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# EDITOR'S NOTEBOOK

# Let's Begin With An Introduction

It's an exciting time to work in the transit industry.



Mischa Wanek-Libman

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Transit agencies across North America...are pushing the innovation envelope in a way that is changing how people move. t first, this may look like another issue of *Mass Transit* with another face and another opinion taking over the column. However, you'll be seeing more of me on this page as I assumed the role of executive editor at the end of October. My aim is to maintain and further enhance the excellent editorial coverage the previous and current editorial teams have worked to provide.

I have more than 17 years of experience covering transportation issues specific to the rail industry. In my previous professional life, I led the editorial team for a civil engineering and construction trade journal. Much of that coverage focused on freight railroads, but transit stories dominated the daily news coverage and I found myself more and more excited whenever a transit-focused feature article presented itself.

Transit agencies across North America, along with their partners on the supply side, are pushing the innovation envelope in a way that is changing how people move. That is inspiring to me and it is also what made the decision to join the team at *Mass Transit* easy.

A little bit about my background: I grew up in Grand Island, Neb., which is located in the south central part of the state. Great place to grow up, but mobility was limited to where your parents, your friends or your own two legs on a bicycle could take you. While studying at Drake University, I took a semester abroad in London, UK, which is where I was first introduced to the ease of transit. I moved to Chicago after college thinking it would be a good place to find a career and a life. The city's bus and rail systems made the journey to finding both of those things much more convenient. I bought property many years before I bought a car due to the transportation options available. When my husband and I decided to make the move to the suburbs, a reliable commuter rail system continued to allow access to the city.

I've been an active transit user for nearly two decades and recognize that the seamless experience of an end user is the result of an all-handson-deck effort involving a given transit provider's management, operations and maintenance teams and supply chain. The stories behind that effort is where *Mass Transit's* coverage comes in and I'm ready to help tell those stories.

In the coming months, I look forward to taking this conversation off the page and into exhibition halls, on-site visits and any other face-to-face opportunity that may arise. Should you have a comment on an article or topic, please feel free to reach out via email, social media or even an old fashioned phone call.

Jisola Wunde Liliman

Mischa Wanek-Libman, Editor

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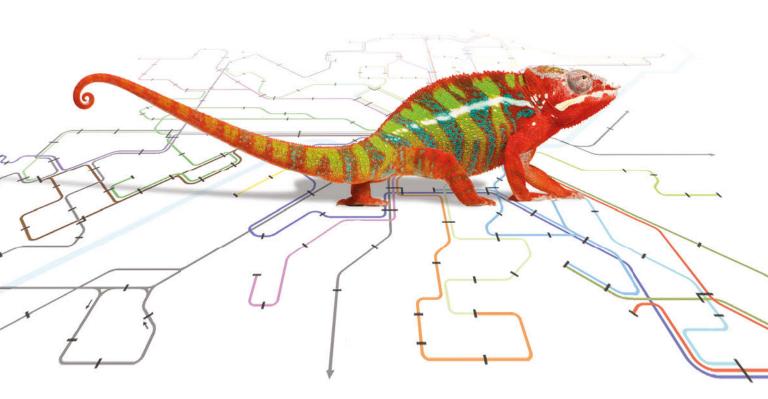
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# PEOPLE & PLACES THE LASTEST INDUSTRY NEWS



**A RENDERING** of a future station along Sound Transit's Lynnwood Link light-rail extension.

# FTA submits \$1.2 Billion Grant For Lynnwood Link To Congress For Approval

An agreement finalizing \$1.2 billion in federal funding for Sound Transit's Lynnwood Link light-rail extension is expected shortly following the Federal Transit Administration's (FTA) submission of the full funding grant agreement (FFGA) for congressional approval.

By submitting the agreement to Congress, a 30-day review period begins and is the final step before FTA can sign and execute the agreement. Congress has already allocated a total of \$200 million in funding for the project through the Capital Investment Grants program in FY 2017 and FY 2018. A signed FFGA would allow Sound Transit to begin drawing down on the previously allocated amount.

MassTransitmag.com/12437285

# **People in the News**



Metropolitan Transit Authority The chairman of the MTA, Joe Lhota, has resigned his post. Lhota, 64, led the

Joe Lhota

agency through Hurricane Sandy and started his second round at the MTA in June 2017. Fernando Ferrer, the vice chair of the MTA Board, will serve as acting chairman. MTA credited Lhota with launching the Subway Action Plan and reinvigorating the MTA. The agency said his focus on delivering better daily service for customers and prioritizing cost containment and procurement reform initiatives while working to create longterm sustainable funding sources were the hallmarks of his time leading the board. MassTransitmag.com/12436392



First Transit announced that Nick Promponas has taken over the role of senior vice president for the transit management services (TMS) divi-

**First Transit** 

sion in North America. Promponas assumes the role from Rick Dunning, who will stay on in an advisory role until his retirement on December 31. Promponas has managed several First Transit divisions including transit management services, call centers and transit contracting. Since 2002, he served as senior vice president for transit contracting in the west region.

MassTransitmag.com/12436057

# IMG Members Visit the MCI and New Flyer Vehicle Innovation Center

Motor Coach Industries knows when it comes to innovation in the motor coach industry, seeing is believing. And from October 16-18, members of the International Motorcoach Group saw the future during a visit to the Vehicle Innovation Center (VIC), collaboration between MCI and New Flyer. Located on New Flyer of America's manufacturing campus in Anniston, Alabama, the VIC features a lab and education center dedicated to exploring developments in propulsion, vehicle connectivity and Advanced Driver Assistance Systems (ADAS), and design for future buses and coaches. IMG members are the first private sector transportation operators to visit the VIC which opened last October.

The three-day exploration covered MCI's deployment of ADAS systems, vehicle connectivity through telematics and the battery-electric platform coming to MCI models in 2020.

MassTransitmag.com/12436401



**MCI AND** IMG members gather the Vehicle Innovation Center (VIC), the industry's only tech-lab.

# New DART Natural Gas Deal Boosts Sustainability, Bottom Line

► Dallas Area Rapid Transit (DART) has signed a new agreement with Element Markets Renewable Energy to provide renewable natural gas (RNG) for DARTs fleet of 650 CNG powered buses.

The five-year agreement begins January 1 and has one, two-year option. It monetizes Renewable Identification Number credits that have the potential to generate up to \$11,000,000 in revenue for DART over the life of the contract.

"RNG is another way we're powering transit with clean fuels," DART President/ Executive Director Gary Thomas said. "We are also excited about the financial benefits of converting to clean fuels."

DART is adding 41 new CNG-fueled buses in 2019 to expand bus service and improve schedules and frequency. MassTransitmag.com/12437288



**THE 86TH** Street Station along the Second Avenue Subway.

# FTA issues FONSI for Phase 2 of MTA's Second Ave. Subway

► The Federal Transit Administration (FTA) allowed a step forward for the second phase of the Metropolitan Transportation Authority's (MTA) Second Avenue Subway with the issuance of a Finding of No Significant Impact (FONSI) based on review of the Supplemental Environmental Assessment for the project.

MTA says Phase 2 of the project will provide a number of benefits for the East Harlem community, much of which sits in a "transit desert" with few public transportation choices. The new service will cut commute time by up to 20 minutes a day and further reduce crowding on the Lexington Avenue line. Following opening of the first phase of the line on Jan. 1, 2017, crowding was reduced at parallel stations on the 4, 5 and 6 trains by up to 40 percent during the morning rush hour. MassTransitmag.com/12436878

# Metro'sCrenshaw/LAX opening delayed until mid-2020

► The opening of the 8.5-mile Crenshaw/ LAX light-rail line will be delayed until mid-2020 according to an updated timeframe from Los Angeles County Transportation Authority (Metro) CEO Phillip A. Washington to the agency Board's Executive Management Committee.

The \$2-billion project requires complex work that is taking longer than expected to complete. Several key issues are impacting the project's schedule including the completion of the electrical work on the rail line, which is taking longer than expected, as well as L.A. Metro opting to take advantage of outages to complete other work.

The project is 90 percent complete with 'substantial completion' of the project expected in December 2019. L.A. Metro says it will then complete final safety testing and operator training with service to the public anticipated to begin in mid-2020.

# **Read More Online**

► The District Department of Transportation has announced that the DC Streetcar Car Barn Training Center has won a 2018 Award of Merit from *Engineering News-Record*. The DC Streetcar maintenance facility incorporating award-winning sustainability and historic compatibility features.

MassTransitmag.com/12436172

Ballot measures, which increased or secured investment in public transit, earned the approval of voters in states from California to Connecticut, New Mexico to Maine, Virginia to Florida. Voters said "yes" to investments in improving and expanding public transportation, creating jobs, and making communities even safer.
 MassTransitmag.com/12436098



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# **Brightline Connects Fightline Connects Brightline, the first and only privately**

Brightline, the first and only privately owned, operated and maintained passenger rail system in the United States hit the tracks in May of 2018.

By Maile Bucher



THE BRIGHTLINE corridor was completed in two phases.

# HIS YEAR, BRIGHTLINE

launched its first services in Florida between Miami, Fort Lauderdale and West Palm Beach. Brightline was announced by Florida East Coast Industries (FECI) in 2012. The idea behind the line was to build a passenger rail system in highly populated cities that are separated by distances that are too long to drive, but too short to fly. Brightline is one of the first privately owned, operated and maintained passenger rail systems available in the U.S. in more than 100 years.

Brightline currently operates between Miami and West Palm Beach, one of the most heavily traveled and congested regions in the U.S. Brightline has plans to expand to Orlando and the Florida Department of Transportation (FDOT) recently announced it would enter into negotiations with Brightline to connect Orlando to Tampa. Brightline and its parent company FECI are also developing transit-oriented development around the three south Florida stations.

On May 19, 2018, Brightline officially launched revenue service into MiamiCentral. The announcement drew crowds and trains were sold out.

# Creating the optimal rail car

Siemens worked with Brightline to create the railcars for the line. Brightline ordered five trainsets, comprised of four passenger cars and two locomotives.

"These trainsets are comprised of Siemens high-speed intercity railcars, powered by Siemens diesel-electric Charger locomotive," Ray Ginnell, head of Passenger Coaches for Siemens Mobility, and a lead manager on the Brightline project.

Siemens featured new technol-

ogies within the railcars, including important safety features.

"All carbodies incorporate Crash Energy Management (CEM) crumple zones to absorb energy at both ends of the railcar," said Ginnell. "Our design also includes a controlled collapse feature to enhance safety in the event of impact and has been fully tested and is compliant with PRIIA 305-003 and FRA requirements."

Siemens also included features to make boarding and off-board-ing easy for riders.

"The 'gap-filler' was something specially designed for this project and something that provides true level-boarding at all stations," explained Ginnell.

Not only does level-boarding help with ADA compliance for wheelchairs and walkers, but the gap-filler also aides the smooth boarding of bicycles, strollers and rolling luggage.

The trains have dual locomotives, a diesel-electric engine and the train is 100 percent Buy America-compliant.

# Passenger amenities for a new style of train

As the project is one of the first of its kind in a century, Brightline faced unique hurdles to overcome. Brightline worked to enhance the experience for riders. The passenger rail line worked to cover every base from its online booking system, greeting riders at the station, on-board service and announcing a partnership with Lyft as Brightline's ride-share service.

"On this particular project, the customer was focused on design and passenger experience and we had to work very closely with the design-group Rockwell on an extraordinary level of detail surrounding seat comfort, sightlines, materials, etc., all the while ensuring compliance with the



necessary safety and industry standards and regulations," said Ginnell. "Few people will be able to notice that there is perfect alignment between seating and windows, delivering better views with larger windows and integrated window shades."

As the first private passenger train in the United States, leading up to the launch, there was a great interest in to what amenities would be available.

"These Brightline trainsets represent the utmost in today's passenger experience: a high level of comfort, state-of-the-art lighting, low noise vestibules, large windows for greater visibility and sophisticated roof-mounted HVAC for all seasons," said Ginnell.

He listed additional passenger comfort amentities includine wide aisles that are fully accessible, wider, comfortable hand-stitched leather seats; in-seat reclining that is less intrusive to the person seated behing you, larger multitask tray tables, enhanced WiFi for better connection reliability and USB/power outlets at every seat.

Along with the wide aisles, and gap-filler, Siemens worked to make the rest of the train fully ADA-accessible.

"There was also special attention paid to the bathrooms – not SIEMENS INCLUDED new technologies within the railcars, including important safety features, such as CEM crumple zones. only very spacious and fully accessible, but a unique hands-free experience," Grinell said.

- Other amenities of the train include:
- Extra space for luggage
- Pets are welcome
- Bike racks

# **Expanding partnership**

Brightline announced in November 2018 that it had entered into a new strategic

partnership and trademark licensing agreement with the Virgin Group, which will establish Virgin Trains USA.

"Our private sector-led effort to reinvent passenger rail service in America is taking another leap forward with the addition of the Virgin team," said Wes Edens, chairman of Brightline and cofounder of Fortress Investment Group. "Virgin has built a respected and trusted brand in travel



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and hospitality. With our shared focus on customer experience, powered by a culture of innovation and disruption, we are well positioned to build on our success."

In a Virgin blog by founder Richard Branson, he stated, "A little over a year ago, we visited Miami to see the new privately-funded passenger rail system that Brightline and Fortress Investment Group was building in Florida."

Branson continued. "It was clear from that our first visit that Wes Edens, Brightline's founder, and his team had an exciting vision and the skills for American rail travel that no other private American enterprise has been able to do for a century."

"This partnership further validates the incredible accomplishments of our team as we challenge conventional wisdom to reinvent train travel in America," said Patrick Goddard, president of Brightline. "Given our shared values and Virgin's track record, this partnership will help amplify our efforts and growth potential as we seek to expand to new markets."

Virgin Group has an impact in the UK rail sector. Virgin Trains, which operate as a high-speed passenger rail line, has been in operation for 21 years. The partnership between Brightline and Virgin Group opens the door for riders to expand to accessing other Virgin brands.

Branson finished in his blog, "We have a long history of creating innovative businesses that shake up markets and establish loyal followings. We transformed domestic air travel with Virgin America and have spent more than a decade looking for a similar opportunity to change the face of American railways. We believe Brightline is at the forefront of this innovation and the ideal partner to work with to alter perceptions and traveling habits across the United States."

Brightline will rename itself Virgin Trains USA and the switch to Virgin Trains USA branding begins in 2019.

# Looking towards the future of the rail line

Brightline has plans to further expand into Orlando and Tampa. It also recently revealed an exciting project to connect Las Vegas to Southern California.

Brightline announced in September 2018 the acquisition of XpressWest,

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# BRIGHTLINE

which is a high-speed rail project that has been federally approved to develop a corridor connecting Southern California and Las Vegas, Nev. Brightline's move to the west stems from the success that the company has seen from the current line connecting Florida. The rail line is set to connect 22 million people directly to Las Vegas; reaching those who make up the 50 million yearly trips from Southern California. Construction is expected to begin in 2019, with service beginning in 2022. The first phase will run 185 miles with no at-grade or pedestrian crossings.

Siemens will continue to provide support for the rail line in a number of different areas.

"For Siemens, we will remain actively involved as a result of a unique 30year maintenance contract we have for the Brightline trains and locomotives," Ginnell said. "Our digitalization platforms now allow us to take-on full maintenance of our assets thanks to modern diagnos-



tics and real-time connectivity through ethernet-based communications."

Continuing with the trend of digitalization, Siemens has a wider reach for monitoring and increasing efficiency on the rail line.

"Siemens can now monitor real-time status; temperature readings, scheduling and any need to replace parts," explained Ginnell. "It is also able to monitor interior assets such as faulty reading lights or non-working power outlets or ports. In the end, this digitalized monitoring, data collection and analysis allows our customers to react proactively before anything breaks, essentially allowing spare parts to be ordered in advance and available for a quick and timely turnaround."



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BRIGHTLINE PRESIDENT and COO Patrick Goddard welcomes dignitaries outside Fort Lauderdale Station.

