



Bulldog[®]

Disaster Prep



Plan today to survive tomorrow

An Anthem to safety

Mack leads industry with safety features

Dirty feats

Mack[®] LR kicks trash to the curb

Total Cost of Ownership

Make your truck work for your bottom line

Vol. 1 2019



LESS DRAG, MORE PROFIT?

CONSIDER IT DONE.



HE+ Package increases fuel efficiency up to 9.5%*

The Mack Anthem® with an HE+ Package combines an MP®8HE engine with aerodynamic and fuel economy features, like roof fairings and a sloped hood, to minimize drag and maximize profit. See how Mack can improve your bottom line at MackTrucks.com/LessDrag

*Compared to similar Mack Anthem without HE engine and HE+ features.

BORN READY.

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Business resilience prep

No trucking business is immune from disaster.

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Facing the Future

Your day-to-day business model is based on an expectation of stability: you know what to expect and what is likely to happen. You also know you'll deal with the unexpected from time to time, using your experience to handle these curveballs. That's just business. Unfortunately, sometimes it's not enough.

The cover article of this issue of Bulldog Magazine details how critical it is for trucking businesses to be prepared for the variety of natural and other disasters which can be a part of our lives. There are more types of disasters and situations which have to be planned for than ever before and each requires its own unique planning. This is an inescapable responsibility, one that could decide whether a business survives and prospers after a disaster.

Your business faces other challenges on a daily basis: mechanical issues; productivity; safety; costs; training and keeping good employees; plus rapid technology and regulatory change, to name just a few.

Fortunately, Mack Trucks is here to support you. After 119 years of operation, Mack has weathered more than a few storms of its own and has the institutional knowledge and resources to help your business be as resilient as possible.

Our products reflect Mack's deep understanding of the truck business and how our customers use their trucks, and what their needs and requirements are. Our trucks are durable, reliable, very productive and efficient, with the best total cost of ownership. They are backed up by an unrivaled network of dealers and support staff, all of whom have access to Mack's industry leading Uptime network.

One of Mack's aims is to reduce unplanned downtime to the absolute minimum and to manage it as effectively as possible when it does happen. Years of planning, investment and training have resulted in our Mack Connect uptime and productivity solution. Mack Connect brings together an array of services and resources in a structured way to ensure your trucks are on the road and making money. This includes support services, such as Over the Air software and parameter updates, Certified Uptime Dealers and the GuardDog® Connect telematics platform connected to Mack's OneCall™ 24/7 support and roadside assistance. Other aspects of Mack Connect utilize the data available to GuardDog Connect to bring powerful business management applications to your fingertips, to optimize utilization, drive fuel economy and productivity, and enhance safety.

Mack is also preparing for other potential challenges to your business, including vehicle electrification, as demonstrated by our development of electric refuse vehicles (see article on page 2), and our efforts to attract new pools of qualified drivers and technicians.

We don't know what the future will hold, but we can assume that it will always demand our best effort. I know that Mack will be there for our customers with the best service and support to see them through what may come. Mack is Born Ready.

Martin Weissburg, president



Mack Trucks to build fully electric Mack® LR refuse model

Mack Trucks will build a fully electric Mack® LR refuse truck for Arizona-based Republic Services to help the fleet — which currently operates in 40 states — achieve zero emissions goals.

“Given we operate one of the largest vocational fleets in the U.S., we are continuously evaluating innovative approaches and technologies to improve the performance, economics and environmental impact of our fleet,” says Don Slager, president and CEO of Republic Services.

Mack thinks that a fully electric vehicle will work best in a closed loop application in which the truck returns home every night — such as in the refuse industry.

“We are excited to be working with Mack in the development of an electric garbage truck as it would represent a significant step towards a cleaner, safer and more efficient fleet while helping to preserve our Blue Planet for future generations,” Slager says.

Fully electric trucks feature zero carbon emissions, reduced noise and environmental sustainability, and for refuse hauling companies, the ability to operate quietly during early morning hours is an attractive feature.

“Mack looks forward to partnering with Republic Services to test the benefits a fully electric LR can offer in its day-to-day operations,” says Jonathan Randall, Mack Trucks senior vice president of North American sales and marketing. “As a leader in refuse and alternative solutions, Mack is uniquely positioned to offer a proprietary, integrated and fully electric solution for North America.”

Mack announced in early 2018 that the New York City Department of Sanitation, one of Mack's largest customers, also will test a fully electric Mack LR model, which will be operational in 2019. Those specs and details will also be announced at a later date.



Barry Pottle, CEO of Pottle Transportation and chairman of the American Trucking Associations, recently visited Allentown with his team to get a first-hand look at what it means to be #BuiltLikeAMack. He also viewed the Mack Anthem, donated to ATA by Mack to assist recruiting veterans to the trucking industry.



Mack introduces automated manual transmission for cabover concrete pumpers

For the first time in the industry, an automated manual transmission is available in a cabover concrete pumper vehicle. Mack Trucks is offering the *mDRIVE™* HD AMT in Mack TerraPro® concrete pumper models. The fully integrated 13- and 14-speed AMTs feature improved performance, proven durability and maximized uptime.

“The *mDRIVE* HD is the only AMT available with split-shaft PTO functionality, which enables us to offer concrete pumper customers all the benefits of the *mDRIVE* HD and our fully integrated powertrain,” says John Walsh,

vice president of marketing for Mack Trucks. “In addition to improved performance and productivity, the *mDRIVE* HD helps increase jobsite safety. Eliminating traditional shifting allows drivers to focus on safely operating their equipment.”

In TerraPro® concrete pumpers, the *mDRIVE* HD will be combined with the 11-liter Mack MP®7 engine, and will be available with higher horsepower and torque ratings than equivalent models with conventional automatic transmissions. The AMT offers customers simplified maintenance, with service intervals of up to 500,000 miles.

“For more than 100 years, Mack has held firm to the belief that components designed to work together simply work better,” says Tim Wrinkle, Mack construction product manager. “Not only do our integrated components deliver higher performance, they also help maximize uptime for our customers.”

The HD model builds upon the design of the *mDRIVE*, which has been standard in Mack highway models since 2014. With ruggedized internal components, including stronger gears and synchros, the *mDRIVE™*HD is built to withstand the frequent shifting that occurs during construction applications.

Mack names Wisconsin-based company 2018 North American Dealer of the Year

Kriete Truck Center of Milwaukee, Wisconsin, is Mack Trucks’ 2018 North American Dealer of the Year. Mack made the announcement during its annual dealer meeting in January.

Kriete finished the year 17 percent above its sales plan and 29 percent above its leasing plan. David Kriete, a third-generation dealer, accepted the award on behalf of the entire Kriete Group. Founded in 1951 with a single dealership, the Kriete Group today operates eight locations across Wisconsin.

“Kriete Truck Center exemplifies the values that Mack Trucks is built on, in particular hard work and integrity, and we’re proud to recognize their tremendous support of the Mack brand,” says Jonathan Randall, Mack Trucks senior vice president, North American sales and marketing.

Mack Trucks also named 2018 winners for its regional sales divisions:

- **Northeast:** Ballard Truck Center, Worcester, Massachusetts
- **Southeast:** TranSource Inc., Greensboro, North Carolina
- **Central:** Kriete Truck Center, Milwaukee, Wisconsin
- **Southwest:** Vanguard Truck Center, Houston, Texas



- **West:** Vanguard Truck Center, Phoenix, Arizona
- **Canada:** Mack Ste.-Foy Inc., Quebec City, Quebec

Tri-State Truck Centers was also named U.S. Mack Financial Services Dealer of the Year, while Vision Truck Group was named Canada Mack Financial Services Dealer of the Year. The Mack Leasing North America Dealer of the Year Award went to Tri-State Leasing. Bruckner Truck Sales of Dallas, Texas received the North America Remarketing Dealer of the Year Award, and the overall Customer Satisfaction Award went to Bergey’s Truck Centers in Pennsauken, New Jersey.

Plan today to survive tomorrow

No trucking business is immune from disaster. Your ability to remain in business following the unexpected depends on how well you prepared.

By Denise L. Rondini

B.J. Shirah, owner of Tri-County Tree Service in Wellborn, Florida, knows firsthand the devastating aftermath of a disaster. He's worked on the recovery of some of the worst recent natural disasters in the southeast U.S. such as the tornadoes in Tuscaloosa, Alabama, and Joplin, Missouri, as well as hurricanes Andrew, Maria and Michael. While he's been on the business end of providing disaster services, he's also seen how many companies are unprepared for emergencies.

