UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2024

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from __________ to __________

Commission File Number 1-6003

FEDERAL SIGNAL CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**36-1063330**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

1333 Butterfield Road, Downers Grove, Illinois
(Address of principal executive offices)

60515
(Zip Code)

(630) 954-2000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $1.00 per share	FSS	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☑	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

As of June 30, 2024, the aggregate market value of voting stock held by non-affiliates was $4,992,306,848. For purposes of the foregoing calculation only, executive officers and directors of the registrant have been deemed to be affiliates.

As of January 31, 2025, the number of shares outstanding of the registrant's common stock was 61,097,074.

Documents Incorporated By Reference

Portions of the registrant's definitive proxy statement for the 2025 Annual Meeting of Stockholders are incorporated by reference in Part III.

FEDERAL SIGNAL CORPORATION

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K ("Form 10-K") is being filed by Federal Signal Corporation and its subsidiaries (referred to collectively as the "Company," "we," "our" or "us" herein, unless the context otherwise indicates) with the United States ("U.S.") Securities and Exchange Commission (the "SEC"), and includes comments made by management that may contain words such as "may," "will," "believe," "expect," "anticipate," "intend," "plan," "project," "estimate," and "objective" or similar terminology, or the negative thereof, concerning the Company's future financial performance, business strategy, plans, goals, and objectives. These expressions are intended to identify forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the Private Securities Litigation Reform Act of 1995. Forward-looking statements include information concerning the Company's possible or assumed future performance or results of operations and are not guarantees. While these statements are based on assumptions and judgments that management has made in light of industry experience as well as perceptions of historical trends, current conditions, expected future developments, and other factors believed to be appropriate under the circumstances, they are subject to risks, uncertainties, and other factors that may cause the Company's actual results, performance, or achievements to be materially different.

These risks and uncertainties, some of which are beyond the Company's control, include, but are not limited to, the risk factors described under Item 1A, *Risk Factors* as set forth in Part I, as well as those discussed elsewhere in this Form 10-K and in our subsequently filed documents, as applicable. These factors may not constitute all factors that could cause actual results to differ materially from those discussed in any forward-looking statement. The Company operates in a continually changing business environment and new factors emerge from time to time. The Company cannot predict such factors, nor can it assess the impact, if any, of such factors on its results of operations, financial condition, or cash flow. Accordingly, forward-looking statements should not be relied upon as a predictor of actual results. The Company disclaims any responsibility to update any forward-looking statement provided in this Form 10-K.

ADDITIONAL INFORMATION

The Company is subject to the reporting and information requirements of the Exchange Act and, as a result, is obligated to file Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and other reports and information with the SEC, as well as amendments to those reports. The Company makes these filings available free of charge through our website at www.federalsignal.com as soon as reasonably practicable after such materials are filed with, or furnished to, the SEC. We also use our website as a means of disclosing material non-public information and to comply with our disclosure requirements under Regulation FD. Information on our website does not constitute part of this Form 10-K. In addition, the SEC maintains a website at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically.

PART I

Item 1. *Business.*

Federal Signal Corporation, founded in 1901, was reincorporated as a Delaware corporation in 1969. The Company designs, manufactures, and supplies a suite of products and integrated solutions for municipal, governmental, industrial, and commercial customers. The Company's portfolio of products that it manufactures includes (i) vehicles and equipment for maintenance and infrastructure end-markets, including sewer cleaners, industrial vacuum loaders, vacuum- and hydro-excavation trucks (collectively, "safe-digging trucks"), street sweepers, waterblasting equipment, road-marking and line-removal equipment, dump truck bodies, trailers, metal extraction support equipment, and multi-purpose maintenance vehicles, and (ii) public safety equipment, such as vehicle lightbars and sirens, industrial signaling equipment, public warning systems, and general alarm/ public address systems. In addition, the Company engages in the sale of parts, service and repair, equipment rentals, and training as part of a comprehensive aftermarket offering to its customers. The Company operates 23 principal manufacturing facilities in five countries and provides products and integrated solutions to customers in all regions of the world.

Narrative Description of Business

Products manufactured and supplied, and services rendered, by the Company are divided into two reportable segments: the Environmental Solutions Group and the Safety and Security Systems Group. The individual operating businesses are organized as such because they share certain characteristics, including technology, marketing, distribution, and product application, which create long-term synergies. Corporate contains those items that are not included in the Company's reportable segments.

Financial information concerning the Company's two reportable segments for each of the three years in the period ended December 31, 2024, is included in Note 17 – Segment Information in Item 8, *Financial Statements and Supplementary Data*, and is incorporated herein by reference.

In 2024, the Company completed the acquisition of substantially all the assets and operations of Standard Equipment Company ("Standard"), which is included in the Environmental Solutions reportable segment. See Note 2 - Acquisitions in Item 8, *Financial Statements and Supplementary Data*, for additional information.

Environmental Solutions Group

The Company's Environmental Solutions Group is a leading manufacturer and supplier of a full range of street sweepers, sewer cleaners, industrial vacuum loaders, safe-digging trucks, high-performance waterblasting equipment, road-marking and line-removal equipment, dump truck bodies, trailers, metal extraction support equipment, and multi-purpose maintenance vehicles. The Environmental Solutions Group manufactures vehicles and equipment in the U.S. and Canada that are sold under the Elgin®, Vactor®, Guzzler®, TRUVAC®, Westech™, Jetstream®, Blasters, Mark Rite Lines, Trackless, Ox Bodies®, Crysteel®, J-Craft®, Duraclass®, Rugby®, Travis®, OSW, NTE, WTB, Ground Force, TowHaul®, Bucks®, and Switch-N-Go® brand names. The Environmental Solutions Group's product offerings also include certain products manufactured by other companies, such as refuse and recycling collection vehicles. Products are sold to both municipal and industrial customers either through a dealer network or direct sales to service customers generally depending on the type and geographic location of the customer. In addition to vehicle and equipment sales, the Environmental Solutions Group also engages in the sale of parts, service and repair, equipment rentals, and training as part of a comprehensive aftermarket offering to its current and potential customers through its service centers, which are located across North America.

Under the Elgin brand name, the Company sells a leading U.S. brand of street sweepers that are primarily designed for large-scale cleaning of curbed streets, parking lots, and other paved surfaces and that utilize mechanical sweeping, vacuum, and recirculating air technology. Vactor is a leading manufacturer of equipment solutions for cleaning and maintaining sewers and catch basins. Under the TRUVAC brand name, the Company manufactures a range of premium vacuum- and hydro-excavation trucks designed to satisfy the safe-digging requirements of businesses or organizations that locate and verify underground utility lines and pipes. Guzzler is a leader in industrial vacuum loaders used to manage industrial waste or recover and recycle valuable raw materials. Westech is a manufacturer of high-quality, rugged vacuum-excavation trucks. Jetstream manufactures high-pressure waterblasting equipment and accessories for commercial and industrial cleaning and maintenance operations. Blasters is a leading U.S. manufacturer of truck-mounted waterblasting equipment. Mark Rite Lines Equipment Company, Inc. ("MRL"), is a U.S. manufacturer of truck-mounted and ride-on road-marking and line-removal equipment. Trackless is a leading Canadian manufacturer of off-road, multi-purpose maintenance vehicles and attachments. Ground Force and TowHaul are leading manufacturers of specialty vehicles that support the extraction of metals. Truck Bodies & Equipment International ("TBEI") manufactures and sells dump truck bodies and trailers under the Ox Bodies, Crysteel, J-Craft, Duraclass, Rugby, Travis, OSW, NTE, and WTB brand names, as well as a range of interchangeable truck body systems and waste-hauling products under the Bucks and Switch-N-Go brand names.

Safety and Security Systems Group

The Company's Safety and Security Systems Group is a leading manufacturer and supplier of comprehensive systems and products that law enforcement, fire rescue, emergency medical services, campuses, military facilities, and industrial sites use to protect people and property. Offerings include systems for community alerting, emergency vehicles, first responder interoperable communications, and industrial communications. Specific products include public safety equipment, such as vehicle lightbars and sirens, industrial signaling equipment, public warning systems, and general alarm/public address systems. Products are sold under the Federal Signal™, Federal Signal VAMA®, and Victor® brand names. The Safety and Security Systems Group operates manufacturing facilities in the U.S., Spain, the United Kingdom ("U.K."), and South Africa.

Marketing and Distribution

Depending primarily on the type and geographic location of the end-customer, the Environmental Solutions Group uses either a dealer network or direct sales to serve customers. The dealer network serves both municipal and industrial end-markets. Within municipal markets, the majority of the Company's dealers operate exclusively in their assigned territory. In conjunction with selling vehicles to end-customers, dealer representatives demonstrate vehicle functionality and capability and provide vehicle service. In addition to selling products manufactured by the Company, certain of our businesses distribute and re-sell products manufactured by other companies. The Company believes its regional, national, and global dealer networks for vehicles is a distinguishing factor from its competitors. The Company has an ownership interest in certain dealers.

The Environmental Solutions Group's direct sales channel concentrates primarily on the industrial, utility, and construction market segments. To support current and potential customers in these market segments, the Environmental Solutions Group also engages in the sale of parts, service and repair, equipment rentals, and training through its service centers located across North America.

The Safety and Security Systems Group sells to industrial customers through wholesalers and distributors who are supported by Company sales personnel or independent manufacturer representatives. Products are also sold to municipal and governmental customers through active independent distributors as well as through original equipment manufacturers and the direct sales force. The Company sells comprehensive integrated warning and interoperable communications through a combination of the direct sales force and independent distributors. International sales are made through independent foreign distributors or on a direct basis.

Customers and Backlog

No single customer accounted for 10% or more of the Company's net sales in any year within the three-year period ended December 31, 2024.

The Company's backlog totaled $997.1 million at December 31, 2024, compared to $1.03 billion at December 31, 2023. Backlogs vary by group due to the nature of the Company's products and the buying patterns of its customers. The Environmental Solutions Group typically experiences an average backlog of approximately three to six months of shipments. The Safety and Security Systems Group typically experiences an average backlog of approximately two months of shipments. While customer demand has contributed to longer lead times for certain products, production of the Company's December 31, 2024 backlog is expected to be substantially completed during 2025.

Suppliers

The Company purchases a wide variety of raw materials from around the world for use in the manufacture of its products, although the majority of its purchases are currently from North American sources. To minimize risks relating to availability, price, and quality of key products and components, the Company is party to numerous strategic supplier arrangements. Although certain materials are obtained from either a single-source supplier or a limited number of suppliers, the Company has generally identified alternative sources to minimize the interruption of its business in the event of supply disruptions. However, a transition to a new supplier may cause the Company to incur supply disruptions and unanticipated costs.

Components critical to the production of the Company's vehicles, such as engines, are purchased from a select number of suppliers. The Company also purchases raw and fabricated steel, as well as commercial chassis, from multiple sources. In addition, we may incorporate chassis provided directly by our customers in our production process. In those situations, the Company's production processes rely upon the customer providing the chassis on a timely basis. Certain of the Company's businesses also rely on the availability of inventory supplied by others to meet customer demand.

The Company actively manages material supply sourcing and employs various methods to limit risk associated with commodity cost fluctuations and availability. Although supply chain conditions improved in 2023 and 2024 as compared to prior years, certain of our businesses continue to experience sporadic supply challenges and extended lead times for some components and raw materials, including certain classes of chassis that are important to its manufacturing processes. The Company has designed and implemented plans to partially mitigate the impact of these challenges by using alternate suppliers, re-engineering products, expanding its supply base globally, leveraging overall purchasing volumes to obtain favorable pricing and quantities, and developing a closer working relationship with key suppliers. However, the Company can provide no assurance that those efforts will be successful. For more information on the Company's supply-related risks, see Item 1A, *Risk Factors*, in this Form 10-K.

Competition

Within the Environmental Solutions Group, Elgin is recognized as a market leader among domestic sweeper competitors and differentiates itself primarily on product performance. The Vactor, TRUVAC, and Guzzler brands each maintain a leading domestic position in their respective marketplaces by enhancing product performance with leading technology and application flexibility. Jetstream is a market leader in the in-plant cleaning segment of the U.S. waterblast industry, competing on product performance, rapid delivery, and solutions services. Joe Johnson Equipment, Inc., along with Joe Johnson Equipment (USA), Inc., (collectively, "JJE"), is a leading Canadian-based distributor of maintenance equipment for municipal and industrial markets. Standard is a leading distributor of specialty maintenance and infrastructure equipment for municipal and industrial markets in parts of Illinois and Indiana. Blasters is a leading U.S. manufacturer of truck-mounted waterblasting equipment. MRL is a U.S. manufacturer of truck-mounted and ride-on road-marking and line-removal equipment. Trackless is a leading Canadian manufacturer of off-road, multi-purpose maintenance vehicles and attachments. Ground Force and TowHaul are leading manufacturers of specialty vehicles that support the extraction of metals. TBEI includes a portfolio of regional dump truck body and trailer brands with market leadership positions in distinct geographies and product categories, differentiating itself with its broad regional distribution network, focus on customer responsiveness, and operational expertise.

Within specific product categories and domestic markets, the businesses within the Safety and Security Systems Group are among the market leaders. This Group's international market position varies from leader to ancillary participant depending on the geographic region and product line. Generally, competition is intense within all of this Group's product lines and purchase decisions are made based on price, features, reputation, performance, and service, often within competitive bidding situations.

Patents and Trademarks

The Company owns a number of patents and possesses rights under others to which it attaches importance, but it does not believe that its business as a whole is materially dependent upon any such patents or rights. The Company also owns a number of trademarks, including those listed within the "*Narrative Description of Business*" section above. We believe these trademarks are important in connection with the identification of our products and associated goodwill with customers, but no material part of the Company's business is dependent on our trademarks.

Human Capital Management

The Company believes its employees are a vital asset, and it strives to provide a safe and high-performing culture where its employees can thrive. As of December 31, 2024, the Company employed approximately 4,700 people in its businesses, which are located in five countries, with the Company's U.S. hourly employees accounting for approximately 55% of its total workforce. As of December 31, 2024, approximately 10% of the Company's U.S. hourly workers were represented by unions.

The Company believes that its employees are key to its ability to deliver exceptional products and services to its customers. The Company applies a holistic total rewards strategy, designed to recruit, motivate, and retain talented employees at all levels of the organization and offer competitive, market-based compensation programs and attractive benefit packages.

Human Rights

The Company is committed to respecting and upholding the internationally recognized human rights principles of the United Nations' Guiding Principles on Business and Human Rights and the Universal Declaration of Human Rights. In every state and country where the Company operates, it upholds standards that meet or exceed those established by local, state, and national legal frameworks, and the Company expects its partners, suppliers, vendors, and contractors to do the same. The Company has published a human rights policy, setting forth its commitment to nondiscrimination, the elimination of all forms of forced or compulsory labor, the effective abolition of childhood labor, workers' rights to freedom of association and unionization, and the protection of employees' ability to confidentially report policy violations.

Cultural Philosophy

The Company is committed to attracting and retaining highly-qualified employees through its ongoing focus on meritocracy, autonomy, and accountability. The Company's cultural philosophy is further evidenced by its policies related to various aspects of employment, including, but not limited to, recruiting, selecting, hiring, employment placement, job assignment, compensation, access to benefits, selection for training, use of facilities, and participation in Company-sponsored employee activities.

Employee Recruitment, Training and Development

The Company believes that identifying and developing the next generation of business leaders is important to its long-term success and is proud to support its employees in furthering their education with tuition reimbursement programs and training.

The Company's recruitment program follows a defined process to attract and hire top talent, including a college internship program designed to identify and cultivate an early-in-career pipeline of talent, and employee referral bonus programs. The Company additionally engages external professional recruiting firms to supplement its internal recruiting efforts, as needed.

The Company provides extensive training to employees within its facilities on topics such as workplace safety, anti-fraud, and advanced instruction in lean manufacturing principles and inside sales training programs.

Through its Tuition Assistance Program, the Company aims to assist and encourage employees to expand their knowledge, skills, and job effectiveness by continuing their education at local accredited institutions of higher learning. Certain of the Company's businesses also partner with nearby universities, from time to time, to offer courses and programs directly related to employees' growth in the business.

The Company maintains a robust annual performance management process across the organization. Employees start the process by working with their supervisors to set individual performance goals. Progress against those objectives is tracked throughout the year, culminating in the year-end performance review process, which involves the completion of an employee self-assessment and a discussion between the employee and their supervisor on goal accomplishment and defined core competencies. In addition, the Company's annual talent and succession management processes are designed to identify and develop next-level successors through a variety of assignments and experiential learning.

The Company actively seeks opportunities for regular engagement and communication between its CEO and other senior executive leaders and its broader employee population. In addition, many of the Company's businesses perform employee engagement surveys that provide valuable feedback to the management teams.

The Company is committed to the communities in which it operates and to developing a strong pipeline from which it can recruit new talent. Many of the Company's businesses support their local high schools with cooperative learning extension programs at their manufacturing plants, hosting in-person or virtual tours of our facilities, and providing scholarships and "signing-day" offers to high school seniors. The Company's employees raise funds and donate time to a variety of community engagement initiatives.

The Company's employees also donate time and expertise through volunteering and mentorship programs, and work with local colleges on training programs to teach valuable technical skills that can be applied in the workplace. Many of the Company's businesses also recruit summer interns from regional universities, providing hands-on experience in a manufacturing setting and building a pipeline for future engineers, information technology ("IT") specialists and financial analysts. These programs attempt to help the Company's next generation, and others, understand what career paths may be available to them and to explore future job opportunities with the Company.

Safety

The Company considers the safety of its employees a significant focus and strives to have zero workplace injuries. The Company has established an enterprise-wide Safety Council, which includes representatives from several of our manufacturing facilities. The Safety Council meets regularly to collaborate and implement safety improvement measures, including workplace hazard reduction programs and awards focusing on continuous improvement initiatives and the reduction of incident frequency.

Governmental Regulation of the Environment

The Company endeavors to establish environmentally-friendly policies and objectives, and believes that these actions are also consistent with cost-effective operating practices. With the application of these policies, the Company believes it complies with federal, state, and local provisions that have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment. Capital expenditures in 2024 attributable to compliance with such laws were not material. The Company also believes that the overall impact of compliance with environmental regulations will not have a material adverse effect on our financial position, results of operations or cash flow.

Seasonality

Certain of the Company's businesses are susceptible to the influences of seasonal factors, including buying patterns, delivery patterns, and productivity influences from holiday periods and weather. In general, the Company tends to have lower equipment sales in the first calendar quarter of each year compared to other quarters as a result of these factors. In addition, rental income and parts sales are generally higher in the second and third quarters of the year, because many of the Company's products are used for maintenance activities in North America, where usage is typically lower during periods of harsher weather conditions.

Executive Officers of the Registrant

The following is a list of the Company's executive officers, including their ages, business experience and positions as of February 1, 2025:

Jennifer L. Sherman, age 60, was appointed President and CEO effective January 1, 2016. Ms. Sherman was also appointed to the Board of Directors (the "Board") effective January 1, 2016. Since joining the Company in 1994, Ms. Sherman has served in various roles of increasing responsibility, most recently as Senior Vice President and Chief Operating Officer from April 2014 to December 31, 2015. Ms. Sherman also previously served as Senior Vice President, Chief Administrative Officer, General Counsel and Secretary from 2010 to April 2014, Senior Vice President, Human Resources, General Counsel and Secretary from 2008 to 2010, and Vice President, General Counsel and Secretary from 2004 to 2008.

Felix M. Boeschen, age 30, was appointed Vice President, Corporate Strategy and Investor Relations in September 2023. Prior to joining the Company, Mr. Boeschen served as a Vice President, Equity Research at Raymond James, where he covered companies in the machinery space, with a primary focus on the truck equipment and specialty vehicle industries.

Diane I. Bonina, age 61, was appointed Vice President, General Counsel and Secretary in April 2022. Prior to joining the Company in March 2022, Ms. Bonina worked at AT&T Inc. ("AT&T"), where she served as Assistant Vice President – Senior Legal Counsel. At AT&T, Ms. Bonina held a broad range of roles of increasing legal and management responsibilities since 1996, both for AT&T and its predecessor companies. Prior to that role, Ms. Bonina worked as an attorney with Jenner & Block in its litigation department from 1990 to 1996, and also served as a law clerk for the Honorable Cornelia G. Kennedy of the U.S. Court of Appeals for the Sixth Circuit in Detroit, Michigan.

Ian A. Hudson, age 48, was appointed Senior Vice President and Chief Financial Officer in October 2017. Mr. Hudson joined the Company in August 2013 as Vice President and Corporate Controller. Prior to joining the Company, Mr. Hudson served as Director of Accounting – Latin America and Asia Pacific at Groupon, Inc. from June 2012 to August 2013. Prior to that role, Mr. Hudson worked at Ernst & Young, LLP from 1998 to 2012, most recently as Senior Audit Manager.

Mark D. Weber, age 67, was appointed Senior Vice President and Chief Operating Officer in January 2018, upon rejoining the Company after four years at Supreme Industries, Inc. ("Supreme"). Mr. Weber joined Supreme in May 2013 as President and Chief Executive Officer, serving in that capacity up to the sale of Supreme to Wabash National Corporation, which was completed in September 2017. Prior to joining Supreme, Mr. Weber worked for 17 years as an executive within the Company's Environmental Solutions Group, including a decade as Group President.

These officers hold office until the next annual meeting of the Board following their election and until their successors have been elected and qualified.

There are no family relationships among any of the foregoing executive officers.

Item 1A. *Risk Factors.*

We may occasionally make forward-looking statements and estimates such as forecasts and projections of our future performance or statements of our plans and objectives. These forward-looking statements may be contained in, but are not limited to, filings with the SEC, including this Form 10-K, press releases made by us, and oral statements made by our officers. Actual results could differ materially from those contained in such forward-looking statements. Important factors that could cause our actual results to differ from those contained in such forward-looking statements include, but are not limited to, the risks described below.

Macroeconomic and Industry Risks

Our financial results are subject to U.S. economic uncertainty and compliance with laws and regulations.

In 2024, we generated approximately 79% of our net sales in the U.S. Our ability to be profitable depends heavily on varying conditions in the U.S. governmental and municipal markets, as well as the overall U.S. economy. The industrial markets in which we compete are subject to considerable cyclicality and move in response to cycles in the overall business environment. Many of our customers are municipal government agencies; therefore, we are dependent on municipal government spending. Spending by our municipal customers can be affected by federal, state, and local political circumstances, budgetary constraints, changing priorities, actual or potential government shutdowns, and other factors. In January 2025, President Trump established an advisory commission, the “Department of Government Efficiency,” to reform federal government processes and reduce expenditures, and enacted certain spending freezes, which may adversely affect our municipal customers. There is uncertainty regarding federal agency structure and future budget decisions and priorities of the U.S. presidential administration. The U.S. government and municipalities depend heavily on tax revenues as a source of spending, and accordingly, there is a historical correlation that suggests a lag of one to two years between the condition of the U.S. economy and our sales to the U.S. government and municipalities. Therefore, downturns in the U.S. economy are likely to result in decreases in demand for our products. During previous economic downturns, we experienced decreases in sales and profitability, and we expect our business to remain subject to similar economic fluctuations in the future. In addition, the extent of any potential changes to policies, tax laws, and regulations, and how any such changes may impact the Company’s financial results and operations, is currently uncertain. For example, the Organization for Economic Co-operation and Development issued Pillar Two model rules introducing a new global minimum corporate tax of 15%, which became effective in certain countries in 2024. While the U.S. has not yet adopted the Pillar Two rules, various non-U.S. governments have enacted or may in the future enact legislation. Pillar Two does apply to our worldwide operations; however, we do not have material operations in jurisdictions with tax rates lower than the Pillar Two minimum and therefore have not experienced material increases in our global tax costs. We continue to monitor U.S. and global legislative action related to Pillar Two for potential impacts.

Government administrations and agencies, political figures, the investment community, employees, and other stakeholders have previously had an increased focus on sustainability issues and initiatives. Changes in laws and regulations in response to such matters could require material efforts and costs by us, and our suppliers, to comply with such changes. The costs of compliance with the various laws, regulations, and policies applicable to us could be significant and penalties for non-compliance could significantly impact our business.

We have international operations that are subject to compliance with domestic and foreign laws and regulations and can be impacted by economic and political uncertainties and conflicts and foreign currency rate fluctuations.

Our business is subject to fluctuations in demand and changes in international economic, legal, and political conditions that are beyond our control. In 2024, approximately 21% of our net sales were to customers outside the U.S., and we expect a significant portion of our net sales to come from international sales in the foreseeable future. Operating in the international marketplace exposes us to a number of risks, including the need to comply with U.S. and foreign laws and regulations applicable to our foreign operations, such as the Foreign Corrupt Practices Act, the United Kingdom (“U.K.”) Bribery Act, and their counterparts in the other foreign jurisdictions in which we operate, restrictive domestic and international trade regulations, and changes in these laws, regulations, and policies by the U.S. and foreign governments. In addition, we may be exposed to risks and adverse economic effects associated with changes in tax laws, escalation of geopolitical conflicts, actual or threatened imposition of tariffs or trade barriers on our products or materials incorporated into our products, actual or threatened trade disputes, including so-called “trade wars,” political and economic instability in the jurisdictions in which we operate, foreign accounts receivable collection risk, and local labor market conditions. Further, President Trump has indicated that his administration is likely to impose significant tariffs on imported goods. The imposition of such tariffs may strain international trade relations or impact costs of raw materials.

To the extent that our international operations are affected by adverse foreign economic or political conditions, we may experience disruptions and losses that could have a material impact on our financial position, results of operations, or cash flow. To mitigate the risk of foreign accounts receivable collections, we may obtain letters of credit from international customers to satisfy concerns regarding the collectability of amounts billed to customers.

Some of our contracts are denominated in foreign currencies, which may expose us to risks of fluctuating currency values and exchange rates, hard currency shortages, and controls on currency exchange. Changes in the value of foreign currencies over the long term could increase our U.S. dollar costs for, or reduce our U.S. dollar revenues from, our foreign operations. Any increased costs or reduced revenues as a result of foreign currency fluctuations could adversely affect our results of operations.

Inflation in the U.S. and elsewhere could adversely affect our business.

We are exposed to inflation effects, which could negatively affect our business, financial condition, and results of operation. The U.S. and other jurisdictions have experienced high levels of inflation in recent years. If the inflation rate increases, it will likely affect our expenses, including, but not limited to, employee compensation and labor expenses and increased costs for supplies, and we may not be successful in offsetting such cost increases through pricing actions.

The execution of our growth strategy is dependent upon the continued availability of credit and third-party financing arrangements for our customers.

Economic downturns result in tighter credit markets, which could adversely affect our customers' ability to secure financing or to secure financing at favorable terms or interest rates necessary to proceed or continue with purchases of our products and services. Further, certain government agencies, including the U.S. Treasury, have previously implemented policies that have resulted and may continue to result in significantly increased interest rates and borrowing costs. Although the Federal Reserve Board of Governors ("FRB") cut certain benchmark interest rates twice in the second half of 2024, it is uncertain if the FRB will raise or lower interest rates in the future and, if so, to what level and for how long. Our customers' or potential customers' inability to secure financing for projects could result in the delay, cancellation, or downsizing of new purchases or the suspension of purchases already under contract, which could cause a decline in the demand for our products and services and negatively impact our financial position, results of operations, or cash flow.

We operate in highly competitive markets.

The markets in which we operate are highly competitive. Many of our competitors have significantly greater financial resources than we do. The intensity of this competition, which is expected to continue, can result in price discounting and margin pressures throughout the industry and may adversely affect our ability to increase or maintain prices for our products. In addition, certain of our competitors may have lower overall labor or material costs. In some cases, our contracts with municipal and other governmental customers are awarded and renewed through competitive bidding. We may not be successful in obtaining or renewing these contracts, which could have an adverse effect on our financial condition, results of operations, or cash flow.

Significant consolidation of our larger customers or suppliers could further increase competition in our markets and result in pricing and market pressures. Concentration of our customers may enable our customers to have increased buying influence, which could negatively impact our pricing strategy and make us more vulnerable to changes in demand. Additionally, concentrations of our suppliers could lead to reduced or limited resources of material or increased costs. This consolidation could have an adverse impact on our margins and results of operations.

Strategic and Operational Risks

The inability to obtain raw materials, component parts, and/or finished goods in a timely and cost-effective manner could adversely affect our ability to manufacture and market our products.

We purchase raw materials, component parts, and finished goods from suppliers to be used in the manufacturing and sale of our products. In addition, we may incorporate vehicle chassis provided directly by our customers in our production process. Although the vast majority of our raw materials and component parts are sourced domestically, certain of our suppliers are based overseas, and certain of our domestic suppliers may source subcomponents from overseas. Global markets for various products and goods have suffered, and could continue to suffer, material disruptions to certain supply chains, in part due to geopolitical conflicts, including the war between Russia and Ukraine and the ongoing conflicts in the Middle East. Additionally, the war in Ukraine has led to economic sanctions imposed against Russia by the U.S. and certain European nations, including a prohibition on doing business with certain Russian companies which may lead to retaliatory trade restrictions from Russia. Such sanctions may impact companies in many sectors and lead to disruption and volatility in the U.S. and global markets. For example, the U.S. indicated it intends to impose additional tariffs on imports from Canada, Mexico, and

China. The imposition of these tariffs and any response from other countries is still evolving, and there is a possibility that such sanctions, tariffs, or trade restrictions may be expanded, or new sanctions, tariffs, or trade restrictions may be imposed by the U.S., Russia, Canada, Mexico, China, or other countries, which could further disrupt supply chains and increase volatility of pricing. Changes in our relationships with suppliers, shortages in availability of materials, production delays, regulatory restrictions, public health crises, labor stoppages, or other supply chain disruptions, whether due to our suppliers or customers, could have a material adverse effect on our ability to timely manufacture and deliver products to our customers. In addition, our profit margins could decrease if prices of purchased raw materials, component parts, and/or finished goods increase and we are unable to pass on those increases to our customers.

Challenges within global logistics networks, including shortages in trucking and chassis and in labor availability, have contributed to, and could continue to contribute to, delays in receiving key manufacturing components, increases in order backlogs, and higher transportation costs. Such logistical disruption may cause us to incur higher freight costs to expedite the receipt of components from our suppliers or the delivery of products to our customers and may also result in longer lead times for our customers.

