National Bus Trader

The Magazine of Bus Equipment for the United States and Canada

Volume XLV, No. 7 June, 2022

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- Are ELDs Causing Accidents?
- Charging Along the Way
- Reviewing Independent Contractor Classifications
- Where Should Regulations Come From?

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Volume XLV Number 7 June, 2022

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Federal Actions Threaten Independent Contractor Classification for Transportation "Gig Economy" Drivers (by Matthew W Daus, Esq.) 30
Noted attorney Matthew W Daus keeps us informed of current developments in the ongoing struggle between independent contractor and employee status that can impact some bus operators.

Where Should Regulations Come From? (by Dave Millhouser) 34
Dave Millhouser comments on the ongoing problem of regulations and whether they work or not. After reading this, you might want to look at the article starting on page 22 as a case in point.

Cover Photo

More and more buses and coaches are back out on the road now that the pandemic is easing. Shown here is an MCI J4500 which is still the most popular coach on the road and can be ordered with either clean diesel or battery-electric power. See page 20 for information on the newest MCI staff members. MCI.

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Equipment News

Prevost Announces a Major Electrification Program with the Support of the Government of Quebec

Prevost, part of the Volvo Group, has announced a new electrification program. Through this five-year program, Prevost will develop a new 100 percent electric coach as well as a retrofit kit to convert diesel engines into electric propulsion systems.

In support of this project, the Government of Quebec, through Investissement Quebec, will provide a forgivable loan of $15.15 million. In addition, the Ministry of Environment of Quebec will provide a $7.5 million non-repayable contribution to Prevost.

The new electric coach will offer an autonomy of 400 km. A total of 115 jobs will be created during the program, while 650 will be maintained.

"We are thrilled to be able to count on the support of the Quebec government. The coach market is looking forward to contribute to the fight against climate change, and Prevost is ready to participate and offer an electric powertrain alternative to contribute to this global transformation," said François Tremblay, president of Prevost. Tremblay added, "We are two years away from celebrating Prevost's 100th anniversary, so what better way to celebrate than by bringing sustainable innovations to the market."

François Legault, premier of Quebec, said, "This project is promising for our entire electrical industry. Our economic future depends extensively on electrification. Quebec has everything it takes to position itself at the forefront. We have everything that we need to be a leader in the green economy. Now is the time to invest to build a more prosperous, greener, prouder Quebec."

Pierre Fitzgibbon, minister of economy and innovation and minister responsible for regional economic development, said, "Our government wants to make Quebec a global transportation electrification hub. We will develop a comprehensive industry, from mineral processing to the manufacture of electric vehicles."

Benoit Charette, minister of the environment and the fight against climate change, minister responsible for the fight against racism and minister responsible for the Lavel Region, said: "We are proud to participate in this project's success, whose realization will contribute to the transportation electrification objectives set out in the 2030 Plan for a Green Economy. By fostering the development of innovative products in the electric vehicle industry, our government is showing that it is resolutely committed to the climate transition in Quebec."

Stephanie Lachance, MNA for Bellechasse and parliamentary assistant to the minister of families, said: "Hundreds of dynamic businesses such as Prevost are found throughout the Chaudière-Appalaches region. They are operating in varied industry sectors and providing thousands of high-quality jobs. Prevost will celebrate its centennial in two years and I would like to emphasize the key role that the company is playing in the region's economic development. The proposed development of a fully-electric bus will once again engender significant spinoff and job creation."

Guy LeBlanc, president and chief executive officer, Investissement Quebec, said, "The Investissement Quebec team based here and abroad has largely contributed to the realization of this important growth project for Prevost. It marks another step toward making Quebec a leader in the realm of transportation electrification and developing here cutting-edge expertise that fosters a sustainable, lower-carbon economy. This will lead to significant spinoff in the regions and in Quebec overall."

Prevost has provided coach solutions for nearly a century with an uncompromising commitment to quality, a drive for constant innovation and improvement, and dedication to safety and sustainability in every business aspect. Today, Prevost is one of North America's largest producers of premium intercity touring coaches and is the world leader in the production of high-end motor home and specialty conversion coaches. Customer support is secured via the largest service network in the motorcoach industry with 17 OEM-owned and operated service centers across North America, a specialized customer support team with more than 260 years of industry experience and 60 mobile service vans. Prevost manufacturing facilities are located in Sainte-Claire, Quebec, Canada and Plattsburgh, New York, United States.

Prevost is part of the Volvo Group, one of the world's leading manufacturers of buses, trucks, construction equipment, power solutions for marine and industrial applications, financing and services that increase customer uptime and productivity. For more information visit www.volvogroup.com.

The government of Quebec through Investissement Quebec is providing a forgivable loan of CN$15.5 million and the Ministry of Environment of Quebec will provide a CN$7.5 million contribution to Prevost to support the development of electric coaches. A resulting five-year program will develop new Prevost electric coaches as well as a retrofit kit to convert diesel buses with electric propulsion systems.

Mercedes-Benz Tourrider Wins Innovation Award

Only just launched and already award-winning at the BUS2BUS trade fair on April 27-28 in Berlin, Daimler Buses was pleased to accept the Busplaner Innovation Award 2022 for the new Mercedes-Benz Tourrider touring coach.

The Innovation Award for the Mercedes-Benz Tourrider is no coincidence. Whether design, comfort, technology, safety features, individuality or economy – the new Mercedes-Benz Tourrider is a milestone for touring coaches in North America and is packed full of innovations. Daimler Buses has developed the Mercedes-Benz Tourrider in the Tourrider Business and Premium variants especially for this market, having listened carefully to the wishes of bus operators in the U.S. and Canada.

Till Oberwörder, head of Daimler Buses, said, "We are designed to receive this first award for the new Mercedes-Benz Tourrider and would like to thank the readers of Busplanner. The Mercedes-Benz tourrider is a true U.S.-American, created with the entire global expertise of Daimler Buses."

In addition to comfort, the focus of the coach is on safety thanks to innovative assistance systems. The 360-degree camera system offers perfect all-round visibility when maneuvering and in tight spaces. The Mercedes-Benz Tourrider is also the first touring coach to feature the unique emergency braking assistance system Active Brake Assist 5 – ABA 5 for short – with pedestrian detection. Within the limits of the system, the assistance system – standard equipment in the Mercedes-Benz tourrider – is the world's first emergency braking assistant for buses and coaches to be able to carry out automated maximum full-stop braking for stationary and moving obstacles, and now also for pedestrians.

The innovations on the Mercedes-Benz Tourrider include the top Sky Panorama glass roof (optional on the Tourrider Premium) for fascinating views and optional ambient lighting in the passenger compartment. The driver of the coach can set different colors and select the light intensity to create an individual lighting mood that suits the occasion and the passengers.

Typical features for North America include a single passenger door at the front, a level floor and a passenger compartment layout with even distributed double seats and a toilet room at ground level at the rear right in the direction of travel, in the last row of seats. The safety bumpers and the split windscreen as well as the standard low arrangement of the exterior mirrors with flat lenses also meet overseas requirements.

At the heart of the drive system is the in-line six-cylinder Mercedes-Benz OM 471 – in the Mercedes-Benz Tourrider exclusively for touring coaches in North America. With a displacement of 12.8 liters, the engine delivers 336 kW (456 hp) and a maximum torque of 2300 Nm. Power is transferred by an Allison automatic transmission with torque converter.

The Mercedes-Benz Tourrider is available as a three-axle touring coach with a vehicle length of 13.72 meters (including 13.92 meter absorber bumper) in the two model variants – Tourrider Business and Tourrider Premium. In addition to design and equipment features, they differ in their height – 3.69 meters (Business) and 3.75 meters (Premium). An additional benefit is the headroom in the passenger compartment.

Toronto's TTC Awards Contracts for Up to 565 Buses to NFI

NFI Group Inc. (NFI), a leading independent bus and coach manufacturer and a leader in electric mass mobility solutions, on April 18 announced that its subsidiary New Flyer Industries Canada ULC (New Flyer) has received new firm orders from the Toronto Transit Commission (TTC) for 134 Xcelsior® 40-foot, hybrid-electric, heavy-duty transit buses, and 68 Xcelsior 60-foot hybrid-electric buses (136 equivalent units or EUs) for a total of 270 EUs. The two four-year contracts include options for up to an additional 263 40-foot, hybrid-electric buses and 100 60-foot buses, respectively. In total, NFI will add 733 EUs to its backlog from firm and option orders.

TTC is the third largest transit system in North America, delivering more than 526 million annual passenger trips through its bus, subway, streetcar and paratransit services in Toronto, Ontario. TTC currently operates the largest fleet of battery-electric buses in North America.

The buses modernize TTC's fleet and propel the agency's five-year service plan and 10-year outlook, designed to meet the growing demand for transportation in Toronto. All 202 of the buses will be equipped with BAE Systems' next-generation Modular Accessory Power System, offering lightweight modular design that ensures best-in-class performance

The new Mercedes-Benz Tourrider coach won the Innovation Award at the recent BUS2BUS trade fair in Berlin. The Tourrider coach was specifically deigned for the U.S.-American market by Daimler. It features several state-of-the-art technology items and systems to improve safety and assist the driver.

through innovative power electronics. The buses are also configured with intelligent geo-fencing technology, that through GPS navigation, will turn off the diesel engine and operate in zero-emission electric mode when entering designated areas.

In addition to the awards received and added to backlog, the 40-foot, hybrid-electric, heavy-duty transit bus contract also includes 600 options made available to other Ontario-based transit agencies. Agencies can use these additional options to make their own electric bus purchases, often in a more expedited manner than traditional procurements. As there are no defined quantities allocated to NFI, or any other original equipment manufacturer, from these additional options they are not included in backlog, and will be once a customer purchases a bus under the agreement.

"NFI's leadership in hybrid-electric mobility spans 20 years, supplying more hybrid buses in North American than any other manufacturer," said Chris Stoddart, president, North American Bus and Coach. "Our partnership with TTC started 55 years ago. Since 1968, we have delivered nearly 1,000 vehicles, including 25 battery-electric buses – making New Flyer the only provider of both hybrid-electric and battery-electric buses to TTC. With these new buses, NFI adds the ability to meet green zone regulations through intermittent zero-emission operation, and ultimately, is helping accelerate TTC's transition to zero-emission and building a more livable GTA."

New Flyer's hybrid-electric buses bridge the transition between traditional combustion engines and zero-emission propulsion, reducing NO_x emissions by up to 50 percent and particulate matter levels by up to 100 percent while also lowering fuel use and maintenance costs. For more information visit newflyer.com/hybrid.

Toronto's TTC has placed orders with New Flyer for 134 Xcelsior® 40-foot, hybrid-electric heavy-duty transit buses and 68 Xcelsior 60-foot hybrid electric buses. The contract includes options for up to 263 40-foot hybrid-electric buses and 100 60-foot buses.

Following a three-year pause, the DC Hospitality Community again celebrated DC Loves Buses day on May 12. The event shows appreciation for motorcoach drivers who bring bus tours and charters to Washington, D.C. This photo was taken in front of the Lincoln Memorial.

NFI is a leader in zero-emission mobility, with electric vehicles operating (or on order) in more than 80 cities in five countries. NFI offers the widest range of zero-emission battery and fuel cell-electric buses and coaches, and its vehicles have completed more than 50 million EV service miles.

Today, NFI supports growing North American cities with scalable, clean and sustainable mobility solutions through a four-pillar approach that includes buses and coaches, technology, infrastructure and workforce development. NFI also operates the Vehicle Innovation Center (VIC), the first and only innovation lab of its kind dedicated to advancing bus and coach technology and providing workforce development. Since opening in late 2017, the VIC has hosted more than 300 interactive events, welcoming 5,000 industry professionals for EV and infrastructure training.

New Flyer is North America's heavy-duty transit bus leader and offers the most advanced product line under the Xcelsior® and Xcelsior CHARGE® brands. It also offers infrastructure development through NFI Infrastructure Solutions™, a service dedicated to providing safe, sustainable and reliable charging and mobility solutions. New Flyer actively supports more than 35,000 heavy-duty transit buses (New Flyer, NABI and Orion) currently in service, of which 8,600 are powered by electric motors and battery propulsion and 1,900 are zero-emission. Further information is available at www.newflyer.com.

DC's Hospitality Community Joins to Thank Motorcoach Bus Drivers

After a three-year hiatus, Destination DC (DDC), the official destination marketing organization for Washington, D.C. on May 12 celebrated DC Loves Buses Day. The event showed appreciation for motorcoach drivers who bring group travelers to Washington, D.C.'s attractions and National Mall, contributing to the overall local economy through tourism.

The campaign was designed to welcome and thank group tour operators and bus companies for making Washington, D.C. one of the top group tour destinations in the U.S. DDC, the District Department of Transportation, National Park Service, National Mall and Memorial Parks, Union Station Parking Garage, America Bus Association,

National Tour Association, Student & Youth Travel Association, International Motorcoach Group and the United Motorcoach Association were among the hospitality partners involved.

"As group travel returns to Washington, D.C., we know the important role motorcoach drivers play in helping move groups around our great city and also driving the local economy," said Elliott L. Ferguson II, president and CEO of Destination DC. "Today we celebrate and thank the motorcoach drivers – the unsung heroes who bring the business to our city and have helped make DC one of the top group tour destinations in the nation."

DDC and partners will personally thank motorcoach drivers at key locations in the city including Union Station Parking Garage and bus parking areas around the National Mall and L'Enfant Plaza. As a thank you to drivers, teams made up of participants of DDC member organizations, provided 150 lunches donated by Hard Rock Cafe and gift bags, and communicated the latest regulations and important industry and safety updates. Those bus drivers following the anti-idling laws were included in a prize drawing sponsored by DDOT and the winners received a voucher for a free meal donated by Potbelly.

Group travel is an important segment of tourism to Washington, D.C. and DDC helps operators with unique itinerary options, activities and resources for planning group and student trips to the nation's capital. In 2019, D.C. had record visitation, reaching 24.6 million visitors. As tourism recovery continues, several of the city's group tour attractions have reopened for the first time since early 2020, including U.S. Capitol and White House tours.

Coach Atlantic Maritime Bus recently signed a contract for 50 Prevost H3-45 coaches over a period of five years. The contract signifies the restart of the motorcoach industry in Canada following the pandemic. Coach Atlantic Maritime has 515 employees and operates from three locations. The new Prevost coaches will be used for multi-day tours and long-distance trips.