"You see trucks out of fuel, broken down with ruined tires, busted hoses and stranded drivers. I've seen everything out there and my disaster prep can be helpful to most companies who operate heavy equipment."

He has spent years fine tuning processes his company needs in the event of a disaster. It's essential, he says, to keep on hand a generator, extra fuel tanks, tires, hoses and water. He reviews communication processes in the event of downed cell towers and trains a team of employees to be ready to take on

their emergency roles.

His tree removal business morphs into highway debris removal, but the basic concepts of being prepared, trained and stocked up on supplies can apply to any transportation company.

There's more to be prepared for. While businesses likely consider hurricanes, tornadoes, floods, fires and IT meltdowns in disaster preparation plans, businesses today must also plan for data security breaches, terrorism and active shooter in the workplace scenarios.



Trucking companies are particularly vulnerable to weather disasters that shut down equipment, catastrophic accidents and infrastructure disasters.

According to the Federal Emergency Management Agency, 40-60 percent of small businesses never reopen their doors following a disaster.

For your trucking business to survive a disaster, whether caused by nature or man, you need a plan for personnel response and a reserve of financial resources to keep the

business operational for as long as it takes to get back to business as usual.

Linda Luan, global business resilience program manager at Red Hat, a leading provider of open source enterprise IT solutions, says, "In today's fast-paced global economy, businesses can't afford a disaster interruption and need to plan to remain available (or resilient) to continue serving their customers."

She explains that what once was called disaster recovery planning was renamed business continuity planning in the 1990s, and more recently the name has switched to business resilience.

Trucking businesses need to plan for how they will operate if a disaster strikes. While Luan says no business is risk free, there are threats today that she never dreamed of 20, 10 or even five years ago.

Also, there's an expectation from customers that you are prepared for anything. "Your customers expect you to have plans and processes in place to avoid interruptions so they can be assured that their own business will not be affected by your disaster," she says.

Geary Sikich, principal of Logical Management Systems, a business management consulting firm, defines business continuity as "all initiatives taken to assure the survival, growth and resilience of the enterprise."

"There is a misperception that there are best practices that work in every disaster situation. Considering that no two trucking businesses are exactly alike, best practices should be looked at as idea hatchers to help you adapt a plan to your unique circumstances."

During the planning process you should ask several key questions about how resources will be managed including, what skills will be needed, who will have the authority to make crucial decision and how information will be shared.

He adds that there are three levels of

planning: tactical, operational and strategic.

"There is the tactical of 'How do I respond to this particular event that is affecting me right now?' There is the operational, which says, 'I have a problem at a location or within a business unit, and how do I respond to help them while at the same time managing things to keep it from cascading outward and affecting others?' And then you have a strategic level which says, 'I have a problem and now I should talk to the outside world, customers, stake holders, suppliers etc., to assuage them so they are not overly concerned and so that we can get them on board.'"

Who needs to be involved in the planning?

Luan has found it to be crucial for top management to fully buy into the plan. "Like our industry's acknowledgement by its name change from disaster planning to business

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Linda Luan, global business resilience program manager at Red Hat

Defining the plan

Luan provided this quick reference of what to include in the business resilience plan.

- **Who:** Start with identifying the recovery teams, leaders and authors.
- **What:** Work with the team to define what happens during unavailability of building(s), people, applications and regional disasters. Define work-around procedures or recovery scripts.
- **Where:** Consider alternatives if your location is rendered inoperable.
- **How:** Document key dependencies (e.g. applications, personnel, vital records, equipment, etc.) needed to operate during recovery. Capture and record contact information for all employees. The communication function is critical. Assemble a list of local agencies including fire, police and utilities so you have contact information before you need it.

COVER STORY

continuity to business resilience, it reflects the need for the business to determine its own risk appetite and then provide the resources — people and money — to invest appropriately in the program,” Luan says.

Assess your risks

While some risks are universal — cyberattacks/data breaches, terrorism, active shooter — others are area specific — tornado, hurricane, earthquake and fire. Each

business must determine which risks they are most likely to face. An all-hazard threat assessment looks at all threats both natural and manmade. “All must be considered, measured, analyzed and then monitored,” Luan says. If this is your first time planning, research the top business continuation threats to compare your business and industry to ones that are similar. Then consider your business operations in key areas for geographical and geo-political threats, Luan advises.

Assemble leaders

Once you know which risks your company is more likely to face, you need to select the team of people that will lead the efforts once a disaster occurs — the incident management team. “When defining the recovery organization, it’s important to follow the organizational structure,” Luan says. “It’s important not to define something new or unusual and expect people to use that when they are under duress.”



Digging out

B.J. Shirah has been in the tree service business for more than 20 years and says his crew is ready to pivot to emergency prep in the event of natural disasters. Tri-County Tree Service in Wellborn, Florida, offers tree trimming and removal, land clearing, stump grinding, recycling services and debris hauling. But when Hurricane Michael barreled into the U.S. as a Category 4 with maximum sustained wind speeds of 155 mph, Shirah’s team was put to the test. He says investing in the time to train his crew and set up processes contributed to their successful operation.

Once the storm passed through, he sprang into action, ready to assist with clearing the roads of storm debris including downed trees.

His crew had their go-bags ready, the supply trucks packed with first aid kits, signage, water, equipment, extra fuel tanks, tires and extra hoses. His crew was

prepared to work around the clock for the month it took to finish the job of cutting, clearing and hauling debris to get the roads operational.

Shirah says he would have preferred to use his new 2019 Mack® Granite® for cleanup after the monster storm, but it had not yet been delivered. Shirah estimates the Mack would have grossed nearly \$75,000 for the company. “We get paid by the load and the Granite would have increased productivity and uptime. It would have paid a good dividend during Michael,” he says.

While he’s back to his regular tree removal business, he says his new Mack Granite, turned into a well-loved workhorse.

“It’s our first Mack truck and it’s done a beautiful job. My crew loves the automatic transmission and I love its efficiency and power,” Shirah says. ■

Choose a primary person and an alternate for each key role. Identify key personnel to lead each of the teams. Consider special roles for the incident management team including media relations, incident coordinator, legal, human resources and finance.

Rehearse and practice

Once the plan is documented, set regular rehearsals or practices to train personnel in their roles and in the use of the document

itself, Luan says. Verify the strategies — “what to do” — and the procedures — “how to do it” — work properly. Identify any gaps in the plan and revise the plan to close those gaps.

You also need to raise awareness about the plan across the entire organization. “Business continuity is everyone’s responsibility,” Luan says. While not everyone is on the crisis team, everyone has a role to play when an incident occurs. That includes participating in drills (fire, active shooter) or knowing how to access emergency information during a snowstorm.

The goal of the rehearsals or practices is “to embed the principles into the fabric of what you are doing day to day,” Luan says. “Build these good practices into your regular processes so it is like brushing your teeth. It becomes a habit and you just do it without thinking about it.”

In addition, the plan needs to be reviewed at least annually. “There are planned reviews and unplanned reviews,” Luan says. “The planned review is taking the plan and dusting it off before you do a test and then making changes based on what you learned during the exercise.” An unplanned review would be an actual emergency, after which you should update the plan based on what worked and what didn’t.

Also make sure to review what she calls “volatile information” like employee contact information is up to date. It’s a good practice to review it once a quarter.

Seek expert advice

If this all sounds overwhelming, you do not have to tackle planning alone. There are business continuation planning experts who can help. “You definitely need a ‘tour guide,’” Luan says. “Your guide can be

“There is a misperception that there are best practices that work in every disaster situation. Considering that no two trucking businesses are exactly alike, best practices should be looked at as idea hatchers to help you adapt a plan to your unique circumstances.”

Geary Sikich, principal of Logical Management Systems

someone from within the organization who has the expertise required, or you can hire someone from the outside who understands the roadmap.”

When evaluating an outside consultant, Sikich says to ask for details of previous projects they have completed. “You have to be cautious when you are picking a consultant to work with you.” Some may have expertise in things like IT recovery but not in other areas of disaster planning.

Ultimately your business’ ability to survive a disaster — your resilience — will depend on how well you have planned. Make sure you have thought through what will happen during incident management. ■

Pitfalls

Luan and Sikich offer a list of things to avoid in your business resilience planning.

- **Scope creep or analysis paralysis:** Start small. Get something on paper, and then improve each cycle.
- **Filling out a template:** One size does not fit all. However, it’s not the plan document itself, but the planning process that is what’s important.
- **Not accounting for change:** Change is the only constant. People will change. The company will change. The method must be flexible, easy to maintain and scalable.
- **Failing to prepare for low probability events:** This includes believing certain types of events can’t happen to your business or denying that risks exist. No business is risk free.
- **Not funding the plan properly:** You need to make sure you have working capital to get you through the days immediately following the disaster, before insurance funds are released.