Although supply chain conditions improved in 2023 and 2024 as compared to prior years, certain of our businesses continue to experience supply challenges and extended lead times for some components and raw materials, including certain classes of chassis that are important to our manufacturing processes, especially in light of geopolitical conflicts discussed elsewhere. When facing supply-related challenges, we may increase our inventory levels and purchase commitments to shorten lead times and to help maintain adequate inventory levels to meet customer expectations. While we actively monitor and take steps in an effort to mitigate supply chain risk, there can be no assurance that our ongoing mitigation plans will prevent disruptions that may arise from shortages of materials that we use in the production of our products.

Global supply chain disruptions may continue to adversely affect our business and our outlook. If we are unable to recover a substantial portion of the increase in material and transportation costs from our customers through price adjustments and/or surcharges, our business or results of operations could be adversely affected. We may also experience an increase in order cancellations if any such pricing actions are not accepted by our customers.

Failure to keep pace with technological developments may adversely affect our operations.

We are engaged in an industry that will be affected by future technological developments. The introduction of products or processes utilizing new technologies, including those resulting from any new environmental, safety, or other regulations, artificial intelligence, and machine learning, could require us and our suppliers to make significant changes to existing products or processes in order for them to remain marketable and competitive. Our success will depend upon our ability to source, develop, and introduce, on a timely and cost-effective basis, new products, applications, and processes that keep pace with technological developments and applicable regulations and address increasingly sophisticated customer requirements. We may not be successful in identifying, sourcing, developing, and marketing new products, applications, and processes and product or process enhancements. These technologies present unique business opportunities along with rapidly changing legal and regulatory risks, and if we implement emerging technologies such as generative artificial intelligence and machine learning into our products and services, we may not be able to anticipate vulnerabilities, flaws, or security threats resulting from the use of such technology and develop adequate protection measures. We may experience difficulties that could delay or prevent the successful development, introduction, and marketing of product or process enhancements or new products, applications, or processes. Our products, applications, or processes may not adequately meet the requirements of the marketplace and achieve market acceptance. Our financial condition, results of operations, or cash flow could be materially and adversely affected if we or our suppliers were to incur delays in developing new products, applications, or processes or product or process enhancements, or if our products do not gain market acceptance.

Our efforts to develop new products and services or enhance existing products and services involve substantial research, development, and marketing expenses, and the resulting new or enhanced products or services may not generate sufficient revenues to justify the expense.

We place a high priority on developing new products and services as well as enhancing our existing products and services. As a result of these efforts, we may be required to expend substantial research, development, and marketing resources, and the time and expense required to develop a new product or service or enhance an existing product or service are difficult to predict. We may not succeed in developing, introducing, or marketing new products or services or product or service enhancements. In addition, we cannot be certain that any new or enhanced product or service will generate sufficient revenue to justify the expense and resources devoted to the related product diversification effort.

Disruptions within our dealer network or the inability of our dealers to secure adequate access to capital could adversely affect our business.

We rely on national and global dealer networks to market certain of our products and services. As a result, our business with respect to these products and services is influenced by our ability to manage new and existing relationships with dealers. While we have relatively low turnover of dealers, from time to time, we or a dealer may choose to terminate the relationship as a result of difficulties that our dealers experience in operating their businesses due to economic conditions or other factors. While we do not believe our business is dependent on any single dealer, a disruption in our dealer network, or with a significant dealer, or within a specific market, could have an adverse impact on our business within the affected market. For example, any significant consolidation within our dealer network could increase competition for access to distributors or increase the influence of dealers over our pricing strategy. In addition, our dealers require adequate liquidity to finance their operations, including purchases of our products. Dealers are subject to numerous risks and uncertainties that could unfavorably affect their liquidity positions, including, among other things, continued access to adequate financing sources on a timely basis on reasonable terms. These sources of financing are vital to our ability to sell products through our dealer network. Significant or sustained increases in interest rates, including those experienced in 2023, and any future deterioration in the liquidity or credit worthiness of our dealers could have a significant adverse effect on our business. From time to time, we may provide financing assistance to dealers or consider taking ownership positions. The loss or termination of a significant dealer, or a significant number of dealers, could cause difficulties in marketing and distributing our products and have an adverse effect on our business, financial condition, results of operations, or cash flow.

We may be unsuccessful in our future acquisitions, if any, which may have an adverse effect on our business.

Our long-term strategy includes exploring acquisitions of companies or businesses to facilitate our growth, enhance our global market position, and broaden our product offerings. Such acquisitions may help us expand into adjacent markets, add complementary products and services, or allow us to leverage our distribution channels. In connection with this strategy, we could face certain risks and uncertainties in addition to those we face in the day-to-day operations of our business. We also may be unable to identify suitable targets for acquisition or to make acquisitions at favorable prices. If we identify a suitable acquisition candidate, our ability to successfully implement the acquisition would depend on a variety of factors, including our ability to obtain financing on acceptable terms, especially with interest rates at comparatively high levels. In addition, our acquisition activities could be disrupted by overtures from competitors for the targeted companies, governmental regulation, and rapid developments in our industry that decrease the value of a potential target's products or services.

Acquisitions involve risks, including those associated with the following:

- integrating the operations, financial reporting, disparate systems and processes, and personnel of acquired companies;
- managing geographically dispersed operations;
- diverting management's attention from other business concerns;
- changing the competitive landscape, including disrupting existing sales channels or markets;
- entering markets or lines of business in which we have either limited or no direct experience; and
- losing key employees, customers, and strategic partners of acquired companies.

We also may not achieve anticipated revenue and cost benefits associated with our acquisitions. Acquisitions may not be accretive to our earnings and may negatively impact our results of operations as a result of, among other things, the incurrence of debt, acquisition costs, impairment of goodwill, and amortization of other intangible assets. In addition, future acquisitions could result in dilutive issuances of equity securities.

Businesses acquired by us may have liabilities that are not known to us.

We may assume liabilities in connection with the acquisition of businesses. There may be liabilities that we fail or are unable to discover in the course of performing due diligence investigations on the acquired businesses, or that may be more material than we expected. In these circumstances, we cannot assure that our rights to indemnification will be sufficient in amount, scope, or duration to fully offset the possible liabilities associated with the businesses or property acquired. Further, these liabilities could result in unexpected legal or regulatory exposure, unexpected increases in taxes, or other adverse effects on our business. Any such liabilities, individually or in the aggregate, could have a material adverse effect on our financial condition, results of operations, or cash flow.

We could incur restructuring and impairment charges as we continue to evaluate opportunities to restructure our business and rationalize our manufacturing operations in an effort to optimize our cost structure.

We continue to evaluate opportunities to restructure our business and rationalize our manufacturing operations in an effort to optimize our cost structure. These actions could result in significant charges that could adversely affect our financial condition

and results of operations. Future actions could result in restructuring and related charges, including, but not limited to, impairments, employee termination costs, and charges for pension and other postretirement contractual benefits and pension curtailments that could be significant and could have an adverse effect on our financial condition, results of operations, or cash flow.

Indebtedness Risk

We are subject to a number of restrictive debt covenants.

Our credit facility contains certain restrictive debt covenants and customary events of default. Our ability to comply with these restrictive covenants may be affected by the other factors described in this "*Risk Factors*" section, as well as other factors outside of our control. Failure to comply with one or more of these restrictive covenants may result in an event of default that, if not cured by us or waived by our lenders, allows our lenders to declare all amounts outstanding as due and payable. Such an acceleration of the maturity of our indebtedness may cause us to incur substantial costs and may prevent or limit us from engaging in transactions that benefit us, including responding to changing business and economic conditions and taking advantage of attractive business opportunities.

Human Capital and Labor Risks

Our ability to operate effectively could be impaired if we fail to attract and retain key personnel.

Our ability to operate our businesses and implement our strategies depends in part on the efforts of our executive officers and other key employees. In addition, our future success will depend on, among other factors, our ability to attract and retain qualified personnel. The loss of the services of any key employee or the failure to attract or retain other qualified personnel could have a material adverse effect on our business or business prospects.

Additionally, availability of labor in the markets in which we operate has declined in recent years and competition for such labor has increased. A significant increase in wages paid by competitors for employees similar to our work force could result in insufficient availability of workers and/or increase our labor costs. In the event prevailing wage rates continue to increase in the markets in which we operate, we may be required to concurrently increase the wages paid to our employees to maintain the quality of our work force and customer service. If the supply of skilled labor is constrained or our costs of attracting and maintaining a workforce increase, our profit margins could decrease and our ability to maximize production and meet customer demand could be negatively impacted.

Our business may be adversely impacted by work stoppages and other labor relations matters.

As a portion of our workforce is unionized, we are subject to risk of work stoppages and other labor relations matters. As of December 31, 2024, approximately 10% of our U.S. hourly workers were represented by labor unions and were covered by collective bargaining agreements with various unions. Any strikes, threats of strikes, or other organized disruptions in connection with the negotiation of new labor agreements or other negotiations could materially adversely affect our business as well as impair our ability to implement further measures to reduce costs and improve production efficiencies. In addition, the stoppage of work for a prolonged period of time at one, or several, of our principal manufacturing facilities, due to public health concerns, or any other reason, could materially adversely affect our business.

Our pension funding requirements and expenses are affected by certain factors outside of our control, including the performance of plan assets, the discount rate used to value liabilities, actuarial assumptions and experience, and legal and regulatory changes.

Our funding obligations and pension expense for our defined benefit pension plans are driven by the performance of assets set aside in trusts for these plans, the discount rate used to value the plans' liabilities, actuarial assumptions and experience, and legal and regulatory funding requirements. Changes in these factors could have an adverse impact on our financial condition, results of operations, or cash flow. In addition, a portion of our pension plan assets are invested in equity securities, which can experience significant declines if financial markets weaken. The level of the funding of our defined benefit pension plan liabilities was approximately 93% as of December 31, 2024. Funding of the Company's U.S. defined benefit pension plan is determined in accordance with guidelines set forth in the Employee Retirement Income Security Act. Our future pension expenses and funding requirements could increase significantly due to the effect of adverse changes in the discount rate, asset values, or the estimated expected return on plan assets. In addition, we could become legally required to make increased cash contributions to the pension plans, and these contributions could be material and negatively affect our cash flow.

Data Security and Intellectual Property Risks

Increased IT security threats, including more sophisticated cybersecurity attacks, pose a risk to our systems, networks, products, and operations, and related changes in laws, regulations, policies, and contractual obligations could adversely affect our business.

We rely upon IT systems and networks, some of which are managed by third parties, to support a variety of business processes and activities, and to comply with regulatory, legal, and tax requirements. Additionally, in the ordinary course of business, we collect and store sensitive information relating to our businesses, customers, suppliers, and employees. Sensitive information may also be stored by our vendors and on the platforms and networks of third-party providers. Further, third-party providers may incorporate generative artificial intelligence or other emerging technologies into their operations, and these tools may not meet existing or rapidly evolving regulatory or industry standards with respect to privacy and data protection. The secure operation of these IT systems and networks and processing and maintenance of this information is critical to the Company's business operations and strategy.

These IT systems and networks may be susceptible to damage, disruptions, or shutdowns due to hardware failures, computer viruses, cybersecurity attacks, telecommunication failures, user errors, catastrophic events, or other factors. Further, IT security threats are growing in frequency and sophistication. Accordingly, we have implemented and continue to implement measures to address cybersecurity incidents and mitigate potential risks to our systems from these IT-related disruptions. Despite the information security measures we have taken, our systems and networks remain potentially vulnerable to cybersecurity incidents, as do those of our vendors and third-party providers. Cybersecurity incidents with respect to the Company, our vendors, or our third-party providers could potentially result in the compromising of confidential information, misuse of our systems and networks, manipulation and destruction of data, misappropriation of assets or production stoppages, and supply shortages, which in turn could adversely affect our reputation, financial condition, results of operations, or cash flow.

Additionally, the legal and regulatory environment surrounding information security and privacy in the U.S. and international jurisdictions is constantly evolving. Violation or non-compliance with any of these laws or regulations could have a material adverse effect on our business, reputation, and financial condition, as well as subject us to significant fines, third party damages, and other liability.

Although we have not suffered any significant cybersecurity incidents that have had a material business impact, we and our vendors have been the target of malicious cybersecurity threats and attacks. While various procedures and controls have been and are being utilized to mitigate IT risks, there can be no guarantee that the actions and controls that we and our third-party providers have implemented will be sufficient to protect our systems, information, or other property.

See Item 1C, *Cybersecurity*, of this Form 10-K for more information on our cybersecurity risk management and governance.

Infringement of, or an inability to protect, our intellectual property rights could adversely affect our business.

We rely on a combination of patents, trademarks, copyrights, nondisclosure agreements, IT security systems, physical security, and other measures to protect our proprietary intellectual property and the intellectual property of certain customers and suppliers. However, we cannot be certain that our efforts to protect these intellectual property rights will be sufficient. Intellectual property protection is subject to applicable laws in various jurisdictions where interpretations and protections differ or can be unpredictable and costly to enforce. Further, our ability to protect our intellectual property rights may be limited in certain foreign jurisdictions that do not have, or do not enforce, strong intellectual property rights. Any failure to protect or enforce our intellectual property rights could have a material adverse effect on our competitive position, financial condition, results of operations, or cash flow.

Legal and Financial Risks

We may incur material losses and costs as a result of lawsuits or claims that may be brought against us that are related to product liability, warranty, product recalls, intellectual property, client service interruptions, or other matters.

We are exposed to product liability and warranty claims in the normal course of business in the event that our products actually or allegedly fail to perform as expected, or the use of our products results, or is alleged to result, in bodily injury and/or property damage. For example, we have been sued by firefighters seeking damages claiming that exposure to our sirens has impaired their hearing and that the sirens are, therefore, defective. In addition, we are subject to other claims and litigation from time to time, as further described in the accompanying notes to our consolidated financial statements. We could experience material product liability or warranty costs in the future and incur significant costs to defend ourselves against these claims. While we carry insurance and maintain reserves for product liability claims, our insurance coverage may be inadequate if such claims do arise, and any defense costs and liability not covered by insurance could have a material adverse impact on our financial condition, results of operations, or cash flow. A future claim could involve the imposition of punitive damages, the award of which, pursuant to state laws, may not be covered by insurance. In addition, warranty and certain other claims are not

typically covered by insurance. Any product liability or warranty issues may adversely impact our reputation as a manufacturer of high-quality, safe products and may have a material adverse effect on our business.

The costs associated with complying with environmental, safety, and other regulations could lower our margins.

We, like other manufacturers, continue to face significant governmental regulation of our products, especially in the areas of the environment and employee health and safety. Several significant administrative law cases decided by the U.S. Supreme Court in 2024 may result in additional legal challenges to regulations and guidance issued by federal regulatory agencies. Successful challenges of certain regulations, any increased regulatory uncertainty, or delay or other impacts to the federal agency rulemaking process could adversely impact our business and operations. Increased public awareness and concern regarding climate change and other related matters at numerous levels of government in various jurisdictions may lead to additional international, national, regional, and local legislative and regulatory responses, and compliance with any new rules could be difficult and costly. These regulations could include environmental requirements applicable to manufacturing and vehicle emissions and regulations impacting our supply chain both nationally and internationally. Complying with environmental, safety, and other regulations has added and will continue to add to the cost of our products, could increase the capital required to support our business, and could affect the products and services that we offer. While we believe that we are in compliance in all material respects with these laws and regulations, we may be adversely impacted by costs, liabilities, or claims with respect to our operations under existing laws or those that may be adopted. These requirements are complex, change frequently, and have tended to become more stringent over time. Therefore, we could incur substantial costs, including cleanup costs, fines, and civil or criminal sanctions as a result of violation of, or liabilities under, environmental laws and safety regulations. Further, climate change regulations at the federal, state, or local level or in international jurisdictions could require us to limit emissions, change our manufacturing processes or product offerings, or undertake other activities which may require us to incur additional expense. For example, on March 6, 2024, the SEC adopted final rules that would require new climate-related disclosure in SEC filings, including certain climate-related metrics, greenhouse gas emissions, and information about climate-related targets and goals. The SEC stayed the final rules pending outcome of legal challenges in the Eighth Circuit Court of Appeals. If implemented, these requirements may increase the cost of our products, which may diminish demand for those products. Additionally, uneven application of environmental, safety, and other regulations could place our products at a cost or features disadvantage, which could reduce our revenues and profitability.

An impairment in the carrying value of goodwill, intangible assets, or long-lived assets could negatively affect our financial position and results of operations.

As of December 31, 2024, goodwill and intangible assets represented 27% and 11% of total consolidated assets, respectively. Rental equipment and properties and equipment are long-lived assets, which also collectively represented 22% of our total consolidated assets as of December 31, 2024. Goodwill and indefinite-lived intangible assets are tested for impairment annually, or more frequently if indicators of impairment exist. Definite-lived intangible assets and long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. In evaluating the potential for impairment of goodwill, intangible assets, and long-lived assets, we make assumptions regarding future operating performance, business trends, competition, and market and general economic conditions. Such analyses further require us to make certain assumptions about our net sales, operating margins, growth rates, and discount rates. There are inherent uncertainties related to these factors. An impairment charge may result from, among other things, a significant decline in operating results, adverse market conditions, unfavorable changes in applicable laws or regulations, or a variety of other factors. Our total consolidated assets and results of operations for the applicable period could be materially adversely affected if any such charge is recorded.

Item 1B. *Unresolved Staff Comments.*

None.

Item 1C. *Cybersecurity*

The Company does not believe that there are currently any known risks from cybersecurity threats that have materially affected or are reasonably likely to materially affect the Company's business strategy, results of operations, or financial condition. However, the Company could face risks from cybersecurity threats in the future that could have a material adverse effect on its business strategy, results of operations, or financial condition. For more information on the Company's cybersecurity-related risks, see Item 1A, *Risk Factors*, of this Form 10-K.

Risk Management and Strategy

The Company's processes for identifying, assessing, and managing material cybersecurity risks are incorporated into its overall Enterprise Risk Management process. The Company maintains a comprehensive cybersecurity risk management program,

overseen by the Chief Information Officer ("CIO") and Chief Information Security Officer ("CISO"), to support the security, confidentiality, integrity, and availability of its critical IT systems and information.

The Company conducts internal risk assessments, with the assistance of independent third parties, against standards including the National Institute of Standards and Technology Cybersecurity Framework. The assessment results are used to develop responsive cybersecurity controls and risk mitigation strategies. The Company's cybersecurity risk management program provides the structure for managing the respective risks through the use of a combination of automated tools, technologies, and third-party monitoring, as well as ongoing employee education via cybersecurity training and security awareness communications.

The Company's cybersecurity risk management program includes an incident response plan, which provides a documented framework to support the timely and effective resolution of actual or attempted cybersecurity incidents. Cybersecurity incidents across the Company, and relevant third-party service providers, are tracked and significant incidents, as applicable, are promptly escalated to a cross-functional cybersecurity task force so that decisions regarding public disclosure can be made in a timely manner by management and the Board.

The Company's Internal Audit function performs audits to evaluate and report on compliance with cybersecurity policies and procedures, reviews internal control certifications from relevant third-party service providers, and tests IT system and network controls as part of its annual assessment of the effectiveness of the Company's internal controls. Additionally, the Company engages third-party specialists to conduct periodic tests, incident simulations, and assessments to verify and continuously enhance its cybersecurity risk management program.

Governance

The Board has overall responsibility for the oversight of risk management and has delegated oversight of cybersecurity risk management to the Audit Committee. The Company's CIO and CISO regularly report to the Audit Committee on cybersecurity risks, updates on key initiatives, and progress toward the Company's objectives. In addition, the CIO provides updates to the Board, at least annually, on the Company's broader IT strategy and key initiatives.

The CIO and CISO have primary responsibility over the Company's cybersecurity risk management program. Quarterly updates are provided to the Company's IT Council, which is comprised of executive, business unit, and IT leaders from across the organization, regarding IT initiatives and risk management processes.

Item 2. *Properties.*

As of December 31, 2024, the Company utilized 17 principal manufacturing plants located throughout the U.S., as well as two in Europe, three in Canada, and one in South Africa. The Company also leases facilities within the U.S., Europe, and Canada from which we provide sales, service, and/or equipment rentals. As of December 31, 2024, the Company devoted approximately 2.4 million square feet to manufacturing and 1.2 million square feet to sales, service, warehousing, and office space. Of the total square footage, approximately 83% is devoted to the Environmental Solutions Group and 17% to the Safety and Security Systems Group. Approximately 67% of the total square footage is owned by the Company with the remaining 33% being leased. Owned facilities are subject to liens under the Company's Third Amended and Restated Credit Agreement dated October 21, 2022 (the "2022 Credit Agreement").

The Company believes its properties, and related machinery and equipment, are well-maintained, suitable, and adequate for their intended purposes. In the aggregate, these facilities are of sufficient capacity for the Company's current business needs. However, the Company may make additional investments in certain facilities in the future in response to increased demand for the Company's products.

Item 3. *Legal Proceedings.*

The information concerning the Company's legal proceedings is included in Note 13 – Legal Proceedings in Item 8, *Financial Statements and Supplementary Data*, in Part II of this Form 10-K.

Item 4. *Mine Safety Disclosures.*

Not applicable.

PART II

Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.*

Market Information

The Company's common stock is listed and traded on the New York Stock Exchange under the symbol "FSS."

Holders

As of January 31, 2025, there were 1,387 holders of record of the Company's common stock.

Securities Authorized for Issuance under Equity Compensation

Information concerning the Company's equity compensation plans is included in Item 12, *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*, of Part III of this Form 10-K.

Recent Sales of Unregistered Securities

There were no sales of unregistered securities by the Company during the year ended December 31, 2024.

Dividends

See *Financial Condition, Liquidity and Capital Resources* in Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations*, for a discussion of cash dividends declared on our common stock.

Purchases of Equity Securities

The following table provides a summary of the Company's repurchase activity for its common stock during the three months ended December 31, 2024:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs (a)
October 2024 (9/29/24 - 11/2/24)	13,500	$ 83.8526	13,500	$ 47,879,121
November 2024 (11/3/24 - 11/30/24)	12,500	82.2113	12,500	46,851,480
December 2024 (12/1/24 - 12/31/24)	—	—	—	46,851,480

(a) In March 2020, the Board authorized a stock repurchase program of up to $75.0 million of the Company's common stock, with the remaining authorization under our previously described repurchase program adopted in 2014 being subject to the March 2020 program.

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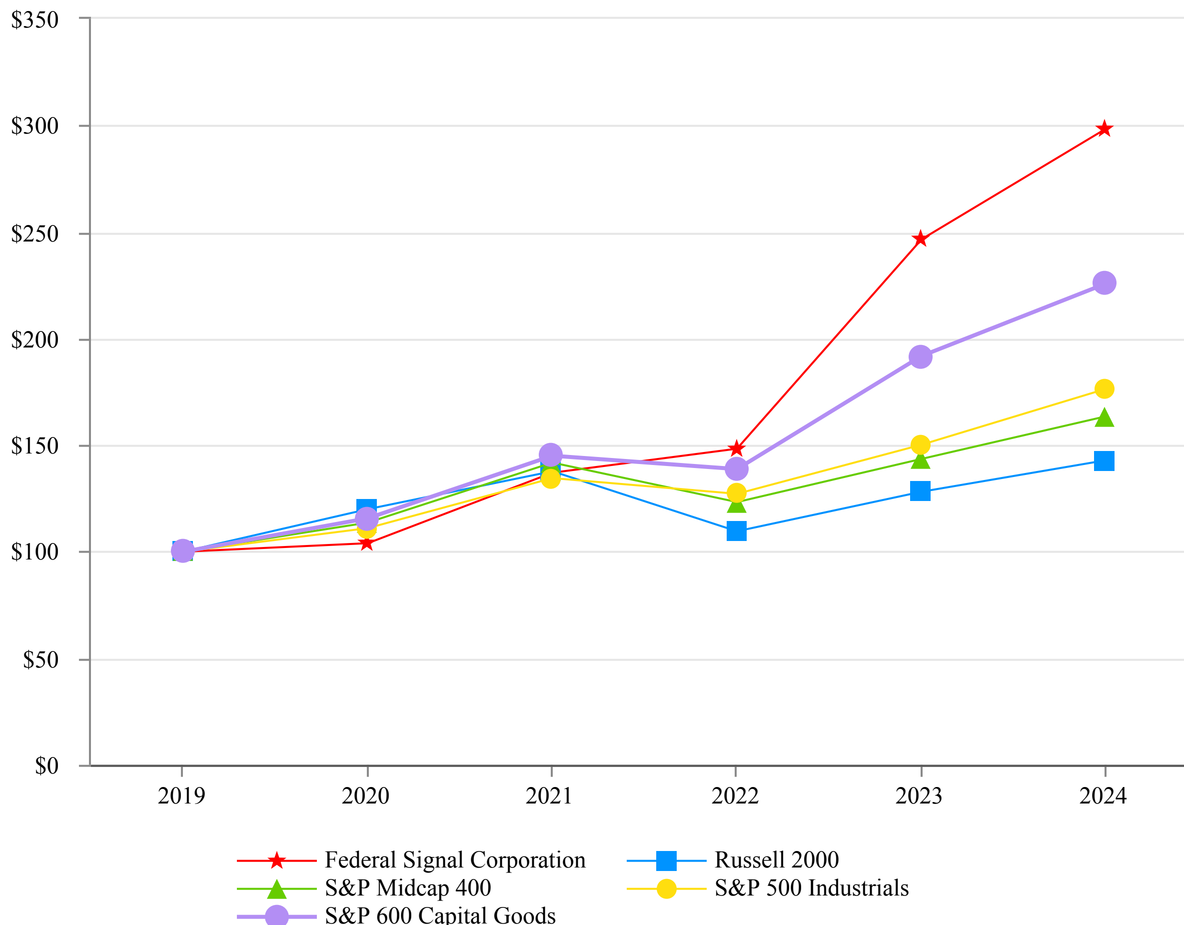
Performance Graph

The following graph compares the cumulative five-year total return to stockholders of the Company's common stock relative to the cumulative total returns of the Russell 2000 index, the S&P Midcap 400 index, the S&P 500 Industrials index, and the S&P 600 Capital Goods index. The graph assumes that the value of the investment in the Company's common stock, and in each index, was $100 on December 31, 2019 and assumes reinvestment of all dividends through December 31, 2024.



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	As of December 31,					
	2019	2020	2021	2022	2023	2024
Federal Signal Corporation	$ 100.00	$ 103.98	$ 137.06	$ 148.32	$ 246.58	$ 298.52
Russell 2000	100.00	119.96	137.74	109.59	128.14	142.93
S&P Midcap 400	100.00	113.66	141.80	123.28	143.54	163.54
S&P 500 Industrials	100.00	111.06	134.52	127.15	150.20	176.44
S&P 600 Capital Goods	100.00	115.68	145.03	138.76	191.84	225.84

The stock price performance included in this graph is not necessarily indicative of future stock price performance. Notwithstanding anything set forth in any of our previous filings under the Securities Act or the Exchange Act, which might be incorporated into future filings in whole or part, including this Form 10-K, the preceding performance graph shall not be deemed incorporated by reference into any such filings.

Item 6. [Reserved].

Not applicable.

Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations.*

Objective

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is designed to provide information that is supplemental to, and shall be read together with, the consolidated financial statements and the accompanying notes included in Item 8, *Financial Statements and Supplementary Data*, in this Form 10-K. Information in MD&A is intended to provide an analysis of our financial condition and results of operations from management's perspective and assist the reader in obtaining an understanding of (i) the consolidated financial statements, (ii) the Company's business segments and how the results of those segments impact the Company's results of operations and financial condition as a whole, and (iii) how certain accounting principles affect the Company's consolidated financial statements, and to provide discussion of material events and uncertainties known to management that are reasonably likely to cause reported financial information not to be indicative of future operating results or future financial condition.

See below for discussion and analysis of our financial condition and results of operations for the year ended December 31, 2024 compared to the year ended December 31, 2023. See Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations*, in our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on February 27, 2024, for a detailed discussion of our financial condition and results of operations for the year ended December 31, 2023 compared to the year ended December 31, 2022.

Executive Summary

The Company is a leading global manufacturer and supplier of (i) vehicles and equipment for maintenance and infrastructure end-markets, including sewer cleaners, industrial vacuum loaders, safe-digging trucks, street sweepers, waterblasting equipment, road-marking and line-removal equipment, dump truck bodies, trailers, metal extraction support equipment, and multi-purpose maintenance vehicles, and (ii) public safety equipment, such as vehicle lightbars and sirens, industrial signaling equipment, public warning systems, and general alarm/public address systems. In addition, we engage in the sale of parts, service and repair, equipment rentals, and training as part of a comprehensive aftermarket offering to our customer base. We operate 23 manufacturing facilities in five countries and provide products and integrated solutions to municipal, governmental, industrial, and commercial customers in all regions of the world.

As described in Note 17 – Segment Information in Item 8, *Financial Statements and Supplementary Data*, in this Form 10-K the Company's business units are organized in two reportable segments: the Environmental Solutions Group and the Safety and Security Systems Group.

Operating and Financial Performance in 2024

Conditions in our end markets remained strong throughout 2024, with robust demand for our products and services. We continued to execute against our organic growth initiatives, and with contributions from our recent value-added acquisitions and additional efficiency gains resulting from the application of our eighty-twenty initiatives, we were able to sustain a high level of financial performance. As the year progressed, we saw improvement in supply chain conditions, which facilitated increased production levels at several of our facilities, and despite some supply chain-related operational inefficiencies early in the year, we were able to deliver record financial results for our stockholders, with 8% net sales growth, double-digit earnings improvement, expansion of margins, and significant improvement in cash flow generation.

Included among the Company's highlights in 2024 were the following:

- Net sales for the year ended December 31, 2024 were $1.86 billion, the highest level in our history, and an increase of $139 million, or 8% from last year.
- Operating income for the year ended December 31, 2024 was $281.4 million, an increase of $56.9 million, or 25%, from last year.
- Operating margin for the year ended December 31, 2024 was 15.1%, compared to 13.0% in the prior year.
- Net income for the year ended December 31, 2024 was $216.3 million, an increase of $58.9 million, or 37%, from last year.
- Adjusted EBITDA* for the year ended December 31, 2024 was $350.6 million, an increase of $64.6 million, or 23%, from last year.
- Adjusted EBITDA margin* for the year ended December 31, 2024 was 18.8%, up from 16.6% last year.
- Orders for the year were $1.85 billion, the second highest annual orders reported in the Company's history, contributing to a backlog of $997 million at December 31, 2024.