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# Mobility Meets Sustainability: The Push to Integrate Smart City Tech into North America's Transit Systems

Transit agencies across North America are exploring a myriad of ways to incorporate new technology into smart cities.

By Chris Barker

n the quest to provide more effective and environmentally sound transportation service options, we've seen transit agencies in North America explore a plethora of ways to incorporate new technology into smart cities. Over the past

two years specifically, these agencies have integrated the 'Internet of Things' into their networks, services and overall operations. Cities and governmental agencies, both in the United States. and Canada, are collaborating with global organizations and forward-thinking companies, such as Keolis, to maximize existing operations while incorporating newer options for safe, streamlined services.

In this piece, we'll explore some of the major ways Keolis has contributed to the way we move from day to day.

# **KEOLIS AND NAVYA**

launched a fully autonomous electric shuttle pilot program in November 2017 to operate on open roads in Las Vegas, Nevada.



# Las Vegas on the move

Keolis and NAVYA launched a fully autonomous electric shuttle pilot program in November 2017 to operate on open roads in Las Vegas, Nev. This self-driving electric shuttle is the first autonomous public transit vehicle in North America to be fully integrated into an open road with mixeduse traffic. Additionally, the Keolis shuttle is helping to make Las Vegas a "smart city" by communicating with traffic signals, which improves safety and helps to realize efficiencies in traffic flow. The Keolis autonomous shuttle is equipped with LiDAR technology, GPS, cameras and safety belts. It is designed to communicate with traffic signals, operate on open roads and navigate around pedestrians and other moving traffic.

Keolis, NAVYA and the American Automobile Association (AAA) partnered with the city of Las Vegas and the Regional Transportation Commission of Southern Nevada (RTC) to launch a downtown autonomous shuttle route connecting local commuters and visitors to multiple retail, business and transit locations in the Freemont Innovation District.

In addition to studying how the shuttle interacts in a live traffic environment in downtown Las Vegas, AAA surveyed riders to understand why many consumers remain wary of driverless technology and whether a personal experience changes their perception. The surveyed riders to date indeed showed skepticism before riding the shuttle, but that sentiment almost instantly changed once they utilized the shuttle service. To date, more than 32,000 people have traveled on the autonomous shuttle in downtown Las Vegas.

# Creating sustainable mobility

At the 2018 Consumer Electronics Show (CES)—recognized as the world's largest technology innovation show - Keolis partner NAVYA



introduced the first fully autonomous taxi in North America, AUTONOM CAB. The all-electric-powered AUTONOM CAB is an intelligent transport service designed for private or shared trips for up to six passengers in urban centers. Users can order an AUTONOM CAB through a dedicated smartphone application and open and close the vehicle's door via the application.

The move toward incorporating technology for sustainable mobility options can also be seen in the Greensboro Transit Authority's (GTA) plan to replace 48 vehicles in its bus fleet with electric Proterra buses. Keolis will be operating GTA's fixed-route bus and paratransit services starting in January 2019 as electric Proterra buses start to replace vehicles in the bus fleet. By March 2019, 14 electric buses will be in operation, while the city aspires eventually to have a fully-electric fleet.

# **Canada in transit**

In August 2018, Keolis Canada and partner NAVYA launched the first long-term demonstration project of an all-electric autonomous shuttle operating on public roads in Candiac, QC, Canada.

The autonomous shuttle will spend 12 months (including four months of a research and developTHE AUTONOMOUS shuttle will connect commuters to retail and transit hot spots.

# By the Numbers

# IN LAS VEGAS More than 32,000 riders since

November 2017

# IN GREENSBORO

bus fleet to be replaced with electric buses ment project to test the shuttle in Quebec's cold weather conditions without passengers on board) operating in the city of Candiac (south shore of Montreal) on a 2-kilometer route on public roads mixed with traffic.

Like all NAVYA AUTONOM shuttles, the vehicle does not have a steering wheel or pedals. It is designed to operate on a predetermined route at urban traffic speeds with frequent stops to accommodate high-traffic pedestrian areas and connect with other transit center facilities.

One of the main objectives of integrating the autonomous shuttle into urban areas is to ease public transit by providing the interconnection between the shuttle and the bus terminal to take employees to their workplaces and visitors to their destinations. The shuttle also includes additional stops such as the city hall, retirement housing and an array of local businesses.

The Keolis Shuttle is supported by the Quebec government, the Technopôle IVEO and Propulsion Quebec, the Cluster for Electric and Smart Transport. The prospect of gaining critical insights into extending service, maintaining harmony between other vehicles on the road and understanding public acceptance



or dissent prompted Quebec's Ministry of Economy, Science, and Innovation to provide C\$350,000 (US\$265,200) in financial support for this demonstration project.

# Micro transit on-demand

The Orange County Transportation Authority (OCTA) launched its on-demand microtransit pilot program, OC Flex, to provide public transit to some of the most underserved areas in the county. The pilot project, operated by Keolis, ensures that passengers are able to easily access all public transportation options in their region and will connect to the OC



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Bus network and Metrolink commuter rail stations. It will initially serve two zones of approximately six to eight square miles, with the potential to expand into additional zones, allowing passengers to hail rides from their smartphones and track the status of their trips.

# Modern transit, modern management

Keolis is also applying insights in smart city technology to modernize its transportation management projects. The company utilizes drones to conduct safety inspections of railroad tracks to detect potential hazards much sooner and more efficiently than traditional inspection methods.

Smaller changes such as the Virginia Railway Express (VRE) mobile ticketing app, VRE Mobile powered by GlobeSherpa, are adding up to greater user satisfaction by allowing passengers to buy and use tickets and multiple-day passes on their iPhones and Androids. In Boston, a reverse commute and discount fare program was recently launched to encourage ridership on the commuter rail during off-peak commuter routes and during special events, such as a Patriots or Red Sox baseball game. By taking this approach, Keolis is introducing the benefits of public transportation while reducing vehicle traffic, congestion and protracted commute experiences.

As we incorporate new technology into traditional transit systems, we provide a more cost-efficient, integrated and environmentally-friendly experience. These new transportation modes can be layered on top of legacy transportation networks to allow them to be nimbler and more sustainable. Ultimately, as these services expand and technological innovations become more widely utilized, the global transportation landscape will continue to evolve to meet passenger needs.

**Chris Barker** is vice president of New Mobility for Keolis North America



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# **Digitalization** to Optimize Rail Operations

With the need for rail lines to adhere to safety standards and keeping agencies running on time; how can data make the process more effective?

By Maile Bucher

# AILWAYS IN THE UNIT-

ed States are utilizing developing technologies within the digitization of their systems. The addition of technology offers increased efficiency, making it easier for agen-

cies to operate at a higher level. Agencies across the country are incorporating a number of different types of technology within the system, including;

- Signaling
- The Internet of Things (IoT)
- Cyber security
- Predictive maintenance and asset management
- Passenger amenities

The Metropolitan Atlanta Rapid Transit Authority (MARTA) has implemented the use of technology to increase security systems on its routes, provide passenger information and alerts.

# Signaling

With the Positive Train Control (PTC) deadline approaching, signaling is one of the prominent areas in which to digitalize a transit network.

"MARTA is one of the few properties in the U.S. which has been using automatic train control (ATC) since rail transit service began in 1979. This system exceeds the requirements of PTC," said David Springstead, assistant general manager of Capital Programs & Development.

Springstead highlighted the key functions of MARTA's PTC:

- •Automatic Train Operations (ATO): Regulates train start/ stop and speeds
- Automatic Line Supervision (ALS): Regulates dispatch, routes and communication
- Automatic Train Protection (ATP): Enforces safe operation through speed control and train separation

# System, asset management

To keep a network effectively digitalized, an agency needs to have a strong infrastructural support system. Facilities for operations, safety operators and maintenance connect the network and ensures that it runs efficiently.

"MARTA recently commissioned a new state-of-the-art Integrated Operations





TECHNOLOGY HAS brought many benefits to MARTA's rail lines.

Center, Emergency Operation Center and is on the home stretch on a system wide Train Control and SCADA upgrade project," said Springstead. "These projects not only leverage technology, but allow MARTA to change antiquated business processes to optimize service delivery, safety, profile, a Security Design Criteria and Security Certification Program helps to ensure that security technologies are part of any rail expansion, upgrade or lifecycle refresh. This includes finding dual purpose solutions for technologies that provide internal intelligence about system read-



security and emergency response capability."

Enhanced mapping for everything from the addition of grid-lines to instant notifications and alerts on rail lines, is seeing more and more technologies into the market. Technology offers the easy of customization from agency to agency.

# Digitalizing for a safer system

"As part of MARTA's security

iness and normalcy," explained Major Aston Greene, commander, Emergency Preparedness Unit, MARTA Police. "For example, new cybersecurity protocols for SCADA systems are currently being deployed, which improve efficiencies, but also addresses the mitigation of cyber-related threats to transit systems."

Technology, such as CCTV and cameras, has increased how MARTA is able to get images of **TECHNOLOGY HAS** increased efficiencies on MARTA's rail lines.

# CCTV Benefit 95%

solvability rate of Part I crimes by MARTA Police suspects to the police. Greene explained that this has resulted in MARTA Police's 95-percent solvability rate of Part I crimes. "...suspects are quickly identified and apprehended. Given this tactical use of technology, MARTA Police is able to quickly address crimes and minimize both threats and delays to our transit service."

MARTA deploys cameras, as well as direct lines for passengers to report suspicious activities while riding.

"MARTA has a robust vehicle security camera system that features video and audio on all rail cars in addition to having fixed CCTV Cameras at all rail stations. Additionally, MARTA deploys a SEE&SAY App for all patrons to utilize while on the rail system that is monitored at a Police Communications Center. This app enables passengers to send discreet messages via smartphones that can lead to immediate police responses on the rail system," said Greene. "Additionally, technologies supporting the rail system include the implementation of video analytic solutions at key stations which turns cameras into 'smart-cameras' that can alert on suspicious activity and a new Emergency Operations Center dedicated to supporting any emergencies that may occur on the rail system."

# **Passenger amenities**

In a changing transportation landscape—that's incorporating autonomous vehicles, car sharing services, as well as bicycle and scooter sharing—passenger signage and amenities add benefits and increase ridership.

"MARTA is in the process of deploying enhanced cellular and Wi-Fi connectivity for patrons at the stations and in the rail cars that will allow for passengers to call and connect seamlessly throughout the rail line for improved safety," said Kirk Talbott, AGM Technology/CIO.

# Bus Service in the Age of **On-Demand Mobility**



With the continued emergence and increased popularity of on-demand mobility services, transit companies are working to provide methods to incorporate additional services to make reaching destinations easier. ADDITIONAL MOBILITY services provide options to riders who may live far from their preferred station.

By Maile Bucher

# OBILITY ON DEMAND

(MOD) is a continuously growing factor in the transit world. The MOD service menu available to riders includes car-sharing, scooters, bicycles and emerging autonomous vehicles. With all that is available, transit agencies are adressing several challanges including how to incorporate emerging services with current systems, as well as how to continue bus operations with integrated first-and-last-mile services.

# **Making smart cities**

Smart cities are aimed at making transportation an ease for those who rely on it. Buses remain an important cog in the smart city machine, with continued developing technologies, buses are an attractive choice for riders.

Jennifer McNeill, vice president of sales and marketing at New Flyer, explained the role of buses in on-demand mobility, "We think that there is actually a real paradigm shift in North America towards this idea of mobility more as a service. More than a thought of I'm taking a bus or I'm taking a train or a taxi, people want to get from point A to point B. We are focusing on integrated mobility and supporting smart cities in that way."

McNeill said that trends in ridership have a high variable. Some cities are seeing bus ridership decreasing, whereas others have seen an increase.

# **MOD** partnerships

"We have been talking to some of our customers and we understand while ride-sharing is defiantly on the rise we also understand that there have been demographic or other changes in their cities that require them to re-imagine their transit system. A number of key cities like Los Angeles, Washington, D.C., and others are actually going through this major change to redesign their mobility services," said McNeill.

One clear leg up that transit services, such as buses, offer is

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# **BUS MOBILITY**

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"Our infrastructure on our roads and our cities can't really handle the congestion that would be created by a gazillion ride-sharing services all running around the city doing MOD. The congestion and commute times would not get any better by that as a solution," explained McNeil. "We think that the mobility as a service is going to include trains and subways, ride-sharing services, scooters and bicycles – and we think that buses will be included, as well."

In a moving city, a decrease in congestion promotes ease of use among riders, as does the ability to take transit from their front doors to the station and on to their end destination.

"At the end of the day, I think the thing that people like about MOD is that they can be productive doing something else during the ride. We do think that all the vehicles that New Flyer, Motor Coach Industry and ARBOC build are going to be part of mobility going forward. We just think of the shape of how mobility is offered to clients, whether via an app or a different way of finding your way from point A to B won't change," said McNeill.

# Pilot programs to further develop connections

As the emergence of MOD continues, transit agencies are working to plan how to best integrate on-demand mobility into current bus routes.

McNeill said that she is aware of a number of different agencies that are putting programs into place.

The Los Angeles Metropolitan Transportation Authority (Metro) services a number of different counties, which covers a wide range of communities.

Joshua Schank, chief innovation officer, Metro said, "There are two separate projects that we have for on-demand services, one is mobility on demand and the other is microtransit. MOD is a service that is designed to bring people from two or three different stations in L.A.. County. It is an on-demand shared ride service and can only be used to and from the transit station, on one case it's the bus, the other is light rail and heavy rail."

Metro has areas in which it may be difficult for riders to reach their stations with ease.

"We picked those service areas specifically because people have challenges getting to and from those stations. This could be a better method for accessing those stations, especially for people who are low income, disabled or do not have smartphones. We're opening up to all those groups," Schank said. "We selected a specific service area boundaries that do not specifically compete with existing bus service, but are instead a new method of getting to and from the station. We worked with our service planning folks to make sure that we were not duplicating what was out there."

L.A.'s microtransit program will launch in 2019

"When it comes to microtransit it's a separate project, we have not decided where those zones will be and what exactly it will look like, but part of what we're doing on our NextGen bus study is looking at our network and deciding where does microtransit and how does microtransit fit in," explained Schank. "We're

> **"At** the end of the day, I think the thing that people like about MOD is that they can be productive doing something else during the ride."

-JENNIFER MCNEILL, vice president of sales and marketing at New Flyer



# MANUFACTURERS

are working to innovate vehicles through the integration of technology and a greater partnership with agencies. observing different parts of the county to see which service would be most appropriate for that part of the county."

# A more connected future

Schank explained that Metro is still in the experimentation phase of observing how on-demand mobility programs will fit in with the rest of the system.

"My thinking has always been that the way this is going to work is through partnership between public and private sectors where we bring the best of both sides to deliver the best possible service. The private sector is inclined towards profit, but profit usually doesn't include serving marginally inclined groups like the disabled or low income people or making sure that people who don't have smartphones are served. This allows us to open into that demographic," explained Schank.

Across the transportation industry, these programs will offer a glimpse into the future of how our cities will operate.

"At the end of the day, transit agencies provide a really important service to communities. They're looking for more ways to expand that service," said McNeill.