Know Your TCO

It pays to understand the total costs of truck ownership.

By Olivia McMurrey

Fleet managers and operators alike know the importance of total cost of ownership. To a large extent, TCO determines a company's profitability.

Some firms diligently track the total costs they pay to operate each truck in their fleet. They know specific numbers for different brands and models and can cite goals when purchasing new vehicles. But for many, monitoring all the variables — especially soft costs that are difficult to quantify — is a daunting task. They're likely aware of purchase prices, residual values and fuel economy, yet have only a vague sense of numbers related to other contributors.

"With any business or even at home, you have to budget," says Stu Russoli, Highway Product Manager for Mack Trucks. "And if you know where each of your costs go, that's a big thing. Do truck owners and fleet managers all sit down and say, 'How many times has a truck been in for service and what are those costs?' They should know if they are

losing money through too much service on a vehicle or in other ways, but they might not calculate it all."

Understanding the details of your TCO doesn't have to be overwhelming. We'll define and analyze the pieces, starting with the most significant.

Truck and body costs

This is fairly straightforward. It includes the price of the truck; the cost of any add-ons that don't come from the factory; and, if it is a straight truck, the price of the body (dump, mixer, van body, etc.).

Residual value

This is the approximate amount you will receive when you sell or trade in the truck. Subtracting this number from the original costs will tell you the net price of the vehicle for the number of years you expect to own it. If you are financing a truck, the financing firm will calculate this

value by asking you questions such as how many miles you plan to put on the truck and in what applications it will be used.

Mack trucks are known for their high resale values, and this is not by chance. "Mack takes a look at the residual of our trucks, and we evaluate what components help or hurt residuals," Russoli says.

This doesn't mean, however, that you should spec components based solely on how they affect residual value. Mack dealers use knowledge about residual value and customers' operations to help buyers take a nuanced approach.

"A Mack MP[®]8 (13-liter engine) in a tractor may have a better residual value than an MP[®]7 (11-liter engine), but if the customer is weight sensitive or has no need for the higher horsepower, staying with the MP7 may be the best solution for that buyer," Russoli says. "The customer needs to ask, 'How much fuel will I save over the life of the truck?' It may be it balances out even though the residual is a little bit lower."



Total costs of truck ownership



Tractor and body costs

Price of the truck, add-ons and body (if applicable)



Residual value

Amount you will receive when you sell or trade in the truck

Fuel

Average price per gallon times the number of gallons you expect the truck will use

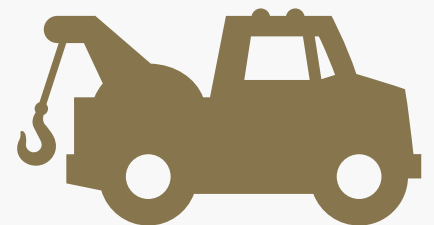


The driver

Consider not only paychecks, but onboarding costs

Regular maintenance

Cost of service done at planned intervals



Downtime

Cost of unplanned service as well as costs associated with lost productivity



Weight

Cost per pound of payload (for operations in which payloads are maxed out)

Fuel

Fuel is clearly a major expense and one that can be quantified easily. While it's a no-brainer that, given technology changes, operating older trucks can be costly from a fuel-economy perspective, there are also significant fuel-efficiency differences among newer vehicles.

For example, the Mack Anthem® is available with the HE+ package, which delivers up to a 9.5-percent improvement in fuel economy over a non-HE+ Anthem tractor and achieves the U.S. Environmental Protection Agency's SmartWay designation.

If a company's truck uses 20,000 gallons of fuel per year at a price of \$3.25 per gallon of diesel, that's a cost of \$65,000. Improving fuel economy by 9.5 percent would mean saving 1,900 gallons of fuel or \$6,175.

The HE+ package consists of a number of fuel efficiency-enhancing features, including Energy Recovery Technology and additional aerodynamic features, resulting in significant fuel savings without compromising performance.

"It gives you the full aerodynamic package — everything you can possibly put on it," Russoli says. "So it's super high efficiency."

The HE+ package has been extremely popular since it was announced in March 2018, he adds.

In addition to aerodynamics and advanced technology, another key player in fuel economy is the transmission. "An automated manual transmission definitely will get you better fuel economy than a manual transmission even with the best driver. It is just more consistent on shifting and shifting at the right time even at the end of a shift when most drivers may be tiring out," Russoli says.

The driver

The cost of the driver is not just the paycheck, but also the cost to onboard a driver into the company: orientation, training, routes and learning company rules. Those amounts are anywhere from \$5,000 to \$20,000, Russoli says, and can include the cost of idle

equipment and the lost profits associated with missed business.

With an aim of helping companies retain drivers, Mack focused extensively on driver-centric features when developing the Anthem. The company does research at truck stops and interviews drivers and observes how they utilize their cabs.

“We designed the truck to have a bold look in order to attract drivers and to make them want to drive the truck,” Russoli says. “We surveyed drivers and completely redid the ergonomics, moving controls closer to the driver. We raised the roof on our 70-inch sleeper so the driver can stand up right out of the driver’s seat, providing more space and easier access to the sleeper. We added secure storage, targeting best-in-class capacity for everything a driver needs to bring along on the trip.”

Regular maintenance

Tractor maintenance tends to be similar across OEMs because most are competitive with lube and other maintenance intervals. There are some differences with wear-related items such as brakes, tires and belts.

With disc brakes, for instance: the parts may cost more, but replacing them takes less time so labor costs are lower and they have a longer change interval as well.

One Mack option, the 6x2 liftable pusher axle, decreases tire and brake wear because the axle is lifted when payload diminishes. It also reduces weight and saves fuel.

Downtime

Downtime is perhaps the most challenging aspect to predict, but it can be tracked. And if you monitor your trucks’ downtime, trends will emerge that will give you valuable insight.

“Mack has a reputation of being durable and reliable,” Russoli says. “We test our trucks more severely and we design for that.”

How a truck manufacturer manages unplanned issues and how much technology a fleet uses to address them plays a huge role as well.

Mack’s dealer network consists of more than 400 locations and continues to grow and improve with additional master technicians and Certified Uptime Dealer locations.

The Mack Connect suite of uptime solutions include Mack GuardDog® Connect telematics, the Mack Uptime Center with 24/7/365 live support, Mack ASIST, a web-based management system, and Mack Over the Air, which can perform updates while the truck is on the road.

GuardDog Connect detects problems instantly and calls them in to the Uptime



Organizing and interpreting the data

A simple spreadsheet is an ideal tool for tracking total cost of truck ownership. Create a column for each type of application your company undertakes — dry van, reefer, flatbed, bulk haul, etc. Use the rows to track various TCO factors. If your company operates trucks in multiple applications, expect differing results in each column and spec trucks to optimize TCO for each operation.

For example, spec’ing a dry-van tractor might be geared more toward aerodynamics and fuel economy, while spec’ing for a reefer application would focus on those two things, but might also involve choosing lighter weight components. A flatbed application would prompt fewer aerodynamic concerns and might call for more durable components or added ground clearance.

Center and to a fleet contact using email, phone or text messages, according to the fleet’s preference. If an issue needs immediate attention, it contacts Mack’s OneCall customer center with the diagnostic code. A team of experienced technicians evaluates the code and identifies the exact issue and repairs needed. The driver is then instructed where to take the truck. Technicians can begin work immediately, since Mack OneCall and ASIST have provided the necessary information — including parts needed, service instructions and diagnostic information.

Likewise, if a repair can wait until the next service interval or until the truck has a break, Mack Connect will communicate that as well.

“Let’s say you lose a half a day or a day every time a truck has to go in for service,” Russoli says. “If you know that ahead of time and can prevent that from happening, you don’t lose the work you could have done that day. That’s

really critical, especially in this day and age.”

Weight

Fleets and owner-operators who gross out their payloads might want to add the cost per pound of payload to their TCO calculations. If you know how much you can gain or lose per year with a lighter or heavier truck, you can make an educated judgment about whether to spend extra money on lighter weight components.

