

2019

The Greenbrier Companies
Annual Report



THE
GREENBRIER
COMPANIES

GBX

THE GREENBRIER COMPANIES



William A. Furman
Chairman and
Chief Executive
Officer

LETTER FROM THE CHAIRMAN AND CHIEF EXECUTIVE OFFICER

To Our Shareholders:

Growth at scale characterized Greenbrier's performance in fiscal 2019. Most prominently, this occurred through the largest acquisition in the Company's history: the purchase of the American Railcar Industries (ARI) manufacturing business. At the same time, Greenbrier continued to bolster its international presence. These actions derive from Greenbrier's four-pillar strategy to:

- **Protect** and strengthen its position in its core North American markets;
- **Execute** on its international strategy;
- **Develop** a robust talent pipeline; and
- **Grow** the business at scale.

Over the past five years, Greenbrier has become a sizable provider of freight transportation equipment and services in North America, Europe, Brazil and the Gulf Cooperation Council (GCC) region.

Financial Profile

Greenbrier achieved record revenue and railcar deliveries in fiscal 2019. Adjusted net earnings for the year were \$95.2 million, or \$2.87 per diluted share, on revenue of \$3.03 billion, with more than 23,000 railcars delivered. Despite challenges in several business units, Greenbrier ended the year with an impressive cash balance of \$330 million, a robust balance sheet and ample liquidity. The Company starts fiscal 2020 with a diversified railcar backlog of 30,300 units valued at \$3.3 billion.

Greenbrier's shareholders participate in the Company's financial success through quarterly dividends. In the fourth quarter, Greenbrier's Board of Directors declared a dividend of \$0.25 per share. This equals an annualized rate of \$1.00 per share and, at present share prices, results in a generous annual dividend yield exceeding 3%. The Company's history of regular dividends supports a focus on total shareholder return. In recent years, Greenbrier has returned over \$269 million to shareholders in dividends and stock buybacks. Beyond financial returns to shareholders, Greenbrier published its inaugural Environmental, Social and Governance (ESG) report, available at www.gbrx.com.

Manufacturing

ARI's manufacturing business joined Greenbrier in late July. Through this transaction, Greenbrier welcomed more than 1,600 new employees and added six new operations in Arkansas, Missouri and Texas into Manufacturing. This acquisition aligns with three of Greenbrier's four strategic pillars. First, Greenbrier's presence in its core North American market is stronger with expansion into the midwestern U.S., closer to customers and their end markets. Next, with employees joining from ARI, Greenbrier has enhanced its highly skilled workforce, adding more American jobs and deepening its talent pool, particularly in manufacturing and engineering roles. Third, the acquisition grows Greenbrier's business at scale through expansion of its railcar product portfolio and the additional benefits of vertical integration with the acquired ARI component facilities. The transaction also meaningfully increases Greenbrier's market share of North American freight railcar backlog, orders and deliveries.

Over the past year, Greenbrier withstood macroeconomic adversity and significantly lower freight rail loadings in North American and international markets. Despite these near-term trends, future demand is expected to remain positive for many railcar types, including a variety of tank cars, plastic pellet covered hoppers and gondolas. Worldwide, Greenbrier generated more than \$2.4 billion in revenue from Manufacturing in fiscal 2019 and exited the year well-positioned and focused. It is now firmly established as one of the world's largest railcar manufacturers and service providers.

Ocean-going barge building remains strong at Greenbrier Gunderson, which celebrated 100 years of continuous operations during fiscal 2019. Currently, the marine business is constructing the largest barge for Jones Act service in its history. As a result of stronger demand, marine backlog stretches through calendar year-end 2020.

Greenbrier also reaped the benefits of its ongoing product research and development investments with the introduction of a new 5,185 cubic foot covered hopper, specifically designed for transporting grain. The most advanced feature of this railcar is the proprietary Tsunami Gate™, a gate system that permits shippers to customize the discharge speed of grain. This railcar is expected to be ready for rail interchange service by the second quarter of fiscal 2020.

New product designs and manufacturing automation are among the initiatives propelling [Greenbrier to greater levels of market share](#) than at any time in its history.

Leasing & Services

In 2019, Greenbrier's leasing company continued to invest strategically in its lease fleet. The Company offers a variety of flexible financing options and other unique solutions to customers. Despite lower rail loadings and higher rail velocity, Greenbrier's lease fleet utilization remained solid at 93.3% as of August 31, 2019.

Greenbrier's unique asset management services business supports about 400,000 railcars, and facilitates operations on almost every Class I railroad. Greenbrier's management services unit offers a broad array of software and services, including railcar maintenance management, accounting services, car hire receivable and payable administration, total fleet management, and administration and railcar re-marketing. Finally, its railcar leasing syndication platform brings Greenbrier into contact with the world's leading fixed-asset investors, providing unparalleled service to sophisticated capital market participants. In addition to aiding placement of Greenbrier's products, railcar syndication activities foster valuable business relationships that benefit the Company across its broad range of commercial endeavors.

Wheels, Repair & Parts

Greenbrier continues to make significant structural changes in its railcar repair shop network to improve operating efficiency and financial performance. Since resuming operational responsibility for 12 repair shops in August 2018, four shops have been closed. Further changes are underway to standardize processes and increase efficiency, to attain profitability. Steady improvement is expected in Repair operations over fiscal 2020.

The Parts group contributed another strong performance in fiscal 2019, as current demand is advantageous to Greenbrier's product portfolio. Constrained steel scrap prices and reduced railcar loadings have caused headwinds for the Wheels group,

but these operations still have strategic importance to Greenbrier's customers. The Wheels group continues to improve operating efficiencies, even at lower volume levels. The market for railcar wheels and related services will trend with overall rail traffic in the years ahead.

International

As a result of key component shortages and aggressively priced commercial transactions, European operations encountered challenges in fiscal 2019. Now, under a new management team, these operations returned to overall profitability in the fourth quarter of fiscal 2019 and have good momentum entering fiscal 2020. Disruptions to production from component shortages have been largely eliminated. The fourth quarter also brought improved order activity in Europe and a strong backlog.

Greenbrier continues to assist the Saudi Railway Company (SAR) with obtaining freight rail equipment in response to expanding cargo rail movements throughout the Kingdom. The Company is also pursuing opportunities with other nations in the GCC.

In Brazil, Greenbrier remains optimistic about the long-term outlook for wagon supply, with significant demand occurring as early as 2020 due to continued rail privatization, concession renewals, highway congestion and government policy. Greenbrier's Brazilian operations enter fiscal 2020 with an improved demand outlook and a growing backlog.

Conclusion

The objective to grow at scale will shape Greenbrier's business opportunities over the years ahead. In fiscal 2019, Greenbrier exceeded the \$3 billion mark in total revenue for the first time. The Company is focused on enhancing its presence in the core North American market and achieving profitable growth in international railcar markets. Greenbrier begins its fiscal 2020 year with a stable backlog, favorable financial profile and high level of liquidity.

Greenbrier knows its success would not be possible without broad stakeholder support. The 2019 ESG report discusses the Company's dedication to its core values: caring for customers, fostering a diverse and inclusive work environment, investing in employees, maintaining robust governance controls, protecting the environment and building strong communities. Greenbrier looks forward to enhancing its ESG efforts in fiscal 2020.

Greenbrier's future is bright, and we will ambitiously pursue our fiscal 2020 business plan.

Thank you for your continued support.

Sincerely,



William A. Furman
Chairman and Chief Executive Officer

November 2019

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549-1004

FORM 10-K

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

For the fiscal year ended August 31, 2019

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 No. 1-13146

THE GREENBRIER COMPANIES, INC.

(Exact name of Registrant as specified in its charter)

Oregon

(State of Incorporation)

93-0816972

(I.R.S. Employer Identification No.)

One Centerpointe Drive, Suite 200, Lake Oswego, OR 97035

(Address of principal executive offices)

(503) 684-7000

(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 without par value	GBX	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 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 for such 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 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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Aggregate market value of the registrant's Common Stock held by non-affiliates as of February 28, 2019 (based on the closing price of such shares on such date) was \$1,311,532,035.

The number of shares outstanding of the registrant's Common Stock on October 22, 2019 was 32,487,615 without par value.

DOCUMENTS INCORPORATED BY REFERENCE

Certain portions of the registrant's definitive Proxy Statement prepared in connection with the Annual Meeting of Stockholders to be held on January 8, 2020 are incorporated by reference into Parts II and III of this Report.

THE GREENBRIER COMPANIES, INC.

FORM 10-K

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Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Investors should not place undue reliance on forward-looking statements, which speak only as of the date they are made and are not guarantees of future performance.

Forward-looking statements rely on a number of assumptions concerning future events and include statements relating to our:

- ability to grow our businesses;
- ability to obtain lease and sales contracts which provide adequate protection against attempted modifications or cancellations;
- changes in interest rates and increased costs of materials and components;
- ability to convert backlog of railcar orders and obtain and execute lease syndication commitments;
- ability to recruit, train and retain adequate numbers of qualified employees;
- ability to obtain adequate certification and licensing of products on a timely basis;
- availability of financing sources and borrowing base and loan covenant flexibility for working capital, other business development activities, capital spending and leased railcars for syndication (sale of railcars with lease attached);
- ability to utilize beneficial tax strategies;
- ability to renew, maintain or obtain sufficient credit facilities and financial guarantees on acceptable terms including loan covenants;
- ability to obtain adequate insurance coverage at acceptable rates;
- short-term and long-term revenue and earnings effects of the above items; and
- other statements regarding our future operations, financial condition and prospects.

Words such as “affirms,” “anticipates,” “believes,” “forecast,” “potential,” “goal,” “contemplates,” “expects,” “intends,” “plans,” “projects,” “hopes,” “seeks,” “estimates,” “strategy,” “could,” “would,” “should,” “likely,” “will,” “may,” “can,” “designed to,” “future,” “foreseeable future” and similar expressions can also identify forward-looking statements. These forward-looking statements are not guarantees of future performance and are subject to factors that could cause actual results to differ materially from the results contemplated by the forward-looking statements. Many of the important factors that will determine these results and values are beyond our ability to control or predict. Factors that might cause such differences include, but are not limited to, those described in “Item 1A. Risk Factors” and “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” each of which are incorporated herein by reference. You are cautioned not to place undue reliance on any forward-looking statements, which reflect management’s opinions only as of the date hereof. Except as otherwise required by law, we do not assume any obligation to update any forward-looking statements.

All references to years refer to the fiscal years ended August 31st unless otherwise noted.

The Greenbrier Companies is a registered trademark of The Greenbrier Companies, Inc. Gunderson and Auto-Max are registered trademarks of Gunderson LLC.

PART I

Item 1. BUSINESS

Introduction

We are one of the leading designers, manufacturers and marketers of railroad freight car equipment in North America, Europe, the Gulf Cooperation Council (GCC) and South America. We also are a manufacturer and marketer of marine barges in North America. We are a leading provider of freight railcar wheel services, parts, repair and refurbishment in North America through our wheels, repair & parts business. We also offer railcar management, regulatory compliance services and leasing services to railroads and related transportation industries in North America. Through unconsolidated affiliates we produce rail and industrial components, hold an ownership stake in a railcar manufacturer in Brazil and hold an ownership stake in a lease financing warehouse.

We operate an integrated business model in North America that combines freight car manufacturing, wheel services, repair, refurbishment, component parts, leasing and fleet management services. Our model is designed to provide customers with a comprehensive set of freight car solutions by utilizing our substantial engineering, mechanical and technical capabilities as well as our experienced commercial personnel. Our integrated model allows us to develop cross-selling opportunities and synergies among our various business segments thereby enhancing our margins. We believe our integrated model is difficult to duplicate and provides greater value for our customers and investors.

We operate in three reportable segments: Manufacturing; Wheels, Repair & Parts; and Leasing & Services. Financial information about our business segments as well as geographic information is located in Note 20 — Segment Information to our Consolidated Financial Statements.

The Greenbrier Companies, Inc., is incorporated in Oregon. Our principal executive offices are located at One Centerpointe Drive, Suite 200, Lake Oswego, Oregon 97035. Our telephone number is (503) 684-7000 and our Internet website is located at <http://www.gbrx.com>.

Products and Services

Manufacturing Segment

North American Railcar Manufacturing - We manufacture most freight railcar types currently in use in the North American market (other than coal cars) and we continue to expand our product offerings. We have demonstrated an ability to capture high market shares in many of the car types we produce. The primary products we produce for the North American market are:

Conventional Railcars - We produce a variety of covered hopper cars for industrial and food grade starches, grain, fertilizer, sand, cement, heavy ore minerals and petrochemicals as well as gondolas and open top hoppers for steel, metals and aggregates. We also produce a wide range of boxcars, which are used in the transport of paper products, perishables and general merchandise. Our flat car products include center partition cars for the forest products industry, and heavy-duty flat cars.

Tank Cars - We produce a variety of tank cars, including general service, pressurized, coiled, lined, insulated carbon steel and stainless steel tank cars. These are designed for the transportation of petroleum products, ethanol, liquefied petroleum gas (LPG), caustic soda, chlorine, fertilizers, vegetable oils, bio-diesel and various other products.

Intermodal Railcars - We manufacture a comprehensive range of intermodal railcars. Our most important intermodal product is our double-stack railcar. The double-stack railcar is designed to transport containers stacked two-high on a single platform and provides significant operating and capital savings over other types of intermodal railcars.

Automotive - We manufacture a full line of railcar equipment specifically designed for the transportation of light vehicles. Our automotive offerings include the Auto-Max II and Multi-Max products, which are designed to carry automobiles, SUVs and trucks efficiently.

On July 26, 2019 we completed our acquisition of the manufacturing business of American Rail Industries, Inc. (American Railcar Industries or ARI). In connection with the acquisition, we acquired two railcar manufacturing facilities in Arkansas that primarily produce two types of railcars, covered hoppers and tank cars, but have the ability to produce additional railcar types. As part of the acquisition we also acquired other facilities which produce a range of railcar components and parts and create enhanced vertical integration for our manufacturing operations. These railcar components and parts include outlets for hopper railcars, tank car components and valves, tank heads, manway covers, wheel pair sets, underframes and running boards. Employees at these facilities as well as manufacturing and administrative employees in Missouri became Greenbrier employees upon closing of the acquisition.

European Railcar Manufacturing - Our European manufacturing operations produce a variety of tank, automotive and conventional freight railcar types, including a comprehensive line of pressurized tank cars for liquid petroleum gas, chlorine and ammonia and non-pressurized tank cars for light oil, chemicals and other products. In addition, we produce flat cars, coil cars for steel and metals, gondolas, sliding wall cars and automobile transport cars.

Marine Vessel Fabrication - We manufacture a broad range of Jones Act ocean-going and river barges for transporting merchandise between ports within the U.S. including conventional deck barges, double-hull tank barges, railcar/deck barges, barges for aggregates and other heavy industrial products and dump barges. Our primary focus is on the larger ocean-going vessels although we have the capability to compete in other marine-related products. Our Portland, Oregon manufacturing facility, located on a deep-water port on the Willamette River, includes marine vessel fabrication capabilities. The marine facilities increase utilization of steel plate burning and fabrication capacity providing flexibility for railcar production.

Wheels, Repair & Parts Segment

Wheel Services - We operate a large wheel services network in North America. Our wheel shops, provide complete wheel services including reconditioning of wheels and axles in addition to new axle machining, finishing and downsizing. Through a joint venture partnership we also provide axle machining, finishing and downsizing.

Railcar Repair, Refurbishment and Maintenance - We operate a railcar repair, refurbishment and maintenance network in North America including repair shops certified by the Association of American Railroads (AAR). Our repair shops perform heavy railcar repair, refurbishment and routine railcar maintenance for third parties and for our leased and managed railcar fleet.

Component Parts Manufacturing - Our component parts facilities recondition and manufacture railcar cushioning units, couplers, yokes, side frames, bolsters and various other parts. We also produce roofs, doors and associated parts for boxcars.

Leasing & Services Segment

Leasing - We operate a railcar leasing business in North America. Our relationships with financial institutions combined with our ownership of a lease fleet of approximately 9,400 railcars enables us to offer flexible financing programs to our customers including operating leases of varied intervals and “by the mile” leases. In addition to leasing our own railcars, we originate leases of railcars, which are either newly built or refurbished by us, or bought in the secondary market, and sell the railcars and attached leases to financial institutions typically with multi-year management services agreements. As an equipment owner and an originator of leases, we participate principally in the operating lease segment of the market. Under the majority of our leases, we are responsible for maintenance and administration of the leased cars. Assets from our owned lease fleet are periodically sold to take advantage of market conditions, manage risk and maintain liquidity.

Management Services - Our North American management services business offers a broad array of software and services that include railcar maintenance management, railcar accounting services (such as billing and revenue collection, car hire receivable and payable administration), total fleet management (including railcar tracking using proprietary software), administration and railcar re-marketing. We currently provide management services for a fleet of approximately 380,000 railcars for railroads, shippers, carriers, institutional investors and other leasing and transportation companies in North America. In addition, we have a Regulatory Services Group which offers regulatory, engineering, process consulting and advocacy support to the tank car and petrochemical rail shipper community, among other services.

Customer Profile

	Fleet Profile ⁽¹⁾ As of August 31, 2019
Managed Units:	
Class I Railroads	173,270
Leasing Companies	108,248
Shipping Companies	79,660
Non-Class I Railroads	17,584
Off-lease	1,576
Total Managed Units	380,338
Total Owned Units ⁽²⁾	9,427
Total Owned & Managed Units	389,765

⁽¹⁾ Each platform of a railcar is treated as a separate unit.

⁽²⁾ The percentage of owned units on lease was 93.3% at August 31, 2019 with an average remaining lease term of 2.9 years. The average age of owned units is 9 years.

Unconsolidated Affiliates

Brazilian Railcar Manufacturing - We have a 60% ownership interest in Greenbrier-Maxion Equipamentos e Serviços Ferroviários S.A. (Greenbrier-Maxion), the leading railcar manufacturer in South America, located near São Paulo, Brazil. Greenbrier-Maxion also assembles bogies and offers a range of aftermarket services including railcar overhaul and refurbishment.

Brazilian Castings and Component Parts Manufacturing - We have a 24.5% ownership interest in Amsted-Maxion Fundação e Equipamentos Ferroviários S.A. (Amsted-Maxion) based in Cruzeiro, Brazil. Amsted-Maxion is a manufacturer of various castings and components for railcars and other heavy industrial equipment. Amsted-Maxion has a 40% ownership position in Greenbrier-Maxion and is integrated with the operations of our Brazilian railcar manufacturer.

Lease Financing Warehouse - We have a 40% interest in the common equity of an entity that buys and sells railcar assets that are leased to third parties. The railcars sold to this leasing warehouse are principally built by us. We also provide administrative and remarketing services to this entity and we earn management fees for these services.

Other Unconsolidated Affiliates - We have other unconsolidated affiliates which primarily include joint ventures that produce rail and industrial components.

Backlog

The following table depicts our reported railcar backlog subject to third party sale or lease in number of railcars and estimated future revenue value attributable to such backlog, at the dates shown:

	August 31,		
	2019	2018	2017
New railcar backlog units ⁽¹⁾	30,300	27,400	28,600
Estimated future revenue value (in millions) ⁽²⁾	\$ 3,280	\$ 2,740	\$ 2,800

⁽¹⁾ Each platform of a railcar is treated as a separate unit.

⁽²⁾ Subject to change based on finalization of product mix.