- Net cash provided by operating activities for the year ended December 31, 2024 was $231 million, an increase of $37 million, or 19%, from last year.
- With our strong balance sheet, positive operating cash flow, and capacity under our credit facility, we are well positioned to continue to invest in internal growth initiatives, pursue strategic acquisitions, and consider ways to return value to stockholders, as we did during 2024:
    - Our capital expenditures in 2024 were approximately $41 million and included a number of strategic investments in new machinery and equipment aimed at gaining operating efficiencies and expanding capacity at certain production facilities.
    - We continue to invest in new product development and anticipate that these efforts will provide additional opportunities to further diversify our customer base, penetrate new end-markets, and/or gain access to new geographic regions.
    - We continued to execute on our disciplined M&A strategy with the acquisition of Standard. We have now completed 12 acquisitions since 2016.
    - We demonstrated our commitment to returning value to our stockholders by paying cash dividends of $29.3 million and spending $6.7 million to repurchase shares of our common stock under our authorized repurchase program.

* The Company uses adjusted earnings before interest, tax, depreciation, and amortization (“adjusted EBITDA”) and the ratio of adjusted EBITDA to net sales (“adjusted EBITDA margin”) as additional measures to assist it in comparing its performance on a consistent basis for purposes of business decision making by removing the impact of certain items that management believes are not representative of its underlying performance and to improve the comparability of results across reporting periods. Refer to the Results of Operations section for further discussion regarding these non-GAAP metrics and a reconciliation of each to the most comparable GAAP measure for each of the periods presented.

Results of Operations

The following table summarizes our Consolidated Statements of Operations as of, and for the years ended December 31, 2024 and December 31, 2023, and illustrates the key financial indicators used to assess our consolidated financial results:

	For the Years Ended December 31,		Change
(in millions of dollars, except per share data)	**2024**	**2023**	**2024 vs. 2023**
Net sales	$ 1,861.5	$ 1,722.7	$ 138.8
Cost of sales	1,328.5	1,272.5	56.0
Gross profit	533.0	450.2	82.8
Selling, engineering, general and administrative expenses	234.0	210.1	23.9
Amortization expense	15.0	15.2	(0.2)
Acquisition and integration-related expenses, net	2.6	0.4	2.2
Operating income	281.4	224.5	56.9
Interest expense, net	12.5	19.7	(7.2)
Pension settlement charges	3.8	—	3.8
Other expense, net	1.2	1.8	(0.6)
Income before income taxes	263.9	203.0	60.9
Income tax expense	47.6	45.6	2.0
Net income	$ 216.3	$ 157.4	$ 58.9
Other data:			
Operating margin	15.1 %	13.0 %	2.1 %
Adjusted EBITDA [(a)]	$ 350.6	$ 286.0	$ 64.6
Adjusted EBITDA margin [(a)]	18.8 %	16.6 %	2.2 %
Diluted earnings per share	$ 3.50	$ 2.56	$ 0.94
Total orders	1,847.8	1,870.1	(22.3)
Backlog	997.1	1,025.1	(28.0)
Depreciation and amortization	65.3	60.4	4.9

(a) The Company uses adjusted EBITDA and adjusted EBITDA margin as additional measures to assist it in comparing its performance on a consistent basis for purposes of business decision making by removing the impact of certain items that management believes are not representative of its underlying performance and to improve the comparability of results across reporting periods. The Company believes that investors use versions of these metrics in a similar manner. For these reasons, the Company believes that adjusted EBITDA and adjusted EBITDA margin are meaningful metrics to investors in evaluating the Company's underlying financial performance. Adjusted EBITDA is a non-GAAP measure that represents the total of net income, interest expense, net, pension settlement charges, acquisition and integration-related expenses, net, purchase accounting effects, other expense, net, income tax expense, and depreciation and amortization expense, where applicable. Adjusted EBITDA margin is a non-GAAP measure that represents the total of net income, interest expense, net, pension settlement charges, acquisition and integration-related expenses, net, purchase accounting effects, other expense, net, income tax expense, and depreciation and amortization expense, where applicable, divided by net sales for the applicable period(s). Other companies may use different methods to calculate adjusted EBITDA and adjusted EBITDA margin.

Year ended December 31, 2024 vs. year ended December 31, 2023

Net sales

Net sales for the year ended December 31, 2024 increased by $138.8 million, or 8%, compared to the prior year, primarily due to higher sales volumes, inclusive of the effects of acquisitions, and pricing actions, partially offset by a $11.6 million reduction in chassis sales. The Environmental Solutions Group reported a net sales increase of $119.2 million, or 8%, primarily due to a $18.9 million improvement in aftermarket revenues and increases in sales of dump truck bodies of $36.5 million, sewer cleaners of $23.1 million, road-marking and line-removal equipment of $14.1 million, street sweepers of $13.1 million, industrial vacuum loaders of $10.5 million, refuse trucks of $7.2 million, multi-purpose maintenance vehicles of $6.8 million, metal extraction support equipment of $4.3 million, and hoists of $2.7 million. Partially offsetting these improvements were reductions in sales of trailers of $13.4 million and safe-digging trucks of $9.1 million, as well as a $3.3 million unfavorable foreign currency translation impact. Within the Safety and Security Systems Group, net sales increased by $19.6 million, or 7%, primarily due to improvements in sales of public safety equipment of $19.5 million and warning systems of $2.6 million, partially offset by a $2.6 million reduction in sales of industrial signaling equipment.

Cost of sales

For the year ended December 31, 2024, cost of sales increased by $56.0 million, or 4%, compared to the prior year, largely due to an increase of $53.4 million, or 5%, within the Environmental Solutions Group, primarily related to increased sales volumes, inclusive of the effects of acquisitions, and a $4.6 million increase in depreciation expense, partially offset by a $3.6 million favorable foreign currency translation impact and reduced chassis costs of $10.7 million. Within the Safety and Security Systems Group, cost of sales increased by $2.6 million, or 1%, primarily related to higher sales volumes, partially offset by favorable product mix and lower material costs.

Gross profit

For the year ended December 31, 2024, gross profit increased by $82.8 million, or 18%, compared to the prior year, primarily due to a $65.8 million improvement within the Environmental Solutions Group and a $17.0 million increase within the Safety and Security Systems Group. Gross profit as a percentage of net sales ("gross profit margin") for the year ended December 31, 2024 was 28.6%, compared to 26.1% in the prior year, primarily driven by a 240 basis point improvement within the Environmental Solutions Group and a 310 basis point improvement within the Safety and Security Systems Group.

Selling, engineering, general and administrative ("SEG&A") expenses

For the year ended December 31, 2024, SEG&A expenses increased by $23.9 million, or 11%, compared to the prior year, primarily due to increases of $13.9 million in the Environmental Solutions Group, $7.4 million in the Safety and Security Systems Group, and $2.6 million in Corporate. As a percentage of net sales, SEG&A expenses were 12.6% in the current year, compared to 12.2% in the prior year.

Operating income

Operating income for the year ended December 31, 2024 increased by $56.9 million, or 25%, compared to the prior year, largely due to the $82.8 million improvement in gross profit and a $0.2 million reduction in amortization expense, partially offset by the $23.9 million increase in SEG&A expenses and a $2.2 million increase in acquisition and integration-related costs. Consolidated operating margin for the year ended December 31, 2024 was 15.1%, compared to 13.0% in the prior year.

Interest expense, net

Interest expense, net for the year ended December 31, 2024 decreased by $7.2 million, or 37%, compared to the prior year, largely due to reductions in average debt levels.

Pension settlement charges

During the year ended December 31, 2024, the Company announced a limited-time voluntary lump-sum pension offering to eligible participants of its U.S. defined benefit plan. In 2024, the Company paid a total of $6.8 million in lump-sum benefit payments, using assets of the plan. As total settlement payments during the year ended December 31, 2024 exceeded the sum of the service and interest cost, the Company was required to remeasure the liabilities of the benefit plans and recognized a pension settlement charge of $3.8 million. For further discussion, see Note 11 – Pension and Other Post-Retirement Plans in Item 8, *Financial Statements and Supplementary Data*.

Other expense, net

For the year ended December 31, 2024, Other expense, net, decreased by $0.6 million compared to the prior year, primarily due to the non-recurrence of an $0.8 million environmental remediation charge recorded in the prior-year period associated with a business discontinued in 2009, partially offset by higher net periodic pension expense.

Income tax expense

During the year ended December 31, 2023, the Company filed amended U.S. federal income tax returns for the 2015 through 2018 tax years to claim a worthless stock deduction. As of December 31, 2023, the amended tax returns were under examination by the applicable tax authorities and recovery of the refund claim was not considered more-likely-than-not. Accordingly, the aggregate refund claim of $13.6 million, including interest of $1.8 million, was recorded as an income tax receivable as of December 31, 2023, fully offset by a corresponding liability for unrecognized tax benefits.

During the year ended December 31, 2024, the tax authorities notified the Company that the amended tax returns had been approved, at which point receipt of the refund claim was considered more-likely-than-not. As a result, the Company released the associated liability for unrecognized tax benefits and recognized a $13.0 million discrete tax benefit for the refund claim, net

of taxes on the associated interest, during the year ended December 31, 2024. Following the receipt of the U.S. federal income tax refund during the second quarter of 2024, the Company began amending applicable state tax returns to reflect the worthless stock deduction, resulting in the recognition of additional discrete state tax benefits aggregating to $2.9 million during the year ended December 31, 2024.

The Company recognized income tax expense of $47.6 million for the year ended December 31, 2024, compared to $45.6 million for the year ended December 31, 2023. The increase in income tax expense in 2024 was primarily due to higher earnings, partially offset by the aforementioned discrete tax benefits, which aggregated to $15.9 million, and the recognition of $5.1 million in excess tax benefits associated with stock-based compensation activity. Including these items, the Company's effective tax rate for the year ended December 31, 2024 was 18.0%, compared to 22.5% in 2023. The Company's income tax expense and effective tax rate for the year ended December 31, 2023 also included the effects of the recognition of $3.9 million in excess tax benefits associated with stock-based compensation activity. For further discussion, see Note 10 – Income Taxes in Item 8, *Financial Statements and Supplementary Data*.

Net income

Net income for the year ended December 31, 2024 increased by $58.9 million, or 37%, compared to the prior year, largely due to the increased operating income and the reductions in interest expense, net, and other expense, net, partially offset by the $3.8 million pension settlement charge and a $2.0 million increase in income tax expense.

Adjusted EBITDA

Adjusted EBITDA for the year ended December 31, 2024 was $350.6 million, compared to $286.0 million in the prior year. Adjusted EBITDA margin for the year ended December 31, 2024 was 18.8%, compared to 16.6% in the prior year.

The following table summarizes the Company's adjusted EBITDA and adjusted EBITDA margin and reconciles net income to adjusted EBITDA for the years ended December 31, 2024 and December 31, 2023:

	For the Years Ended December 31,	
(in millions of dollars)	**2024**	**2023**
Net income	$ 216.3	$ 157.4
Add:		
Interest expense, net	12.5	19.7
Pension settlement charges	3.8	—
Acquisition and integration-related expenses, net	2.8	0.4
Purchase accounting effects [(a)]	1.1	0.7
Other expense, net	1.2	1.8
Income tax expense	47.6	45.6
Depreciation and amortization	65.3	60.4
Adjusted EBITDA	$ 350.6	$ 286.0
Net sales	$ 1,861.5	$ 1,722.7
Adjusted EBITDA margin	18.8 %	16.6 %

(a) Purchase accounting effects represent the step-up in the valuation of equipment acquired in recent business combinations that was sold during the periods presented. Excludes purchase accounting expense effects included within depreciation and amortization of $0.2 million for the year ended December 31, 2024.

Environmental Solutions

The following table summarizes the Environmental Solutions Group's operating results as of, and for the years ended, December 31, 2024 and December 31, 2023:

(in millions of dollars)	For the Years Ended December 31, 2024	For the Years Ended December 31, 2023	Change 2024 vs. 2023
Net sales	$ 1,557.1	$ 1,437.9	$ 119.2
Operating income	261.2	209.2	52.0
Other data:			
Operating margin	16.8 %	14.5 %	2.3 %
Total orders	$ 1,541.6	$ 1,578.0	$ (36.4)
Backlog	939.7	966.5	(26.8)
Depreciation and amortization	60.9	56.0	4.9

Year ended December 31, 2024 vs. year ended December 31, 2023

Total orders decreased by $36.4 million, or 2%, for the year ended December 31, 2024, including the effects of lower chassis orders of $23.5 million. U.S. orders decreased by $60.2 million, or 5%, primarily due to reductions in orders for street sweepers of $81.4 million, safe-digging trucks of $39.1 million, sewer cleaners of $23.2 million, multi-purpose maintenance vehicles of $5.0 million, and metal extraction support equipment of $2.7 million. Partially offsetting these reductions were improvements in orders of dump truck bodies of $48.3 million, aftermarket offerings of $11.8 million, road-marking and line-removal equipment of $7.7 million, waterblasting equipment of $4.5 million, trailers of $3.1 million, and industrial vacuum loaders of $2.7 million. Non-U.S. orders increased by $23.8 million, or 8%, primarily due to improvements in orders for refuse trucks of $17.0 million, street sweepers of $5.5 million, multi-purpose maintenance vehicles of $5.0 million, dump truck bodies of $2.8 million, and metal extraction support equipment of $2.7 million. Additionally, non-U.S. aftermarket orders increased by $7.6 million. Partially offsetting these improvements were reductions in orders for sewer cleaners of $8.8 million, safe-digging trucks of $4.8 million, industrial vacuum loaders of $1.7 million, and waterblasting equipment of $1.1 million, as well as a $3.3 million unfavorable foreign currency translation impact.

Net sales increased by $119.2 million, or 8%, for the year ended December 31, 2024, primarily due to higher sales volumes, inclusive of the effects of acquisitions and pricing actions, partially offset by lower chassis sales of $11.6 million. U.S. sales increased by $102.7 million, or 9%, largely due to a $12.9 million increase in aftermarket revenues and increases in sales of dump truck bodies of $31.9 million, sewer cleaners of $21.3 million, street sweepers of $12.0 million, industrial vacuum loaders of $10.5 million, road-marking and line-removal equipment of $10.1 million, refuse trucks of $8.0 million, metal extraction support equipment of $3.1 million, and hoists of $2.8 million. Partially offsetting these improvements were reductions in shipments of trailers of $13.4 million and safe-digging trucks of $7.7 million. Non-U.S. sales increased by $16.5 million, or 6%, largely due to a $6.0 million improvement in aftermarket revenues and increases in sales of multi-purpose maintenance vehicles of $4.9 million, dump truck bodies of $4.6 million, road-marking and line removal equipment of $4.0 million, sewer cleaners of $1.8 million, and metal extraction support equipment of $1.2 million. Partially offsetting these improvements were reductions in shipments of waterblasting equipment of $2.0 million and safe-digging trucks of $1.4 million, as well as a $3.3 million unfavorable foreign currency translation impact.

Cost of sales increased by $53.4 million, or 5%, for the year ended December 31, 2024, primarily related to increased sales volumes, inclusive of the effects of acquisitions, and a $4.6 million increase in depreciation expense, partially offset by a $3.6 million favorable foreign currency translation impact and reduced chassis costs of $10.7 million. Including these factors, gross profit margin for the year ended December 31, 2024 was 26.0%, compared to 23.6% in the prior year, with the improvement primarily attributable to improved operating leverage from higher sales volumes, benefits from pricing actions, and a reduction in lower margin chassis sales.

SEG&A expenses increased by $13.9 million, or 12%, for the year ended December 31, 2024, primarily due to additional costs from acquired businesses, as well as increases in sales commissions and incentive-based compensation expense. As a percentage of net sales, SEG&A expenses were 8.2% in the current year, compared to 7.9% in the prior year.

Operating income increased by $52.0 million, or 25%, for the year ended December 31, 2024, largely due to a $65.8 million increase in gross profit and a $0.2 million reduction in amortization expense, partially offset by the $13.9 million increase in SEG&A expenses and a $0.1 million increase in acquisition-related costs.

Backlog was $940 million at December 31, 2024, compared to $967 million at December 31, 2023.

Safety and Security Systems

The following table summarizes the Safety and Security Systems Group's operating results as of, and for the years ended, December 31, 2024 and December 31, 2023:

(in millions of dollars)	For the Years Ended December 31, 2024	2023	Change 2024 vs. 2023
Net sales	$ 304.4	$ 284.8	$ 19.6
Operating income	64.4	54.8	9.6
Other data:			
Operating margin	21.2 %	19.2 %	2.0 %
Total orders	$ 306.2	$ 292.1	$ 14.1
Backlog	57.4	58.6	(1.2)
Depreciation and amortization	3.9	4.2	(0.3)

Year ended December 31, 2024 vs. year ended December 31, 2023

Total orders increased by $14.1 million, or 5%, for the year ended December 31, 2024. U.S. orders increased by $28.3 million, or 16%, compared to the prior year, driven by improvements in orders for public safety equipment of $22.9 million and industrial signaling equipment of $5.9 million, partially offset by a $0.5 million reduction in orders of warning systems. Non-U.S. orders decreased by $14.2 million, or 12%, primarily due to a $16.6 million reduction in orders for public safety equipment in comparison to the prior-year period, which included large fleet orders from customers in Mexico and Europe, as well as a $2.5 million reduction in orders for industrial signaling equipment. Partially offsetting these reductions was a $4.9 million improvement in orders for warning systems.

Net sales increased by $19.6 million, or 7%, for the year ended December 31, 2024, inclusive of the effects of higher sales volumes and pricing actions. U.S. sales increased by $28.9 million, or 16%, driven by improvements in sales of public safety equipment of $24.4 million, industrial signaling equipment of $2.4 million, and warning systems of $2.1 million. Non-U.S. sales decreased by $9.3 million, or 8%, largely due to reductions in industrial signaling equipment of $5.0 million and public safety equipment of $4.9 million, partially offset by a $0.5 million improvement in sales of warning systems.

Cost of sales increased by $2.6 million, or 1%, for the year ended December 31, 2024, primarily related to higher sales volumes, partially offset by favorable product mix and lower material costs. Gross profit margin for the year ended December 31, 2024 was 42.0%, compared to 38.9% in the prior year, with the increase primarily attributable to improved operating leverage from higher sales volumes, favorable sales mix, lower material costs, and benefits from pricing actions.

SEG&A expenses increased by $7.4 million for the year ended December 31, 2024, primarily due to higher sales commissions and incentive-based compensation expense. As a percentage of net sales, SEG&A expenses were 20.9% in the current year, compared with 19.7% in the prior year.

Operating income increased by $9.6 million, or 18%, for the year ended December 31, 2024, primarily due to a $17.0 million increase in gross profit, partially offset by the $7.4 million increase in SEG&A expenses.

Backlog was $57 million at December 31, 2024, compared to $59 million at December 31, 2023.

Corporate Expense

Corporate operating expenses were $44.2 million in 2024 and $39.5 million in 2023.

For the year ended December 31, 2024, corporate operating expenses increased by $4.7 million compared to the prior year, primarily due to a $2.1 million increase in acquisition-related expenses, including the impact of the non-recurrence of a $2.1 million benefit recognized in 2023 associated with a reduction in the estimated fair value of contingent consideration, as well as higher stock compensation, incentive-based compensation, and information technology costs in the current year. Partially offsetting these increases were lower post-retirement expenses and the recognition of a $1.8 million gain associated with an insurance recovery in 2024.

The Company's hearing loss litigation has historically been managed by the Company's legal staff resident at the corporate office and not by management at either segment. In accordance with Accounting Standards Codification ("ASC") 280, *Segment Reporting*, which provides that segment reporting should follow the management of the item and that certain expenses may be

corporate expenses, these legal expenses (which are not part of the normal operating activities of any of our reportable segments) are reported and managed as corporate expenses.

Financial Condition, Liquidity and Capital Resources

The Company uses its cash flow from operations to fund growth and to make capital investments that sustain its operations, reduce costs, or both. Beyond these uses, remaining cash is used to pay down debt, repurchase shares, fund dividend payments, and make pension contributions. The Company may also choose to invest in the acquisition of businesses. In the absence of significant unanticipated cash demands, we believe that the Company's existing cash balances, cash flow from operations, and borrowings available under the 2022 Credit Agreement will provide funds sufficient for these purposes. The net cash flows associated with the Company's rental equipment transactions are included in cash flows from operating activities.

The Company's cash and cash equivalents totaled $91.1 million as of December 31, 2024 and $61.0 million as of December 31, 2023. As of December 31, 2024, $22.6 million of cash and cash equivalents was held by foreign subsidiaries. Cash and cash equivalents held by subsidiaries outside the U.S. typically are held in the currency of the country in which it is located. The Company uses this cash to fund the operating activities of its foreign subsidiaries and for further investment in foreign operations. Generally, the Company has considered such cash to be indefinitely reinvested in its foreign operations and the Company's current plans do not demonstrate a need to repatriate such cash to fund U.S. operations. However, in the event that these funds were needed to fund U.S. operations or to satisfy U.S. obligations, they generally could be repatriated. The repatriation of these funds may cause the Company to incur additional U.S. income tax expense and withholding taxes, as applicable, dependent on income tax laws and other circumstances at the time any such amounts were repatriated.

Net cash provided by operating activities totaled $231.3 million in 2024 and $194.4 million in 2023. The increase in cash generated by operating activities in 2024 compared to the prior year was primarily due to working capital improvements and higher net income, partially offset by increased rental fleet investments to support demand for rentals and used equipment and higher income tax payments, incentive-based compensation payments, and pension contributions.

Net cash used for investing activities totaled $78.9 million in 2024 and $83.7 million in 2023. In both years, cash was used to fund the purchase of properties and equipment, with capital expenditures of $40.6 million in 2024 and $30.3 million in 2023. During 2024, the Company completed the acquisition of Standard for initial consideration of $39.7 million. During 2023, the Company made payments of $41.9 million to acquire Trackless Vehicles Limited, Trackless Vehicles Asset Corp, and the wholly-owned subsidiary Work Equipment Ltd. (collectively, "Trackless") and $13.0 million to acquire Blasters, Inc. and Blasters Technologies, LLC (collectively, "Blasters") .

Net cash used for financing activities was $121.0 million in 2024 and $97.9 million in 2023. In 2024, the Company paid down $76.5 million of borrowings under its revolving credit facility and $3.9 million under its term loan facility, funded cash dividends of $29.3 million and share repurchases of $6.7 million, and redeemed $6.1 million of common stock in order to remit funds to tax authorities to satisfy employees' tax withholdings following the vesting of stock-based compensation and the exercise of stock options. The Company also received $2.0 million from stock option exercises in 2024. In 2023, the Company paid down $64.1 million of borrowings under its revolving credit facility and $0.8 million under its term loan facility, funded cash dividends of $23.8 million and share repurchases of $5.5 million, and redeemed $7.0 million of common stock in order to remit funds to tax authorities to satisfy employees' tax withholdings following the vesting of stock-based compensation and the exercise of stock options. The Company also received $3.9 million from stock option exercises in 2023.

On October 21, 2022, the Company entered into the 2022 Credit Agreement, by and among the Company and certain of its foreign subsidiaries (collectively, the "Borrowers"), Wells Fargo Bank, National Association, as administrative agent, swingline lender, and issuing lender, PNC Bank, National Association and Truist Bank as syndication agents, and the other lenders and parties signatory thereto.

On May 16, 2024, the Company entered into the First Amendment to the 2022 Credit Agreement. The amendment was largely administrative in nature, including certain language to address ongoing reference rate reform. There were no changes to the term or the Company's borrowing capacity under the 2022 Credit Agreement.

The 2022 Credit Agreement is a senior secured credit facility which provides the Borrowers access to an aggregate original principal amount of up to $800 million, consisting of (i) a revolving credit facility in an amount up to $675 million (the "Revolver") and (ii) a term loan facility in an original amount of up to $125 million. The Revolver provides for borrowings in the form of loans or letters of credit up to the aggregate availability under the facility, with a sub-limit of $100 million for letters of credit. Borrowings can be made in denominations of U.S. dollars, Canadian dollars, euros, or British pounds (with borrowings in non-U.S. currencies subject to a sublimit of $300 million). In addition, the Company may expand its borrowing capacity under the 2022 Credit Agreement by up to the greater of (i) $400 million and (ii) 100% of Consolidated EBITDA for the applicable four-quarter period preceding such expansion notice, subject to the approval of the applicable lenders providing

such additional borrowings in the form of increases to their revolving facility commitment, or funding of incremental term loans. Borrowings under the 2022 Credit Agreement may be used for working capital and general corporate purposes, including acquisitions. The 2022 Credit Agreement matures on October 21, 2027.

The Company's material domestic subsidiaries provide guarantees for all obligations of the Borrowers under the 2022 Credit Agreement, which is secured by a first priority security interest in (i) all existing or hereafter acquired domestic property and assets of the Company and material domestic subsidiaries, (ii) the stock or other equity interests in each of the material domestic subsidiaries, and (iii) 65% of outstanding voting capital stock of certain first-tier foreign subsidiaries, subject to certain exclusions.

Borrowings under the 2022 Credit Agreement bear interest, at the Company's option, at a base rate or an Adjusted Eurocurrency Rate (as defined in the 2022 Credit Agreement) in the case of borrowings in euros or an adjusted RFR (as defined in the 2022 Credit Agreement) in the case of borrowings in U.S. dollars, Canadian dollars, and British pound sterling, plus, in each case, an applicable margin. The applicable margin ranges from zero to 0.75% for base rate borrowings and 1.00% to 1.75% for Adjusted Eurocurrency Rate and RFR borrowings. The Company must also pay a commitment fee to the lenders ranging between 0.10% to 0.25% per annum on the unused portion of the Revolver along with other standard fees. Applicable margin, issuance fees, and other customary expenses are payable on outstanding letters of credit.

The Company is subject to certain net leverage ratio and interest coverage ratio financial covenants under the 2022 Credit Agreement that are to be measured at each fiscal quarter-end. The Company was in compliance with all such covenants as of December 31, 2024. The 2022 Credit Agreement also includes certain "covenant holiday" periods, which allow for the temporary increase of the minimum net leverage ratio following the completion of a permitted acquisition, or a series of acquisitions, when the aggregate consideration over a period of twelve months exceeds $75 million. In addition, the 2022 Credit Agreement includes customary negative covenants, subject to certain exceptions, restricting or limiting the Company's and its subsidiaries' ability to, among other things: (i) make non-ordinary course dispositions of assets; (ii) make certain fundamental business changes, such as mergers, consolidations, or any similar combination; (iii) make restricted payments, including dividends and stock repurchases; (iv) incur indebtedness; (v) make certain loans and investments; (vi) create liens; (vii) transact with affiliates; (viii) enter into certain sale/leaseback transactions; (ix) make negative pledges; and (x) modify subordinated debt documents.

Under the 2022 Credit Agreement, restricted payments, including dividends and stock repurchases, shall be permitted if (i) the Company's leverage ratio is less than or equal to 3.25x; (ii) the Company is in compliance with all other financial covenants; and (iii) there are no existing defaults under the 2022 Credit Agreement. If its leverage ratio is more than 3.25x, the Company is still permitted to fund (1) up to $35 million of dividend payments and stock repurchases annually; and (2) additional incremental other cash payments up to the greater of $65 million or 5% of consolidated total assets for the term of the 2022 Credit Agreement.

The 2022 Credit Agreement contains customary events of default. If an event of default occurs and is continuing, the Borrowers may be required immediately to repay all amounts outstanding under the 2022 Credit Agreement and the commitments from the lenders may be terminated.

The 2022 Credit Agreement amended and restated the Second Amended and Restated Credit Agreement (as amended, the "2019 Credit Agreement"), which provided the Company with a $500 million revolving credit facility.

As of December 31, 2024, there was $90.6 million of cash drawn on the Revolver, $120.3 million outstanding under the term loan facility, and $10.1 million of undrawn letters of credit under the 2022 Credit Agreement, with $574.3 million of net availability for borrowings.

The following table summarizes the gross borrowings and gross payments under the Company's revolving credit facilities:

	For the Years Ended December 31,	
(in millions of dollars)	**2024**	**2023**
Gross borrowings	$ 18.0	$ 134.3
Gross payments	94.5	198.4

Aggregate maturities of long-term borrowings and finance lease obligations are $19.4 million in 2025, $10.5 million in 2026, and $193.8 million in 2027, and $0.1 million in 2028. The weighted average interest rate on long-term borrowings was 5.3% at December 31, 2024.

The Company paid interest of $15.3 million in 2024, $22.8 million in 2023, and $9.4 million in 2022.

The Company paid income taxes of $62.4 million in 2024, $46.2 million in 2023, and $26.9 million in 2022.

The Company paid cash dividends to stockholders of $29.3 million in 2024, $23.8 million in 2023, and $21.8 million in 2022. Additionally, on February 21, 2025, the Board declared a quarterly cash dividend of $0.14 per common share payable on March 27, 2025 to stockholders of record at the close of business on March 14, 2025. The declaration of dividends is subject to the discretion of the Board and depends on various factors that our Board deems relevant to its analysis and decision making, including our net income, financial condition, and cash requirements.

The Company anticipates that capital expenditures for 2025 will be in the range of $40 million to $50 million. The Company believes that its financial resources and major sources of liquidity, including cash flow from operations and borrowing capacity, will be adequate to meet its operating needs, capital needs, and financial commitments.

Contractual Obligations and Off-Balance Sheet Arrangements

The following table summarizes the Company's contractual obligations and payments due by period as of December 31, 2024:

	Payments Due by Period				
(in millions of dollars)	**Total**	**Less than 1 Year**	**2-3 Years**	**4-5 Years**	**More than 5 Years**
Long-term debt	$ 210.9	$ 7.0	$ 203.9	$ —	$ —
Interest payments on long-term debt [a]	29.9	11.0	18.9	—	—
Operating lease obligations [b]	31.9	8.2	12.2	7.8	3.7
Finance lease obligations	12.9	12.4	0.4	0.1	—
Purchase obligations [c]	353.2	336.5	14.5	2.2	—
Pension contributions [d]	3.6	3.6	—	—	—
Contingent earn-out payments [e]	4.8	4.2	0.6	—	—
Total contractual obligations [f]	$ 647.2	$ 382.9	$ 250.5	$ 10.1	$ 3.7

(a) Amounts represent estimated contractual interest payments on outstanding long-term debt.