Even if they are running similar trucks in comparable applications, total cost of ownership can be very different from one company to the next. That’s why developing your own data sets is so important. While there is a lot to take into account, calculating the costs is not that complicated, especially if trucks can be dedicated to a specific application. And the potential payback — dramatically improved profits — definitely makes the exercise worthwhile. ■

BUSINESS COSTS

\$2.965

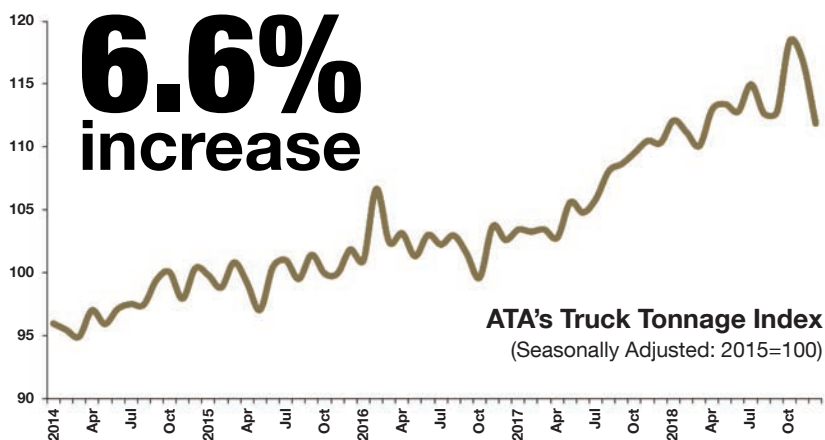
per gallon

Fuel prices lowest since 2017

Near the end of January, the average price for a gallon of on-highway diesel in the United States was \$2.965, according to the Department of Energy. The last time prices were lower was Christmas Day 2017, when the national average was \$2.903.



FREIGHT



2018 marks largest truck-tonnage gain in 20 years

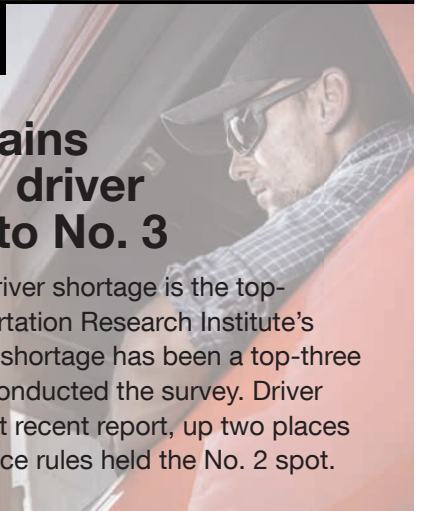
According to the American Trucking Associations monthly Truck Tonnage Index, the amount of freight carried by the for-hire trucking industry in 2018 rose 6.6 percent from 2017. The gain comes despite a 4.3-percent dip in tonnage near the end of the year. The year-over-year increase was the largest since 1998.

Looking forward, Freight Transportation Research Associates predicts the demand for truck loadings to slip from peak 2018 levels of 5-percent growth to a moderate pace of 2.5 percent in 2019. This is due largely to a predicted decline in gross domestic product.

DRIVERS

Driver shortage remains No. 1 industry issue; driver retention moves up to No. 3

For the second year in a row, the driver shortage is the top-ranked issue in the American Transportation Research Institute's Top Industry Issues report. The driver shortage has been a top-three issue in 12 of the 14 years ATRI has conducted the survey. Driver retention is the No. 3 issue in the most recent report, up two places from the previous year. Hours-of-service rules held the No. 2 spot.



INDUSTRY ISSUES

Analysts predict another banner year for truck and trailer sales

Orders for both Class 8 trucks and heavy-duty trailers were up significantly in 2018 compared to 2017, and Freight Transportation Research Associates predicts the number of trucks shipped will climb even higher in 2019, while trailer shipments will remain steady.

CLASS 8 TRUCK ORDERS

2017: 290,534

2018: 483,692

HEAVY-DUTY TRAILER ORDERS

2017: 308,000

2018: 409,800

Source: FTR Associates

INFRASTRUCTURE

Traffic-congestion costs increasingly concentrated on urban roadways

Traffic congestion on the U.S. national highway system adds nearly \$74.5 billion annually in operating costs to the trucking industry, according to the American Transportation Research Institute. ATRI calculated that delays on the national highway system total nearly 1.2 billion hours of lost productivity. This equates to 425,533 commercial truck drivers sitting idle for a working year.

Congestion costs are increasingly concentrated on relatively small portions of the national highway system – 86.7 percent of total nationwide congestion costs occurred on just 17.2 percent of system segment miles. These segments are predominantly located in densely populated urban areas.

\$74 billion

AT WORK



Harsh weather & a demanding job

REgroup relies on Mack to keep Halifax tidy

By Jim McNamara

“[Mack is] a brand that I think shows to our customers and the public that we’ve invested in good equipment, the toughest equipment. Mack is a work truck.”

Alan Abraham, vice president of Royal Environmental Group



REgroup Vice President Alan Abraham, left, with Glen Lane, director of operations.

AT WORK



According to the old saying, one man's trash is another man's treasure. Unless the trash hasn't been properly sorted or put in the correct bag or bin, in which case it's just a nuisance that must be corrected.

"Nova Scotia has one of the most stringent recycling programs in all of North America," says Alan Abraham, vice president of Royal Environmental Group (known as REgroup). That emphasis on reducing waste makes REgroup's job more complex.

"In 1989 when we started, it was one truck and one bin behind your business. Now you need up to six or seven bins because we collect the waste separately, the compost separately, the cardboard separately, the blue bag separately and the construction debris separately."

Waste collection is obviously a serious business in the Halifax Regional Municipality, with four types of residential collection and the expectation that the collection streams can't be commingled. That means the waste collection services have to be trash cops and monitor what goes into the bins and bags. If the wrong materials go into the wrong bag, then the trash is rejected and left on the curb, and the customer is responsible for repackaging it.

"We are responsible for the quality of the

product that goes into the trucks," Abraham says.

With all this pressure added to the normal high-stress demands of the refuse industry, the last thing REgroup needs is an unreliable truck — which is why the fleet relies so heavily on Mack® Granite® MHD and TerraPro™ models.

"We put a lot of demands on our drivers, so the last thing I want a driver to worry about is, 'Is my truck going to make it through the day?'"

"I like the strength and integrity of the Mack brand," he says. "It gives me comfort to know that it's a strong truck. And it's a brand that I think shows to our customers and the public that we've invested in good equipment, the toughest equipment. Mack is a work truck. REgroup is here to work, and that's what it says when we arrive at a customer's site."

When the first company that later became REgroup was founded in 1989, it started with a new Mack MR model. "We wanted something that was a tough, utilitarian truck," Abraham says. "It was just the complete opposite of what I was used to (from other trucks). We needed something tough."

Parts of Halifax have narrow, congested streets which rules out the use of side loader units. Instead, the company uses Granite MHD models equipped with rear loaders for residen-

tial collection. Each truck has a driver and a loader. It also uses TerraPro models equipped with top loading recycling bodies and TerraPro front end loaders for commercial and apartment collection. The urban conditions of



Royal Environmental Group (REgroup)

- Founded in 1990 (then called Enviro Waste Limited)
- Serves over 2,000 customers in the Halifax area
- Offers commercial and residential garbage pickup, composting and organics collection, recycling bins, e-waste disposal, and roll-off containers and dumpsters for businesses and construction companies
- 60 percent of fleet dedicated to recycling
- First company in Nova Scotia to introduce an organics cart exchange program

Halifax mean the drivers have their hands full with traffic, pedestrians and cyclists.

That makes safety a prime concern. Mirrors, visibility, backup cameras and moving away from manual transmissions are



important to improving safety. Abraham says he “can’t remember” the last time the company bought a truck with a manual transmission. This also helps recruit new drivers.

Safety officers and route supervisors observe drivers out in the field. The company tries to observe every driver on a consistent basis, to recognize when they do things well and to educate on problem areas, Abraham says.

REgroup has grown through multiple acquisitions, which means it operates a variety of truck makes, but the Mack nameplate is predominant, with about 200 units in the fleet of 450. The acquisitions have also moved the fleet into new operating areas, such as the surrounding villages, coastal towns and summer homes.

REgroup is open to new ideas and technologies, says Earl MacLean of MacKay’s Truck Center, the local Mack dealer in Dartmouth, NS. In addition, the fleet is proactive with maintenance and is willing to invest in the trucks to ensure the uptime and productivity they require.

Weather is a major factor in the need for tough, durable equipment. Regular large temperature swings and nasty winter weather make driving a challenge. Winter weather also leads to regular applications of road salt, the bane of vehicles everywhere. REgroup aims to wash its trucks a number of times a week, to keep them clean and to prevent corrosion.