# In Focus: Shelters/Stations

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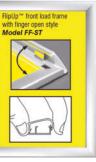
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| AMF Bruns of America   | •  |   |   | ٠ |    |    |   | ٠ | ٠ |   |
| AngelTrax  | -  |   |   |   |    |    |   |   | ٠ | ٠ |
| Angelvision Technologies Inc.                                    | -  |   |   |   | ٠  |    |   |   |   |   |
| Angi Energy Systems  |    |   | ٠ | ٠ |    |    |   |   |   |   |
| Apollo Video Technology  |    |   |   | ٠ |    |    |   | ٠ | ٠ | ٠ |
| ARBOC Specialty Vehicles LLC                                     | ٠  |   |   | ٠ |    |    |   |   |   |   |
| Arup   |    | ٠ |   |   |    |    |   |   |   |   |

| Company                             | j. | Å  |    |          | Ċ. | ¢ | 20 |   | Δ |   |
|-------------------------------------|----|----|----|----------|----|---|----|---|---|---|
|                                     | 9  | ĺΪ | -4 | <b>;</b> | B  | Φ | *  | 2 | 1 | Æ |
| Atkins North America                |    | •  |    |          |    |   |    |   |   |   |
| Aventura Technologies               |    |    |    |          |    |   |    |   | ٠ | ٠ |
| Avire                               |    |    | •  | •        |    |   |    | • |   |   |
| Avail Technologies, Inc.            |    |    |    |          |    | • |    |   |   | • |
| Axis Communications                 |    |    |    |          |    |   |    |   | ٠ |   |
| BAE Systems - HybriDrive Solutions  |    |    |    |          |    |   |    |   |   | ٠ |
| BAI Communications                  | _  |    |    |          |    |   |    |   |   | • |
| BEA Transit Solutions               |    |    |    |          |    | ٠ |    |   |   |   |
| Bechtel Infrastructure Corp.        |    | ٠  |    |          |    |   |    |   |   |   |
| Bendix Commercial                   |    |    |    | ٠        |    |   |    |   |   |   |
| Vehicle Systems LLC<br>Bentech Inc. | -  |    |    | •        |    |   |    | • |   |   |
| Bikelid Systems                     | -  |    | •  |          |    |   |    |   |   |   |
| Bitimec International Inc.          | -  |    |    | •        |    |   | •  | • |   |   |
| Bitzer US Inc.                      |    |    |    | -        |    |   |    |   | _ |   |
|                                     |    |    |    | •        |    |   |    |   |   |   |
| Bode North America                  | •  |    |    | •        |    |   |    |   | _ |   |
| BoldIQ                              |    |    |    |          |    |   |    |   |   | • |
| Boltaron                            |    |    |    | •        |    |   |    | • |   |   |
| Bombardier Transportation           |    |    |    |          | •  |   | •  | • |   |   |
| Booz Allen Hamilton                 |    | •  |    |          |    |   |    |   |   |   |
| Bosch                               |    |    |    |          |    |   | •  |   |   |   |
| Bosch Security Systems Inc.         |    |    |    |          |    |   |    |   | ٠ |   |
| Brake Sentry                        |    |    |    |          |    |   | •  |   |   |   |
| BrakePro                            | _  |    |    | ٠        | •  |   | •  |   |   |   |
| Bridgestone Americas Holding Inc.   | _  |    |    | ٠        |    |   |    |   |   |   |
| Brookville Equipment Corp.          |    |    |    |          |    |   | •  | ٠ |   |   |
| Burns Engineering Inc.              |    |    |    |          |    |   |    | ٠ |   |   |
| Bus & Truck of Chicago              |    |    |    |          |    |   | •  |   |   |   |
| BYD Motors Inc.                     |    |    |    | ٠        |    |   |    |   |   |   |
| Byk-Rak                             |    |    |    | ٠        |    |   |    |   |   |   |
| Bytemark Inc.                       | -  |    |    |          |    |   | ٠  |   |   |   |
| C.A.R.E. Evaluators LLC             | •  |    |    | ٠        |    |   |    |   |   |   |
| C.E. Niehoff & Co.                  |    |    |    |          |    |   | ٠  |   |   |   |
| CAF USA Inc                         | -  |    | ٠  |          |    |   |    | ٠ |   |   |
| Camira                              | -  |    |    | ٠        |    |   | ٠  | ٠ |   |   |
| Caprock Mfg.                        |    |    |    | ٠        |    |   |    | ٠ |   |   |
| CDM Electronics                     | -  |    | •  | •        |    |   |    | • |   |   |
| CDM Smith                           | -  | ٠  |    |          |    |   |    |   |   |   |
| CG/LA Infrastructure Inc.           | -  | •  |    |          | •  |   |    |   |   |   |
| Ch Products                         | -  |    |    |          |    |   |    |   | • | • |
| Chamberlin Rubber Company Inc.      | -  |    |    |          |    |   |    | • |   |   |
| Chassijet USA, Inc.                 |    |    |    | ٠        |    |   | •  | · |   |   |
| Chassis Plans                       | -  |    |    | •        |    |   |    | • | • | • |
| Chestnut Ridge Foam, Inc.           |    |    |    | •        |    |   | •  | • | Ě |   |
| Chicago Pneumatic                   |    |    |    | Ě        |    |   | •  |   | _ |   |
| CHK America                         | -  |    |    |          |    |   |    |   |   | • |
|                                     | -  |    | •  | •        | •  |   |    |   |   |   |
| Clean Energy                        | -  |    | •  |          |    |   |    |   |   |   |
| Clever Devices                      | -  | •  | •  |          |    |   |    |   |   | • |
| CMI Automotive                      | -  |    |    |          | •  |   |    |   |   |   |
| CMP Corp.                           |    |    |    | •        |    |   |    | • |   |   |
| Code Blue Corporation               |    |    | •  |          |    |   |    |   | • | • |
| Codered Business Solutions Inc.     |    |    |    | •        | •  |   |    | • |   |   |
| Columbia Equipment                  |    |    | •  |          |    |   |    |   |   |   |
| Comark Interactive Solutions        |    |    |    |          |    |   |    |   |   | ٠ |
| Comdata Corp.                       |    |    |    | ٠        | ٠  |   | •  |   |   | ٠ |
| Commercial Solutions                |    |    |    | ٠        |    |   |    |   |   |   |
| CommuterAds                         |    |    |    |          | ٠  |   |    |   |   |   |
| Compin                              |    |    |    | ٠        |    | ٠ |    | ٠ |   |   |
| Complete Coach Works                |    |    | ٠  | ٠        |    |   | ٠  | ٠ |   |   |
| Comtronics                          |    |    |    | ٠        |    |   |    |   | ٠ | ٠ |
| Concept Seating                     |    |    |    | ٠        |    |   | ٠  | ٠ |   |   |
| Conduent                            |    |    |    |          |    |   |    |   |   | ٠ |
|                                     |    |    |    |          |    |   |    |   |   |   |

| Company                         | j. | Å | - |   | Ê | \$ | * |   | A |   |
|---------------------------------|----|---|---|---|---|----|---|---|---|---|
|                                 | 6  | 1 |   | - | ع |    |   | E |   |   |
| Confidex Inc.                   | -  |   |   | • |   | •  |   | • |   | • |
| Connecthings                    | -  |   |   |   |   |    |   |   |   | • |
| Covestro                        | -  |   |   |   |   |    | • |   | • |   |
| Covia Labs Inc.                 | -  |   |   |   |   |    |   |   |   | • |
| Cradlepoint                     | -  |   | • |   |   |    |   |   | • |   |
| Creative Bus Sales, Inc.        | •  |   | • | • |   |    |   |   |   |   |
| Crosspoint Kinetics             |    |   | • | • |   |    |   |   |   | ٠ |
| CTC Inc.                        | -  |   |   |   |   |    |   | • |   |   |
| CTLGroup                        | -  |   |   | • |   |    |   |   |   |   |
| CTS Cleaning Systems Inc.       | _  |   |   |   |   |    | • |   |   |   |
| Cubic Transportation Systems    |    |   |   |   | • | ٠  |   |   |   | • |
| Cummins Inc.                    |    |   | ٠ |   |   |    |   |   |   |   |
| Cyberlock Inc.                  |    |   |   | • |   |    |   | ٠ | ٠ |   |
| Cyclehop                        |    |   | • |   |   |    |   |   |   |   |
| CycleSafe Inc.                  |    |   | ٠ |   |   |    |   |   |   |   |
| Cyclonaire Corporation          | •  |   | ٠ | ٠ |   |    |   | ٠ |   |   |
| Daktronics                      | -  |   |   |   |   |    |   |   |   | ٠ |
| Data Display USA Inc.           |    |   |   |   |   |    |   |   |   | • |
| Decision Lens                   |    |   |   |   |   |    |   |   | • |   |
| Decos Mobile Solutions          |    |   |   |   |   |    |   |   |   | • |
| Dedicated Micros Inc.           | -  |   |   |   |   |    |   |   | • | • |
| De Leo Transportation Fabrics   | -  |   |   | • |   |    |   | • | Ě |   |
| Delerrok Inc.                   | -  |   |   |   |   | •  |   |   |   |   |
|                                 | -  |   |   |   |   |    |   |   |   |   |
| Dellner Couplers Group          | -  |   |   |   |   |    |   | • |   |   |
| Delon Hampton & Associates      | -  |   |   |   |   |    |   |   |   |   |
| Delphi Display Systems          | -  |   |   |   |   |    |   |   |   | • |
| Diesel Radiator Co.             | -  |   |   | • |   |    |   |   |   |   |
| Digital Ally Inc.               | -  |   |   |   |   |    |   |   | • |   |
| Digital Recorders Inc.          | -  |   |   |   |   |    |   |   | • | • |
| Dilax Systems Inc.              | _  |   |   |   | • |    |   |   |   |   |
| D&R Technical Solutions         |    |   |   |   |   |    |   | ٠ |   |   |
| Duo-Gard Industries             |    |   | ٠ | • |   |    |   | ٠ |   | • |
| DVEO                            |    |   |   |   |   |    |   |   | ٠ | • |
| EAO Corp.                       |    |   |   | ٠ |   |    |   |   |   |   |
| Ecolane                         |    |   |   | • |   |    |   |   |   | ٠ |
| Econolite Group Inc.            |    |   |   |   |   |    |   |   |   | ٠ |
| EDM Technologies Inc.           |    |   |   |   | ٠ |    |   |   |   | ٠ |
| Edna A. Rice, Executive         | -  |   |   |   | • |    |   |   |   |   |
| Recruiters, Inc.                | -  |   |   |   |   |    |   |   |   |   |
| Educational Data Systems Inc.   | -  |   |   |   | • |    |   |   |   |   |
| EIC Solutions Inc.              | -  |   |   |   |   |    | • |   |   |   |
| Elcon Associates Inc.           | -  |   |   |   |   |    |   |   |   |   |
| Electronic Data Magenetics Inc. | -  |   | • |   |   | •  |   | • |   | • |
| Electronic Displays Inc.        | •  |   | • |   | • |    |   |   |   | ٠ |
| Electronic Micro Systems        | •  |   | • |   |   |    |   |   |   | ٠ |
| Electroswitch                   |    |   |   |   |   |    |   | ٠ |   |   |
| Element Fleet Management        |    |   |   | ٠ | ٠ |    | ٠ | ٠ |   |   |
| Emcom Systems                   | •  |   | • |   |   |    |   | ٠ |   | ٠ |
| Emerson Bearing                 |    |   |   |   |   |    | • |   |   |   |
| EMP Advanced Development LLC    |    |   |   | • |   |    | ٠ |   |   |   |
| EnerDel                         |    |   |   | • |   |    | • | ٠ |   |   |
| Energy Suspension               |    |   |   |   |   |    | • |   |   |   |
| EnerSys                         |    |   |   |   |   |    |   |   |   | ٠ |
| Enghouse Transportation         |    |   | ٠ |   |   |    |   |   |   | ٠ |
| Engie                           |    |   |   |   |   |    |   |   |   | ٠ |
| Enidine Inc.                    |    |   |   |   |   |    | • |   |   |   |
| ENSCO Rail                      |    |   |   |   |   |    |   | • | • |   |
| Enseicom Inc.                   |    |   |   |   |   |    |   |   |   | • |
| Envitech Energy Inc.            |    |   |   |   |   |    |   | • |   |   |
| Euramtech Corp.                 |    |   |   | • |   |    |   |   |   |   |
| Eurotech Inc.                   |    |   |   | • |   |    |   | • |   | • |
| FAAC Incorporated               |    |   |   |   |   |    |   |   |   |   |
|                                 |    |   |   |   |   |    |   |   |   |   |

| Company   | Ė. | A | 1 |        | ið | \$ | X |   | 8 |   |
|---|----|---|---|--------|----|----|---|---|---|---|
| First Transit                                       |    | • |   |        | •  |    | • |   |   |   |
| Flowbird  | -  |   |   |        |    |    |   |   |   | • |
| FluidMesh Networks LLC                              | -  |   |   | •      |    |    |   | • |   | • |
| Fluor Corp.   | -  |   |   |        |    |    |   |   |   |   |
| Fogmaker  | -  |   |   |        |    |    |   |   | • |   |
| Freedman Seating Company                            | •  |   |   | •      |    |    | • | • |   |   |
| Gannett Fleming                                     | -  |   |   |        |    |    |   |   |   |   |
| GE Transportation                                   | -  |   | • |        |    |    |   | • |   |   |
| Genetec   | -  |   |   |        |    |    |   |   | • |   |
| Genfare   | -  |   |   |        |    | •  |   |   |   |   |
| Gensler   | -  |   |   |        |    |    |   |   |   |   |
|   | -  |   |   | •      |    |    |   |   |   |   |
| Gillig Corp.  | -  |   |   |        |    |    |   |   |   |   |
| Girardin Minibus Inc.                               | -  |   |   | •      |    |    |   |   |   |   |
| GIRO  | •  |   | • |        |    |    |   | • |   | • |
| Global Display Solutions                            | -  |   |   |        |    |    |   |   |   | • |
| GMT International Corp.                             | -  |   |   | •      |    |    |   | ٠ |   |   |
| GOAL SYSTEMS  |    |   |   | •      |    |    |   | ٠ |   | • |
| Graffiti Shield, Inc.                               |    |   | • | ٠      | ٠  |    | • | ٠ |   |   |
| Hadley-Transmatic                                   |    |   |   | •      |    |    |   | ٠ |   | • |
| Handheld US   |    |   |   |        |    |    |   |   |   | • |
| Handi-Hut, Inc.                                     |    |   | ٠ |        |    |    |   |   |   | ٠ |
| Hanover Displays                                    |    |   |   |        |    |    |   |   |   | ٠ |
| Harsco Rail   |    |   |   |        | ٠  |    |   |   |   |   |
| Harting   |    |   |   |        |    |    | ٠ |   |   |   |
| HCRQ Inc.   | -  |   |   |        |    |    |   |   | • |   |
| HDR   | -  |   |   |        |    |    |   |   |   |   |
| HENDRICKSON   | -  |   |   | •      |    |    |   |   |   | • |
| Hexagon Metrology                                   | -  |   |   |        |    |    |   | ٠ |   | • |
| Herzog Transit Services                             | -  |   |   |        |    |    |   |   |   |   |
| HiRAIL Corp.  | -  |   |   |        |    |    |   | • |   |   |
| Hitachi America                                     | -  |   |   |        |    |    |   | • |   |   |
|   | •  |   |   |        |    |    |   | • |   |   |
| Hitech Electronic Displays                          | -  |   | • |        |    |    |   |   |   | • |
| HNTB  | -  |   |   |        |    |    |   |   |   |   |
| НОК   | -  |   |   |        |    |    |   |   |   |   |
| Hometown Manufacturing                              | -  |   |   |        |    |    |   |   |   |   |
| Hoppecke Batteries, Inc.                            | -  |   |   |        |    |    |   | • |   |   |
| Huber+Suhner  | -  |   |   |        |    |    |   | • |   |   |
| Hubner Manufacturing Corp.                          | _  |   |   | •      |    |    |   |   |   |   |
| HUDDIG  | _  |   |   |        |    |    | • | • |   |   |
| Hyper Alert   | _  |   |   |        |    |    |   |   |   | • |
| Hyperloop   One                                     | _  |   |   |        |    |    |   | ٠ |   |   |
| Hyperloop Transportation<br>Technologies inc. (HTT) |    |   |   |        |    |    |   | • |   |   |
| Hypertronics Corp.                                  |    |   |   | •      |    |    |   | • |   |   |
| Hyundai Rotem USA                                   |    |   |   |        |    |    |   | • |   |   |
| I.D. Systems Inc.                                   |    |   |   |        |    |    |   |   | • | • |
| IADEA   |    |   | • |        |    |    |   |   |   | • |
|   |    |   |   |        |    |    |   |   |   |   |
| IBI Group<br>IBM Corp.                              |    |   |   |        |    |    |   |   |   | • |
|   |    |   |   |        |    |    |   |   |   |   |
| IBP Industries Inc.                                 |    |   |   | •      |    |    |   |   |   |   |
|   |    |   |   |        |    |    |   |   |   | • |
|   |    |   |   |        |    |    |   |   |   | • |
| Icom North America                                  |    |   |   | •      |    |    |   |   |   |   |
| Icon Shelter Systems Inc.                           |    |   | ٠ |        |    |    |   |   |   | • |
| IDA Corp.   |    |   |   |        |    |    |   |   |   | • |
| iDrive, Inc.  |    |   |   |        |    |    |   |   | ٠ | • |
| IGRALUB   |    |   |   |        |    |    | • | ٠ |   |   |
| IGW USA LLC   |    |   |   |        |    |    |   | ٠ |   |   |
| Imagine Tile Inc.                                   |    |   | ٠ |        |    |    |   |   |   |   |
|   |    |   |   |        |    |    |   |   |   |   |
| Impact Recovery Systems                             |    |   |   | •      |    |    |   |   |   |   |
| Impact Recovery Systems Impeltronics                | -  |   |   | •<br>• |    |    | • | • | • |   |