Coach Atlantic Maritime Bus Signs Contract for 50 Prevost Coaches

Prevost customer Coach Atlantic Maritime Bus, a leading provider of passenger transportation in Eastern Canada, has signed a contract for 50 Prevost H3-45 coaches over the next five years. The commitment signifies a strengthened partnership between the two companies and the much-anticipated restart of the motorcoach industry in Canada following significant impact due to the pandemic.

"Both of our companies are truly committed to the bus industry," said Mike Cassidy, owner of Coach Atlantic Maritime Bus. "We believe in 2022 and the future. Covid slowed us down but did not stop us.This shows good business and strong relationships prevail."

With three locations on the East Coast and 515 employees, Halifax, Nova Scotia, Moncton, New Brunswick and Charlottetown Prince Edward Island, Coach Atlantic Maritime Bus is the second-largest, family-owned and operated motorcoach transportation company in Canada. The group boasts "the most diverse fleet in the Maritimes" and offers transportation to meet their customers' unique needs. Coach Atlantic Maritime Bus provides services to the following markets: intercity line run services, group charters, multi-day tours, cruise ship shore excursions, municipal transit and school bus routes.

"Prevost has a strong team of professionals supporting a quality-built product," said Matthew Cassidy, president of Coach Atlantic Maritime Bus. "This allows operators like us to provide safe, reliable, comfortable service to our customers."

Over the next five years, the 50 new Prevost H3-45s will be integrated into Coach Atlantic Maritime Bus's premium fleet primarily used for multi-day tours and long-distance trips. The coaches will be equipped with the new Cloud One seating, which is exclusive to Prevost, as well as the standard safety options and expansive support network Prevost is known for.

"We are excited for the future and grateful for the Coach Atlantic Maritime Bus team's confidence in Prevost," said Francois Tremblay, president of Prevost. "We're looking forward to continued growth and seeing these new H3-45s with the Coach Atlantic Maritime Bus brand on them.

In preparation for the first delivery, the vehicles are already in production at the Prevost manufacturing plant in Ste-Claire. "Prevost employees always take great pride in the quality of their work," said Serge Gonthier, Prevost regional sales manager. "But when they have the opportunity to work on a local order like this one, there is a little something added to their pride. "Those in the Maritimes can expect to start seeing the Coach Atlantic Maritime Bus-branded Prevost coaches on the road as early as June 2022.

Idaho's Mountain Rides Orders Seven More Zero-Emission Buses from NFI

NFI Group Inc. (NFI), a leading independent bus and coach manufacturer and a leader in electric mass mobility solutions, on April 21 announced that its subsidiary New Flyer of America Inc. (New Flyer) has received a new contract from Mountain Rides Transportation Authority (MRTA) for seven battery-electric, zero-emission Xcelsior CHARGE NG™ 35-foot, heavy-duty transit buses. This contract includes one ABB 150kWh depot charger from NFI Infrastructure Solutions™ and follows an order for four Xcelsior CHARGE® buses delivered to MRTA in 2021.

Mountain Rides Transportation Authority in Idaho has recently ordered seven more zero-emission buses from NFI. These buses are battery-electric Xcelsior CHARGE NG™ 35-foot, heavy-duty transit buses. Also included in the order is an ABB 150kWh depot charger from NFI.

MRTA provides a full range of public transportation services in Blaine County, Idaho, delivering more than 600,000 annual rides.

Supported by Federal Transit Administration (FTA) funds, the order accelerates progress on MRTA's fleet electrification goal of a 100 percent electric fleet by 2030. Through this order, MRTA also delivers on its commitment to provide safe and environmentally sustainable transportation, and to reduce the carbon footprint in Blaine County.

NFI is proud to accelerate MRTA's transition to zero-emission with four-pillar mobility solutions, including our high-performance electric buses and full-suite infrastructure support," said Chris Stoddart, president, North American Bus and Coach, NFI. "By leveraging New Flyer's advanced bus technology and extensive experience in charging infrastructure, MRTA will deliver cleaner, quieter mobility while mitigating the negative effects of climate change."

Introduced in 2021, the Xcelsior CHARGE NG bus incorporates three distinct technology advancements, including high-energy batteries that extend range up to 13 percent, advanced protective battery packaging for easy install and simpler serviceability, and a new lightweight electric traction drive system with up to 90 percent energy recovery. For more information, visit newflyer.com/ng.

New Flyer's zero-emission deployments are supported by NFI Infrastructure Solutions™, providing safe and reliable infrastructure services for smart, sustainable mobility projects with more than 275 charters installed to date. For more information visit nfigroup.com/IS.

NFI is a leader in zero-emission mobility, with electric vehicles operating (or on order) in more than 80 cities in five countries. NFI offers the widest range of zero-emission battery and fuel cell-electric buses and coaches, and its vehicles have completed more than 50 million EV service miles.

Today, NFI supports growing North American cities with scalable, clean and sustainable mobility solutions through a four-pillar approach that includes buses and coaches, technology, infrastructure and workforce development. NFI also operates the Vehicle Innovation Center (VIC), the first and only innovation lab of its kind dedicated to advancing bus and coach technology and providing workforce development. Since opening late 2017, the VIC has hosted more than 300 interactive events, welcoming

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ZF Presents New Collision Mitigation System for City Bus Applications

ZF on April 25 announced that it is set to launch a pioneering Collision Mitigation System (CMS) for city buses. Offering active braking to help avoid frontal collisions with other road users, including vehicles, bicycles and pedestrians, the system also helps counter the adverse impact of braking momentum on passengers. Helping reduce the risk of accidents and injuries both inside and outside of the bus, the solution is the industry's first Original Equipment Manufacturer (OEM) independent CMS specifically engineered for city bus applications. The system is compatible with both electric and internal combustion engines. Having already secured business wins from leading bus OEMs, ZF will initially launch its City Bus CMS in Europe and, ultimately, plans to roll the system out worldwide.

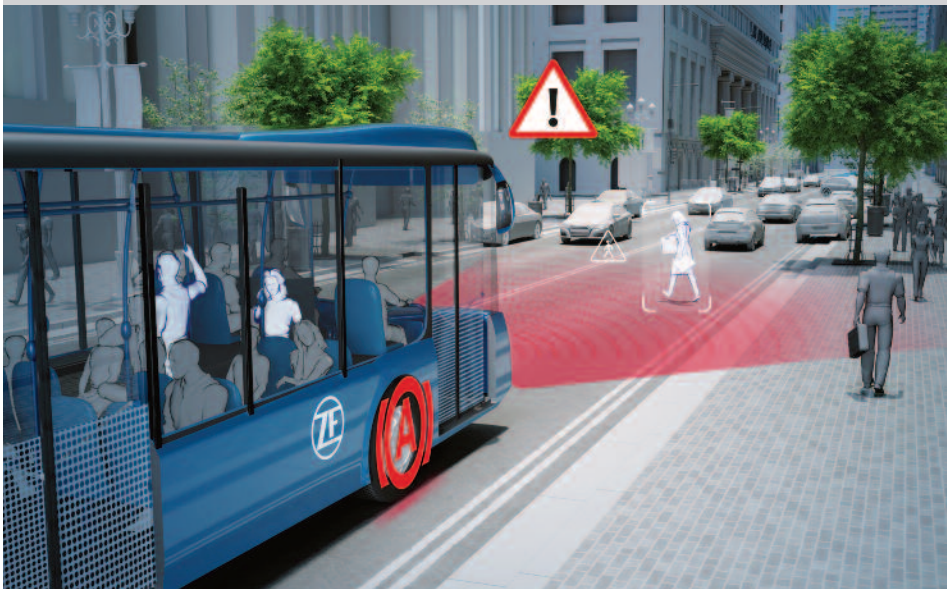
"Leveraging ZF's wide-ranging competencies to develop a pioneering solution connecting radar and camera with a central processing unit and braking system, City Bus CMS represents a clear proof point of the Group's Next Generation Mobility strategy," said Philipp Helmich, head of Vehicle Dynamics Product Lines with ZF's Commercial Vehicle Solutions division. "The system addresses the clear and pressing demand from manufacturers and their customers for ever-higher levels of safety in city traffic."

"In addition to providing advanced, integrated safety for road users as well as the driver and passengers of both electric and traditionally fueled buses, we are extending ZF's Advanced Driver Assistance Systems leadership in trucks and coaches to the important city bus market segment. Utilizing advanced braking system technology is fundamentally important for safety and autonomous driving, with complex city bus applications providing an interesting and valuable use case," added Helmich.

Offering significant value for OEMs and fleet customers, ZF's city bus CMS represents a major step in enhancing bus safety for passengers and road users alike. Helping mitigate hazardous traffic solutions in the complexity of an urban environment requires sophisticated situational analysis, including advanced object detection and classification. Building on ZF's extensive safety systems expertise, ZF's City Bus CMS draws on its latest OnGuardMAX technology for heavy trucks – with specific features and functionalities that are tailored to city bus applications. Combining the data from its state-of-the-art camera and radar provides continuous analysis of the traffic situation. If an impending collision is detected, the system can issue a Forward Collision Warning (FCW) and automatically apply the brakes to help mitigate or avoid an accident.

Combined with ZF's advanced braking capabilities that are precisely calibrated with the vehicle's speed and weight, the adverse effects of sudden braking on passengers can also be minimized. With seamless interaction between ZF's ADAS and braking system, brake pressure is carefully applied across the braking cascade making passengers less likely to be jolted and put off-balance.

ZF is launching a pioneering Collision Mitigation System for city buses. The system is compatible with both electric and internal combustion engines. Known as the City Bus CMS, the system integrates radar and camera with a central processing unit and braking system.



Launched on January 1, ZF's Commercial Vehicle Solutions (CVS) division has a mission to help shape the future of commercial transportation systems by being the preferred global technology partner to the commercial vehicle industry. Employing approximately 25,000 people across 28 countries, the division powerfully combines ZF's commercial vehicle systems expertise, extensive technology portfolio and global operations, to innovate and supply components and advanced control systems for increasingly autonomous, connected and electrified (ACE) vehicles. ZF CVS division unites ZF's former Commercial Vehicle Technology and Commercial Vehicle Control Systems divisions, the latter being formed following ZF's acquisition of WABCO in Spring 2020.

Nova Bus Wins an Important Bid From the New York MTA

Nova Bus, member of the Volvo Group and a leading North American transit bus manufacturer, has announced it has won a bid to deliver 135 40-foot transit buses to the New York State Metropolitan Transportation Authority (MTA). The MTA Selection Committee unanimously recommended an award of the buses to Nova Bus based on evaluation criteria such as overall project cost, delivery, as well as overall quality of proposer and product. Deliveries are expected to start in the fourth quarter of 2022 and will be completed by the second quarter of 2023. The buses will be assembled at the Nova Bus facility in Plattsburgh, New York State.

MTA operates the largest public transportation agency in North America and one of the largest in the world. It operates 5,927 vehicles in its bus fleet, all 100 percent accessible to riders with disabilities and serves 234 local bus routes, 20 Select Bus Service routes and 73 express routes in the five burroughs.

"Nova Bus is a national innovator in sustainable transportation initiatives and a major source of new, cutting-edge local jobs," said Senator Dan Stec. "This contract with the MTA is a major win for our region and establishes Nova Bus and the City of Plattsburgh as key hubs for economic opportunity and potential in New York State."

"We can all be extremely proud of the success of our Quebec icons internationally," declared Martine Hébert, Quebec delegate general in New York. "As such, Nova Bus illustrates both the excellence of Quebec innovation and the contribution that our companies can make to our respective economies. It also reminds us that a lot of

work is required to achieve such success. On behalf of the Quebec Government Office in New York, I would like to congratulate all the teams involved in this project. Quebec is very fortunate to have such an international presence and we intend to continue every day to better support our businesses and promote Quebec expertise."

"We are thrilled about this renewed trust in our long-standing partnership with the MTA," said Martin Larose, president of Nova Bus. "This award for delivering 135 buses to its fleet is a true testament to our tireless efforts to provide high-quality products and exceptional service to transit agencies across North America. We are especially proud of the positive impact this order will have on the region, as these buses will be made by New Yorkers for New York riders."

Nova Bus is a leading provider of sustainable transportation solutions n North America. Its portfolio includes electric and hybrid buses, high-capacity vehicles and integrated intelligent transport systems. As part of its Electro Mobility strategy, Nova Bus is moving forward with the electrification of key vehicle components to reduce fuel consumption and emissions. Nova Bus is part of the Volvo Group.

East Troy Electric Railroad Celebrating 50 Years

The first electric tourist trolleys left from East Troy on May 27, 1972. Fifty years later, the first trains of the 2022 regular season are ready to roll in East Troy. The trains travel along a seven-mile railroad line between East Troy and Mukwonago, with a stop at the Elegant Farmer along the way.

"This year will be special for our volunteers and a great time for people to come out to ride our trains," said Ryan Jonas, president of the East Troy Railroad Museum. "When you take a ride on our trains, you'll hear about the history of the electric railroad line, which has been in continuous use since 1907. This year you'll also hear about the hundreds of volunteers and what they have done to maintain this railroad and restore its trolleys, streetcars and interurban cars for 50 years. It really is an amazing story."

Tickets for the regular trains are available in advance at www.easttroyrr.org. Walk-up tickets can be purchased on a space-available basis. Please arrive early and pick up your tickets in the depot before boarding. Facemasks are optional at this time.

The Dinner Train season started rolling on May 7 followed by 16 more Dinner Train departures through the fall. The popular Sunday Brunch trains are back, with departures starting June 12. For more information and to purchase dining event tickets, visit www.easttroyrr.org/dining-service.html.

The Pennsylvania Bus Association is celebrating its 100th anniversary in 2023. Founded in 1923, the non-profit organization continues to serve bus operators with networking, meetings and other support.

Pennsylvania Bus Association Turning 100 in 2023

Pennsylvania Bus Association is celebrating a milestone in 2023; the Association will mark their 100th Anniversary.

Founded in 1923, Pennsylvania Bus Association (PBA) has functioned without interruption and with an unrelenting commitment to the safety of the traveling public and the economic well-being of its member companies.