“Rust proofing is very big here in Atlantic Canada,” Abraham says. “We use more salt per mile in Nova Scotia than any other province in the country because of our freeze-thaw cycle, and it is highly corrosive. It is just brutal on equipment.” The Macks in the fleet do well in this environment, he says.

Corrosion can also attack wiring and electronics, which is a bigger issue as the fleet has added devices and components to its trucks, such as multiple cameras and GPS. With the corrosion issues related to road salt and the proximity of the North Atlantic’s sea air, Mack’s BodyLink III wiring harness is a real advantage, since it permits fleets and body builders to attach the peripheral devices without splicing into the wiring harness and compromising the integrity of the system.


All trucks have GPS, and route supervisors monitor snow clearings and traffic in real time. Abraham stresses that the importance of on-time pickup is why REgroup is a vital service.

“People count on us to keep things running smoothly. If waste is left to pile up, it’s not good for anyone. We have to keep things moving reliably. In the end, we’re a hauler and we count on our equipment.” ■



AT WORK





The Next Generation for Mack

With drive, enthusiasm and a small but growing fleet of Mack[®] trucks, young Daniel Cox has what it takes to be a boss in the construction biz.

By Allison Hatfield
Photos by Kirk Zutell

AT WORK



“It doesn’t matter how young or old you are — especially in the construction game — you can succeed with a little hard work and preparation,” says Daniel Cox, who doesn’t just believe it — he’s living it.

Only 22 years old, Cox used the little bit of cash he’d saved from working with his dad and some money his parents had set aside for his education to buy a 2007 Mack® Granite® dump truck. With that, he founded Cox Trucking in his hometown of Kings Park, New York.

As president of Cox Trucking, he sends drivers out in three Mack trucks five or six days a week, and plans to add a fourth Mack in 2019. The equipment has already proven to be a rock-solid foundation for a new construction business aiming to grow quickly.

Cox dropped out of college three years ago to work for his father, who runs a company that paved Yankee Stadium and some of the runways at John F. Kennedy International Airport. “It was 100 percent one of the

toughest decisions I ever made, because I knew I would be looked at differently,” Cox says about leaving Salve Regina University in Newport, Rhode Island. “I went into college with the typical attitude of breezing through it and getting a degree in business.

Unfortunately — or fortunately — it wasn’t a good fit for me.”

What was a good fit, however, was the construction business. Cox started with his dad as a flag boy. He says he spent nearly a year running errands and picking up traffic cones. That’s when the wheels began to turn. Cox began to think he’d like to run his own trucks — and he started taking mental notes about which were performing best. He noticed the Mack trucks “seemed to never have

a problem. They were the most reliable day after day.”

Taking the leap

The first year, as he got his footing in the business world, he worked often as a paving

“The drivers have confidence in the Mack® trucks’ ability to handle demanding loads on-road and off.”

Daniel Cox,
president of Cox Trucking

contractor for his dad, but he also spent time approaching other companies and building a customer base. As he landed new jobs and the company’s word-of-mouth reputation grew, people called to hire his trucks.

“There’s a lot to be said for being a service provider that shows up on time and looking good — and with a willingness to stay at the

Cox Trucking Mack Truck Specs

2007 Granite dump truck with liftable pusher axle

425 hp Mack MP®8 engine
8-speed manual transmission
(with low and low-low gear)

2016 Granite dump truck with liftable pusher axle

425 hp Mack MP8 engine
8-speed manual transmission
(with low and low-low gear)

2019 Pinnacle Day Cab tractor

505 hp Mack MP8 engine
12-speed mDRIVE automated
manual transmission



job site as long as needed,” Cox says. Soon business was booming, and in his second year, he bought another Granite dump truck and a 2019 Mack Pinnacle™ Day Cab tractor.

Much of the business involves bulky, heavy loads — recycled concrete, bluestone from the Hudson Valley — that put the equipment to the test. But Cox’s crew has also worked



“some cool events.” In Manhattan, his Granites helped pave seven blocks of Broadway and a section of Fifth Avenue. The Pinnacle was part of the cleanup for the 2018 Macy’s Thanksgiving Day Parade. In winter, as the construction industry virtually shuts down in the Northeast, Cox’s company continues operating, hauling snow in Brooklyn.

Building blocks of success

Cox says his three drivers love running equipment they can count on. “The drivers have confidence in the Mack trucks’ ability to handle demanding loads on-road and off.” When they’re behind the wheel of the Pinnacle, they have the convenience of the *mDRIVE™* automated transmission and the comfort of the spacious, redesigned day cab. They also have the assurance of Mack Over The Air, which does software and parameter updates in minutes to keep the truck running optimally without disrupting the ambitious schedule.

In addition to the equipment, what’s made the business successful, Cox says, is his commitment to the hustle and to a job well done. “I have a solid group of drivers. I visit prospects from Staten Island to the Bronx and all over Queens and Manhattan. And we wash our trucks every single day. I want customers to say, ‘Get Cox. They are on time. They are clean. They will stay late. They are legit.’”

Around the time Cox got his first truck, he also got a French bulldog puppy he named Achilles. He calls it a happy coincidence that he ended up with a fleet of Mack Bulldogs and a canine that is a fitting mascot for his operation. “Achilles goes to work with me every single day,” Cox says. “He’s sitting next to me right now.” The pup’s likeness appears on all the trucks.

As he plans the purchase of a fourth truck and the hiring of a fourth driver, he observes that “life keeps moving forward.” He intends to keep moving with it. ■



AT WORK

Cleaning up a dirty job

Mack® Pinnacle™ and *mDRIVE*™ help to keep Fort Worth's biosolids under control

It's an issue that has to be addressed by any city or town: what to do with sludge from sewage once it's been through the waste treatment plant. Renda Environmental Inc. (REI) has an efficient and useful solution for Fort Worth, Texas, and it involves Mack® trucks. The Fort Worth-based company provides environmentally sound solutions for managing wastewater byproducts, and it runs an all-Mack fleet — including nearly a dozen Mack® Pinnacle™ Axle Forward Day Cabs with *mDRIVE*™ transmission — to deliver biosolids to North Texas landowners looking to boost crop yield.

REI removes the water from from the sludge and sells the remaining organic matter as fertilizer and soil conditioner. “We use technology and chemistry to isolate the residuals and extract the nutrients,” explains Ben Davis, REI environmental program manager. “The nutrients in the material are nitrogen and phosphorus; the micronutrients are boron,

manganese, copper and zinc.

“Biosolids are a like a multivitamin for the earth,” he says, “and they increase the organic matter in carbon-depleted soil. The customers — farmers and ranchers who grow corn, milo, wheat, cotton, hay and sunflowers — love it because their yields are significantly improved.”

Getting its start

Oscar Renda founded Oscar Renda Contracting in 1974. In 1992, the company ventured into residuals management projects. REI operated as part of that contracting business until 2003, when it became a separate entity. At that time, REI employed 40 people and owned five trucks. Today, it has 55 employees and runs 36 trucks. Revenue has tripled in that time, making REI the largest Class A/B biosolids land applier in Texas. Oscar's wife, Raquel Renda, is the

fleet manager and has put her stamp on the operation.

Prospects for continued growth are good, she says. But prepping for growth isn't easy. “We are running 24/7. That is a tiresome schedule,” she says. “It takes a lot of manpower.”

It's well-known that manpower — specifically a shortage of good drivers — is among the top problems plaguing the industry. Attracting and keeping quality drivers is the lifeblood of any trucking company. That challenge for REI is amplified by long days that demand drivers do more physical work than the average trucker.

REI drivers start their days early, often arriving at the Fort Worth dewatering facility before dawn.

Indoors at the facility, six belt-filter presses operate day and night to extract water from liquid sludge piped in from the city's wastewater treatment plant next door. Removing the



By Allison Hatfield
Photos by Jim McNamara

water from the sludge leaves a dense black cake, which REI then treats with lime so that the solids are compliant for land application and odor potential is minimized. Odor is a big deal in this business, especially since trucks must frequently travel through populated areas on the way to customers. Once the dewatered cake rolls off the belts, a conveyor carries it out of the building and deposits it in piles that can be loaded into empty trailers.

REI drivers assist with loading the solids into their trailers. They securely tarp each load and then thoroughly wash the outside of the trailer free of debris before hitting the highway. REI serves a radius of about 150 miles, and once a driver arrives at his destination, he helps unload the biosolids. "It's a dirty job," Raquel says. "And some people don't want to get that dirty."

As with most all fleets, equipment matters in driver recruitment and retention. Having a fleet of durable and reliable Macks helps.



