



2020 SUSTAINABILITY REPORT



## REV'S ROAD TO SUSTAINABILITY

In last year's sustainability report, we touched on our strategic approach in identifying and prioritizing environmental, social, and governance (ESG) issues that impact the success and strategy of our business and the decisions of our stakeholders. Despite the challenges we faced in 2020, we made progress in some of the priority areas by investing in our people through talent and performance management initiatives and in our technology infrastructure to streamline processes, improve operational efficiency, and strengthen security practices. As we strive to become an industry leader and champion of sustainability and safety, we will continue to monitor our performance and expand our scope of priorities. In addition, we will identify additional improvement initiatives and opportunities to create long-term value and a sustainable future for our employees, business partners, communities, investors, and the environment.

Our mission of delivering "vehicles for life" that connect and protect people around the world was never as important, as it was in 2020. The coronavirus pandemic highlighted the vital role of fire apparatus, ambulances, transit buses, and terminal trucks in our nation's critical emergency service and transportation infrastructure. We could not be prouder of the support our vehicles provide to the first responders, transit drivers, and terminal workers who tend to the health and safety of our communities, get Americans where they need to go, and distribute needed food and supplies across the country. We continue to adapt; striving to ensure the safety of our employees while delivering best-in-class safety features that protect our customers and provide alternative fuel options to protect the environment.

Our focus on ESG priority areas, such as the safety and wellbeing of our employees, local communities, and economic performance played critical roles in our ability to effectively manage the everchanging landscape. The events of this year have allowed us to reassess REV Group's vision, mission, values, and business system to ensure REV Group is a company that can sustainably grow in any environment.

History has shown that our resilience, resolve, creativity, and collaboration can help us overcome our difficulties. As we look to 2021 and beyond, we are confident we will accomplish remarkable things and look forward to communicating our successes and challenges as we continue our sustainability journey.

Sincerely.

Rodney N Rushing

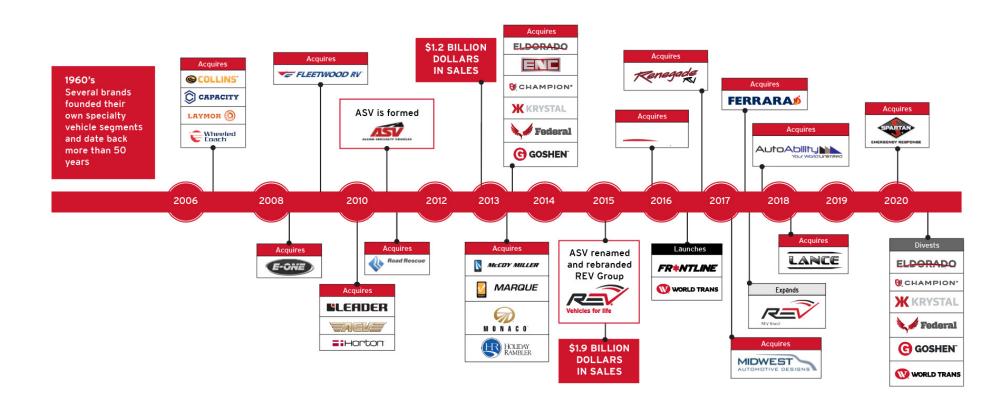
REV Group, Inc., President and CEO





## **CONTINUED GROWTH IN 2020**

Headquartered in Milwaukee, Wisconsin, and with manufacturing facilities and service centers across the country, REV Group, Inc. (NYSE: REVG) is a leading designer, manufacturer, and distributor of specialty vehicles and related aftermarket parts and services. We serve a diversified customer base, primarily in the United States, by providing the customized vehicles needed to move public services (ambulances, fire apparatus, school buses, and transit buses), commercial infrastructure (terminal trucks and industrial sweepers), and consumer leisure (recreational vehicles) forward. In 2020, we divested our shuttle bus business and acquired Spartan Emergency Response.