(b) Amounts include contractual obligations associated with lease arrangements with an initial term of twelve months or less, which are not recorded on the Consolidated Balance Sheets. For further discussion, see Note 4 – Leases in Item 8, *Financial Statements and Supplementary Data*.

(c) Purchase obligations primarily relate to commercial chassis and other contracts in the ordinary course of business.

(d) The Company expects to contribute up to $3.6 million to the U.S. defined benefit pension plan in 2025. Contributions to the non-U.S. defined benefit pension plan in 2025 are expected to be insignificant. Future contributions to the plans will be based on such factors as (i) annual service cost, (ii) the financial return on plan assets, (iii) interest rate movements that affect discount rates applied to plan liabilities, and (iv) the value of benefit payments made. Due to the high degree of uncertainty regarding the potential future cash outflows associated with these plans, the Company is unable to provide a reasonably reliable estimate of the amounts and periods in which any additional liabilities might be paid beyond 2025.

(e) Represents the fair value of the contingent earn-out payments associated with acquisitions. For further discussion, see Note 2 – Acquisitions and Note 18 - Fair Value Measurements in Item 8, *Financial Statements and Supplementary Data*.

(f) As of December 31, 2024, the Company had a liability of approximately $1.2 million for unrecognized tax benefits, including penalties and interest. For further discussion, see Note 10 – Income Taxes in Item 8, *Financial Statements and Supplementary Data*. Due to the uncertainties related to these tax matters, the Company generally cannot make a reasonably reliable estimate of the period of cash settlement for this liability. As such, the potential future cash outflows are not included in the table above.

The following table summarizes the Company's off-balance sheet arrangements and the notional amount by expiration period as of December 31, 2024:

	Notional Amount by Expiration Period			
(in millions of dollars)	**Total**	**Less than 1 Year**	**2-3 Years**	**4-5 Years**
Financial standby letters of credit [a]	$ 10.1	$ 10.1	$ —	$ —
Performance and bid bonds [b]	15.5	15.4	0.1	—
Repurchase obligations [c]	2.2	0.6	0.2	1.4
Total off-balance sheet arrangements	$ 27.8	$ 26.1	$ 0.3	$ 1.4

(a) Financial standby letters of credit largely relate to casualty insurance policies for the Company's workers' compensation, automobile, general liability and product liability policies.

(b) Performance and bid bonds primarily relate to guarantees of performance of certain subsidiaries that engage in transactions with domestic and foreign customers.

(c) Relates to certain transactions that the Company has entered into involving the sale of equipment to certain of its customers which included (i) guarantees to repurchase the equipment for a fixed price at a future date and (ii) guarantees to repurchase the equipment from the third-party lender in the event of default by the customer. For further discussion, see Note 12 – Commitments and Contingencies in Item 8, *Financial Statements and Supplementary Data*.

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") requires management to make estimates and assumptions that affect (i) the reported amounts of assets and liabilities, (ii) disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and (iii) the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. The Company considers the following policies to be the most critical in understanding the judgments that are involved in the preparation of the Company's consolidated financial statements and the uncertainties that could impact the Company's financial condition, results of operations, or cash flow.

Goodwill

Goodwill represents the excess of the cost of an acquired business over the amounts assigned to its net assets. Goodwill is not amortized but is tested for impairment at a reporting unit level on an annual basis or more frequently if indicators of impairment exist. The Company performed its annual goodwill impairment test as of October 31, 2024.

In testing the goodwill of its reporting units for potential impairment, the Company applies either a qualitative or quantitative test, in accordance with ASC 350, *Intangibles – Goodwill and Other*.

A qualitative approach may be applied when the Company concludes that it is not "more likely than not" that the fair value of a reporting unit is less than its carrying value. In conducting a qualitative assessment, the Company analyzes a variety of events or factors that may influence the fair value of the reporting unit, including, but not limited to: the results of prior quantitative assessments performed; changes in the carrying amount; actual and projected financial performance; relevant market data for both the Company and its guideline comparable companies; industry outlook; and macroeconomic conditions. Significant judgment is used to evaluate the totality of these events and factors to make the determination of whether it is more likely than not that the fair value of the reporting unit is less than its carrying value. In this situation, the Company would not be required to perform the quantitative impairment test described below.

A quantitative approach is performed by comparing the fair value of a reporting unit with its carrying amount. If the fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is not impaired, and no impairment charge is required. If the carrying amount of a reporting unit exceeds its fair value, this difference is recorded as an impairment charge not to exceed the carrying amount of goodwill. The Company generally determines the fair value of its reporting units using both the income and market approaches.

Under the income approach, the key assumptions include projected sales and earnings before interest, income taxes, depreciation, and amortization ("EBITDA"). These assumptions are determined by management utilizing our internal operating plan, including growth rates for revenues and margin assumptions. An additional key assumption under this approach is the discount rate, which is determined by reviewing current risk-free rates of capital and current market interest rates and by evaluating the risk premium relevant to the reporting unit. If the Company's assumptions relative to growth rates were to change, the fair value calculation may change, which could result in impairment.

Under the market approach, the Company estimates fair value using marketplace fair value data from within a comparable industry grouping of publicly traded companies and from pricing multiples implied from sales of companies similar to the Company's reporting units. The Company's selection of comparable guideline companies is a key assumption underlying the market approach. Similar to the income approach discussed above, sales, cost of sales, operating expenses, EBITDA and their respective growth rates are also key assumptions utilized. The market prices of the Company's common stock and other guideline companies are additional key inputs. If these market prices increase, the estimated market value would increase. Conversely, if market prices decrease, the estimated market value would decrease.

The results of these two methods are weighted based upon management's evaluation of the relevance of the two approaches.

Although the Company believes its estimates of fair value are reasonable, actual financial results could differ from estimated financial results due to the inherent uncertainty involved in making such estimates. Changes in assumptions concerning future financial results or other underlying assumptions could have a significant impact on either the fair value of the reporting units, the amount of any goodwill impairment charge, or both. The Company also compares the sum of the estimated fair values of its reporting units to the overall fair value of the Company implied by its market capitalization. This comparison provides an indication that, in total, assumptions and estimates are reasonable. Future declines in the overall market value of the Company may also result in a conclusion that the fair value of one or more reporting units has declined below its carrying value.

In 2024, the Company performed a combination of qualitative and quantitative impairment tests to assess the goodwill of its reporting units for potential impairment. For one reporting unit, a quantitative impairment test was performed, using a combination of the income and market approaches to determine the fair value of its reporting unit. The valuation was prepared

by a third-party valuation specialist. One measure of the sensitivity of assumptions used in the impairment analysis is the amount by which the reporting unit "passed" (fair value exceeds the carrying value). The fair value of the reporting unit exceeded its carrying value by more than 30%. Therefore, no impairment was recognized. For its other reporting units, the Company applied the qualitative approach and concluded that it was not "more likely than not" that the fair value of the reporting units was less than their carrying values. Accordingly, further quantitative testing was not required to be performed.

The Company had no goodwill impairments in 2024, 2023, or 2022. For all reporting units, a 10% decrease in the estimated fair value would have had no effect on the carrying value of goodwill at the annual measurement date in 2024. However, adverse changes to the Company's business environment and future cash flow could cause us to record impairment charges in future periods, which could be material.

See Note 8 – Goodwill and Other Intangible Assets in Item 8, *Financial Statements and Supplementary Data*, for a summary of the Company's goodwill by segment.

Indefinite-lived Intangible Assets

An intangible asset determined to have an indefinite useful life is not amortized. Indefinite-lived intangible assets are tested for impairment on an annual basis at October 31, or more frequently if an event occurs or circumstances change that indicate the fair value of an indefinite-lived intangible asset could be below its carrying amount. The Company's indefinite-lived intangible assets include trade names associated with acquisitions.

In testing the indefinite-lived intangibles assets for potential impairment, the Company applies either a qualitative test, or a quantitative test, in accordance with ASC 350, *Intangibles — Goodwill and Other*. A qualitative approach may be applied when the Company concludes that it is not "more likely than not" that the fair value of the indefinite-lived intangible assets is less than their carrying value. A quantitative impairment test consists of comparing the fair value of the indefinite-lived intangible asset with its carrying amount. An impairment loss would be recognized for the carrying amount in excess of its fair value.

Significant judgment is applied when evaluating whether an intangible asset has an indefinite useful life and in testing for impairment. The Company primarily uses the relief from royalty model to estimate the fair value of the indefinite-lived intangible assets. The relief from royalty model requires management to make a number of business and valuation assumptions including future revenue growth and royalty rates.

In 2024, the Company performed a combination of qualitative and quantitative impairment tests over its indefinite-lived intangible assets. The fair value of the indefinite-lived intangible asset that was quantitatively tested for impairment exceeded its carrying value by approximately 45%, and, therefore, no impairment was recognized. This valuation was prepared by a third-party valuation specialist. Further, the Company concluded that it was not "more likely than not" that the fair value of indefinite-lived intangible assets that were qualitatively tested for impairment were less than the carrying amounts. Accordingly, further quantitative testing was not required to be performed.

The Company had no indefinite-lived intangible asset impairments in 2024, 2023, or 2022. Although the Company believes its estimates of fair value are reasonable, actual financial results could differ from estimated financial results due to the inherent uncertainty involved in making such estimates. The use of alternative estimates and assumptions could increase or decrease the estimated fair value of the assets and potentially result in different impacts to the Company's results of operations. Actual results may differ from the Company's estimates.

See Note 8 – Goodwill and Other Intangible Assets in Item 8, *Financial Statements and Supplementary Data*, for a summary of the Company's indefinite-lived intangible assets.

Item 7A. ***Quantitative and Qualitative Disclosures about Market Risk.***

The Company is subject to market risk associated with changes in interest rates and foreign currency exchange rates. To mitigate this risk, the Company may utilize derivative financial instruments, including interest rate swaps and foreign currency forward contracts. The Company does not hold or issue derivative financial instruments for trading or speculative purposes and is not party to leveraged derivatives contracts.

Interest Rate Risk

The Company has certain debt instruments which subject it to market risk associated with movements in interest rates. The fair value of the Company's total debt obligations held at December 31, 2024 was $223.8 million. From time to time, the Company may enter into interest rate swaps as a means of fixing the floating interest rate component on its variable-rate debt. At December 31, 2024, the Company had two interest rate swaps outstanding. The swaps had an aggregate notional amount of $150.0 million and fixed the floating interest rate component on $150.0 million of the Company's variable-rate debt. See Note 9 – Debt in Item 8, *Financial Statements and Supplementary Data*, for a description of the Company's debt agreements and interest rate swaps that were in place during 2024. A hypothetical 1% increase or decrease in variable interest rates on the Company's total debt obligations as of December 31, 2024 would increase or decrease annual interest expense by approximately $0.7 million.

Foreign Exchange Rate Risk

Although the majority of the Company's sales, expenses, and cash flow are transacted in U.S. dollars, the Company has exposure to changes in foreign currency exchange rates, primarily the Canadian dollar, euro, and British pound. The impact of currency movements on the Company's financial results is largely mitigated by natural hedges in its operations. The Canadian operations of JJE and Trackless primarily conduct business in Canadian dollars. Almost all other sales of product from the U.S. to other parts of the world are denominated in U.S. dollars. Sales from and within other currency zones are predominantly transacted in the currency of the country sourcing the product or service. Approximately 79% of the Company's net sales are conducted within the U.S. and are transacted in U.S. dollars. The Company estimates that a 10% appreciation of the U.S. dollar against other currencies would reduce full-year net sales by approximately 2% and operating income by approximately 1%.

The Company may also have foreign currency exposures related to buying and selling in currencies other than the local currency in which it operates and to certain balance sheet positions. If such transactional or balance sheet exposures are material, the Company may enter into matching foreign currency forward contracts from time to time to protect against variability in exchange rates.

Item 8. ***Financial Statements and Supplementary Data.***

FEDERAL SIGNAL CORPORATION

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Federal Signal Corporation

Downers Grove, Illinois

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Federal Signal Corporation and subsidiaries (the "Company") as of December 31, 2024 and 2023, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows, for each of the three years in the period ended December 31, 2024, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 26, 2025, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill - Refer to Notes 1 and 8 to the financial statements

Critical Audit Matter Description

In testing the goodwill of its reporting units for potential impairment, the Company applies either a qualitative or quantitative test, in accordance with ASC 350, *Intangibles – Goodwill and Other*. A qualitative approach may be applied when the Company concludes that it is not "more likely than not" that the fair value of a reporting unit is less than its carrying value. A quantitative approach is performed by comparing the fair value of a reporting unit with its carrying amount ("quantitative assessment").

For reporting units tested for impairment using the quantitative assessment, the Company determines the fair value of each reporting unit using both the income and market approaches. The income approach requires management to make a number of business and valuation assumptions for each reporting unit including annual assumptions of projected sales, cost of sales, operating expenses, earnings before interest, income taxes, depreciation, and amortization ("EBITDA"), and discount rates. The market approach requires management to estimate fair value using marketplace fair value data derived from a comparable industry grouping of publicly traded companies and from pricing multiples implied from sales of companies similar to the Company's reporting units ("market multiples"). No impairment was recognized in 2024.

We identified the valuation of goodwill for one of the Company's reporting units as a critical audit matter due to the reporting unit's historical performance as compared to projections and because the determination of reporting unit fair value was based on significant assumptions that are sensitive to changes and are affected by expected future market and economic conditions. Auditing management's judgments used in the quantitative assessment regarding significant assumptions related to projected sales and EBITDA ("forecasts") as well as the selection of market multiples applied to management's projected sales and EBITDA estimates for this reporting unit required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the Company's forecasts and the selection of market multiples for this reporting unit included the following, among others:

- We tested the design and operating effectiveness of controls over the annual goodwill impairment assessment, including those over the forecasts and the market multiples.
- We evaluated management's ability to accurately forecast projected sales and EBITDA by comparing actual results to management's historical forecasts.
- We evaluated the reasonableness of management's forecasts by comparing the forecasts to:
  - Internal communications to management and the Board of Directors.
  - Historical results, third-party economic research, industry performance, and peer company performance.
  - Actual results from the October 31, 2024 annual measurement date to December 31, 2024.
- We performed sensitivity analyses to evaluate the risk of impairment if key assumptions are changed.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the (1) valuation methodology and (2) market multiples by performing certain procedures, that included:
  - Evaluating whether the fair value models being used are appropriate considering the Company's circumstances and valuation premise identified.
  - Evaluating the market multiples by considering (1) the selected comparable industry grouping of publicly traded companies, (2) the selected sales of companies similar to the Company's reporting units, and (3) the adjustments made for differences in growth prospects and risk profiles between the reporting unit and the comparable industry grouping of publicly traded companies.
  - Testing the underlying source information and mathematical accuracy of the calculations.

/s/ Deloitte & Touche LLP
Chicago, Illinois
February 26, 2025

We have served as the Company's auditor since 2013.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Federal Signal Corporation

Downers Grove, Illinois

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Federal Signal Corporation and subsidiaries (the "Company") as of December 31, 2024, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2024, of the Company and our report dated February 26, 2025, expressed an unqualified opinion on those financial statements.

As described in Management's Annual Report on Internal Control over Financial Reporting, management excluded from its assessment, the internal control over financial reporting at Standard Equipment Company, which was acquired on October 4, 2024, and whose financial statements constitute approximately 1% of total assets and 1% of net sales of the consolidated financial statement amounts (excluding goodwill, intangible assets, and operating lease right-of-use assets, which were integrated into the Company's control environment) for the year ended December 31, 2024. Accordingly, our assessment did not include the internal control over financial reporting at Standard Equipment Company.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP
Chicago, Illinois
February 26, 2025

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

	For the Years Ended December 31,		
(in millions of dollars, except per share data)	**2024**	**2023**	**2022**
Net sales	$ 1,861.5	$ 1,722.7	$ 1,434.8
Cost of sales	1,328.5	1,272.5	1,089.9
Gross profit	533.0	450.2	344.9
Selling, engineering, general and administrative expenses	234.0	210.1	171.7
Amortization expense	15.0	15.2	12.9
Acquisition and integration-related expenses (benefits), net	2.6	0.4	(0.5)
Operating income	281.4	224.5	160.8
Interest expense, net	12.5	19.7	10.3
Pension settlement charges	3.8	—	—
Other expense (income), net	1.2	1.8	(0.4)
Income before income taxes	263.9	203.0	150.9
Income tax expense	47.6	45.6	30.5
Net income	$ 216.3	$ 157.4	$ 120.4
Earnings per share:			
Basic	$ 3.55	$ 2.59	$ 1.99
Diluted	$ 3.50	$ 2.56	$ 1.97
Weighted average shares outstanding:			
Basic	60.9	60.7	60.5
Diluted	61.7	61.5	61.2

See notes to consolidated financial statements.

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	For the Years Ended December 31,		
(in millions of dollars)	**2024**	**2023**	**2022**
Net income	$ 216.3	$ 157.4	$ 120.4
Other comprehensive income (loss):			
Change in foreign currency translation adjustment	(14.4)	5.9	(12.6)
Change in unrecognized net actuarial loss and prior service cost related to pension benefit plans, net of income tax expense (benefit) of $2.5, $(0.4), and $(0.1), respectively	7.4	(1.1)	(0.3)
Change in unrealized gain or loss on interest rate swaps, net of income tax (benefit) expense of $(0.2), $(0.7), and $1.1, respectively	(0.7)	(2.1)	3.1
Total other comprehensive (loss) income	(7.7)	2.7	(9.8)
Comprehensive income	$ 208.6	$ 160.1	$ 110.6

See notes to consolidated financial statements.

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(in millions of dollars, except per share data)	As of December 31, 2024	As of December 31, 2023
ASSETS		
Current assets:		
Cash and cash equivalents	$ 91.1	$ 61.0
Accounts receivable, net of allowances for doubtful accounts of $2.6 and $2.5, respectively	196.4	186.2
Inventories	331.0	303.4
Prepaid expenses and other current assets	24.0	19.6
Total current assets	642.5	570.2
Properties and equipment, net	218.9	190.8
Rental equipment, net	173.2	134.8
Operating lease right-of-use assets	27.8	21.0
Goodwill	477.7	472.7
Intangible assets, net	199.7	207.5
Deferred tax assets	9.4	12.0
Deferred charges and other long-term assets	16.0	11.5
Total assets	$ 1,765.2	$ 1,620.5
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term borrowings and finance lease obligations	$ 19.4	$ 4.7
Accounts payable	79.0	66.7
Customer deposits	35.0	27.1
Accrued liabilities:		
Compensation and withholding taxes	45.6	42.3
Current operating lease liabilities	6.8	6.8
Other current liabilities	56.0	48.2
Total current liabilities	241.8	195.8
Long-term borrowings and finance lease obligations	204.4	294.3
Long-term operating lease liabilities	21.8	14.9
Long-term pension and other post-retirement benefit liabilities	41.7	44.2
Deferred tax liabilities	58.0	53.2
Other long-term liabilities	11.4	16.2
Total liabilities	579.1	618.6
Stockholders' equity:		
Common stock, $1 par value per share, 90.0 shares authorized, 70.3 and 70.0 shares issued, respectively	70.3	70.0
Capital in excess of par value	309.8	291.1
Retained earnings	1,102.8	915.8
Treasury stock, at cost, 9.2 and 9.0 shares, respectively	(207.8)	(193.7)
Accumulated other comprehensive loss	(89.0)	(81.3)
Total stockholders' equity	1,186.1	1,001.9
Total liabilities and stockholders' equity	$ 1,765.2	$ 1,620.5

See notes to consolidated financial statements.

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in millions of dollars)	For the Years Ended December 31, 2024	2023	2022
Operating activities:			
Net income	$ 216.3	$ 157.4	$ 120.4
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	65.3	60.4	54.7
Deferred financing costs	0.5	0.5	0.4
Stock-based compensation expense	15.6	13.1	10.2
Pension settlement charges	3.8	—	—
Pension-related expense, net of funding	(3.8)	(1.8)	(1.4)
Changes in fair value of contingent consideration	(0.2)	(2.1)	—
Amortization of interest rate swap settlement gain	(1.4)	(2.4)	—
Deferred income taxes, including change in valuation allowance	4.9	(0.3)	(4.2)
Changes in operating assets and liabilities:			
Accounts receivable	(9.0)	(6.1)	(38.0)
Inventories	(24.1)	9.8	(61.0)
Prepaid expenses and other current assets	(1.2)	(1.7)	(0.5)
Rental equipment	(60.3)	(44.8)	(26.0)
Accounts payable	12.6	(8.5)	8.3
Customer deposits	7.2	1.1	1.3
Accrued liabilities	6.8	15.8	1.1
Income taxes	(5.4)	(0.5)	8.0
Other	3.7	4.5	(1.5)
Net cash provided by operating activities	231.3	194.4	71.8
Investing activities:			
Purchases of properties and equipment	(40.6)	(30.3)	(53.0)
Payments for acquisition-related activity, net of cash acquired	(39.7)	(55.0)	(49.8)
Other, net	1.4	1.6	3.1
Net cash used for investing activities	(78.9)	(83.7)	(99.7)
Financing activities:			
(Decrease) increase in revolving lines of credit, net	(76.5)	(64.1)	81.2
Payments on long-term borrowings	(3.9)	(0.8)	—
Payments of debt financing fees	—	—	(1.9)
Purchases of treasury stock	(6.7)	(5.5)	(16.1)
Redemptions of common stock to satisfy withholding taxes related to stock-based compensation	(6.1)	(7.0)	(6.2)
Payments for acquisition-related activity	—	(0.5)	—
Cash dividends paid to stockholders	(29.3)	(23.8)	(21.8)
Proceeds from stock compensation activity	2.0	3.9	0.2
Other, net	(0.5)	(0.1)	0.1
Net cash (used for) provided by financing activities	(121.0)	(97.9)	35.5
Effects of foreign exchange rate changes on cash and cash equivalents	(1.3)	0.7	(0.6)
Increase in cash and cash equivalents	30.1	13.5	7.0
Cash and cash equivalents at beginning of year	61.0	47.5	40.5
Cash and cash equivalents at end of year	$ 91.1	$ 61.0	$ 47.5

See notes to consolidated financial statements.

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(in millions of dollars, except per share data)	Common Stock Par Value	Capital in Excess of Par Value	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Loss	Total
Balance at January 1, 2022	$ 68.9	$ 256.7	$ 683.6	$ (151.0)	$ (74.2)	$ 784.0
Net income			120.4			120.4
Total other comprehensive loss					(9.8)	(9.8)
Cash dividends declared ($0.36 per share)			(21.8)			(21.8)
Stock-based payments:						
Stock-based compensation		9.5				9.5
Stock option exercises and other	0.5	5.7		(10.2)		(4.0)
Performance share unit transactions	0.1	(0.1)		(1.3)		(1.3)
Stock repurchase program				(16.1)		(16.1)
Balance at December 31, 2022	69.5	271.8	782.2	(178.6)	(84.0)	860.9
Net income			157.4			157.4
Total other comprehensive income					2.7	2.7
Cash dividends declared ($0.39 per share)			(23.8)			(23.8)
Stock-based payments:						
Stock-based compensation		12.4				12.4
Stock option exercises and other	0.4	7.0		(6.3)		1.1
Performance share unit transactions	0.1	(0.1)		(3.3)		(3.3)
Stock repurchase program				(5.5)		(5.5)
Balance at December 31, 2023	70.0	291.1	915.8	(193.7)	(81.3)	1,001.9
Net income			216.3			216.3
Total other comprehensive loss					(7.7)	(7.7)
Cash dividends declared ($0.48 per share)			(29.3)			(29.3)
Stock-based payments:						
Stock-based compensation		14.7				14.7
Stock option exercises and other	0.2	4.1		(3.8)		0.5
Performance share unit transactions	0.1	(0.1)		(3.6)		(3.6)
Stock repurchase program				(6.7)		(6.7)
Balance at December 31, 2024	$ 70.3	$ 309.8	$ 1,102.8	$ (207.8)	$ (89.0)	$ 1,186.1

See notes to consolidated financial statements.

FEDERAL SIGNAL CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 — SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization and Description of the Business

Federal Signal Corporation was founded in 1901 and was reincorporated as a Delaware corporation in 1969. References herein to the "Company," "we," "our," or "us" refer collectively to Federal Signal Corporation and its subsidiaries.

Products manufactured and services rendered by the Company are divided into two reportable segments: Environmental Solutions Group ("Environmental Solutions") and Safety and Security Systems Group ("Safety and Security Systems"). The individual operating businesses are organized as such because they share certain characteristics, including technology, marketing, distribution, and product application, which create long-term synergies.

The Company's fiscal year ends on December 31. All references to 2024, 2023, and 2022 relate to the fiscal year unless otherwise indicated.

Basis of Presentation and Consolidation

The accompanying consolidated financial statements represent the consolidation of Federal Signal Corporation and its subsidiaries and have been prepared by the Company pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC") and in accordance with United States ("U.S.") generally accepted accounting principles ("GAAP").

Intercompany balances and transactions have been eliminated in consolidation.

New Accounting Standards Adopted in 2024

In November 2023, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*, which expands annual and interim disclosure requirements for reportable segments, including enhanced disclosures regarding significant segment expenses. ASU 2023-07 is effective for fiscal years beginning after December 15, 2023, and for interim periods within fiscal years beginning after December 15, 2024, with early adoption permitted. The Company adopted this ASU effective for the fiscal year ended December 31, 2024, and has included the required disclosures for all periods presented in Note 17 – Segment Information.

New Accounting Pronouncements Not Yet Adopted

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topics 740): Improvements to Income Tax Disclosures*, which expands the disclosure requirements for income taxes. ASU 2023-09 is effective prospectively for annual periods beginning after December 15, 2024, with early adoption and retrospective application permitted. The Company is currently evaluating the impact of adopting this guidance on its financial statement disclosures.

In November 2024, the FASB issued ASU 2024-03, *Income Statement - Reporting Comprehensive Income-Expense Disaggregation Disclosures (Subtopic 220-40)*, which requires entities to disclose, on an annual and interim basis, disaggregated information about certain income statement expense line items. ASU 2024-03 is effective prospectively for annual periods beginning after December 15, 2026, and for interim periods within fiscal years beginning after December 15, 2027, with early adoption and retrospective adoption permitted. The Company is currently evaluating the impact of adopting this guidance on its financial statement disclosures.

Non-U.S. Operations

Assets and liabilities of non-U.S. subsidiaries, other than those whose functional currency is the U.S. dollar, are translated at current foreign currency exchange rates with the related translation adjustments reported in stockholders' equity as a component of Accumulated other comprehensive loss. Accounts within the Consolidated Statements of Operations are translated at the average exchange rate during the period. Non-monetary assets and liabilities are translated at historical exchange rates.

The Company incurs foreign currency transaction gains or losses, related to transactions that are denominated in a currency other than the functional currency, which are recognized in the Consolidated Statements of Operations as a component of Other expense (income), net. The Company realized foreign currency transaction losses of $0.9 million for the year ended December 31, 2024, $0.6 million for the year ended December 31, 2023, and $0.2 million for the year ended December 31, 2022.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect (i) the reported amounts of assets and liabilities, (ii) the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and (iii) the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments with a maturity of three months or less, when purchased, to be cash equivalents. The carrying amount of cash and cash equivalents approximates fair value because of the short-term maturity and highly liquid nature of these instruments.

Accounts Receivable

The Company carries accounts receivable at the face amount less an allowance for doubtful accounts for estimated losses as a result of a customer's inability to make required payments. Management evaluates the aging of the accounts receivable balances, the financial condition of its customers, historical trends, and the time outstanding of specific balances to estimate the amount of accounts receivables that may not be collected in the future and records the appropriate provision.

Inventories

The Company's inventories are valued at the lower of cost and net realizable value. Cost is determined using the first-in, first-out method. Included in the cost of inventories are raw materials, direct wages, and associated production costs.

Properties and Equipment

Properties and equipment are stated at cost, net of accumulated depreciation. Depreciation is recorded using the straight-line method over the estimated useful lives of the assets. Useful lives generally range from eight to 40 years for buildings and three to 15 years for machinery and equipment. Leasehold improvements are depreciated over the shorter of the remaining life of the lease or the useful life of the improvement. Depreciation expense is primarily included as a component of Cost of sales on the Consolidated Statements of Operations, with depreciation expense associated with certain assets used for administrative purposes being presented within Selling, engineering, general and administrative ("SEG&A") expenses. Depreciation expense, which includes depreciation on rental equipment, was $50.3 million in 2024, $45.2 million in 2023, and $41.8 million in 2022.

Properties and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable.

Rental Equipment

The Company enters into lease agreements with customers related to the rental of certain equipment. All of these leasing agreements are classified as operating leases and are for periods generally not to exceed five years. In accounting for these leases, the cost of the equipment purchased or manufactured by the Company is recorded as an asset and is depreciated over its estimated useful life. Rental income is recognized ratably over the term of the underlying leases.

Rental equipment is depreciated to an estimated residual value on a straight-line basis over the estimated useful lives of the assets and is reviewed for potential impairment whenever an event occurs or circumstances change that indicate the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or asset group to be tested for possible impairment, the Company first compares non-discounted cash flows expected to be generated by that asset group to its carrying amount. If the carrying amount of the long-lived asset or asset group is not recoverable on a non-discounted cash flow basis, an impairment is recognized to the extent that the carrying amount exceeds fair value. Fair value is determined through various valuation techniques including discounted cash flow models, quoted market values, and third-party independent appraisals, as considered necessary.

Rental equipment includes certain equipment that is manufactured by the Company and subsequently transferred to the rental fleet, as well as equipment purchased from third-party manufacturers, for the purpose of renting to end-customers. The related cash flow activity associated with these transactions is reflected within operating activities on the Consolidated Statements of Cash Flows.

Goodwill

Goodwill represents the excess of the cost of an acquired business over the amounts assigned to its net assets. Goodwill is not amortized but is tested for impairment at a reporting unit level on an annual basis or more frequently if indicators of impairment exist. The Company performed its annual goodwill impairment test as of October 31, 2024.

In testing the goodwill of its reporting units for potential impairment, the Company applies either a qualitative or quantitative test, in accordance with Accounting Standards Codification ("ASC") 350, *Intangibles – Goodwill and Other*.

A qualitative approach may be applied when the Company concludes that it is not "more likely than not" that the fair value of a reporting unit is less than its carrying value. In this situation, the Company would not be required to perform the quantitative impairment test described below.