"That dog [on the hood] means a lot. When a driver sees our Mack trucks, they know we are workers. They know that this is a tougher truck; it is a harder-working truck."

Raquel Renda, REI fleet manager

"The gold dog on the hood? That is a big deal," Raquel says "That dog means a lot. When a driver sees our Mack trucks, they know we are workers. They know that this is a tougher truck; it is a harder-working truck. Our guys do a lot of driving through dirt, and they don't have issues going off-road when they're driving a Mack."

Recently, REI purchased 10 new Pinnacles with *mDRIVE* automated transmissions.

When Raquel first let her drivers know that she planned to replace the manual 13-speed transmission trucks with trucks with the *mDRIVE*, there was a natural resistance. Not everyone likes change, and many seasoned drivers feel that manually shifting gears is an important part of the job. To overcome objections from her crew, she turned to her Mack dealer, Bruckner's Fort Worth, and her sales rep, Butch Mask.

AT WORK

Convincing drivers

The relationship between Oscar Renda and Bruckner's in Fort Worth goes back 30 years, when Mask sold Oscar his first truck. Mask felt confident that once REI drivers got a shot in the seat of a truck with the *mDRIVE*, they would not only see why the switch makes good sense, but also embrace a change that would ease their burden just a bit.

"As we all know, experienced drivers are not around every corner, and these guys don't want to be told how to shift," Mask says. "Raquel asked me to bring a demo out and let the drivers drive it. So one morning, that's what I did. We loaded up three loads and took them up to farms around Venus, Texas.

"Those drivers were scared they would get stuck, scared they wouldn't be able to get moving. When we left out of there, one of the manual 13-speed trucks was following us. We were just driving normally, but we ran off and left that other truck. Simply put, a driver can't shift as fast as the *mDRIVE* puts him in the

gear he needs to move down the road — not to mention that it keeps his hands free to hold onto the steering wheel," Mask says.

What's more, "the *mDRIVE* works perfectly for REI because of the conditions they drive in. They're often on soft ground. With a manual transmission, when they're spinning out, these guys have to ride the clutch. The automated transmission gets them moving. The [differential] locks let them creep forward in that soft soil, and reverse lets them run high torque/low speed, so they don't spin the tires."

After the demo, every one of the REI drivers agreed: *mDRIVE* is way to go.

"When they first got in the trucks, they felt lost," Raquel says. "To get used to that new technology was a transition, but after a week, they didn't want anything else." And Raquel is committed to converting the rest of her fleet to *mDRIVE*.

Beyond biosolids

The happiness and well-being of REI's drivers is extremely important to Raquel. She's so committed to treating them like family that they call her "Mamma Renda." But her focus on relationships extends beyond the people on her payroll.

She and her team have built strong professional connections all along the supply chain, from the municipalities whose water they receive to the farmers and ranchers to whom they deliver biosolids. She sees REI as a steward of both the communities it

serves and the land it helps replenish.

"We have a four-year waitlist for our product," Raquel says. "That shows how committed we are to this business and to doing the right thing." ■





Renda Environmental Mack Truck Specs

- 445 hp Mack MP[®]8 engine
- 13-speed *mDRIVE* automated transmission
- Mack rear axles
- Power divider locks that enable drivers to manually lock the front and rear axle together
- Inter-wheel differential locks that give drivers the option to lock side to side when they need to drive out of the mud

Alcoa[®] Dura-Black[™] Wheels

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An Anthem to safety

Safety is a top goal for heavy-duty trucks and the Mack Anthem® sets the standard through design and technology.

By Olivia McMurrey

Safety is a primary concern for trucking companies. Protecting drivers and the motoring public is a serious responsibility that also has business implications. The expectation from society and the trucking industry is that each new generation of truck will have increased safety performance.

Mack Trucks has a long history of pioneering safety innovations, so it was no surprise features related to safe operations were a top priority for engineers when they designed the new Mack Anthem® highway tractor.

While industrywide safety is gradually improving, there has been a rapid advance in vehicle-related safety technologies and their capabilities during the past decade, says Roy Horton, director of product strategy for Mack.

“Today we’re using cameras and radar and information from the braking system in order to provide safety features,” he says. “These are innovations not available to buyers until fairly recently in some cases.”

Read on to learn how several Mack Anthem features are helping companies and drivers make America’s roadways safer.



Pre-Trip Assistant

The Anthem's Pre-Trip Assistant guides drivers through inspection points. It provides a checklist of tasks and turns on all exterior lighting so drivers can walk around the vehicle and easily confirm all lights are working.

RollTek seats

Truck-driver fatalities often involve vehicle-rollover situations, Horton says. These are violent incidents that can catch a driver by surprise.

RollTek seats, available on the Anthem, mitigate rollover-associated risks for the driver in four ways. When a roll sensor that monitors the truck's position detects a rollover, seat belt pre-tensioners secure the driver in the seat, the suspension seat lowers to increase survivable space, a side airbag deploys to cushion the head and neck and doors auto-unlock.





Dash design

The Anthem's automotive-inspired instrument panel and steering wheel were designed to give drivers confidence and control in the cockpit.

"We designed the dash to keep drivers' eyes on the road, keeping all the switches in an ergonomic and easily reachable location," Horton says. "We focus their attention on operating the vehicle.."

Many controls are located on the steering wheel and steering-column stalks so the driver can keep his or her hands on the wheel and avoid looking away from the road ahead.

The Co-Pilot driver information display provides in-depth vehicle status and performance data, which drivers access with one toggle of the right steering-column stalk. Drivers can scroll through the screens, make selections and go back using three controls on the right column stalk.

Cruise control, phone and radio controls are located on the steering wheel.



Grab handles and seat belts

Extruded black aluminum exterior grab handles improve ergonomics and make entering and exiting the cab safer for the driver. A handle is also located on the door inside the cab.

To encourage safety-belt use, Mack provides seat belts with Komfort Latch, which allows the driver to adjust the belt for a customized fit. Audible and visual warnings alert the driver when he or she is not wearing the seat belt, and belts in blaze orange are available, helping managers quickly ascertain whether drivers are wearing seat belts.

Transmission and engine

"Compared to a manual transmission, the *mDRIVE*[™] automated manual transmission allows the driver to maintain his or her focus on operating the vehicle instead of shifting gears, and it does so in a very fuel-efficient manner," Horton says.

With *mDRIVE*, there's no clutch pedal, and shifting is controlled by intelligent software and engine integration. The transmission continuously monitors changes in grade, vehicle speed, acceleration, torque demand, combined vehicle weight and air resistance to optimize fuel economy.

Mack's proprietary engine brake plays a key role in safety as well, Horton says. "We have fantastic engine brake performance, which helps control the vehicle," Horton says. "It's quiet and highly effective."



LED lights and visibility

All the Anthem's exterior and interior lights are LEDs, which are 66 percent brighter, last longer, use less energy and provide better visibility than the incandescent lights offered on previous models.

The Anthem's LED headlamps offer 655 lumens at low beam vs. the 395 lumens provided by incandescents. LED light is more like daylight, and the Anthem's headlamp beam pattern illuminates a larger expanse of roadway. LED fog lights improve driver visibility as well.

While LED headlamps and fog lights increase visibility for the truck's driver, additional exterior LED lights – including turn signals, tail lights and roof lights – make the Anthem easier for other drivers to see.

A lowered hood line also improves driver visibility, and innovative hood-mounted mirrors provide maximum visibility along the side of the trucks and trailer, in addition to enhancing aerodynamics.



Wingman Fusion

Bendix[®] Wingman[®] Fusion[™], a camera- and radar-based driver assistance solution, is standard on all Anthem models. Wingman Fusion provides collision mitigation, adaptive cruise control and lane-departure warnings. It also can apply the brakes in emergency situations. In addition to preventing rear-end collisions, the system helps drivers avoid crashes including rollovers, loss-of-control and accidents due to lane departure.

Wingman Fusion combines and cross-checks information from multiple sources, creating a highly detailed and accurate data picture through intelligent communication among components. The result is a system that typically assesses situations faster and reacts earlier than human drivers, while reducing to near zero instances of false alerts and false interventions.

Horton recalls a press test-driving event in which a passenger vehicle moved into a left lane in front of a Mack Anthem, then made a hard stop as the car driver attempted to make an illegal U-turn in the median. Wingman Fusion detected the passenger vehicle in front of the truck and deployed the brakes. "It was just so fast," Horton says. "If it hadn't been for the Wingman Fusion collision mitigation system activating immediately, there would have been a collision. It absolutely works."

Wingman Fusion also prioritizes alerts to help reduce driver distraction.

