp.

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American Seating Company
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Archer Western
Auto Truck Group
Avire
Bach-Simpson - A Wabtec Company
Barber Spring - A Wabtec Company
BASF Corp.
Belanger
Bentech Inc.
Better Life Technology
Beyond The 710
Biamp Systems
Bitimec International Inc.
Bitzer US Inc.

Bombardier Transportation
Bremser North America Inc.
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Brookville Equipment Corporation
Burns & McDonnell
Burns Engineering Inc.
BYD Motors LLC
CAF USA Inc.
Camira
Canvys
Caprock Mfg.
Cardtek
Carlisle Industrial Friction
Carrier Transport Air Conditioning
Caterpillar Industrial Engines
Catttron Group International
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CDM Electronics
CellWand
Central Sales and Service
Chamberlin Rubber Company Inc.
Chassis Plans
Chestnut Ridge Foam, Inc.
Chief
Cisco Systems Inc.
Clements National Co.
Compin
Composite Plastic Products Co.
Composite Technologies
ComStar International Inc.
Conductix-Wampfler
Connected Controls Corp.
Connectpoint
Construction Polymer Technologies
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Covestro
Coxreels
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CTC Inc.
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Current Inc.
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Curtiss-Wright Corp.
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Cyclonaire Corporation
Dafo
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Dewberry
Digi International
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Downtown Phoenix Inc.
DuPont USA
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EAO Corp.
Easy Access Industrial Design Inc.
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Efpacec
EHC Global
EKE-Electronics Ltd.
ELASTO PROXY INC.
Electroswitch

ELERTS
Ellcon-National Inc.
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Enduro
EnerDel
Enidine Inc.
ENSCO Rail
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Exacq Technologies
Fältcom
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Fabricated Metals
Faiveley Transport
Fastenal
Fastrax
Fay
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Fluor Corp.
Fras-le North America Inc.
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Freedman Seating Company
Frost & Sullivan
FST Biometrics America Inc.
FSX Equipment Inc.
Garon Products Inc.
GDF Suez Energy Resources NA
GE - Transportation
Genband
General Cable
GHH-Valdunes Group
GMT International Corp.
Gradall Industries Inc.
Graffiti Shield
Graham-White Mfg. Co.
GraphicStock
Grayson Thermal Systems
Green Power Chemical
GREX - Georgetown Rail Equipment Co.
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Guardian Industries Corp.
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Hatch LTK
Hendrick Manufacturing
Hexagon Metrology
HiRail
HiTech Electronic Displays
Hoists Direct
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Hoppecke Batteries
Hub International
Huber+Suhner
Hubner Manufacturing Corp.
Huddig
Huitt-Zollars
Hyundai Rotem USA
Icomera Inc
Igralub
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In A Blink
InComm
Indeeco
InfoZen Inc.

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Irwin Car & Equipment
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ITT Corp.
ITT Ind.
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ITW Switches
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Keolis North America
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Kvichak Marine Industries Inc.
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LED Lighting & Systems Controls
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Liebherr
Lilee Systems
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Litemax Technology Inc.
Loram Maintenance of Way
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Penasack Machine
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Performance Tube Bending Inc.
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Planet Halo
Plasser American Corporation
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➔ www.chamberlinrubber.com



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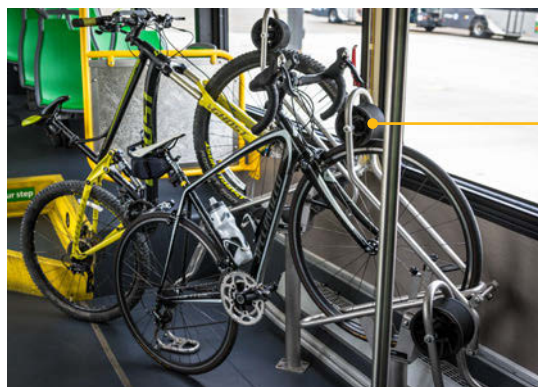
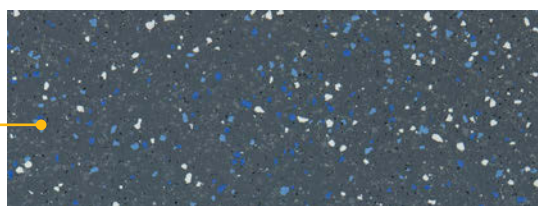
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Quality service delivery begins with a quality team

The scheduling position is not a place for a ‘seat warmer,’ but a prime slot for ‘A’ level employees.



Ed Dornheim
Transit Schedule Maker/
Consultant

RECENTLY FINISHED A BUSINESS

Master Class with Darren Hardy, which was enlightening and energizing. There is a vast difference between the public and private sectors’ approaches to managing a business and its culture. One of the many takeaways was how to assemble an “A” team and not to accept lesser players. If there were ever a position that needed “A” level employees, it would be the schedule maker position that fits the agency’s goals and not just a warm body to fill an open position. Until the class, I had not considered how much that dictates the culture you are trying to develop, and accepting someone who does not meet your criteria impacts the team. I always believed you could get someone to come around with enough work (including myself), but the truth of the matter is while they might be great somewhere, they are not with you and will only drain you and the rest of the team while trying to produce that result.

The term “team” is relative to your situation, of course. You might be a one-person shop, work with a large group or operate somewhere between this spectrum. Maybe you are a union shop with little control over your team makeup or you lead a management-level team of schedulers where you can pick who works for you. The key is leadership and who sets the tone for everyone else. I have also been taking a leadership class with the Darren Hardy group and met six exceptional entrepreneurs I have worked with during the past year. It has been a journey to understand outstanding leadership, be a better person and get to the root of the problems you encounter. Not surprisingly, the problem is who you see when you look in the mirror.