A quantitative approach is performed by comparing the fair value of a reporting unit with its carrying amount. If the fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is not impaired, and no impairment charge is required. If the carrying amount of a reporting unit exceeds its fair value, this difference is recorded as an impairment charge not to exceed the carrying amount of goodwill. The Company generally determines the fair value of its reporting units using both the income and market approaches.

Under the income approach, the key assumptions include projected sales, earnings before interest, income taxes, depreciation, and amortization ("EBITDA"), and the discount rate. Under the market approach, the Company estimates fair value using marketplace fair value data from within a comparable industry grouping. The results of these two methods are weighted based upon management's evaluation of the relevance of the two approaches.

In 2024, the Company performed a combination of qualitative and quantitative impairment tests to assess the goodwill of its reporting units for potential impairment. For one reporting unit, a quantitative impairment test was performed, using a combination of the income and market approaches to determine the fair value of its reporting unit. The valuation was prepared by a third-party valuation specialist. One measure of the sensitivity of assumptions used in the impairment analysis is the amount by which the reporting unit "passed" (fair value exceeds the carrying value). The fair value of the reporting unit exceeded its carrying value by more than 30% and, therefore, no impairment was recognized. For its other reporting units, the Company applied the qualitative approach and concluded that it was not "more likely than not" that the fair value of the reporting units was less than their carrying values. Accordingly, further quantitative testing was not required to be performed.

The Company had no goodwill impairments in 2024, 2023, or 2022. See Note 8 – Goodwill and Other Intangible Assets for a summary of the Company's goodwill by segment.

Intangible Assets

Definite-lived intangible assets are amortized on a straight-line basis over the estimated useful lives and are tested for impairment if indicators exist in a manner similar to that described above for *Rental Equipment*.

Indefinite-lived intangible assets are tested for impairment on an annual basis at October 31, or more frequently if an event occurs or circumstances change that indicate the fair value of an indefinite-lived intangible asset could be below its carrying amount. In testing the indefinite-lived intangibles assets for potential impairment, the Company applies either a qualitative test, or a quantitative test, in accordance with ASC 350. A qualitative approach may be applied when the Company concludes that it is not "more likely than not" that the fair value of the indefinite-lived intangible assets is less than their carrying value. A quantitative impairment test consists of comparing the fair value of the indefinite-lived intangible asset with its carrying amount. An impairment loss would be recognized for the carrying amount in excess of its fair value.

In 2024, the Company performed a combination of qualitative and quantitative impairment tests over its indefinite-lived intangible assets. The fair value of the indefinite-lived intangible asset that was quantitatively tested for impairment exceeded its carrying value by approximately 45%, and, therefore, no impairment was recognized. Further, the Company concluded that it was not "more likely than not" that the fair value of indefinite-lived intangible assets that were qualitatively tested for impairment were less than the carrying amounts. Accordingly, further quantitative testing was not required to be performed.

The Company had no indefinite-lived intangible asset impairments in 2024, 2023, or 2022. See Note 8 – Goodwill and Other Intangible Assets for a summary of the Company's intangible assets.

Warranties

Warranties are classified as either assurance-type or service-type warranties. A warranty is considered an assurance-type warranty if it provides the customer with assurance that the product will function as intended. A warranty that goes above and beyond ensuring basic functionality is considered a service-type warranty. The Company offers certain limited warranties that are assurance-type warranties and extended service arrangements that are service-type warranties. Assurance-type warranties are not accounted for as separate performance obligations under the revenue model. If a service-type warranty is sold with a product or separately, revenue is recognized over the life of the warranty.

Sales of many of the Company's products include assurance-type warranties based on terms that are generally accepted in the Company's marketplaces. The Company records provisions for estimated warranty costs, which are included within Cost of sales, at the time of sale based on historical experience. The Company periodically adjusts these provisions to reflect actual experience. Infrequently, a material warranty issue can arise that is beyond the scope of the Company's historical experience. The Company records costs related to these issues as they become probable and estimable.

The Company also sells optional service-type warranty contracts that extend coverage beyond the initial term of the express warranty period. At the time of sale, revenue related to the service-type warranty contract is deferred and typically recognized as revenue on a straight-line basis over the life of the contract. Deferred revenue associated with service-type warranty contracts was $4.8 million as of December 31, 2024, and $4.3 million as of December 31, 2023, and was included within Other current liabilities and Other long-term liabilities on the Consolidated Balance Sheets. Costs under service-type warranty contracts are expensed as incurred.

Workers' Compensation and Product Liability Reserves

Due to the nature of the Company's manufacturing and products, the Company is subject to claims for workers' compensation and product liability in the normal course of business. The Company is self-funded for a portion of these claims. The Company establishes a reserve using a third-party actuary for any known outstanding matters, including a reserve for claims incurred but not yet reported. The amount and timing of cash payments relating to these claims are considered to be reliably determinable given the nature of the claims and historical claim volumes to support the actuarial assumptions and judgments used to derive the expected loss payment patterns. As such, the reserves recorded are discounted using a risk-free rate that matches the average duration of the claims.

The Company has not established a reserve for potential losses resulting from the firefighter hearing loss litigation, with the exception of certain estimated losses that have been recognized related to settlement discussions (see Note 13 – Legal Proceedings). If the Company is not successful in its defense after exhausting all appellate options, it would record a charge for such claims, to the extent they exceed insurance recoveries, when the related losses become probable and estimable.

Pensions

The Company sponsors domestic and foreign defined benefit pension plans. Key assumptions used in the accounting for these employee benefit plans include the discount rate, expected long-term rate of return on plan assets, and estimates of future mortality of plan participants.

The weighted-average discount rate used to measure pension liabilities and costs is selected using a hypothetical portfolio of high-quality bonds that would provide the necessary cash flow to match the projected benefit payments of the plans. The discount rate represents the rate at which our benefit obligations could effectively be settled as of the year-end measurement date. The weighted-average discount rate used to measure pension liabilities increased from 2023 to 2024. See Note 11 – Pension and Other Post-Employment Plans for further discussion.

The expected long-term rate of return on plan assets is based on historical and expected returns for the asset classes in which the plans are invested. The Company references published mortality tables and scales in determining its estimate of future mortality.

Revenue Recognition

See Note 3 – Revenue Recognition for discussion regarding the Company's revenue recognition accounting policies.

Product Shipping Costs

Product shipping costs are expensed as incurred and are included within Cost of sales in the Consolidated Statements of Operations.

Research and Development

The Company invests in research to support development of new products and the enhancement of existing products and services. Expenditures for research and development by the Company were $12.4 million in 2024, $12.4 million in 2023, and $11.5 million in 2022, and are included within SEG&A expenses in the Consolidated Statements of Operations.

Stock-Based Compensation Plans

The Company has various stock-based compensation plans, described more fully in Note 15 – Stock-Based Compensation. Stock-based compensation expense is recorded net of estimated forfeitures in the Company's Consolidated Statements of Operations. The Company estimates the forfeiture rate based on historical forfeitures of equity awards and adjusts the rate to reflect changes in facts and circumstances, if any. The Company revises its estimated forfeiture rate if actual forfeitures differ from its initial estimates.

Income Taxes

The Company accounts for income taxes under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and tax benefit carryforwards. Deferred tax assets and liabilities at the end of each period are determined using enacted tax rates expected to apply to taxable income in the period in which the deferred tax liability or asset is expected to be settled or realized. A valuation allowance is established or maintained when, based on currently available information and other factors, it is more likely than not that all or a portion of a deferred tax asset will not be realized.

The Company files a consolidated U.S. federal income tax return for Federal Signal Corporation and its eligible domestic subsidiaries. The Company's non-U.S. subsidiaries file income tax returns in their respective local jurisdictions. The Company accounts for taxes on Global Intangible Low-Taxed Income ("GILTI") as a period expense in the year in which it is incurred.

Accounting standards on accounting for uncertainty in income taxes address the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the consolidated financial statements. Under the guidance on accounting for uncertainty in income taxes, the Company may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities, based on the technical merits of the position. The tax benefits recognized in the consolidated financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The Company presents interest and penalties related to income tax matters as a component of Income tax expense on the Consolidated Statements of Operations.

Litigation Contingencies

The Company is subject to various claims, including pending and possible legal actions for product liability and other damages, and other matters arising in the ordinary course of the Company's business. The Company believes, based on current knowledge and after consultation with counsel, that the outcome of such claims and actions in the aggregate will not have an adverse effect on the Company's financial position, results of operations, or cash flows. However, in the event of unexpected future developments, it is possible that the ultimate resolution of such matters, if unfavorable, could have a material adverse effect on the Company's results of operations. Professional legal fees are expensed when incurred. The Company accrues for contingent losses when such losses are probable and reasonably estimable. In the event that estimates or assumptions of contingent losses are different from actual results, adjustments are made in subsequent periods to reflect more current information.

NOTE 2 – ACQUISITIONS

The Company's acquisitions are accounted for in accordance with ASC 805, *Business Combinations*. The acquisitions completed in the periods presented, as described in further detail within, were accounted for as business combinations in accordance with ASC 805. In accordance with this guidance, the fair value of consideration transferred is allocated to assets acquired and liabilities assumed based on their estimated fair values as of the completion of the acquisition, with the remaining

amount recognized as goodwill. A single estimate of fair value results from a complex series of judgments about future events and uncertainties and relies heavily on estimates and assumptions. The Company's judgments used to determine the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact the Company's results of operations.

Under ASC 805-10, acquisition-related costs (e.g., advisory, legal, valuation and other professional fees) are not included as a component of consideration transferred, but are accounted for as expenses in the periods in which the costs are incurred. Acquisition-related costs are included as a component of Acquisition and integration-related expenses (benefits), net on the Consolidated Statements of Operations.

Acquisitions Completed in 2024

Acquisition of Standard Equipment

On October 4, 2024, the Company completed the acquisition of substantially all the assets and operations of Standard Equipment Company ("Standard"). Standard is a leading distributor of specialty maintenance and infrastructure equipment for municipal and industrial markets in parts of Illinois and Indiana. The Company expects that the acquisition of Standard will further build upon its aftermarket growth strategy by adding additional scale and capabilities to its parts, services, rental, and used equipment operations.

As the acquisition closed on October 4, 2024, the assets and liabilities of Standard have been consolidated into the Company's Consolidated Balance Sheet as of December 31, 2024, while the post-acquisition results of operations have been included in the Consolidated Statement of Operations, within the Environmental Solutions Group. The acquisition generated net sales of $15.6 million and operating income of $1.0 million during the year ended December 31, 2024.

The initial cash consideration paid by the Company to acquire Standard was approximately $39.7 million, inclusive of certain preliminary closing adjustments. Any additional closing adjustments are expected to be finalized in the first half of 2025. In addition, there is a contingent earn-out payment of up to $4.8 million that is based on the achievement of certain financial targets over a specified performance period.

As of December 31, 2024, the Company's purchase price allocation reflects various provisional estimates that were based on the information that was available as of the acquisition date and the filing date of this Form 10-K. The Company believes that information provides a reasonable basis for estimating the fair values of assets acquired and liabilities assumed; however, the determination of those fair values, including the third-party valuation of acquired intangible assets, is not yet finalized. Thus, the preliminary measurements of fair value set forth in the table below are subject to change during the measurement period as valuations are finalized. The Company expects to finalize the valuation and complete the purchase price allocation as soon as practicable, but not more than one year from the acquisition date.

The following table summarizes the preliminary fair values of assets acquired and liabilities assumed as of the acquisition date:

(in millions of dollars)	
Purchase price, inclusive of preliminary adjustment for working capital and other post-closing items [(a)]	$ 39.7
Estimated fair value of additional consideration [(b)]	0.6
Total consideration	40.3
Accounts receivable	4.1
Inventories	9.0
Prepaid expenses and other current assets	0.1
Rental equipment	11.5
Properties and equipment	0.6
Operating lease right-of-use assets	2.7
Customer relationships [(c)]	4.4
Trade names [(d)]	3.1
Other intangible assets	0.3
Accounts payable	(0.7)
Accrued liabilities	(0.5)
Customer deposits	(0.9)
Operating lease liabilities	(2.7)
Net assets acquired	31.0
Goodwill [(e)]	$ 9.3

(a) The initial purchase price, which is subject to certain post-closing adjustments, including working capital, was funded through existing cash on hand.

(b) Represents the preliminary estimate of the fair value of the contingent earn-out payment as of the acquisition date, which is included in Other long-term liabilities on the Consolidated Balance Sheets. See Note 18 – Fair Value Measurements for discussion of the methodology used to determine the fair value of the contingent earn-out payment.

(c) Represents the preliminary fair value assigned to customer relationships, which are considered to be definite-lived intangible assets, with a preliminary estimated useful life of approximately 9 years.

(d) Represents the preliminary fair value assigned to trade names, which are considered to be indefinite-lived intangible assets.

(e) Goodwill, which is primarily tax-deductible, has been allocated to the Environmental Solutions Group on the basis that the synergies identified will primarily benefit this segment.

The acquisition was not, and would not have been, material to the Company's net sales or results of operations during any period presented. Accordingly, the Company's consolidated results from operations do not differ materially from historical performance as a result of the acquisition, and therefore, unaudited pro-forma results are not presented.

Acquisitions Completed in 2023

Acquisition of Trackless

On April 3, 2023, the Company completed the acquisition of substantially all the assets and operations of Trackless Vehicles Limited and Trackless Vehicles Asset Corp, including the wholly-owned subsidiary Work Equipment Ltd. (collectively, "Trackless"), a leading Canadian manufacturer of off-road, multi-purpose maintenance vehicles and attachments. The Trackless acquisition bolstered the Company's position as an industry leading diversified industrial manufacturer of specialized vehicles for maintenance and infrastructure markets with leading brands of premium, value-adding products, and a strong supporting aftermarket platform.

The initial cash consideration paid by the Company to acquire Trackless was C$56.3 million (approximately $41.9 million as of the acquisition date), inclusive of certain closing adjustments. In addition, there is a contingent earn-out payment of up to C$6.0 million (approximately $4.5 million as of the acquisition date), based upon the achievement of certain financial targets over a specified performance period. The purchase price was funded through existing cash and borrowings under the Company's credit agreement.

During the year ended December 31, 2024, the Company finalized the Trackless purchase price allocation and recognized measurement period adjustments, which primarily resulted from obtaining third-party valuations of contingent consideration

and acquired intangible assets, that reduced the estimated fair value of contingent consideration by $0.2 million and increased the carrying value of acquired intangible assets by $1.1 million, resulting in a corresponding $1.3 million decrease to the carrying value of Goodwill, from the $8.0 million previously recognized as of December 31, 2023. The measurement period adjustments did not have a material impact on the Company's Consolidated Statements of Operations for the year ended December 31, 2024.

The following table summarizes the fair value of assets acquired and liabilities assumed as of the acquisition date:

(in millions of dollars)	
Purchase price, inclusive of closing adjustments	$ 41.9
Estimated fair value of additional consideration [a]	4.3
Total consideration	46.2
Accounts receivable	4.7
Inventories	15.0
Prepaid expenses and other current assets	0.1
Rental equipment	1.6
Properties and equipment	4.4
Customer relationships [b]	11.1
Trade names [c]	4.6
Accounts payable	(1.5)
Accrued liabilities	(0.5)
Net assets acquired	39.5
Goodwill [d]	$ 6.7

(a) Represents the estimated fair value of the contingent earn-out payment as of the acquisition date, which is included in Other long-term liabilities on the Consolidated Balance Sheets. See Note 18 – Fair Value Measurements for discussion of the methodology used to determine the fair value of the contingent earn-out payment.

(b) Represents the fair value assigned to customer relationships, which are considered to be definite-lived intangible assets, with an estimated useful life of approximately 12 years.

(c) Represents the fair value assigned to trade names, which are considered to be indefinite-lived intangible assets.

(d) Goodwill, which is primarily tax-deductible, has been allocated to the Environmental Solutions Group on the basis that the synergies identified will primarily benefit this segment.

Acquisition of Blasters

On January 3, 2023, the Company completed the acquisition of substantially all the assets and operations of Blasters, Inc. and Blasters Technologies, LLC (collectively, "Blasters"), a leading U.S. manufacturer of truck-mounted waterblasting equipment. The Blasters acquisition bolstered the Company's position as an industry leading diversified industrial manufacturer of specialized vehicles for maintenance and infrastructure markets with leading brands of premium, value-adding products, and a strong supporting aftermarket platform.

The initial cash consideration paid by the Company to acquire Blasters was $13.0 million. In addition, there is a contingent earn-out payment of up to $8.0 million, based upon the achievement of certain financial targets over a specified performance period. The purchase price was funded through existing cash and borrowings under the Company's credit agreement.

As of December 31, 2023, the Company's purchase price allocation for the Blasters acquisition was considered to be final.

The following table summarizes the fair value of assets acquired and liabilities assumed as of the acquisition date:

(in millions of dollars)	
Purchase price, inclusive of closing adjustments	$ 13.0
Estimated fair value of additional consideration [(a)]	0.3
Total consideration	13.3
Accounts receivable	0.7
Inventories	4.6
Prepaid expenses and other current assets	0.1
Properties and equipment	0.9
Operating lease right-of-use assets [(b)]	1.1
Customer relationships [(c)]	4.4
Trade names [(d)]	2.3
Accounts payable	(0.9)
Accrued liabilities	(0.5)
Customer deposits	(0.5)
Operating lease liabilities [(b)]	(1.1)
Finance lease obligations	(0.1)
Net assets acquired	11.0
Goodwill [(e)]	$ 2.3

(a) Represents the estimated fair value of the contingent earn-out payment as of the acquisition date, included in Other long-term liabilities on the Consolidated Balance Sheets. See Note 18 – Fair Value Measurements for discussion of the methodology used to determine the fair value of the contingent earn-out payment.

(b) In connection with the acquisition, the Company entered into a lease agreement for the Blasters facility, which is owned by affiliates of the sellers. The related-party lease contains a market-based annual rent of $0.2 million, an initial lease term of five years, and options to renew.

(c) Represents the fair value assigned to customer relationships, which are considered to be definite-lived intangible assets, with an estimated useful life of approximately 10 years.

(d) Represents the fair value assigned to trade names, which are considered to be indefinite-lived intangible assets.

(e) Goodwill, which is tax-deductible, has been allocated to the Environmental Solutions Group on the basis that the synergies identified will primarily benefit this segment.

The 2023 acquisitions of Trackless and Blasters were not, and would not have been, material to the Company's net sales or results of operations during any period presented, either individually or in the aggregate. Accordingly, the Company's consolidated results do not differ materially from historical performance as a result of the acquisitions, and therefore, unaudited pro-forma results are not presented.

Acquisitions Completed in 2022

Acquisition of TowHaul

On October 3, 2022, the Company completed the acquisition of substantially all the assets and operations of TowHaul Corporation ("TowHaul"). TowHaul is a leading manufacturer of off-road towing and hauling equipment. The TowHaul acquisition bolstered the Company's position as an industry leading diversified industrial manufacturer of specialized vehicles for maintenance and infrastructure markets with leading brands of premium, value-adding products, and a strong supporting aftermarket platform.

The cash consideration paid by the Company to acquire TowHaul was $43.3 million, which was funded through existing cash and borrowings under the Company's revolving credit facility. As of December 31, 2023, the Company's purchase price allocation for the TowHaul acquisition was considered to be final.

The following table summarizes the fair value of assets acquired and liabilities assumed as of the acquisition date:

(in millions of dollars)	
Purchase price, inclusive of closing adjustments	$ 43.3
Total consideration	43.3
Accounts receivable	1.5
Inventories	4.7
Properties and equipment	6.1
Customer relationships [a]	6.9
Trade names [b]	5.7
Other intangible assets	1.0
Accounts payable	(0.1)
Accrued liabilities	(0.5)
Customer deposits	(2.4)
Net assets acquired	22.9
Goodwill [c]	$ 20.4

(a) Represents the fair value assigned to customer relationships, which are considered to be definite-lived intangible assets, with an estimated useful life of 6 years.

(b) Represents the fair value assigned to trade names, which are considered to be indefinite-lived intangible assets.

(c) Goodwill, which is tax-deductible, has been allocated to the Environmental Solutions Group on the basis that the synergies identified will primarily benefit this segment.

The acquisition was not, and would not have been, material to the Company's net sales or results of operations during any period presented. Accordingly, the Company's consolidated results from operations do not differ materially from historical performance as a result of the acquisition, and therefore, unaudited pro-forma results are not presented.

NOTE 3 – REVENUE RECOGNITION

Revenue is recognized when performance obligations under the terms of a contract with the customer are satisfied; generally this occurs at a point in time, with the transfer of control of the Company's products or services to customers. For most of the Company's product sales, these criteria are met at the time the product is shipped; however, occasionally control passes later or earlier than shipment due to customer contract or letter of credit terms. In circumstances where credit is extended, payment terms generally range from 30 to 120 days and customer deposits may be required.

Revenue is measured as the amount of consideration the Company expects to be entitled to in exchange for transferring products or providing services. Expected returns and allowances are estimated and recognized based primarily on an analysis of historical experience, with Net sales presented net of such returns and allowances.

Net sales include sales of products and billed freight related to product sales. Freight has not historically comprised a material component of Net sales. The Company has elected to account for such shipping and handling activities as a fulfillment cost and not as a separate performance obligation. Taxes collected from customers and remitted to governmental authorities are recorded on a net basis and are excluded from Net sales.

Information relating to the disaggregation of Net sales by geographic region, based on the location of the end-customer, is included in Note 17 – Segment Information. The following table presents the Company's Net sales disaggregated by major product line:

(in millions of dollars)	For the Years Ended December 31, 2024	2023	2022
Environmental Solutions			
Vehicles and equipment [(a)]	$ 1,213.8	$ 1,120.9	$ 927.9
Parts	232.2	217.0	173.7
Rental income [(b)]	61.7	55.2	53.1
Other [(c)]	49.4	44.8	35.9
Total net sales	1,557.1	1,437.9	1,190.6
Safety and Security Systems			
Public safety and security equipment	192.6	173.2	149.1
Industrial signaling equipment	69.4	71.9	62.1
Warning systems	42.4	39.7	33.0
Total net sales	304.4	284.8	244.2
Total net sales	$ 1,861.5	$ 1,722.7	$ 1,434.8

(a) Includes net sales from the sale of new and used vehicles and equipment, including sales of rental equipment.
(b) Represents revenues from vehicle and equipment lease arrangements with customers, recognized in accordance with Topic 842.
(c) Primarily includes revenues from services such as maintenance and repair work and the sale of extended warranty contracts.

Contract Balances

The Company recognizes contract liabilities when cash payments, such as customer deposits, are received in advance of the Company's satisfaction of the related performance obligations. Contract liabilities are recognized as Net sales when the related performance obligations are satisfied, which generally occurs within three to six months of the cash receipt. Contract liability balances are not materially impacted by any other factors. The Company's contract liabilities were $38.8 million as of December 31, 2024 and $30.9 million as of December 31, 2023. Contract assets, such as unbilled receivables, were not significant as of any of the periods presented herein.

Practical Expedients

As the Company's standard payment terms are less than a year, the Company has elected the practical expedient under ASC 606-10-32-18 to not assess whether a contract has a significant financing component.

The Company has also elected the practical expedient under ASC 340-40-25-4 and recognizes the incremental costs of obtaining a contract, such as sales commissions, as expense when incurred as the amortization period of the asset that otherwise would have been recognized is one year or less.

Further, as permitted by ASC 606-10-50-14, the Company does not disclose the value of its remaining performance obligations for contracts with an original expected duration of one year or less.

NOTE 4 – LEASES

The Company leases certain facilities within the U.S., Europe, and Canada from which the Company manufactures vehicles and equipment and provides sales, service, and/or equipment rentals. Some of the Company's lease agreements contain options to renew. The Company also leases vehicles and various other equipment. The Company's lease agreements may contain lease and non-lease components, which are accounted for separately. Leases with an initial term of twelve months or less are not recorded on the Consolidated Balance Sheets.

In connection with acquisitions completed in recent years, the Company has entered into certain lease agreements for facilities owned by affiliates of the sellers. All lease agreements contain an annual rent that is considered to be market-based. Total rent paid under these arrangements was $2.0 million in 2024, $2.3 million in 2023, and $2.8 million in 2022. The Company's total lease liabilities under these agreements were $16.2 million as of December 31, 2024 and $4.2 million as of December 31, 2023.

The increase in these lease liabilities is primarily due to the exercise of a purchase option included in the lease agreement of one of our U.S. manufacturing facilities, as discussed in the *Other Finance Lease Consideration* section below.

The Company determines if an arrangement is a lease at inception. Operating lease right-of-use assets represent the Company's right to use an underlying asset for the lease term and operating lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease right-of-use assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. As most of the Company's leases do not provide an implicit rate, the Company uses its incremental collateralized borrowing rate based on the information available at the commencement date in determining the present value of lease payments. Implicit rates are used when readily determinable. The Company's lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for operating lease payments is recognized on a straight-line basis over the respective lease term.

The following table summarizes the Company's total operating lease costs and supplemental cash flow information arising from operating lease transactions:

(in millions of dollars)	For the Years Ended December 31,		
	2024	2023	2022
Total operating lease costs [(a)]	$ 12.9	$ 12.7	$ 11.7
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows from operating leases	8.5	8.4	7.7

(a) Includes short-term leases and variable lease costs.

The following table summarizes the components of lease right-of-use assets and liabilities:

(in millions of dollars)	2024	2023	Affected Line Item in Consolidated Balance Sheets
Assets			
Operating lease right-of-use assets [(a)]	$ 27.8	$ 21.0	Operating lease right-of-use assets
Finance lease right-of-use assets [(b)]	12.9	1.6	Properties and equipment, net
Total lease right-of-use assets	$ 40.7	$ 22.6	
Liabilities			
Current:			
Operating leases	$ 6.8	$ 6.8	Current operating lease liabilities
Finance leases	12.4	0.8	Current portion of long-term borrowings and finance lease obligations
Noncurrent:			
Operating leases	21.8	14.9	Long-term operating lease liabilities
Finance leases	0.5	0.8	Long-term borrowings and finance lease obligations
Total lease liabilities	$ 41.5	$ 23.3	

(a) Right-of-use assets obtained in exchange for new operating lease liabilities was $16.9 million for the year ended December 31, 2024.
(b) Right-of-use assets obtained in exchange for new finance lease liabilities was $11.5 million for the year ended December 31, 2024.

The weighted-average remaining lease terms and discount rates of the Company's operating leases were as follows:

	2024	2023
Weighted-average remaining lease term of operating leases	5.0 years	4.3 years
Weighted-average discount rate of operating leases	3.9 %	3.0 %

Maturities of lease liabilities as of December 31, 2024 were as follows:

(in millions of dollars)	Operating Leases	Finance Leases
2025	$ 7.8	$ 12.4
2026	6.7	0.3
2027	5.5	0.1
2028	4.5	0.1
2029	3.3	—
Thereafter	3.7	—
Total lease payments	31.5	12.9
Less: Imputed interest	2.9	—
Present value of lease liabilities	$ 28.6	$ 12.9

Other Finance Lease Considerations

In the fourth quarter of 2024, the Company provided notice to the lessor of one of its leased U.S. manufacturing facilities of its intent to exercise the $11.5 million purchase option included in the lease agreement. The Company remeasured the corresponding lease liability, adjusted the right-of-use asset, and reassessed the lease classification, resulting in a change in classification from an operating lease to a finance lease. As of December 31, 2024, the related finance lease right-of-use asset was $11.3 million and the finance lease liability was $11.5 million. The associated impact on the Company’s Consolidated Statement of Operations for the year ended December 31, 2024 was insignificant. The weighted average discount rate was 4.9%. The purchase was completed on February 10, 2025.

NOTE 5 — INVENTORIES

The following table summarizes the components of Inventories:

(in millions of dollars)	2024	2023
Finished goods	$ 129.4	$ 116.1
Raw materials	171.9	154.6
Work in process	29.7	32.7
Total inventories [(a)]	$ 331.0	$ 303.4

(a) Amounts at December 31, 2024 include inventories acquired in the acquisition of Standard - see Note 2 - Acquisitions.

NOTE 6 — PROPERTIES AND EQUIPMENT, NET

The following table summarizes the components of Properties and equipment, net:

(in millions of dollars)	2024	2023
Land	$ 18.9	$ 16.8
Buildings and improvements	148.4	125.4
Machinery and equipment	239.0	221.9
Total property and equipment, at cost	406.3	364.1
Less: Accumulated depreciation	187.4	173.3
Properties and equipment, net	$ 218.9	$ 190.8

NOTE 7 — RENTAL EQUIPMENT, NET

The following table summarizes the components of Rental equipment, net:

(in millions of dollars)	2024	2023
Rental equipment	$ 226.5	$ 182.3
Less: Accumulated depreciation	53.3	47.5
Rental equipment, net [(a)]	$ 173.2	$ 134.8

(a) Amounts at December 31, 2024 include rental equipment acquired in the acquisition of Standard - see Note 2 - Acquisitions.

Rental income associated with the Company's equipment rental activity, which is included as a component of Net sales on the Consolidated Statements of Operations, totaled $61.7 million in 2024, $55.2 million in 2023, and $53.1 million in 2022.

NOTE 8 — GOODWILL AND OTHER INTANGIBLE ASSETS

The following table summarizes the carrying amount of goodwill and changes in the carrying amount of goodwill, by segment:

(in millions of dollars)	Environmental Solutions	Safety & Security Systems	Total
Balance at December 31, 2022	$ 343.8	$ 109.6	$ 453.4
Acquisitions, including measurement period adjustments	17.8	—	17.8
Translation adjustments	0.3	1.2	1.5
Balance at December 31, 2023	361.9	110.8	472.7
Acquisitions, including measurement period adjustments	8.0	—	8.0
Translation adjustments	(1.1)	(1.9)	(3.0)
Balance at December 31, 2024	$ 368.8	$ 108.9	$ 477.7

The following table summarizes the gross carrying amount and accumulated amortization of intangible assets for each major class of intangible assets:

	2024			2023		
(in millions of dollars)	Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Definite-lived intangible assets:						
Customer relationships [(a)]	$ 165.7	$ (80.7)	$ 85.0	$ 161.6	$ (66.3)	$ 95.3
Other [(a)]	7.2	(4.9)	2.3	8.1	(4.4)	3.7
Total definite-lived intangible assets	172.9	(85.6)	87.3	169.7	(70.7)	99.0
Indefinite-lived intangible assets:						
Trade names	108.1	—	108.1	104.2	—	104.2
Other	4.3	—	4.3	4.3	—	4.3
Total indefinite-lived intangible assets	112.4	—	112.4	108.5	—	108.5
Total intangible assets	$ 285.3	$ (85.6)	$ 199.7	$ 278.2	$ (70.7)	$ 207.5

(a) Average useful life of customer relationships and other definite-lived intangible assets are estimated to be approximately 11 years and 6 years, respectively. The average useful life across all definite-lived intangible assets is estimated to be approximately 11 years.