# A QUICK LOOK

Team Members

7,272





Net



Spend on Research and Development



\$5.8M \$472.3M

Total Shareholder

Equity



## VEHICLES OUR CUSTOMERS DEPEND ON

Our diverse portfolio comprises well-established principal vehicle brands, including many of the most recognizable names within their industry. Several of our brands pioneered their specialty vehicle product categories and date back more than 50 years.

### One of the Most Diverse Specialty Vehicle Portfolios in the Industry

#### FIRE AND EMERGENCY



Pumper/Tanker



Aerial Fire Truck With Ladder



Aircraft Rescue Fire Fighter



Ambulance Type I



Ambulance Type II



Ambulance Type III

#### COMMERCIAL



Type A School Bus



Transit Bus



Terminal Truck



Sweeper

#### **RECREATION**



Class A Diesel Class A Gasoline



Class B



Class C



Super C



Truck Camper



Travel Trailer

## **OUR FOOTPRINT**

REV has manufacturing and support facilities across the U.S. and one manufacturing facility in Sorocaba, Brazil.



## MATERIALITY ASSESSMENT

In 2019, we conducted our first Sustainability Materiality Assessment, following Global Reporting Initiative (GRI) standards for identifying and prioritizing environmental, social, and governance (ESG) issues that directly or indirectly influence our business or the decisions of our stakeholders.

An internal team identified and prioritized approximately 35 ESG topics based on the significance of their impact. To evaluate the relative importance of these issues to our external stakeholders, we surveyed employees who routinely interact with dealers, customers, suppliers, and business partners. We continually leverage the results of this assessment when communicating, reporting, and engaging on these topics internally and externally.

The following topics form the basis of our sustainability reporting:

- Environmental Footprint (energy, emissions, water)
- Environmental Compliance (fines, penalties, spills)
- Production and Value Creation (economic performance, innovation)
- Employment and Talent Management (employees, training,education, diversity, and equal opportunity)
- Ethical Behavior (anti-competitive behavior, non-discrimination, anti-corruption)
- Occupational Health and Safety
- Local Communities
- Data Security and Privacy









## **OUR VALUES**

Our core values guide our actions and decisions, including our commitment to sustainability. Engrained in every process, service, and product we provide, each of our values correspond to why and how REV Sustainability is an essential part of our business.



### Safety Always

Whether it's process refinements, staffing efficiencies, or quality checks, we ensure employee safety works in parallel with our sustainability initiatives. Safety has always been a top priority for REV Group, and the road to sustainability is no exception to our value of Safety Always.



#### Passion is the Fuel

Passion is the Fuel means the desire to be better than we were the day before, to manufacture the most sustainable products on the market, and to support the communities who rely on our vehicles. It's also why we'll work tirelessly to make REV Sustainability a success.



### Do the Right Thing First

We believe an organization-wide commitment to environmental, social, and economic responsibility is essential for long-term change, which makes our REV Sustainability roadmap a natural extension of our tenant to Do the Right Thing First.



#### **Never Settle**

No matter how high the bar, whether it's RVs, emergency units, after-market support, or any of our other services, we continue to raise it even higher. When it comes to protection, connection, service, support, or sustainability, we choose to Never Settle.



### **Embrace Change**

Aptly embodying our road to sustainability, Embrace Change is the fundamental idea that drives all of us at REV Group to continue innovating the way we do business, from how our brands apply sustainable manufacturing to how they embrace technology to help protect the planet.