Our total manufacturing backlog of railcar units was approximately 30,300 units with an estimated value of \$3.28 billion as of August 31, 2019 and 27,400 units with an estimated value of \$2.74 billion as of August 31, 2018. Approximately 3% of backlog units and 2% of estimated backlog value as of August 31, 2019 and 2018 was associated with our Brazilian manufacturing operations which are accounted for under the equity method. Backlog as of August 31, 2019 reflects the transfer of 10,600 units from ARI and the removal of 3,500 small cube covered hoppers for sand service for which we realized negotiated economic benefits. Remaining backlog does not include any other orders for the sand market.

Based on current production schedules, approximately 20,000 units in the August 31, 2019 backlog are scheduled for delivery in 2020. The balance of the production is scheduled for delivery in 2021 and beyond. Multi-year supply agreements are common in the rail industry. Backlog units for lease may be syndicated to third parties or held in our own fleet depending on a variety of factors. A portion of the orders included in backlog reflects an assumed product mix. Under terms of the orders, the exact mix and pricing will be determined in the future as customers select railcar specifications, which may impact the dollar amount of backlog. Marine backlog was \$100 million and \$61 million as of August 31, 2019 and 2018, respectively.

Our backlog of railcar units and marine vessels is not necessarily indicative of future results of operations. Certain orders in backlog are subject to customary documentation and completion of terms. Customers may attempt to cancel or modify orders in backlog. Historically, little variation has been experienced between the quantity ordered and the quantity actually delivered, though the timing of deliveries may be modified from time to time. We cannot guarantee that our reported backlog will convert to revenue in any particular period, if at all.

Customers

Our customers include railroads, leasing companies, financial institutions, shippers, carriers and transportation companies. We have strong, long-term relationships with many of our customers. We believe that our customers' preference for high quality products, our technological leadership in developing innovative products, our focus on being highly responsive to our customer's needs and competitive pricing of our railcars have helped us maintain our long-standing relationships with our customers.

In 2019, revenue from one customer, TTX Company (TTX) accounted for approximately 26% of total revenue, 28% of Manufacturing revenue and 24% of Wheels, Repair & Parts revenue. No other customers accounted for greater than 10% of total revenue.

Raw Materials and Components

Our products require a supply of materials including steel and specialty components such as brakes, wheels and axles. Specialty components purchased from third parties represent a significant amount of the cost of most freight cars. Our customers often specify particular components and suppliers of such components. Although the number of alternative suppliers of certain specialty components has declined in recent years, there are at least two available suppliers for these components.

Certain materials and components are periodically in short supply which could potentially impact production at our new railcar and refurbishment facilities. In an effort to mitigate shortages and reduce supply chain costs, we have entered into strategic alliances and multi-year arrangements for the global sourcing of certain materials and components, we operate a replacement parts business which aids in our vertical integration and we continue to pursue strategic opportunities to protect and enhance our supply chain. We periodically make advance purchases to avoid possible shortages of material due to capacity limitations of component suppliers, shipping and transportation delays and possible price increases.

In 2019, the top ten suppliers for all inventory purchases accounted for approximately 52% of total purchases. The top two suppliers accounted for 28% of total inventory purchases in 2019. No other suppliers accounted for more than 10% of total inventory purchases. We believe we maintain good relationships with our suppliers.

Competition

We are currently one of the two largest railcar manufacturers of the five major railcar manufacturers competing in North America. There are also a handful of specialty builders who focus on niche markets. We believe that in

Europe we are in the top tier of railcar manufacturers. European freight car manufacturers are largely located in central and eastern Europe where labor rates are lower and work rules are more flexible. We are the leading railcar manufacturer in South America. The railcar manufacturing industry is becoming more global as customers are purchasing railcars from manufacturers outside of their geographic region. In all railcar markets that we serve or participate in, we compete on the basis of quality, price, reliability of delivery, product design and innovation, reputation and customer service and support.

Competition in the marine industry is dependent on the type of product produced. There are few competitors that build product types similar to ours. We compete on the basis of price, quality, reliability of delivery, launching capacity and experience with certain product types.

Competition in the wheels, repair & parts businesses is dependent on the type of product or service provided. There are many competitors in these businesses. We compete primarily on the basis of quality, timeliness of delivery, customer service, location of shops, price and engineering expertise.

There are at least twenty institutions in North America that provide railcar leasing and services similar to ours. Many of them are also customers that buy new railcars from our manufacturing facilities and used railcars from our lease fleet, as well as utilize our management services. Many of these institutions have greater financial resources than we do. We compete primarily on the basis of quality, price, delivery, reputation, service offerings and deal structuring and syndication ability. We believe our strong servicing capability and our ability to sell railcars with a lease attached (syndicate railcars), integrated with our manufacturing, repair shops, railcar specialization and expertise in particular lease structures provide a strong competitive position.

Marketing and Product Development

In North America, we leverage an integrated marketing and sales effort to coordinate relationships in our various segments. We provide our customers with a diverse range of equipment and financing alternatives designed to satisfy each customer's unique needs, whether the customer is buying new equipment, refurbishing existing equipment or seeking to outsource the maintenance or management of equipment. These custom programs may involve a combination of railcar products, leasing, refurbishing and remarketing services. In addition, we provide customized maintenance management, equipment management, accounting and compliance services and proprietary software solutions.

In Europe and South America, we maintain relationships with customers through market-specific sales personnel. Our engineering and technical staff works closely with their customer counterparts on the design and certification of railcars. Many European railroads are state-owned and are subject to European Union (EU) regulations covering the tender of government contracts.

Through our research and customer relationships, insights are derived into the potential need for new products and services. Marketing and engineering personnel collaborate to evaluate opportunities and develop new products and features. Recent product launches include a newly designed covered hopper specifically made for grain. Research and development costs incurred during the years ended August 31, 2019, 2018 and 2017 were \$5.4 million, \$6.0 million and \$4.2 million, respectively.

Patents and Trademarks

We believe that manufacturing expertise, the improvement of existing technology and the development of new products may be more important than patent protection in establishing and maintaining a competitive advantage in our market. Nevertheless, we have obtained a number of U.S. and non-U.S. patents of varying duration, and pending patent applications, registered trademarks, copyrights and trade names. We have a proactive program aimed at protecting our intellectual property and the results from our research and development.

Environmental Matters

We are subject to national, state and local environmental laws and regulations concerning, among other matters, air emissions, wastewater discharge, solid and hazardous waste disposal and employee health and safety. Prior to

acquiring facilities, we usually conduct investigations to evaluate the environmental condition of subject properties and may negotiate contractual terms for allocation of environmental exposure arising from prior uses. We operate our facilities in a manner designed to maintain compliance with applicable environmental laws and regulations. Environmental studies have been conducted on certain of our owned and leased properties that indicate additional investigation and some remediation on certain properties may be necessary.

Portland Harbor Superfund Site

Our Portland, Oregon manufacturing facility is located adjacent to the Willamette River. In December 2000, the U.S. Environmental Protection Agency (EPA) classified portions of the Willamette River bed known as the Portland Harbor, including the portion fronting our manufacturing facility, as a federal “National Priority List” or “Superfund” site due to sediment contamination (the Portland Harbor Site). Our company and more than 140 other parties have received a “General Notice” of potential liability from the EPA relating to the Portland Harbor Site. The letter advised us that we may be liable for the costs of investigation and remediation (which liability may be joint and several with other potentially responsible parties) as well as for natural resource damages resulting from releases of hazardous substances to the site. Ten private and public entities, including us (the Lower Willamette Group or LWG), signed an Administrative Order on Consent (AOC) to perform a remedial investigation/feasibility study (RI/FS) of the Portland Harbor Site under EPA oversight, and several additional entities did not sign such consent, but nevertheless contributed money to the effort. The EPA-mandated RI/FS was produced by the LWG and cost over \$110 million during a 17-year period. We bore a percentage of the total costs incurred by the LWG in connection with the investigation. Our aggregate expenditure during the 17-year period was not material. Some or all of any such outlay may be recoverable from other responsible parties. The EPA issued its Record of Decision (ROD) for the Portland Harbor Site on January 6, 2017 and accordingly on October 26, 2017, the AOC was terminated.

Separate from the process described above, which focused on the type of remediation to be performed at the Portland Harbor Site and the schedule for such remediation, 83 parties, including the State of Oregon and the federal government, entered into a non-judicial mediation process to try to allocate costs associated with remediation of the Portland Harbor site. Approximately 110 additional parties signed tolling agreements related to such allocations. On April 23, 2009, we and the other AOC signatories filed suit against 69 other parties due to a possible limitations period for some such claims; *Arkema Inc. et al v. A & C Foundry Products, Inc. et al*, U.S. District Court, District of Oregon, Case #3:09-cv-453-PK. All but 12 of these parties elected to sign tolling agreements and be dismissed without prejudice, and the case has been stayed by the court until January 16, 2020. The allocation process is continuing in parallel with the process to define the remediation steps.

The EPA’s January 6, 2017 ROD identifies a clean-up remedy that the EPA estimates will take 13 years of active remediation, followed by 30 years of monitoring with an estimated undiscounted cost of \$1.7 billion. The EPA typically expects its cost estimates to be accurate within a range of -30% to +50%, but this ROD states that changes in costs are likely to occur as a result of new data it wanted to collect over a 2-year period prior to final remedy design. The ROD identifies 13 Sediment Decision Units (SDUs). One of the units, RM9W, includes the nearshore area of the river sediments offshore of our Portland, Oregon manufacturing facility as well as upstream and downstream of the facility. It also includes a portion of our riverbank. The ROD does not break down total remediation costs by SDU. The EPA’s ROD concluded that more data was needed to better define clean-up scope and cost. On December 8, 2017, the EPA announced that Portland Harbor is one of 21 Superfund sites targeted for greater attention. On December 19, 2017, the EPA announced that it had entered a new AOC with a group of four potentially responsible parties to conduct additional sampling during 2018 and 2019 to provide more certainty about clean-up costs and aid the mediation process to allocate those costs. The parties to the mediation, including us, agreed to help fund the additional sampling. The sampling is completed and the EPA is evaluating possible resulting changes to remediation cost estimates.

The ROD does not address responsibility for the costs of clean-up, nor does it allocate such costs among the potentially responsible parties. Responsibility for funding and implementing the EPA’s selected cleanup remedy will be determined at an unspecified later date. Based on the investigation to date, we believe that we did not contribute in any material way to contamination in the river sediments or the damage of natural resources in the Portland Harbor Site and that the damage in the area of the Portland Harbor Site adjacent to our property

precedes our ownership of the Portland, Oregon manufacturing facility. Because these environmental investigations are still underway, sufficient information is currently not available to determine our liability, if any, for the cost of any required remediation or restoration of the Portland Harbor Site or to estimate a range of potential loss. Based on the results of the pending investigations and future assessments of natural resource damages, we may be required to incur costs associated with additional phases of investigation, remedial design, or remedial action, and may be liable for damages to natural resources. In addition, we may be required to perform periodic maintenance dredging in order to continue to launch vessels from our launch ways in Portland, Oregon, on the Willamette River, and the river's classification as a Superfund site could result in some limitations on future dredging and launch activities. Any of these matters could adversely affect our business and Consolidated Financial Statements, or the value of our Portland property.

On January 30, 2017 the Confederated Tribes and Bands of Yakama Nation sued 33 parties including us as well as the United States and the State of Oregon for costs it incurred in assessing alleged natural resource damages to the Columbia River from contaminants deposited in Portland Harbor. *Confederated Tribes and Bands of the Yakama Nation v. Air Liquide America Corp., et al.*, United States Court for the District of Oregon Case No. 3:17-CV-00164-SB The complaint does not specify the amount of damages the Plaintiff will seek. The case has been stayed until January 16, 2020.

Oregon Department of Environmental Quality (DEQ) Regulation of Portland Manufacturing Operations

We have entered into a Voluntary Cleanup Agreement with the DEQ in which we agreed to conduct an investigation of whether, and to what extent, past or present operations at our Portland property may have released hazardous substances into the environment. We have also signed an Order on Consent with the DEQ to finalize the investigation of potential onsite sources of contamination that may have a release pathway to the Willamette River. Interim precautionary measures are also required in the order and we are discussing with the DEQ potential remedial actions which may be required. Our aggregate expenditure has not been material, however we could incur significant expenses for remediation. Some or all of any such outlay may be recoverable from other responsible parties.

Regulation

We must comply with the rules of the U.S. Department of Transportation (USDOT) and the administrative agencies it oversees including the Federal Railroad Administration in the U.S. and Transport Canada in Canada who administer and enforce laws and regulations relating to railroad safety. These regulations govern equipment and safety appliance standards for freight cars and other rail equipment used in interstate and international commerce throughout North America. The AAR promulgates rules and regulations governing the safety and design of equipment, relationships among railroads and other railcar owners with respect to railcars in interchange, and other matters. The AAR also certifies railcar builders and component manufacturers that provide equipment for use on North American railroads. These regulations require maintaining certifications with the AAR as a railcar builder, repair and service provider and component manufacturer, and products sold and leased by us in North America must meet AAR, Transport Canada, and Federal Railroad Administration standards.

The primary regulatory and industry authorities involved in the regulation of the ocean-going barge industry are the U.S. Coast Guard, the Maritime Administration of the USDOT, and private industry organizations such as the American Bureau of Shipping.

The regulatory environment in Europe consists of a combination of EU regulations and country specific regulations, including a harmonized set of Technical Standards for Interoperability of freight wagons throughout the EU. The EU approval regime has recently been modified to replace country specific approvals with a single, harmonized EU process. The switch could result in short term delays in wagon certification, but over time is expected to streamline the process. The regulatory environment in Brazil consists of oversight from the Ministry of Transportation, the National Agency of Ground Transportation and the National Association of Railroad Transporters. In all other countries, we conform to country specific regulations where applicable.

Employees

As of August 31, 2019, we had approximately 17,100 full-time employees at our consolidated entities, consisting of 15,900 employees in Manufacturing, 900 in Wheels, Repair & Parts and 300 employees in Leasing & Services and corporate. In Manufacturing, 8,900 employees are represented by unions. At our Wheels, Repair & Parts locations, 40 employees are represented by a union. We believe that our relations with our employees are generally good.

Additional Information

We are a reporting company and file annual, quarterly, current and special reports, proxy statements and other information with the SEC. The SEC maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at <http://www.sec.gov>. Through a link on the Investor Relations section of our website, <http://www.gbrx.com>, we make available the following filings as soon as reasonably practicable after they are electronically filed with or furnished to the SEC: our Annual Report on Form 10-K; Quarterly Reports on Form 10-Q; Current Reports on Form 8-K; and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended. All such filings are available free of charge. Copies of our Audit Committee Charter, Compensation Committee Charter, Nominating and Corporate Governance Committee Charter and the Company's Corporate Governance Guidelines are also available on our web site at <http://www.gbrx.com>. In addition, each of the reports and documents listed above are available free of charge by contacting our Investor Relations Department at The Greenbrier Companies, Inc., One Centerpointe Drive, Suite 200, Lake Oswego, Oregon 97035.

Item 1A. RISK FACTORS

The following risk factors, as well as other comments included herein regarding risks and uncertainties, should be carefully considered when evaluating our company. Our business, financial condition or financial results could be materially and adversely affected by any of these risks or other risks unknown to us. In addition, new risks may emerge at any time, and we cannot predict those risks or estimate the extent to which they may affect us.

The cyclical nature of our business, economic downturns or a rising interest rate environment can result in lower demand for our products and services and reduced revenue.

Our business is cyclical. Overall economic conditions (domestically and globally) and the purchasing practices of buyers have a significant effect upon our business due to the impact on demand for our products and services. As a result, during downturns, we could operate with a lower level of backlog and may slow down or halt production at some or all of our facilities. We may fail to respond to such downturns in an efficient manner. Economic conditions that result in higher interest rates increase the cost of new leasing arrangements, which could cause some of our leasing customers to lease fewer of our railcars or demand shorter lease terms. An economic downturn or increase in interest rates may reduce demand for our products and services, resulting in lower sales volumes, lower prices, lower lease utilization rates and decreased profits.

Interest rates remain at relatively low levels. Higher interest rates could increase the cost of, or potentially deter, new leasing arrangements with our customers, reduce our ability to syndicate railcars under lease to financial institutions, or impact the sales price we may receive on such syndications, any of which could materially adversely affect our business, financial condition and results of operations.

A change in our product mix due to shifts in demand or fluctuations in commodity and energy prices could have an adverse effect on our profitability.

We manufacture, lease and repair a variety of railcars. The demand for specific types of these railcars and mix of repair and refurbishment work varies from time to time. Instability and changes in the global economy, volatility in the industries that our products serve or adverse changes in the financial condition of our customers could adversely impact the demand for our railcars. In addition, fluctuations in commodity and energy prices, including crude oil and gas prices, could negatively impact the activities of our customers resulting in a corresponding adverse effect on the demand for our products and services. These shifts in demand could affect our results of operations and could have an adverse effect on our profitability. Demand for railcars that are used to transport crude oil and other energy related products is dependent on the demand for these commodities. Prices for oil and gas are subject to large fluctuations in response to relatively minor changes in the supply of, and demand for, oil and gas, market uncertainty and a variety of other economic factors that are beyond our control.

A decline in performance or demand, oversupply, or increase in efficiency, of the rail freight industry would have an adverse effect on our financial condition and results of operations.

Our future success depends in part upon the performance of the rail freight industry, which in large part depends on the health of the United States and global economy. If railcar loadings decrease or industry demand for our railcar products or services weakens or otherwise does not materialize, or if railcar freight transportation becomes more efficient from, for example, an increase in train velocity or Precision Scheduled Railroading (PSR), a decrease in dwell times, or due to technological advances, our financial condition and results of operations would be adversely affected. In addition, the rail freight industry could become oversupplied, which could have a significant impact on the pricing, lease rates or demand for new railcars.

The use of railcars may decline in favor of other modes of transportation. Our operations may be adversely impacted by changes in the preferred method used by customers to ship their products, changes in demand for

particular products, or government policies favoring other types of surface transportation. The industries in which our customers operate are driven by dynamic market forces and trends, which are in turn influenced by economic, regulatory, and political factors. Features and functionality specific to certain railcar types could result in those railcars becoming obsolete as customer requirements for freight delivery change.

We could have difficulty integrating the operations of businesses that we have acquired and will acquire or joint ventures we enter into, which could adversely affect our results of operations.

The success of our acquisition and joint venture strategies depends upon our ability to integrate any businesses that we acquire into our existing business, including the manufacturing business of ARI. The integration of acquired business operations could disrupt our business by causing unforeseen operating difficulties, diverting management's attention from day-to-day operations and requiring significant financial resources that would otherwise be used for the ongoing development of our business. The difficulties of integration could be increased by the necessity of coordinating geographically dispersed organizations, integrating personnel with disparate business backgrounds and combining different corporate cultures, or discovering previously unknown liabilities. Each of these circumstances could be more likely to occur or be more severe in consequence in the case of an acquisition or joint venture involving a business that is outside of our core areas of expertise. In addition, we could be unable to retain key employees or customers of the combined businesses. We could face integration issues including those related to operations, internal controls, information systems and operational functions of the acquired companies and we also could fail to realize cost efficiencies or synergies that we anticipated when selecting our acquisition candidates and joint ventures or these acquisitions or joint ventures could fail to complete successfully. Any of these items could adversely affect our results of operations.

Our backlog is not necessarily indicative of the level of our future revenues.