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| Company                                     | Ġ. | A | 1 |   | ŕ | \$ | × |   |    |   |
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| In Motion Technology Inc.                   |    |   | ٠ | ٠ |   | ٠  |   |   |    | ٠ |
| Inca Gold Products LLC                      |    |   |   | ٠ |   |    | ٠ |   |    |   |
| INCOMM                                      |    |   |   | ٠ |   | ٠  |   | ٠ |    |   |
| INDEECO                                     |    |   |   |   |   |    | ٠ |   |    |   |
| Indigovision Inc.                           |    |   |   |   |   |    |   |   | ٠  | ٠ |
| Indra Systems Inc.                          |    |   |   |   | ٠ |    |   |   |    |   |
| Industrial Electric                         |    |   |   | ٠ |   |    |   |   |    |   |
| INFAX, Inc.                                 |    |   | ٠ |   |   |    |   |   |    | ٠ |
| Infodev                                     |    |   |   | • |   |    |   |   |    |   |
| Infor Public Sector Group                   |    |   |   |   | ٠ |    |   |   |    |   |
| Information Management                      |    |   |   |   |   |    |   |   |    | ٠ |
| Consultans Inc.<br>InfoSight Corporation    | -  |   |   | • |   |    | • |   |    |   |
| InfoZen Inc.                                | -  |   |   | • |   |    |   | • | •  | • |
| Infraconsult LLC                            | -  |   |   |   |   |    |   |   | Ť. |   |
| Infrastrategies LLC                         | -  |   |   |   |   |    |   |   | _  |   |
| Ingersoll-Rand Systems Co.                  | -  |   |   |   |   |    |   |   | •  |   |
| Init, Innovations In                        | -  |   |   |   |   |    |   |   | Ě  |   |
| Transportation Inc.                         | _  |   | • |   |   | •  |   |   |    | • |
| Innovative Products of<br>America Inc. IPA) |    |   |   | • |   |    | • |   |    |   |
| Innovision Research & Technology            |    |   |   |   |   |    |   |   |    | ٠ |
| INORCA                                      |    |   |   | ٠ |   |    | ٠ |   |    |   |
| Inpower LLC                                 |    |   |   | ٠ |   |    |   |   |    |   |
| INRIX                                       |    |   |   | ٠ |   |    |   |   |    | ٠ |
| InSight USA                                 |    |   |   |   |   |    |   |   |    | ٠ |
| Insultech                                   |    |   |   |   |   |    |   |   |    | ٠ |
| Integrated Metal Products                   |    |   |   | ٠ |   |    |   |   |    |   |
| Integrated Spatial Solutions Inc.           | -  |   |   |   |   |    |   |   |    | ٠ |
| Integrian Inc.                              | _  |   |   |   |   |    |   |   | ٠  |   |
| Integrity Wire Inc.                         | -  |   |   |   |   |    | • | ٠ |    |   |
| Intec Video Systems Inc.                    | -  |   |   |   |   |    |   |   | ٠  |   |
| Intellitec Products LLC                     | -  |   |   |   |   |    | • |   |    |   |
| Interalia                                   | -  |   | ٠ |   |   |    |   |   |    | ٠ |
| Interclean Equipment, Inc.                  | -  |   |   | ٠ |   |    | ٠ |   |    |   |
| Interfleet Technology Inc.                  | -  |   |   |   |   |    |   | ٠ |    |   |
| InterMotive                                 |    |   |   |   |   |    |   |   |    | ٠ |
| Intersection                                | -  |   |   |   |   |    |   |   |    | ٠ |
| loxus Inc.                                  | -  |   |   | ٠ |   |    |   | ٠ |    |   |
| Iris GmbH                                   | -  |   |   |   |   |    |   |   |    | ٠ |
| IRT Systemx                                 | -  |   |   |   |   |    |   |   |    | ٠ |
| Irwin Transportation Seating                | •  |   |   | • |   |    | • | ٠ |    |   |
| ISC Applied Systems                         | -  |   |   |   |   |    |   |   | ٠  | ٠ |
| ISCON Imaging Inc.                          | -  |   |   |   |   |    |   |   | ٠  |   |
| iSigns Inc.                                 | -  |   | ٠ |   |   |    |   |   |    | ٠ |
| ITRANS Consulting Inc.                      | -  |   |   |   |   |    |   |   |    |   |
| ITT Corp.                                   | -  |   |   |   |   |    |   | ٠ |    |   |
| ITT Electronic Components                   | -  |   |   | • |   |    |   |   |    |   |
| ITT Ind.                                    | -  |   |   |   |   |    |   | ٠ |    |   |
| ITW Switches                                | -  |   |   | • |   |    |   | ٠ |    |   |
| IVU Traffic Technolgies AG                  | -  |   |   | • |   |    |   | • |    | • |
| J P and Concepts Co. (JPCO)                 | -  |   |   |   |   |    | • | ٠ |    |   |
| J. Perez Associates Inc.                    | -  |   | • |   | • |    |   |   |    | • |
| J.L. Geisler Corp.                          | •  |   |   |   |   |    | • |   |    |   |
| Jacobs                                      |    |   |   |   |   |    |   |   |    |   |
| Jacobs Associates                           |    |   |   |   |   |    |   |   |    |   |
| Jamaica Bearings Group (JBG)                | -  |   |   | • |   |    |   | • |    |   |
| Janus Elevator Products                     |    |   | • |   |   |    |   |   |    |   |
| Jarrett Walker & Associates                 | -  |   |   |   |   |    |   |   |    |   |
| Jasper Engines & Transmissions              |    |   | • | • |   |    |   |   |    |   |
| JEN/MAR Systems Corp.                       |    |   |   |   |   |    |   |   |    | • |
| Jeppesen                                    | •  |   |   |   |   |    | • |   |    | • |
| Jeskell                                     |    |   |   |   |   |    |   |   |    |   |
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| Company  | j. | A   | 1 |   | Î | \$ | * |   | 6 |   |
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| Jewell Instruments LLC                                 | 0. | . 1 |   |   |   | -  |   |   |   |   |
| JTM Concepts Inc.                                      |    |     |   |   |   |    |   | • |   |   |
| JTM Jumpstarters                                       | -  |     |   | • |   |    | • | • |   |   |
| Kapsch CarrierCom                                      | -  |     |   |   |   |    |   |   |   | • |
| Karsan USA LLC   |    |     |   |   | • |    |   |   |   |   |
| Kawasaki Rail Car Inc.                                 | -  |     |   |   |   |    |   | • |   |   |
| KEOLABS  |    |     |   |   |   | •  |   |   |   | • |
| Keolis   |    |     |   | • | • | -  |   | • |   |   |
| Key Equipment Finanace                                 |    |     |   |   | • |    |   |   |   |   |
| Kiel North America                                     |    |     |   |   |   |    |   | • |   |   |
| Kiene Diesel Accessories                               |    |     |   |   |   |    | • |   |   |   |
| Kilfrost Inc.  | -  |     |   |   |   |    |   | • |   |   |
| Kilian Manufacturing Corp.                             | -  |     |   | • |   |    |   |   |   |   |
| Kinetic Traction                                       |    |     | • | • |   |    |   | • |   |   |
| Kinkisharyo International LLC                          |    |     |   |   |   |    |   | • |   |   |
| Kion Specialty Polymers A Clariant Business            |    |     |   | • |   |    | • |   |   |   |
| Kirk's Automotive Inc.                                 |    |     |   | • |   |    |   |   |   |   |
| Kirk's Automotive Inc.<br>Kismet Rubber Products Corp. |    |     |   | • |   |    |   |   |   |   |
| Klein and Hoffman Inc.                                 |    |     |   |   |   |    |   |   |   |   |
| Klein and Hoffman Inc.                                 |    |     |   | • |   |    |   |   |   |   |
|  |    |     |   |   |   |    |   |   |   |   |
| Knorr Brake Corp.                                      |    |     |   |   |   |    |   | • |   |   |
| Kolimat USA  |    |     | • |   |   |    |   |   | • | • |
| Koni North American                                    |    |     |   |   |   |    |   | • |   |   |
| Kontron America Inc.                                   | -  |     |   |   |   |    |   |   | • | • |
| Koppers Inc.   |    |     |   |   |   |    | • | • |   |   |
| Krauthamer & Associates                                |    |     |   |   | • |    |   |   |   |   |
| Krown Rust Control Systems                             |    |     |   |   |   |    | • |   |   |   |
| Kustom Seating Unlimited, Inc.                         | •  |     |   | • |   |    | • | • |   |   |
| KVH Industries   |    |     |   |   |   |    |   |   |   | • |
| Kvichak Marine Industries Inc.                         | -  |     | • | • |   |    |   | • |   |   |
| L&M Radiator Inc.                                      |    |     |   | • |   |    |   |   |   |   |
| L.B. Foster  |    |     |   |   |   |    |   | • |   | ٠ |
| L.E.K. Consulting                                      |    |     |   |   |   |    |   |   |   |   |
| L.K. Comstock  |    |     |   |   |   |    |   | • |   |   |
| La France Industries                                   |    |     |   | • |   |    |   | ٠ |   |   |
| Lacor/Streetscape                                      | •  |     |   | • |   |    |   |   |   | • |
| Lantal Textiles  |    |     |   | • |   |    | • |   |   |   |
| LCPTracker Inc.  |    |     |   |   | ٠ |    |   |   | ٠ |   |
| LDK Engineering  |    |     |   |   | ٠ |    |   |   |   |   |
| Lea+Elliott  |    |     |   |   | ٠ |    |   |   |   |   |
| Lecip Inc.   |    |     |   |   |   | ٠  |   |   |   | ٠ |
| LEDtronics Inc.  |    |     |   |   |   |    |   |   |   | ٠ |
| Leitner & Poma of America Inc.                         |    |     | ٠ |   |   |    |   | ٠ |   |   |
| Leitner Ropeways                                       |    |     | ٠ |   |   |    |   |   |   |   |
| LEM USA, Inc.  |    |     | ٠ |   |   |    |   | ٠ | ٠ |   |
| Leotek Electronics Corp.                               |    |     | ٠ |   |   |    |   |   |   |   |
| LG Electronics USA Inc.                                |    |     |   |   |   |    |   |   |   | ٠ |
| Liebherr   |    |     |   |   |   |    |   |   |   |   |
| Lift-U   | •  |     |   |   |   |    |   |   |   |   |
| Lighthouse International, Ltd.                         |    |     |   |   |   |    |   |   | ٠ |   |
| Lightning Gloves                                       |    |     |   |   |   |    | • |   |   |   |
| Lightning Hybrids                                      |    |     |   | • |   |    |   |   |   |   |
| Lilee Systems  |    |     |   |   |   |    |   | • |   |   |
| Lin Industries Inc.                                    |    |     |   |   |   |    |   | • |   |   |
| Lincoln Composites Inc.                                |    |     | • | • |   |    |   |   |   |   |
| Linktise   |    |     | • |   |   |    |   |   |   | • |
| Liquidspring LLC                                       |    |     |   | • |   |    | • |   |   |   |
| LiteMax Technology Inc.                                |    |     | • | • |   |    |   | • |   | • |
| LNI Custom Manufacturing Inc.                          |    |     | • |   |   |    |   |   |   | • |
| Local Motors   |    |     |   |   |   |    |   |   |   | • |
| Lochner  |    |     |   |   |   |    |   |   |   |   |
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| La chung a di An ducung G Namurana ka a |    |   | - |   | ع | Ψ  |   | B |        |   |
| Lockwood, Andrews & Newnam Inc.         | -  |   |   | • |   |    |   |   |        |   |
| Locus                                   |    |   |   | - | • |    |   | • | _      |   |
| Logena Automotive LLC                   |    |   |   |   |   |    |   |   |        | • |
| Logic Supply                            | -  |   |   |   |   |    |   |   |        | • |
| Logic Tree Corp.                        |    |   | • |   |   |    |   |   |        | • |
| Logiqual, Inc.                          |    |   |   |   |   |    |   |   |        |   |
| Loop Energy                             |    |   | • |   |   |    |   |   |        | • |
| Loram Maintenance of Way, Inc.          |    |   |   |   |   |    | • | • |        |   |
| Lordon Inc.                             |    |   | • |   |   |    |   |   | •      | • |
| Lost Art Communications LLC             |    |   |   |   | • |    |   |   |        |   |
| Louis Berger Group Inc.                 |    |   |   |   |   |    |   |   |        |   |
| Louroe Electronics                      |    |   |   |   |   |    |   |   | ٠      |   |
| LTK Engineering Services                |    |   |   |   |   |    |   |   |        |   |
| Lucerix International Corp.             |    |   |   | • |   |    |   |   |        |   |
| Lumenor Consulting Group                | _  |   |   | • |   |    |   | ٠ |        | ٠ |
| Lumichron                               |    |   | ٠ |   |   |    |   |   |        |   |
| Lumination LLC                          |    |   | ٠ |   |   |    |   |   |        |   |
| Luminator Technology Group              |    |   | ٠ |   |   |    |   |   |        | ٠ |
| Luxfer Gas Cylinders                    |    |   | ٠ | ٠ |   |    |   |   |        |   |
| M & J Engineering PC                    |    | ٠ |   |   |   |    |   |   |        |   |
| Mac Products Inc.                       |    |   |   |   |   |    |   | ٠ |        |   |
| Macro Corp.                             |    |   |   |   |   |    |   |   |        | ٠ |
| Macton Corp.                            | -  |   |   |   |   |    | • |   |        |   |
| Madico                                  |    |   |   |   |   | ٠  |   |   |        |   |
| Madrax - Bike Racks                     |    |   | • |   |   |    |   |   | •      |   |
| Magenta Research                        |    |   |   |   |   |    |   |   |        | • |
| Magtec Products Inc.                    |    |   |   | • |   |    |   |   | •      | • |
| MAHA USA                                |    |   |   | • | • |    | • |   | ·<br>• |   |
| Maintenance Design Group                |    |   |   |   |   |    |   |   | Ľ.     |   |
| Man Engines & Components Inc.           |    |   | • |   |   |    |   |   |        |   |
| Mansfield Oil Company                   |    |   | • |   |   |    |   |   |        |   |
| Manufacturing Resources                 |    |   |   |   |   |    |   |   |        |   |
| International (MRI)                     |    |   | • |   |   |    |   |   |        |   |
| Marathon Brake Systems                  |    |   |   |   |   |    | • |   |        |   |
| March Networks                          |    |   | ٠ | • |   |    |   |   | ٠      | ٠ |
| Mark Weiss Associates                   |    |   |   |   | ٠ |    |   |   |        |   |
| Masabi US LTD                           |    |   |   |   |   |    |   |   |        | ٠ |
| Mascoat Products                        |    |   |   |   |   | ٠  |   |   |        |   |
| Maser Consulting, P.A.                  |    | ٠ |   |   |   |    |   |   |        |   |
| Mass Fire Extinguishers                 |    |   | ٠ |   |   |    |   |   |        |   |
| Mass. Electric Construction Co.         |    | ٠ |   |   |   |    |   |   |        |   |
| Masterduct Inc.                         | -  |   |   |   |   |    | • |   |        |   |
| Matrix Video Suveillance                |    |   |   |   |   |    |   |   | ٠      |   |
| Matrox Graphics Inc.                    |    |   | • |   |   |    |   |   | ٠      |   |
| Maven                                   |    |   | • |   |   |    |   |   |        |   |
| Maxaccel                                |    |   |   |   |   |    |   | • |        |   |
| MaxLite                                 |    |   | • |   |   |    |   |   |        |   |
| Maxton Manufacturing                    |    |   | • |   |   |    |   | • |        |   |
| Maxwell Technologies Inc.               |    |   |   |   |   |    |   |   |        | • |
| Maxwell recimologies inc.               |    |   |   |   |   | •  |   |   |        |   |
| McCain, Inc.                            |    |   |   |   |   |    |   |   |        | • |
| McDonald Transit Associates Inc.        |    |   |   |   | • |    |   |   |        |   |
| McDonald Transit Associates Inc.        |    |   |   |   |   |    |   |   |        |   |
|   |    |   |   |   | • |    |   |   |        |   |
| McMahon Associates Inc.                 |    |   |   |   |   |    |   |   |        |   |
| Medius                                  |    |   |   |   |   |    |   |   |        | • |
| Megatronics International Corp.         |    |   | • | • |   |    |   |   |        |   |
| Mektech Composities Inc.                |    |   |   | • |   |    | • |   |        |   |
| Melfast Inc.                            |    |   |   |   |   |    |   | • |        |   |
| Men Micro Inc.                          |    |   |   |   |   |    | • |   |        |   |
| Mentor Engineering                      |    |   | • |   |   |    |   |   |        | • |
| Mer Security                            |    |   |   |   |   |    |   |   | •      | • |