2020 was an unprecedented time for the entire world as we all faced the COVID-19 pandemic. At REV, we were doubly challenged with a focus on protecting our employees and families from the potential exposure to the virus, while continuing to support our key customers in emergency response and other critical infrastructure operations. As our nation became more aware of the coronavirus, we formed a COVID-19 taskforce to monitor local and state directives, while adjusting our policies and internal procedures to align to guidance provided by the World Health Organization and Centers for Disease Control. Members of the taskforce conducted daily calls with corporate and business unit leaders to communicate changing conditions and implement responsive actions. Some of the steps taken included:

- Adjusting the attendance policy to ease employee decisions about coming to work and protecting themselves or family members.
- Implementing daily disinfecting practices for all public spaces and providing disinfecting supplies for employee workstations.
- Restricting facility access to only essential employees and visitors.
- Establishing work practices to increase social distancing including business meeting restrictions, workstation layouts, staggering shift and break times and work-from-home options.
- Implementing pre-entry symptom screening protocols with temperature validation and symptom questionnaire.
- · Increasing availability of hand sanitizer and hand washing facilities.
- Implementing the mandatory use of face coverings; working closely with suppliers to ensure adequate inventory of disposable and cloth coverings.
- Restricting employee business travel.
- Providing frequent employee communications through newsletter updates, postings, daily huddles, and other messaging.

The COVID-19 pandemic has also made this year especially challenging for emergency response workers. We are honored to support their mission with an expanded line of emergency and fire vehicle offerings thanks to the acquisition of Spartan Emergency Response (including Spartan, Smeal, and Ladder Tower brands). We have also introduced several new product innovations to protect our passengers by combatting germs, bacteria, viruses (including SARS-CoV-2), fungi, mold, and other harmful microorganisms.





Photo Credit: James Reed

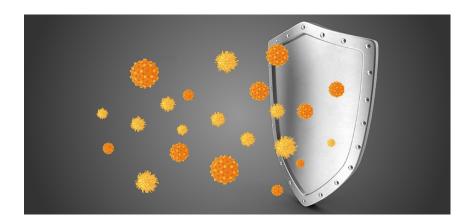
#### **REV Ambulance Group Delivery to FDNY**

REV Ambulance Group was honored to help the Fire Department of New York (FDNY) expand their EMS capabilities to contend with the demands of the pandemic. The men and women at American Emergency Vehicles in Jefferson, North Carolina, Horton Emergency Vehicles in Columbus, Ohio, Leader Emergency Vehicles in South El Monte, California, and Wheeled Coach, McCoy-Miller, and Road Rescue in Orlando, Flordia, worked diligently to fill an 81 vehicle emergency order from FDNY.



### **High-Risk Infection Control Ambulances**

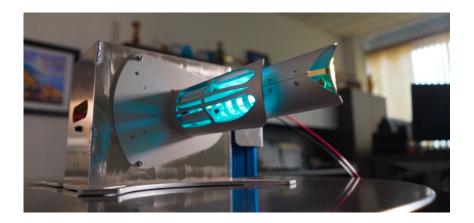
REV Ambulance Group has incorporated several new product features into its high-risk Infection control (HRIC) ambulance designs to limit the risk of exposure to infectious disease pathogens for both patient and EMS personnel. These purpose-built vehicles provide agencies with additional capabilities essential to delivering safe, responsive care in their communities. Key HRIC features include an isolation of the cab crew area from patient compartment, portable or installed EPA-approved decontamination systems, HVAC system with multi-stage HEPA filters, and patient compartment controls to protect the area from airborne pathogens and microorganisms.



#### Collins CLEAN™ and SHIELD™

As safety is among the highest priorities at Collins Bus, the cleanliness of its buses is no exception. Now more than ever, customers and passengers can be assured of the extra precautions taken to prevent the spread of viruses and other germs. At Collins Bus, this starts on the production floor with the application of a two-part system: Collins CLEAN $^{\text{\tiny TM}}$  and SHIELD $^{\text{\tiny TM}}$  by PermaSafe.

Collins CLEAN™ is a powerful, all-purpose, non-toxic disinfectant that is fogged onto a vehicle's passenger cabin surfaces through the HVAC system to clean and deodorize. As with all disinfectants, antimicrobial properties begin to dissipate almost as soon as it dries, making it difficult to protect a motor vehicle, or its passengers, from harmful microbes. To address this issue, a subsequent application of Collins SHIELD™ provides a permanent bond in which treatments of surfaces will not dissipate over time or wash off ensuring protection that is at least 99.9%¹ effective against a broad spectrum of microorganisms including mold, mildew, E. coli, salmonella, norovirus, H1N1, MRSA, and SARS-CoV-2.