Our manufacturing backlog represents future production for which we have written orders from our customers in various periods, and estimated potential revenue attributable to those orders. Some of this backlog is subject to certain conditions, including potential adjustment to prices due to changes in prevailing market prices, or due to lower prices for new orders accepted by us from other customers for similar cars on similar terms and conditions during relevant time periods. Our reported backlog may not be converted to revenue in any particular period and some of our contracts permit cancellations with limited compensation that would not replace lost revenue or margins. In addition, some customers may attempt to delay orders, cancel or modify a contract even if the contract does not allow for such cancellation or modification, and we may not be able to recover all revenue or earnings lost due to a breach of contract or a contract may be found to be unenforceable. The likelihood of attempted cancellations or modifications of contracts generally increases during periods of market weakness. Actual revenue from such contracts may not equal our anticipated revenues based on our backlog, and therefore, our backlog is not necessarily indicative of the level of our future revenues.

Risks related to our operations outside of the U.S. could adversely affect our operating results.

We face risks arising from our business activities outside of the U.S. and with non-U.S. customers and suppliers. Instability in the macroeconomic, political, legal, trade, financial, labor or market conditions in the countries where we, or our customers or suppliers, operate could negatively impact our business activities and operations. Some foreign countries in which we operate or may operate have authorities that regulate railroad safety, and rail equipment design and manufacturing. If we do not have appropriate certifications, we could be unable to market and sell our rail equipment. Adverse changes in foreign or cross-border regulations applicable to us or customers, such as labor, environment, trade, tax, currency and price regulations could limit our operations, make the manufacture and distribution of our products difficult, and delay or limit our ability to repatriate our money.

Among the political risks we face outside the U.S. are governments nationalizing our business or assets, or repudiating, or renegotiating contracts with us, our customers or suppliers. In our cross-border business activities, we could experience longer customer payment cycles, difficulty in collecting accounts receivable or an inability

to protect our intellectual property. We operate in countries reported to have significant corruption. We could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act and similar worldwide anti-corruption laws. Strict compliance with anti-corruption laws is made more challenging because such laws may conflict with local business customs. The failure to comply with laws governing international business may result in substantial penalties and fines. Transactions with non-U.S. entities expose us to business practices, local customs, and legal processes with which we may not be familiar, as well as difficulty enforcing contracts and international political and trade tensions. Any expansion of our activities outside of the U.S. could increase our risk profile. If we are unable to successfully manage the risks associated with our foreign and cross-border business activities, our results of operations, financial condition, liquidity and cash flows could be negatively impacted.

Changes impacting international trade and corporate tax provisions related to the production and sales of our products may have an adverse effect on our financial condition and results of operations.

We own, lease, operate or have invested in joint ventures or entities which have manufacturing facilities in Mexico, Brazil and Europe. Our business benefits from free trade agreements such as the North American Free Trade Agreement (NAFTA) and we also rely on various U.S. corporate tax provisions related to international commerce as we build, market and sell our products internationally. NAFTA and future import taxes have been under scrutiny by the U.S. administration. On September 30, 2018 the President of the U.S. and the U.S. Trade Representative announced a new trade pact with the governments of Canada and Mexico called the United States-Mexico-Canada Agreement (USMCA). We believe the benefits we currently receive under NAFTA will continue under the USMCA. To take effect, the USMCA must be enacted by the U.S. Congress under laws governing Trade Promotion Authority. It is expected NAFTA will remain effective until this occurs. Any changes in policies by the U.S. government or other governments with respect to trade treaties, corporate tax, import taxes and foreign relations as well as embargoes, quotas or tariffs could adversely and significantly affect our financial condition and results of operations.

We derive a significant amount of our revenue from a limited number of customers, the loss of or reduction of business from one or more of which could have an adverse effect on our business.

A significant portion of our revenue is generated from a few major customers. Although we have some long-term contractual relationships with our major customers, we cannot be assured that we will continue to have good relations with our customers, or that our customers will continue to purchase or lease our products or services, that they will continue to do so at historical levels or will renew their existing contracts with us. A reduction in the purchasing or leasing of our products, a termination of our services by one or more of our major customers, a decline in the financial condition of a major customer, or our failure to replace expiring customer contracts with new customer contracts on satisfactory terms could result in a loss of business and have an adverse effect on our business and operating results.

We could be unable to lease railcars at satisfactory rates, remarket leased railcars on favorable terms upon lease termination, or realize the expected residual values for end of life railcars due to changes in scrap prices each of which could reduce our revenue and decrease our overall return or affect our ability to sell leased assets in the future.

The profitability of our railcar leasing business depends on our ability to lease railcars at satisfactory rates, sell railcars with sufficiently profitable leases to investors, and to remarket, sell or scrap railcars we own or manage upon the expiration of leases. The rent we receive during the initial railcar lease term does not fully recover acquisition costs of such railcars and thus exposes us to a shortfall if we do not recover the residual value of railcars coming off of lease. Our ability to lease or remarket leased railcars profitably is dependent on several factors, including, but not limited to, market and industry conditions, cost of, and demand for, competing used or newer models, costs associated with the refurbishment of the railcars, the market demand or governmental mandates for refurbishment, as well as market perceptions of residual values and interest rates. A downturn in the industries in which our lessees operate and decreased demand for railcars could also increase our exposure to

remarketing risks because lessees may demand shorter lease terms, requiring us to remarket leased railcars more frequently. Furthermore, the resale market for previously leased railcars has a limited number of potential buyers. Our inability to lease, remarket or sell leased railcars on favorable terms could result in an adverse impact to our consolidated financial statements or affect our ability to sell leased railcars to investors in the future.

Shortages of skilled labor, increased labor costs, or failure to maintain good relations with our workforce could adversely affect our operations.

We depend on skilled labor in the manufacture of railcars and marine barges, repair, refurbishment and maintenance of railcars and provision of wheel services and supply of parts. Some of our facilities are located in areas where demand for skilled labor often exceeds supply. Shortages of some types of skilled labor such as welders and machine operators could restrict our ability to maintain or increase production rates, lead to production inefficiencies and increase our labor costs. Due to the competitive nature of the labor markets in which we operate and the cyclical nature of the railcar industry, the resulting employment cycle increases our risk of not being able to recruit, train and retain the employees we require at efficient costs and on reasonable terms, particularly when the economy expands, production rates are high or competition for such skilled labor increases. Additionally, we may develop an adverse relationship with our workforce or third party labor providers. Our costs to recruit, train and retain necessary, qualified employees may exceed our expectations. If we are unable to recruit, train and retain adequate numbers of qualified employees and third party labor providers on a timely basis or at a reasonable cost or on reasonable terms, our business and results of operations could be adversely affected.

Equipment failures, technological failures, costs and inefficiencies associated with changing of production lines, or transfer of production between facilities, could lead to production, delivery, or service curtailments or shutdowns, loss of revenue or higher expenses.

We operate a substantial amount of equipment at our production facilities. An interruption in production capabilities or maintenance and repair capabilities at our facilities, as a result of equipment or technology failure, acts of nature, costs and inefficiencies associated with changing of production lines or transfer of production between facilities, could reduce or prevent our production, delivery, service, or repair of our products and increase our costs and expenses. A halt of production at any of our manufacturing facilities could severely affect delivery times to our customers. Any significant delay in deliveries not otherwise contractually mitigated could result in cancellation of all or a portion of our orders, cause us to lose future sales, and negatively affect our reputation and our results of operations.

We face aggressive competition and a number of factors may influence our performance. If we are unable to compete successfully, our market share, margin and results of operations may be adversely affected.

We face aggressive competition in all geographic markets in which we participate and in each segment of our business, and we face the prospect of new competitors entering those markets in which we compete. Some of our competitors are owned or financially supported by foreign governments or sovereign wealth funds, and may potentially sell products and services below cost, or otherwise compete unfairly, in order to gain market share. The markets in which we participate are intensely competitive and we expect them to remain intensely competitive into the foreseeable future. The relative competitiveness of our manufacturing facilities and products affects our performance. A number of competitive factors challenge or affect our ability to compete successfully including the introduction of competitive products and new entrants into our markets, a limited customer base and price pressures such as unfair competition and increases in raw materials and labor costs. In addition, new technologies, new railcars or other new product offerings introduced to market by our competitors could render our products obsolete or less competitive. If we do not compete successfully, our market share, margin and results of operations may be adversely affected.

We pursue strategic opportunities which rely upon the identification of new joint ventures, acquisitions and new business endeavors which involve inherent risks, any of which may prevent us from growing our business and realizing anticipated benefits and could adversely affect our results of operations.

We may not be able to successfully identify suitable joint venture, acquisition and new business endeavors to invest in or complete potential transactions on acceptable terms. Our identification of suitable joint venture opportunities, acquisition candidates and new business endeavors involve risks inherent in assessing the values, strengths, weaknesses, risks and profitability of these opportunities. Our failure to identify suitable joint ventures, acquisition opportunities and new business endeavors may restrict our ability to grow our business. If we are successful in pursuing such opportunities, we may be required to expend significant funds or incur additional debt, which could materially adversely affect our results of operations and limit our ability to obtain financing for working capital or other purposes and we may be more vulnerable to economic downturns and competitive pressures.

If we or our joint ventures fail to complete capital expenditure projects on time and within budget, or if these projects, once completed, fail to operate as anticipated, or fail to improve the efficiencies of our operations, or to generate additional revenue as anticipated, such failure could adversely affect our business, financial condition and results of operations.

From time-to-time, we, or our joint ventures, undertake strategic capital projects in order to enhance, expand and/or upgrade facilities and operational capabilities. Our ability, and our joint ventures' respective abilities, to complete these projects on time and within budget, and for us to realize the anticipated increased revenues or otherwise realize acceptable returns on these investments or other strategic capital projects that may be undertaken are subject to a number of risks. Many of these risks are beyond our control, including a variety of market, operational, permitting, and labor related factors. In addition, the cost to implement any given strategic capital project ultimately may prove to be greater than originally anticipated. If we, or our joint ventures, are not able to achieve the anticipated results from the implementation of any of these strategic capital projects, or if unanticipated implementation costs are incurred, our business, financial condition and results of operations may be adversely affected.

A failure to design or manufacture products or technologies or to achieve timely certification or market acceptance of new products or technologies could have an adverse effect on our profitability.

We continue to introduce new railcar product innovations and technologies. We occasionally accept orders prior to receiving railcar certification or prior to proving our ability to manufacture a quality product that meets customer standards. We could be unable to successfully design or manufacture new railcar product innovations or technologies.

Our inability to develop and manufacture new product innovations or technologies in a timely and profitable manner, or to obtain timely certification, or to achieve market acceptance, or to avoid quality problems in our new products, could have a material adverse effect on our revenue and results of operations and subject us to penalties, cancellation of orders and/or other damages.

Our relationships with our joint venture partners could be unsuccessful which could adversely affect our business.

We have entered into several joint ventures to increase our sourcing alternatives, reduce costs and produce new railcars or components. We may seek to expand our relationships or to enter into new ventures with other companies. If our joint venture partners are unable to fulfill their contractual obligations or if these relationships are otherwise not successful in the future, our manufacturing and other costs could increase, we could encounter production disruptions, growth opportunities could fail to materialize, or we could be required to fund such joint ventures in amounts significantly greater than initially anticipated, any of which events could adversely affect our business.

If any of our joint ventures generate significant losses, including future potential intangible asset or goodwill impairment charges, our results of operations could be adversely affected or our investments could be impaired.

We have potential exposure to environmental liabilities, which could increase our operating costs or have an adverse effect on our results of operations.

We are subject to extensive national, state, foreign, provincial and local environmental laws and regulations concerning, among other things, air emissions, water discharge, solid waste and hazardous substances handling and disposal and employee health and safety. These laws and regulations are complex and frequently change. We could incur unexpected costs, penalties and other civil and criminal liability if we, or in certain circumstances others, fail to comply with environmental laws or permits issued pursuant to those laws. We also could incur costs or liabilities related to off-site waste disposal or remediating soil or groundwater contamination at our properties, including as set forth below. In addition, future environmental laws and regulations may require significant capital expenditures or changes to our operations, or may impose liability on us in the future for actions that complied with then applicable laws and regulations when the action was taken.

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four potentially responsible parties to conduct additional sampling during 2018 and 2019 to provide more certainty about clean-up costs and aid the mediation process to allocate those costs. The parties to the mediation, including us, agreed to help fund the additional sampling. The sampling is completed and the EPA is evaluating possible resulting changes to remediation cost estimates.

The ROD does not address responsibility for the costs of clean-up, nor does it allocate such costs among the potentially responsible parties. Responsibility for funding and implementing the EPA's selected cleanup remedy will be determined at an unspecified later date. Based on the investigation to date, we believe that we did not contribute in any material way to contamination in the river sediments or the damage of natural resources in the Portland Harbor Site and that the damage in the area of the Portland Harbor Site adjacent to our property precedes our ownership of the Portland, Oregon manufacturing facility. Because these environmental investigations are still underway, sufficient information is currently not available to determine our liability, if any, for the cost of any required remediation or restoration of the Portland Harbor Site or to estimate a range of potential loss. Based on the results of the pending investigations and future assessments of natural resource damages, we may be required to incur costs associated with additional phases of investigation, remedial design, or remedial action, and may be liable for damages to natural resources. In addition, we may be required to perform periodic maintenance dredging in order to continue to launch vessels from our launch ways in Portland, Oregon, on the Willamette River, and the river's classification as a Superfund site could result in some limitations on future dredging and launch activities. Any of these matters could adversely affect our business and Consolidated Financial Statements, or the value of our Portland property.

On January 30, 2017 the Confederated Tribes and Bands of Yakama Nation sued 33 parties including us as well as the United States and the State of Oregon for costs it incurred in assessing alleged natural resource damages to the Columbia River from contaminants deposited in Portland Harbor. *Confederated Tribes and Bands of the Yakama Nation v. Air Liquide America Corp., et al.*, United States Court for the District of Oregon Case No. 3:17-CV-00164-SB The complaint does not specify the amount of damages the Plaintiff will seek. The case has been stayed until January 16, 2020.

Oregon Department of Environmental Quality (DEQ) Regulation of Portland Manufacturing Operations

We have entered into a Voluntary Cleanup Agreement with the DEQ in which we agreed to conduct an investigation of whether, and to what extent, past or present operations at our Portland property may have released hazardous substances into the environment. We have also signed an Order on Consent with the DEQ to finalize the investigation of potential onsite sources of contamination that may have a release pathway to the Willamette River. Interim precautionary measures are also required in the order and we are discussing with the DEQ potential remedial actions which may be required. Our aggregate expenditure has not been material, however we could incur significant expenses for remediation. Some or all of any such outlay may be recoverable from other responsible parties.

The timing of our asset sales and related revenue recognition could cause significant differences in our quarterly results and liquidity.

We may build railcars or marine barges in anticipation of a customer order, or lease railcars to a customer with the aim of selling such railcars on lease to a third party. In each case, the timing lag between production and the ultimate sale subjects us to operational and market risks. In addition, we periodically sell railcars from our own lease fleet and the timing and volume of such sales are difficult to predict. As a result, comparisons of our manufacturing revenue, deliveries, quarterly net gain on disposition of equipment, income and liquidity between quarterly periods within one year and between comparable periods in different years may not be meaningful and should not be relied upon as indicators of our future performance.

We depend on our senior management team and other key employees, and significant attrition within our management team or unsuccessful succession planning for members of our senior management team and other key employees who are at or nearing retirement age, could adversely affect our business.

Our success depends in part on our ability to attract, retain and motivate senior management and other key employees. Achieving this objective may be difficult due to many factors, including fluctuations in global economic and industry conditions, competitors' hiring practices, cost reduction activities, and the effectiveness of our compensation programs. Competition for qualified personnel can be very intense. We must continue to recruit, retain and motivate senior management and other key employees sufficient to maintain our current business and support our future projects and growth objectives. We are vulnerable to attrition among our current senior management team and other key employees. A loss of any such personnel, or the inability to recruit and retain qualified personnel in the future, could have an adverse effect on our business, financial condition and results of operations.

Many members of our senior management team and other key employees are at or nearing retirement age. If we are unsuccessful in our succession planning efforts, the continuity of our business and results of operations could be adversely affected.

Changes in the credit markets and the financial services industry could negatively impact our business, results of operations, financial condition or liquidity.

The credit markets and the financial services industry may experience volatility which can result in tighter availability of credit on more restrictive terms and limit our ability to sell railcar assets. Our liquidity, financial condition and results of operations could be negatively impacted if our ability to borrow money to finance operations, obtain credit from trade creditors, obtain credit to maintain our hedging programs, offer leasing products to our customers or sell railcar assets were to be impaired. In addition, scarcity of capital could also adversely affect our customers' ability to purchase, lease, or pay for products from us or adversely affect our suppliers' ability to provide us with product, either of which could negatively affect our business and results of operations.

Volatility in the global financial markets may adversely affect our business, financial condition and results of operations.

During periods of volatility in the global financial markets, certain of our customers could delay or otherwise reduce their purchases of railcars and other products and services. If volatile conditions in the global credit markets impact our customers' access to credit, product order volumes may decrease or customers may default on payments owed to us.

Likewise, if our suppliers face challenges obtaining credit, or otherwise operating their businesses, the supply of materials we purchase from them to manufacture our products may be interrupted. Any of these conditions or events could result in reductions in our revenues, increased price competition, or increased operating costs, which could adversely affect our business, financial condition and results of operations.

Our actual results may differ significantly from our announced expectations.

From time to time, we have released, and may continue to release guidance estimates in our quarterly and annual earnings releases, quarterly and annual earnings conference calls, or otherwise, regarding our future performance that represent our management's estimates as of the date of release. Although we believe that any such guidance or estimates would provide investors and analysts with a better understanding of management's expectations for the future and could be useful to our shareholders and potential shareholders, such guidance or estimates would consist of forward-looking statements subject to the risks and uncertainties described in this report and in our other public filings and public statements. Guidance and estimates are necessarily speculative in nature, and

some or all of the assumptions underlying the guidance or estimates may not materialize or may vary significantly from actual results. Our actual results may not always be in line with or exceed any guidance or estimates we may provide, especially in times of economic uncertainty. If our financial results for a particular period do not meet our guidance or estimates or the expectations of investors or research analysts, or if we reduce our guidance or estimates for future period, the trading volume or market price of our common stock may decline. In light of the foregoing, investors are urged not to unduly rely upon any guidance or estimates in making an investment decision regarding our common stock.

Fluctuations in the availability and price of energy, freight transportation, steel and other raw materials, in combination with our fixed price contracts could have an adverse effect on our ability to manufacture and sell our products profitably and could adversely affect our margins and revenue.

A significant portion of our business depends upon the adequate supply of steel and other raw materials at competitive prices and a small number of suppliers fulfill a substantial amount of our requirements. The cost of steel and all other materials used in the production of our railcars represents more than half of our direct manufacturing costs per railcar and in the production of our marine barges represents more than 30% of our direct manufacturing costs per marine barge. Our cost of acquiring steel, components and other raw materials to manufacture our railcars and marine barges are impacted by tariffs. If we are not able to purchase these materials at competitive prices, our ability to produce and sell our products on a cost effective basis could be adversely impacted which, in turn, could adversely affect our revenue and profitability.

Our businesses also depend upon an adequate supply of energy. Increases in the price of energy to us adversely impacts our operating costs and could have an adverse effect on our ability to conduct our businesses on a cost-effective basis. We cannot be assured that we will continue to have access to energy or supplies of necessary components for manufacturing railcars and marine barges. Our ability to meet demand for our products could be adversely affected by the loss of access to any of these supplies, the inability to arrange alternative access to any materials, or suppliers limiting allocation of materials to us.

In some instances, we have fixed-price contracts that anticipate material price increases and surcharges, or contracts that contain actual or formulaic pass-through of material price increases and surcharges. However, if the price of steel or other raw materials were to fluctuate in excess of anticipated increases on which we have based our fixed-price contracts, or if we were unable to adjust our selling prices or have adequate protection in our contracts against changes in material prices, or if we are unable to reduce operating costs to offset any price increases, our margins would be adversely affected. The loss of suppliers or their inability to meet our price, quality, quantity and delivery requirements could have an adverse effect on our ability to manufacture and sell our products on a cost-effective basis.