"Wingman Fusion is just one more way that this new generation of Mack is carrying forward the best traditions of previous models, while taking bold steps into the future of highway safety," Horton says.

Dirty feats

The Mack® LR Model meets the safety and versatility challenges of residential trash collection.

By Olivia McMurrey



Residential trash collection is not only a demanding truck application, but a dangerous one that requires high levels of versatility and maneuverability.

“Safety is a very big issue for the refuse industry in general,” says Curtis Dorwart, refuse product manager for Mack Trucks. “Trash collecting is usually in the top five most dangerous occupations, up there with mining and roofing. Automobile drivers are texting, not paying attention, and they’re running into the backs of trucks or running into helpers who are loading trash.”

Automated collection equipment is one way to lower injury risks for workers. When automated loaders empty trash bins into the truck body, workers don’t have to walk around the truck, where another vehicle might hit them. Automated loaders reduce musculoskeletal injuries as well; they do the heavy lifting so workers don’t have to.

“So the push is to try to get away from doing manual collection as much as possible and do more automation,” Dorwart says.

Sometimes automation isn’t possible for various reasons, including the density and complexity of routes and the presence of overhanging trees that might obstruct an automated loader. Many municipalities and companies have a mix of routes — ones that are automated, some that are semi-automated and others that are manual.

Versatility and productivity

The Mack® LR Model, a low cab-over engine straight truck designed for the refuse

industry, can be configured with several body types — front loader, rear loader, side loader and manual load — to fit numerous applications within the residential-trash-collection segment.

“All of these different body types require a truck that’s very flexible, very maneuverable, one that can accommodate different driving positions,” Dorwart says. “All of those things are supported within the LR Model.”

A single truck can be set up to tackle multiple applications.

“If you’re doing automated pickup, but you also have to do recycling or you’ve got some manual routes, maybe you want to do a front-end-loading body with an automated carry can, which actually serves as a built-in side loader, so you can use that truck for an automated side-loading application, but also use it for manual collection or even some commercial front load,” Dorwart says. “You get a lot of flexibility out of that truck.”

Available in single- and tandem-drive configurations, the LR Model offers multiple driving positions — including standup, seated and left, right and dual steering — as well as three door options — standard door, flip door and bi-fold door. Customers choose setups that will enhance safety and efficiency, depending on route type. For instance, a one-man crew could be most productive along a fully or semi-automated route if the driving position were on the right. This position saves steps and also optimizes safety because the driver can exit curbside to place roll carts in a loading system or check loader operation.

Drivers and other crew members also can

enter and exit the cab quickly thanks to a low cab-floor height of 17 inches, an easy-to-navigate cab design and large door openings.

“Productivity and uptime, as well as safety, are huge needs in residential refuse applications,” Dorwart says. “The LR Model meets these needs with different configurations, different seating, different doors and different driving positions that allow the customer to optimize to whatever type of collection situations they have to deal with.”

Automated carry cans

Automated carry cans are particularly helpful in broadening a residential refuse truck’s applications. The devices, which are typically around 4.5 cubic yards in size, can attach to the forks of an LR model equipped with a front-end-loading body. A lift arm on the carry can picks up trash or recycling containers and dumps them into the carry can. Once the carry can is full, the front-end loader empties it into the compaction hopper of the body.

“You’ve got yourself a mini side-loader,” Dorwart says. “So you can use that truck to automatically lift carts or manually throw trash in there and then dump it in the hopper. The versatility is increased greatly versus having a truck that’s just an automated side loader.”

Driver comfort and retention

Driver and crew-member retention also is a key factor in residential-trash-collection



efficiency and productivity The factory-installed wiring system enables the customer to simply plug-in the Lytx event recorder, reducing installation costs.

Uptime

Uptime is essential in trash-collection applications.

“In many cities, the sanitation department is like a direct line to the mayor because they know if that thing shuts down for one day, there’s all kind of heck to pay,” Dorwart says. “It becomes a health issue.”

Substituting a downed truck in the refuse industry is no easy task. Due to equipment costs, most companies and municipalities don’t keep spares, Dorwart says, and because the trucks are specialized pieces of machinery, renting a replacement usually isn’t possible.

Mack’s GuardDog® Connect telematics platform, which comes standard on the LR Model, significantly reduces downtime. The system monitors trucks in real time for potential issues and starts the support process immediately — usually before the driver knows there’s a problem.

“The whole idea is to get ahead of the curve, and then if something does have a hiccup, we have the ability to get things squared away quickly,” Dorwart says.

Ideally, this means making repairs when trucks are not scheduled to be on their routes. “We can do the diagnosis before the truck even comes in,” Dorwart says. “We found the average repair time is less than four hours.” ■

applications, and the LR Model was designed with the crew’s comfort and convenience in mind.

Inside the cab, storage space abounds, including a centrally located storage platform for keeping paperwork, cellphones and lunch boxes. Cup holders accommodate regular and oversized bottles.

The tilt and telescopic steering column, suspended pedals, knee bolsters and arm rests give drivers the opportunity to customize their work environment. The factory-installed air-conditioning system provides relief from the heat on hot days.

One-step entry and exit from the cab and large grab handles reduce the physical demands of curbside pickup operations. “You’re doing a lot of stops a day, so you’re going to be in and out of that truck quite a bit,” Dorwart says. “A big plus is that the LR Model has a very low step-entry height, so getting in and out of the truck is a lot easier than from a mid-floor-height truck.”

The LR Model’s large windows make maneuvering narrow streets and monitoring side loading much easier for the driver. Windshields are large and extend down to just above the grille to provide superior forward visibility, and large side windows and door peep windows almost eliminate blind spots. Rear wraparound windows provide a clear view of cross traffic.

“The large windshields allow you to get very good visibility, especially up close to the truck,” Dorwart says. “That’s very important in tight areas, especially residential areas or cities where you’ve got

pedestrians or bicyclists or parked cars.”

Visibility goes hand in hand with maneuverability, and Mack trucks excel in that arena as well. Maneuverability is imperative in residential-refuse applications, where trucks must navigate through tight spaces, Dorwart says.

Mack offers a pre-wire option for fleets to install Lytx cameras and video telematics services. The Lytx DriveCam safety program can help reduce unsafe driving behaviors through video-based driver coaching and predictive analytics. It can also help improve fleet

LR Model features

- Two chassis configurations: single and tandem drive
- Several driving configurations:
 - Standup
 - Seated
 - Steering on left, right or dual steering
- Three door designs:
 - Standard door
 - Flip door
 - Bi-fold door
- One-step entry and exit
- Superior visibility with wrap-around windows
- Expanded storage, including a centrally located storage platform
- GuardDog® Connect telematics system is standard

The LR Model can be equipped with an automated carry can to increase versatility.

TAILLIGHTS

Mack wraps up 'RoadLife' series with reunion episode

Mack Trucks' season-long RoadLife

series concludes with "RoadLife Reunion," the ninth and final episode of the show in 2018 that took viewers on a 32-city tour alongside the hardworking men and women of the trucking industry. The finale goes behind the scenes to show the making of the series, including additional footage from each episode.

"Not many brands could genuinely develop a series like this, with well-known celebrity partners presented on equal footing with customers and drivers," says John Walsh, vice president of Mack marketing. "Mack's unique combination of rich history, remarkable customers and talented storytellers brought us this incredible series."

"RoadLife Reunion" features interviews with the Mack marketing team behind the series, sharing how they brought each episode to life, from storyboarding to final production. Over the course of the series, the team traveled 32,325 miles over 136 days. The journey, which began in New York City — the birthplace of Mack Trucks — culminates in a reunion at Pocono Raceway in Pennsylvania, where the cast members share their distinct experiences.

"A lot of companies talk about family, but for Mack, it's always been real," Walsh says. "If you do business with Mack, if you're employed by Mack, if you're a Mack dealer, you become part of the Mack family. And everyone who took part in RoadLife is now part of that family, too."

"RoadLife Reunion" and the other eight episodes in the series are available on roadlife.tv and Amazon Prime Video. Viewers can also access bonus content on Mack Trucks' social channels. But the RoadLife doesn't end there. A second season is currently in production and will be available later in 2019.



Mack donates Granite® model in support of student development program

In continued support of the Concrete Industry Management education program, Mack donated a 2019 Granite® model vehicle to the auction block at the CIM Auction, which takes place during the annual World of Concrete conference in Las Vegas. Proceeds from the yearly auction benefit the CIM program's mission to develop the next generation of leaders within the concrete industry.