### Clean Cab Technology

REV Fire Group has partnered with United Safety & Survivability Corporation to provide industry-leading technology that will take the clean cab concept to the next level while protecting first responders.

This exclusive air filtration system uses a combination of UV light and oxidation to neutralize up to 99%¹ of airborne pollutants such as bacteria, mold, and viruses, including SARS-CoV-2. As a standalone device that runs off a standard 12-volt DC system, the air system unit can be installed in new vehicles or retrofitted to existing ones. Paired with antimicrobial and antibacterial treatments, this cutting-edge technology will significantly increase the safety of first responders by improving air quality and overall surface cleanliness.

'SOURCES: PermaSafe, United Safety and Survivability Corporation

#### **PPE Donations**

At REV Group, our vision is to improve the quality of life for communities and customers through our products. We are particularly proud of the compassion and support our businesses showed within their local communities. With personal protective equipment (PPE) shortages throughout the medical community, several of our recreational vehicle and ambulance manufacturing facilities donated N95 masks and other PPE to local hospitals and health departments to help protect first responders and healthcare workers.



## COMMUNITY INVOLVEMENT





Over the last two years, we have teamed up with Road America to offer active-duty first responders free entry to the IndyCar Series REV Group Grand Prix. This event gives us a platform to recognize and share our appreciation to the dedicated individuals who use our emergency response vehicles each day to serve their communities. The global COVID-19 pandemic cast a different light on this year's event, drawing greater focus on the resilience of first responders and their commitment to the safety of others.



### Responding to Hurricane Laura

EMS teams from Acadian Ambulance in Lafayette, Louisiana, were on the front lines of the initial hurricane response in Southeast Texas and Southwest Louisiana to help evacuate nearly 500 people from facilities and private homes. While their number one priority was public safety, several employees suffered their own losses from the Category 4 hurricane.

In recognition of Acadian's contributions to the rescue efforts and their employees' personal sacrifices, American Emergency Vehicles in Jefferson, North Carolina, donated a truckload of generators, food, supplies, and water to support recovery efforts.



## **EMPLOYEES**



#### **REV Behaviors**

In 2019, we introduced a holistic set of REV Behaviors to guide our employees and managers in how they interact and work with each other. These behaviors have been integrated into all aspects of our business, including performance management, recruitment, training, and employee development.

		EM	1PLOY!	EΕ		
Take Action to Get Things Done	Work Well with Others	Own the Work		Focus on the Customer	Communicate Effectively	Committed to Personal Improvement
		SUPERVI	SOR/M	ANAGER		
		301 LIVI.	3011/11/	ANAOLI		
Build a Winr and a Good Wor		Direc Ensures	t Work Accou		Communio	cate with Respect

SENIOR LEADERSHIP					
Drive the Vision	Manage Complexity	Think Strategically and Applies Business Insights	Attract Top Talent		



### Health and Well-Being

Our employees play a tremendous part in our company's ultimate success. We realize that keeping our employees engaged, productive, and committed to reaching shared goals and objectives means understanding that they are more than just employees. We strive to provide them with the benefits and policies they need to be financially, emotionally, and physically secure. We offer a competitive package of benefits and create an environment of shared responsibility for health.



In addition to traditional insurance benefits, we invite employees and families to participate in their own health management, through programs such as health assessments, weight management programs, diabetes management programs, wellness challenges and events organized through our REVitalize committee.

## **EMPLOYEES**



#### **Training and Education**

We support the continuous development of all employees. Employees are encouraged to pursue educational and training opportunities that enhance their skills, knowledge, and abilities in their current job and that prepare them for future career opportunities throughout the company.