Decreases in the price of scrap adversely impact our Wheels, Repair & Parts margins and revenue and the residual value and future depreciation of our leased assets. A portion of our Wheels, Repair & Parts businesses involve scrapping steel parts and the resulting revenue from such scrap steel increases our margins and revenues. When the price of scrap steel declines, our revenues and margins in such businesses would decrease.

We rely on limited suppliers for certain components and services needed in our production. If we are not able to procure specialty components or services on commercially reasonable terms or on a timely basis, our business, financial condition and results of operations would be adversely affected.

Our manufacturing operations depend in part on our ability to obtain timely deliveries of materials, components and services in acceptable quantities and quality from our suppliers and our ability to retain good relations with our suppliers. In 2019, the top ten suppliers for all inventory purchases accounted for approximately 52% of total purchases. The top two suppliers accounted for 28% of total inventory purchases in 2019. No other suppliers accounted for more than 10% of total inventory purchases. Certain components of our products, particularly specialized components like castings, bolsters, trucks, wheels and axels, and certain services, such as lining capabilities, are currently only available from a limited number of suppliers. Increases in the number of railcars

manufactured could increase the demand for such components and services and strong demand may cause industry-wide shortages if suppliers are in the process of ramping up production or reach capacity production. Our dependence on a limited number of suppliers involves risks, including limited control over pricing, availability and delivery schedules. If any one or more of our suppliers cease to provide us with sufficient quantities of our components or services in a timely manner or on terms acceptable to us, or cease to provide services or manufacture components of acceptable quality, we could incur disruptions or be limited in our production of our products and we could have to seek alternative sources for these components or services. We could also incur delays while we attempt to locate and engage alternative qualified suppliers and we might be unable to engage acceptable alternative suppliers on favorable terms, if at all. In addition, we are increasing the number of components and services we manufacture or provide ourselves, directly or through joint ventures. If we are not successful at manufacturing such components or providing such services or have production problems after transitioning to self-produced supplies, we may not be able to replace such components or services from third party suppliers in a timely manner. Any such disruption in our supply of specialized components and services or increased costs of those components or services could harm our business and adversely affect our results of operations.

We have indebtedness, which could have negative consequences to our business or results of operations.

As of August 31, 2019, our total consolidated indebtedness was approximately \$860.5 million (excluding \$27.1 million of debt discount and \$10.6 million of debt issuance costs). As of August 31, 2019, approximately \$521.5 million (excluding \$5.2 million of debt issuance costs) of our consolidated indebtedness was secured. Our indebtedness consists of convertible notes, a senior secured revolving credit facility and term loans. Our level of indebtedness could have a material adverse effect on our business and make it more difficult for us to satisfy our obligations under our outstanding indebtedness and the notes. As a result of our debt and debt service obligations, we face increased risks regarding, among other things, the following:

- our ability to borrow additional amounts or refinance existing indebtedness in the future for working capital, capital expenditures, acquisitions, debt service requirements, investments, stock repurchases, execution of our growth strategy, or other purposes may be limited or such financing may be more costly;
- our availability of cash flow to fund working capital requirements, capital expenditures, investments, acquisitions or other strategic initiatives and other general corporate purposes because a portion of our cash flow is needed to pay principal and interest on our debt;
- our vulnerability to competitive pressures and to general adverse economic or industry conditions, including fluctuations in market interest rates or a downturn in our business;
- our being at a competitive disadvantage relative to our competitors that have greater financial resources than us or more flexible capital structures than us;
- our ability to satisfy our financial obligations related to our consolidated indebtedness;
- our additional exposure to the risk of increased interest rates as certain of our borrowings are at variable rates of interest, which could result in higher interest expense in the event of an increase in interest rates;
- our restrictions under the restrictive covenants in our North American senior secured credit facility, our secured term loan, our other credit agreements, and any of the agreements governing our future indebtedness adversely restricting our financial and operating flexibility and subjecting us to other risks; and
- the possibility we may suffer a material adverse effect on our business and financial condition if we are unable to service our debt or obtain additional financing, as needed.

Despite our current indebtedness levels and the restrictive covenants set forth in the agreements governing our indebtedness, if we, our subsidiaries and our joint ventures are in compliance with the covenants, we, our subsidiaries and our joint ventures may be able to incur substantially more indebtedness, including secured indebtedness, and other obligations and liabilities that do not constitute indebtedness. This could increase the risks associated with our indebtedness. As of August 31, 2019, after giving effect to issued but undrawn letters of credit, we had approximately \$233.2 million of availability under our North American senior secured credit facility (based on our borrowing base as of such date) and approximately \$78.3 million of availability under our European and Mexican joint venture senior secured credit facilities.

Some of our credit facilities and existing indebtedness use the London Interbank Offered Rates (LIBOR) as a benchmark for establishing interest rates. LIBOR is the subject of recent proposals for reform. These reforms

may cause LIBOR to disappear entirely or to perform differently than in the past. The consequences of these developments with respect to LIBOR cannot be entirely predicted at this time, but could result in an increase in the cost of our variable rate debt.

Train derailments or other accidents or claims could subject us to legal claims that adversely impact our business, financial condition and our results of operations.

We provide a number of services which include the manufacture and supply of new railcars, wheels, components and parts and the lease and repair of railcars for our customers that transport a variety of commodities, including tank railcars that transport hazardous materials such as crude oil, ethanol and other products. In addition, we have a Regulatory Services Group which offers regulatory, engineering, process consulting and advocacy support to the tank car and petrochemical rail shipper community, among other services. We could be subject to various legal claims, including claims of negligence, personal injury, physical damage and product or service liability, or in some cases strict liability, as well as potential penalties and liability under environmental laws and regulations, in the event of a derailment or other accident involving railcars, including tank railcars. Additionally, the severity of injury or property damage arising from an incident may influence the causation responsibility analysis exposing us to potentially greater liability. If we become subject to any such claims and are unable successfully to resolve them or maintain inadequate insurance for such claims, our business, financial condition and results of operations could be materially adversely affected.

Changes in or failure to comply with legal and regulatory requirements applicable to the industries in which we operate may adversely impact our business, financial condition and results of operations.

Our operations and the industry we serve, including our customers, and our suppliers are subject to extensive regulation by governmental, regulatory and industry authorities and by federal, state, local and foreign agencies. These organizations establish, interpret, and enforce rules and regulations for the railcar industry, including construction specifications and standards for the design and manufacture of railcars; the certification of manufacturing facilities, mechanical, maintenance and related standards; and railroad safety. New rules and regulations, new legislation and new interpretations of the foregoing; actions or failures to act by regulatory agencies (including changing tank car or other rail car regulations); our inability and cost to maintain and renew operating permits, as well as enforcement actions by regulators could increase our operating costs and the operating costs of our customers and impact our financial results, demand for our products and the economic value of our assets. In addition, if we or our suppliers fail to comply with the requirements and regulations of these entities, we could face sanctions and penalties that could negatively affect our financial results.

The risks of substantial costs and liabilities related to compliance with these laws and regulations are an inherent part of our business. Despite our intention to comply with these laws and regulations, we cannot guarantee that we or our suppliers will be able to do so at all times and compliance may prove to be more costly and limiting than we currently anticipate and compliance requirements could increase in future years. These laws and regulations are complex, change frequently, are subject to evolving interpretations, and may become more stringent over time, which could impact our business, financial condition and results of operations.

In North America, regulatory changes, along with prevailing market conditions, could materially affect new tank railcar manufacturing and retrofitting activities industry-wide, including negative impacts to customer demand for our products and services. In North America additional laws and regulations have been proposed or adopted that will potentially have a significant impact on railroad operations, including the implementation of “positive train control” (PTC) requirements. PTC is a collision avoidance technology intended to override engineer controlled locomotives and stop certain types of train accidents. While certain of these legal and regulatory changes could result in increased levels of railcar repair or refurbishment work and/or new tank car manufacturing activity, if we are unable to manage to adapt our business successfully to changing regulations, our business and results of operations could be adversely affected.

In Europe, changes to the process for obtaining regulatory approval for the operation of new or modified railcars may make it more difficult for us to deliver products to our customers in a timely manner. The EU approval

regime has recently been modified to replace country specific approvals with a single, harmonized EU process. While the changes are expected to streamline the process over time, the switch could result in short term delays in wagon certification, when compared to the current system, which may have an adverse effect on our business and results of operations.

An adverse outcome in any pending or future litigation or investigation could negatively impact our business and results of operations.

We are a defendant in several pending cases in various jurisdictions. If we are unsuccessful in resolving these claims, our business and results of operations could be adversely affected. In addition, future claims that may arise relating to any pending or new matters, whether brought against us or initiated by us against third parties, could distract management's attention from business operations and increase our legal and related costs, which could also negatively impact our business and results of operations.

In connection with the acquisition of the manufacturing business of ARI, we agreed to assume potential legacy liabilities (known and unknown) related to railcars manufactured by ARI. Among these potential liabilities are certain retrofit and repair obligations arising from regulatory actions by the Federal Railroad Administration and the Association of American Railroads. In some cases, ARI shares with us the costs of these retrofit and repair obligations. We currently are not able to determine if any of these liabilities will have a material adverse impact on our results of operations.

Risks related to potential misconduct by employees may adversely impact us.

Our employees may engage in misconduct, fraud or other improper activities, including noncompliance with our policies or regulatory standards and requirements, which could subject us to regulatory sanctions and reputational damage and materially harm our business. It is not always possible to deter employee misconduct, and the precautions we take to prevent and detect this activity may not be effective in controlling unknown or unmanaged risks or losses, including risks associated with harassment, as well as whistleblower complaints and litigation. There can be no assurance that we will succeed in preventing misconduct by employees in the future. In addition, the investigation of alleged misconduct disrupts our operations and may harm the public's perception of our company, which may be costly. Any such events in the future may have a material adverse impact on our financial condition or results of operations.

Some of our employees belong to labor unions and strikes or work stoppages could adversely affect our operations.

We are a party to collective bargaining agreements with various labor unions at some of our operations. Disputes with regard to the terms and conditions of these agreements or our potential inability to negotiate acceptable contracts with these unions in the future could result in, among other things, strikes, work stoppages or other slowdowns by the affected workers. We cannot be assured that our relations with our workforce will remain positive. Union organizers are actively working to organize employees at some of our other facilities. If our workers were to engage in a strike, work stoppage or other slowdown, or other employees were to become unionized or the terms and conditions in future labor agreements were renegotiated, or if union representation is implemented at such sites and we are unable to agree with the union on reasonable employment terms, including wages, benefits, and work rules, we could experience a significant disruption of our operations and incur higher ongoing labor costs. In addition, we could face higher labor costs in the future as a result of severance or other charges associated with lay-offs, shutdowns or reductions in the size and scope of our operations or due to the difficulties of restarting our operations that have been temporarily suspended.

Our stock price has been volatile and may continue to experience large fluctuations.

The price of our common stock has experienced rapid and significant price fluctuations. Our stock price ranged from a low of \$21.30 per share to a high of \$64.87 per share for the year ended August 31, 2019 and a low of

\$41.95 per share to a high of \$60.90 per share for the year ended August 31, 2018. The price for our common stock is likely to continue to be volatile and subject to price and volume fluctuations in response to market and other factors, including the factors discussed elsewhere in these risk factors and the following:

- quarter-to-quarter variations in our operating results;
- the depth and liquidity of the market for our common stock;
- shortfalls in revenue or earnings from levels expected by securities analysts and investors, including the level of our backlog and number of orders received during the period;
- changes in securities analysts' estimates of our future performance;
- shareholder activism;
- dissemination of false or misleading statements through the use of social and other media to discredit us, disparage our products or to harm our reputation;
- any developments that materially impact investors' or customers' perceptions of our business prospects;
- dilution resulting from our sale of additional shares of common stock or from the conversion of convertible notes;
- changes in governmental regulation;
- significant railcar industry announcements or developments;
- the introduction of new products or technologies by us or our competitors;
- actual or anticipated variations in our or our competitors' quarterly or annual financial results;
- the general health and outlook of our industry;
- general financial and other market conditions; and
- domestic and international economic conditions.

In addition, public stock markets have experienced, and may in the future experience, extreme price and trading volume volatility. This volatility has significantly affected the market prices of securities of many companies for reasons frequently unrelated to, or that disproportionately impact, the operating performance of these companies and may adversely affect the price of our common stock. These broad market fluctuations may adversely affect the market price of our common stock in the future.

A material decline in the price of our common stock may result in the assertion of certain claims against us, and/or the commencement of inquiries and/or investigations against us. A prolonged decline in the price of our common stock could result in a reduction in the liquidity of our common stock, a reduction in our ability to raise capital, and the inability of investors to obtain a favorable selling price for their shares. Any reduction in our ability to raise equity capital in the future may force us to reallocate funds from other planned uses and could have a significant negative effect on our business plans and operations.

Following periods of volatility in the market price of their stock, historically many companies have been the subject of securities class action litigation. If we became involved in securities class action litigation in the future, it could result in substantial costs and diversion of our management's attention and our resources and could harm our stock price, business, prospects, financial condition and results of operations.

Our product and service warranties could expose us to potentially significant claims.

We offer our customers limited warranties for many of our products and services. Accordingly, we may be subject to significant warranty claims in the future, such as multiple claims based on one defect repeated throughout our production or servicing processes, claims for which the cost of repairing the defective part is highly disproportionate to the original cost of the part or defects in railcars or services which we discover in the future resulting in increased warranty costs or litigation. Additionally, warranty and product support terms may expand beyond those which have traditionally prevailed in the rail supply industry. These types of warranty claims could result in costly product recalls, customers seeking monetary damages, significant repair costs and damage to our reputation.

If warranty claims attributable to actions of third party component manufacturers are not recoverable from such parties due to their poor financial condition or other reasons, we could be liable for warranty claims and other risks for using these materials in our products.

Many of our products are sold to third parties who may misuse, improperly install or improperly or inadequately maintain or repair such products thereby potentially exposing us to claims that could increase our costs and weaken our financial condition.

The products we manufacture are designed to work optimally when properly operated, installed, repaired, maintained and used to transport the intended cargo. When this does not occur, we may be subjected to claims or litigation associated with product damage, injuries or property damage that could increase our costs and weaken our financial condition.

Our financial performance and market value could cause future write-downs of goodwill or intangibles in future periods.

We are required to perform an annual impairment review of goodwill and indefinite lived assets which could result in an impairment charge if it is determined that the carrying value of the asset is in excess of the fair value. We perform a goodwill impairment test annually during our third quarter. Goodwill is also tested more frequently if changes in circumstances or the occurrence of events indicates that a potential impairment exists.

When we have continued underperforming operations or changes in circumstances, such as a decline in the market price of our common stock, changes in demand or in the numerous variables associated with the judgments, assumptions and estimates made in assessing the appropriate valuation of goodwill indicate the carrying amount of certain indefinite lived assets may not be recoverable, the assets are evaluated for impairment. Among other things, our assumptions used in the valuation of goodwill include growth of revenue and margins and increased cash flows over time. If actual operating results were to differ from these assumptions, it may result in an impairment of goodwill. As of August 31, 2019, we had \$86.6 million of goodwill in our Manufacturing segment and \$43.3 million in our Wheels, Repair & Parts segment. Impairment charges to our goodwill or our indefinite lived assets would impact our results of operations. Future write-downs of goodwill and intangibles could affect certain of the financial covenants under debt instruments and could restrict our financial flexibility. In the event of goodwill impairment, we may have to test other assets for impairment.

The conversion of our outstanding convertible notes could result in substantial dilution to our current stockholders.

We have the option to settle outstanding convertible notes in cash, although if we opt not to or do not have the ability to settle outstanding convertible notes in cash, the conversion of some or all of our convertible notes may dilute the ownership interests of existing stockholders. Any sales in the public market of the common stock issuable upon the conversion of the notes could adversely affect prevailing market prices of our common stock. In addition, the existence of the notes may encourage short selling by market participants, because the conversion of the notes could depress the price of our common stock.

We are a holding company with no independent operations. Our ability to meet our obligations depends upon the performance of our subsidiaries and our joint ventures and their ability to make distributions to us.

As a holding company, we are dependent on the earnings and cash flows of, and dividends, distributions, loans or advances from, our subsidiaries and joint ventures to generate the funds necessary to meet certain of our obligations including the payment of principal, of premium, if any, and interest on debt obligations. Any payment of dividends, distributions, loans or advances to us by our subsidiaries could be subject to statutory restrictions on dividends or repatriation of earnings under applicable local law and monetary transfer restrictions in the jurisdictions in which our subsidiaries operate. In addition, many of our subsidiaries and our joint ventures are parties to credit facilities that contain restrictions on the timing and amount of any payment of dividends, distributions, loans or advances that our subsidiaries may make to us. Under certain circumstances, some or all of our subsidiaries may be prohibited from making any such payments.

Our governing documents, the terms of our 2.875% Convertible Notes, 2.25% Convertible Notes and Oregon law contain certain provisions that could prevent or make more difficult an attempt to acquire us.

Our Articles of Incorporation and Bylaws, as currently in effect, contain certain provisions that may have anti-takeover effects, including:

- a classified Board of Directors, with each class containing as nearly as possible one-third of the total number of members of the Board of Directors and the members of each class serving for staggered three-year terms;
- a vote of at least 55% of our voting securities to amend, repeal or adopt an inconsistent provision of certain provisions of our Articles of Incorporation;
- no less than 120 days' advance notice with respect to nominations of directors or other matters to be voted on by stockholders other than by or at the direction of the Board of Directors;
- removal of directors only for cause;
- the calling of special meetings of stockholders only by the president, a majority of the Board of Directors or the holders of not less than 25% of all votes entitled to be cast on the matters to be considered at such meeting;
- the issuance of preferred stock by our board without further action by the shareholders; and
- the availability under the Articles of Series A participating preferred stock that may be issuable.

The provisions discussed above could have anti-takeover effects because they may delay, defer or prevent an unsolicited acquisition proposal that some, or a majority, of our stockholders might believe to be in their best interests or in which stockholders might receive a premium for their common stock over the then-prevailing market price.

The Oregon Control Share Act and business combination law could limit parties who acquire a significant amount of voting shares from exercising control over us for specific periods of time. These acts could lengthen the period for a proxy contest or for a stockholder to vote their shares to elect the majority of our Board and change management. Additionally, the terms of our 2.875% Convertible Notes provide for the acceleration, at the lenders option, of all outstanding principal and interest owed on the notes upon a change of control of our company. The rights afforded to our creditors under this indenture could increase the cost of any potential acquisition of our company and have a resulting chilling effect on interest in acquiring our company.

These restrictions and provisions could have the effect of dissuading other stockholders or third parties from contesting director elections or attempting certain transactions with us, including, without limitation, acquisitions, which could cause investors to view our securities as less attractive investments and reduce the market price of our common stock and the notes.

Payments of cash dividends on our common stock may be made only at the discretion of our Board of Directors and may be restricted by Oregon law.

Any decision to pay dividends will be at the discretion of our Board of Directors and will depend upon our operating results, strategic plans, capital requirements, financial condition, provisions of our borrowing arrangements and other factors our Board of Directors considers relevant. Furthermore, Oregon law imposes restrictions on our ability to pay dividends. Accordingly, we may not be able to continue to pay dividends in any given amount in the future, or at all.

Fluctuations in foreign currency exchange rates could lead to increased costs and lower profitability.