The Company currently estimates that aggregate amortization expense will be approximately $15.9 million in 2025, $15.6 million in 2026, $14.7 million in 2027, $14.2 million in 2028, $8.8 million in 2029, and $18.1 million thereafter. Actual amounts of amortization may differ from estimated amounts due to additional intangible asset acquisitions, changes in foreign currency rates, measurement period adjustments for recent acquisitions, impairment of intangible assets, and other events.

NOTE 9 — DEBT

The following table summarizes the components of Long-term borrowings and finance lease obligations:

(in millions of dollars)	2024	2023
2022 Credit Agreement	$ 210.9	$ 297.4
Finance lease obligations	12.9	1.6
Total long-term borrowings and finance lease obligations, including current portion	223.8	299.0
Less: Current maturities	7.0	3.9
Less: Current finance lease obligations	12.4	0.8
Total long-term borrowings and finance lease obligations	$ 204.4	$ 294.3

As more fully described within Note 18 – Fair Value Measurements, the Company uses a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. The fair value of long-term debt is based on interest rates that we believe are currently available to us for issuance of debt with similar terms and remaining maturities (Level 2 input).

The following table summarizes the carrying amounts and fair values of the Company's financial instruments:

	2024		2023	
(in millions of dollars)	Notional Amount	Fair Value	Notional Amount	Fair Value
Long-term borrowings and finance lease obligations [(a)]	$ 223.8	$ 223.8	$ 299.0	$ 299.0

(a) Includes current portions of long-term borrowings and finance lease obligations aggregating to $19.4 million and $4.7 million as of December 31, 2024 and 2023, respectively.

On October 21, 2022, the Company entered into the Third Amended and Restated Credit Agreement (the "2022 Credit Agreement"), by and among the Company and certain of its foreign subsidiaries (collectively, the "Borrowers"), Wells Fargo Bank, National Association, as administrative agent, swingline lender, and issuing lender, PNC Bank, National Association and Truist Bank as syndication agents, and the other lenders and parties signatory thereto.

On May 16, 2024, the Company entered into the First Amendment to the 2022 Credit Agreement. The amendment was largely administrative in nature, including certain language to address ongoing reference rate reform. There were no changes to the term or the Company's borrowing capacity under the 2022 Credit Agreement.

The 2022 Credit Agreement is a senior secured credit facility which provides the Borrowers access to an aggregate original principal amount of up to $800 million, consisting of (i) a revolving credit facility in an amount up to $675 million (the "Revolver") and (ii) a term loan facility in an original amount of up to $125 million. The Revolver provides for borrowings in the form of loans or letters of credit up to the aggregate availability under the facility, with a sub-limit of $100 million for letters of credit. Borrowings can be made in denominations of U.S. dollars, Canadian dollars, euros, or British pounds (with borrowings in non-U.S. currencies subject to a sublimit of $300 million). In addition, the Company may expand its borrowing capacity under the 2022 Credit Agreement by up to the greater of (i) $400 million and (ii) 100% of Consolidated EBITDA for the applicable four-quarter period preceding such expansion notice, subject to the approval of the applicable lenders providing such additional borrowings in the form of increases to their revolving facility commitment, or funding of incremental term loans. Borrowings under the 2022 Credit Agreement may be used for working capital and general corporate purposes, including acquisitions. The 2022 Credit Agreement matures on October 21, 2027.

The Company's material domestic subsidiaries provide guarantees for all obligations of the Borrowers under the 2022 Credit Agreement, which is secured by a first priority security interest in (i) all existing or hereafter acquired domestic property and assets of the Company and material domestic subsidiaries, (ii) the stock or other equity interests in each of the material domestic subsidiaries, and (iii) 65% of outstanding voting capital stock of certain first-tier foreign subsidiaries, subject to certain exclusions.

Borrowings under the 2022 Credit Agreement bear interest, at the Company's option, at a base rate or an Adjusted Eurocurrency Rate (as defined in the 2022 Credit Agreement) in the case of borrowings in euros or an adjusted RFR (as defined in the 2022 Credit Agreement) in the case of borrowings in U.S. dollars, Canadian dollars, and British pound sterling, plus, in each case, an applicable margin. The applicable margin ranges from zero to 0.75% for base rate borrowings and 1.00% to 1.75% for Adjusted Eurocurrency Rate and RFR borrowings. The Company must also pay a commitment fee to the lenders

ranging between 0.10% to 0.25% per annum on the unused portion of the Revolver along with other standard fees. Applicable margin, issuance fees, and other customary expenses are payable on outstanding letters of credit.

The Company is subject to certain net leverage ratio and interest coverage ratio financial covenants under the 2022 Credit Agreement that are to be measured at each fiscal quarter-end. The Company was in compliance with all such covenants as of December 31, 2024. The 2022 Credit Agreement also includes certain "covenant holiday" periods, which allow for the temporary increase of the minimum net leverage ratio following the completion of a permitted acquisition, or a series of acquisitions, when the aggregate consideration over a period of twelve months exceeds $75 million. In addition, the 2022 Credit Agreement includes customary negative covenants, subject to certain exceptions, restricting or limiting the Company's and its subsidiaries' ability to, among other things: (i) make non-ordinary course dispositions of assets; (ii) make certain fundamental business changes, such as mergers, consolidations, or any similar combination; (iii) make restricted payments, including dividends and stock repurchases; (iv) incur indebtedness; (v) make certain loans and investments; (vi) create liens; (vii) transact with affiliates; (viii) enter into certain sale/leaseback transactions; (ix) make negative pledges; and (x) modify subordinated debt documents.

Under the 2022 Credit Agreement, restricted payments, including dividends and stock repurchases, shall be permitted if (i) the Company's leverage ratio is less than or equal to 3.25x; (ii) the Company is in compliance with all other financial covenants; and (iii) there are no existing defaults under the 2022 Credit Agreement. If its leverage ratio is more than 3.25x, the Company is still permitted to fund (1) up to $35 million of dividend payments and stock repurchases annually; and (2) additional incremental other cash payments up to the greater of $65 million or 5% of consolidated total assets for the term of the 2022 Credit Agreement.

The 2022 Credit Agreement contains customary events of default. If an event of default occurs and is continuing, the Borrowers may be required immediately to repay all amounts outstanding under the 2022 Credit Agreement and the commitments from the lenders may be terminated.

The 2022 Credit Agreement amended and restated the Second Amended and Restated Credit Agreement (as amended, the "2019 Credit Agreement"), which provided the Company with a $500 million revolving credit facility.

In connection with entering into the 2022 Credit Agreement during the year ended December 31, 2022, the Company wrote off $0.1 million of unamortized deferred financing fees associated with the 2019 Credit Agreement, and incurred $1.9 million of new debt issuance costs. The new fees have been deferred and are being amortized over the five-year term as a component of Interest expense, net on the Consolidated Statements of Operations.

As of December 31, 2024, there was $90.6 million of cash drawn on the Revolver, $120.3 million outstanding under the term loan facility, and $10.1 million of undrawn letters of credit under the 2022 Credit Agreement, with $574.3 million of net availability for borrowings.

The following table summarizes the gross borrowings and gross payments under the Company's revolving credit facilities:

	For the Years Ended December 31,		
(in millions of dollars)	**2024**	**2023**	**2022**
Gross borrowings	$ 18.0	$ 134.3	$ 137.0
Gross payments	94.5	198.4	55.8

Aggregate maturities of long-term borrowings and finance lease obligations are $19.4 million in 2025, $10.5 million in 2026, $193.8 million in 2027, and $0.1 million in 2028. The weighted average interest rate on long-term borrowings was 5.3% at December 31, 2024.

The Company paid interest of $15.3 million in 2024, $22.8 million in 2023, and $9.4 million in 2022.

Interest Rate Swap

On October 21, 2022, the Company entered into an interest rate swap (the "2022 Swap") with a notional amount of $75.0 million, as a means of fixing the floating interest rate component on $75.0 million of its variable-rate debt. The 2022 Swap is designated as a cash flow hedge, with an original maturity date of October 31, 2025.

On July 11, 2023, the Company entered into an additional interest rate swap (the "2023 Swap") with a notional amount of $75.0 million, as a means of fixing the floating interest rate component on $75.0 million of its variable-rate debt. The 2023 Swap is designated as a cash flow hedge, with an original maturity date of August 1, 2025.

As a result of the application of hedge accounting treatment, all unrealized gains and losses related to the derivative instruments are recorded in Accumulated other comprehensive loss and are reclassified into operations in the same period in which the hedged transaction affects earnings. Hedge effectiveness is assessed quarterly. The Company does not use derivative instruments for trading or speculative purposes.

The fair value of the Company's interest rate swaps is derived from a discounted cash flow analysis based on the terms of the contract and the interest rate curve (Level 2 inputs) and measured on a recurring basis in our Consolidated Balance Sheets.

As of December 31, 2024, the fair value of the Company's interest rate swaps was a liability of $0.3 million, which was included in Other current liabilities on the Consolidated Balance Sheet. As of December 31, 2023, the fair value of the Company's interest rate swaps was a liability of $0.7 million, which was included in Other long-term liabilities on the Consolidated Balance Sheet. Unrealized pre-tax gains and losses on the interest rate swaps, recorded in Accumulated other comprehensive loss, included a pre-tax gain of $0.5 million during the year ended December 31, 2024, a pre-tax loss of $0.4 million during the year ended December 31, 2023, and a pre-tax gain of $4.1 million during the year ended December 31, 2022. No ineffectiveness was recorded in any of the periods presented.

In connection with entering into the 2022 Credit Agreement in October 2022, the Company terminated an interest rate swap initially entered into in 2019, receiving proceeds of $4.3 million upon settlement. The settlement gain was recorded in Accumulated other comprehensive loss and was amortized into earnings ratably through the original maturity date of July 30, 2024 as a component of Interest expense, net on the Consolidated Statements of Operations. The Company recognized non-cash settlement gains as a component of Interest expense, net on the Consolidated Statements of Operations of $1.4 million for the year ended December 31, 2024, $2.4 million for the year ended December 31, 2023, and $0.5 million for the year ended December 31, 2022. There were no remaining unrealized settlement gains as of December 31, 2024. As of December 31, 2023, unrealized settlement gains of $1.4 million were included in Accumulated other comprehensive loss on the Consolidated Balance Sheet.

NOTE 10 — INCOME TAXES

The following table summarizes the components of Income tax expense:

	For the Years Ended December 31,		
(in millions of dollars)	**2024**	**2023**	**2022**
Current tax expense:			
Federal	$ 30.7	$ 33.7	$ 24.0
Foreign	5.2	3.1	4.1
State and local	6.8	9.1	6.6
Total current tax expense	42.7	45.9	34.7
Deferred tax expense (benefit):			
Federal	0.8	—	(3.5)
Foreign	2.5	(0.5)	(0.1)
State and local	1.6	0.2	(0.6)
Total deferred tax expense (benefit)	4.9	(0.3)	(4.2)
Total income tax expense	$ 47.6	$ 45.6	$ 30.5

The following table summarizes the differences between the statutory federal income tax rate and the effective income tax rate:

	For the Years Ended December 31,		
	2024	2023	2022
Statutory federal income tax rate	21.0 %	21.0 %	21.0 %
State income taxes, net of federal tax benefit	4.0	3.8	4.0
Valuation allowance	(0.2)	(0.1)	(2.3)
Worthless stock deduction benefits	(6.0)	—	—
Remeasurement of deferred taxes	0.1	(0.1)	(0.6)
Foreign-derived intangible income	(1.0)	(1.7)	(0.9)
Executive compensation limitation	1.5	1.5	0.7
Foreign tax rate effects	0.6	0.7	0.6
Excess tax benefits from stock compensation activity	(1.9)	(1.9)	(1.6)
Other, net	(0.1)	(0.7)	(0.7)
Effective income tax rate	18.0 %	22.5 %	20.2 %

The following table summarizes Income before income taxes:

	For the Years Ended December 31,		
(in millions of dollars)	2024	2023	2022
U.S.	$ 234.5	$ 176.6	$ 132.1
Non-U.S.	29.4	26.4	18.8
Income before income taxes	$ 263.9	$ 203.0	$ 150.9

Summary

During the year ended December 31, 2023, the Company filed amended U.S. federal income tax returns for the 2015 through 2018 tax years to claim a worthless stock deduction. As of December 31, 2023, the amended tax returns were under examination by the applicable tax authorities and recovery of the refund claim was not considered more-likely-than-not. Accordingly, the aggregate refund claim of $13.6 million, including interest of $1.8 million, was recorded as an income tax receivable as of December 31, 2023, fully offset by a corresponding liability for unrecognized tax benefits.

In the first quarter of 2024, the tax authorities notified the Company that the amended tax returns had been approved, at which point receipt of the refund claim was considered more-likely-than-not. As a result, the Company released the associated liability for unrecognized tax benefits and recognized a $13.0 million discrete tax benefit for the refund claim, net of taxes on the associated interest, for the year ended December 31, 2024. Following the receipt of the U.S. federal income tax refund during the second quarter of 2024, the Company began amending applicable state tax returns to reflect the worthless stock deduction, which resulted in the recognition of additional discrete state tax benefits aggregating to $2.9 million, net of federal tax effects, for the year ended December 31, 2024.

The Company recognized income tax expense of $47.6 million for the year ended December 31, 2024, compared to $45.6 million for the year ended December 31, 2023. The increase in income tax expense in 2024 was primarily due to higher earnings, partially offset by the aforementioned discrete tax benefits, which aggregated to $15.9 million, and the recognition of $5.1 million in excess tax benefits associated with stock-based compensation activity. Including these items, the Company's effective tax rate for the year ended December 31, 2024 was 18.0%, compared to 22.5% in 2023. The Company's income tax expense and effective tax rate for the year ended December 31, 2023 also included the effects of the recognition of $3.9 million in excess tax benefits associated with stock-based compensation activity.

The Company recognized income tax expense of $45.6 million for the year ended December 31, 2023, compared to $30.5 million for the year ended December 31, 2022. The increase in income tax expense in 2023 was primarily due to higher earnings and the non-recurrence of certain discrete tax benefits recognized in 2022 associated with the release of valuation allowances, partially offset by a $1.5 million increase in the amount of excess tax benefits from stock compensation activity compared to 2022. In the year ended December 31, 2022, the Company recognized a $2.6 million tax benefit from the release of a valuation allowance that had previously been recorded against deferred tax assets associated with foreign tax credits in the U.S., primarily due to tax planning. The Company also recognized a $1.1 million tax benefit during the year ended December 31, 2022 associated with the release of a valuation allowance in the U.K., as the associated deferred tax assets were

considered more-likely-than-not to be realized primarily due to increased projections of future taxable income. Including these items, the Company's effective tax rate for the year ended December 31, 2023 was 22.5%, compared to 20.2% in 2022.

The Company paid income taxes of $62.4 million in 2024, $46.2 million in 2023, and $26.9 million in 2022.

Deferred Taxes

The following table summarizes the Company's deferred tax assets and liabilities:

(in millions of dollars)	2024	2023
Deferred tax assets:		
Properties and equipment	$ 3.2	$ 3.5
Accrued expenses	40.1	34.8
Stock-based compensation	3.5	3.3
Net operating loss and tax credit carryforwards	11.0	14.0
Goodwill and intangibles	4.9	4.8
Pension benefits	14.5	15.6
Gross deferred tax assets	77.2	76.0
Valuation allowance	(0.1)	(0.5)
Total deferred tax assets	77.1	75.5
Deferred tax liabilities:		
Properties and equipment	(48.6)	(40.6)
Pension benefits	(12.8)	(11.9)
Goodwill and intangibles	(62.4)	(62.4)
Other	(1.9)	(1.8)
Gross deferred tax liabilities	(125.7)	(116.7)
Net deferred tax liabilities	$ (48.6)	$ (41.2)

The deferred tax asset for net operating loss and tax credit carryforwards at December 31, 2024 includes state net operating loss carryforwards of $2.8 million, which will begin to expire in 2026, and foreign net operating loss carryforwards of $8.2 million, which have an indefinite carryforward period.

The deferred tax asset for tax loss and tax credit carryforwards at December 31, 2023, included state net operating loss carryforwards of $4.5 million and foreign net operating loss carryforwards of $9.5 million.

The $77.1 million of deferred tax assets at December 31, 2024 is anticipated to be realized through future taxable income or the future reversal of existing taxable temporary differences recorded as deferred tax liabilities at December 31, 2024. Should the Company determine that it is not more-likely-than-not to be able to realize its remaining deferred tax assets in the future, an adjustment to the valuation allowance would be recorded in the period such determination is made.

Generally, the Company has considered cash and cash equivalents held by subsidiaries outside the U.S. to be indefinitely reinvested in its foreign operations and the Company's current plans do not demonstrate a need to repatriate such cash to fund U.S. operations. As of December 31, 2024, the Company continues to assert that its undistributed earnings of certain foreign subsidiaries are indefinitely reinvested. It is not practicable to determine the income tax liability that would be payable if such earnings were not permanently reinvested.

Valuation Allowances

ASC 740*, Income Taxes*, requires that the future realization of deferred tax assets depends on the existence of sufficient taxable income in future periods. Possible sources of taxable income include taxable income in carryback periods, the future reversal of existing taxable temporary differences recorded as a deferred tax liability, tax-planning strategies that generate future income or gains in excess of anticipated losses in the carryforward period, and projected future taxable income. If, based upon all available evidence, both positive and negative, it is more likely than not such deferred tax assets will not be realized, a valuation allowance is recorded. Significant weight is given to positive and negative evidence that is objectively verifiable. A company's

three-year cumulative loss position is significant negative evidence in considering whether deferred tax assets are realizable and the accounting guidance restricts the amount of reliance the Company can place on projected taxable income to support the recovery of the deferred tax assets.

We continually evaluate the need to maintain a valuation allowance for deferred tax assets based on our assessment of whether it is more likely than not that deferred tax benefits will be realized through the generation of future taxable income. Appropriate consideration is given to all available evidence, both positive and negative, in assessing the need for a valuation allowance.

As of December 31, 2024, the Company's valuation allowance was $0.1 million, which represents the estimated amount of state net operating loss carryforwards that are not more-likely-than not to be realized prior to expiration. During the year ended December 31, 2024, the Company's valuation allowance decreased by $0.4 million, primarily due to increased projections of future taxable income associated with these state net operating loss carryforwards.

Unrecognized Tax Benefits

The following table summarizes the activity related to the Company's unrecognized tax benefits:

(in millions of dollars)	2024	2023	2022
Balance at January 1	$ 12.5	$ 1.2	$ 1.2
Increases as a result of tax positions taken in the current year	—	11.8	—
Decreases from prior period positions	(11.8)	(0.5)	—
Balance at December 31	$ 0.7	$ 12.5	$ 1.2

During the year ended December 31, 2023, the Company filed amended U.S. federal income tax returns for the 2015 through 2018 tax years to claim a worthless stock deduction. As of December 31, 2023, the aggregate refund claim associated with the worthless stock deduction was $13.6 million, including interest of $1.8 million, which was not included in the table above. As recovery of the refund claim was not considered more-likely-than-not as of December 31, 2023, the Company recognized an offsetting increase to its liability for unrecognized tax benefits. In accordance with ASC 740, as of December 31, 2023, the Company had recorded a receivable for the full amount of the refund claim, including interest, and an offsetting liability for unrecognized tax benefits for the same amount. As of December 31, 2023, the receivable and offsetting liability were presented net on the Consolidated Balance Sheet and, as the refund claim was fully reserved, the recognition of the uncertain tax position had no impact on the Consolidated Statements of Operations during the year ended December 31, 2023.

During the year ended December 31, 2024, the tax authorities notified the Company that the amended tax returns had been approved, at which point receipt of the refund claim was considered more-likely-than-not. As a result, the Company released the associated liability for unrecognized tax benefits and recognized a $13.0 million discrete tax benefit for the refund claim, net of taxes on the associated interest, for the year ended December 31, 2024.

The Company's accounting policy is to recognize interest and penalties related to income tax matters in income tax expense. At both December 31, 2024 and 2023, accruals for interest and penalties amounting to $0.4 million were included in the Consolidated Balance Sheets, but are not included in the table above. Liabilities for unrecognized tax benefits, including interest and penalties, were $1.2 million as of December 31, 2024 and $1.1 million as of December 31, 2023, and were included within Other long-term liabilities on the Consolidated Balance Sheets. These liabilities would impact the Company's effective tax rate, if recognized. The Company does not expect any significant change to its unrecognized tax benefits as a result of potential expiration of statute of limitations or settlements with the tax authorities within the next twelve months.

Status of Tax Returns

We file U.S., state, and foreign income tax returns in jurisdictions with varying statutes of limitations. The 2021 through 2023 tax years generally remain subject to examination by federal tax authorities, whereas the 2020 through 2023 tax years generally remain subject to examination by most state tax authorities. In significant foreign jurisdictions, the tax years from 2019 through 2022 generally remain subject to examination by their respective tax authorities.

NOTE 11 — PENSION AND OTHER POST-EMPLOYMENT PLANS

Defined Benefit Pension Plans

The Company and its subsidiaries sponsor two defined benefit pension plans covering certain salaried and hourly employees. These plans have been closed to new participants for a number of years. Benefits under these plans are primarily based on final average compensation and years of service as defined within the provisions of the individual plans. As a result of plan amendments, the latest of which was in 2008, the only new benefits that were being accrued through the end of 2016 were salary increases for a limited group of participants. Those benefits ceased at the end of 2016, at which point all existing plans became fully frozen.

In October 2024, the Company executed an amendment to its U.S. defined benefit pension plan, which enabled the Company to announce a limited-time voluntary lump-sum pension offering to eligible plan participants. In connection with the offering, 141 individuals elected to receive a lump-sum settlement payment. In the aggregate, the Company paid a total of $6.8 million in lump-sum benefit payments during the year ended December 31, 2024, using assets of the plan. As total settlement payments during the year ended December 31, 2024 exceeded the sum of the service and interest cost, the Company was required to remeasure the liabilities of the benefit plans and recognized a settlement charge of $3.8 million, in accordance with ASC 715, *Compensation - Retirement Benefits*.

The following table summarizes net periodic pension expense (benefit) for the U.S. and non-U.S. benefit plans:

	U.S. Benefit Plan			Non-U.S. Benefit Plan		
	For the Years Ended December 31,			For the Years Ended December 31,		
(in millions of dollars)	2024	2023	2022	2024	2023	2022
Company-sponsored plans:						
Service cost	$ —	$ —	$ —	$ 0.2	$ 0.1	$ 0.1
Interest cost	5.8	6.1	4.4	1.4	1.5	0.9
Expected return on plan assets	(7.2)	(7.5)	(6.9)	(2.2)	(2.1)	(2.0)
Amortization of prior service costs	—	—	—	0.1	0.1	0.1
Amortization of actuarial losses	2.1	1.3	2.3	0.9	1.0	0.6
Settlement charges	3.8	—	—	—	—	—
Net periodic pension expense (benefit)	$ 4.5	$ (0.1)	$ (0.2)	$ 0.4	$ 0.6	$ (0.3)

The items that comprise Net periodic pension expense (benefit), other than service cost and settlement charges, are included as a component of Other expense (income), net on the Consolidated Statements of Operations.

The following table summarizes the weighted-average assumptions used in determining pension costs:

	U.S. Benefit Plan			Non-U.S. Benefit Plan		
	For the Years Ended December 31,			For the Years Ended December 31,		
	2024	2023	2022	2024	2023	2022
Discount rate	5.4 %	5.7 %	3.1 %	4.5 %	4.8 %	1.8 %
Expected long-term rate of return on plan assets	7.6 %	7.2 %	6.1 %	6.0 %	6.1 %	4.0 %

The following table summarizes the changes in the projected benefit obligation and plan assets:

	U.S. Benefit Plan		Non-U.S. Benefit Plan	
(in millions of dollars)	**2024**	**2023**	**2024**	**2023**
Benefit obligation, beginning of year	$ 111.5	$ 109.0	$ 33.5	$ 32.4
Service cost	—	—	0.2	0.1
Interest cost	5.8	6.1	1.4	1.5
Actuarial (gain) loss	(2.0)	4.5	(4.9)	0.3
Benefits and expenses paid	(8.1)	(8.1)	(2.6)	(2.5)
Settlement payments	(6.8)	—	—	—
Foreign currency translation	—	—	(0.5)	1.7
Benefit obligation, end of year	$ 100.4	$ 111.5	$ 27.1	$ 33.5
Accumulated benefit obligation, end of year	$ 100.4	$ 111.5	$ 27.1	$ 33.5

The following table summarizes the weighted-average assumptions used in determining benefit obligations:

	U.S. Benefit Plan		Non-U.S. Benefit Plan	
	2024	**2023**	**2024**	**2023**
Discount rate	5.8 %	5.4 %	5.4 %	4.5 %

The following summarizes the changes in the fair value of plan assets:

	U.S. Benefit Plan		Non-U.S. Benefit Plan	
(in millions of dollars)	**2024**	**2023**	**2024**	**2023**
Fair value of plan assets, beginning of year	$ 88.5	$ 87.0	$ 38.6	$ 34.8
Actual return on plan assets [(a)]	3.5	8.2	1.8	3.5
Company contribution	4.6	1.4	0.3	0.9
Benefits and expenses paid	(8.1)	(8.1)	(2.6)	(2.5)
Settlement payments	(6.8)	—	—	—
Foreign currency translation	—	—	(0.7)	1.9
Fair value of plan assets, end of year	$ 81.7	$ 88.5	$ 37.4	$ 38.6

(a) Actual return on plan assets of the U.S. benefit plan was net of fees, commissions, and other expenses paid from plan assets of $1.6 million for the year ended December 31, 2024 and $1.4 million for the year ended December 31, 2023.

As more fully described within Note 18 – Fair Value Measurements, the Company uses a three-level fair value hierarchy that prioritizes the inputs used to measure fair value.

Following is a description of the valuation methodologies used for assets measured at fair value for the U.S. benefit plan:

- Cash and cash equivalents are comprised of cash on deposit and a money market fund, that invests principally in short-term instruments. The money-market fund is valued at the net asset value (“NAV”) of the shares in the fund.
- Equity investments represent domestic and foreign securities, including common stock, which are publicly traded on active exchanges and are valued based on quoted market prices. Certain equity securities, which are valued using a model that takes the underlying security’s “best” price, divides it by the applicable exchange rate and multiplies the result by a depository receipt factor, are categorized within Level 2 of the fair value hierarchy.
- Fixed income investments include corporate bonds, asset-backed securities, and treasury bonds. Corporate bonds are valued using pricing models that include bids provided by brokers or dealers, benchmark yields, base spreads, and reported trades. Asset-backed securities are valued using models with readily observable data as inputs. Treasury bonds are valued based on quoted market prices in active markets.

Following is a description of the valuation methodologies used for assets measured at fair value for the non-U.S. benefit plan:

- Cash and cash equivalents are comprised of cash on deposit and a money market fund, that invests principally in short-term instruments. The money-market fund is valued at the NAV of the shares in the fund.
- Diversified investment funds and insurance-linked securities are valued based on a daily NAV per share measured by the fund sponsor and used as the basis for current transactions.

- Fixed income investments include corporate bonds and asset-backed securities. Corporate bonds are valued based on quoted market prices in active markets or other readily observable market data. Asset-backed securities are valued using models with readily observable data as inputs.

The methods described may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The following summarizes the Company's pension assets in a three-tier fair value hierarchy for its benefit plans:

	U. S. Benefit Plan							
	2024				2023			
(in millions of dollars)	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ 1.9	$ —	$ —	$ 1.9	$ 1.6	$ —	$ —	$ 1.6
Equity investments:								
U.S. Large Cap	10.7	—	—	10.7	12.0	0.1	—	12.1
U.S. Small and Mid Cap	15.1	—	—	15.1	13.4	—	—	13.4
Developed international	2.6	0.2	—	2.8	5.2	0.3	—	5.5
Emerging markets	3.2	1.1	—	4.3	2.3	0.7	—	3.0
Fixed income investments:								
Government securities	—	—	—	—	1.7	—	—	1.7
Asset-backed securities	—	0.1	—	0.1	—	0.2	—	0.2
Corporate bonds	—	46.3	—	46.3	—	50.2	—	50.2
Total assets at fair value [(a)]	$ 33.5	$ 47.7	$ —	$ 81.2	$ 36.2	$ 51.5	$ —	$ 87.7

(a) Total assets at fair value in the table above exclude a net receivable of $0.5 million at December 31, 2024 and $0.8 million at December 31, 2023.

	Non-U. S. Benefit Plan							
	2024				2023			
(in millions of dollars)	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ 0.5	$ 20.9	$ —	$ 21.4	$ 0.8	$ 7.7	$ —	$ 8.5
Diversified investment funds [(a)]	—	10.9	—	10.9	—	18.9	—	18.9
Fixed income investments:								
Asset-backed securities	—	—	—	—	—	4.4	—	4.4
Corporate bonds	—	5.1	—	5.1	—	3.7	—	3.7
Other investments:								
Insurance-linked securities	—	—	—	—	—	—	3.1	3.1
Total assets at fair value	$ 0.5	$ 36.9	$ —	$ 37.4	$ 0.8	$ 34.7	$ 3.1	$ 38.6

(a) These funds primarily invest in a diversified portfolio of equity securities and fixed income securities.

The Company maintains a structured investment strategy for its U.S. and non-U.S. benefit plans, which are designed to achieve certain target asset allocations depending on the plans' relative funded status.

As of December 31, 2024, the target asset allocations for the U.S. benefit plan are (i) between 38% and 58% in fixed-income investments, (ii) between 40% and 60% in equity investments and (iii) between 0% and 20% in cash and cash equivalents.

As of December 31, 2024, the target asset allocations for the non-U.S. benefit plan assets are broadly characterized as a mix of approximately 85% in fixed-income investments and approximately 15% in equity investments.