A celebration is planned for PBA's Annual Meeting & Conference in June 2023. There will be smaller celebrations kicking off at the June 2022 Annual Meeting & Conference in State College, hosted by Happy Valley Adventure Bureau.

Several logos created earlier this year were shared with the membership to choose. The logo with the most votes was unveiled in October at the Annual Member Meeting & Conference in Bethlehem, Pennsylvania. A committee of volunteers will start to meet monthly in January. They have already decided on a social media tag to use for promotion of the anniversary: #PBArollsinto100.

PBA members took time to share their thoughts on PBA's centennial milestone:

John Henry, vice-president of business operations for PBA founding member the Martz Group: "Pennsylvania Bus creates a real sense of community within our industry. The information and networking PBA provides has helped further our company for generations. Our founder, Frank Martz, helped establish BPA and would be proud of its current leadership and value to our industry. Congratulations on celebrating 100 years.

Alison Sherman, president of Klein Transportation and BPA Board member: "I have

The East Troy Railroad, a popular stop for bus tours and charters, reached its 50th anniversary in May of 2022. Its seven-mile electric railway between East Troy and Mukwonago, Wisconsin is the last operating segment of the large Milwaukee Electric interurban system that radiated out of Milwaukee in several directions. Shown here is one of the early Milwaukee Electric interurban cars in East Troy in 1911.

the pleasure of being the third generation from my family's motorcoach company to serve on the board of PBA. This organization does amazing things through advocacy and by facilitating the connections that help us thrive as an industry and I am proud to be part of it."

Sandy Borowsky, vice-president of tours and marketing at Starr Tours and PBA Board member: "Running a motorcoach and tour company these days is certainly no easy feat. That's why PBA is so important to us. Having an organization like PBA that provides support, information and a connection to all our industry friends is critical to our success. We're thrilled to be able to celebrate PBA's 100th anniversary and looking forward to many more successful years."

PBA is a nonprofit organization dedicated to representing the business and governmental interests of private bus companies operating in Pennsylvania. PBA is committed to addressing the needs and issues of the motorcoach industry.

The membership includes motorcoach operators, companies servicing the industry and travel suppliers, all working together to build their businesses. Governmental affairs, advocacy, travel and tourism marketing, education, safety and communication constitute the major areas of involvement for this, one of the oldest public passenger transportation associations in the United States.

The motorcoach, travel and tourism industry create jobs nationwide, provides access for communities and contributes to environmental sustainability. PBA strives to provide members with information to further their businesses and create opportunities for industry connections. A few of the annual events promote education and community among members:

- PBA's Marketplace provides bus operators, tour planners and group leaders the valuable opportunity to gain experience about exciting new attractions and explore favorite destinations for group travel.

- PBA's annual meeting is an industry-wide event devoted to education, business interaction and social networking. A key component of the event is highlighting the geographical area so that motorcoach operators will return with groups to enjoy a new travel opportunity. The date and location for 2022 Annual Meeting is June 19-21 in State College, Pennsylvania.

- PBA's Motorcoach Safety and Preparedness Workshop not only provides employees of motorcoach companies an opportunity to gain experience about safety-related issues, but it also establishes a working relationship with the enforcement community so that everyone involved in safety, works together. Communication to understanding safety measures is the key to providing motorcoach customers with the necessary assurances the industry demands.

The 2022 date is still to be determined, but it occurs annually in August.

For more information visit www.pabus.org or contact the executive director, Patricia Cowley, at director@pabus.org.

Ohio's COTA Orders Eight More Battery-Electric Buses from NFI

NFI Group Inc.(NFI), a leading independent bus and coach manufacturer and a leader in electric mass mobility solutions, on May 3 announced that the Central Ohio Transit Authority (COTA) has exercised options for eight battery-electric Xcelsior CHARGE NG™ 40-foot, heavy-duty transit buses from its subsidiary New Flyer of America Inc. (New Flyer). The order comes in the final year of a two-year contract originally announced in 2020, and includes four ABB depot charters from NFI Infrastructure Soltuions™ to support the deployment.

Supported by Federal Transit Administration (FTA) funds, the order expands COTA's zero-emission fleet to 10 New Flyer electric buses and delivers on the agency's five-year strategic plan to improve customer experience and COTA"s sustainability goal to be diesel-free by 2025.

COTA provides public transit in the greater Columbus and central Ohio region, delivering more than 19 milion passenger trips in 2019. In 2020, COTA received its second Outstanding Public Transportaton System Achievement Award from the American Public Transportation Association.

"Since 2001, NFI has delivered more than 165 transit busts to COTA. We are now enabling its transition to zero-emission with high performance buses and infrastructure," said Chris Stoddart, president, North American Bus and Coach. "Our Xcelsior CHARGE NG is our most advanced EV featuring alightweight traction system, offering extended range and incorporating up to 525kWh of power. Our mobility solutions are truly leading the "ZEvolution" – and COTA is at the forefront of North America's transition."

Introduced in 2021, the Xcelsior CHARGE NG bus incorporates three distinct technology advancements, including high-energy batteries that extend range up to 13 percent, advanced protective battery packaging for easy install and simpler serviceability and a new lightweight electric traction drive system with up to 90 percent energy recovery. For more information visit newflyer.com/ng.

New Flyer's zero-emission deployments are supported by NFI Infrastructure Solutions, providing safe and reliable infrastructure services for smart, sustainable mobility

Ohio's Central Ohio Transit Authority in Columbus recently ordered eight more battery-electric buses from NFI. COTA exercised options for eight more battery-electric Xcelsior CHARGE NG™ 40-foot, heavy-duty transit buses from New Flyer. In addition, the order includes four ABB depot chargers from NFI Infrastructure Solutions™.

projects with more than 275 chargers installed to date. For information visit nfigroup.com/IS.

NFI is a leader in zero-emission mobility, with electric vehicles operating (or on order) in more than 80 cities in six countries. NFI offers the widest range of zero-emission battery and fuel cell-electric buses and coaches, and its vehicles have completed more than 65 million EV service miles.

Proterra Introduces ZX5 Electric Bus with 738 Kilowatt Hours of Energy

Proterra Inc., a leading innovator in commercial vehicle electrification technology, on April 14 announced that it is increasing the amount of energy onboard its purpose-built ZX5 electric transit bus – delivering more battery storage to help transit agencies scale zero-emission bus fleets with electric vehicle technology.

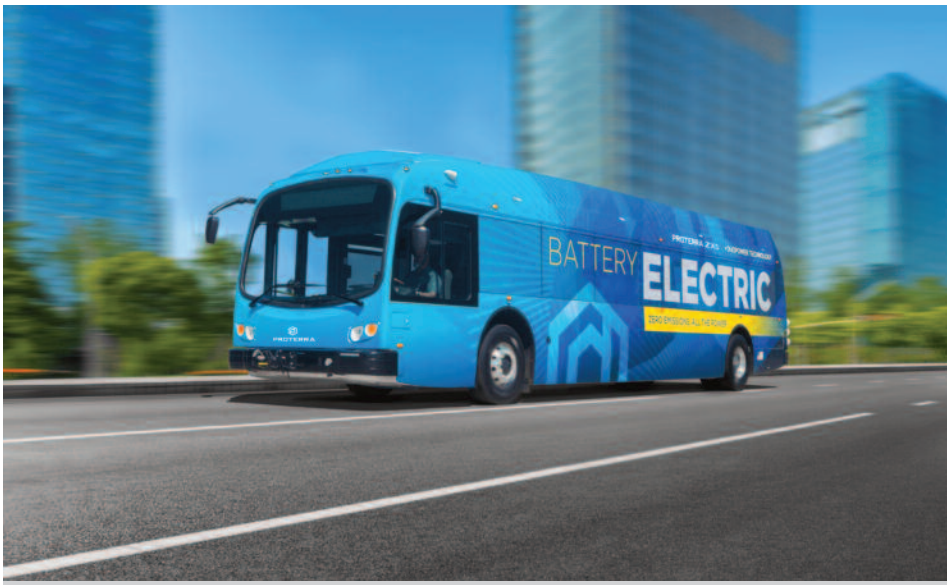
Starting in 2023, the 40-foot Proterra ZX5 Max electric transit bus can be equipped with up to 738 kilowatt hours (kWh) of onboard energy. Through this enhancement, Proterra transit buses now feature the most energy storage of any 40-foot electric bus available in the North American market. With 738 kWh of battery energy storage, the ZX5 Max can deliver more than 300 miles of drive range on a single charge, depending on route conditions, configuration and operation.

In addition, the 35-foot and 40-foot ZX5+ electric bus models can be equipped with up to 492 kWh of onboard energy for routes with less demanding range requirements.

Designed and manufactured in the United States, Proterra's electric transit buses are equipped with the company's Proterra Powered battery technology systems. By increasing the amount of onboard energy from the ZX5's original energy levels, the announcement reinforces how Proterra is continually innovating on its best-in-class battery technology to deliver industry-leading EV solutions for the commercial vehicle market.

With more energy onboard, combined with Proterra's refined composite bus body design, the Proterra ZX5 is designed for optimal performance to tackle the toughest transit routes and extreme weather conditions, including cold weather climates.

"With historic support behind zero-emission transit, North America is ready to go all-in on electrifying transportation and Proterra technology is here to meet the moment. As public transit accelerates towards zero-emission transportation, we're excited to bring more energy and innovation to our industry-leading ZX5 electric transit bus to help drive this critical transformation," said John Walsh, Proterra's chief commercial officer.



On April 14, Proterra announced that it has increased onboard energy on its ZX5 electric transit bus to 738 kilowatt hours of energy. This will increase driving range to around 300 miles on a single charge, depending on route conditions, configuration and operation. Buses with the increased onboard energy will be available in 2023.

Proterra Powered's battery platform leverages industry-leading energy density manufactured for maximum range, a customizable design to fit within a variety of vehicles and a ruggedized commercial grade housing to withstand harsh environments.

Proterra's battery systems have been proven through more than 25 million service miles driven by Proterra Transit vehicles and selected by world-class commercial vehicle manufactures to power zero-emission electric delivery vehicles and work trucks, semi-trucks, construction and mining equipment, school and coach buses and low-floor cutaway shuttles.

Vicinity Motor Corp. Announces Pacific Islands Distribution Agreement with Soderholm Sales & Leasing in Hawaii

Vicinity Motor Corp., a North American supplier of commercial electric vehicles, on April 26 announced that it has signed a non-exclusive distribution agreement with Soderholm Sales & Leasing Inc. (SSL), a full-service bus dealer in Hawaii and the Pacific islands region, to offer the company's Vicinity Lightning™, Vicinity Classic and VMC-Optimal vehicles, including an initial commitment for four demo and stock buses.

Founded in 1989, Soderholm Sales & Leasing Inc. is a woman- and multigenerational, family-owned and operated company – acting as the only fully licensed, full-service bus dealer in Hawaii and the Pacific. The company's product mix includes new and used, small and mid-sized buses,full-sized motorcoaches, school buses,vans, trams and trolleys. Located on Oahu, SSL serves the State of Hawaii and is the largest dedicated bus dealer in the U.S. South Pacific servicing 28 islands including Guam, Saipan and American Samoa.

Under the new agreement, SSL will distribute Vicinity vehicles throughout Hawaii. The Vicinity line adds to the SSL's growing portfolio of traditional and electric vehicles. The agreement includes a commitment to four stock and demonstration vehicles – including two VMC Optimal S1 vehicles, one Vicinity Classic bus and one Vicinity Lightning bus.

"Hawaii is uniquely positioned for vehicle electrification with a geography that enables a broad spectrum of sustainable power generation technologies including solar, wind, geothermal, hydro, ocean, biomass and biofuels," said William Trainer, founder and CEO of Vicinity Motor Corp. "SSL's significant experience in sustainable and electric vehicles began with fuel cell buses and the company is now ramping its electric options as the Hawaii government has made great inroads in increasing the amount of locally-produced renewable energy. With a goal to generate 100 percent clean energy by 2045, we believe Hawaii as well as the Pacific region are poised to become leaders in the tran-

sition to electrifying public and private fleets."

Gabi Soderholm of SSL commented, "As the state and private fleets strive to meet new sustainability goals, we look forward to offering VMC's unique portfolio to our base of satisfied customers. Their full range of solutions gives customers a way to provide transit options that are both sustainable and accessible to all citizens, and we look forward to supporting new, more sustainable ways to move the people of Hawaii."

ZF Celebrates 500,000th TraXon Transmission System Produced in Friedrichshafen

ZF's Commercial Vehicle Solutions (CVS) division has announced a major global production milestone with its leading TraXon transmission system for truck and coach applications. Half a million TraXon systems have no been manufactured in Friedrichshafen alone since production began there in 2014. A successful product for commercial vehicles, TraXon's volume production further underlines vehicle manufacturers' and fleet operators' trust in the company's advanced systems expertise.

"Having begun production in Friedrichshafen in 2014, TraXon is now a globally produced success story offering next level transmission efficiency standards. Passing the half-million systems mark is just one of our production facilities is a powerful achievement which further underlines ZF's global technology systems leadership," said Winfried Gründler who is responsible for the driveline systems product line with ZF's Commercial Vehicle Solutions division. "Light, strong and intelligent, TraXon's groundbreaking technology is supporting growing worldwide customer demand for efficient systems and helping ensure they have the most advanced trucks on the road."

As a comprehensive supplier of intelligent mechanical systems, combining our deep transmission expertise as well as our advanced digital capabilities will ensure that vehicle manufacturers and fleet operators continue to gain real added value with TraXon, now and in the future," added Gründler.