Outside of the U.S., we primarily conduct business in Mexico and Europe and our non-U.S. businesses conduct their operations in local currencies and other regional currencies. We also source materials worldwide. Fluctuations in exchange rates may affect demand for our products in foreign markets or our cost competitiveness and may adversely affect our profitability. Although we attempt to mitigate a portion of our exposure to changes in currency rates through currency rate hedge contracts and other activities, these efforts cannot fully eliminate the risks associated with the foreign currencies. In addition, some of our borrowings are in foreign currency, giving rise to risk from fluctuations in exchange rates. A material or adverse change in exchange rates could result in significant deterioration of profits or in losses for us.

We may need to raise additional capital to operate our business and achieve our business objectives, which could result in dilution to investors.

We require substantial working capital to fund our business. If additional funds are raised through the issuance of equity securities, the percentage ownership held by our stockholders would be reduced and these equity securities may have rights, preferences or privileges senior to those of our common stock. We evaluate opportunities to access the capital markets taking into account our financial condition and other relevant considerations. Additional financing may not be available when needed, on terms favorable to us or at all. If adequate funds are not available or are not available on acceptable terms, we may be unable to develop or enhance our business, take advantage of future opportunities or respond to competitive pressures, which would harm our business, financial condition and results of operations.

Our business and operations could be negatively affected if we become subject to shareholder activism, which could cause us to incur significant expense, hinder execution of our business strategy and impact our stock price.

Shareholder activism, which could take many forms and arise in a variety of situations, has been increasing in publicly traded companies recently. Shareholder activism, including potential proxy contests, could result in substantial costs and divert management's and our Board of Directors' attention and resources from our business. Additionally, such shareholder activism could give rise to perceived uncertainties as to our future, adversely affect our relationships with service providers and make it more difficult to attract and retain qualified personnel. Also, we may be required to incur significant legal fees and other expenses related to activist shareholder matters. Our stock price could be subject to significant fluctuation or otherwise be adversely affected by the events, risks and uncertainties of any shareholder activism.

We are subject to cybersecurity risks and may incur increasing costs in an effort to minimize those risks.

Our business employs systems and websites that allow for the storage and transmission of proprietary or confidential information regarding our customers, employees, job applicants and other parties, including financial information, intellectual property and personal identification information. Security breaches and other disruptions could compromise our information, expose us to liability and harm our reputation and business. The steps we take to deter and mitigate these risks may not be successful. We may not have the resources or technical sophistication to anticipate or prevent current or rapidly evolving types of cyber-attacks. Attacks may be targeted at us, our customers, or others who have entrusted us with information. Actual or anticipated attacks may cause us to incur increasing costs, including costs to deploy additional personnel and protection technologies, train employees, and engage third-party experts or consultants. Advances in computer capabilities, or other technological developments may result in the technology and security measures used by us to protect transaction or other data being breached or compromised. In addition, data and security breaches can also occur as a result of non-technical issues, including intentional or inadvertent breach by our employees or by persons with whom we have commercial relationships. Any compromise or breach of our security could result in a violation of applicable privacy and other laws, legal and financial exposure, negative impacts on our customers' willingness to transact business with us and a loss of confidence in our security measures, which could have an adverse effect on our results of operations and our reputation.

Updates or changes to our information technology systems may result in problems that could negatively impact our business.

We have information technology systems, comprising hardware, network, software, people, processes and other infrastructure that are important to the operation of our businesses. We continue to evaluate and implement upgrades and changes to information technology systems that support substantially all of our operating and financial functions. We could experience problems in connection with such implementations, including compatibility issues, training requirements, higher than expected implementation costs and other integration

challenges and delays. A significant problem with an implementation, integration with other systems or ongoing management and operation of our systems could negatively impact our business by disrupting operations. Such a problem could also have an adverse effect on our ability to generate and interpret accurate management and financial reports and other information on a timely basis, which could have a material adverse effect on our financial reporting system and internal controls and adversely affect our ability to manage our business.

If we are unable to protect our intellectual property and prevent its improper use by third parties or if third parties assert that our products or services infringe their intellectual property rights, our ability to compete in the market may be harmed, and our business and financial condition may be adversely affected.

The protection of our intellectual property is important to our business. We rely on a combination of trademarks, copyrights, patents and trade secrets to protect our intellectual property. However, these protections might be inadequate. Our pending or future trademark, copyright and patent applications might not be approved or, if allowed, might not be sufficiently broad. If our intellectual property rights are not adequately protected we may not be able to commercialize our technologies, products or services and our competitors could commercialize our technologies, which could result in a decrease in our sales and market share and could materially adversely affect our business, financial condition and results of operations. Conversely, third parties might assert that our products, services, or other business activities infringe their patents or other intellectual property rights. Infringement and other intellectual property claims and proceedings brought against us, whether successful or not, could result in substantial costs and harm our reputation. Such claims and proceedings can also distract and divert our management and key personnel from other tasks important to the success of our business. In addition, intellectual property litigation or claims could force us to cease selling or using products that incorporate the asserted intellectual property, which would adversely affect our revenues, or cause us to pay substantial damages for past use of the asserted intellectual property or to pay substantial fees to obtain a license from the holder of the asserted intellectual property, which license may not be available on reasonable terms, if at all. In the event of an adverse determination in an intellectual property suit or proceeding, or our failure to license essential technology or redesign our products so as not to infringe third party intellectual property rights, our sales could be harmed and our costs could increase, which could materially adversely affect our business, financial condition and results of operations.

We could be liable for physical damage, business interruption or product liability claims that exceed our insurance coverage.

The nature of our business subjects us to physical damage, business interruption and product liability claims, especially in connection with the repair and manufacture of products that carry hazardous or volatile materials. Although we maintain liability insurance coverage at commercially reasonable levels compared to similarly sized heavy equipment manufacturers, an unusually large physical damage, business interruption or product liability claim or a series of claims based on a failure repeated throughout our production process could exceed our insurance coverage or result in damage to our reputation, which could materially adversely impact our financial condition and results of operations.

We could be unable to procure adequate insurance on a cost-effective basis in the future.

The ability to insure our businesses, facilities and rail assets is an important aspect of our ability to manage risk. As there are only limited providers of this insurance to the railcar industry, there is no guarantee that such insurance will be available on a cost-effective basis in the future. In addition, we cannot assure that our insurance carriers will be able to pay current or future claims.

Changes in accounting standards or inaccurate estimates or assumptions in the application of accounting policies could adversely affect our financial results.

Our accounting policies and methods are fundamental to how we record and report our financial condition and results of operations. Some of these policies require use of estimates and assumptions that may affect the

reported value of our assets or liabilities and financial results and are critical because they require management to make difficult, subjective, and complex judgments about matters that are inherently uncertain. Accounting standard setters and those who interpret the accounting standards (such as the Financial Accounting Standards Board, the SEC, and our independent registered public accounting firm) may amend or even reverse their previous interpretations or positions on how these standards should be applied. In some cases, we could be required to apply a new or revised standard retrospectively, resulting in the revision of prior period financial statements. Changes in accounting standards can be hard to predict and can materially impact how we record and report our financial condition and results of operations.

Fires, natural disasters, severe weather conditions or public health crises could disrupt our business and result in loss of revenue or higher expenses.

Any serious disruption at any of our facilities due to fire, hurricane, earthquake, flood, other severe weather events or any other natural disaster, or an epidemic or other public health crisis, or a panic reaction to a perceived health risk, could impair our ability to use our facilities and have a material adverse impact on our revenues and increase our costs and expenses. If there is a natural disaster or other serious disruption at any of our facilities, particularly at any of our Mexican or Arkansas facilities, it could impair our ability to adequately supply our customers, cause a significant disruption to our operations, cause us to incur significant costs to relocate or reestablish these functions and negatively impact our operating results. While we insure against certain business interruption risks, such insurance may not adequately compensate us for any losses incurred as a result of natural or other disasters.

Unusual weather conditions may reduce demand for our wheel-related parts and repair services.

Performing railcar wheel repair and replacing railcar wheels represents a portion of our business. Seasonal fluctuations in weather conditions may lead to greater variation in our quarterly operating results as unusually mild weather conditions will generally lead to lower demand for our wheel-related products and services. In addition, unusually mild weather conditions throughout the year may reduce overall demand for our wheel-related products and repair services. If occurring for prolonged periods, such weather could have an adverse effect on our business, results of operations and financial condition.

Business, regulatory, and legal developments regarding climate change may affect the demand for our products or the ability of our critical suppliers to meet our needs.

Scientific studies have suggested that emissions of certain gases, commonly referred to as greenhouse gases (GHGs) including carbon dioxide and methane, may be contributing to warming of the Earth's atmosphere and other climate changes. Legislation and new rules to regulate emission of GHGs have been introduced in numerous state legislatures, the U.S. Congress, and by the EPA. Some of these proposals would require industries to meet stringent new standards that may require substantial reporting of GHGs and other carbon intensive activities in addition to potentially mandating reductions in our carbon emissions. While we cannot assess the direct impact of these or other potential regulations, we recognize that new climate change reporting or compliance protocols could affect our operating costs, the demand for our products and/or affect the price of materials, input factors and manufactured components which could impact our margins. Potential opportunities could include greater demand for certain types of railcars, while potential challenges could include decreased demand for certain types of railcars or other products and higher energy costs. Other adverse consequences of climate change could include an increased frequency of severe weather events and rising sea levels that could affect operations at our manufacturing facilities, the price of insuring company assets, or other unforeseen disruptions of our operations, systems, property or equipment.

Repercussions from terrorist activities or armed conflict could harm our business.

Terrorist activities, anti-terrorist efforts, civil unrest, crime and other armed conflict involving the U.S. or its interests abroad may adversely affect the U.S. and global economies, potentially preventing us from meeting our

financial and other obligations. In particular, the negative impacts of these events may affect the industries in which we operate. This could result in delays in or cancellations of the purchase of our products or shortages in raw materials, parts, or components. Any of these occurrences could have a material adverse impact on our financial results.

Unanticipated changes in our tax provisions or exposure to additional income tax liabilities could affect our financial condition and profitability and we may take tax positions that the Internal Revenue Service or other tax authorities may contest.

We are subject to income taxes in both the United States and foreign jurisdictions. Significant judgments and estimates are required to be made in determining our worldwide provision for income taxes. Changes in estimates of projected future operating results, loss of deductibility of items, recapture of prior deductions (including related to interest on convertible notes), limitations on our ability to utilize tax net operating losses in the future or changes in assumptions regarding our ability to generate future taxable income could result in significant increases to our tax expense and liabilities that could adversely affect our financial condition and profitability.

We have in the past and may in the future take tax positions that the Internal Revenue Service (IRS) or other tax authorities may contest. We are required by an IRS regulation to disclose particular tax positions to the IRS as part of our tax returns for that year and future years. If the IRS or other tax authorities successfully contests a tax position that we take, we may be required to pay additional taxes, interest or fines that may adversely affect our results of operations and financial position.

Some of our customers place orders for our products in reliance on their ability to utilize tax benefits or tax credits any of which benefits or credits could be discontinued thereby reducing incentives for our customers to purchase our rail products.

There is no assurance that tax authorities will reauthorize, modify, or prevent the expiration of tax benefits, tax credits, or other policies aimed to incentivize the purchase of our products. If such incentives are discontinued or diminished, the demand for our products could decrease, thereby creating the potential for a material adverse effect on our financial condition or results of operations.

Our share repurchase program is intended to enhance long-term shareholder value although we cannot guarantee this will occur and this program may be suspended or terminated at any time.

The Board of Directors has authorized our company to repurchase our common stock through a share repurchase program. Our share repurchase program may be modified, suspended or discontinued at any time without prior notice. Although the share repurchase program is intended to enhance long-term shareholder value, we cannot provide assurance that this will occur.

Item 1B. UNRESOLVED STAFF COMMENTS

None.

Item 2. PROPERTIES

We operate at the following primary facilities as of August 31, 2019:

Description	Location	Status
Manufacturing Segment		
Operating facilities:	6 locations in the United States	Owned
	3 locations in Mexico	Owned – 2 locations Leased – 1 location
	3 locations in Poland	Owned
	3 locations in Romania	Owned
	1 location in Turkey	Owned
	Administrative offices:	2 locations in the United States
Wheels, Repair & Parts Segment		
Operating facilities:	21 locations in the United States	Leased – 11 locations
		Owned – 9 locations
		Customer premises – 1 location
Administrative offices:	Birmingham, Alabama	Leased
Leasing & Services Segment		
Corporate offices, railcar marketing and leasing activities:	Lake Oswego, Oregon	Leased

We believe that our facilities are in good condition and that the facilities, together with anticipated capital improvements and additions, are adequate to meet our operating needs for the foreseeable future. We continually evaluate our facilities in order to remain competitive and to take advantage of market opportunities.

Item 3. LEGAL PROCEEDINGS

There is hereby incorporated by reference the information disclosed in Note 23 – Commitments and Contingencies to Consolidated Financial Statements, Part II, Item 8 of this Form 10-K.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

Information about our Executive Officers

Current information regarding our executive officers is presented below.

William A. Furman, 75, is Chief Executive Officer and Chairman of the Board of Directors. Mr. Furman has served as Chief Executive Officer since 1994, and as Chairman of the Board of Directors since January 2014. Mr. Furman was Vice President of the Company, or its predecessor company, from 1974 to 1994 and President of the Company from 1994 to 2019.

Martin R. Baker, 63, is Senior Vice President, General Counsel and Chief Compliance Officer, a position he has held since joining the Company in May 2008. Prior to joining the Company, Mr. Baker was Corporate Vice President, General Counsel and Secretary of Lattice Semiconductor Corporation.

Alejandro Centurion, 63, is Executive Vice President of the Company and President of Greenbrier Manufacturing Operations, a position he has held since January 2015. Mr. Centurion has served in various management positions for the Company since 2005, most recently as President of North American Manufacturing Operations.

Brian J. Comstock, 57, is Executive Vice President, Sales and Marketing, a position he has held since April 2018. Mr. Comstock has served in various management positions for the Company since 1998, most recently as Senior Vice President and General Manager of Commercial, Americas.

Adrian J. Downes, 56, is Senior Vice President, Chief Financial Officer and Chief Accounting Officer. Mr. Downes has served as Senior Vice President and Chief Accounting Officer since joining the Company in March 2013. Mr. Downes was promoted to Acting Chief Financial Officer in August 2018 and was promoted to Chief Financial Officer in May 2019.

Anne T. Manning, 56, is Vice President and Corporate Controller, a position she has held since November 2007. Ms. Manning has served in various financial management positions for the Company since 1995.

Mark J. Rittenbaum, 62, is Executive Vice President, Chief Commercial and Leasing Officer, a position he has held since February 2016. Mr. Rittenbaum has served in various management positions for the Company since 1990, most recently as Executive Vice President and Chief Financial Officer.

Lorie L. Tekorius, 52, is President and Chief Operating Officer. Ms. Tekorius has served as Chief Operating Officer since August 2018 and was promoted to President in August 2019. Ms. Tekorius has served in various management positions for the Company since 1995, most recently as Executive Vice President and Chief Operating Officer and prior to that, as Executive Vice President and Chief Financial Officer.

Executive officers are designated by the Board of Directors. There are no family relationships among any of the executive officers of the Company.

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock has been traded on the New York Stock Exchange under the symbol GBX since July 14, 1994. There were approximately 533 holders of record of common stock as of October 22, 2019.

Issuer Purchases of Equity Securities

The Board of Directors has authorized the Company to repurchase shares of the Company's common stock. The share repurchase program has an expiration date of March 31, 2021 and the amount remaining for repurchase is \$100 million. Under the share repurchase program, shares of common stock may be purchased on the open market or through privately negotiated transactions from time to time. The timing and amount of purchases will be based upon market conditions, securities law limitations and other factors. The program may be modified, suspended or discontinued at any time without prior notice. The share repurchase program does not obligate the Company to acquire any specific number of shares in any period.

There were no shares repurchased under the share repurchase program during the quarter ended August 31, 2019.

Period	Total Number of Shares Purchased	Average Price Paid Per Share (Including Commissions)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
June 1, 2019 – June 30, 2019	–	–	–	\$100,000,000
July 1, 2019 – July 31, 2019	–	–	–	\$100,000,000
August 1, 2019 – August 31, 2019	–	–	–	\$100,000,000
	–	–	–	

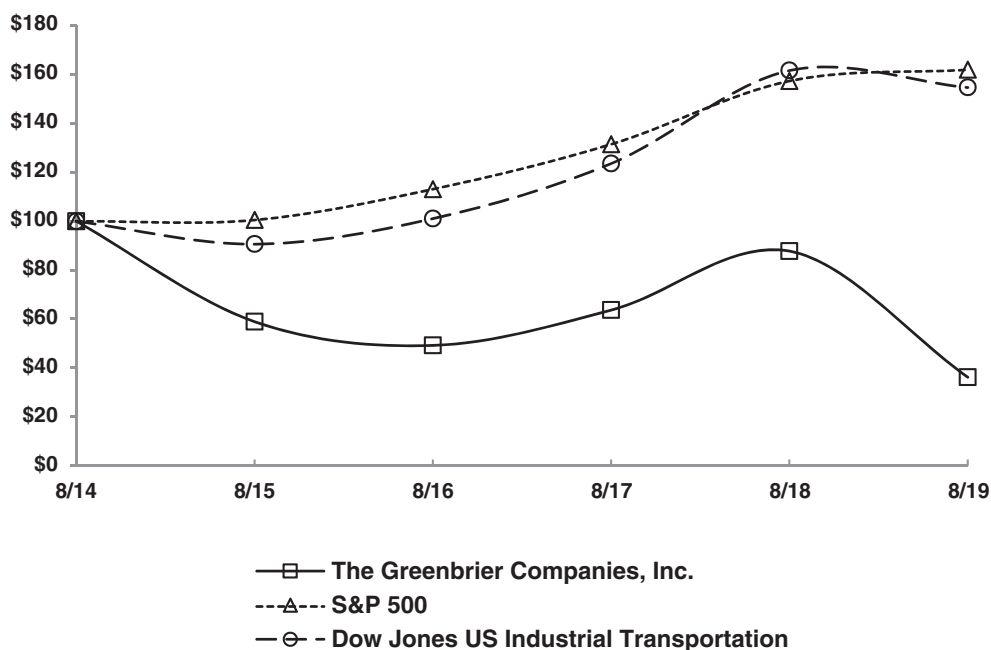
Performance Graph

The following graph demonstrates a comparison of cumulative total returns for the Company's Common Stock, the Dow Jones U.S. Industrial Transportation Index and the Standard & Poor's (S&P) 500 Index. The graph assumes an investment of \$100 on August 31, 2014 in each of the Company's Common Stock and the stocks comprising the indices. Each of the indices assumes that all dividends were reinvested and that the investment was maintained to and including August 31, 2019, the end of the Company's 2019 fiscal year.

The comparisons in this table are required by the SEC, and therefore, are not intended to forecast or be indicative of possible future performance of our Common Stock.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among The Greenbrier Companies, Inc., the S&P 500 Index
and the Dow Jones US Industrial Transportation Index



*\$100 invested on 8/31/14 in stock or index, including reinvestment of dividends.
Fiscal year ending August 31.

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Equity Compensation Plan Information

Equity Compensation Plan Information is hereby incorporated by reference to the "Equity Compensation Plan Information" table in Registrant's definitive Proxy Statement to be filed pursuant to Regulation 14A, which Proxy Statement is anticipated to be filed with the Securities and Exchange Commission within 120 days after the end of the Registrant's year ended August 31, 2019.