In November 2019, we launched an online learning management system (LMS) to about 1,300 office hourly and salaried employees with initial e-learning course offerings covering the topics of Environmental, Health, and Safety; Leadership; Technology; Business Skills; and Compliance. We are using these course offerings to complete compliance training requirements and for self-paced learning on a variety of personal and professional development topic areas.

We are also deploying a companywide comprehensive, instructor-led, supervisory training program grounded in the REV Supervisor Behaviors.

Hourly production employees receive classroom and on-the-job training that focuses on technical competencies specific to their job function. Our goal is to expand the LMS to include production employees in the future.





### **Performance and Talent Management**

We believe performance and talent management play strategic roles in attracting and retaining high-performing individuals, which leads to overall business improvement. As a result, we have implemented a standardized performance management process across the organization and invested in a computer-based performance management system for all office hourly and salaried employees. The companywide process includes goal planning and formal feedback and assessment steps throughout the year to ensure employees have a clear understanding of the company's expectations and their performance.

We have also introduced company-wide talent reviews/ assessments for all salaried employees. Data from the reviews will inform both specific and broad development actions as well as succession planning. Focused development and investments in our strongest talent will allow us to develop a pipeline of leadership talent capable of driving the success of our business.

## **GOVERNANCE AND ETHICS**



#### Speak Up

We are committed to the highest possible standards of ethical, moral, and legal business conduct. Employees are made aware that their supervisors, the human resources department, the legal department, and our Compliance Hotline are all avenues for employees to confidentially and/or anonymously raise concerns, in good faith, with the reassurance that they will be protected from retaliation, harassment, or victimization. Individuals may report concerns as to any questionable accounting or auditing matters, violations of REV Group's Code of Conduct, or any other serious concerns that could have an adverse impact on the business or our stakeholders, and all reports will be investigated. All new hires are trained on our Code of Conduct and refresher training is conducted on a routine basis.

In FY20, we received 51 reports to our Compliance Hotline of potential Code of Conduct violations, equivalent to approximately 7 reports per 1,000 employees. All reports are investigated and closed out in a timely fashion. Remediation plans, dependent on the nature of the report and information provided, are implemented for all reports that are not considered unfounded. Reports regarding financial statements or other disclosures, accounting irregularities, auditing matters, violation of the securities laws or other laws and violations of the Code of Conduct are disclosed to, and monitored by, the Audit Committee, and/or the Nominations and Governance Committee of the Board of Directors.



### **Anti-Corruption and Anti-Bribery**

We are committed to conducting our business free from any corruption, bribery, anti-competitive behavior, and improper influencing actions when dealing with government officials or any other person in a position to influence official action. Our Code of Conduct and various Company policies lay out what is expected of employees in numerous areas, such as anti-corruption, insider trading, conflicts of interest, and prohibiting company contributions of money or services to political parties. We conduct periodic employee training, to ensure employee adherence to the Code and policies, and provide the Audit Committee, the Nominating and Corporate Governance Committee, and the Board of Directors with annual reports on our efforts, including any disciplinary and other remedial actions taken in the event violations are found.

## GOVERNANCE AND ETHICS



#### A Respectful Workplace

We strive to be a company where the best people want to work, where people are hired and advanced on their merits, and where opportunities to develop are widely available. We are fully committed to equal employment opportunity to ensure we are in compliance with both the letter and spirit of fair employment laws relating to but not limited to race, sex, color, religion, national origin, age, disability, protected veteran's status, pregnancy, genetic information, sexual orientation, gender identity, or any other basis prohibited by law.

We also undertake affirmative action to assure equal opportunity for minorities and women, for persons with disabilities, and for protected veterans.



### **Information Security**

We take information security seriously and have implemented an Enterprise Cybersecurity Program to manage cybersecurity risks and educate employees. We continuously strive to increase employee awareness through monthly phishing tests and education on cybersecurity trends. We also partner with world-class security firms that assess our risk profile and test the efficacy of our controls designed to protect shareholder value.