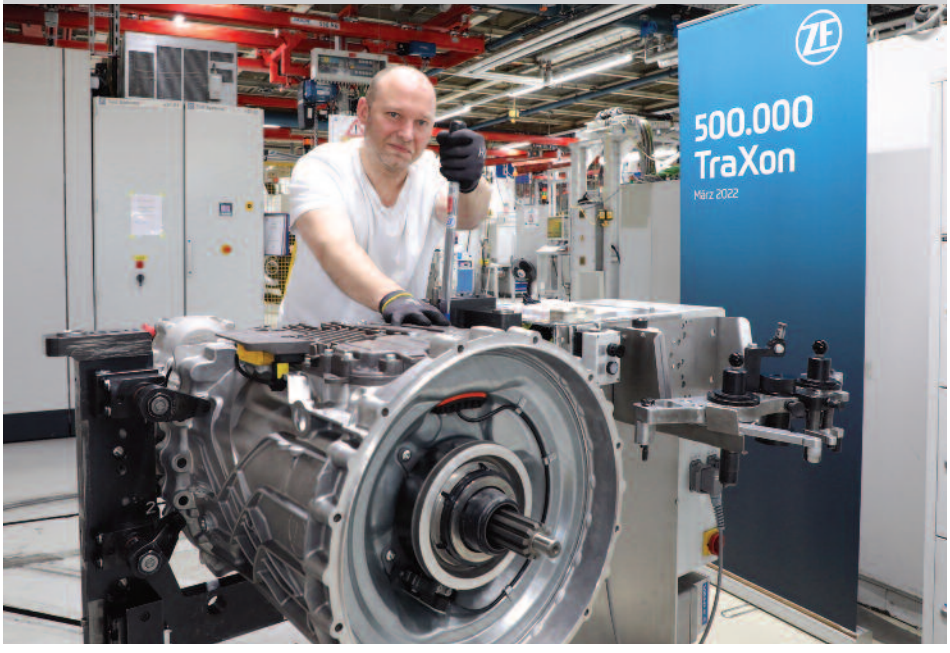
The transmission system offers many technological advantages such as top-level efficiency of up to 99.7 percent, lower fuel consumption, as well as strong design quality and reliability. In addition, it features ZF's innovative PreVision GPS shifting strategy for high energy savings. With these features, the Traxon Automated Manual Transmission (AMT) system delivers energy efficiency and value in terms of TCO (total cost of ownership). Its digitalized package also enable predictive maintenance. Compared to a manual transmission, TraXon can thus reduce consumption by up to eight percent.

As a result of these benefits, TraXon has secured several awards during production. This includes recently achieving the prestigious Reliable and Efficient Transmission System 2022 Award at the Seventh Discover Trust awards ceremony in China. TraXon has also been recognized multiple times as a "Best Brand" by the readers of Germany's ETM publishing house.

Supporting many of the world's leading Original Equipment Manufacturers (OEMs), TraXon is manufactured in Friederichshafen (Germany, Jiaxing (China) and Sorocaba (Brazil). The plants work closely together, with re-assembled transmissions from Friedrichshafen delivered, for example, to China where demand is strong and TraXon is helping ZF gain market share. In addition, a new assembly line for TraXon has recently commenced operation at ZF's Sorocaba facility in Brazil. Providing flexibility to meet customer demand, it offers state-of-the-art production processes and rigorous testing to ensure the highest quality standards are maintained as well as providing global manufacturing flexibility.

Launched on January 1, 2022, ZF's Commercial Vehicle Solutions (CVS) division has a mission to help shape the future of commercial transportation systems by being the preferred global technology partner to the commercial vehicle industry. Employing approximately 25,000 people across 28 countries, the division powerfully combines ZF's commercial vehicle systems expertise, extensive technology portfolio and global operations, to innovate and supply components and advanced control systems for increasingly autonomous, connected and electrified (ACE) vehicles. ZF CVS division unites ZF's former Commercial Vehicle Technology and Commercial Vehicle Control Systems divisions, the latter being formed following ZF's acquisition of WABCO in Spring 2020.

ZF announced that it has now produced its 500,000th TraXon transmission at its Friedrichshafen plant. The TraXon transmission, popular with commercial vehicles, was first put into production at Friedrichshafen in 2014. To meet orders, ZF's TraXon transmission is also built in Jiaxing, China and Sorocaba, Brazil.



NFI Celebrates Earth Day

NFI Group Inc. (NFI), a leading independent bus and coach manufacturer and a leader in electric mass mobility solutions, celebrated Earth Day 2022 on April 22.

For decades, NFI has been leading the evolution to zero-emission transportation, the ZEvolution. In 2021, NFI introduced six new zero-emissions buses and coach (ZEB) models to its electric vehicle (EV) lineup, and the company has ZEBs operating (or on order) in more than 80 cities in five countries. In 2021, NFI delivered 661 equivalent units (EUs) of ZEBS; in 2022, it is expected that 20 to 25 percent of the company's annual production will be ZEBs, growing to approximately 40 percent by 2025. Since 2015, NFI has delivered 2,032 EUs of ZEBs to its customers around the globe.

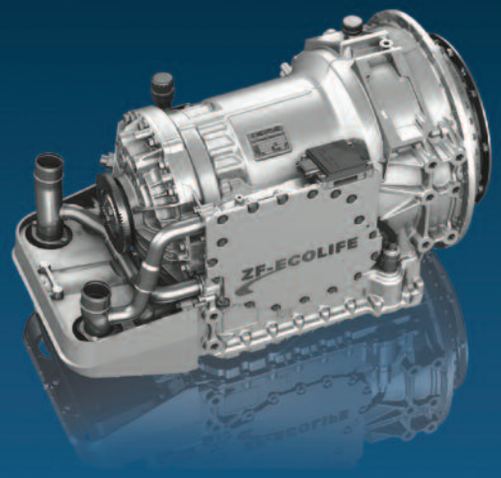
"NFI exists to move people. Each and every day, in partnership with our customers and industry partnerships, we move millions of people around the world.

Systematic Perfection!

ZF EcoLife transmission for your conventional driveline needs...
Now available for coach applications and with Start/Stop capability.

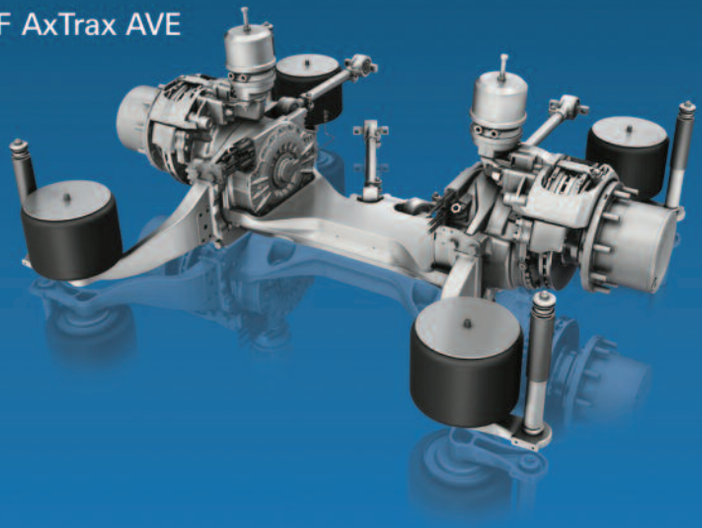
And the new ZF CeTrax central drive system for your electric driveline. The electric driveline is here to stay. That's why ZF offers a range of solutions including the AxTrax AVE electric drive axle so bus manufacturers and end customers can choose the best possible system for the specific applications. **Visit zf.com**

ZF Ecolife



ZF CeTrax

ZF AxTrax AVE



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see. think. act.

ZF

We weave environmental, social and governance, or ESG, into the fabric of our business, and our Sustainability Pledge – to create a Better Product, Better Workplace and Better World – continues to guide our day-to-day operations and our long-term planning," said Paul Soubry, president and chief executive officer, NFI. "Today, NFI is leading the electrification of transit operations in multiple markets, including Canada, the United States, the United Kingdom and New Zealand. Our electric vehicles have collectively travelled over 65 million electric service miles, which equates to the prevention of 182,000 imperial tons of greenhouse gas (GHG) emissions from entering the environment."

The theme of Earth Day 2022 is "Invest in Our Planet," something that NFI has been doing for more than 50 years. NFI is committed to innovate in order to deliver smarter, safer, more sustainable and more connected public transportation. NFI's end products are a key driver to enable cities to lower emissions, decrease congestion and enable economic opportunity. NFI is committed to employees, customers and shareholders, while also being responsible to the environment and the communities.

"In 2021, we accelerated our company-wide sustainability strategy and roadmap, with a plan to complete our first ESG materiality assessment in 2022," said Janice Harper, executive vice president, People and Culture, NFI.

"We have a commitment to create long-term value for our stakeholders by considering their needs and expectations," said Natalia Klumper, sustainability manager, NFI. "This year we are engaging our employees, customers, suppliers, financial community and other stakeholders to understand what is most important to them, and through this process, prioritizing our most relevant ESG issues by working them into our day-to-day operations, securing our investment in our communities and planet as we transition to a green economy."

NFI celebrated Earth Day on April 22. In 2021 NFI introduced six new zero-emission buses and coach models to its electric vehicle product line. The company has zero-emission buses operating or on order in more than 80 cities in five countries.

NFI also operates the Vehicle Innovation Center (VIC), the first and only innovation lab of its kind dedicated to advancing bus and coach technology and providing workforce development. Since opening in 2017, the VIC has hosted more than 300 interactive events, welcoming 5,000 industry professionals for electric vehicle (EV) and infrastructure training.

Irizar i6S Efficient Launch

Irizar is presenting a new generation of the Irizar i6S model coach that is more efficient, sustainable and profitable.

With the new Irizar i6S, consumption and emissions have been reduced up to 13 percent, weight is down by 950 kg (2,100 pounds) and the aerodynamic coefficient is 30 percent lower. That makes it a latest generation vehicle designed to provide maximum efficiency to operators, the best experience to passengers and it emphasizes sustainability.

Excellent aerodynamic performance is the key to this new generation of coaches. Part of the front of the vehicle and roof has been modified. The curvature of the windscreen and the other front windows have also been reworked to reduce air resistance as much as possible. Furthermore, the Irizar i6S Efficient has the option to replace the rear view mirrors with digital vision cameras with the two-fold goal of providing wide-angle vision in any weather conditions. These modifications provide improvements in the driver's direct and indirect field of vision.

Irizar recently introduced a new generation of its i6 model known as the i6S Efficient. This takes the popular i6 model and enhances it with a weight reduction, emissions reduction and an improved aerodynamic coefficient. This improved model also offers new multiplexed architecture with self-diagnosis to make preventive maintenance and diagnostics easier.

Another major challenge was reducing weight. The weight of every component was analyzed and reduced. The weight of the vehicle has been redistributed with the goal of improving weight distribution. High-strength steel and lighter composite materials were used instead of traditional structural materials.

Thanks to those innovations we have been able to increase the space for passengers to improve ergonomics and comfort. We have also reduced noise and vibrations to the minimum. The cockpit has likewise been redesigned to be more comfortable and ergonomic and have a larger field of vision. The new line of Hispacold climate control devices is more compact, efficient and lighter.

The i6S Efficient is a very efficient coach that is connected, safe and designed for sustainable transport of the future. It has a new multiplexed architecture and communications protocol can give self-diagnosis services in real time. Irizar technology makes preventive maintenance and online monitoring for remote diagnostics possible. With the connectivity systems developed by Datik, all the data and usage statistics for the vehicle are stored in the cloud to maximize, profitability, optimize route planning and minimize maintenance costs.

The i6S Efficient has the most advanced active safety systems for preventing accidents. Moreover, the vehicle has a reinforced structure that improves its response to torsion, flexing and head-on collisions, also improving its passive safe. We have increased and improved the driver's field of vision. In addition, the digital camera system gives a panoramic view in all conditions and situations, even at night or in the rain. Having the electronics in the central console, the accessibility of the controls and the virtual dashboard let drivers interact with the vehicle and quickly obtain all the information they need and administer the entertainment and comfort system.

Like all Irizar buses and coaches, the i6S Efficient has been developed using the most advanced technology in design, materials, components and production processes. Fatigue and durability testing was done on it at one of the most prestigious research institutions in the world to ensure its reliability and quality.

Exhaustive aerodynamic studies and tests using simulators and measurements in real circuits have shown an exceptional 30 percent improvement in the aerodynamic coefficient and a reduction of up to 13 percent in consumption and emissions. Those demanding tests are proof of the solutions that make the i6S Efficient a market leader in consumption and sustainability.

As always at Irizar, specific demands of each market and client have been adapted. The possibility to personalize vehicles with endless configurations for either right- or left-hand driving is also offered. The i6S Efficient is prepared for diesel, biodiesel, natural gas, biogas and it is designed to be adapted to future zero-emissions models. The versions adapted to each market will be presented in every country during 2022.

Irizar is showing its firm commitment to its customers and society, to whom its products and service provide high added value while not ignoring fundamental elements ilke design, personalization, safety, reliability and sustainability.

VDL recently provided an order of eight Futura coaches to SAIS Trasporti in Sicily. Included in the order are seven Futura FHD2-129 models and one double-deck Futura FDD2-141 model. SAIS Trasporti has operated on the island of Sicily since 1926, employs a staff of 200 and is active in interregional connections between Sicily and other regions of Italy.

VDL Bus and SAIS Trasporti Continue Collaboration with Delivery of Eight Futuras

The Sicilian company SAIS Trasporti is expanding its fleet with eight Futuras from VDL Bus & Coach. The vehicles will be used for interregional transport throughout Italy. VDL and SAIS have been working together for nearly two decades. The delivery consists of seven Futuras FHD2-129 and one double-decker, Futura FDD2-141.

"We are happy to see that in still such difficult times our customers are continuing to invest in their business buying new coaches," said Massimilliano Costantini, managing director VDL Buses & Coach Italia. "The cooperation has been very good for years. SAIS relies on our Futuras because of their cost-effectiveness and the high level of comfort for the passengers. The SAIS fleet size is around 70 vehicles, including VDL Citeas and VDL mini/midi-buses and we are very proud of that."

With the increase in freedom to travel, especially for the tourism sector, there is light at the end of the tunnel again. "The coach market in Europe is showing signs of recovery," indicates Pieter Gerdingh, business manager coach of VDL Bus & Coach. "We have recently increased the production of coaches, which has enabled us to respond well to the needs and demands of the European market."

The VDL Futura range has more than proved itself in terms of reliability and cost-effectiveness. In particular, the competitive kilometer price due to the low weight and fuel consumption combined with the high passenger capacity is extremely important, especially in a time when the price of fuel is skyrocketing. The economical Euro 6 driveline is good for the bottom line and has a minimal impact on the environment.

These coaches, which VDL supplies to SAIS Trasporti, are ideally suited to making luxury journeys: comfort, safety, technology and design are perfectly matched. The high-quality technology that has proven its worth for many kilometers, combined with economical environmentally-friendly and powerful engines, ensures maximum profit of ownership.