Item 6. SELECTED FINANCIAL DATA

<i>(In thousands, except unit and per share data)</i>	YEARS ENDED AUGUST 31,				
	2019	2018	2017	2016	2015
Statement of Operations Data					
Revenue:					
Manufacturing	\$2,431,499	\$2,044,586	\$1,725,188	\$2,096,331	\$2,136,051
Wheels, Repair & Parts	444,502	347,023	312,679	322,395	371,237
Leasing & Services	157,590	127,855	131,297	260,798	97,990
	<u>\$3,033,591</u>	<u>\$2,519,464</u>	<u>\$2,169,164</u>	<u>\$2,679,524</u>	<u>\$2,605,278</u>
Earnings from operations	\$ 184,116	\$ 252,985	\$ 260,432	\$ 408,552	\$ 386,892
Net earnings attributable to Greenbrier	\$ 71,076 ⁽¹⁾	\$ 151,781 ⁽²⁾	\$ 116,067 ⁽²⁾	\$ 183,213	\$ 192,832
Basic earnings per common share attributable to Greenbrier:	\$ 2.18	\$ 4.92	\$ 3.97	\$ 6.28	\$ 6.85
Diluted earnings per common share attributable to Greenbrier:	\$ 2.14	\$ 4.68	\$ 3.65	\$ 5.73	\$ 5.93
Weighted average common shares outstanding:					
Basic	32,615	30,857	29,225	29,156	28,151
Diluted	33,165	32,835	32,562	32,468	33,328
Cash dividends paid per share	\$ 1.00	\$ 0.96	\$ 0.86	\$ 0.81	\$ 0.60
Balance Sheet Data					
Total assets	\$2,990,637	\$2,465,464	\$2,397,705	\$1,835,774	\$1,787,452
Revolving notes and notes payable, net	\$ 850,000	\$ 463,930	\$ 562,552	\$ 301,853	\$ 374,258
Total equity	\$1,441,697	\$1,384,215	\$1,178,893	\$1,016,827	\$ 863,489
Other Operating Data					
New railcar units delivered	22,500	19,000	15,700	20,300	21,100
New railcar backlog (units)	30,300	27,400	28,600	27,500	41,300
New railcar backlog	\$3,280,000	\$2,740,000	\$2,800,000	\$3,190,000	\$4,710,000
Lease fleet:					
Units managed	380,000	357,000	336,000	264,000	260,000
Units owned	9,400	8,100	8,300	8,900	9,300
Cash Flow Data					
Capital expenditures:					
Manufacturing	\$ 85,155	\$ 59,707	\$ 54,973	\$ 51,294	\$ 84,354
Wheels, Repair & Parts	13,291	5,204	3,129	10,190	9,381
Leasing & Services	99,787	111,937	27,963	77,529	12,254
	<u>\$ 198,233</u>	<u>\$ 176,848</u>	<u>\$ 86,065</u>	<u>\$ 139,013</u>	<u>\$ 105,989</u>
Proceeds from sale of assets	\$ 125,427	\$ 153,224	\$ 24,149	\$ 103,715	\$ 5,295
Depreciation and amortization:					
Manufacturing	\$ 49,240	\$ 44,225	\$ 33,807	\$ 27,137	\$ 20,668
Wheels, Repair & Parts	13,024	10,771	11,143	11,971	11,748
Leasing & Services	21,467	19,360	20,179	24,237	12,740
	<u>\$ 83,731</u>	<u>\$ 74,356</u>	<u>\$ 65,129</u>	<u>\$ 63,345</u>	<u>\$ 45,156</u>

⁽¹⁾ 2019 includes a non-cash goodwill impairment charge of \$10.0 million related to the Company's repair operations.

⁽²⁾ 2018 and 2017 includes the Company's portion of non-cash goodwill impairment charges taken by GBW. As the Company accounted for GBW under the equity method of accounting, its 50% share of the non-cash goodwill impairment losses recognized by GBW was \$9.5 million after-tax in 2018 and \$3.5 million after-tax in 2017.

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Executive Summary

We operate in three reportable segments: Manufacturing; Wheels, Repair & Parts; and Leasing & Services. Our segments are operationally integrated. The Manufacturing segment, which currently operates from facilities in the U.S., Mexico, Poland, Romania and Turkey, produces double-stack intermodal railcars, tank cars, conventional railcars, automotive railcar products and marine vessels. The Wheels, Repair & Parts segment performs wheel and axle servicing; railcar repair, refurbishment and maintenance; as well as production of a variety of parts for the rail industry in North America. The Leasing & Services segment owns approximately 9,400 railcars and provides management services for approximately 380,000 railcars for railroads, shippers, carriers, institutional investors and other leasing and transportation companies in North America as of August 31, 2019. Through unconsolidated affiliates we produce rail and industrial components and have an ownership stake in a railcar manufacturer in Brazil and a lease financing warehouse.

Our total manufacturing backlog of railcar units as of August 31, 2019 was approximately 30,300 units with an estimated value of \$3.28 billion. Approximately 3% of backlog units and 2% of estimated backlog value as of August 31, 2019 was associated with our Brazilian manufacturing operations which is accounted for under the equity method. Backlog as of August 31, 2019 reflects the transfer of 10,600 units from ARI and the removal of 3,500 small cube covered hoppers for sand service for which we realized negotiated economic benefits. Remaining backlog does not include any other orders for the sand market. Backlog units for lease may be syndicated to third parties or held in our own fleet depending on a variety of factors. Multi-year supply agreements are a part of rail industry practice. A portion of the orders included in backlog reflects an assumed product mix. Under terms of the orders, the exact mix and pricing will be determined in the future, which may impact backlog. Marine backlog as of August 31, 2019 was \$100 million.

Our backlog of railcar units and marine vessels is not necessarily indicative of future results of operations. Certain orders in backlog are subject to customary documentation and completion of terms. Customers may attempt to cancel or modify orders in backlog. Historically, little variation has been experienced between the quantity ordered and the quantity actually delivered, though the timing of deliveries may be modified from time to time. We cannot guarantee that our reported backlog will convert to revenue in any particular period, if at all.

On July 26, 2019 we completed our acquisition of the manufacturing business of ARI. In connection with the acquisition, we acquired two railcar manufacturing facilities in Arkansas, as well as manufacturing and administrative employees in Missouri. We also acquired other facilities which produce a range of railcar components and parts, creating enhanced vertical integration for our manufacturing operations.

Overview

Revenue, Cost of revenue, Margin and Earnings from operations presented below, include amounts from external parties and exclude intersegment activity that is eliminated in consolidation.

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Revenue:			
Manufacturing	\$2,431,499	\$2,044,586	\$1,725,188
Wheels, Repair & Parts	444,502	347,023	312,679
Leasing & Services	157,590	127,855	131,297
	<u>3,033,591</u>	<u>2,519,464</u>	<u>2,169,164</u>
Cost of revenue:			
Manufacturing	2,137,625	1,727,407	1,373,967
Wheels, Repair & Parts	420,890	318,330	288,336
Leasing & Services	108,590	64,672	85,562
	<u>2,667,105</u>	<u>2,110,409</u>	<u>1,747,865</u>
Margin:			
Manufacturing	293,874	317,179	351,221
Wheels, Repair & Parts	23,612	28,693	24,343
Leasing & Services	49,000	63,183	45,735
	<u>366,486</u>	<u>409,055</u>	<u>421,299</u>
Selling and administrative	213,308	200,439	170,607
Net gain on disposition of equipment	(40,963)	(44,369)	(9,740)
Goodwill impairment	10,025	—	—
Earnings from operations	184,116	252,985	260,432
Interest and foreign exchange	30,912	29,368	24,192
Earnings before income tax and loss from unconsolidated affiliates	153,204	223,617	236,240
Income tax expense	(41,588)	(32,893)	(64,014)
Earnings before loss from unconsolidated affiliates	111,616	190,724	172,226
Loss from unconsolidated affiliates	(5,805)	(18,661)	(11,764)
Net earnings	105,811	172,063	160,462
Net earnings attributable to noncontrolling interest	(34,735)	(20,282)	(44,395)
Net earnings attributable to Greenbrier	<u>\$ 71,076</u>	<u>\$ 151,781</u>	<u>\$ 116,067</u>
Diluted earnings per common share	<u>\$ 2.14</u>	<u>\$ 4.68</u>	<u>\$ 3.65</u>

Performance for our segments is evaluated based on Earnings from operations (operating profit). Corporate includes selling and administrative costs not directly related to goods and services and certain costs that are intertwined among segments due to our integrated business model. Management does not allocate Interest and foreign exchange or Income tax expense for either external or internal reporting purposes.

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Operating profit (loss):			
Manufacturing	\$217,583	\$240,901	\$295,334
Wheels, Repair & Parts	(2,941)	16,731	14,984
Leasing & Services	64,763	88,481	31,904
Corporate	(95,289)	(93,128)	(81,790)
	<u>\$184,116</u>	<u>\$252,985</u>	<u>\$260,432</u>

Consolidated Results

<i>(In thousands)</i>	Years ended August 31,			2019 vs 2018		2018 vs 2017	
	2019	2018	2017	Increase (Decrease)	% Change	Increase (Decrease)	% Change
Revenue	\$3,033,591	\$2,519,464	\$2,169,164	\$514,127	20.4%	\$350,300	16.1%
Cost of revenue	\$2,667,105	\$2,110,409	\$1,747,865	\$556,696	26.4%	\$362,544	20.7%
Margin (%)	12.1%	16.2%	19.4%	(4.1%)	*	(3.2%)	*
Net earnings attributable to							
Greenbrier	\$ 71,076	\$ 151,781	\$ 116,067	\$ (80,705)	(53.2%)	\$ 35,714	30.8%
* Not meaningful							

Through our integrated business model, we provide a broad range of custom products and services in each of our segments, which have various average selling prices and margins. The demand for and mix of products and services delivered changes from period to period, which causes fluctuations in our results of operations.

The 20.4% increase in revenue in 2019 compared to 2018 was primarily due to an 18.9% increase in Manufacturing revenue. The increase in Manufacturing revenue was primarily attributed to an 18.4% increase in the volume of railcar deliveries and a change in product mix. The increase in revenue was also due to a 28.1% increase in Wheels, Repair & Parts revenue primarily due to 2019 including \$87.5 million in revenue associated with the repair shops returned to us after discontinuing the GBW joint venture in August 2018. The 16.1% increase in 2018 as compared to 2017 was primarily due to an 18.5% increase in Manufacturing revenue. The increase in Manufacturing revenue was primarily due to a 21.0% increase in the volume of railcar deliveries and a change in product mix. The increase was also attributed to an 11.0% increase in Wheels, Repair & Parts revenue primarily as a result of higher wheel set and component volumes due to an increase in demand and an increase in scrap metal pricing.

The 26.4% increase in cost of revenue in 2019 compared to 2018 was primarily due to a 23.7% increase in Manufacturing cost of revenue. The increase in Manufacturing cost of revenue was primarily attributed to an 18.4% increase in the volume of railcar deliveries and operating inefficiencies at some of our manufacturing facilities. The increase in cost of revenue was also due to a 32.2% increase in Wheels, Repair & Parts cost of revenue primarily due to 2019 including \$97.3 million in costs associated with the repair shops returned to us after discontinuing the GBW joint venture in August 2018. The 20.7% increase in cost of revenue for 2018 as compared to 2017 was primarily due to a 25.7% increase in Manufacturing cost of revenue. The increase in Manufacturing cost of revenue was primarily due to a 21.0% increase in the volume of railcar deliveries and a change in product mix. The increase was also attributed to a 10.4% increase in Wheels, Repair & Parts cost of revenue primarily due to higher wheel set and component costs associated with increased volumes.

Margin as a percentage of revenue was 12.1% in 2019 and 16.2% in 2018. The overall margin as a percentage of revenue was negatively impacted by a decrease in Manufacturing margin to 12.1% from 15.5% primarily attributed to a change in product mix and operating inefficiencies at some of our manufacturing facilities. The decrease was also due to a decrease in Leasing & Services margin to 31.1% from 49.4%. Margin for 2019 was negatively impacted from higher sales of railcars that we purchased from third parties which have lower margin percentages. Overall margin as a percentage of revenue was 16.2% for 2018 and 19.4% for 2017. The overall margin as a percentage of revenue was negatively impacted by a decrease in Manufacturing margin to 15.5% from 20.4% primarily attributed to a change in product mix. This was partially offset by an increase in Leasing & Services margin to 49.4% from 34.8%. Leasing & Services margin percentage in 2018 benefited from fewer sales of railcars that we purchased from third parties which have lower margin percentages, lower maintenance costs, a higher average volume of rent-producing leased railcars for syndication and lower transportation costs.

The \$80.7 million decrease in net earnings attributable to Greenbrier in 2019 compared to 2018 was primarily attributable to a decrease in margin, costs associated with the acquisition of the manufacturing business of ARI and a \$10.0 million goodwill impairment charge for which there was no tax benefit related to our repair operations. The \$35.7 million increase in net earnings attributable to Greenbrier in 2018 compared to 2017 was primarily attributable to a higher Net gain on disposition of equipment and a reduction in the tax rate due to the Tax Cuts and Jobs Act (Tax Act).

Manufacturing Segment

<i>(In thousands)</i>	Years ended August 31,			2019 vs 2018		2018 vs 2017	
	2019	2018	2017	Increase (Decrease)	% Change	Increase (Decrease)	% Change
Revenue	\$2,431,499	\$2,044,586	\$1,725,188	\$386,913	18.9%	\$319,398	18.5%
Cost of revenue	\$2,137,625	\$1,727,407	\$1,373,967	\$410,218	23.7%	\$353,440	25.7%
Margin (%)	12.1%	15.5%	20.4%	(3.4%)	*	(4.9%)	*
Operating profit (\$)	\$ 217,583	\$ 240,901	\$ 295,334	\$ (23,318)	(9.7%)	\$ (54,433)	(18.4%)
Operating profit (%)	8.9%	11.8%	17.1%	(2.9%)	*	(5.3%)	*
Deliveries	22,500	19,000	15,700	3,500	18.4%	3,300	21.0%

* Not meaningful

As of July 26, 2019, the Manufacturing segment included the results of the manufacturing business of ARI which is consolidated for financial reporting purposes. This partially contributed to the increase in Manufacturing revenue and cost of revenue in 2019 compared to 2018.

Manufacturing revenue increased \$386.9 million or 18.9% in 2019 compared to 2018, of which \$43 million related to the addition of the manufacturing business of ARI. The increase in revenue was primarily attributed to an 18.4% increase in the volume of railcar deliveries and a change in product mix. Manufacturing revenue increased \$319.4 million or 18.5% in 2018 compared to 2017. The increase in revenue was primarily attributed to a 21.0% increase in the volume of railcar deliveries and a change in product mix.

Manufacturing cost of revenue increased \$410.2 million or 23.7% in 2019 compared to 2018. The increase in cost of revenue was primarily attributed to an 18.4% increase in the volume of railcar deliveries and operating inefficiencies at some of our manufacturing facilities. Operating inefficiencies include poor manufacturing execution at some of our manufacturing facilities and supplier delivery failures at our European operations. Manufacturing cost of revenue increased \$353.4 million or 25.7% in 2018 compared to 2017. The increase in cost of revenue was primarily attributed to a 21.0% increase in the volume of railcar deliveries and a change in product mix.

Manufacturing margin as a percentage of revenue decreased 3.4% in 2019 compared to 2018. The decrease was primarily attributed to a change in product mix and operating inefficiencies at some of our manufacturing facilities. Operating inefficiencies include poor manufacturing execution at some of our manufacturing facilities and supplier delivery failures at our European operations. These were partially offset by higher volumes of new railcar sales with leases attached which typically result in enhanced sales prices and margins. Manufacturing margin as a percentage of revenue decreased 4.9% in 2018 compared to 2017 primarily due to a change in product mix.

Manufacturing operating profit decreased \$23.3 million or 9.7% in 2019 compared to 2018. The decrease was primarily attributed to a lower margin percentage from a change in product mix and operating inefficiencies at some of our manufacturing facilities. Manufacturing operating profit decreased \$54.4 million or 18.4% in 2018 compared to 2017 primarily attributed to a lower margin percentage from a change in product mix and increased costs associated with expanded international operations. This was partially offset by an increase in the volume of railcar deliveries.

Wheels, Repair & Parts Segment

<i>(In thousands)</i>	Years ended August 31,			2019 vs 2018		2018 vs 2017	
	2019	2018	2017	Increase (Decrease)	% Change	Increase (Decrease)	% Change
Revenue	\$444,502	\$347,023	\$312,679	\$ 97,479	28.1%	\$34,344	11.0%
Cost of revenue	\$420,890	\$318,330	\$288,336	\$102,560	32.2%	\$29,994	10.4%
Margin (%)	5.3%	8.3%	7.8%	(3.0%)	*	0.5%	*
Operating profit (\$)	\$ (2,941)	\$ 16,731	\$ 14,984	\$ (19,672)	(117.6%)	\$ 1,747	11.7%
Operating profit (%)	(0.7%)	4.8%	4.8%	(5.5%)	*	0.0%	*

* Not meaningful

On August 20, 2018, 12 repair shops were returned to us as a result of discontinuing our GBW railcar repair joint venture, of which four shops were closed during 2019. Beginning on August 20, 2018, the results of operations from these repair shops were included in the Wheels, Repair & Parts segment as they are now consolidated for financial reporting purposes. The addition of these repair shops contributed to the increase in Wheels, Repair & Parts revenue and cost of revenue during 2019 compared to 2018.

Wheels, Repair & Parts revenue increased \$97.5 million or 28.1% in 2019 compared to 2018. The increase was primarily due to 2019 including \$87.5 million in revenue associated with the repair shops returned to us after discontinuing the GBW joint venture in August 2018. The increase was also due to higher parts revenue due to an increase in demand. Wheels, Repair & Parts revenue increased \$34.3 million or 11.0% in 2018 compared to 2017 primarily as a result of higher wheel set and component volumes due to an increase in demand and an increase in scrap metal pricing.

Wheels, Repair & Parts cost of revenue increased \$102.6 million or 32.2% in 2019 compared to 2018. The increase was primarily due to 2019 including \$97.3 million in cost of revenue associated with the repair shops returned to us after discontinuing the GBW joint venture in August 2018. The increase was also due to increased parts volumes and costs associated with closing sites in our repair network. Wheels, Repair & Parts cost of revenue increased \$30.0 million or 10.4% in 2018 compared to 2017 primarily due to higher wheel set and component costs associated with increased volumes.

Wheels, Repair & Parts margin as a percentage of revenue decreased 3.0% in 2019 compared to 2018. The decrease was primarily attributed to inefficiencies at our repair operations and costs associated with closing sites in our repair network. This was partially offset by a favorable parts product mix. Wheels, Repair & Parts margin as a percentage of revenue increased 0.5% in 2018 compared to 2017 due to efficiencies from operating at higher wheel set and component volumes and an increase in scrap metal pricing. This was partially offset by a less favorable parts product mix.

Wheels, Repair & Parts operating profit decreased \$19.7 million in 2019 compared to 2018. The decrease was primarily attributed to a \$10.0 million goodwill impairment charge recognized in 2019 due to challenges at our repair operations and costs associated with closing sites in our repair network. This was partially offset by higher parts revenue and a more favorable parts product mix. Wheels, Repair & Parts operating profit increased \$1.7 million or 11.7% in 2018 compared to 2017 primarily attributable to higher margins due to an increase in wheelset and component volumes and an increase in efficiencies.