Our enterprise policies and standards are designed based on NIST 800-53 and include, but are not limited to, the following areas:

- Identify and Access Management
- Password Security
- Disaster Recovery
- Acceptable Use
- Remote Access



### SUPPLY CHAIN MANAGEMENT



### **Supplier Code of Ethics**

We require all our suppliers to adhere to our <u>Supplier Code of Ethics</u>, which covers issues such as labor, human rights, workplace safety, and environmental compliance. Suppliers must operate in full compliance with all applicable laws, rules, and regulations at all times and conduct business in an honest and ethical manner.



#### **Conflict Minerals**

We are committed to ensuring that our products do not incorporate conflict minerals sourced from entities which directly or indirectly finance conflict in the Democratic Republic of Congo or adjoining countries. Our Conflict Minerals Policy requires suppliers perform sufficient due diligence into their supply chain to determine whether products sold or provided to us contain tin, tantalum, tungsten, or gold, and, if so, whether and to what extent those metals are sourced from conflict-free smelters. Suppliers must report the results of their due diligence to ensure we comply with all our legal obligations and policy goals.



## ENVIRONMENTAL, HEALTH, AND SAFETY

REV's Environmental, Health, and Safety (EHS) Excellence Roadmap is a management system we have established to align with our organizational business system platform. The team structure within the EHS Excellence system is designed to engage each level of the organization. Our See it, Say it, Hear it model defines the principles, tools, and best practices that drive our efforts to support a safe and environmentally responsible workplace for every employee.



#### **VISION:**

EHS Excellence is our relentless pursuit to protect our stakeholders and the environment.

The overall EHS strategy is overseen by an executive committee consisting of the Chief Human Resources Officer, Senior Vice President of Operations, division presidents, and several business unit operational leaders. This committee sets the tone for our EHS culture and demonstrates that EHS is valued the same as quality, delivery, and cost. Through the committee's leadership behaviors and expectations, it provides overall strategic support, resources, and capital to continuously improve EHS throughout the business.

#### **EHS Philosophy**

- All incidents are preventable, therefore unacceptable.
- Every employee is responsible and accountable for EHS performance.
- Our business units have the obligation to design our facilities, processes, and products to protect our employees and the environment.
- Employees should report, eliminate, and safeguard against all acts and conditions detrimental to their health, safety, or the environment.
- Protecting our employees and reducing our environmental footprint creates a sustainable future for our business.

Safety Metrics	2018	2019	2020²	
TRIR PERFORMANCE <sup>1</sup> 2019 Industry Average - 4.9	3.2	3.1	2.9	
LOST WORKDAY CASE RATE 2019 Industry Average - 1.9	0.6	0.5	0.5	
FATALITY RATE:	0	0	0	

#### **EHS Metrics and Goals**

We strive to become an industry leader in safety performance by providing a safe workplace and culture focused on the protection and well-being of our employees and others visiting or working in our facilities. We continue to set corporate and individual business unit TRIR improvement goals to drive continuous improvement throughout the organization. We also continue to evaluate and monitor key performance indicators to measure the progress of our injury prevention efforts. As a result, in 2020, we began tracking and monitoring leading performance metrics at the business unit level, including first aid and near miss reporting, routine EHS observations, assessments and training, and on-time completion of corrective actions.

<sup>&</sup>lt;sup>1</sup>TRIR performance is based on U.S. facilities only. TRIR calculation equals the number of recordable injuries per calendar year multiplied by 200,000 (OSHA constant representing 100 employees working 40 hours per week, 50 weeks per year), divided by total hours worked. The industry average is based on NAICS 33612, Heavy Duty Truck Manufacturing.

<sup>&</sup>lt;sup>2</sup>2020 data based on fiscal year (November 2019 - October 2020); 2018 and 2019 data based on calendar year (January - December).



## **ENVIRONMENT**

We conduct regular environmental assessments of our business units to identify compliance deficiencies and minimize regulatory risk. Action items are implemented and tracked to correct any deficiencies and prevent recurrence.