| Company       S </th <th>Company</th> <th>Ġ.</th> <th>Å</th> <th>1</th> <th></th> <th>ið</th> <th>\$</th> <th>×</th> <th></th> <th>8</th> <th></th>  | Company                               | Ġ. | Å | 1 |   | ið | \$ | × |   | 8 |   |
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| Meridian       Image: Ima   | Merchants Fleet                       |    | , |   |   |    |    |   |   |   |   |
| Meritor Inc.       Image: Section of  | Meridian                              | -  |   |   |   |    |    |   |   |   | • |
| Meritor Wabco Vehicle       Image: Metworks  | Meridium                              | -  |   |   | ٠ | ٠  |    | ٠ | ٠ |   |   |
| Control Systems       Image: C   | Meritor Inc.                          |    |   |   | ٠ |    |    |   |   |   |   |
| Mesh Networks<br>Metalocaucho MTC - A<br>Wablee Company<br>MetavanteImage  |                                       | -  |   |   | • |    |    |   |   |   |   |
| Metalcaucho MTC - A         Wabtec Company         Metavante         MGM Brakes         Michael Baker Corp.         Microdesk         Micropower Technologies Inc.         Micropower Technologies Inc.         Micropower Technologies Inc.         Micropower Technologies Inc.         Midwest Bus Corp.         Miller Ingenuity         Missor Group Ltd.         Missolity Endetting         Mobile Commons     <   |                                       | -  |   |   |   |    |    |   |   |   | • |
| Wabtes Company         Normal Network         Normal  |                                       | -  |   |   |   |    |    |   |   |   |   |
| MGM Brakes       Image: Corp.       I  |                                       | _  |   |   |   |    |    |   |   |   |   |
| Michael Baker Corp.       Image: Corp.   |                                       | -  |   |   |   |    | •  |   |   |   |   |
| Micchelin North America       Image: Constraint of the second of the secon   |                                       |    |   |   | • |    |    |   |   | _ |   |
| Microdesk       Microphor       Microphor       Microphor       Microphor         Micropower Technologies Inc.       Microsk       Microsk <td>· · ·</td> <td></td>  | · · ·                                 |    |   |   |   |    |    |   |   |   |   |
| Microphor       Micropower Technologies Inc.       Microk Electronics Inc.       Microk Inc.       MicrokInc.       MicrokInc. <t< td=""><td></td><td>-</td><td></td><td></td><td>•</td><td></td><td></td><td></td><td></td><td></td><td>•</td></t<>   |                                       | -  |   |   | • |    |    |   |   |   | • |
| Micropower Technologies Inc. <ul> <li>Microsek Electronics Inc.</li> <li>Midwest Bus Corp.</li> <li>Midwest Transit Equipment Inc.             <li>Mile-X Equipment Inc.               Mile-X Equipment Inc.             <li>Midwakee Composities Inc.             <li>Midwakee Composities Inc.             <li>Midwakee Composities Inc.             <li>Microtable Corp.</li> <li>Microtable Composities Inc.             <li>Microtable Composities Inc.             <li>Microtable Composities Inc.               Miscor Group Ltd.             Miscor Grou</li></li></li></li></li></li></li></li></ul>  |                                       | -  |   |   |   |    |    |   |   |   | • |
| Microtek Electronics Inc. <ul> <li> <li> <ul> <li> <ul> <li> <li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></ul></li></ul></li></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul>  | · · · · · · · · · · · · · · · · · · · | -  |   |   |   |    |    |   |   |   | • |
| Microvast Inc.       Image: Construction   |                                       | -  |   |   |   |    |    |   |   |   |   |
| Midwest Bus Corp.       Midwest Transit Equipment Inc.       Image: Composition of the second  |                                       | -  |   |   |   |    |    |   |   |   |   |
| Midwest Transit Equipment Inc.       Image: Composition of the second of t   |                                       | -  |   |   |   |    |    |   |   |   |   |
| Mile-X Equipment Inc.       Image: Composition of the second   |                                       |    |   |   |   |    |    |   |   |   |   |
| Miller IngenuityMiller IngenuityMiller IngenuityMilrail Inc.IIIIIMincomIIIIIIMiscor Group Ltd.IIIIIIMitsbishi Electric PowerIIIIIIProducts Inc.IIIIIIIMitsbishi Electric PowerIIIIIIIProducts Inc.IIIIIIIIMitsuike Corp.IIIIIIIIIIMobile Climate ControlII <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>  |                                       |    |   |   |   |    |    |   |   |   |   |
| Milrail Inc.       Image: Composities Inc. <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>  |                                       |    |   |   |   |    |    |   |   |   |   |
| Milwaukee Composities Inc.       Image: Composities Inc.       Image: Composities Inc.         Miscor Group Ltd.       Image: Composities Inc.       Image: Composities Inc.         Miscor Group Ltd.       Image: Composities Inc.       Image: Composities Inc.         Mitsuike Corp.       Image: Composities Inc.       Image: Composities Inc.         Mist Telematics       Image: Composities Inc.       Image: Composities Inc.         Mobile Climate Control       Image: Composities Inc.       Image: Composities Inc.         Mobile Climate Control       Image: Composities Inc.       Image: Composities Inc.         Mobile Climate Control       Image: Composities Inc.       Image: Composities Inc.         Mobile Commons       Image: Composities Inc.       Image: Composities Inc.         Mobile Mark       Image: Composities Inc.       Image: Composities Inc.         Mobility Management       Image: Composities Inc.       Image: Composities Inc.         Mobility Ventures LLC       Image: Composities Inc.       Image: Composities Inc.         Mohawk Ifts       Image: Composities Inc.       Image: Composities Inc.         Mohawk Ifts       Image: Composities Inc.       Image: Composities Inc.         Motec International       Image: Composities Inc.       Image: Composities Inc.         Moter Inc.       Image: Composities Inc.   |                                       |    |   |   |   |    |    |   |   |   |   |
| Mincom       Image: Comparison of the second s   |                                       | -  |   |   |   |    |    |   |   |   |   |
| Miscor Group Ltd.<br>Mitsbishi Electric Power<br>Products Inc.<br>Mitsuike Corp.<br>Mix Telematics<br>MJM Innovations<br>Mobile Climate Control<br>Mobile Commons<br>Mobile Commons<br>Mobile Commons<br>Mobile Quarter<br>Mobility Maragement<br>Partners (MMP)<br>Mobility Management<br>Partners (MMP)<br>Mobility Ventures LLC<br>Mobility Ventures LLC<br>Mobility Management<br>Partners (MMP)<br>Mobility Control Services<br>Mobility Control Services<br>Modustri<br>Modustri<br>Mohawk Mg. & Supply Co.<br>Mohawk Resources Ltd.<br>Moter International<br>More MARTA<br>More MARTA<br>Morte Power Inc.<br>Motiv Power Systems<br>Motive Power Inc.<br>Motor Coach Industries (MCI)<br>Mott MacDonald<br>Moza Americas Inc.<br>Mozo Inc.<br>MP Pumps Inc.<br>More MAPPL<br>More MARTA<br>Mozio Inc.<br>MP Pumps Inc.<br>More Marta<br>More Marta<br>More Marta Services<br>Mozio Inc.<br>MP Pumps Inc.<br>More Marta<br>More MAPPL<br>More Marta<br>More |                                       | -  |   |   |   |    |    |   |   |   |   |
| Mitsbishi Electric Power       Products Inc.       Image: Stress   |                                       | -  |   |   |   |    |    |   |   |   | • |
| Products Inc.       Mitsuike Corp.       Image: Corp.   |                                       | -  |   |   |   |    |    |   |   | _ |   |
| Mix Telematics       Image: Control image: Contrule image: Control image: Control image: Control imag   |                                       | _  |   |   |   |    |    |   | • |   |   |
| MJM InnovationsMobile Climate ControlMobile Climate Clim   | Mitsuike Corp.                        | _  |   |   | ٠ |    |    |   |   |   |   |
| Mobile Climate Control       Image: Climate Control       Image: Climate Control         Mobile Commons       Image: Climate Control       Image: Climate Control         Mobile Mark       Image: Climate Control       Image: Climate Control         Mobile Commons       Image: Climate Control       Image: Climate Control         Mobilicom Ltd.       Image: Climate Control       Image: Climate Control         Mobility Management       Image: Climate Control       Image: Climate Control         Mobility Transportation Services       Image: Climate Control       Image: Climate Control         Mobility Transportation Services       Image: Climate Control       Image: Climate Control         Mobility Ventures LLC       Image: Climate Control       Image: Climate Control       Image: Climate Control         Modustri       Image: Climate Control       Image: Climate Control       Image: Climate Control       Image: Climate Control         More MARTA       Image: Climate Control       Image: Climate Control       Image: Climate Control       Image: Climate Control         Motive Power Inc.       Image: Climate Control       Image: Climate C   | Mix Telematics                        | _  |   |   |   | ٠  |    |   |   |   |   |
| Mobile Commons       Mobile Mark       Image: Common Services       Image: Commo Services       Image: Common Service   | MJM Innovations                       | _  |   |   |   |    |    |   |   |   | • |
| Mobile Mark       Image: Constraint of the second sec   | Mobile Climate Control                | _  |   |   |   |    |    |   |   |   | • |
| Mobileye       Image: Construction of the second seco   | Mobile Commons                        | _  |   |   |   |    |    |   |   |   | • |
| Mobilitor Ltd.       Image: Construction of the second secon   | Mobile Mark                           | _  |   | ٠ |   |    |    |   |   |   | • |
| Mobilitat Software       Image: Construction of the second s   | Mobileye                              | _  |   |   | ٠ |    |    |   |   | ٠ |   |
| Mobility Management       Imagement         Partners (MMP)       Imagement         Mobility Transportation Services       Imagement         Mobility Transportation Services       Imagement         Mobility Ventures LLC       Imagement         Mobility Ventures LLC       Imagement         Mobility Ventures LLC       Imagement         Mobility Ventures LLC       Imagement         Modigski and Masters       Imagement         Modustri       Imagement         Mohawk Lifts       Imagement         Mohawk Mfg. 5 Supply Co.       Imagement         Mohawk Resources Ltd.       Imagement         Moovel North America       Imagement         Moovit       Imagement         Moore MARTA       Imagement         Motive Power Inc.       Imagement         Motive Power Inc.       Imagement         Motor Coach Industries (MCI)       Imagement         Motax Americas Inc.       Imagement         Moza Americas Inc.       Imagement         Moza Americas Inc.       Imagement         Moza Inc.       Imagement         Moza Inc.       Imagement         Moza Inc.       Imagement         Motyzo Inc. <tdimagement< td=""> <t< td=""><td>Mobilicom Ltd.</td><td>_</td><td></td><td></td><td>٠</td><td></td><td></td><td></td><td>٠</td><td>٠</td><td>•</td></t<></tdimagement<>  | Mobilicom Ltd.                        | _  |   |   | ٠ |    |    |   | ٠ | ٠ | • |
| Partners (MMP)       Image: Construction Services         Mobility Transportation Services       Image: Construction Services         Mobility Ventures LLC       Image: Construction Services         Mobility Ventures LLC       Image: Construction Services         Mobility Ventures LLC       Image: Construction Services         Modigeski and Masters       Image: Construction Services         Modustri       Image: Construction Services         Mohawk Lifts       Image: Construction Services         Mohawk Resources Ltd.       Image: Construction Services         Moorel North America       Image: Construction Service Services         Moore MARTA       Image: Construction Service Services         Motive Power Inc.       Image: Construction Service Services         Motive Power Inc.       Image: Construction Service Services         Motor Coach Industries (MCI)       Image: Construction Services         Motre Additional       Image: Construction Service Services         Motive Power Inc.       Image: Construction Services         Motor Coach Industries (MCI)       Image: Construction Services      <  |                                       | •  |   |   |   |    |    |   |   |   |   |
| Mobility Transportation Services       Image: Constraint of the service   |                                       | •  |   |   | • | •  |    |   |   |   |   |
| Mobiliya       Modjeski and Masters       Image: Comparison of the company of  |                                       | •  |   |   |   |    |    |   |   |   |   |
| Modjeski and Masters       Image: Constraint of the second s   | Mobility Ventures LLC                 | •  |   |   | ٠ |    |    |   |   |   |   |
| Modustri       Mohawk Lifts       Image: Constraint of the second  | Mobiliya                              | -  |   |   |   |    |    |   |   |   | • |
| Mohawk Lifts       Image: Constraint of the second se   | Modjeski and Masters                  | -  |   |   |   |    |    |   |   |   |   |
| Mohawk Mfg. & Supply Co.       Image: Colored State Stat   | Modustri                              | -  |   |   |   |    |    |   | ٠ |   |   |
| Mohawk Resources Ltd.       Image: Constraint of the second  | Mohawk Lifts                          | -  |   |   |   |    |    | • |   |   |   |
| Moltec International       Image: Construction   | Mohawk Mfg. & Supply Co.              | -  |   |   | ٠ |    | ٠  |   |   |   |   |
| Moovel North America       Image: Company       Image: Company <td< td=""><td>Mohawk Resources Ltd.</td><td>-</td><td></td><td></td><td>٠</td><td></td><td>٠</td><td></td><td></td><td></td><td></td></td<>  | Mohawk Resources Ltd.                 | -  |   |   | ٠ |    | ٠  |   |   |   |   |
| Moovit       Image: Company       Image: Compan   | Moltec International                  | -  |   |   | ٠ |    |    |   | ٠ |   |   |
| More MARTA       Image: Company       Image: Co   | Moovel North America                  | -  |   |   |   |    |    |   |   |   | • |
| Mors Smitt - A Wabtec Company       Image: Company  | Moovit                                | -  |   |   | ٠ |    |    |   | ٠ |   |   |
| Mortenson Construction       Image: Construction         Motiv Power Systems       Image: Construction         Motiv Power Systems       Image: Construction         Motiv Power Systems       Image: Construction         Motiv Power Inc.       Image: Construction         Motor Coach Industries (MCI)       Image: Construction         Mott MacDonald       Image: Construction         Moxa Americas Inc.       Image: Construction         Mozio Inc.       Image: Construction         MP Pumps Inc.       Image: Construction  | More MARTA                            | -  |   |   |   |    |    |   |   |   |   |
| Motiv Power Systems       Image: Constraint of the system of   | Mors Smitt - A Wabtec Company         | -  |   |   | ٠ |    |    |   | ٠ |   |   |
| Motive Power Inc.       Image: Comparison of the comparison of   | Mortenson Construction                | •  |   | ٠ |   |    |    |   |   |   |   |
| Motive Power Inc.       Image: Comparison of the comparison of   | Motiv Power Systems                   |    |   |   |   |    |    |   |   |   | ٠ |
| Mott MacDonald     Image: Constraint of the second se   |                                       |    |   |   |   |    |    |   | ٠ |   |   |
| Moxa Americas Inc.     Image: Constraint of the second secon   | Motor Coach Industries (MCI)          |    |   |   | ٠ |    |    |   |   |   |   |
| Moxa Americas Inc.     Image: Constraint of the second secon   | Mott MacDonald                        |    |   |   |   |    |    |   |   |   |   |
| Mozio Inc.   | Moxa Americas Inc.                    |    |   |   | ٠ |    |    |   | ٠ | ٠ | • |
| Mozio Inc.   |                                       |    |   | ٠ |   |    |    |   |   |   |   |
|  |                                       |    |   |   |   |    | ٠  |   |   |   | • |
|  | MP Pumps Inc.                         |    |   |   | ٠ |    |    |   |   |   |   |
|  | · · · · · · · · · · · · · · · · · · · |    |   |   |   | ٠  |    |   |   |   |   |
| MTS Sensors  |                                       |    |   |   |   |    |    |   |   |   | • |
| MV Transportation  | MV Transportation                     |    |   |   |   | ٠  |    |   |   |   |   |