Leasing & Services Segment

<i>(In thousands)</i>	Years ended August 31,			2019 vs 2018		2018 vs 2017	
	2019	2018	2017	Increase (Decrease)	% Change	Increase (Decrease)	% Change
Revenue	\$157,590	\$127,855	\$131,297	\$ 29,735	23.3%	\$ (3,442)	(2.6%)
Cost of revenue	\$108,590	\$ 64,672	\$ 85,562	\$ 43,918	67.9%	\$ (20,890)	(24.4%)
Margin (%)	31.1%	49.4%	34.8%	(18.3%)	*	14.6%	*
Operating profit (\$)	\$ 64,763	\$ 88,481	\$ 31,904	\$ (23,718)	(26.8%)	\$ 56,577	177.3%
Operating profit (%)	41.1%	69.2%	24.3%	(28.1%)	*	44.9%	*

* Not meaningful

The Leasing & Services segment generates revenue from leasing railcars from its lease fleet, providing various management services, interim rent on leased railcars for syndication, and the sale of railcars purchased from third parties with the intent to resell them. The gross proceeds from the sale of these railcars are recorded in revenue and the costs of purchasing these railcars are recorded in cost of revenue.

Leasing & Services revenue increased \$29.7 million or 23.3% in 2019 compared to 2018. The increase was primarily attributed to an increase in the sale of railcars which we had purchased from third parties with the intent to resell them. This was partially offset by a lower average volume of rent-producing leased railcars for syndication. Leasing & Services revenue decreased \$3.4 million or 2.6% in 2018 compared to 2017. The change

in revenue was primarily attributed to a decrease in the sale of railcars which we had purchased from third parties with the intent to resell them and a decline in leasing revenue due to fewer railcars on operating leases as we were rebalancing our lease portfolio. This was partially offset by higher management services revenue from new service agreements and a higher average volume of rent-producing leased railcars for syndication.

Leasing & Services cost of revenue increased \$43.9 million or 67.9% in 2019 compared to 2018. The increase was primarily due to an increase in the volume of railcars sold that we purchased from third parties and higher transportation costs. Leasing & Services cost of revenue decreased \$20.9 million or 24.4% in 2018 compared to 2017 primarily due to a decline in the volume of railcars sold that we purchased from third parties, lower maintenance and transportation costs and fewer railcars on operating leases as we rebalance our lease portfolio.

Leasing & Services margin as a percentage of revenue decreased 18.3% in 2019 compared to 2018. Margin for 2019 was negatively impacted from higher sales of railcars that we purchased from third parties which have lower margin percentages. The decrease in margin was also due to higher transportation costs. Leasing & Services margin as a percentage of revenue increased 14.6% in 2018 compared to 2017. Margin percentage for 2018 benefited from fewer sales of railcars that we purchased from third parties which have lower margin percentages. The increase in margin was also due to lower maintenance costs, a higher average volume of rent-producing leased railcars for syndication and lower transportation costs.

Leasing & Services operating profit decreased \$23.7 million or 26.8% in 2019 compared to 2018. The decrease was attributed to a \$14.2 million decrease in margin primarily due to higher transportation costs and a lower average volume of rent-producing leased railcars for syndication. The decrease was also attributed to a \$6.8 million decrease in net gain on disposition of equipment. Leasing & Services operating profit increased \$56.6 million or 177.3% in 2018 compared to 2017 primarily attributed to a \$40.8 million increase in net gain on disposition of equipment and an \$17.4 million increase in margin. The net gain on disposition of equipment for 2018 related to higher volumes of equipment sales as we were rebalancing our lease portfolio.

The percentage of owned units on lease was 93.3% at August 31, 2019, 94.4% at August 31, 2018 and 92.1% at August 31, 2017.

Selling and Administrative

<i>(In thousands)</i>	Years ended August 31,			2019 vs 2018		2018 vs 2017	
	2019	2018	2017	Increase (Decrease)	% Change	Increase (Decrease)	% Change
Selling and Administrative	\$213,308	\$200,439	\$170,607	\$12,869	6.4%	\$29,832	17.5%

Selling and administrative expense was \$213.3 million or 7.0% of revenue for the year ended August 31, 2019, \$200.4 million or 8.0% of revenue for the year ended August 31, 2018 and \$170.6 million or 7.9% of revenue for the year ended August 31, 2017.

The \$12.9 million increase in 2019 compared to 2018 was primarily attributed to \$18.7 million in costs associated with the acquisition of the manufacturing business of ARI and the addition of the selling and administrative costs from the repair shops returned to us after discontinuing the GBW joint venture and the manufacturing business of ARI. These increases in selling and administrative costs were partially offset by a \$7.6 million decrease in employee costs primarily related to a decrease in incentive compensation.

The \$29.8 million increase in 2018 compared to 2017 was primarily attributed to a \$10.1 million increase in professional fees, consulting and related costs associated with strategic business development, litigation and IT initiatives, \$8.8 million from the addition of Astra Rail's selling and administrative costs and a \$6.0 million increase in employee costs.

Net Gain on Disposition of Equipment

Net gain on disposition of equipment was \$41.0 million, \$44.4 million and \$9.7 million for the years ended August 31, 2019, 2018 and 2017, respectively. Net gain on disposition of equipment primarily includes the sale

of assets from our lease fleet (Equipment on operating leases, net) that are periodically sold in the normal course of business in order to take advantage of market conditions and to manage risk and liquidity; disposition of property, plant and equipment; and insurance proceeds received for business interruption and assets destroyed in a fire.

Goodwill Impairment

Based on the results of our annual impairment test, a non-cash impairment charge of \$10.0 million was recorded during 2019 related to our repair operations.

Interest and Foreign Exchange

Interest and foreign exchange expense was composed of the following:

<i>(In thousands)</i>	Years ended August 31,			Increase (decrease)	
	2019	2018	2017	2019 vs 2018	2018 vs 2017
Interest and foreign exchange:					
Interest and other expense	\$32,260	\$30,946	\$23,519	\$1,314	\$ 7,427
Foreign exchange (gain) loss	(1,348)	(1,578)	673	230	(2,251)
	\$30,912	\$29,368	\$24,192	\$1,544	\$ 5,176

Interest and foreign exchange increased \$1.5 million in 2019 from 2018 primarily due to interest expense associated with our \$225 million senior term debt issued in September 2018. Interest and foreign exchange increased \$5.2 million in 2018 from 2017 primarily due to interest expense associated with our \$275 million convertible senior notes issued in February 2017. This was partially offset by a foreign exchange gain in 2018. The change in foreign exchange (gain) loss was primarily attributed to the change in the Mexican Peso relative to the U.S. Dollar and the change in the Polish Zloty exchange rates relative to the Euro.

Income Tax

In 2019 our income tax expense was \$41.6 million on \$153.2 million of pre-tax earnings for an effective tax rate of 27.1%. The 2019 tax rate was impacted by a goodwill impairment charge for which there was no tax benefit. Excluding the impact of the goodwill impairment charge, the tax rate for 2019 was 25.5%. In 2018 our income tax expense was \$32.9 million on \$223.6 million of pre-tax earnings for an effective tax rate of 14.7%. In 2017 our income tax expense was \$64.0 million on \$236.2 million of pre-tax earnings for an effective tax rate of 27.1%.

The reduction in the 2018 tax rate was primarily due to the enactment of the Tax Act on December 22, 2017. The Tax Act made significant changes to U.S. federal income tax laws, including, but not limited to, a reduction of the corporate tax rate from 35% to 21% and a transition tax on foreign earnings not previously subject to U.S. taxation. As a result, deferred income taxes were remeasured as a result of the new statutory rate which resulted in a one-time tax benefit of \$33.6 million offset, in part, by the accrual of the transition tax of \$8.9 million.

The effective tax rate can fluctuate year-to-year due to changes in the mix of foreign and domestic pre-tax earnings. It can also fluctuate with changes in the proportion of pre-tax earnings attributable to our Mexican railcar manufacturing joint venture. The joint venture is treated as a partnership for tax purposes and, as a result, the partnership's entire pre-tax earnings are included in Earnings before income taxes and earnings from unconsolidated affiliates, whereas only our 50% share of the tax is included in Income tax expense.

Loss From Unconsolidated Affiliates

Through unconsolidated affiliates we produce rail and industrial components and have an ownership stake in a railcar manufacturer in Brazil and a lease financing warehouse. In addition, in 2017 and 2018 we had an investment in the GBW joint venture. We record the after-tax results from these unconsolidated affiliates.

Loss from unconsolidated affiliates was \$5.8 million for the year ended August 31, 2019 and primarily related to losses at our operations in Brazil. Loss from unconsolidated affiliates was \$18.7 million and \$11.8 million for the years ended August 31, 2018 and 2017, respectively and primarily related to the results of the GBW joint venture. In addition in 2018, a pre-tax goodwill impairment loss of \$26.4 million was recognized related to GBW. As we accounted for GBW under the equity method of accounting, our 50% share of the non-cash goodwill impairment loss recognized by GBW was \$9.5 million after-tax in 2018, which were included as part of Loss from unconsolidated affiliates on our Consolidated Statement of Income.

Net Earnings Attributable to Noncontrolling Interest

Net earnings attributable to noncontrolling interest was \$34.7 million, \$20.3 million and \$44.4 million for the years ended August 31, 2019, 2018 and 2017, respectively, which primarily represents our joint venture partner's share in the results of operations of our Mexican railcar manufacturing joint venture, adjusted for intercompany sales, and our European partner's share of the results of our European operations.

Liquidity and Capital Resources

<i>(In thousands)</i>	Years Ended August 31,		
	2019	2018	2017
Net cash provided by (used in) operating activities	\$ (21,241)	\$103,341	\$ 285,604
Net cash used in investing activities	(443,981)	(80,292)	(129,125)
Net cash provided by (used in) financing activities	276,901	(89,267)	204,422
Effect of exchange rate changes	(12,666)	(14,666)	12,499
Net increase (decrease) in cash and cash equivalents	<u>\$(200,987)</u>	<u>\$ (80,884)</u>	<u>\$ 373,400</u>

We have been financed through cash generated from operations and borrowings. At August 31, 2019 cash and cash equivalents and restricted cash were \$338.5 million, a decrease of \$201.0 million from \$539.5 million at the prior year end.

The change in cash provided by (used in) operating activities in 2019 compared to 2018 was primarily due to lower earnings and a net change in working capital due to an increase in production. The change in cash provided by operating activities in 2018 compared to 2017 was primarily due to a net change in working capital, a change in cash flows associated with leased railcars for syndication, a change in deferred revenue, an increase in net gain on disposition of equipment and a change in deferred income taxes as a result of the Tax Act.

The change in cash used in investing activities in 2019 compared to 2018 was primarily attributable to the acquisition of the manufacturing business of ARI. The change in cash used in investing activities in 2018 compared to 2017 was primarily attributable to higher proceeds from the sale of assets partially offset by an increase in capital expenditures.

Capital expenditures totaled \$198.2 million, \$176.8 million and \$86.1 million for the years ended August 31, 2019, 2018 and 2017, respectively. Manufacturing capital expenditures were approximately \$85.1 million, \$59.7 million and \$55.0 million for the years ended August 31, 2019, 2018 and 2017, respectively. Capital expenditures for Manufacturing are expected to be approximately \$95 million in 2020 and primarily relate to enhancements of our existing manufacturing facilities. Wheels, Repair & Parts capital expenditures were approximately \$13.3 million, \$5.2 million and \$3.1 million for the years ended August 31, 2019, 2018 and 2017, respectively. Capital expenditures for Wheels, Repair & Parts are expected to be approximately \$15 million in 2020 for enhancements of our existing facilities. Leasing & Services and corporate capital expenditures were approximately \$99.8 million, \$111.9 million and \$28.0 million for the years ended August 31, 2019, 2018 and 2017, respectively. Leasing & Services and corporate capital expenditures for 2020 are expected to be approximately \$30 million. Proceeds from sales of leased railcar equipment are expected to be approximately \$95 million for 2020. Assets from our lease fleet are periodically sold in the normal course of business in order to take advantage of market conditions and to manage risk and liquidity.

Proceeds from the sale of assets, which primarily related to sales of railcars from our lease fleet within Leasing & Services, were approximately \$125.4 million, \$153.2 million and \$24.1 million for the years ended August 31, 2019, 2018 and 2017, respectively. These proceeds included approximately \$7.7 million of equipment sold pursuant to sale leaseback transactions for the year ended August 31, 2017. The gain resulting from the sale leaseback transaction was deferred and is being recognized over the lease term in Net gain on disposition of equipment. In addition, proceeds from the sale of assets for the years ended August 31, 2017 included \$6.2 million of insurance proceeds associated with our Manufacturing segment in 2017.

The change in cash provided by (used in) financing activities in 2019 compared to 2018 was primarily attributed to proceeds from the issuance of notes payable and a change in the net activities with joint venture partners. The change in cash provided by (used in) financing activities in 2018 compared to 2017 was primarily attributed to a decrease in the proceeds of debt, net of repayments and a change in the net activities with joint venture partners.

A quarterly dividend of \$0.25 per share was declared on October 23, 2019.

The Board of Directors has authorized our company to repurchase shares of our common stock. In January 2019, the expiration date of this share repurchase program was extended from March 31, 2019 to March 31, 2021 and the amount remaining for repurchase was increased from \$88 million to \$100 million. Under the share repurchase program, shares of common stock may be purchased on the open market or through privately negotiated transactions from time to time. The timing and amount of purchases will be based upon market conditions, securities law limitations and other factors. The program may be modified, suspended or discontinued at any time without prior notice. The share repurchase program does not obligate us to acquire any specific number of shares in any period.

In July 2019, as part of the acquisition of the manufacturing business of ARI, we entered into new \$300 million senior term debt. The maturity date is June 2024 unless the 2.875% Convertible senior notes due July 2024 are outstanding as of November 1, 2023, in which case the debt matures on that date. The debt bears a floating interest rate of LIBOR plus 1.5% with principal of \$3.75 million paid quarterly in arrears and a balloon payment of \$232.5 million due at maturity. An interest rate swap agreement was entered into on 50% of the initial balance to swap the floating interest rate of LIBOR plus 1.5% to a fixed rate of 3.19%.

In July 2019, as part of the acquisition of the manufacturing business of ARI, we issued \$50 million in convertible senior notes, due 2024. The convertible senior note bears interest at a fixed rate of 2.25%, paid semi-annually in arrears on February 1st and August 1st. The convertible notes mature on July 26, 2024, unless earlier repurchased by us or converted in accordance with their terms. Upon the satisfaction of certain conditions, holders may convert at their option at any time prior to the business day immediately preceding the stated maturity date.

In September 2018, we refinanced approximately \$170 million of existing senior term debt, due in March 2020, secured by a pool of leased railcars with new 5-year \$225 million senior term debt also secured by a pool of leased railcars. The new debt bears a floating interest rate of LIBOR plus 1.50% or Prime plus 0.50%. The term loan is to be repaid in equal quarterly installments of \$1.97 million with the remaining outstanding amounts, plus accrued interest, to be paid on the maturity date in September 2023. An interest rate swap agreement was entered into on 50% of the initial balance to swap the floating interest rate to a fixed rate of 4.49%.

Our 3.5% convertible senior notes due 2018 matured on April 1, 2018. The conversion of these notes resulted in the issuance of an additional 3.4 million shares of our common stock. These additional shares have historically been included in the calculation of diluted earnings per share.

In February 2017, we issued \$275 million of convertible senior notes due 2024. The notes are senior unsecured obligations and rank equally with other senior unsecured debt. The notes bear interest at an annual rate of 2.875% payable semiannually in arrears on February 1 and August 1 of each year, commencing August 1, 2017. The notes will mature on February 1, 2024, unless earlier repurchased or converted in accordance with their terms.

Senior secured credit facilities, consisting of three components, aggregated to \$705.4 million as of August 31, 2019. We had an aggregate of \$311.5 million available to draw down under committed credit facilities as of

August 31, 2019. This amount consists of \$233.2 million available on the North American credit facility, \$28.3 million on the European credit facilities and \$50.0 million on the Mexican railcar manufacturing joint venture credit facilities.

As of August 31, 2019, a \$600.0 million revolving line of credit, maturing June 2024, secured by substantially all our assets in the U.S. not otherwise pledged as security for term loans, was available to provide working capital and interim financing of equipment, principally for our U.S. and Mexican operations. Advances under this facility bear interest at LIBOR plus 1.50% or Prime plus 0.50% depending on the type of borrowing. Available borrowings under the credit facility are generally based on defined levels of inventory, receivables, property, plant and equipment and leased equipment, as well as total debt to consolidated capitalization and fixed charges coverage ratios.

As of August 31, 2019, lines of credit totaling \$55.4 million secured by certain of our European assets, with variable rates that range from Warsaw Interbank Offered Rate (WIBOR) plus 1.1% to WIBOR plus 1.5% and Euro Interbank Offered Rate (EURIBOR) plus 1.1% to EURIBOR plus 1.5%, were available for working capital needs of the European manufacturing operations. European credit facilities are continually being renewed. Currently, these European credit facilities have maturities that range from December 2019 through November 2021.

As of August 31, 2019, our Mexican railcar manufacturing joint venture has two lines of credit totaling \$50.0 million. The first line of credit provides up to \$30.0 million. Advances under this facility bear interest at LIBOR plus 2.0%. The Mexican railcar manufacturing joint venture will be able to draw against this facility through March 2024. The second line of credit provides up to \$20.0 million, of which the Company and its joint venture partner have each guaranteed 50%. Advances under this facility bear interest at LIBOR plus 2.0%. The Mexican railcar manufacturing joint venture will be able to draw amounts available under this facility through June 2021.

As of August 31, 2019, outstanding commitments under the senior secured credit facilities consisted of \$24.4 million in letters of credit under the North American credit facility and \$27.1 million outstanding under the European credit facilities.

The revolving and operating lines of credit, along with notes payable, contain covenants with respect to us and our various subsidiaries, the most restrictive of which, among other things, limit our ability to: incur additional indebtedness or guarantees; pay dividends or repurchase stock; enter into capital leases; create liens; sell assets; engage in transactions with affiliates, including joint ventures and non U.S. subsidiaries, including but not limited to loans, advances, equity investments and guarantees; enter into mergers, consolidations or sales of substantially all our assets; and enter into new lines of business. The covenants also require certain maximum ratios of debt to total capitalization and minimum levels of fixed charges (interest plus rent) coverage. As of August 31, 2019, we were in compliance with all such restrictive covenants.

From time to time, we may seek to repurchase or otherwise retire or exchange securities, including outstanding notes, borrowings and equity securities, and take other steps to reduce our debt or otherwise improve our balance sheet. These actions may include open market repurchases, unsolicited or solicited privately negotiated transactions or other retirements, repurchases or exchanges. Such retirements, repurchases or exchanges, if any, will depend on a number of factors, including, but not limited to, prevailing market conditions, trading levels of our debt, our liquidity requirements and contractual restrictions, if applicable. The amounts involved in any such transactions may, individually or in the aggregate, be material and may involve all or a portion of a particular series of notes or other indebtedness which may reduce the float and impact the trading market of notes or other indebtedness which remain outstanding.

We have global operations that conduct business in their local currencies as well as other currencies. To mitigate the exposure to transactions denominated in currencies other than the functional currency, we enter into foreign currency forward exchange contracts with established financial institutions to protect the margin on a portion of foreign currency sales in firm backlog. Given the strong credit standing of the counterparties, no provision has been made for credit loss due to counterparty non-performance.

As of August 31, 2019, we had a \$10.0 million note receivable from Amsted-Maxion, our unconsolidated Brazilian castings and components manufacturer and an \$18.4 million note receivable balance from Greenbrier-Maxion, our unconsolidated Brazilian railcar manufacturer. These note receivables are included on the Consolidated Balance Sheet in Accounts receivable, net. In the future, we may make loans to or provide guarantees for Amsted-Maxion Cruzeiro or Greenbrier-Maxion.