Business units capture their regulatory requirements through a compliance calendar to track one-time and recurring tasks for monitoring, recordkeeping, and reporting activities.

Environmental Compliance Events <sup>1</sup>	
ENVIRONMENTAL FINES  Number paid by the company	1
TOTAL MONETARY VALUE OF FINES	\$440
TOTAL REPORTABLE SPILLS	•



#### **ENVIRONMENTAL POLICY STATEMENT:**

We are committed to comply with all applicable environmental regulations and strive to reduce our environmental impact through sound management practices and decisions.

#### **Footprint**

Environmental metrics, including energy use, water consumption, and air emissions, are tracked on a monthly basis to understand the organization's current environmental footprint. The majority of our carbon emissions are related to heating and ventilating our facilities as our production processes are not energy intensive.

METRIC	2019 DATA <sup>2</sup>	2020 DATA <sup>2</sup>
ENERGY <sup>3</sup>		
Fuel Consumption (Non-Renewable)	335,861 mmBTU	302,221 mmBTU
Fuel Consumption (Renewable)	54,269 mmBTU	52,608 mmBTU
Electricity	194,272 mmBTU	178,318 mmBTU
Total Energy Consumption	584,402 mmBTU	533,147 mmBTU
Total Energy Consumption, Normalized <sup>4</sup>	243.5 BTU/USD	234 BTU/USD
EMISSIONS <sup>5</sup>		
Scope 1 Greenhouse Gas (GHG) Emissions	23,415 metric tons CO <sub>2</sub> e	21,517 metric tons CO <sub>2</sub> e
Scope 2 GHG Emissions	25,936 metric tons CO <sub>2</sub> e	23,806 metric tons CO <sub>2</sub> e
Total Scope 1 and Scope 2 GHG Emissions	49,351 metric tons CO₂e	45,323 metric tons CO <sub>2</sub> e
Total Scope 1 and Scope 2 GHG Emissions, Normalized (per FY19 Sales)	20.6 metric tons CO <sub>2</sub> e/ Million USD	19.9 metric tons CO <sub>2</sub> e/ Million USD
Volatile Organic Compounds (VOCs)	538.5 tons	392.5 tons
Nitrogen Oxides (NO <sub>x</sub> )	30.61 tons	25.75 tons
Sulfur Oxides (SO <sub>x</sub> )	0.79 tons	0.62 tons
WATER		
Water Consumption	29.7 Million Gallons	18.1 Million Gallons
Water Consumption, Normalized (per FY19 Sales)	12.4 Million Gallons per Billion USD	7.95 Million Gallons per Billion USD

<sup>&</sup>lt;sup>1</sup> Data based on fiscal year (November - October)

<sup>&</sup>lt;sup>2</sup> Data is aggregate per fiscal year (November 1 - October 31), for U.S. manufacturing operations only.

<sup>&</sup>lt;sup>3</sup> Scope 1 energy and emissions data does not include emissions from gasoline or diesel mobile sources.

<sup>&</sup>lt;sup>4</sup> Per fiscal year sales (November 1 - October 31).

<sup>&</sup>lt;sup>5</sup> GHG emissions calculated using emission factors from EPA eGRID2016, February 2018; electricity emission factors based on U.S. Average of Total Output.

## PRODUCT INNOVATION

We are continually enhancing and customizing our product offerings to answer our customers' needs for more sustainable products and services. We are meeting this demand through our remount services, battery-powered vehicles and systems innovations, and a newly formed industry alliance to promote fuel cell technology. Not only do our efforts reduce the environmental impact from our products and operations, they also provide our customers savings on investment and operational costs.



#### **Collins All-Electric School Bus**

Collins Bus developed the first Type A school bus in 1967 and for more than five decades has been committed to innovating the future of school buses and ensuring the most important passengers are protected. Innovative engineering and platform flexibility are the foundation to build buses that meet every need and deliver industry-leading strength and safety. Collins designs and manufactures school buses that are at the head of their class and is proud of its new, electric school bus that is revolutionizing student transportation.