| NEC Display Solutions<br>of America Inc.<br>NESCO Sales and Rentals<br>Neteon Technologies Inc.<br>Neu Inc. Railways Depot Equipment<br>Never Gray<br>New Cities Foundation | _ | • |   |   |   | * |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| NESCO Sales and Rentals<br>Neteon Technologies Inc.<br>Neu Inc. Railways Depot Equipment<br>Never Gray  |   |   |   |   |   |   |   |   | • |
| Neteon Technologies Inc.<br>Neu Inc. Railways Depot Equipment<br>Never Gray   |   |   |   |   |   |   |   | _ |   |
| Neu Inc. Railways Depot Equipment<br>Never Gray   | - |   |   |   |   |   | • | _ |   |
| Never Gray  |   |   | • |   |   |   |   |   |   |
| *   | - |   |   |   |   |   | • |   |   |
| New Cities Foundation   | - |   |   |   |   |   |   | • |   |
|   | - |   | • | • |   |   | • |   |   |
| New England Welding Inc.  | _ | • |   |   | • |   | • |   | • |
| New Flyer Industries Inc.   |   |   | • |   |   |   |   |   |   |
| Newell Rubbermaid   | _ |   |   |   | • |   | • | • |   |
| Newlands & Company Inc.   | - |   |   |   |   |   |   |   |   |
| Nexans Inc.   | _ |   | • |   |   |   |   |   |   |
| NexGen-Chart  | _ |   | • |   |   |   |   |   |   |
| Nexgenenviro Systems Inc.   | _ |   |   |   | • |   |   |   |   |
| Nexiq Technologies  | _ |   |   |   | ٠ |   |   |   |   |
| NextBus, Inc.   | • | • |   |   |   |   |   |   | ٠ |
| Nextel Communications   |   |   |   |   |   |   |   |   | ٠ |
| NextSense GMBH  |   |   |   |   |   |   | ٠ |   |   |
| Nexus Alpha Ltd.  |   |   |   |   |   |   | ٠ |   |   |
| NFC Forum   |   |   | ٠ |   |   |   | ٠ |   | ٠ |
| NGVAmerica  |   | ٠ | ٠ |   |   |   |   |   |   |
| Nice Systems Inc.   |   |   |   |   |   |   |   | ٠ |   |
| Nichols Brothers Boat Builders  |   | ٠ | ٠ |   |   |   | ٠ |   |   |
| Nightstick by Bayco Products, Inc.  | - |   | ٠ |   |   |   | ٠ |   |   |
| Niles Bolton Associates   | • |   |   |   |   |   |   |   |   |
| Nilfisk-Advance America Inc.  | - |   |   |   |   | • |   |   |   |
| Nippon Sharyo USA Inc.  | - |   |   |   |   |   | • |   |   |
| Nissan Commercial Vehicles  | - |   | • |   |   |   |   |   |   |
| Nitrofill Inc.  | - |   | • |   |   |   |   |   |   |
| NLNOVALINK  | - |   |   |   |   |   |   | _ | • |
| No-Spill Systems Inc.   | - |   |   |   |   | • |   |   |   |
| Nokia   | - |   |   |   |   |   |   |   | • |
|   | - |   |   |   |   |   |   | _ | • |
| Nomad Digital LTD   | - |   |   |   |   |   |   | _ |   |
| Nopetro LLC   | - | • | • |   |   |   |   | _ |   |
| Noppen Co. Ltd.   | - |   |   |   |   |   | • |   |   |
| Nora Systems Inc.   | - |   | • |   |   |   |   |   |   |
| Norbar Torque Tools   | - |   |   |   |   | • |   |   |   |
| Nord-Lock, Inc./Superbolt, Inc.   | _ |   | • |   |   | • | • | • |   |
| Nordoc, Inc.  | _ |   |   |   |   |   | • |   |   |
| Norman Data Defense Systems, Inc.   | - |   |   |   |   |   |   | • | • |
| Normont Industrial  | _ |   | • |   |   |   | ٠ |   |   |
| North American Lbricants Co.  | _ | • | • |   |   |   |   |   |   |
| North American Signal Inc.  | _ |   |   |   |   |   | ٠ |   |   |
| North American Specialty Glass  | _ |   |   |   |   |   | • |   |   |
| North American Video Inc.   |   |   |   |   |   |   |   | ٠ |   |
| Northstar Battery   |   |   |   |   |   |   |   |   | ٠ |
| Northwest Rail Electric   |   |   |   |   |   | • | ٠ |   |   |
| Nossaman LLP  |   |   |   |   |   |   |   |   |   |
| Nova Bus  |   |   | ٠ |   |   |   |   |   |   |
| O'Neil & Associates, Inc.   |   |   |   | ٠ |   |   |   |   |   |
| Odebrecht SA  | • |   |   |   |   |   |   |   |   |
| OEM Technology Solutions  |   | • |   |   |   | • | ٠ | ٠ |   |
| Oetiker Inc.  |   |   | ٠ |   |   |   |   |   | • |
| Oleo International  |   |   |   |   |   |   |   |   |   |
| Olev Technologies   |   |   |   |   |   | • |   |   | • |
| Omega Frontline Apparel Ltd.  |   | • |   |   |   |   |   |   |   |
| Omni Products Inc.  |   |   |   |   |   |   | • |   |   |
| Omnivex   |   | • |   |   |   |   |   |   | • |
| Omnova Solutions  |   |   | • |   |   | • | • |   |   |
| On Time Consulting Services   |   |   |   |   |   |   |   |   | • |
| e   |   | • |   |   |   |   |   |   |   |
| Ontirea Communications  |   |   |   |   |   |   |   |   |   |

| Company  | ÷ | Å  | -  |          | Ê. | ¢ | * |   | D  |   |
|--|---|----|----|----------|----|---|---|---|----|---|
| Company  | 6 | ĺΪ | -4 | <b>1</b> | ĽY | Φ | ~ | 2 | 1  | Æ |
| OnTrackNorthAmerica Inc.                             |   |    |    |          |    |   |   |   |    | • |
| Opoli Technologies                                   |   |    |    |          |    |   |   |   |    | ٠ |
| Optellios Inc.                                       |   |    |    |          |    |   |   |   | ٠  |   |
| Optibus Ltd.   |   |    |    |          | •  |   |   |   |    | ٠ |
| Optronics International                              |   |    |    | •        |    |   |   | ٠ | ٠  |   |
| Oracle Corp.   | _ |    |    |          |    |   |   |   |    | • |
| Oregon Iron Works Inc.                               |   |    |    |          |    |   |   | ٠ |    |   |
| Orion Wire Co. Inc.                                  |   |    |    | ٠        |    |   |   | ٠ |    |   |
| Oriskany Manufacturing<br>Technologies               |   |    |    | •        |    |   |   | ٠ |    |   |
| Orlaco   | - |    |    |          |    |   |   |   | •  | • |
| Otis Worldwide                                       |   |    |    | •        |    |   |   | • |    |   |
| OTW Safety   |   |    |    | •        |    |   |   | • | •  |   |
| Outfront media Inc.                                  | - |    |    |          | •  |   |   |   | Ť. | • |
| ORX  | - |    |    |          |    |   |   | • |    |   |
| Palram Americas                                      | - |    | •  | •        |    |   |   | • | •  |   |
| Panasonic Corp. of North America                     |   |    |    |          |    |   |   |   | ·  | • |
| Pandrol North America                                |   |    |    |          |    |   |   | • | -  | Ě |
| Panduit Corp.  |   |    |    | •        |    | • |   | • | •  | • |
| Panel-Brite, Inc.                                    |   |    | •  | •        |    |   | • | • |    | • |
| Panet-Brite, Inc.<br>Pannone Lopes Devereaux         |   |    |    |          |    |   |   |   |    |   |
| & West LLC   |   |    |    |          | •  |   |   |   |    |   |
| Papercast  |   |    |    |          |    |   |   |   |    | ٠ |
| Parabean B.V.  |   |    |    | ٠        |    |   |   | ٠ |    | ٠ |
| Parabit Systems                                      |   |    |    |          |    |   |   |   |    | ٠ |
| Paradigm Risk Management                             |   |    |    |          | •  |   |   |   |    |   |
| Paragon Project Resources Inc.                       |   | ٠  |    |          |    |   |   |   |    |   |
| Parkeon Inc.   |   |    |    |          |    |   |   |   |    | ٠ |
| Parker Hannifin Corp Electronic<br>Controls Division |   |    |    |          |    |   |   |   |    | ٠ |
| Par-Kut international inc.                           | - |    |    |          |    |   |   |   | ٠  |   |
| Parsons Corp.  |   | •  |    |          |    |   |   |   |    |   |
| Passio Technologies                                  | - |    |    | •        |    |   |   | ٠ |    | • |
| Passport   | - |    |    | •        |    | • |   | • |    |   |
| Patroleyes   |   |    |    | •        |    |   |   |   | •  | • |
| Patten Industries Inc.                               |   |    |    | •        |    |   |   |   |    |   |
| Pavlov Advertising LLC.                              | - |    |    |          | •  |   |   |   |    |   |
| PCTEL, Inc.  | - |    |    |          |    |   |   |   |    | • |
| Peerless-AV  | • | •  |    |          |    |   |   |   |    |   |
| peiker acustic, Inc.                                 |   |    |    | •        |    |   |   | • |    | • |
| Penasack Machine                                     |   |    |    | •        |    |   |   | • |    |   |
| Penn Machine Company, LLC                            |   |    |    |          |    |   |   | • |    |   |
| PennTex Industries Inc.                              |   |    |    | •        |    |   |   |   |    |   |
| Penske Corp.   |   |    |    | •        |    |   |   |   |    |   |
| Penta Corporation                                    | • |    |    |          |    |   |   |   |    | • |
|  |   |    |    |          |    |   |   | • |    | • |
| Pentadyne Power Corp.<br>Performance Consulting      |   |    |    |          |    |   |   |   |    |   |
| Associates Inc. (PCA Inc.)                           |   |    |    | •        | •  | • |   | • |    |   |
| Performance Metal Fabricators                        |   |    |    | •        |    | • |   | ٠ |    |   |
| Performance Tube Bending Inc.                        |   |    |    | ٠        |    |   |   | ٠ |    |   |
| Permatex   |   |    |    |          |    | ٠ |   |   |    |   |
| Perpetuum  |   |    |    |          |    |   |   | ٠ |    |   |
| Phillips Ind.  |   |    |    | ٠        |    |   |   | ٠ |    |   |
| Phoenix Cars LLC                                     |   |    |    | ٠        |    |   |   |   |    |   |
| Phoenix Contact                                      |   |    | ٠  |          |    |   |   |   |    | ٠ |
| PHW Inc.   |   |    |    |          |    |   |   | ٠ |    |   |
| Pinnacle CNG Co.                                     |   |    | ٠  | •        |    |   |   |   |    |   |
| Planar Systems Inc.                                  |   |    | ٠  | ٠        |    |   |   | ٠ |    | ٠ |
| Planet Halo  | ٠ |    |    | ٠        |    |   |   | ٠ | ٠  | ٠ |
| Plasser American Corp.                               |   |    |    |          |    |   |   | ٠ |    |   |
| Plastic Components                                   |   |    |    | ٠        |    |   |   |   |    |   |
| Plazit-Polygal                                       |   |    |    | •        |    | ٠ |   | ٠ |    |   |
| Plexus   |   |    |    | ٠        |    |   |   | ٠ |    |   |
| Plustek Technology Inc.                              |   |    |    |          |    |   |   |   | ٠  |   |
|  |   |    |    |          |    |   |   |   |    |   |