The following summarizes the funded status of the Company's benefit plans:

	U.S. Benefit Plan		Non-U.S. Benefit Plan	
(in millions of dollars)	**2024**	**2023**	**2024**	**2023**
Fair value of plan assets, end of year	$ 81.7	$ 88.5	$ 37.4	$ 38.6
Benefit obligation, end of year	100.4	111.5	27.1	33.5
Funded status, end of year	$ (18.7)	$ (23.0)	$ 10.3	$ 5.1

The following summarizes the amounts recognized within the Company's Consolidated Balance Sheets:

	U.S. Benefit Plan		Non-U.S. Benefit Plan	
(in millions of dollars)	**2024**	**2023**	**2024**	**2023**
Amounts recognized in our Consolidated Balance Sheets include:				
Deferred charges and other long-term assets	$ —	$ —	$ 10.3	$ 5.1
Long-term pension and other post-retirement benefit liabilities	(18.7)	(23.0)	—	—
Net (liability) asset recorded	$ (18.7)	$ (23.0)	$ 10.3	$ 5.1
Amounts recognized in Accumulated other comprehensive loss include:				
Actuarial losses	$ 56.4	$ 60.7	$ 10.6	$ 16.1
Prior service costs	—	—	1.8	2.0
Net amount recognized, pre-tax	$ 56.4	$ 60.7	$ 12.4	$ 18.1

As the Company's benefit plans are fully frozen, all plan participants are now considered to be inactive. As a result, the associated actuarial losses and prior service costs that are included in Accumulated other comprehensive loss are being amortized into net periodic benefit cost over the remaining average life expectancy of plan participants. The Company expects $2.9 million of the actuarial losses and $0.1 million of the prior service costs to be amortized from Accumulated other comprehensive loss into net periodic benefit cost in 2025.

The Company currently expects to contribute up to $3.6 million to the U.S. benefit plan in 2025. Contributions to the non-U.S. benefit plan in 2025 are expected to be insignificant. Future contributions to the plans will be based on such factors as annual service cost, the financial return on plan assets, interest rate movements that affect discount rates applied to plan liabilities, and the value of benefit payments made.

The following summarizes the benefits expected to be paid under the Company's benefit plans in each of the next five years, and in aggregate for the five years thereafter:

(in millions of dollars)	U.S. Benefit Plan	Non-U.S. Benefit Plan
2025	$ 8.6	$ 2.7
2026	8.6	2.3
2027	8.6	2.3
2028	8.5	2.3
2029	8.4	2.2
2030-2034	39.9	9.9

Defined Contribution Retirement Plan

The Company also sponsors a defined contribution retirement plan (the "401(k) plan") covering a majority of its employees. Participation is via automatic enrollment and employees may elect to opt out of the 401(k) plan. Company contributions to the 401(k) plan are based on an employee's years of service, as well as the percentage of employee contributions. The Company's cost of the 401(k) plan was $13.0 million in 2024, $11.4 million in 2023, and $9.9 million in 2022.

Deferred Compensation Plan

The Company also provides a deferred compensation plan to certain employees. The deferred compensation plan is a non-qualified, unfunded defined contribution plan, which provides participants with benefits that would have been provided under the 401(k) plan, but could not be provided due to compensation limits for qualified plans under the Internal Revenue Code. Deferred compensation liabilities were $23.6 million as of December 31, 2024 and $19.9 million as of December 31, 2023, and

were included on the Consolidated Balance Sheets, primarily within Long-term pension and other post-retirement benefit liabilities.

NOTE 12 — COMMITMENTS AND CONTINGENCIES

Financial Commitments

The Company provides indemnifications and other guarantees in the ordinary course of business, the terms of which range in duration and often are not explicitly defined. Specifically, the Company is occasionally required to provide letters of credit and bid and performance bonds to various customers, principally to act as security for retention levels related to casualty insurance policies and to guarantee the performance of subsidiaries that engage in export and domestic transactions. At December 31, 2024, the Company had outstanding performance and financial standby letters of credit, as well as outstanding bid and performance bonds, aggregating to $25.6 million. If any such letters of credit or bonds are called, the Company would be obligated to reimburse the issuer of the letter of credit or bond. The Company believes the likelihood of any currently outstanding letter of credit or bond being called is remote.

The Company has transactions involving the sale of equipment to certain of its customers that include (i) guarantees to repurchase the equipment for a fixed price at a future date and (ii) guarantees to repurchase the equipment from the third-party lender in the event of default by the customer. As of December 31, 2024, both the single year and maximum potential cash payments the Company could be required to make to repurchase equipment under these agreements amounted to $2.2 million. The Company's risk under these repurchase arrangements would be partially mitigated by the value of the products repurchased as part of the transaction. Historical cash requirements and losses associated with these obligations have not been significant, but could increase if customer defaults exceed current expectations.

The Company has certain lease agreements for facilities owned by affiliates which include provisions requiring the Company to guarantee any remaining lease payments in the event of default. As of December 31, 2024, the total amount of future payments guaranteed under these agreements was approximately $0.5 million. The Company believes the likelihood of defaulting on these leases is remote.

Product Warranties

The Company issues product performance warranties to customers with the sale of its products. The specific terms and conditions of these warranties vary depending upon the product sold and country in which the Company does business, with warranty periods generally ranging from one to five years. The Company estimates the costs that may be incurred under its basic limited warranty and records a liability in the amount of such costs at the time the sale of the related product is recognized. Factors that affect the Company's warranty liability include (i) the number of units under warranty, (ii) historical and anticipated rates of warranty claims, and (iii) costs per claim. The Company periodically assesses the adequacy of its recorded warranty liabilities and adjusts the amounts as necessary.

The following table summarizes the changes in the Company's warranty liabilities:

(in millions of dollars)	2024	2023
Balance at January 1	$ 9.6	$ 9.3
Provisions to expense	8.4	7.9
Acquisitions	—	0.1
Payments	(8.2)	(7.7)
Balance at December 31	$ 9.8	$ 9.6

NOTE 13 — LEGAL PROCEEDINGS

The Company is subject to various claims, including pending and possible legal actions for product liability and other damages, and other matters arising in the ordinary course of the Company's business. On a quarterly basis, the Company reviews uninsured material legal claims against the Company and accrues for the costs of such claims as appropriate in the exercise of management's best judgment and experience. However, due to a lack of factual information available to the Company about a claim, or the procedural stage of a claim, it may not be possible for the Company to reasonably assess either the probability of a favorable or unfavorable outcome of the claim or to reasonably estimate the amount of loss should there be an unfavorable outcome. Therefore, for many claims, the Company cannot reasonably estimate a range of loss.

The Company believes, based on current knowledge and after consultation with counsel, that the outcome of such claims and actions will not have a material adverse effect on the Company's results of operations or financial condition. However, in the event of unexpected future developments, it is possible that the ultimate resolution of such matters, if unfavorable, could have a material adverse effect on the Company's results of operations, financial condition, or cash flow.

Hearing Loss Litigation

Between 1999 and 2017, the Company was sued for monetary damages by multiple firefighters claiming that exposure to the Company's sirens impaired their hearing and that the sirens were therefore defective. The Company has vigorously defended itself against these claims, obtaining many jury verdicts in its favor and settling some for nominal amounts. In 2018, counsel for the remaining plaintiffs requested that the Company consider settlement, and on November 4, 2019, the parties executed a global settlement agreement pursuant to which the Company would pay $700 to each firefighter who filed a lawsuit and is eligible to be part of the settlement, and $300 to each firefighter who has not yet filed a case and is eligible to be part of the settlement. The settlement agreement requires plaintiffs' attorneys to withdraw from representing firefighters who elect not to participate in the settlement and does not include the payment of any attorney fees by the Company. To be eligible for settlement, among other things, firefighters must provide proof that they have high frequency noise-induced hearing loss. As of December 31, 2024, the Company has recognized an estimated liability for the potential settlement amount. While it is reasonably possible that the ultimate resolution of this matter may result in a loss in excess of the amount accrued, the incremental loss is not expected to be material.

NOTE 14 — EARNINGS PER SHARE

The Company computes earnings per share ("EPS") in accordance with ASC 260, *Earnings per Share*, which requires that non-vested restricted stock containing non-forfeitable dividend rights should be treated as participating securities pursuant to the two-class method. Under the two-class method, net income is reduced by the amount of dividends declared in the period for common stock and participating securities. The remaining undistributed earnings are then allocated to common stock and participating securities as if all of the net income for the period had been distributed. The amounts of distributed and undistributed earnings allocated to participating securities for the years ended December 31, 2024, 2023, and 2022 were insignificant and did not materially impact the calculation of basic or diluted EPS.

Basic EPS is computed by dividing income or loss available to common stockholders by the weighted average number of shares of common stock outstanding for the year.

Diluted EPS is computed using the weighted average number of shares of common stock and non-vested restricted stock awards outstanding for the year, plus the effect of dilutive potential common shares outstanding during the year. The dilutive effect of common stock equivalents is determined using the more dilutive of the two-class method or alternative methods. We use the treasury stock method to determine the potentially dilutive impact of our employee stock options and restricted stock units, and the contingently issuable method for our performance-based restricted stock unit awards.

For the years ended December 31, 2024, 2023, and 2022, options to purchase 0.1 million, 0.1 million, and 0.3 million shares of the Company's common stock, respectively, had an anti-dilutive effect on EPS, and accordingly, are excluded from the calculation of diluted EPS.

The following table reconciles net income to basic and diluted EPS:

	For the Years Ended December 31,		
(in millions, except per share data)	**2024**	**2023**	**2022**
Net income	$ 216.3	$ 157.4	$ 120.4
Weighted average shares outstanding — Basic	60.9	60.7	60.5
Dilutive effect of common stock equivalents	0.8	0.8	0.7
Weighted average shares outstanding — Diluted	61.7	61.5	61.2
Earnings per share:			
Basic	$ 3.55	$ 2.59	$ 1.99
Diluted	3.50	2.56	1.97

NOTE 15 — STOCK-BASED COMPENSATION

The Company's stock compensation plan, approved by the Company's stockholders and administered by the Compensation and Benefits Committee of the Board of Directors of the Company (the "CBC"), provides for the grant of incentive stock options, restricted stock, and other stock-based awards or units to key employees and directors. The plan, as amended, authorizes the grant of up to 11.0 million shares or units through April 2030. At December 31, 2024, approximately 4.2 million shares were available for future issuance under the plan.

The total compensation expense related to all grants awarded under the plan was $15.6 million in 2024, $13.1 million in 2023, and $10.2 million in 2022. The related income tax benefits recognized in earnings were $2.3 million in 2024, $2.0 million in 2023, and $1.9 million in 2022.

Stock Options

Stock options vest ratably (i.e. one-third annually) over the three years from the date of the grant. The cost of stock options, based on their fair value at the date of grant, is charged to expense over the respective vesting periods. Stock options normally become exercisable at a rate of one-third annually and in full on the third anniversary date. Under the plan, all options and rights must be exercised within ten years from date of grant. At the Company's discretion, vested stock option holders are permitted to elect an alternative settlement method in lieu of purchasing common stock at the option price. The alternative settlement method permits the employee to receive, without payment to the Company, cash, shares of common stock or a combination thereof equal to the excess of market value of common stock over the option purchase price. The Company has historically settled all such options in common stock and intends to continue to do so. Stock options do not have voting or dividend rights until such time that the options are exercised and shares have been issued.

The weighted average fair value of options granted during the year was $29.34 in 2024, $17.44 in 2023, and $12.64 in 2022.

The fair value of each option grant was estimated using the Black-Scholes option pricing model with the following weighted average assumptions:

	2024	2023	2022
Expected dividend yield	0.6 %	0.8 %	1.0 %
Expected volatility	31.6 %	32.7 %	32.7 %
Risk-free interest rate	4.6 %	3.3 %	3.0 %
Expected option life in years	5.4	5.6	6.9

Dividend yields are based on historical dividend payments. Expected volatility is based on historical volatility of the Company's common stock. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of the grant for periods corresponding with the expected life of the options. The expected life of options represents the weighted average period of time that options granted are expected to be outstanding giving consideration to vesting schedules and the Company's historical exercise patterns.

The following summarizes stock option activity:

	Option Shares			Weighted Average Exercise Price		
(in millions, except per share data)	**2024**	**2023**	**2022**	**2024**	**2023**	**2022**
Outstanding, at beginning of year	1.0	1.2	1.4	$ 31.65	$ 27.40	$ 23.58
Granted	0.1	0.1	0.2	82.58	51.81	35.80
Exercised	(0.1)	(0.3)	(0.4)	29.10	23.70	16.09
Canceled or expired	—	—	—	48.29	41.45	33.89
Outstanding, at end of year	1.0	1.0	1.2	$ 36.58	$ 31.65	$ 27.40
Exercisable, at end of year	0.8	0.7	0.8	$ 29.21	$ 26.35	$ 23.60

At December 31, 2024, options that have vested and are expected to vest totaled 1.0 million shares, with a weighted average exercise price of $36.49, and represent the sum of 0.8 million vested (or exercisable) options and 0.2 million options that are expected to vest. Options that are expected to vest are derived by applying the pre-vesting forfeiture rate assumption against outstanding, unvested options as of December 31, 2024.

The following table summarizes information for stock options outstanding as of December 31, 2024 under all plans:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Shares	Weighted Average Remaining Life	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
	(in millions)	(in years)		(in millions)	
$10.01 — 15.00	0.1	1.3	$ 12.66	0.1	$ 12.66
15.01 — 20.00	0.1	2.0	16.87	0.1	16.87
20.01 — 25.00	0.1	3.4	23.14	0.1	23.14
25.01 — 30.00	0.2	4.8	27.59	0.2	27.59
35.01 — 40.00	0.2	7.3	35.80	0.1	35.80
40.01 — 45.00	0.1	6.2	42.86	0.1	42.86
50.01 — 55.00	0.1	8.3	51.81	0.1	51.81
80.01 — 85.00	0.1	9.3	82.31	—	—
	1.0	5.6	$ 36.58	0.8	$ 29.21

The aggregate intrinsic value of stock options outstanding and exercisable at December 31, 2024 was $56.7 million and $49.1 million, respectively. The total intrinsic value of stock options exercised was $6.5 million, $9.9 million, and $9.7 million for the years ended December 31, 2024, 2023, and 2022, respectively. The related tax benefits were $1.6 million, $2.4 million and $2.5 million for the years ended December 31, 2024, 2023 and 2022, respectively. Cash received from the exercise of stock options was $2.0 million, $3.9 million, and $0.2 million for the years ended December 31, 2024, 2023, and 2022, respectively.

The total compensation expense related to all stock option compensation plans was $2.3 million, $2.2 million, and $2.1 million for the years ended December 31, 2024, 2023, and 2022, respectively. As of December 31, 2024, there was $3.4 million of total unrecognized compensation cost related to stock options that is expected to be recognized over the weighted-average period of approximately 1.9 years.

Restricted Stock

Restricted stock awards and restricted stock units primarily cliff vest at the third anniversary from the date of grant, provided the recipient is still employed by the Company on the vesting date. The cost of restricted stock, based on the fair market value of the underlying shares determined using the closing market price on the date of grant, is charged to expense over the respective vesting periods. Shares associated with non-vested restricted stock awards have the same voting rights as the Company's common stock and have non-forfeitable rights to dividends. Shares associated with non-vested restricted stock units do not have voting or dividend rights.

The following table summarizes restricted stock activity in each of the three years in the period ended December 31, 2024:

	Number of Restricted Shares	Weighted Average Price per Share
	(in millions)	
Outstanding and non-vested, at December 31, 2021	0.2	$ 32.15
Granted	0.2	35.60
Vested	(0.1)	28.35
Forfeited	—	34.99
Outstanding and non-vested, at December 31, 2022	0.3	$ 34.93
Granted	—	52.76
Vested	(0.1)	30.44
Forfeited	—	39.23
Outstanding and non-vested, at December 31, 2023	0.2	$ 43.03
Granted	0.1	83.69
Vested	(0.1)	43.83
Forfeited	—	44.68
Outstanding and non-vested, at December 31, 2024	0.2	$ 53.18

The total grant-date fair value of restricted stock that vested in the years ended December 31, 2024, 2023, and 2022 was $2.4 million, $3.5 million, and $2.1 million, respectively.

The total compensation expense related to all restricted stock compensation plans was $3.9 million, $4.3 million, and $3.8 million for the years ended December 31, 2024, 2023, and 2022, respectively. As of December 31, 2024, there was $4.0 million of total unrecognized compensation cost related to restricted stock that is expected to be recognized over the weighted-average period of approximately 1.8 years.

Performance Awards

In each of the three years in the period ended December 31, 2024, the Company granted performance-based restricted stock unit awards (“PSUs”) to certain executives and other non-executive officers. Performance targets associated with PSUs are set annually and approved by the CBC. At the Company’s discretion, actual payment of the awards earned shall be in cash or in common stock of the Company, or in a combination of both. The Company intends to settle all such awards by issuing shares of its common stock. Shares associated with non-vested PSUs do not have voting or dividend rights until issuance. The Company assesses the probability of vesting, based on expected achievement against these performance targets, on a quarterly basis.

The PSUs granted in 2024 have a three-year performance period ending December 31, 2026, in which the Company must achieve a certain cumulative EPS and a certain average return on invested capital (“ROIC”), which are performance conditions per ASC 718, *Compensation — Stock Compensation* (“ASC 718”). The percentage of shares earned under these two performance conditions may be subject to a further 20% modifier, for a maximum potential payout of 240% of target, determined by comparing the Company’s total stockholder return (“TSR”) over a multi-year performance period, relative to that of the S&P 600 Capital Goods Index. The TSR modifier, which is a market condition under ASC 718, will only apply if the Company’s TSR performance over the performance period is in the top or bottom quartile of the S&P 600 Capital Goods Index. If earned, these shares would vest on December 31, 2026.

The PSUs granted in 2023 have a three-year performance period ending December 31, 2025, in which the Company must achieve a certain cumulative EPS and a certain average ROIC, which are performance conditions per ASC 718. The percentage of shares earned under these two performance conditions may be subject to a further 20% modifier, for a maximum potential payout of 240% of target, determined by comparing the Company’s TSR over a multi-year performance period, relative to that of the S&P 600 Capital Goods Index. The TSR modifier, which is a market condition under ASC 718, will only apply if the Company’s TSR performance over the performance period is in the top or bottom quartile of the S&P 600 Capital Goods Index. If earned, these shares would vest on December 31, 2025.

The PSUs granted in 2022 had a three-year performance period ending December 31, 2024, in which the Company had to achieve a certain cumulative EPS and a certain average ROIC, which are performance conditions per ASC 718. The percentage of shares earned under these two performance conditions were subject to a further 20% modifier, for a maximum potential payout of 240% of target, determined by comparing the Company’s TSR over a multi-year performance period, relative to that of the constituent companies of the S&P 600 Capital Goods Index. The PSUs granted in 2022 became fully vested on December 31, 2024. Based on the achievement against targets over the three-year performance period, 190% of shares were earned under the two performance conditions. As the Company’s TSR performance over the performance period was in the top quartile of the S&P 600 Capital Goods Index, the TSR modifier was applied and the amount of shares earned was increased by a factor of 20%, resulting in 228% of the overall target shares being earned. The underlying shares will be issued to participants in the first quarter of 2025.

The cost of PSUs, based on their fair value, is charged to expense over the respective vesting periods, which is the three-year period ended December 31, 2024 for the 2022 grants, the three-year period ended December 31, 2025 for the 2023 grants, and the three-year period ended December 31, 2026 for the 2024 grants. As the PSUs granted in 2024, 2023, and 2022 contain a market condition, the Company utilized a Monte Carlo simulation model to determine the respective grant date fair values, using the following assumptions:

PSUs granted in 2024	Annual Expected Stock Price Volatility	Annual Expected Dividend Yield	Risk-Free Interest Rate	Correlation Between TSR for Federal Signal Corporation and the Applicable S&P Index
Federal Signal Corporation	26.9 %	0.6 %	4.8 %	40.9 %
Peer Group within S&P 600 Capital Goods Index	40.3 %	n/a	4.8 %	n/a

PSUs granted in 2023	Annual Expected Stock Price Volatility	Annual Expected Dividend Yield	Risk-Free Interest Rate	Correlation Between TSR for Federal Signal Corporation and the Applicable S&P Index
Federal Signal Corporation	29.8 %	0.8 %	3.6 %	48.0 %
Peer Group within S&P 600 Capital Goods Index	44.4 %	n/a	3.6 %	n/a

PSUs granted in 2022	Annual Expected Stock Price Volatility	Annual Expected Dividend Yield	Risk-Free Interest Rate	Correlation Between TSR for Federal Signal Corporation and the Applicable S&P Index
Federal Signal Corporation	34.4 %	1.0 %	2.8 %	52.3 %
Peer Group within S&P 600 Capital Goods Index	50.5 %	n/a	2.8 %	n/a

The total grant-date fair value of PSUs that vested in the years ended December 31, 2024, 2023, and 2022 was $8.7 million, $4.6 million, and $4.0 million, respectively.

Compensation expense included in the Consolidated Statements of Operations for the PSUs in the years ended December 31, 2024, 2023, and 2022 was $9.4 million, $6.6 million, and $4.3 million, respectively. As of December 31, 2024, there was $6.7 million of total unrecognized compensation cost related to PSUs that is expected to be recognized over the weighted-average period of approximately 1.5 years.

The following table summarizes PSU activity in each of the three years in the period ended December 31, 2024:

	Number of PSUs	Weighted Average Price per Share
	(in millions)	
Outstanding and non-vested, at December 31, 2021	0.2	$ 34.87
Granted [(a)]	0.1	35.82
Vested	(0.1)	28.04
Forfeited	—	37.97
Outstanding and non-vested, at December 31, 2022	0.2	$ 39.83
Granted [(b)]	0.1	51.31
Vested	(0.1)	42.85
Forfeited	—	42.19
Outstanding and non-vested, at December 31, 2023	0.2	$ 44.23
Granted [(c)]	0.2	51.33
Vested	(0.3)	36.29
Forfeited	—	49.42
Outstanding and non-vested, at December 31, 2024	0.1	$ 65.57

(a) Includes the effect of the PSUs granted in 2020 being earned at 125% of target.
(b) Includes the effect of the PSUs granted in 2021 being earned at 132% of target.
(c) Includes the effect of the PSUs granted in 2022 being earned at 228% of target.

NOTE 16 — STOCKHOLDERS' EQUITY

The Company's Board of Directors (the "Board") has the authority to issue 90.0 million shares of common stock at a par value of $1 per share. The holders of common stock (i) may receive dividends subject to all of the rights of the holders of preference stock, (ii) shall be entitled to share ratably upon any liquidation of the Company in the assets of the Company, if any, remaining after payment in full to the holders of preference stock and (iii) receive one vote for each common share held and shall vote together share for share with the holders of voting shares of preference stock as one class for the election of directors and for all other purposes. The Company had 70.3 million and 70.0 million common shares issued as of December 31, 2024 and 2023, respectively. Of those amounts, 61.1 million and 61.0 million common shares were outstanding as of December 31, 2024 and 2023, respectively.

The Board is also authorized to provide for the issuance of 0.8 million shares of preference stock at a par value of $1 per share. The authority of the Board includes, but is not limited to, the determination of the dividend rate, voting rights, conversion, and redemption features and liquidation preferences. The Company has not designated or issued any preference stock as of December 31, 2024.

Dividends

The Company declared and paid dividends totaling $29.3 million in 2024, $23.8 million in 2023, and $21.8 million in 2022.

On February 21, 2025, the Board declared a quarterly cash dividend of $0.14 per common share payable on March 27, 2025 to stockholders of record at the close of business on March 14, 2025.

Stock Repurchase Program

In March 2020, the Board authorized a stock repurchase program of up to $75.0 million of the Company's common stock, with the remaining authorization under our previously described repurchase program adopted in November 2014 being subject to the March 2020 program. As of December 31, 2024, the Company had remaining authorization under the share repurchase program of approximately $46.9 million.

The stock repurchase program is intended primarily to facilitate opportunistic purchases of Company stock as a means to provide cash returns to stockholders, enhance stockholder returns, and manage the Company's capital structure. Under its stock repurchase program, the Company is authorized to repurchase, from time to time, shares of its outstanding common stock in the open market or through privately negotiated transactions. Stock repurchases by the Company are subject to market conditions and other factors and may be commenced, suspended, or discontinued at any time.

During the year ended December 31, 2024, the Company repurchased 80,100 shares for a total of $6.7 million under the stock repurchase program. During the year ended December 31, 2023, the Company repurchased 93,551 shares for a total of $5.5 million under the stock repurchase program. During the year ended December 31, 2022, the Company repurchased 472,381 shares for a total of $16.1 million under the stock repurchase program.

Accumulated Other Comprehensive Loss

The following tables summarize the changes in each component of Accumulated other comprehensive loss, net of tax:

(in millions of dollars)	Actuarial Losses	Prior Service Costs	Foreign Currency Translation	Interest Rate Swaps	Total
Balance at January 1, 2024 [a]	$ (69.7)	$ (2.0)	$ (10.1)	$ 0.5	$ (81.3)
Other comprehensive income (loss) before reclassifications	2.2	0.1	(14.4)	1.1	(11.0)
Amounts reclassified from accumulated other comprehensive loss	5.0	0.1	—	(1.8)	3.3
Net current-period other comprehensive income (loss)	7.2	0.2	(14.4)	(0.7)	(7.7)
Balance at December 31, 2024 [a]	$ (62.5)	$ (1.8)	$ (24.5)	$ (0.2)	$ (89.0)

(a) Amounts in parentheses indicate losses.

(in millions of dollars) [a]	Actuarial Losses	Prior Service Costs	Foreign Currency Translation	Interest Rate Swaps	Total
Balance at January 1, 2023 [a]	$ (68.6)	$ (2.0)	$ (16.0)	$ 2.6	$ (84.0)
Other comprehensive (loss) income before reclassifications	(2.8)	(0.1)	5.9	0.3	3.3
Amounts reclassified from accumulated other comprehensive loss	1.7	0.1	—	(2.4)	(0.6)
Net current-period other comprehensive (loss) income	(1.1)	—	5.9	(2.1)	2.7
Balance at December 31, 2023 [a]	$ (69.7)	$ (2.0)	$ (10.1)	$ 0.5	$ (81.3)

(a) Amounts in parentheses indicate losses.

The following table summarizes the amounts reclassified from Accumulated other comprehensive loss, net of tax, and the affected line item in the Consolidated Statements of Operations:

Details about Accumulated Other Comprehensive Loss Components	Amount Reclassified from Accumulated Other Comprehensive Loss For the Years Ended December 31, 2024	2023	Affected Line Item in Consolidated Statements of Operations
	(in millions of dollars) [(a)]		
Amortization of actuarial losses of defined benefit pension plans	$ (3.0)	$ (2.3)	Other expense (income), net
Amortization of prior service costs of defined benefit pension plans	(0.1)	(0.1)	Other expense (income), net
Recognition of actuarial losses associated with pension settlement	(3.8)	—	Pension settlement charges
Interest rate swaps	2.4	3.2	Interest expense, net
Total before tax	(4.5)	0.8	
Income tax benefit (expense)	1.2	(0.2)	Income tax expense
Total reclassifications for the period, net of tax	$ (3.3)	$ 0.6	

(a) Amount in parentheses indicate expenses on the Consolidated Statements of Operations.

NOTE 17 — SEGMENT INFORMATION

The Company has two reportable segments. Business units are organized under each reportable segment because they share certain characteristics, such as technology, marketing, distribution, and product application, which are expected to create long-term synergies. The principal activities of the Company's reportable segments are as follows:

Environmental Solutions — Our Environmental Solutions Group is a leading manufacturer and supplier of a full range of street sweepers, sewer cleaners, industrial vacuum loaders, safe-digging trucks, high-performance waterblasting equipment, road-marking and line-removal equipment, dump truck bodies, trailers, metal extraction support equipment, and multi-purpose maintenance vehicles. The Group manufactures vehicles and equipment in the U.S. and Canada that are sold under the Elgin®, Vactor®, Guzzler®, TRUVAC®, Westech™, Jetstream®, Blasters, Mark Rite Lines, Trackless, Ox Bodies®, Crysteel®, J-Craft®, Duraclass®, Rugby®, Travis®, OSW, NTE, WTB, Ground Force, TowHaul®, Bucks®, and Switch-N-Go® brand names. Product offerings also include certain products manufactured by other companies, such as refuse and recycling collection vehicles. Products are sold to both municipal and industrial customers either through a dealer network or direct sales to service customers generally depending on the type and geographic location of the customer. In addition to vehicle and equipment sales, the Environmental Solutions Group also engages in the sale of parts, service and repair, equipment rentals, and training as part of a comprehensive aftermarket offering to its current and potential customers through its service centers located across North America. Our Environmental Solutions Group includes the aggregated results of two operating segments, including TBEI.

In addition, as discussed in Note 2 – Acquisitions, the Company completed the acquisitions of substantially all of the assets and operations of Standard during the year ended December 31, 2024. The assets and liabilities of Standard have been consolidated into the Consolidated Balance Sheet as of December 31, 2024, while the post-acquisition results of operations of Standard have been included in the Consolidated Statements of Operations subsequent to its closing date, within the Environmental Solutions Group reportable segment.

Safety and Security Systems — Our Safety and Security Systems Group is a leading manufacturer and supplier of comprehensive systems and products that law enforcement, fire rescue, emergency medical services, campuses, military facilities, and industrial sites use to protect people and property. Offerings include systems for community alerting, emergency vehicles, first responder interoperable communications, and industrial communications. Specific products include public safety equipment, such as vehicle lightbars and sirens, industrial signaling equipment, public warning systems, and general alarm/public address systems. Products are sold under the Federal Signal™, Federal Signal VAMA®, and Victor® brand names. The Safety and Security Systems Group operates manufacturing facilities in the U.S., Spain, the U.K., and South Africa.

Our chief operating decision maker ("CODM") is our President and CEO. The CODM evaluates segment performance using each segments' operating income. Annually, the CODM uses segment operating income during the budgeting process to allocate resources, including capital and personnel, for the upcoming fiscal year to each segment. Monthly, the CODM compares actual segment operating income results to forecasts and refines, as necessary, resource allocations for the remainder of the year. The CODM also uses segment operating income as a factor in determining the compensation of certain employees.