"As a leader in the construction market, Mack understands the hard work required to succeed in today's ultra-competitive world," says Tim Wrinkle, Mack construction product manager. "That's why Mack is proud to support the CIM program and their efforts to develop future leaders and teach them the necessary skills to be successful within the concrete industry."

The Granite® model is an axle forward, boost-a-load mixer powered by a 395-horsepower Mack MP®7-395C engine, which also delivers 1,560 lb.-ft. of torque. The engine is paired with a 14-speed Mack mDRIVE™ HD with ultra-low ratio creeper gears, as well as Mack front and rear axles. The vehicle also features an 11-cubic-yard Interstate Class VORTEX paving mixer, donated by Beck Industrial.

"Mack Trucks has stepped up once again with a significant donation in support of CIM," says CIM Auction Committee Chairman Mike Philipps. "This truck will not only help ensure a successful auction, but will enable us to continue providing an outstanding education to future leaders within our industry."

CIM is a four-year degree program that prepares students for a career in the concrete industry, helping them develop business, technical and communication skills. The program is offered at four institutions: Middle Tennessee State University, the New Jersey Institute of Technology, California State University — Chico, and Texas State University. In 2018, the CIM auctions raised more than \$1.1 million in gross revenue. Mack Trucks has supported the auction with vehicle donations for several years.

Mack debuts Loyalty Reward Card Program for several vehicle models

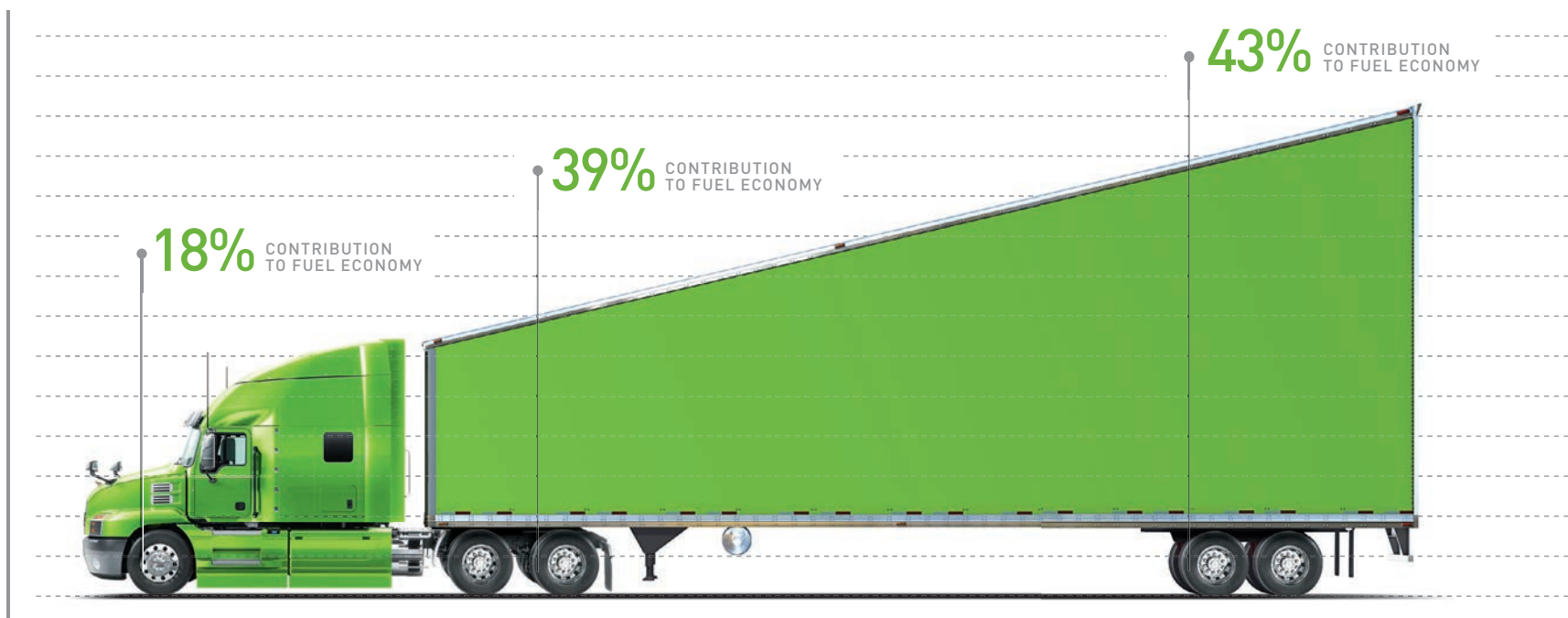
Mack owners who are also members of eligible industry associations can now take advantage of a new rewards program. The Loyalty Reward Card Program is offered to association members who purchase 2019 and 2020 model year Mack® Granite®, TerraPro™, LR, Pinnacle™ or Mack Anthem® vehicles.

Program benefits include a \$2,000 parts and service reward card per eligible VIN and a maximum of five trucks per member, per calendar year. The announcement was made in January at the annual World of Concrete conference in Las Vegas.

"We recognize that customers require service and support after the initial truck purchase, so we're pleased that Mack can offer the Loyalty Reward Card Program to help offset some of the cost, while improving customers' total cost of ownership," says Jonathan Randall, Mack Trucks senior vice president, North American sales and marketing. "The Loyalty Reward Card is another example of Mack's dedication to service, support and having our customers' backs."

The registered owner of the truck must be an active member of an eligible association prior to the date of their truck purchase. Once verified, the member will receive the card within eight weeks. All eligible vehicles must be sold and warranty-registered by Dec. 31, 2019. Information on which associations qualify and more information can be found at your local Mack dealer.

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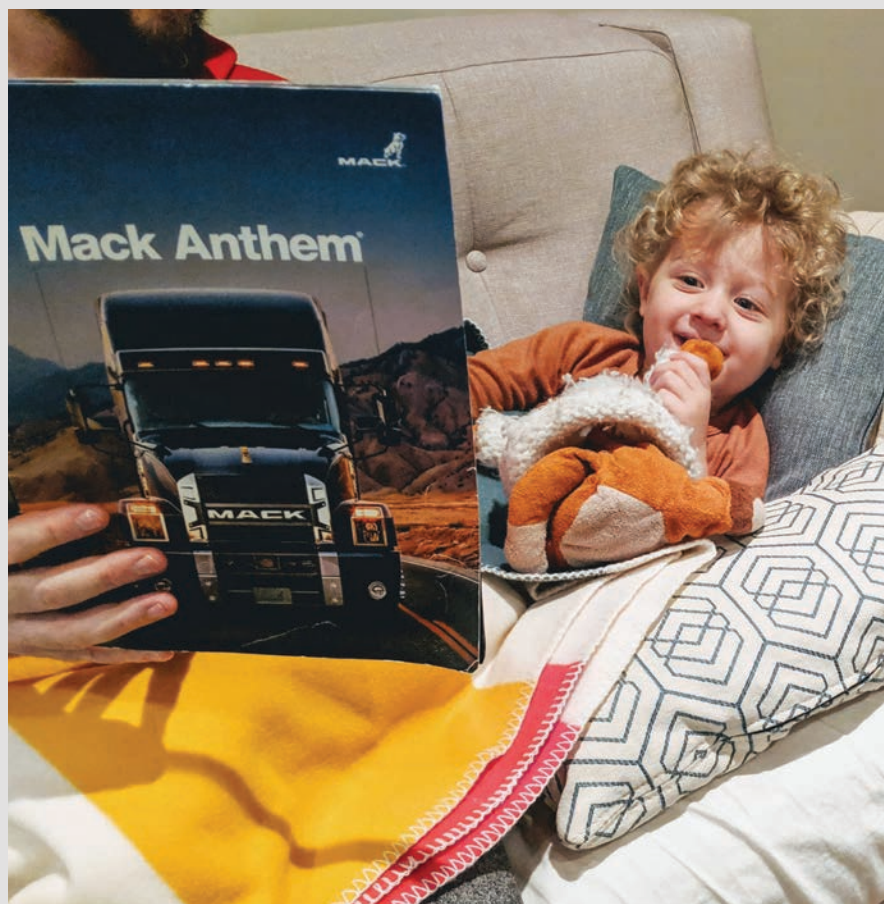
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Bedtime story

For most kids, “Goodnight Moon” is their favorite bedtime story. For 2-year-old Oliver Kroeker of Manitoba, it’s the #MackAnthem brochure. His dad, Bryan, says, “I once found him reading it to his stuffed animals, emphatically saying ‘Aerodynamic never looked so, SO Mack!’” Now that’s what we call #BornReady.



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