Irizar recently provided a 45-foot i8 coach to the Odene public hospital in Denmark. Lettered as the "Blood Bus," the coach will be primarily used for blood donors when parked adjacent to the hospital. It can also operate remotely with a generator at other locations.

The interior of the coach includes a waiting area, a place where a doctor can interview participants, a kitchen area and a private area for the medical staff. Shown here is the area with the top-quality blood donor chairs with electrically adjustable positioning.

SAIS Trasporti has been active on the Italian island of Sicily since 1926. The company is also one of the most important public transport companies in the interregional connections between Sicily and other regions in Italy, starting in the 1980s. The vehicles are recognizable by their exclusive livery with five vibrant colors, from yellow to burgundy. SAIS opts for high-quality buses and coaches, produced by the leading European manufacturers. SAIS Trasporti nowadays employs around 200 people.

The core activities of VDL Bus & Coach consist of the development, manufacturing, sales and after-sales of a wide range of buses and coaches, the conversion or extension of mini and midi buses and the purchase and sales of used buses. VDL Bus & Coach consists of multiple bus companies that operate cooperatively in the global market. Manufacturing takes place in Western Europe. VDL Bus & Coach places high value on quality, safety, durability, the environment, low fuel consumption and comfort and low maintenance costs. In the transition to zero emission transport, VDL Bus & Coach offers turnkey solutions and is not only bus supplier but also system supplier.

Sales of VDL Bus & Coach products take place through a worldwide network consisting of corporate-owned sales offices, importers and agents in more than 30 countries. For after-sales and maintenance, the client can count on rapid, hassle-free assistance from VDL Bus & Coach employees in any of the many service locations. An extensive distribution network ensures that spare parts and accessories are delivered to the requested destination as quickly as possible. VDL Bus & Coach is one of the largest bus and coach producers in Europe.

The Health Sector Once Again Places Its Trust in Irizar

Flexibility, high customization and adaptability to meet the requirements of its customers have enabled Irizar to design the Blodbussen blood bus, which will be stationed at the Odense public hospital in the evenings and will visit different locations in the south of Denmark during the day to promote and facilitate blood donation in the area.

The vehicle is divided into different areas: waiting area and place to be interviewed by the doctor, donation area, kitchen area and private area for medical staff. The rear part of the vehicle has four seats for the medical team, as well as a lift for easy access to the vehicle. Top-quality blood donor chairs with electrically adjustable positioning have been installed for the comfort and convenience of donors, as well as all the equipment needed for donating blood. Four hydraulic legs have also been installed to stabilize the bus, thereby ensuring optimal working conditions for the medical team.

For daily use, the bus will be connected to the hospital electricity network or the municipal grid. For added safety, the vehicle is equipped with a generator for use in the event of a power failure or faulty connection, allowing the medical staff to continue working as normal.

Furthermore, with three operating modes, the vehicle perfectly adapts to the needs of each moment:

- Donation mode: the vehicle is connected to the electrical grid and all systems are available. In the event of a problem, the generator starts operating.
- Driving mode: the vehicle uses its normal standard system.
- Night mode: the vehicle is connected to the electrical grid, but this time with limited functions.

With the delivery of this Irizar i8 blood bus, Denmark joins the demand for this type of vehicle to be used in the health sector. In Sweden, for example, two ambulance vehicles equipped with all kinds of medical facilities are already in operation to transport patients to hospital.

Marcopolo's Generaton 8 Wins the iF Design Award 2022

Marcopolo's Generation 8 line of coaches has just won one of the most important design awards in the world, the iF Design Award 2022. The new line was chosen by an independent jury of international design experts who met to select the projects to be awarded based on five criteria (idea, form, function, differentiation and impact).

Marcopolo's Generation 8 bus project was designed to provide a new experience for both the passenger and the driver. With a clean and modern design, it has striking lines and its light set reinforces the brand's identity.

This is the second time in recent years that Marcopolo has been awarded. The other was in 2014, with the Viale BRT bus crated based on mass transport trends. Innovation, design quality, chosen materials, environmental impact, safety and accessibility were criteria that influenced in the model being selected.

For André Lucena, responsible for Marcopolo's design area, the achievement demonstrates the international vanguard of the Marcopolo bus, combining style with the functionality of the vehicle. "This award goes to our entire team that, over the last four

Marcopolo's Generation 8 line of coaches won the iF Design Award 2022. The award ceremony was held on May 16 in Berlin, Germany. Competition included almost 11,000 projects from 57 different countries.

years, has been fully dedicated to creating and designing an unprecedented and exclusive product for the segment, where through design it was possible to reinforce the identity and values of the brand," the executive emphasizes.

The award ceremony was held on May 16 in Berlin, Germany. This year, the competition had almost 11,000 projects submitted from 57 different countries that sought to receive the maximum seal of global design.

Since 1954, the iF Design Award has been recognized as one of the leading quality seals in design. The iF seal is recognized worldwide for design services with excellence, and the iF Design Award is one of the most important design awards in the world. Submission is granted for the following subjects: product, packaging, communication and service design, architecture and interiors, as well as professional concepts, user experience (UX) and user interface (UI). All awarded projects are presented at the iF World Design Guide and published in the iF design app. ❑

Bus Equipment People

Motor Coach Industries (MCI)

Motor Coach Industries (MCI), a subsidiary of NFI Group Inc. (NFI), a leading independent bus and coach manufacturer and a leader in electric mass mobility solutions, recently announced that **Brian Hill** has rejoined the organization as MCI private sector regional vice president, new and pre-owned coach sales, Midwest region.

Brian Hill

With more than 20 years of experience on the MCI sales team and based in Des Plaines, Illinois, **Hill** will be responsible for new and pre-owned coach sales to private operators in the Midwest region, including Illinois, Indiana, Ohio, Michigan, Kentucky, Tennessee and West Virginia.

"We are pleased to welcome **Brian** back to our team as he succeeds Richard DeYoung, who is set to retire in May," said Patricia Ziska, vice president of private sector sales, MCI. "**Brian's** track record demonstrates extensive expertise in the motorcoach industry, as does his unparalleled commitment to building long-lasting relationships. Leveraging this experience, **Brian** will lead our Midwest private sector coach sales and support customer needs across an expanding and market-leading product range."

Prior to rejoining MCI, **Hill's** responsibilities spanned sales, customer management, support team leadership and strategic planning. A four-time MCI sales award winner, his many accomplishments include expanding MCI's pre-owned footprint in the Southeast market and establishing long-standing partnerships with key operators across the region.

Motor Coach Industries also announced that **Allen Keith** has joined MCI as private market regional vice president for new and pre-owned coach sales in the Northeast region.

Based in Manchester, Connecticut, **Keith** is responsible for new coach and pre-owned coach sales to private operators in the Northeast region, including Maine, Massachusetts, Vermont, New Hampshire, Rhode Island, New York, New Jersey, Connecticut, Delaware, Maryland, Virginia and Washington, D.C.

"**Allen** brings a wealth of sales experience to MCI and we are thrilled to welcome him to our team. **Allen's** record of accomplishments, both corporate and personal, demonstrates his commitment to building strong relationships and customer loyalty," said Ziska, vice president, private market sales, MCI. "**Allen** will be an exceptional leader in the Northeast region, helping our private coach customers to expand and update their fleets with MCI's industry-leading products."

Allen Keith

Keith brings 13 years of sales management experience to the MCI sales team, and joins the company following six years as regional parts manager with NFI Parts™ – another NFI subsidiary.

During his career, **Keith** has excelled in developing new markets, establishing productive partnerships with coach fleet operators and helping customers navigate challenges presented by the pandemic through effective management of parts procurement and introduction of new products.

MCI's battery-electric J4500 CHARGE™ and D45 CRT LE CHARGE™ coach models are part of NFI's comprehensive zero-emission mobility offering. NFI is a leader in zero-emission mobility, with electric vehicles operating (or on order) in more than 80 cities in six countries. NFI offers the widest range of zero-emission battery and fuel cell-electric buses and coaches, and its vehicles have completed more than 65 million EV service miles.

Today, NFI supports growing North American cities with scalable, clean and sustainable mobility solutions through a four-pillar approach that includes buses and coaches, technology, infrastructure and workforce development. NFI also operates the Vehicle Innovation Center (VIC), the first and only innovation lab of its kind dedicated to advancing bus and coach technology and providing workforce development. Since opening in late 2017, the VIC has hosted more than 300 interactive events, welcoming 5,000 industry professionals for EV and infrastructure training.

ABC Companies

ABC Companies, a leading provider of transit, specialty and motorcoach sales, service and support, announced recently that **Bobby Hill** joined the Specialty Vehicles and Technology division as a strategic account executive. This role will serve the quickly growing demand for electric passenger vehicles, as ABC Companies continues to introduce a range of applications for EVs in the coach and transit market across the country.

Hill brings his 30 plus years of experience in the coach and EV industry to the rapidly developing SVT division of ABC. He has narrowed this experience into a specialization on electric vehicles and batteries over the last seven years. **Hill** is joining ABC Companies from his most recent role as vice president of sales with a leading EV battery manufacturer.

Prior to this role, he served as vice president of sales for a global commercial EV manufacturer specializing in passenger transportation. These valuable experiences provided him with a broader perspective and ultimately motivated him to return to a family-owned company. **Hill** shared in a recent interview, "The experience gained working with a multi-national manufacturer in the same markets ABC Companies is reaching today, is a unique opportunity to bring my commercial experiences to an organization which starts with the customer first and then brings the right vehicle solutions to help that customer grow.

Bobby Hill

Hill has gained experience throughout his career from all sides of the coach business. Frequent business travel aboard coaches grew into a love for the vehicles. His interest in luxury passenger coaches and travel logistics inspired him to create his own tour company. Over the years **Hill**

has owned several coach operations and takes great pride in having provided transportation during six different Olympics games. The challenge of sourcing high-quality coaches for his business led him to ABC Companies many times over the years, for the very reasons he has most recently seen within the rapidly growing EV market.

As a past client, **Hill** experienced ABC's closely held values of service and quality firsthand. The consistent and positive experience lead him to his role today as a strategic account executive.

The Specialty Vehicles and Technology division partners with more than 15 vendors to provide the best quality options on the market today. The process of integrating EVs and new infrastructure into a fleet can be intimidating amidst rapidly developing technology. ABC's Fleet Electrification Services guides owners through a formal process of vehicle selection, infrastructure installation, onboarding, performance monitoring and partner feedback to facilitate a better experience.

Proterra

Proterra Inc., a leading innovator in commercial vehicle electrification technology, on April 19 announced the appointment of **Julian Soell** as president of its Proterra Transit business unit effective May 2, 2022.

Julian Soell

As president of Proterra Transit, **Soell** will oversee Proterra's growing business as the leading manufacturer of electric transit buses in North America. In his role, **Soell** will report directly to Proterra's Chief Executive Officer Gareth Joyce.

Soell brings nearly 30 years of automotive and operational experience to Proterra and joins the company after most recently serving as chief operating officer at Repairify, a high-growth global leader in automotive service, technology and business insights solutions. Previously, he held engineering leadership roles at automotive companies including Mercedes-Benz USA and Harley-Davidson Motor Company. Outside of the automotive industry, **Soell** has also held large operational and customer service roles at Delta Air Lines.

Soell holds a Bachelor of Science in Mechanical Engineering from Lehigh University, a Master of Science in Mechanical Engineering from Ohio State University and a Master of Business Administration from the University of Michigan.

"**Julian** brings a wealth of operational and customer service experience to Proterra and we are thrilled to welcome him to our team. Public transit is at the forefront of electrification. Under **Julian's** leadership, we look forward to building on Proterra Transit's strong foundation to further scale our production and deliver industry-leading EV fleet solutions to help transit agencies achieve their zero-emission goals," said Joyce.

"I'm delighted to join Proterra at this incredibly exciting and important moment for transportation electrification. I want my kids and their kids to be able to see the world as I have or even better – with clean air, sustainable energy and a bright future for us all. I look foward to working with the Proterra Transit team, our transit agency customers and partners to advance this essential work," said **Soell.** ❑

Are ELDs Causing Accidents?

by Larry Plachno

In late 2017 the Federal Motor Carrier Safety Administration mandated electronic logging devices for truck and bus drivers to log their driving and on-duty hours. Their expectation was that by requiring better compliance with hours-of-service laws, it would reduce driver fatigue and presumably reduce accidents. However, a recent study from the University of Arkansas suggests that accidents have increased following the ELD mandate. CHAPAY.

A new study indicates that the use of electronic logging devices is attributed to increasing accidents rather than reducing them. This development was unexpected by many but predicted by a few people with industry experience. Some are suggesting that this is yet another example of how regulation by appointed officials not familiar with the industry can do more harm than good. While this situation pertains mainly to trucks, it may well eventually impact buses as the regulators look to change things in the future.

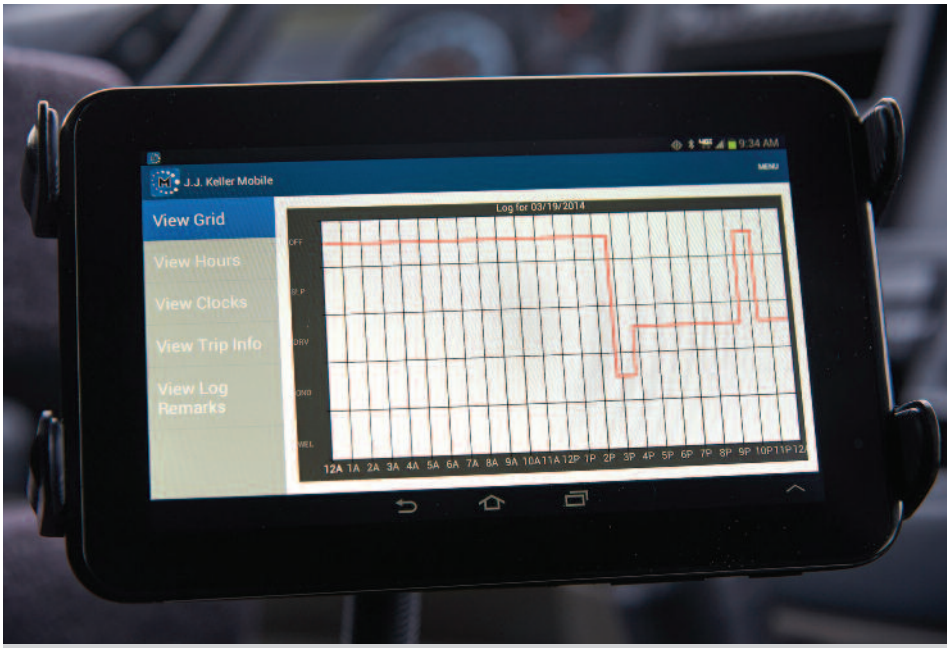
While I suspect that most of our readers are at least somewhat familiar with the regulations, it is probably a good idea to go through the basics for anyone who does not have some background in this area. Commercial vehicles in the United States operated in interstate commerce are subject to various federal regulations including safety requirements and hours-of-service (HOS) laws. The hours-of-service laws regulate how long drivers can be on duty and how long they can drive. These laws are primarily intended to improve safety by limiting the number of hours a driver can work to prevent fatigue and possible resulting accidents.