|   | • | 1 |   | - | <del>رگ</del> | •  | RC. | т      | 0 |   |
|---|---|---|---|---|---------------|----|-----|--------|---|---|
| Company   | G | A | 1 |   | HØ            | \$ | *   |        |   |   |
| PNR Railworks   |   |   |   |   |               |    |     | •      |   |   |
| Polaroid Commercial ID Systems                          |   |   |   |   |               |    |     |        | ٠ |   |
| Poligon   |   |   |   |   |               |    |     |        |   |   |
| Polycorp Ltd.   |   |   |   | • |               |    |     |        |   |   |
| Pom Inc.  |   |   |   |   |               |    |     |        |   |   |
| Pomona Electronics                                      |   |   |   |   |               |    |     |        |   | • |
| Portable Techonology Solutions                          |   |   |   |   |               | •  |     |        | ٠ | • |
| Positronic Industries Inc.                              |   |   |   |   |               |    |     |        |   | • |
| Power Efficiency Corp.                                  |   |   |   | • |               |    |     |        |   |   |
| Power Engineering Ind.                                  |   | • |   |   |               |    |     |        |   |   |
| Power Rail Training & Consulting Inc.                   |   | • |   |   |               |    | •   |        |   |   |
| Powerup Inc.  |   |   |   |   |               |    |     |        |   |   |
| Powr-Flite, A Tacony Company                            |   |   |   |   |               |    |     |        |   |   |
| PPG Ind.  |   |   |   |   |               |    | •   |        |   |   |
| Precision Power Labs                                    |   |   |   | • |               |    |     | •      |   |   |
| Precision Quincy Corp.                                  |   |   |   |   |               |    | •   |        |   |   |
| Precision Solar Controls                                |   |   |   |   |               |    | •   |        |   |   |
| Preco   |   |   |   |   |               |    |     |        | ٠ | • |
| Prelco  |   |   |   | • |               |    |     | •      |   |   |
| Pretoria Transit Interiors Inc.                         |   |   |   | • |               |    |     |        |   |   |
| Prevost   |   |   |   | • |               |    |     |        |   |   |
| Priority Manufacturing Inc.                             |   |   |   | • |               |    |     | •      |   |   |
| Proair LLC  |   |   |   |   |               |    | •   |        |   |   |
| Pro-Flex Inc.   |   |   |   | • |               |    |     | •      |   |   |
| Progressive AE  |   | ٠ |   |   |               |    |     |        |   |   |
| Progressive Dynamics Inc.                               |   |   |   |   |               |    |     |        |   |   |
| Progress Rail Services Corp.                            |   |   |   |   | ٠             |    | •   | •      |   |   |
| Proheat   |   |   | • | • |               |    | •   |        |   | • |
| Propane Education &<br>Research Council (PERC)          |   |   |   | • |               |    |     |        |   |   |
| Prosavvy  |   |   |   |   | ٠             |    |     |        |   |   |
| Pro Tech Communications Inc.                            |   |   |   |   |               |    |     |        | ٠ |   |
| Protectolite Inc.                                       |   |   |   |   |               |    |     |        |   | ٠ |
| Proterra  |   |   |   | • |               |    |     |        |   |   |
| Protran Technology                                      |   |   |   |   |               |    |     | •      |   |   |
| Proxim Wireless Corp.                                   |   |   |   |   |               |    |     |        | ٠ |   |
| Psomas  |   | ٠ |   |   |               |    |     |        |   |   |
| PTMW Inc.   |   |   |   |   |               |    |     |        |   | ٠ |
| Pulsar Advertising                                      |   |   |   |   | ٠             |    |     |        |   |   |
| Pure Power! Inc.  |   |   |   |   |               |    | ٠   |        |   |   |
| Qognify   |   |   |   |   |               |    |     |        | ٠ |   |
| Q'Straint   | • |   |   |   |               |    |     |        |   |   |
| Qual-Tran Products                                      |   |   |   |   |               |    |     | •      |   |   |
| Quality Two-Way Radios                                  |   |   |   |   |               |    |     |        | ٠ |   |
| Qualitywise   |   |   |   |   | •             |    |     |        |   |   |
| Quantum Technical Services Inc.                         |   | ٠ |   |   |               |    |     |        |   |   |
| Quester Tangent   |   |   |   |   |               |    |     | •      |   | • |
| Quilite International                                   |   |   |   |   |               |    |     |        |   |   |
| Quinte Plastics   |   |   |   | • |               |    | •   |        |   |   |
| Quintiq   |   |   |   |   |               |    |     | ٠      |   |   |
| Quixote Transportation                                  |   |   |   |   |               |    |     |        |   | • |
| Technologies Inc.<br>Radio Engineering Industries (REI) |   |   |   |   |               |    |     |        | • | • |
| Radio Frequency Systems                                 |   |   |   |   |               |    |     |        |   | • |
| Radwin  |   |   |   |   |               |    |     |        |   | • |
| Rail Temps Inc.   |   |   |   |   |               |    |     | •      |   |   |
| Railcomm  |   |   |   |   |               |    |     | •      |   |   |
|   |   |   |   |   |               |    |     | •<br>• |   |   |
| Railhead Corp.  |   |   |   |   |               |    |     | •<br>• |   |   |
| Railhead Vision Systems                                 |   |   |   |   |               |    | •   |        |   |   |
| Rail Heating Products & Services                        |   |   |   | • |               |    | •   |        |   |   |
| Railquip, Inc.  |   |   |   |   |               |    |     | •<br>• |   |   |
| Rail Safety Consulting                                  |   |   |   |   |               |    |     |        |   |   |

| Company                         | ė. | A   | 1 |   | Î | \$ | * |   | A |   |
|---------------------------------|----|-----|---|---|---|----|---|---|---|---|
| Railtech Composites Inc.        |    | · / |   |   |   | -  |   | • |   |   |
|                                 | -  |     |   |   | • |    |   | • |   |   |
| Rail Temps Inc.                 | -  |     |   |   |   |    |   | • |   |   |
|                                 | -  |     |   |   |   |    |   |   | _ |   |
| Railquip, Inc.                  | _  |     |   |   |   |    |   | • |   |   |
| Rajant Corp.                    | _  |     |   | • |   |    | • |   |   | • |
| RailWorks Corp.                 | _  |     |   |   | • |    |   | • |   |   |
| RATP Dev                        | _  |     |   | • | • |    | • |   |   |   |
| Raycap                          | -  |     |   |   |   |    |   |   | • | • |
| R.C.A. Rubber Co.               | _  |     |   | • |   |    | • |   |   |   |
| React Systems Inc.              | _  |     |   |   |   |    |   |   | • | • |
| Recaro North America            | _  |     |   | • |   |    | • |   |   |   |
| Reflect Systems Inc.            | _  |     |   |   |   |    |   |   |   | • |
| REI                             | _  |     | • |   |   |    |   |   | • | • |
| Rel-Tek Corp.                   | _  |     | • | • |   |    | • | ٠ |   |   |
| Remy International              |    |     |   | • |   |    |   | ٠ |   |   |
| Renewable Energy Group Inc.     |    |     | ٠ | • |   |    |   |   |   |   |
| REO-USA Inc.                    |    |     |   |   |   |    | ٠ |   |   |   |
| Retlif Testing Laboratories     |    |     |   |   |   |    | ٠ |   |   |   |
| Rev Group Inc.                  |    |     |   | ٠ |   |    |   |   |   |   |
| Ricon Corp A Wabtec Company     | •  |     |   | • |   |    |   |   |   |   |
| Ridecell                        |    |     | • |   | • |    |   |   |   | • |
| Ride Right LLC                  | -  |     |   | • | • |    |   |   |   |   |
| Ridewell Suspensions            | -  |     |   | • |   |    |   |   |   |   |
| Rifled Air Conditioning Systems | _  |     |   | Ě |   |    |   |   |   |   |
|                                 | -  |     |   |   |   |    |   |   |   |   |
| Rigid Lifelines                 |    |     |   | • |   |    | • |   | • |   |
| Rimex Metals Group              | _  |     |   |   |   |    | • |   |   |   |
| RNL Design                      | _  | •   |   |   |   |    |   |   |   |   |
| Ron Turley & Associateds Inc.   | _  |     |   | • |   |    | • |   |   |   |
| Rosco Inc.                      | _  |     |   |   |   |    | • |   |   |   |
| Ross & White Company            | _  |     |   | • |   |    | • | ٠ |   |   |
| Rotary Lift                     |    |     |   |   |   |    | • |   |   |   |
| Round Trip Graphic              |    | ٠   | ٠ |   | ٠ |    |   |   |   | ٠ |
| Rousch Cleantech                |    |     |   | • |   |    |   |   |   |   |
| RouteMatch Software             |    |     |   |   |   |    |   |   |   | ٠ |
| Roxtec Inc.                     |    |     |   | • |   |    |   | ٠ |   |   |
| R&R Partners                    | _  |     |   |   | • |    |   |   |   |   |
| RSCC Wire & Cable LLC           | _  |     |   |   |   |    | • | ٠ |   |   |
| RSM Services                    | _  |     |   |   |   |    |   |   |   | • |
| R-Solutions Corp.               | -  |     |   | - |   |    |   |   | _ | Ě |
|                                 | _  |     |   |   |   |    |   |   |   |   |
| RTR Technologies Inc.           | _  |     |   |   |   |    |   | • |   |   |
| Rytec Corp.                     | _  |     | • |   |   |    | • |   |   |   |
| S&A Systems Inc.                | _  |     |   |   |   |    | • |   |   |   |
| S-Square Tube Products Inc.     |    |     |   |   |   |    | • |   |   |   |
| Sabic's Polymershapes           |    |     |   |   |   |    | • |   |   |   |
| Safe Fleet                      |    |     |   |   |   |    |   |   | ٠ |   |
| Safeguard Technology Inc.       |    |     |   |   |   |    | ٠ |   | ٠ |   |
| Safetran                        |    |     |   |   |   |    |   | ٠ |   |   |
| Safety Vision                   |    |     |   |   |   |    |   |   | ٠ |   |
| Saft                            |    |     |   |   |   |    | ٠ |   |   |   |
| Sapa Extrusions North America   |    |     |   |   |   |    |   | ٠ |   |   |
| Sardo Bus & Coach Upholstery    |    |     |   | • |   |    | • |   |   |   |
| SAS Rubber Co.                  |    |     |   |   |   |    | • |   |   |   |
| Scantek Inc.                    | -  |     |   |   |   |    |   | • |   |   |
| Schaltbau Electric America      |    |     |   | • |   |    |   | • |   |   |
|                                 | -  |     |   |   |   |    |   |   |   |   |
| Scheidt & Bachmann              | _  |     |   |   |   | •  |   |   |   |   |
| Schindler Elevator Corp.        |    |     |   |   |   |    |   |   |   | • |
| Schneider Electric              | _  |     | • |   |   |    |   |   |   |   |
| Seabubbles                      |    |     |   |   |   |    |   |   |   | • |
| Secheron SA                     |    |     |   |   |   |    | ٠ |   |   |   |
| Secured Cities                  |    |     |   |   | ٠ |    |   |   | ٠ |   |
| Sefac Inc.                      |    |     |   |   |   |    | • |   |   |   |





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| Company                                       | Ġ. | A | 1 |   | Î | \$ | × |   | • |   |
|---|----|---|---|---|---|----|---|---|---|---|
| Sekisui Spi                                   |    |   | · |   |   |    |   |   |   |   |
| Sener   | -  |   |   |   |   |    |   |   |   |   |
| Sentry 360 Security Inc.                      |    |   |   |   |   |    |   |   | ٠ | ٠ |
| Seon Design Inc.                              | -  |   |   |   |   |    |   |   | ٠ | ٠ |
| Sherwin Industries Inc.                       | -  |   |   |   |   |    |   |   | ٠ |   |
| Shure Manufacturing Corp.                     | -  |   |   |   |   |    | • |   |   |   |
| Shure-Step                                    | -  |   |   |   |   |    | • |   |   |   |
| Siemens Mobility Division                     |    |   |   |   |   |    |   | ٠ |   |   |
| SIMME LLC                                     | -  |   | ٠ |   |   |    |   |   |   |   |
| Simmons Machine Tool Corp.                    | -  |   |   |   |   |    |   | ٠ |   |   |
| Sintrones                                     |    |   |   |   |   |    |   |   |   | ٠ |
| Skanska USA                                   |    |   |   |   |   |    |   |   |   |   |
| SKF   | -  |   |   |   |   |    | • |   |   |   |
| Skyline Products Inc.                         | -  |   |   |   |   |    |   |   |   | • |
| SLEC, Inc.                                    | -  |   |   | • |   |    | • |   |   |   |
| Smart Software Inc.                           | -  |   |   |   |   |    |   |   |   | • |
| Smartdrive Systems                            | -  |   |   |   |   |    |   |   | • |   |
| Smartmaps                                     |    |   | • |   | • |    |   |   |   | • |
| Smart Vision Lights                           |    |   | • | • |   |    |   | • |   |   |
| SMA Technologies                              | -  |   | • |   |   |    |   | • |   | • |
| Smith Detection                               | -  |   |   |   |   |    |   |   | • |   |
| Snake Tray                                    | -  |   |   |   |   |    | • |   | È |   |
| SNC-Lavalin                                   | -  |   |   |   |   |    |   |   | _ |   |
| Solana Networks Inc.                          | -  |   |   |   |   |    |   |   | _ |   |
|   | -  |   |   |   |   |    |   |   | - |   |
| Solar Outdoor Lighting Inc.                   | -  |   | • |   |   |    |   |   | • |   |
| Solid   | -  |   |   |   |   |    |   |   | _ | • |
| SOL Inc.                                      | -  |   | • |   |   |    |   |   | _ |   |
| Solis Energy Inc.                             | _  |   | • |   |   |    |   |   |   |   |
| SOS Booster                                   | _  |   |   |   |   |    | • |   |   |   |
| Southco Inc.                                  | _  |   |   | • |   |    |   | • |   |   |
| Spaceage Control Inc.                         | _  |   |   | • |   |    |   | • |   |   |
| Spaceage Synthetics                           | _  |   |   | • |   |    | • |   |   |   |
| Spacecraft Components Corp.                   | _  |   |   |   |   |    |   |   |   | • |
| Specialty Vehicle                             | _  |   |   | • |   |    |   |   | _ |   |
| Spectra Logic                                 | _  |   |   | • |   |    |   | • | • | • |
| Spectro Inc.                                  | _  |   |   | • |   |    | • |   |   |   |
| Sperry West Inc.                              | •  |   |   | • |   |    |   | • | • | • |
| Spheros North America Inc.                    | _  |   |   |   |   |    |   |   |   | • |
| Spinner II Products                           | _  |   |   | • |   |    | • |   |   |   |
| Sportworks NW Inc.                            | _  |   | • |   |   |    |   |   |   |   |
| Stacy and Witbeck Inc.                        |    |   |   |   |   |    |   |   |   |   |
| Stadler US Inc.                               |    |   |   |   |   |    |   | ٠ |   |   |
| Stainless Steel Coatings Inc.                 |    |   |   |   |   |    | • |   |   |   |
| Stallion Bus Industries                       |    |   |   | • |   |    |   |   |   |   |
| Standard Change-Makers Inc.                   |    |   |   |   |   | ٠  |   |   |   |   |
| Stan Design Inc.                              |    |   |   | ٠ |   |    | ٠ |   |   |   |
| Stanley Hydraulic Tools                       | •  |   |   |   |   |    |   | ٠ |   |   |
| Stantec Consulting                            |    | ٠ |   |   |   |    |   |   |   |   |
| Starcraft Bus & Mobility                      |    |   |   | ٠ |   |    |   |   |   |   |
| Starled Inc.                                  |    |   |   |   |   |    |   |   |   | ٠ |
| Star Machine & Tool Co.                       |    |   |   | ٠ |   |    |   |   |   |   |
| Steer Davies Gleave                           |    |   |   |   |   |    |   |   |   |   |
| Steri-Fab                                     |    |   | ٠ |   |   |    | • |   |   |   |
| Stertil-Koni                                  |    |   |   | ٠ |   |    | • |   |   |   |
| Strategic Mapping Inc.                        |    |   |   |   |   |    |   |   |   | • |
| Strato Inc.                                   | -  |   |   |   |   |    |   | • |   |   |
| Strix Systems Inc.                            |    |   |   |   |   |    |   |   |   | • |
| STV Group Inc.                                |    |   |   |   |   |    |   |   |   |   |
| st aloup nic.                                 | -  |   |   |   |   |    |   | • |   |   |
| Sumitomo Corn Of Amorica                      |    |   |   |   |   |    |   |   |   |   |
| Sumitomo Corp. Of America Summit Seating Inc. | -  |   |   | • | - |    |   |   |   |   |