By reducing vehicle emissions, these innovative buses help reduce driver fatigue and provide a healthier ride to and from the bus stop. The sodium nickel batteries work in series, so if one runs out of energy, another takes over, to provide sufficient mobile power. Since the buses don't use fuel, oil, belts, and other parts associated with a conventional school bus, customers may see up to an 85% savings in total cost of ownership operating costs and maintenance costs throughout the life of the vehicle.

### PRODUCT INNOVATION



### **Emergency Vehicle Eco Idle-Tec**

First responders are never off duty, which means their emergency vehicles aren't either. Emergency vehicle fleets are often required to idle to provide power to on-board equipment and attachments when on the scene of a call or in standby mode to keep vital equipment operational and ready to go. This idling puts extra wear and tear on a vehicle, increases wasteful fuel consumption, and impacts the environment through greenhouse gas emissions. To address these issues, we now offer the Eco Idle-Tec battery-powered idle mitigation system as an option for our emergency vehicles.

When idle mitigation is activated, Eco Idle-Tec continues to provide power to operate equipment as if the engine is running, allowing use of radios, emergency lights, interior lights, oxygen and medical air, fresh air ventilation, chassis, windows, etc.

#### **GREENHOUSE GAS EMISSION ESTIMATES**

#### **EMISSION REDUCTION**

Metric Tons per Year (per Vehicle)



#### **EQUIVALENCY**

Number of Passenger Vehicles Eliminated from the Road





# Lithium-Ion Integrated Battery Systems

Midwest Automotive Designs now offers a fully integrated power system operated with a lithium-ion battery as an alternative to a conventional, lead-acid battery system. Powered by a 12-volt, 100 amp-hour lithium iron phosphate (LiFePO4) battery, the system offers a safe and reliable source of AC and DC power with an operating efficiency of at least 99%.

Compared to lead-acid batteries, LiFePO4 batteries have a longer life span with better discharge and charge efficiency, require no maintenance, and are extremely safe and lightweight. Although, LiFePO4 batteries have a higher up-front cost than lead-acid batteries, they are far less expensive on a per-cycle basis, making this alternative power system an energy and cost-effective solution.

## **ENVIRONMENT**

#### **REV Ambulance Remount Services**

Extending the lifespan of an ambulance body by refurbishing and remounting it on a new chassis allows us to reduce energy and raw materials used in manufacturing and minimize the amount of waste generated. Depending on the age of the vehicle, the process may also include upgrading the unit with the latest safety features, energy efficient components, and renewable materials.

Our REV Solutions Center in Jefferson, North Carolina, along with Horton Emergency Vehicles in Grove City, Ohio, and Leader Emergency Vehicles in South El Monte, California, offer Original Equipment Manufacturer (OEM) remount services help our customers prolong the life of their initial investment. Remount costs vary depending on the customers' needs, however, on average, customers can typically see a 25 - 35% savings from the cost of purchasing a new vehicle. In total, REV Ambulance remounts over 200 vehicles each year.

REV's refurbished ambulances are inspected to ensure they meet federal safety standards, as well as cleaned and disinfected according to CDC guidelines. In addition to REV's OEM remount capabilities, REV supports its national dealer network with parts and technical assistance for their local remounting efforts.

#### Western States Hydrogen Alliance

Fuel cell electric technology represents a major opportunity for reducing emissions from heavy-duty, hard-to-electrify vehicles like buses, trucks, trains, and aircraft. Two of REV's companies, ElDorado National California (ENC) and Capacity Trucks are founding members of the Western States Hydrogen Alliance. For the past six years, ENC has been manufacturing hydrogen fuel cell-powered electric buses at its Riverside, California, facility and Capacity is working on a HFC solution prototype targeted to release in late 2021. ENC, Capacity, and the other alliance members will be working with an advisory board of government officials from 13 Western states to promote the advancement and adoption of fuel cell technology and accelerate the move toward a zero-emissions future.







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