As a side note, I might mention that not everyone agrees with the hours-of-service requirements. Some people say that one

size does not fit all. There are people who can safely drive longer than others. I once drove with a bus company owner who could drive 20 out of 24 hours while seemingly remaining a safe driver; something I would never attempt. In addition, several experts in the field, including our own columnist Ned Einstein, suggest that other factors, such as shift inversion and the presence of sleep apnea, are also major factors in driver safety.

Drivers have been required to retain a record of their on duty and driving hours. Hence, this could be shown to a trooper when they were pulled over. In the old days, this record was manually kept in a log book about half the size of a standard sheet of paper, with a pad of pre-printed sheets. It was never a secret that since the logging was done manually, there were ways to modify the log to give the driver extra driving time. If the driver got caught in a one-hour traffic jam, it was possible to make up for that hour by changing the log so that he could still make the delivery on time.

Expectedly, there were numerous complaints that drivers had intentionally modified their logs in order to get in more driving hours. What resulted is that the Federal Motor Carrier Safety Administration decided to go to electronic logging devices in order to reduce opportunities for drivers to modify their driving record. Their idea was that restricting driving hours would reduce fatigue and thus reduce accidents. They failed to consider the fact that the government had already deregulated the truck and bus industries. With the truckers, transportation costs to the customers was a major factor but for many, on time delivery was equally or even more important.



Being electronic, the new ELDs are much more likely to reflect actual driving hours since they are not as easy to change as the old paper logs. At the time of the 2017 mandate, many of the larger truck lines were already using ELDs, but they were new to most of the smaller companies and owner-operators. J. J. KELLER.

The Federal Motor Carrier Safety Administration issued a mandate that truck and bus drivers would begin to track their working hours using an electronic logging device. In December of 2017 the new law went into effect. An initial light enforcement period was in effect until April 1, 2018 followed by regular enforcement after that.

Now that the ELD mandate had been in effect for a while, there was an interest in looking at the impact that going to ELDs has had on the industry and in regard to safety. A study was started by the Supply Chain Management Research Center at the University of Arkansas. It was headed by Andrew Balthrop, a research associate at the Sam M. Walton College of Business. Several colleagues from other institutions were involved. One co-author of the resulting

The study from the Supply Chain Management Research Center showed that accidents increased after the ELD mandate. The biggest increase in accidents was among the owner-operators followed by the smaller truck lines. Even the larger truck lines showed an increase in accidents, but it was minimal. RENEE GAUDET.

report was Alex Scott, an assistant professor of supply chain management at the University of Tennessee, Another co-author was Jason Miller, an associate professor of logistics at Michigan State University. The resulting report was published in the *Journal of Operations Management*.

Balthrop and his colleagues analyzed detailed data obtained from the Federal Motor Carrier Safety Administration. The data was broken down in three different ways. One was by activity. This included: A) To determine how the ELD mandate affected compliance with reporting hours-of-service. B) The impact on accident counts, and, C) The frequency of unsafe driving.

The second breakdown of data was based on time period. This included: A) Before the ELD mandate. B) During the light enforcement period from December of 2017 to April 1, 2018, and, C) During the strict enforcement period after April 1, 2018.

A third breakdown was by company size. This included independent owner-operators, smaller carriers and large carriers with more than 50,000 trucks. It might be noted that some of the larger carriers had already been using ELDs although they were typically new with the smaller operators and independent owner-operators.

The results of the study were interesting. What might be considered the most positive result from the study was that the use of the ELDs significantly improved driver compliance in reporting hours-of-service with operators of all sizes. Since many of the larger carriers were already using ELDs, there was not much change in this group. However, there was a significant increase in accurate reporting among the smaller carriers and the independent operators. This was somewhat expected since it was considerably easier to manipulate the old paper logs than the new ELDs.

However, what might be considered a negative result of the study is that accidents increased after the ELD mandate took effect. The increase was minimal with the larger carriers but more obvious among the smaller carriers and independent operators. According to the study, smaller carriers operating two to 20 trucks saw a nine percent increase in accidents. The worst results were with the independent operators who saw an 11.6 percent increase in accidents.

The study also looked at unsafe driving infractions for all carriers during both the light and strict enforcement periods. This would include speeding as well as other actions that might reduce safety. Unsafe driving infractions increased among all three size groups. It was least noticed among the largest carriers, many of which had already transitioned to ELDs. However, the increase in unsafe driving infractions was more obvious among the smaller carriers and independent operators who had not been using ELDs prior to the mandate.

What became obvious is that the new ELD mandate gave the truckers less flexibility in logging. Hence, when running late or trying to make an on time delivery they resorted to speeding or unsafe driving habits because they could not modify their logs. The government mandate that was originally intended to improve safety did just the opposite.

Andrew Balthrop from the Sam M. Walton College of Business, who co-authored the study, offered some observations. He said: "Our results indicate that the electronic logging device did not immediately achieve its goal of reducing accidents." He went on to mention that the study showed that the drivers reacted in ways the FMCSA did not anticipate. In addition, he suggested that these behaviors should be accounted for when the FMCSA revisits its hours-of-service policies.

Some observers have suggested that the regulators are trying to regulate without understanding the industry and its needs. Bear in mind that the government deregulated interstate trucks and buses in order to increase competition and thus reduce costs to the consumer. We need to step back and realize that reducing costs and increasing safety may be at odds in many situations. In addition to keeping costs competitive, the truckers are also trying to achieve on time delivery. Hence, deregulation on one side with safety and hours-of-service rules on the other side has them squeezed between two opposites. Or, as some truck drivers comment, "Between a rock and the hard place."

While this situation deals mainly with trucking, it may well spill over into buses when FMCSA sits down and tries to figure out what to do next. Presumably, there are people at FMCSA looking for what direction to take because of this survey. Let us hope that they put some thought into this before issuing more mandates. ❑

There is no information on how the ELDs have affected the bus industry safety. Unlike the truckers, bus drivers have less pressure to arrive on time if the situation is bad. However, the bus industry may well find itself getting involved if the Federal Motor Carrier Safety Administration decides to make changes to the ELD or hours-of-service regulations. PAT PLODZEEN.

Charging Along the Way

by Larry Plachno

Photos copyright: Scania CV AB /www.siemens.com/press

The eHighway System from Siemens Mobility provides a possible solution to providing electrical power or an opportunity to charge batteries on long distance trucks and buses. It requires overhead wires similar to those used on electric railways and for trolley buses. The truck or other vehicle using the system must have appropriate current collectors and be able to run on electric power.

Several people in the bus industry are aware of recent trials and experiments to test if overhead wires can be used to power trucks electrically or recharge batteries to extend their range. The obvious question is whether this same system can be applied to charter and tour coaches to operate them electrically or extend the range of a battery-electric coach.

This proposed new system is actually not new technology. Overhead wires have been used for more than a century to power electric railroads, trolley cars and even trolley buses. Both hybrid and battery-electric vehicle power systems have been around for a while. Siemens Mobility, with the support of local groups and government agencies, has pioneered three test roadways in Europe and the United States to look at results and determine whether this is the road to the future. A fourth test track is now under construction on Autobahn A1 in the north of Germany.

Electric Bus Pros and Cons

Several years ago, NATIONAL BUS TRADER saw the pressure behind moving the bus industry towards electric buses. That movement has been increasing annually for a number of reasons. On the positive side, depending on how you generate your electric power, an electric bus can be operated without adding to pollution. This has increasingly become a goal of more and more cities and transit agencies worldwide. For years now we have been cleaning up the exhaust from bus engines, but the electric drive would be the ultimate solution.

There are other very positive features to electric buses. The most obvious is that electric buses cost less to operate. While the numbers can vary by location, the cost of electric power to run a bus can be somewhere around half the cost of using fossil fuels. If the price of fuel is high or inexpensive hydroelectric power is available, this can make the financial comparison even more pronounced.

Electric buses are also less expensive to maintain. While they still have tires and still require cleaning and washing, electric buses have simpler systems. Gone are fuel filters and elaborate engine compartment cooling systems. Electric motors do not require time and costs for radiators, elaborate lubrication systems or maintaining coolant. Instead of starters, you simply turn a switch on. Not only are systems easier to deal with, but your service and maintenance people will appreciate working in a cleaner environment with less grease and oil.

You can also add in the fact that most drivers prefer the electric buses. Driving tech-

nique is very little different from diesel buses, but the electric bus has fewer things to go wrong. It is always considered to be cleaner, simpler and quieter.

Unfortunately, the movement to electric buses has been slowed by two major problems. One is the cost of batteries. Many of the bus batteries for electric buses involve some type of lithium which can be expensive. In fact, the batteries can represent half of the cost of the coach which means that an electric coach can be double the cost of a diesel coach or close enough that makes a difference. While there is a trade off with operating costs, electric buses are simply more expensive to buy.

The second problem is the lack of battery capacity. While lithium-ion batteries can hold more stored electrical energy than lead-acid batteries, they still do not have the capacity that many people want. A good rule of thumb is that the average battery-electric bus probably has a range of 150 miles. This may be sufficient for many transit applications as well as shuttles, commuter operations and school buses. Transit buses have the option of charging along the way with overhead connectors or an inductive system in the pavement at layover points.

An obvious solution is to develop a battery that is less expensive and has more electrical storage capacity. We are still waiting for that to happen. The one alternative being talked about is hydrogen fuel cell power. It has the distinct advantage that bus operators can actually make their own fuel instead of buying commercial power. Unfortunately, it also currently has the disadvantage that fuel cell systems are expensive like batteries. However, if fuel cells come down in price they could be a viable alternative to battery-electric buses.

This brings us to the problem of battery capacity with charter and tour coaches. A 150-mile range may work for shuttles and commuter runs but not with 500-mile charters and tours. You simply cannot expect passengers to accept stopping for a while every two or three hours to recharge the batteries. The trucking industry has exactly the same problem. They would also like to take advantage of battery or hybrid power to reduce pollution and operating costs. While freight is less likely to complain about stops along the way to recharge, they would also prefer to keep a truck moving instead of taking time to recharge batteries.

Fortunately for all of us, the trucking industry is huge compared with buses and hence more likely to find money to look for solutions to this problem. Added to this are statistics indicating an increasing need for more trucking in the future. While developed countries have railroads to help with transport needs, many developing countries do not have railroads and will have to rely on an increasing number of trucks.

The first eHighway opened in Sweden on June 22, 2016 on the E16 highway north of Stockholm. This is an industrial area located close to the port of Gälve. Scania provided the test vehicles that were equipped with bio-diesel power.

Multiple trucks can use the eHighway at the same time. In fact, the system makes use of regenerative braking where a vehicle braking or going downhill can add power back into the system for other vehicles to use. A fourth test eHighway is now under construction on the Autobahn A1 in the north of Germany.

Siemens Mobility eHighway System

Looking for solutions to this need, Siemens Mobility initially presented its innovative eHighway concept in 2012. While interesting and creative, it is not "rocket science" but rather existing and proven technology. It effectively combines traditional overhead power wires with an intelligent collection system and a vehicle with an electric hybrid or battery power drive. All of these have been around for a while and have been proven in operation. We can go through each of these three components to explain them.

The overhead wires are similar to what has been used for electric railroad catenary systems, trolley cars and trolley buses. While there are numerous modern improvements, the basic concept on this goes back more than a century. Dual electric wires are suspended above the roadway and carry an

Vehicles using the system are equipped with a modified pantagraph current collection device that can pick up both positive and negative current from both sets of wires. The voltage in the wires is similar to that used by trolley cars and trolley buses.

No lane guidance system is required since the intelligent pantagraph system will automatically extend up to the wires to connect and will also disconnect automatically if the vehicle makes an abrupt maneuver or changes lanes.

electrical current. The wires are high enough so that they do not interfere with other vehicles, very similar to trolley bus wires above city streets. Past experience has shown that this kind of installation has a long lifespan and low maintenance costs.

We did find out that the experimental system in Germany is running at 600 volts nominal direct current (DC). What makes this interesting is that the standard voltage for many streetcars, rapid transit lines and trolley buses is often 600 to 650 volts DC. Hence, a conventional trolley bus could actually operate from this system if provided with the proper current collector.

The second part of this system, and perhaps the most interesting part, is the current collector. Many of the older electric and commuter railroads as well as some interurban lines used what is known as a pantograph for current collection from an overhead wire. Over the years this device has been simplified into lighter devices used on today's light rail systems. It has advantages over the traditional trolley poles used on trolley cars and trolley buses. While trolley poles must normally be handled manually, the pantograph or modified pantograph system has the advantage that it can be raised or lowered automatically.

Pantagraphs for current collection used on this eHighway system are remarkable for two reasons. One is that they are split into two sides so they can pick up both positive and negative current from two overhead wires at the same time. The second reason is that the pantagraphs have intelligent features so that they can be deployed automatically while the vehicle is moving at speeds of up to 56 miles per hour. No lane guidance system is required since the intelligent pan-

The third eHighway in Germany is also the longest so far. Overhead wires were installed on a five-kilometer section of the A5 federal Autobahn between the Zeppelinheim/Cargo City Süd interchange and at the Frankfurt Airport and the Darmstadt/Weiterstadt interchange. Following a test period, the decision will be made on whether to extend the system.

tograph system will disconnect automatically if the vehicle makes an abrupt maneuver or changes lanes.