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|--------------------------------------|---|---|---|---|------------|----|---|---|---|---|
| Company                              | G | Ä | 1 |   | I          | \$ | X | 團 |   |   |
| Suncoast LED Displays LLC            |   |   |   |   |            |    |   |   |   | ٠ |
| Sunrise Systems Electronics          |   |   | ٠ |   |            |    |   |   |   | ٠ |
| Superior Shade                       |   |   | ٠ |   |            |    |   |   |   |   |
| Superior Shelter                     |   |   | • |   |            |    |   |   |   |   |
| Sure-Foot Ind.                       |   |   |   |   |            |    | ٠ |   |   |   |
| Sure-Lok Inc.                        | • |   |   |   |            |    |   |   |   |   |
| Sutrak Corp.                         |   |   |   |   |            |    |   |   |   | ٠ |
| Swazyer Engineering Inc.             |   | • |   |   |            |    |   |   |   |   |
| Syncromatics Corp.                   |   |   |   |   |            |    |   |   |   | ٠ |
| Systra                               |   | • |   |   |            |    |   |   |   |   |
| Tait Radio Communications            |   |   |   |   |            |    |   |   | ٠ |   |
| Talfourd-Jones Inc.                  |   |   |   |   |            |    |   |   | ٠ |   |
| Talgo Inc.                           |   |   |   |   |            |    |   | • |   |   |
| Talkaphone                           |   |   |   |   |            |    |   |   |   | • |
| Taser International Inc.             | - |   |   |   |            |    |   |   | • |   |
| TC Communications Inc.               |   |   |   |   |            |    |   |   |   | • |
| TCS Rail Services                    | • |   |   |   | •          |    |   | • |   |   |
| TDG Transit Design Group Inc.        |   |   |   |   |            |    |   | • |   |   |
| TEB Technology                       |   |   |   | • |            |    |   |   |   |   |
| Tech Products Inc.                   |   |   | • |   |            |    | • | • | • | • |
| TE Connectivity                      |   |   |   |   |            |    |   |   |   | • |
| Telargo Inc.                         |   |   |   |   |            |    |   |   |   | • |
| Tele-Fonika Cable Americas           |   |   |   |   |            |    |   |   |   | • |
| Telenav                              |   |   |   |   |            |    |   |   |   | • |
| Teleproducts                         |   |   |   |   | •          |    |   |   |   |   |
| Teleste                              |   |   |   |   |            |    |   |   | • |   |
| Televate LLC                         |   | • |   |   |            |    |   |   |   |   |
| Telvent USA                          |   |   |   |   |            |    |   |   |   | • |
| Tensar International Corp. Inc.      |   | • |   |   |            |    |   | • |   |   |
| Testmec USA Inc.                     | - |   |   |   |            |    |   | • |   |   |
| Tessco<br>Test and Measurement       | - |   | • |   |            |    |   |   |   | • |
| Instruments C.C.                     |   |   |   |   |            |    | • |   |   | • |
| TextSpeak                            | • |   |   |   |            |    |   |   |   |   |
| Tezo Systems                         |   |   |   |   |            | ٠  |   |   |   |   |
| Thales Group                         |   |   |   |   |            | ٠  |   |   |   |   |
| The Armor Group Inc.                 |   |   | ٠ | ٠ |            |    |   | ٠ |   |   |
| The Bilco Co.                        |   |   |   |   |            |    | • |   |   |   |
| The Burns Group                      |   | ٠ |   |   |            |    |   |   |   |   |
| The Wright Group                     |   |   | ٠ |   |            |    |   |   |   |   |
| Thermal Matrix                       |   |   |   |   |            |    |   |   | ٠ |   |
| Thermal Structures Inc.              |   |   |   |   |            |    |   |   |   | ٠ |
| Thermal Transfer Products            |   |   |   |   |            |    | • |   |   |   |
| Thermoclave                          |   |   |   |   |            |    | ٠ |   |   |   |
| Thermo King Corp.                    |   |   |   | ٠ |            |    |   |   |   |   |
| Tiefenbach USA                       |   |   |   |   |            |    |   | ٠ |   |   |
| Tightitco Inc,                       |   |   |   | ٠ |            |    |   |   |   |   |
| Tightrope Media Systems              |   |   | ٠ |   |            |    |   |   |   | • |
| Tig/M. Modern Street Railways LLC    |   |   |   |   |            |    |   | ٠ |   |   |
| Timco Rubber                         |   |   |   | ٠ |            |    |   |   | ٠ |   |
| Tindale Oliver                       |   | ٠ |   |   |            |    |   |   |   |   |
| Tire Service Equipment Mfg. Co. Inc. |   |   |   | ٠ |            |    | ٠ |   |   |   |
| TireStamp Corp.                      |   |   |   |   |            |    | ٠ |   |   |   |
| Titan Rail Inc.                      |   |   |   |   |            |    |   | ٠ |   |   |
| Ti Training Corp.                    |   |   |   | ٠ |            |    |   | ٠ | ٠ | ٠ |
| TKH Security Solutions USA           |   |   |   |   |            |    |   |   | ٠ | ٠ |
| Tolar Manufacturing Company Inc.     |   |   | ٠ |   |            |    |   |   |   |   |
| Toshiba Imaging Systems Division     |   |   |   |   |            |    |   |   |   | ٠ |
| Total Plastics Mass Mobility         |   |   |   | ٠ |            |    | ٠ | ٠ |   |   |
| Touchsystems                         |   |   |   | ٠ |            |    |   |   | ٠ |   |
| Tracer Products                      |   |   |   |   |            |    | ٠ |   |   |   |
|                                      |   |   |   |   | _          |    |   |   | _ |   |

| Company  | 1 | ೆ  | 4  | 0      | r <del>å</del> n. | • | RL.    | Ш | 0 |   |
|--|---|----|----|--------|-------------------|---|--------|---|---|---|
| Company  | 6 | 17 | -1 |        | i 🗸               | Þ | X      | 2 | 2 | ŧ |
| Traction Systems   |   |    |    | ٠      |                   |   |        |   |   |   |
| TR Advisors  |   | ٠  |    |        |                   |   |        |   |   |   |
| Trans-Lite Inc.  |   |    |    |        |                   |   |        |   |   | • |
| Trans/Air Manufacturing Group                                    |   |    |    |        |                   |   | •      |   |   |   |
| Transcare  | • |    |    | •      | •                 |   | •      |   | ٠ |   |
| Transcore  |   |    |    |        |                   |   |        | • |   | • |
| Transdev North America   |   |    |    |        | •                 |   |        |   |   |   |
| Transform  |   | •  |    |        |                   |   |        | • |   |   |
| TransGroup   |   |    |    |        |                   |   |        |   |   | • |
| Transign LLC   |   |    |    | •      |                   |   |        |   | • |   |
| Transit App  |   |    |    | •      |                   |   |        | • |   | • |
| Transit Auto Parts LLC   |   |    |    | •<br>• |                   |   | •<br>• |   |   |   |
| Transit Cooling Solutions<br>Transit Safety & Security Solutions |   |    |    |        |                   |   |        | • | • |   |
| Transitscreen  |   |    |    | •      |                   |   |        | • |   | • |
|  | - |    |    |        |                   |   |        |   |   | • |
| Transit Surveillance Systems<br>Transit Systems Inc.             |   |    | •  |        |                   |   |        |   |   |   |
| Transit Wireless   |   |    |    |        |                   |   |        |   |   | • |
| Transit Screen   |   |    |    |        |                   |   |        |   |   | • |
| Transitvue Communication Systems                                 |   |    |    |        |                   |   |        |   | • |   |
| Transloc   |   |    |    |        |                   |   |        |   |   | • |
| Transmatic Group   |   |    |    | •      |                   |   | •      |   |   |   |
| Transoft Solutions Inc.  |   | •  |    |        |                   |   |        |   |   |   |
| Transpec Worldwide   |   |    |    | •      |                   |   |        |   | • |   |
| Transpod   |   |    |    |        |                   |   |        | • |   | • |
| Transpo Industries   | • |    | •  |        |                   |   |        |   |   |   |
| Transportation Equipment   |   |    |    |        |                   |   |        |   |   |   |
| Sales Corp. (TESCO)  |   |    |    | •      |                   |   |        | • |   |   |
| Transport Products Inc.  |   |    |    | •      |                   |   |        | • |   |   |
| TransportTrack   |   |    |    |        |                   |   |        |   | • |   |
| TransTech: a Wabtec Company                                      |   |    |    |        |                   |   |        | • |   |   |
| Transtechnik Corp.   |   |    |    |        |                   |   |        | • |   |   |
| TransTrack Systems   |   | •  |    |        |                   |   |        |   |   |   |
| TranSystems  |   | •  |    |        |                   |   |        |   |   |   |
| Trapeze Group  |   |    |    | •      |                   |   |        | • |   | • |
| Trauner Consulting Services                                      |   | •  |    |        |                   |   |        |   |   |   |
| TRC Companies Inc.   |   | ٠  |    |        |                   |   |        | • |   | • |
| Tribridge  |   |    |    |        |                   |   |        |   |   | • |
| Trillium CNG   |   |    |    | •      |                   |   |        |   |   |   |
| Tripspark Technologies   |   |    |    |        | •                 |   |        |   |   | • |
| Trojan Battery Company   |   |    |    | •      |                   |   |        |   |   |   |
| Trolex LTD.  |   |    |    |        |                   |   | •      | • | ٠ | ٠ |
| Trolley Illusions  |   |    |    |        |                   |   | •      |   |   |   |
| Trudigital Signage   |   |    |    |        |                   |   |        |   |   | • |
| Trueform   |   |    |    |        |                   |   |        |   |   | • |
| TruStar Energy LLC   |   |    |    | •      |                   |   |        |   |   |   |
| Tru-Vu Monitors Inc.   |   |    |    | •      |                   |   |        | • |   |   |
| TSC2 Group   |   | •  |    |        |                   |   |        |   |   |   |
| TSO Mobile   | • |    |    | •      |                   |   |        |   |   | • |
| Turbo Images   |   |    |    |        |                   |   |        |   |   | • |
| Turtle Top Inc.  |   |    |    | •      |                   |   |        |   |   |   |
| Tutor Perini Corp.   |   | ٠  |    |        |                   |   |        |   |   |   |
| TUV Rheinland of North America                                   |   |    |    |        |                   |   |        | ٠ |   |   |
| Twiflex USA  |   |    |    |        |                   |   | •      |   |   |   |
| Twinco Mfg. Co. Inc.   |   |    |    |        |                   |   |        | • |   |   |
| TwinVision An LTG Company  |   |    |    |        |                   |   |        |   |   | ٠ |
| Tyco Electronics Corp.   |   |    |    | •      |                   |   |        | ٠ |   |   |
| Tyco Integrated Security   |   |    |    |        |                   |   |        |   | ٠ |   |
| T.Y. Lin International Inc.                                      |   | ٠  |    |        |                   |   |        |   |   |   |
| Tymetal Corp.  |   |    |    |        |                   |   |        |   |   | • |
|  |   |    |    |        |                   |   |        |   |   |   |

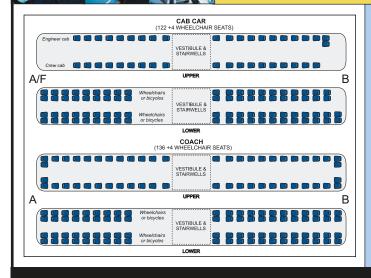
| Company                                       | Ė. | Å | 1    |    | ið | \$ | * |   | 8 |   |
|---|----|---|------|----|----|----|---|---|---|---|
| Uber Technologies Inc.                        |    | , |      |    |    |    |   |   |   | • |
| Ubisense Inc.                                 |    |   |      |    |    |    |   |   |   | • |
| UGL Limited                                   |    |   | •    |    |    |    |   |   |   |   |
| Ugridd Corp.                                  |    |   |      |    |    |    |   |   |   | ٠ |
| UltimateCNG LLC                               |    |   | •    | •  |    |    |   | • |   |   |
| Ultraled Lighting Inc.                        |    |   |      |    |    |    |   |   | • |   |
| Union County Seating                          |    |   |      | •  |    |    |   |   |   |   |
| United States Seating                         |    |   |      |    |    |    | • | • |   |   |
| Unitrac Railroad Materials - A Wabtec Company |    |   |      |    |    |    |   | • |   |   |
| Urban Engineers                               |    |   |      |    |    |    |   |   |   |   |
| Vahle Electrification Systems                 |    |   | •    |    |    |    |   |   |   |   |
| Vanner Inc.                                   |    |   |      | •  |    |    |   |   | - |   |
| Vapor Bus International                       |    |   |      |    |    |    |   |   |   |   |
| - A Wabtec Corp.                              |    |   |      | •  |    |    |   |   | • |   |
| Vapor Stone Rail Systems                      |    |   |      |    |    |    |   | ٠ |   |   |
| Ventech USA LP                                |    |   |      | •  |    |    | ٠ |   |   |   |
| Vehicle Inspection Services (VIS)             |    |   |      | •  |    |    | ٠ |   |   |   |
| Vehicle Production Group LLC                  | •  |   |      |    |    |    |   |   |   |   |
| Velodome Shelters                             |    |   | ٠    |    |    |    |   |   |   |   |
| Vericom Technologies Inc.                     |    |   |      |    |    |    | ٠ |   |   |   |
| Vicon Industries Inc.                         |    |   |      |    |    |    |   |   | ٠ |   |
| Victor Stanley                                |    |   |      |    |    |    | ٠ |   |   |   |
| VHB   |    |   |      |    |    |    |   |   |   | ٠ |
| Voith Turbo                                   |    |   | -    | æ  |    |    |   |   |   |   |
| Vossloh North America                         |    |   |      |    |    |    |   | ٠ |   |   |
| Wabtec Corp.                                  |    |   |      |    |    |    |   | ٠ |   |   |
| Wago Corp.                                    |    |   |      |    |    |    |   | • |   |   |
| Wave Inc.                                     |    |   | •    | c. |    |    |   |   |   |   |
| Wendel  | •  |   | •    | •  |    |    |   |   |   |   |
| Westcode Semiconductors                       |    |   |      | •  |    |    |   | • |   |   |
| Westermo Data Communications                  |    |   |      |    |    |    |   |   |   | • |
| Western Specialty Contractor                  |    |   |      | •  |    | •  |   | • |   |   |
| Western-Cullen-Hayes, Inc.                    |    |   |      | -  |    | -  |   | • |   |   |
| Westmatic Corp.                               |    |   |      | •  |    |    | • | • |   |   |
| Westport Innovations Inc.                     |    |   | •    | •  |    |    |   | • |   |   |
| Whiting Corp.                                 |    |   |      |    |    |    |   | • |   |   |
| Wheel-Check Safety Inc.                       |    |   |      | •  |    |    |   |   | • |   |
| Wi-Tronix, LLC                                |    |   |      | È  |    |    |   | • | Ě |   |
| Wilbur Smith Associates                       |    |   |      |    |    |    |   |   |   |   |
| Williams & Jensen PLLC                        |    |   |      |    |    |    |   |   | _ |   |
| Willmore Electronics Co. Inc.                 |    |   |      |    |    |    |   |   | _ | • |
| Winsted                                       |    |   |      |    | •  |    |   |   | • | • |
|   |    |   |      |    |    |    |   |   |   |   |
| Wondersign                                    |    |   | •    |    |    |    |   |   | _ | • |
| Woojin is America Inc.                        |    |   |      | •  |    |    |   |   |   | • |
| Worthington Industries                        |    |   | •    | •  |    |    |   | • |   |   |
| WSP USA                                       |    |   |      |    |    |    |   |   |   |   |
| Xentrans Inc.                                 |    |   |      |    | •  |    |   |   |   | • |
| XL Hybrids Inc.                               |    |   | •    | •  |    |    |   |   |   |   |
| Xpan Interactive                              |    |   |      |    | •  |    |   |   |   |   |
| Xplore Technologies Corp.                     |    |   | •    |    |    |    |   | ٠ | ٠ | ٠ |
| Xtralis                                       |    |   | •    |    |    |    |   |   | ٠ | ٠ |
| Young Touchstone                              |    |   | •    |    |    |    | • |   |   |   |
| Zen Industrial Services                       |    |   |      | •  |    |    |   |   |   |   |
| ZF  |    |   |      | ¢  |    |    |   |   |   |   |
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## 

## **Tweet & Retweet**



I just took a scooter to a bus stop in a cross-town pattern that otherwise can't be served well by public transit. Doing so saved me a transfer and probably about 25 minutes off of my travel time.



Our train driver in Glen Waverley stopped to not hurt a group of ducklings this morning. Delayed by ducks #Melbourne





So... can I put "always takes off backpack and moves to the back or the bus" on my resume? Because it's clearly not a skill that all commuters have. #octranspo #bussing

## FTA checks in on SoCal transit projects



► The Federal Transit Administration (FTA) took a field trip at the end of November in order to visit transit projects in southern California. The region, FTA notes, is home to many public transit agencies that are working hard to relieve traffic and serve riders, while expanding. FTA Acting Administrator K. Jane Williams visited Metrolink, L.A. Metro and capped the visit by signing a \$149-million Full Funding Grant Agreement with OCTA for the OC Streetcar project.







@BOMBARDIERRAIL

Today, we have shipped from our Kingston site the final two vehicles for the @RegionWaterloo. We are committed to have installed the specialized equipment in all 14 vehicles by the end of December, as promised. **#FLEXITY #myIONthetrain #wrLRT** 



Congrats to the grads of the Overhead Line Worker Apprenticeship, part of the VTA/ATU Joint Workforce Investment program. Learn more about their 2-year journey and what's next...







MCTS is keeping a seat open and placing a red rose on every bus from Friday, November 30 through Sunday, December 2 to honor the life of Rosa Parks and her contribution to equal rights.

MassTransitmag. com/bus/pressrelease/21034399

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