Segment operating income includes all revenues, costs, and expenses directly related to the segment and does not include corporate expenses or interest expenses.

The CODM also regularly reviews net sales by reportable segment. Net sales by reportable segment reflect sales of products and services to external customers, as reported in the Company's Consolidated Statements of Operations. Intersegment sales are not significant. Additionally, the CODM reviews depreciation and amortization expense, total assets, and capital expenditures by reportable segment. Assets not associated with a reportable segment consist principally of cash and cash equivalents, deferred tax assets, and fixed assets related to Corporate. The accounting policies of each reportable segment are the same as those described in Note 1 – Summary of Significant Accounting Policies.

The following tables summarize the Company's financial performance by reportable segment and include reconciliations of segment operating income to consolidated income before income taxes:

	For the Year Ended December 31, 2024		
(in millions of dollars)	**Environmental Solutions**	**Safety and Security Systems**	**Total**
Net sales [(a)]	$ 1,557.1	$ 304.4	$ 1,861.5
Less: Cost of sales	1,152.0	176.5	1,328.5
Gross profit	405.1	127.9	533.0
Less:			
Selling, engineering, general, and administrative expenses	127.5	63.5	191.0
Other segment items [(b)]	16.4	—	16.4
Segment operating income	261.2	64.4	325.6
Reconciliation to income before income taxes:			
All other (income) loss [(c)]			44.2
Interest expense, net			12.5
Other expense, net			5.0
Income before income taxes			$ 263.9

(a) Represents net sales from external customers. Intersegment net sales are not significant. Total of segment net sales agrees to Net sales on the Consolidated Statement of Operations.
(b) Other segment items includes amortization expense and acquisition and integration-related expenses, net, within the Environmental Solutions Group.
(c) Represents general corporate expenses.

	For the Year Ended December 31, 2023		
(in millions of dollars)	**Environmental Solutions**	**Safety and Security Systems**	**Total**
Net sales [(a)]	$ 1,437.9	$ 284.8	$ 1,722.7
Less: Cost of sales	1,098.6	173.9	1,272.5
Gross profit	339.3	110.9	450.2
Less:			
Selling, engineering, general, and administrative expenses	113.6	56.1	169.7
Other segment items [(b)]	16.5	—	16.5
Segment operating income	209.2	54.8	264.0
Reconciliation to income before income taxes:			
All other (income) loss [(c)]			39.5
Interest expense, net			19.7
Other expense, net			1.8
Income before income taxes			$ 203.0

(a) Represents net sales from external customers. Intersegment net sales are not significant. Total of segment net sales agrees to Net sales on the Consolidated Statement of Operations.
(b) Other segment items includes amortization expense and acquisition and integration-related expenses, net, within the Environmental Solutions Group.
(c) Represents general corporate expenses.

	For the Year Ended December 31, 2022		
(in millions of dollars)	**Environmental Solutions**	**Safety and Security Systems**	**Total**
Net sales [(a)]	$ 1,190.6	$ 244.2	$ 1,434.8
Less: Cost of sales	936.3	153.6	1,089.9
Gross profit	254.3	90.6	344.9
Less:			
Selling, engineering, general, and administrative expenses	96.8	49.8	146.6
Other segment items [(b)]	13.0	—	13.0
Segment operating income	144.5	40.8	185.3
Reconciliation to income before income taxes:			
All other (income) loss [(c)]			24.5
Interest expense, net			10.3
Other income, net			(0.4)
Income before income taxes			$ 150.9

(a) Represents net sales from external customers. Intersegment net sales are not significant. Total of segment net sales agrees to Net sales on the Consolidated Statement of Operations.

(b) Other segment items includes amortization expense and acquisition and integration-related expenses, net, within the Environmental Solutions Group.

(c) Represents general corporate expenses.

The following table summarizes the Company's total depreciation and amortization by reportable segment and includes a reconciliation of total segment depreciation and amortization to total depreciation and amortization:

	For the Years Ended December 31,		
(in millions of dollars)	**2024**	**2023**	**2022**
Depreciation and amortization:			
Environmental Solutions [(a)]	$ 60.9	$ 56.0	$ 50.3
Safety and Security Systems [(a)]	3.9	4.2	4.2
Total segment depreciation and amortization	64.8	60.2	54.5
Corporate	0.5	0.2	0.2
Total depreciation and amortization	$ 65.3	$ 60.4	$ 54.7

(a) The amounts of depreciation and amortization disclosed by reportable segment are included within cost of sales; selling, engineering, general, and administrative expenses; and other segment items in the tables above.

The following table summarizes the Company's total assets by reportable segment and includes a reconciliation of total segment assets to total assets:

	For the Years Ended December 31,		
(in millions of dollars)	**2024**	**2023**	**2022**
Total assets:			
Environmental Solutions	$ 1,424.7	$ 1,290.9	$ 1,206.4
Safety and Security Systems	279.5	288.1	279.3
Total segment assets	1,704.2	1,579.0	1,485.7
Corporate and eliminations	61.0	41.5	38.6
Total assets	$ 1,765.2	$ 1,620.5	$ 1,524.3

The following table summarizes the Company's total capital expenditures by reportable segment and includes a reconciliation of total segment capital expenditures to total capital expenditures:

(in millions of dollars)	For the Years Ended December 31, 2024	2023	2022
Capital expenditures			
Environmental Solutions	$ 31.6	$ 23.0	$ 19.4
Safety and Security Systems	6.1	5.2	32.4
Total segment capital expenditures	37.7	28.2	51.8
Corporate	2.9	2.1	1.2
Total capital expenditures	$ 40.6	$ 30.3	$ 53.0

Geographic Financial Information:

The following table summarizes net sales by geographic region based on the location of the end-customer:

(in millions of dollars)	For the Years Ended December 31, 2024	2023	2022
Net sales:			
U.S.	$ 1,469.1	$ 1,337.4	$ 1,149.8
Canada	257.4	237.8	175.3
Europe/Other	135.0	147.5	109.7
Total net sales	$ 1,861.5	$ 1,722.7	$ 1,434.8

Net sales exported from the U.S. aggregated to $131.4 million in 2024, $136.0 million in 2023, and $88.8 million in 2022.

The following table summarizes long-lived assets by geographic region based on the location of the Company's subsidiaries:

(in millions of dollars)	For the Years Ended December 31, 2024	2023	2022
Long-lived assets [(a)]:			
U.S.	$ 318.1	$ 261.6	$ 249.4
Canada	97.4	80.7	59.1
Europe/Other	4.4	4.3	4.6
Total long-lived assets	$ 419.9	$ 346.6	$ 313.1

(a) Long-lived assets are comprised of properties and equipment, net, rental equipment, net, and operating lease right-of-use assets.

Concentration of Risk:

No single customer accounted for 10% or more of the Company's net sales in any year within the three-year period ended December 31, 2024.

NOTE 18 — FAIR VALUE MEASUREMENTS

The Company uses a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy maximizes the use of observable inputs and minimizes the use of unobservable inputs. Observable inputs are developed based on market data obtained from independent sources, while unobservable inputs reflect the Company's assumptions about valuation based on the best information available in the circumstances. The three levels of inputs are classified as follows:

- Level 1 — quoted prices in active markets for identical assets or liabilities;
- Level 2 — observable inputs, other than quoted prices included in Level 1, such as quoted prices for markets that are not active, or other inputs that are observable or can be corroborated by observable market data; and
- Level 3 — unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities, including certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

In determining fair value, the Company uses various valuation approaches within the fair value measurement framework. The valuation methodologies used for the Company's assets and liabilities measured at fair value and their classification in the valuation hierarchy are summarized below:

Cash Equivalents

Cash equivalents primarily consist of time-based deposits and interest-bearing instruments with maturities of three months or less. The Company classified cash equivalents as Level 1 due to the short-term nature of these instruments and measured the fair value based on quoted prices in active markets for identical assets.

Interest Rate Swaps

As described in Note 9 – Debt, the Company may, from time to time, execute interest rate swaps as a means of fixing the floating interest rate component on a portion of its floating-rate debt. The Company classifies its interest rate swaps as Level 2 due to the use of a discounted cash flow model based on the terms of the contract and the interest rate curve (Level 2 inputs) to calculate the fair value of the swaps.

Contingent Consideration

As of December 31, 2024, the Company had contingent obligations to transfer up to $6.2 million, C$6.0 million (approximately $4.2 million), and $4.8 million to the former owners of Blasters, Trackless, and Standard, respectively, if specified financial results are met over future reporting periods (i.e., an earn-out). The Blasters, Trackless, and Standard acquisitions were completed on January 3, 2023, April 3, 2023, and October 4, 2024, respectively. The Blasters contingent earn-out payments, if earned, would be due to be paid annually, in each of the three years following the anniversary of the closing date. There was no contingent earn-out payable for the first annual measurement period. The second annual measurement period ended on January 3, 2025, and the applicable contingent earn-out payment, if any, is expected to be finalized in the first half of 2025. The Trackless contingent earn-out payment, if earned, would be due to be paid following the second anniversary of the closing date. The Standard contingent earn-out payment, if earned, would be due to be paid following the end of the performance period, which concludes on January 1, 2027. The Company also had a contingent obligation to transfer up to $7.5 million to the former owners of Deist Industries, Inc., Bucks Fabricating, LLC, Roll-Off Parts, LLC, and Switch-N-Go LLC (collectively, “Deist”). The earn-out period for Deist ended on December 30, 2024, the third anniversary of the closing date, and the associated earn-out payment, if any, is expected to be finalized in the first half of 2025. During the year ended December 31, 2023, the Company paid $0.5 million to settle the contingent consideration obligation due to the former owners of Mark Rite Lines Equipment Company, Inc. (“MRL”), which was acquired on July 1, 2019.

Liabilities for contingent consideration are measured at fair value each reporting period, with the acquisition-date fair value included as part of the consideration transferred. Subsequent changes in fair value are included as a component of Acquisition and integration-related expenses (benefits), net on the Consolidated Statements of Operations.

The Company uses an income approach to value the contingent consideration obligation based on the present value of risk-adjusted future cash flows under either a scenario-based or option-pricing method, as appropriate. Due to the lack of relevant observable market data over fair value inputs, such as prospective financial information or probabilities of future events as of December 31, 2024, the Company has classified the contingent consideration liability within Level 3 of the fair value hierarchy outlined in ASC 820, *Fair Value Measurements*. As further described in Note 2 – Acquisitions, the Company has recognized a preliminary estimate of the fair value of the Standard contingent consideration liability as of the applicable acquisition date. This preliminary estimate is subject to change during the measurement period as the applicable third-party valuation is finalized.

The following tables summarize the Company's assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2024 and 2023:

	Fair Value Measurement at December 31, 2024 Using			
(in millions of dollars)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Cash equivalents	$ 30.3	$ —	$ —	$ 30.3
Liabilities:				
Contingent consideration	—	—	4.8	4.8
Interest rate swaps	—	0.3	—	0.3

	Fair Value Measurement at December 31, 2023 Using			
(in millions of dollars)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Cash equivalents	$ 20.5	$ —	$ —	$ 20.5
Liabilities:				
Contingent consideration	—	—	4.9	4.9
Interest rate swaps	—	0.7	—	0.7

The following table provides a roll-forward of the fair value of recurring Level 3 fair value measurements for the years ended December 31, 2024 and 2023:

(in millions of dollars)	**2024**	**2023**
Contingent consideration liability, at January 1	$ 4.9	$ 2.7
Acquisitions, including measurement period adjustments	0.4	4.8
Settlements of contingent consideration liabilities	—	(0.5)
Foreign currency translation	(0.3)	—
Total net benefit included in earnings [(a)]	(0.2)	(2.1)
Contingent consideration liability, at December 31	$ 4.8	$ 4.9

(a) Included as a component of Acquisition and integration-related expenses (benefits), net on the Consolidated Statements of Operations.

NOTE 19 — SUBSEQUENT EVENTS

Acquisition of Waterblasting LLC

On February 12, 2025, the Company completed the acquisition of substantially all the assets and operations of Waterblasting, LLC, owner of Hog Technologies, and Waterblasting Eurasia, s.r.o. (collectively, "Hog"), for an initial purchase price of $78.1 million, subject to certain closing adjustments. The initial purchase price was funded through existing cash on hand and borrowings under the Revolver. In addition, there is a contingent earn-out payment of up to $15.0 million that is based on the achievement of certain financial targets during 2025. On February 14, 2025, the Company acquired Hog's manufacturing facility in Florida for $14.5 million.

Hog is a leading U.S. manufacturer of truck-mounted road-marking, line-removal, and waterblasting equipment, serving infrastructure, municipal, and airport markets. The Company expects the acquisition of Hog will strengthen its position as an industry leading diversified industrial manufacturer of specialty vehicles by expanding its product offerings, market presence, and aftermarket platform.

The preliminary purchase price allocation has not been completed as of the date of this Form 10-K due to the proximity of the date of acquisition to the date of issuance of the consolidated financial statements. The post-acquisition operating results of Hog are expected to be included within the Environmental Solutions Group.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.***

None.

Item 9A. ***Controls and Procedures.***

(a) Evaluation of Disclosure Controls and Procedures

The Company carried out an evaluation, under the supervision and with the participation of its management, including the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's "disclosure controls and procedures" (as defined in the Exchange Act Rule 13a-15(e)) as of December 31, 2024.

Based on that evaluation, the Company's Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of December 31, 2024.

(b) Management's Annual Report on Internal Control over Financial Reporting and Attestation Report of the Registered Public Accounting Firm

The Company's management is responsible for establishing and maintaining an adequate system of internal control over financial reporting, as defined in Exchange Act Rule 13a-15(f). Management conducted an assessment of the Company's internal control over financial reporting based on the framework established by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control — Integrated Framework (2013)*. Based on the assessment, management concluded that, as of December 31, 2024, the Company's internal control over financial reporting is effective.

During the year ended December 31, 2024, the Company completed the acquisition of substantially all the assets and operations of Standard, as discussed in Note 2 – Acquisitions in Item 8, *Financial Statements and Supplementary Data*. Management has excluded Standard from its assessment of the Company's internal controls over financial reporting as of December 31, 2024. Standard's net sales and total assets (excluding goodwill, intangible assets, and operating lease right-of-use assets, which were integrated into the Company's control environment) represent approximately 1% and 1%, respectively, of the consolidated financial statement amounts as of, and for the year ended, December 31, 2024.

Deloitte & Touche LLP, an independent registered public accounting firm, has audited the consolidated financial statements included in this Annual Report on Form 10-K and, as part of their audit, has issued its report, included herein, on the effectiveness of the Company's internal control over financial reporting. See "Report of Independent Registered Public Accounting Firm" under Item 8 of Part II of this Form 10-K.

(c) Changes in Internal Control over Financial Reporting

From time to time, the Company may make changes aimed at enhancing the effectiveness of the controls and to ensure that the systems evolve with the business. There were no changes in the Company's internal control over financial reporting that occurred during the Company's most recently completed fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. ***Other Information.***

On February 26, 2025, the Company issued a press release announcing its financial results for the three months and year ended December 31, 2024. The presentation slides for the 2024 fourth quarter earnings call were also posted on the Company's website at that time. The full text of the press release is included at Exhibit 99.1 and the earnings presentation is included at Exhibit 99.2 to this Form 10-K.

Item 9C. ***Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.***

Not applicable.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance.***

A list of our executive officers and biographical information appears in Item 1 of Part I of this Form 10-K. Information regarding directors and nominees for directors is set forth in the Company's definitive proxy statement for its 2025 Annual Meeting of Stockholders and is incorporated herein by reference.

Information regarding the (i) Audit Committee, (ii) Governance and Sustainability Committee, and (iii) Compensation and Benefits Committee of the Company's Board of Directors is set forth in the Company's 2025 definitive proxy statement under the caption "Information Concerning the Board" and is incorporated herein by reference.

The Company has adopted a code of ethics that applies to its principal executive officer, principal financial officer, and principal accounting officer. This code of ethics and the Company's corporate governance policies are posted on the Company's website at www.federalsignal.com. The Company intends to satisfy its disclosure requirements regarding amendments to or waivers from its code of ethics by posting such information on this website. The charters of the (i) Audit Committee, (ii) Governance and Sustainability Committee, and (iii) Compensation and Benefits Committee of the Company's Board of Directors are available on the Company's website and are also available in print free of charge.

The Company has adopted an Insider Trading Policy governing the purchase, sale, and other dispositions of its securities by its directors, officers, employees, and other individuals that is reasonably designed to promote compliance with insider trading laws, rules, and regulations and the New York Stock Exchange listing standards. The Insider Trading Policy is published on our website at www.federalsignal.com, and is filed as Exhibit 19 to this Form 10-K.

Item 11. ***Executive Compensation.***

The information contained under the captions "Information Concerning the Board," "Compensation Committee Interlocks and Insider Participation," "Compensation Discussion and Analysis," "Compensation and Benefits Committee Report," and "Executive Compensation" of the Company's 2025 definitive proxy statement is incorporated herein by reference.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.***

Information regarding security ownership of (i) certain beneficial owners, (ii) all directors and nominees, (iii) named executive officers, and (iv) directors and executive officers as a group is set forth in the Company's 2025 definitive proxy statement under the caption "Ownership of Our Common Stock" and is incorporated herein by reference. Information regarding our equity compensation plans is set forth in the Company's 2025 definitive proxy statement under the caption "Equity Compensation Plan Information" and is incorporated herein by reference.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence.***

Information regarding certain relationships is hereby incorporated by reference from the Company's 2025 definitive proxy statement under the headings "Information Concerning the Board" and "Certain Relationships and Related Party Transactions."

Item 14. ***Principal Accountant Fees and Services.***

Information regarding principal accountant fees and services is incorporated by reference from the Company's 2025 definitive proxy statement under the heading "Independent Registered Public Accounting Firm Fees and Services."

PART IV

Item 15. *Exhibits and Financial Statement Schedules.*

1. Financial Statements

The following consolidated financial statements of the Company and the "Report of the Independent Registered Public Accounting Firm" contained under Item 8 of Part II this Form 10-K are incorporated herein by reference:

(a) Consolidated Statements of Operations for the Years Ended December 31, 2024, 2023, and 2022;
(b) Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2024, 2023, and 2022;
(c) Consolidated Balance Sheets as of December 31, 2024 and 2023;
(d) Consolidated Statements of Cash Flows for the Years Ended December 31, 2024, 2023, and 2022;
(e) Consolidated Statements of Stockholders' Equity for the Years Ended December 31, 2024, 2023, and 2022; and
(f) Notes to Consolidated Financial Statements.

2. Financial Statement Schedules

All schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable, and therefore, have been omitted.

3. Exhibits

See Exhibit Index.

Item 16. *Form 10-K Summary.*

None.

EXHIBIT INDEX

The following exhibits, other than those incorporated by reference, have been included in the Company's Form 10-K filed with the Securities and Exchange Commission.

Exhibit Number		Description
3.	a.	Restated Certificate of Incorporation of the Company. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed April 30, 2010.
	b.	Second Amended and Restated By-Laws of the Company. Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed October 24, 2023.
4.	a.	Description of Securities. Incorporated by reference to Exhibit 4.a to the Company's Form 10-K for the year ended December 31, 2019.
10.	a. *	Supplemental Pension Plan. Incorporated by reference to Exhibit 10.C to the Company's Form 10-K for the year ended December 31, 1995.
	b. *	Executive Disability, Survivor and Retirement Plan. Incorporated by reference to Exhibit 10.D to the Company's Form 10-K for the year ended December 31, 1995.
	c. *	Savings Restoration Plan, as amended and restated January 1, 2007. Incorporated by reference to Exhibit 10.FF to the Company's Form 10-K for the year ended December 31, 2008.
	d. *	First Amendment of the Federal Signal Corporation Savings Restoration Plan. Incorporated by reference to Exhibit 10.MM to the Company's Form 10-K for the year ended December 31, 2008.
	e. *	Second Amendment to Federal Signal Corporation Savings Restoration Plan. Incorporated by reference to Exhibit 10.NN to the Company's Form 10-K for the year ended December 31, 2008.
	f. *	Third Amendment to Federal Signal Corporation Savings Restoration Plan. Incorporated by reference to Exhibit 10.OO to the Company's Form 10-K for the year ended December 31, 2008.
	g. *	Executive General Severance Plan, as amended and restated August 2012. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended June 30, 2012.
	h. *	Form of 2008 Executive Change-In-Control Severance Agreement (Tier 1) with certain executive officers. Incorporated by reference to Exhibit 10.HH to the Company's Form 10-K for the year ended December 31, 2008.
	i. *	Form of 2008 Executive Change-In-Control Severance Agreement (Tier 2) with certain executive officers. Incorporated by reference to Exhibit 10.II to the Company's Form 10-K for the year ended December 31, 2008.
	j. *	Form of 2010 Executive Change-In-Control Severance Agreement with certain executive officers (Tier 1). Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended March 31, 2010.
	k. *	Form of 2010 Executive Change-In-Control Severance Agreement with certain executive officers (Tier 2).
	l. *	Federal Signal Corporation Executive Incentive Performance Plan, as amended and restated. Incorporated by reference to Appendix C to the Company's Definitive Proxy Statement filed on Schedule 14A filed March 25, 2010.
	m. *	Form of Nonqualified Stock Option Award Agreement - U.S. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended March 31, 2015.
	n. *	Form of Nonqualified Stock Option Award Agreement - Non-U.S. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended March 31, 2015.
	o. *	Form of Nonqualified Stock Option Award Agreement - U.S. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended June 30, 2015.
	p. *	Form of Nonqualified Stock Option Award Agreement. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended June 30, 2016.
	q. *	Form of Nonqualified Stock Option Award Agreement. Incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q for the quarter ended June 30, 2017.
	r. *	Federal Signal Corporation 2015 Executive Incentive Compensation Plan. Incorporated by reference to Appendix B to the Company's Definitive Proxy Statement filed on Schedule 14A filed March 18, 2015.
	s. *	Form of Director Distribution Election. Incorporated by reference to Exhibit 10.s to the Company's Form 10-K for the year ended December 31, 2015.
	t. *	Short Term Incentive Bonus Plan. Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q for the quarter ended March 31, 2016.
	u. *	Form of Restricted Stock Unit and Dividend Equivalent – Award Agreement (Directors). Incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q for the quarter ended March 31, 2016.

v. * First Amendment to the Federal Signal Corporation 2005 Executive Incentive Compensation Plan (2010 Restatement), dated as of March 26, 2015. Incorporated by reference to Exhibit 10.10 to the Company's Form 10-Q for the quarter ended June 30, 2017.

w. * Second Amendment to the Federal Signal Corporation 2005 Executive Incentive Compensation Plan (2010 Restatement), dated as of July 24, 2017. Incorporated by reference to Exhibit 10.11 to the Company's Form 10-Q for the quarter ended June 30, 2017.

x. * First Amendment to the Federal Signal Corporation Executive Incentive Performance Plan, as amended and restated, dated as of July 24, 2017. Incorporated by reference to Exhibit 10.12 to the Company's Form 10-Q for the quarter ended June 30, 2017.

y. * First Amendment to the Federal Signal Corporation 2015 Executive Incentive Compensation Plan dated as of July 24, 2017. Incorporated by reference to Exhibit 10.13 to the Company's Form 10-Q for the quarter ended June 30, 2017.

z.* Form of Nonqualified Stock Option Award Agreement. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarter ended June 30, 2018.

aa.* Form of Performance Share Unit Award Agreement - Non-U.S. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the quarter ended June 30, 2018.

bb.* Form of Performance Share Unit Award Agreement - U.S. Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q for the quarter ended June 30, 2018.

cc.* Form of Restricted Stock Award Agreement - U.S. Incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q for the quarter ended June 30, 2018.

dd.* Form of Restricted Stock Unit Award Agreement - Non-U.S. Incorporated by reference to Exhibit 10.5 to the Company's Form 10-Q for the quarter ended June 30, 2018.

ee.* Fourth Amendment to Federal Signal Corporation Savings Restoration Plan, effective as of March 31, 2016. Incorporated by reference to Exhibit 10.zz to the Company's Form 10-K for the year ended December 31, 2019.

ff.* Fifth Amendment to Federal Signal Corporation Savings Restoration Plan, effective as of January 1, 2018. Incorporated by reference to Exhibit 10.aaa to the Company's Form 10-K for the year ended December 31, 2019.

gg.* Sixth Amendment to Federal Signal Corporation Savings Restoration Plan, effective as of January 1, 2019. Incorporated by reference to Exhibit 10.bbb to the Company's Form 10-K for the year ended December 31, 2019.

hh.* Seventh Amendment to Federal Signal Corporation Savings Restoration Plan, effective as of January 1, 2020. Incorporated by reference to Exhibit 10.ccc to the Company's Form 10-K for the year ended December 31, 2019.

ii.* Second Amendment to the Federal Signal Corporation 2015 Executive Incentive Compensation Plan Incorporated by reference to Appendix B to the Company's Definitive Proxy Statement filed on Schedule 14A filed on March 17, 2021.

jj.* Eighth Amendment to Federal Signal Corporation Savings Restoration Plan, effective as of January 1, 2021. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the period ended September 30, 2021.

kk.* Federal Signal Corporation Retirement Savings Plan, as amended and restated effective as of January 1, 2020. Incorporated by reference to Exhibit 10.xx. to the Company's Form 10-K for the year ended December 31, 2021.

ll.* First Amendment to the Federal Signal Corporation Retirement Savings Plan, as amended and restated as of January 1, 2020. Incorporated by reference to Exhibit 10.yy. to the Company's Form 10-K for the year ended December 31, 2021.

mm.* Second Amendment to the Federal Signal Corporation Retirement Savings Plan, as amended and restated as of January 1, 2020. Incorporated by reference to Exhibit 10.zz. to the Company's Form 10-K for the year ended December 31, 2021.

nn.* Form of Performance Share Unit Award Agreement - U.S. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the period ended June 30, 2022.

oo.* Form of Performance Share Unit Award Agreement - Non-U.S. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the period ended June 30, 2022.

pp.* Separation Agreement, effective September 12, 2022, by and between Daniel A. DuPré and Federal Signal Corporation. Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed September 13, 2022.

	qq.	Third Amended and Restated Credit Agreement as of October 21, 2022, by and among the Company and certain of its foreign subsidiaries, as Borrowers, the Lenders referred to therein, as Lenders, Wells Fargo Bank, National Association, as Administrative Agent, Swingline Lender and Issuing Lender, PNC Bank, National Association and Truist Bank as Syndication Agents, JPMorgan Chase Bank, N.A. and The Toronto Dominion Bank, New York Branch as Documentation Agents, and Wells Fargo Securities, LLC, PNC Capital Markets LLC and Truist Securities, Inc. as Joint Lead Arrangers and Joint Bookrunners. Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q for the period ended September 30, 2022.
	rr.*	Third Amendment to the Federal Signal Corporation Retirement Savings Plan, dated December 23, 2022. Incorporated by reference to Exhibit 10.rr to the Company's Form 10-K for the year ended December 31, 2023.
	ss.*	Fourth Amendment to the Federal Signal Corporation Retirement Savings Plan, dated December 29, 2022. Incorporated by reference to Exhibit 10.ss to the Company's Form 10-K for the year ended December 31, 2023.
	tt. *	Employment Letter dated as of September 1, 2023, by and between the Company and Felix Boeschen. Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the period ended September 30, 2023.
	uu. *	Ninth Amendment to the Federal Signal Corporation Savings Restoration Plan, dated November 13, 2023. Incorporated by reference to Exhibit 10.uu to the Company's Form 10-K for the year ended December 31, 2023.
	vv. *	Fifth Amendment to the Federal Signal Corporation Retirement Savings Plan, dated December 28, 2023. Incorporated by reference to Exhibit 10.vv to the Company's Form 10-K for the year ended December 31, 2023.
	ww. *	First Amendment to Third Amended and Restated Credit Agreement, dated as of May 16, 2024, by and among the Company, and certain of its foreign subsidiaries, as Borrowers, the Lenders referred to therein, as Lenders, and Wells Fargo Bank, National Association, as Administrative Agent. Incorporated by reference to Exhibit 10.1 to the Company Form 10-Q for the period ended June 30, 2024.
14.		Code of Ethics for Chief Executive Officer and Senior Financial Officers, as amended. Incorporated by reference to Exhibit 14 to the Company's Form 10-K for the year ended December 31, 2003.
19.		Insider Trading Policy.
21.		Subsidiaries of the Registrant.
23.		Consent of Independent Registered Public Accounting Firm.
31.1		CEO Certification under Section 302 of the Sarbanes-Oxley Act.
31.2		CFO Certification under Section 302 of the Sarbanes-Oxley Act.
32.1		CEO Certification of Periodic Report under Section 906 of the Sarbanes-Oxley Act.
32.2		CFO Certification of Periodic Report under Section 906 of the Sarbanes-Oxley Act.
97.		Clawback Policy.
99.1		Fourth Quarter Financial Results Press Release dated February 26, 2025.
99.2		Fourth Quarter Earnings Call Presentation Slides.
101.INS		XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document).
101.SCH		Inline XBRL Taxonomy Extension Schema Document.
101.CAL		Inline XBRL Taxonomy Calculation Linkbase Document.
101.DEF		Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB		Inline XBRL Taxonomy Label Linkbase Document.
101.PRE		Inline XBRL Taxonomy Presentation Linkbase Document.
104		Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101).

* Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(a)(3) of Form 10-K.

Signatures

Pursuant to the requirements of Section 13 or 15 (d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

FEDERAL SIGNAL CORPORATION

By: /s/ Jennifer L. Sherman

Jennifer L. Sherman

President and Chief Executive Officer
(Principal Executive Officer)

Date: February 26, 2025

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Company and in the capacities indicated, as of February 26, 2025.

Signature	Title
/s/ Jennifer L. Sherman Jennifer L. Sherman	President, Chief Executive Officer and Director (Principal Executive Officer)
/s/ Ian A. Hudson Ian A. Hudson	Senior Vice President, Chief Financial Officer (Principal Financial and Accounting Officer)
/s/ Dennis J. Martin Dennis J. Martin	Chairman and Director
/s/ Katrina L. Helmkamp Katrina L. Helmkamp	Director
/s/ Eugene J. Lowe, III Eugene J. Lowe, III	Director
/s/ Bill Owens Bill Owens	Director
/s/ Shashank Patel Shashank Patel	Director
/s/ Brenda L. Reichelderfer Brenda L. Reichelderfer	Director
/s/ John L. Workman John L. Workman	Director