Since it is a common question, I might mention that this system will not work with smaller vehicles such as automobiles. There simply is too much distance between the roof of a car and the overhead wires to work well. Virtually any tall vehicle, including tour and charter coaches, can be modified to work on this system.

Finally, the third part of the eHighway system is a vehicle that can make use of this overhead electric power. Several of the test vehicles have hybrid diesel electric drive so they can operate with electric power while under the wires but use their diesel engine or natural gas elsewhere. Other alternatives may include fuel cell electric power as well as battery-electric drive. With battery-electric drive there is also the thought that the vehicle can charge its batteries while operating under the wires to extend its range.

An interesting side note is that this system can make use of regenerative braking to create power. Hence, a vehicle going downhill can generate power from its braking and either use it to charge batteries or put it into the overhead wires to be used by a vehicle drawing power going uphill.

As you might guess, there has been substantial interest in the Siemens Mobility's eHighway system, particularly in areas trying to reduce pollution from road transport. We are aware of three existing trial systems. The first is in Sweden, the second in California, and the most recent one just opened in Germany. Each is somewhat different and uses different test vehicles. Here are a few details on them.

This photo was taken on the first eHighway installation in Sweden. It originally opened in June of 2016 on a stretch of highway north of Stockholm. Scania trucks used to test the highway are powered by bio-diesel hybrid systems so they can easily operate off the eHighway system.

eHighway Test Installations

Sweden has substantial interest in the eHighway because it is trying to develop a fossil fuel independent transport sector by 2030. A contract for the eHighway was awarded by the Swedish Transport Administration to the County Council of Gälveborg. The test system covers a two-kilometer stretch of the E16 highway north of Stockholm. This area was selected because the regions of Dalama and Gälveborg are industrial with steel, mining, pulp and paper, some of which goes to the port of Gävle.

This world's first eHighway system opened on June 22, 2016. An opening ceremony included Sweden's Minister for Infrastructure Anna Johansson and Minister of Energy Ibrahim Baylan. Test vehicles were bio-diesel hybrid trucks provided by Scania and equipped to operate under the Siemens Mobility catenary system.

California was the location of the second eHighway test. Concerned with smog and emissions in southern California, the South Coast Air Quality Management District (SCAQMD) worked with Siemens Mobility on this project. Since the ports of Los Angeles and Long Beach see a great deal of truck traffic, nearby Carson, California was selected as the site of this test. It was mentioned that nearby interstate 710 would be a logical location for a permanent installation.

A one-mile catenary system was erected in the northbound and southbound lanes of South Alameda Street from East Lomita Boulevard to the Dominguez Channel in Carson. Funding for the project was provided from SCAQMD, a settlement with China Shipping, the California Energy Commission, the Port of Long Beach and LA Metro. Siemens Mobility also provided an in-kind contribution. Three trucks to test the system were provided under a sep-

This interesting photo shows how an adjacent array of solar panels can help provide power for an eHighway system. While battery-electric trucks and buses may be more expensive to build, they do operate more economically on electricity than on fossil fuels. This could be a viable solution to extending the range of battery-electric charter and tour coaches.

arate contract with SCAQMD. A natural gas hybrid truck and a battery-electric truck were developed by Escondido-based TransPower and a diesel hybrid truck was developed by Mack Trucks, a subsidiary of Volvo.

The third eHighway test recently opened in Germany. It is both the longest and most elaborate of the test roads to date. Catenary was installed on a five-kilometer section in both directions of the A5 federal autobahn between the Zeppelinheim/Cargo City Süd interchange at the Frankfurt Airport and the Darmstadt/Weiterstadt interchange. The system was built as part of the joint project "Electrified, innovative heavy freight transport on autobahns" (ELISA) of Germany's Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMU).

Germany approached VW to build a truck to test the new system. VW's Group's Scania built a hybrid truck and installed the Siemens Mobility pantograph to test the new system. Germany will determine whether to expand the system. So far, the system including modification of the trucks has cost the government 34 million Euros. Germany indicated that it wanted to cut greenhouse gas emissions by 40 percent by 2020, by 42 percent by 2030 and up to 95 percent by 2050, compared with 1990 levels. ❑

Federal Actions Threaten Independent Contractor Classification for Transportation "Gig Economy" Drivers

by Matthew W. Daus, Esq.

Some recent federal activity has been directed at reviewing and possibly restructuring requirements for defining employees and independent contractors. While this has involved several different trades and occupations, much of it seems to revolve around drivers and transportation operations. If you are involved with this issue, it would be wise to keep track of what is going on and how regulations may change. JACKSON DAVID.

Before he took office, then President-elect Biden promised to be "the most pro-union president you've ever seen."[1] Following through on that promise, the National Labor Relations Board (NLRB or Board) seems poised to overturn the Trump-era worker classification test that makes it more difficult to categorize workers as employees – a test that lead to the NLRB concluding Uber drivers are not employees. The NLRB is also joining forces with the U.S. Department of Labor, Wage and Hour Division (DOL/WHD). The two agencies announced a "memorandum of understanding" (MOU) between the agencies to share information, collaborate and coordinate on investigations of potential violations of federal labor and employment laws, placing particular emphasis on worker misclassification.[2]

To top it all off, a White House Taskforce on Worker Organizing and Empowerment put out a report (the Taskforce Report) that includes nearly 70 recommendations to promote worker organizing and collective bargaining for workers employed by public and

private-sector employers.[3] Issued a week before Valentine's Day 2021, the report is a 46-page love letter to unions that could be a shot through the heart of companies that rely on gig workers. While not naming names, the report takes aim at "gig" workers, and asks the DOL to "prioritize action to prevent and remedy the misclassification of workers as independent contractors" through a range of strategies, including: (1) rigorous enforcement; (2) strategic partnerships with relevant federal and state agencies (e.g., the IRS and the Department of Transportation); (3) guidance, rules, and/or education; and (4) outreach to workers, employers, unions and worker advocates.

Developments unfolding at the NLRB and DOL could have massive implications for transportation providers that rely on independent contractors as drivers. There are already a variety of different legal standards that will apply to those situations. It will be important for businesses that use independent contractors to coordinate with legal counsel to develop a workforce strategy that works best among this patchwork of ever-changing obligations.

NLRB Revisiting Worker Classification Standards: "Entrepreneurial Opportunity" vs. "Economic Reality"

In December 2021, the NLRB invited interested parties to weigh in on whether the board should reconsider its standard for determining whether a worker is an independent contractor or employee. The invitation for public briefing stems from The Atlanta Opera, Inc., NLRB No.10-RC-276292 (2021) case. This proceeding involves make-up artists and hair stylists at the Atlanta Opera Inc., who are trying to unionize under the International Alliance of Theatrical Stage Employees; however, the implications of the NLRB's decision will reach into every industry. Specifically, the NLRB was looking for insight on whether the board adhere to the independent-contractor standard in SuperShuttle DFW, Inc., 367 NLRB No. 75 (2019) (*SuperShuttle*), return to the standard in FedEx Home Delivery, 361 NLRB 610, 611 (2014) (*FedEx*), either in its entirety or with modifications, or do something else.

SuperShuttle is a Trump-era NLRB decision that refocused the determination of worker status on "entrepreneurial opportunity," instead of the "economic realities" standard that had been established under the Obama administration.[4] In 2019, the NLRB's decision in *SuperShuttle* affirmed the importance of entrepreneurial opportunity as a significant factor in determining independent contractor status and returned to the traditional common-law agency test to determine whether a worker is an employee or an independent contractor, which involves looking at a non-exhaustive list of factors to determine whether an employment relationship exists. The traditional test requires the weighing of multiple factors, including the extent of control which the employer may exercise over the details of the work, and whether the worker is engaged in a distinct occupation or business. The *SuperShuttle* standard gives more room to include potential entrepreneurial opportunity in the analysis of whether the worker is engaged in a distinct occupation or business, rather than being limited to the actual economic gains. Under the *SuperShuttle* standard, where the overall evaluation of the common-law factors shows significant opportunity for economic gain (or significant risk for loss), the NLRB is likely to deem the worker an independent contractor, rather than an employee. In May 23, 2019, the NLRB Division of Advice applied the *SuperShuttle* test—looking at the 10 common-law factors "through 'the prism of entrepreneurial opportunity'" – and concluded that Uber drivers are independent contractors because they had significant opportunities for "economic gain and, ultimately, entrepreneurial independence."

Prior to *SuperShuttle*, determining a worker's status was based on the "economic realities" of the worker's situation. The *FedEx* case is a 2014 Obama-era NLRB decision that kept the same common-law agency factors, but redefined the significance of an independent contractor's "entrepreneurial opportunity for gain or loss," declaring that the worker's entrepreneurial opportunity should not be the driving principle of the overall analysis.[5] Under *FedEx*, the focus shifted to the "economic realities" of the parties' relationship: only actual (not theoretical) entrepreneurial opportunity should be considered. Under the *FedEx* "economic realities" analysis, it became much easier for workers to be categorized as employees, and more workers became subject to National Labor Relations Act (NLRA) protections (union organizing, unfair labor practices, etc.).

The NLRB will now reconsider whether to overturn *SuperShuttle* and adopt a different legal test for determining employment status under the NLRA. Replacing *SuperShuttle* with a more restrictive independent contractor test would make it easier for independent operators, drivers and delivery workers – including "gig" workers – to be deemed employees of black car bases, rideshare companies and the like, and consequently allow them to unionize and engage in collective bargaining under the NLRA.

NLRB and DOL Will Now Coordinate Enforcement and Investigations

On January 6, 2022, the DOL and the NLRB announced an MOU between the agencies to strengthen the agencies' partnership through enhanced information-sharing, joint investigations and enforcement activity, as well as training, education and community outreach.[6] Based on the MOU, we may see the following:

- A formal process for NLRB and DOL/WHD to refer workers between the agencies, including advising workers of potential violations of laws enforced by the other agency, and information about at the other agency, including contact information;
- A system to exchange information and data that supports each agency's enforcement mandates, including complaint referrals and other sharing of information in complaint or investigative files relating to alleged violations of the laws;
- Coordinated investigations and enforcement when matters fall within the agencies' jurisdictions; and

Past discussions and concerns in this area have revolved around drivers for different operations. Drivers for FedEx and SuperShuttle have been involved in previous discussions and decisions. Depending on what transpires, this could involve other segments of the transportation industry. JOHN P. PERRY.

❒ Increased scrutiny of companies with "complex or fissured employment structures, including joint employer, alter ego and business models designed to evade legal accountability, such as the misclassification of employees."

The NLRB and DOL are stepping up their enforcement efforts and will be scrutinizing companies – including those in the transportation industry that engage independent contractors as drivers. This could be trouble for businesses that fail to comply with classification and related provisions enforced by these agencies.

This is not the first time federal agencies have endeavored to work together on misclassification matters. In 2011, the DOL and the U.S. Internal Revenue Service (IRS) entered into a MOU as part of a joint initiative to reduce the incidence of employees misclassified as independent contractors, rather than employees.[7] From a tax perspective, employers who misclassify workers avoid paying payroll taxes, which are used to fund programs such as Medicare and Social Security. Under the MOU, the agencies agreed to share information and other materials and to coordinate national outreach activities, similar to the NLRB-DOL MOU. For its part, the DOL agreed to "refer to the IRS . . . Wage and Hour Division investigation information and other data that DOL believes may raise Internal Revenue employment tax compliance issues related to misclassification" and share "Wage and Hour Division training materials and opportunities with the IRS[.]" In turn, the IRS agreed to "evaluate and classify employment tax referrals provided by the DOL and . . . conduct examinations to determine compliance with employment tax laws." In 2018, a report from the U.S. Treasury Inspector General for Tax Administration criticized the IRS for not effectively implementing the 2011 misclassification MOU.[8]

The Feds are stepping up activities to look at companies, including the transportation industry, that have independent contractors as drivers. This could include all drivers from taxis to vans to buses. If you have any operations like this, it would be wise to look carefully at your procedures for compliance. MICHAEL GAIDA.

What's Next for Transportation Businesses?

The NLRB's decision will only impact the worker classification test used for labor relations issues under the NLRA – union organizing, unfair labor practices and the like. It will have no direct bearing on the tests used by the states and other areas of the federal government to determine wage and hour compliance, unemployment compensation workers' compensation, or other labor and employment laws outside the NLRA. There are a variety of different legal standards that will apply to those situations. It will be important for businesses that use independent contractors to coordinate with your legal counsel to develop a workforce strategy that works best among this patchwork of obligations.

The coming months will be of great interest to businesses that use gig workers as we can likely expect to see the NLRB craft a new test for worker classification, and the DOL to create policies to implement the recommendations in the Taskforce Report. Now is the time for transportation companies that use independent contractors to minimize risk. Companies should be looking at their driver agreements and worker classification practices to see how they align with the new rules. Compliance will be the key to a success. ❑

[1] https://www.cnbc.com/2020/12/01/biden-promises-to-be-the-most-pro-union-president-and-rep.html
[2] https://www.dol.gov/agencies/whd/flsa/national-labor-relations-board-mou
[3] https://www.whitehouse.gov/wp-content/uploads/2022/02/White-House-Task-Force-on-Worker-Organizing-and-Empowerment-Report.pdf
[4] The SuperShuttle case involved franchisees who operated shared-ride vans for SuperShuttle Dallas-Fort Worth (DFW). SuperShuttle DFW, an independent business entity, maintained a license agreement with SuperShuttle International and SuperShuttle Franchise Corporation for the right to use the SuperShuttle trademark and transportation system in the Dallas-Fort Worth area. Under the franchise model, drivers were required to sign a one-year Unit Franchise Agreement (UFA) that expressly characterizes them as nonemployee franchisees who operate independent businesses. Driver-franchisees were required to supply their own shuttle vans and pay SuperShuttle DFW an initial franchise fee and a flat weekly fee for the right to utilize the SuperShuttle brand and its Nextel dispatch and reservation apparatus. Franchisees did not work a set schedule or number of hours or days per week; they work as much as they choose, whenever they choose. Franchisees were entitled to the money they earned for completing the assignments that they selected. Individual franchisees could hire and employ relief drivers to operate their vans.
[5] The FedEx case involved 20 FedEx drivers who worked out of the FedEx Home Delivery Hartford terminal. Drivers were hired as independent contractors and assigned them a route within the terminal's territory. Prospective drivers were required to complete training and acquire a van or truck that FedEx deemed appropriate before being presented with FedEx's Standard Contractor Operating Agreement. The Agreement allowed the prospective drivers to negotiate: (1) which particular route they would be assigned, and (2) an aspect of their compensation. The Agreement required drivers: make their vehicles available for delivery from Tuesday through Saturday; deliver all packages assigned to their route on the same day the packages arrive at the Hartford terminal; wear FedEx's uniforms and badges and present personal appearances consistent with FedEx's standards; and follow specific protocols for deliveries, such as where to leave packages for recipients not at home.
[6] https://www.nlrb.gov/news-outreach/news-story/us-department-of-labor-national-labor-relations-board-sign-partnership

[7] https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/irs.pdf
[8] https://www.treasury.gov/tigta/iereports/2018reports/2018IER002fr.pdf

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Going On Faith

Where Should Regulations Come From?

by Dave Millhouser

Where should regulations come from? Politicians reacting quickly or without knowledge may not be the best source for rules and directives. Regulators may be little better if they do not understand the industry that they are regulating. Rarely are regulations developed with results from detailed studies or industry input. PIXABAY.