The transit industry does not generally develop an uplifting attitude and different ways of understanding our roles. We are the hard-charging blue-collar team and accept that noth-

ing changes or will change. It gets into our psyche and identifies us even when we leave the job. As frustrated as I was at the agency level at times, I still loved my job and the satisfaction of contributing to the greater good.

So let me take you down a slightly different path that I picked up in the class. Imagine a commercial on social media or television. Picture people going to various social events (forget about COVID-19 for a moment) and add anything else you enjoy. People are just reveling in life, and we pan to a worker or two in the background as everyone has fun. Hold that pleasant picture as we fade into the evening sky. Then the tagline comes up as we go to a beautiful dawn sky with the words “Transit Scheduler’s, The Driving Force of Your Community,” and you see the world coming to life again with food shopping, grabbing a coffee, etc.

I have been asked what I envision Transit Schedulers University would look like more than once. In a nutshell, I can give you all the classes and certificates and mentoring that need to occur. What was missing was how to find the right fit for your team. Imagine igniting someone’s passion for learning and helping others. The desire to enable the riding public, operators, agency and community to succeed and prosper.

“Transit Scheduler’s, The Driving Force of Your Community.”



162189207 | Dmitry Baranau | Dreamstime

There is a vast difference between the public and private sectors’ approaches to managing a business and its culture.

➔ Read more from the Scheduling Conundrum at MassTransitmag.com/21248910



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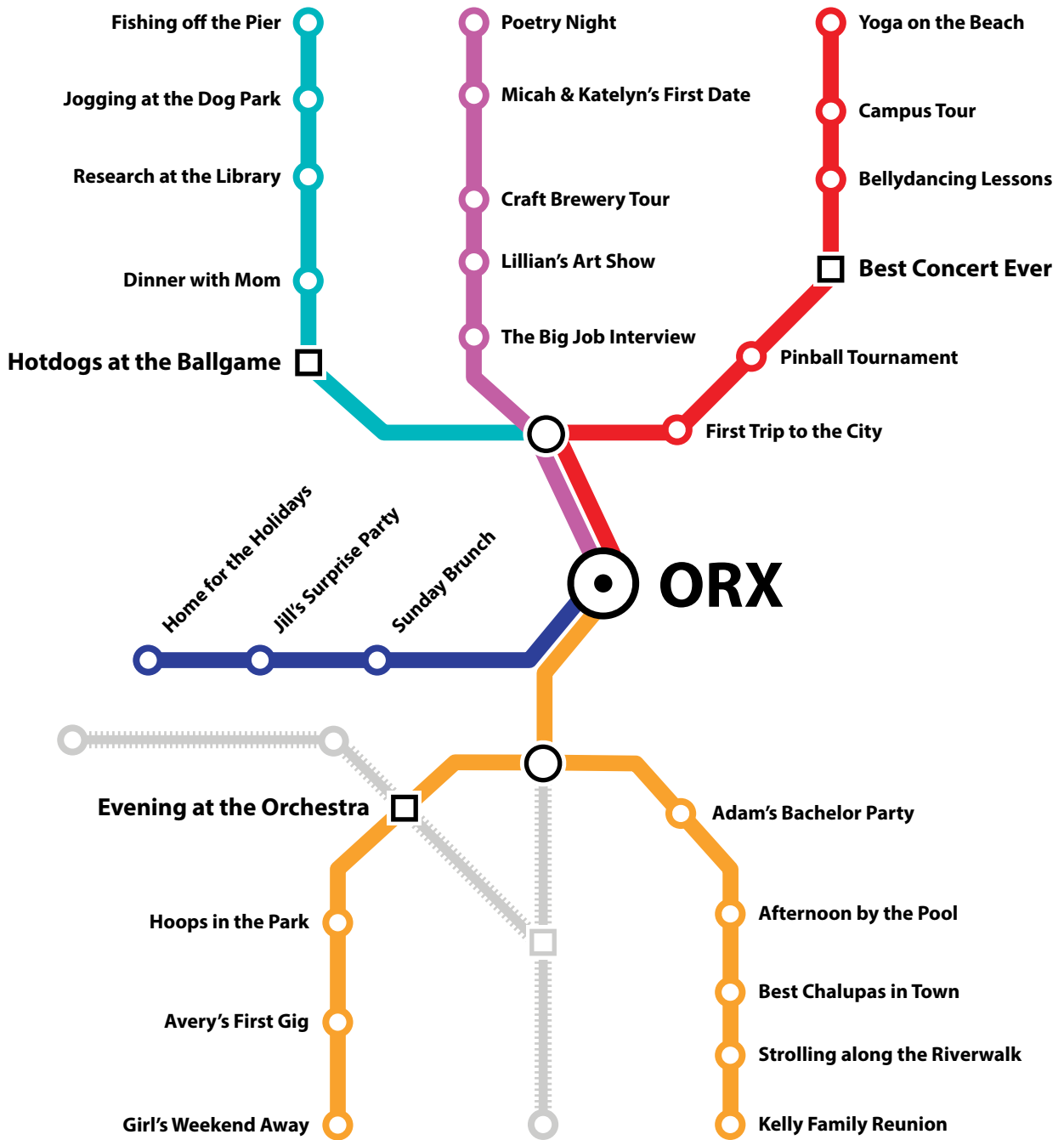
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