"I know **Nothing**. "

You may think I am talking about myself, but actually it is a quote from a character in *Hogans Heros*, an iconic 1960s sitcom. Sergeant Schultz was a Nazi guard at a WWII prisoner of war camp. Did I mention it was a comedy?

Schultz was a favorite of the scheming inmates because he was easily scammed. When they could not trick him, at 325 pounds, it was not difficult to bribe him with Hershey Bars.

Part of his shtick was that he obeyed orders literally, regardless of whether they made sense. When things went awry and the happy throng of inmates made the camp's leaders look foolish, he whined, "I know **Nothing**."

Over the years I have been disrespectful to regulators and bureaucrats. This is a bit of a mea culpa (a smidgen of Latin to make me look smart). In some ways they are caught in the same trap as poor Sergeant Schultz, compelled to promulgate and enforce rules that often make no sense – imposing Draconian solutions on sometimes non-existent problems.

On the rare occasion when they admit things are not working as planned, they point to the lawmakers who either wrote, or authorized, the regulations and utter the immortal words "I'm just following the rules" (bureaucratic speak for "I know nothing"). They are, to an extent, right. Should they dare to do things differently, or use common sense, they might befoul the bureaucracy which thrives on mindless consistency.

A wizened bus industry executive recently chastised me, pointing out that it was not fair to blame a robot – if it was programmed

incorrectly. We should be taking a closer look at where the silliness starts.

Some of you read this column and say, "Who writes this nonsense." We might want to redirect that sentiment to the current steaming pile of regulations. Lawmakers either write them, or authorize regulators to do it. There seem to be at least three forces at work as rules are written.

First is the politics. Every time there is a visible problem, politicians feel they must "do something." It has to be quick, because the public's attention span is measured in nanoseconds, and it has to be visible, because the real goal is re-election. Nothing says it has to be a comprehensive, or even effective solution, it just has to look good on Twitter.

After the Bluffton accident, the political pressure to mandate seat belts was overwhelming. (Ironic because this was the kind of crash where seat belts would have done more harm than good). Seat belts may be effective, but is it possible they should be part of a comprehensive scheme? For decades our industry grunted, but never tested, "compartmentalization." We eventually got a regulatory slap. Some of the onus is on us.

A school bus driver just burned to death when he could not get his belt off. One misguided soul thought the lesson is that we need better physical exams for drivers, so they would be strong enough to unbuckle. A broad safety scheme would consider what happens when a coach full of buckled-in seniors catches fire.

A really comprehensive study would have taken too long for the election cycle. We live in a Republic because the Founders knew that pure Democracy was too impulsive. Elected officials should offer thoughtful leadership rather than dashing to the front of the regulatory lynch mob.

The second force is the industry itself. The Big Guys have figured out that extensive regulation can drive smaller competitors out of business and provide cover when things go bad. They can afford their own lobbyists to influence legislation to their benefit.

When events turn poopie, they whine, "I'm just following the rules." They were in compliance with regulations that they helped write (or bury). That, by the way, only works sometimes; civil juries do not always bite.

In third place, sadly, is the genuine desire to solve real problems. Too often this one is abused by the first two, and is used to push through misguided mandates.

So much of what we **think** we know turns out to be wrong, that a little humility might be in order. One generation's "common sense" is often the next generation's punch line.

Some people in the bus industry still debate the relative value of compartmentalization and seat belts. The mandate for seat belts came from regulators trying to do something following an accident and not from a long and detailed study. Shown here are Amaya seats with seat belts installed on a Van Hool coach. ABC COMPANIES.

Regulations should not be written by politicians chasing votes, Big Guys seeking protection in the guise of safety, bureaucrats searching for relevance, or grieving relatives wanting something "good" to come quickly out of "their" tragedy. They ought to be the result of long term comprehensive studies which we, as an industry, should support.

Instead, in the current age, they are often a reaction to Twitter feeds masquerading as facts. Both the industry and the regulators should be ashamed that, to the best of my knowledge, there has only been one modern "crash test" of a full-sized coach in the U.S.

Collectively we do not know too much more than Sergeant Schultz. ❑

In the long run, the bus operators have no choice but to follow the regulations whether they work or not. In many cases, the regulators do not understand the industry they are regulating. Some elected officials and appointed regulators may forget the fact that private businesses have to make money if they expect them to pay taxes. BARRY HOWELL PHOTOGRAPHY.

Photographs

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At right: **The newest coach model on the American market is the Daimler Tourrider. It is built at the Mercedes-Benz plant in Turkey and offers several advanced systems. Here, it replaces the Setra line which is still being built at the plant in Neu Ulm, Germany for the European market and exports.**

Below: **The newest coach in Europe is the i6S model from Irizar in Spain. Already very popular on the European market, Irizar has improved the i6 with reduced weight and improved aerodynamics to reduce fuel consumption and emissions. In addition to offering several different types of power, the new i6S is also available with either left- or right-hand drive.**

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Survival and Prosperity

by Ned Einstein

Survival and Prosperity
Responses to Declining Ridership
Part 1: Contracting, Independent Contractors and Brokers

Nearly 350 years ago, as his third "Law of Motion," Sir Isaac Newton pointed out that, for every action, there is a reaction. This principle is not restricted to physics. It is part of human nature.

Transit ridership should have increased. Instead, it has declined dramatically.

As we evolved as a species, then a society and then an economy, this principle has become more and more necessary. With the last four decades' changes in the distribution of wealth, transit ridership should have increased. Instead, it has declined dramatically. The reaction to this decline has taken three basic forms: (a) an increase in private contracting (see https://transalt.com/article/defending-contractors-part-6-contracting-fixed-route-transit/), (b) the spread of the "independent contractor" model, and (c) the emergence of brokers (see https://transalt.com/article/defending-contractors-part-1-lead-agencies-and-brokers/, https://transalt.com/article/defending-contractors-part-2-the-history-of-contracting-and-brokerage/ and https://transalt.com/article/defending-contractors-part-3-the-whistleblowers-song/).

Enter History

These dynamics were common in the days even before COVID-19 struck – a decline affected by different dynamics in different modes:

- The taxicab industry was gradually destroyed by the emergence of, and unfair competition with, TNCs ("transportation network companies" like Uber and Lyft) – unburdened as TNCs were by either medallion fees or traditional fringe benefits of any form (see https://transalt.com/article/transportation-network-companies-even-worse-than-expected/).
- Transit ridership began declining several years before COVID-19 from a number of forces – the most obvious being a mode split to TNCs and a decline in the quality and safety of service (see www.nytimes.com/2020/04/09/upshot/transit- battered-by-coronavirus.html?action=click&module \=Top%20Stories&pgtype=Homepage).
- COVID practically eliminated non-essential travel by public transportation – destroying charter and tour services in the process (see https://transalt.com/article/motorcoach-survival-in-the-age-of-covid-19-part-3-the-end-of-charter-and-tour-service-for-now/), and cutting deeply into passenger rail, fixed route bus, subway and airline travel.
- Of course, none of these modes or services were helped by the gradual elimination of jobs and the replacement of numerous operating functions formerly provided by trained management but now transferred to robots (see https:// transalt.com/article/drivers-v-robots-part-7-betrayal-by-robots/).

Some of this ridership returned via corruption by AMTRAK (see https://transalt.com/article/covid-19-shenanigans-and-liability-part-2-making-money-by-compromising-health/). Likewise, corruption by the airline industry – much of it initiated years before COVID – helped restore its ridership and profitability (see https://transalt.com/article/expanding-the-mode-split-dividing-line-part-1-exponential-airline-industry-corruption/). Otherwise, some of this mode split was squandered – as taxis were deployed to deliver food and medicine in the heart of the first wave of COVID-19. Other choices reflected ridership preferences – like the use of TNCs instead of taxis that, in most cases, contained Plexiglas shields separating the driver's compartment from the passenger compartment (or in this mode, the front seat from the back seat). Some of these choices were influenced by the cell-phone-hypnotized culture of younger riders.

Then, of course, came COVID. COVID almost destroyed the charter and tour portions of the motorcoach sector – although intercity/scheduled service is returning to near-normal levels, and tour service is slowly recovering. Social distancing combined with our failure (until COVID began to wane) to require mandatory mask usage mode split significant numbers of passengers from large, densely-packed vehicles (like buses, coaches and passenger rail cars) to smaller vehicles where passengers were largely isolated. COVID had layers of additional impacts:

388,000 residents fled New York City alone.

- It triggered an explosion of migration from densely-populated urban areas (where public transportation made sense) to the suburbs and beyond. In 2021 alone – near the end of which COVID deaths began to plummet meaningfully, despite new variants emerging – 388,000 residents fled New York City alone (see https://www.nytimes.com/2021/11/12/magazine/real-estate-pandemic.html). As it always has, suburbanization will further erode transit efficiency. The densities needed for fixed route service to attract riders will thin out, while it is increasingly hard and more costly to serve riders further and further spread out. At a certain point of low density (e.g., rural areas), fixed route service is completely unsustainable. Keep in mind how wasteful, costly and insufficient it is even in our most densely-packed urban areas.
- While one might suspect traffic levels to have decreased – leaving more roadway space open, and shortening travel times for personal and public transportation vehicles alike – this did not happen (and will not happen) because of an obscure phenomenon known by planners as "latent demand." In, simple terms, for every new spot opened on the roadway, there is another vehicle waiting to take its place.

For public transportation purposes, far more important than COVID itself was the shift from commuters to remote workers – although the decrease in commuters to drivers was not a one-to-one ratio. Regardless, working remotely actually proved viable for a significant subset of the population. To the dismay of public transportation, working remotely is certain to be a viable permanent arrangement for a still-significant subset of former commuters.

Through all this, combined with inflation continuing to outstrip wage increases, public transportation will never recover to be what it once was. Even before COVID, transit ridership was failing so badly that at least one city (Kansas City) eliminated fares altogether because it cost almost as much, if not more, to collect and process them than the percentage of operating costs they covered. (Shortly

If transit evolves to the point whre it must be provided for free, how much longer will taxpayers support it?

after, Las Vegas eliminated weekend service and eliminated fares for double-decker buses. Portland came perilously close to eliminating fares.) In fact, the nation's top-grossing transit system (in New York City) managed to cover 35 percent of its operating costs from fares. The recovery of others – pre-COVID San Francisco (with a separate transit system, A.C. Transit, serving the suburbs) was covering only 13 percent. Los Angeles was covering only nine percent. (See https://www.nytimes.com/2020/04/09/upshot/transit-battered-by-coronavirus.html?action=click&module=Top%20Stories&pgtype=Homepage.) This dynamic raises a troubling question for public transportation: As this trend continues, and particularly if transit evolves to the point where it must be provided for free, how much longer will taxpayers support it?

Regarding solutions other than actually improving transit service quality and efficiency – which we have proven woefully unable to do – a few bandaids will work at the edges (like the elimination of weekend and owl service). Otherwise, once the frequency and coverage of service declines to a certain point, it becomes increasingly less attractive, and further reductions in service will translate into even lower fare recovery ratios: Each successive trip will cost the taxpayers more and more money. A cargo ship full of bandaids will fix nothing.

Fast Reverse to the Past

We would be naïve to not expect serious reactions to events and trends of such magnitude. Nor should we be surprised if and when we ever learn how we squandered the opportunity to minimize these impacts. (Much of this squandering was covered in previous NATIONAL BUS TRADER articles –as, for example, when in the heart of the first wave of COVID, New York City assigned most of its remaining taxicabs (about 11,000) to the delivery of food, medicine and packages – tasks which the city's arsenal of unused trucks could have performed (see https://transalt.com/article/responding-to-adversity-by-abandoning-support/). We could have banished TNC's from the landscape. We could have engaged in actual planning efforts like route/schedule design and stop selection. Instead, we turned these tasks over to robots (i.e., software). With such failures, three troubling responses have emerged:

1. The increase in private contracting.
2. The increase in independent contractors
3. The increase in brokers

In Part 2 of this series, I will overview these responses. I will discuss private contracting and brokerage in considerable detail. I will describe the extraordinary corruption and waste associated with the worst applications of them. Stay tuned.

The opinions expressed in this article are that of the author and do not necessarily represent the opinions of NATIONAL BUS TRADER, Inc. or its staff and management. ❑

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Down The Road

Coming events of interest to readers of NATIONAL BUS TRADER. Submissions for the department should be directed to the editor. Unless otherwise indicated, events are not open to the general public.

August 24-27, 2022. F**MCA's 105th International Convention and RV Expo.** Lincoln, Nebraska.

November 13-16, 2022. **NTA Travel Exchange.** Reno Tahoe, Nevada.

January 12-16, 2023. **UMA Motorcoach Expo 2023.** Orlando, Florida. For more information view motorcoachexpo.com.

February 2-8, 2023. **American Bus Association Marketplace 2023.** Detroit, Michigan.

March 15-18, 2023. F**MCA's 107th International Convention and RV Expo.** Georgia National Fairgrounds and Agricenter, Perry, Georgia.

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