We expect existing funds and cash generated from operations, together with proceeds from financing activities including borrowings under existing credit facilities and long-term financings, to be sufficient to fund expected debt repayments, working capital needs, planned capital expenditures, additional investments in our unconsolidated affiliates and dividends during the next twelve months.

The following table shows our estimated future contractual cash obligations as of August 31, 2019:

<i>(In thousands)</i>	Years Ending August 31,						
	Total	2020	2021	2022	2023	2024	Thereafter
Notes payable	\$ 860,545	\$ 29,084	\$30,921	\$23,258	\$22,907	\$754,375	\$ —
Interest ⁽¹⁾	127,545	30,287	28,035	26,941	26,054	16,228	—
Railcar leases	14,478	6,200	2,965	1,762	1,762	1,413	376
Operating leases	33,170	8,099	5,781	3,965	3,395	2,109	9,821
Revolving notes	27,115	27,115	—	—	—	—	—
Other	177	133	44	—	—	—	—
	\$1,063,030	\$100,918	\$67,746	\$55,926	\$54,118	\$774,125	\$10,197

⁽¹⁾ A portion of the estimated future cash obligation relates to interest on variable rate borrowings.

Due to uncertainty with respect to the timing of future cash flows associated with our unrecognized tax benefits at August 31, 2019, we are unable to estimate the period of cash settlement with the respective taxing authority. Therefore, approximately \$2.2 million in uncertain tax positions, including interest, have been excluded from the contractual table above. See Note 19 to the Consolidated Financial Statements for a discussion on income taxes.

Off Balance Sheet Arrangements

We do not currently have off balance sheet arrangements that have or are likely to have a material current or future effect on our Consolidated Financial Statements.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. requires judgment on the part of management to arrive at estimates and assumptions on matters that are inherently uncertain. These estimates may affect the amount of assets, liabilities, revenue and expenses reported in the financial statements and accompanying notes and disclosure of contingent assets and liabilities within the financial statements. Estimates and assumptions are periodically evaluated and may be adjusted in future periods. Actual results could differ from those estimates.

Income taxes - The asset and liability method is used to account for income taxes. We are required to estimate the timing of the recognition of deferred tax assets and liabilities, make assumptions about the future deductibility of deferred tax assets and assess deferred tax liabilities based on enacted law and tax rates for each tax jurisdiction to determine the amount of deferred tax assets and liabilities. Deferred income taxes are provided for the temporary effects of differences between assets and liabilities recognized for financial statement and income tax reporting purposes. Valuation allowances reduce deferred tax assets to an amount that will more likely than not be realized. We recognize liabilities for uncertain tax positions based on whether evidence indicates that it is more likely than not that the position will be sustained on audit. It is inherently difficult and subjective to estimate such amounts, as this requires us to estimate the probability of various possible outcomes. We reevaluate these uncertain tax positions on a quarterly basis. Changes in tax law or court interpretations may result in the recognition of a tax benefit or an additional charge to the tax provision.

Warranty accruals - Warranty costs to cover a defined warranty period are estimated and charged to operations. The estimated warranty cost is based on historical warranty claims for each particular product type. For new product types without a warranty history, preliminary estimates are based on historical information for similar product types. These estimates are inherently uncertain as they are based on historical data for existing products and judgment for new products. If warranty claims are made in the current period for issues that have not historically been the subject of warranty claims and were not taken into consideration in establishing the accrual or if claims for issues already considered in establishing the accrual exceed expectations, warranty expense may exceed the accrual for that particular product. Conversely, there is the possibility that claims may be lower than estimates. The warranty accrual is periodically reviewed and updated based on warranty trends. However, as we cannot predict future claims, the potential exists for the difference in any one reporting period to be material.

Environmental costs - At times we may be involved in various proceedings related to environmental matters. We estimate future costs for known environmental remediation requirements and accrue for them when it is probable that we have incurred a liability and the related costs can be reasonably estimated based on currently available information. If further developments in or resolution of an environmental matter result in facts and circumstances that are significantly different than the assumptions used to develop these reserves, the accrual for environmental remediation could be materially understated or overstated. Adjustments to these liabilities are made when additional information becomes available that affects the estimated costs to study or remediate any environmental issues or when expenditures for which reserves are established are made. Due to the uncertain nature of environmental matters, there can be no assurance that we will not become involved in future litigation or other proceedings or, if we were found to be responsible or liable in any litigation or proceeding, that such costs would not be material to us.

Revenue recognition - We measure revenue at the amounts that reflect the consideration to which we expect to be entitled in exchange for transferring control of goods and services to customers. We recognize revenue either at the point in time or over the period of time that performance obligations to customers are satisfied. Payment terms vary by segment and product type and are generally due within normal commercial terms. Our contracts with customers may include multiple performance obligations (e.g. railcars, maintenance, management services, etc.). For such arrangements, we allocate revenues to each performance obligation based on its relative standalone selling price. We have disaggregated revenue from contracts with customers into categories which describe the principal activities from which we generate our revenues.

Manufacturing

Railcars are manufactured in accordance with contracts with customers. We recognize revenue upon our customers' acceptance of the completed railcars at a specified delivery point. From time to time, we enter into multi-year supply agreements. Each railcar delivery is considered a distinct performance obligation, such that the amounts that are recognized as revenue following railcar delivery are generally not subject to change.

We typically recognize marine vessel manufacturing revenue over time using the cost input method, based on progress toward contract completion measured by actual costs incurred to date in relation to the estimate of total expected costs. This method best depicts our performance in completing the construction of the marine vessel for the customer and is consistent with the percentage of completion method used prior to the adoption of the new revenue standard.

Wheels, Repair & Parts

We operate a network of wheel, repair and parts shops in North America that provide complete wheelset reconditioning and railcar repair services.

Wheels revenue is recognized when wheelsets are shipped to the customer or when consumed by customers in the case of consignment arrangements. Parts revenue is recognized upon shipment of the parts to the customers.

Repair revenue is typically recognized over time using the cost input method, based on progress toward contract completion measured by actual costs incurred to date in relation to the estimate of total expected costs. This

method best depicts our performance in repairing the railcars for the customer. Repair services are typically completed in less than 90 days.

Leasing & Services

We own a fleet of new and used cars which are leased to third-party customers. Lease revenue is recognized over the lease-term in the period in which it is earned in accordance with ASC 840 *Leases*.

Syndication transactions represent new and used railcars which have been placed on lease to a customer and which we intend to sell to an investor with the lease attached. At the time of such sale, revenue and cost of revenue associated with railcars that we have manufactured are recognized in the Manufacturing segment; while revenue and cost of revenue associated with railcars which were obtained from a third-party with the intent to resell them and subsequently sold, are recognized in the Leasing & Services segment in accordance with ASC 840 *Leases*.

We enter into multi-year contracts to provide management and maintenance services to customers for which revenue is generally recognized on a straight-line basis over the contract term as a stand-ready obligation. Costs to fulfill these contracts are recognized as incurred.

Impairment of long-lived assets - When changes in circumstances indicate the carrying amount of certain long-lived assets may not be recoverable, the assets are evaluated for impairment. If the forecast of undiscounted future cash flows are less than the carrying amount of the assets, an impairment charge to reduce the carrying value of the assets to fair value would be recognized in the current period. These estimates are based on the best information available at the time of the impairment and could be materially different if circumstances change. If the forecast of undiscounted future cash flows exceeds the carrying amount of the assets it would indicate that the assets were not impaired.

Goodwill and acquired intangible assets - We periodically acquire businesses in purchase transactions in which the allocation of the purchase price may result in the recognition of goodwill and other intangible assets. The determination of the value of such intangible assets requires management to make estimates and assumptions. These estimates affect the amount of future period amortization and possible impairment charges.

Goodwill and indefinite-lived intangible assets are tested for impairment annually during the third quarter. The provisions of ASC 350 *Intangibles – Goodwill and Other*, require that we perform this test by comparing the fair value of each reporting unit with its carrying value. We determine the fair value of our reporting units based on a weighting of income and market approaches. Under the income approach, we calculate the fair value of a reporting unit based on the present value of estimated future cash flows which incorporates expected revenue and margins and the use of discount rates. Under the market approach, we estimate the fair value based on observed market multiples for comparable businesses. An impairment loss is recorded to the extent that the reporting unit's carrying amount exceeds the reporting unit's fair value. An impairment loss cannot exceed the total amount of goodwill allocated to the reporting unit. Goodwill and indefinite-lived intangible assets are also tested more frequently if changes in circumstances or the occurrence of events indicates that a potential impairment exists. When changes in circumstances, such as a decline in the market price of our common stock, changes in demand or in the numerous variables associated with the judgments, assumptions and estimates made in assessing the appropriate valuation of goodwill indicate the carrying amount of certain indefinite lived assets may not be recoverable, the assets are evaluated for impairment. If actual operating results were to differ from these assumptions, it may result in an impairment of our goodwill.

Based on the results of our annual impairment test, a non-cash impairment charge of \$10.0 million was recorded during the third quarter of 2019 related to our repair operations. As of August 31, 2019 our goodwill balance was \$129.9 million of which \$86.6 million related to our Manufacturing segment and \$43.3 million related to our Wheels, Repair & Parts segment.

New Accounting Pronouncements

See Note 2 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Currency Exchange Risk

We have global operations that conduct business in their local currencies as well as other currencies. To mitigate the exposure to transactions denominated in currencies other than the functional currency of each entity, we enter into foreign currency forward exchange contracts to protect revenue or margin on a portion of forecast foreign currency sales and expenses. At August 31, 2019 exchange rates, forward exchange contracts for the purchase of Polish Zlotys and the sale of Euros and Pound Sterling aggregated to \$71.6 million. Because of the variety of currencies in which purchases and sales are transacted and the interaction between currency rates, it is not possible to predict the impact a movement in a single foreign currency exchange rate would have on future operating results.

In addition to exposure to transaction gains or losses, we are also exposed to foreign currency exchange risk related to the net asset position of our foreign subsidiaries. At August 31, 2019, net assets of foreign subsidiaries aggregated \$163.9 million and a 10% strengthening of the U.S. Dollar relative to the foreign currencies would result in a decrease in equity of \$16.4 million, or 1.3% of Total equity – Greenbrier. This calculation assumes that each exchange rate would change in the same direction relative to the U.S. Dollar.

Interest Rate Risk

We have managed a portion of our variable rate debt with interest rate swap agreements, effectively converting \$259.5 million of variable rate debt to fixed rate debt. As a result, we are exposed to interest rate risk relating to our revolving debt and a portion of term debt, which are at variable rates. At August 31, 2019, 64% of our outstanding debt had fixed rates and 36% had variable rates. At August 31, 2019, a uniform 10% increase in variable interest rates would result in approximately \$0.8 million of additional annual interest expense.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
The Greenbrier Companies, Inc. and subsidiaries:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of The Greenbrier Companies, Inc. and subsidiaries (the Company) as of August 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the years in the three-year period ended August 31, 2019, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of August 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended August 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have 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 August 31, 2019, 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 October 29, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for revenue recognition as of September 1, 2018, due to the adoption of Accounting Standards Update 2014-09, *Revenue from Contracts with Customers*, and related amendments.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated 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 consolidated 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 consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated 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 consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of the fair value of the European Manufacturing reporting unit and Greenbrier-Astra Rail

As discussed in Notes 2 and 9 to the consolidated financial statements, the Company performs goodwill impairment testing on an annual basis, or more frequently if an event occurs or circumstances change that would indicate a potential impairment exists. The goodwill balance as of August 31, 2019 was \$129.9 million, or 4.3% of total assets. Of this amount, \$29.9 million was allocated to the European Manufacturing reporting unit. The European Manufacturing goodwill represents 34% of the goodwill for the manufacturing segment. As discussed in Note 4 to the consolidated financial statements, the Company established Greenbrier-Astra Rail (GAR) in June 2017 through a transaction with Astra Holding GmbH (Astra). In connection with that transaction, the Company provided Astra an option to put its entire non-controlling interest in GAR, which is a subset of the European Manufacturing reporting unit, to the Company at an exercise price equal to the higher of fair value or a stated formula measured on the exercise date. The Company recorded this contingently redeemable non-controlling interest of \$31.6 million as of August 31, 2019 in the mezzanine section of the consolidated balance sheet. The fair value of GAR, which was determined as part of the Step 1 goodwill impairment evaluation of the European Manufacturing reporting unit, is considered in the measurement of the contingently redeemable non-controlling interest amount at the balance sheet date.

We identified the assessment of the fair value of the European Manufacturing reporting unit and GAR as a critical audit matter. The discounted cash flow model used to calculate the fair value of the European Manufacturing reporting unit and GAR was challenging to test due to the sensitivity of the fair value determinations to changes to certain assumptions. Specifically, changes to the following assumptions had a significant effect on the Company's assessment of the carrying value of the goodwill and contingently redeemable non-controlling interest:

- Forecasted revenues, terminal growth rates, and gross margin percentages; and
- The discount rates applied to the forecasted cash flows.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's process to determine the fair value of the European Manufacturing reporting unit and GAR, including controls over the development of the forecasted revenues, terminal growth rates, and gross margin percentages and selection of discount rates used. We evaluated the Company's forecasted revenues and gross margin percentages by comparing them to the Company's historical results, as well as external market and industry data. We performed sensitivity analyses over the above key assumptions to assess their impact on the Company's determination of the fair value of the European Manufacturing reporting unit and GAR. In addition, we involved a valuation professional with specialized skills and knowledge, who assisted in:

- Evaluating each of the discount rates used by comparing it against an independently developed range using publically available market data;
- Developing an estimate of the fair value of the European Manufacturing reporting unit and GAR, using the Company's cash flow forecast for the reporting unit and GAR, respectively, and independently developed discount rates; and
- Evaluating the terminal growth rates by comparing them against publicly available relevant geographic market data.

Evaluation of the sufficiency of audit evidence obtained over the preliminary allocation of the purchase price to the tangible assets acquired and liabilities assumed associated with the acquisition of the manufacturing business of American Railcar Industries, Inc.

As discussed in Note 4 to the consolidated financial statements, the Company acquired the manufacturing business of American Railcar Industries, Inc. (ARI) on July 26, 2019, for consideration of \$418.3 million. Based on the preliminary allocation of the purchase price, the acquisition resulted in the recognition of \$93.6 million of intangible assets, including goodwill, and \$324.7 million related to tangible assets, net of liabilities assumed. The purchase price allocation to the assets acquired and liabilities assumed, including the residual amount allocated to goodwill, is based on preliminary information. This preliminary information is subject to change as additional facts are obtained by the Company related to the assets acquired and liabilities assumed. The information that was available to the Company to allocate consideration to the tangible assets acquired and liabilities assumed was

affected by the proximity of the acquisition date to the Company's fiscal year-end date of August 31, 2019. In addition, the Company did not acquire 100% of ARI, and therefore there is increased complexity around the determination of the specific tangible assets that were acquired and liabilities that were assumed by the Company, versus those retained by the previous owner. During the measurement period, the Company will adjust the values attributed to the tangible assets acquired and liabilities assumed if new information is obtained about facts and circumstances that existed as of the acquisition date.

We identified the evaluation of the sufficiency of audit evidence obtained over the preliminary allocation of the purchase price to the tangible assets acquired and liabilities assumed associated with the acquisition of the manufacturing business of ARI as a critical audit matter. Complex auditor judgment was required to evaluate which tangible assets were acquired and which liabilities were assumed, based on the information available as of the end of the reporting period.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's purchase price allocation process, including controls over the identification of the tangible assets acquired and liabilities assumed, as well as the determination of the preliminary allocation of the purchase price. We tested the Company's identification of the tangible assets acquired and liabilities assumed by reading the acquisition agreement, and comparing the categories of such tangible assets and liabilities which were recorded in the preliminary purchase price allocation to the acquisition agreement. Additionally, to determine the ownership of the tangible asset or obligation of the liability, we selected a sample from the Company's detailed listing of the tangible assets acquired and liabilities assumed, and agreed the items selected to underlying source documentation. We also inspected a sample of payments made by the Company subsequent to the acquisition date, to assess if the payment related to a tangible asset or liability that should have been recorded as of the acquisition date.

/s/ KPMG LLP

We have served as the Company's auditor since 2011.

Portland, Oregon
October 29, 2019

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Consolidated Balance Sheets

AS OF AUGUST 31,

<i>(In thousands)</i>	2019	2018
Assets		
Cash and cash equivalents	\$ 329,684	\$ 530,655
Restricted cash	8,803	8,819
Accounts receivable, net	373,383	348,406
Inventories	664,693	432,314
Leased railcars for syndication	182,269	130,926
Equipment on operating leases, net	366,688	322,855
Property, plant and equipment, net	717,973	457,196
Investment in unconsolidated affiliates	91,818	61,414
Intangibles and other assets, net	125,379	94,668
Goodwill	129,947	78,211
	\$2,990,637	\$2,465,464
Liabilities and Equity		
Revolving notes	\$ 27,115	\$ 27,725
Accounts payable and accrued liabilities	568,360	449,857
Deferred income taxes	13,946	31,740
Deferred revenue	85,070	105,954
Notes payable, net	822,885	436,205
Commitments and contingencies (Notes 22 & 23)		
Contingently redeemable noncontrolling interest	31,564	29,768
Equity:		
Greenbrier		
Preferred stock – without par value; 25,000 shares authorized; none outstanding	–	–
Common stock – without par value; 50,000 shares authorized; 32,488 and 32,191 outstanding at August 31, 2019 and 2018	–	–
Additional paid-in capital	453,943	442,569
Retained earnings	867,602	830,898
Accumulated other comprehensive loss	(44,815)	(23,366)
Total equity – Greenbrier	1,276,730	1,250,101
Noncontrolling interest	164,967	134,114
Total equity	1,441,697	1,384,215
	\$2,990,637	\$2,465,464

The accompanying notes are an integral part of these financial statements.

Consolidated Statements of Income

YEARS ENDED AUGUST 31,

<i>(In thousands, except per share amounts)</i>	2019	2018	2017
Revenue			
Manufacturing	\$2,431,499	\$2,044,586	\$1,725,188
Wheels, Repair & Parts	444,502	347,023	312,679
Leasing & Services	157,590	127,855	131,297
	<u>3,033,591</u>	<u>2,519,464</u>	<u>2,169,164</u>
Cost of revenue			
Manufacturing	2,137,625	1,727,407	1,373,967
Wheels, Repair & Parts	420,890	318,330	288,336
Leasing & Services	108,590	64,672	85,562
	<u>2,667,105</u>	<u>2,110,409</u>	<u>1,747,865</u>
Margin	366,486	409,055	421,299
Selling and administrative	213,308	200,439	170,607
Net gain on disposition of equipment	(40,963)	(44,369)	(9,740)
Goodwill impairment	10,025	—	—
	<u>184,116</u>	<u>252,985</u>	<u>260,432</u>
Earnings from operations			
Other costs			
Interest and foreign exchange	30,912	29,368	24,192
	<u>153,204</u>	<u>223,617</u>	<u>236,240</u>
Earnings before income tax and loss from unconsolidated affiliates	153,204	223,617	236,240
Income tax expense	(41,588)	(32,893)	(64,014)
	<u>111,616</u>	<u>190,724</u>	<u>172,226</u>
Earnings before loss from unconsolidated affiliates	111,616	190,724	172,226
Loss from unconsolidated affiliates	(5,805)	(18,661)	(11,764)
	<u>105,811</u>	<u>172,063</u>	<u>160,462</u>
Net earnings	105,811	172,063	160,462
Net earnings attributable to noncontrolling interest	(34,735)	(20,282)	(44,395)
	<u>\$ 71,076</u>	<u>\$ 151,781</u>	<u>\$ 116,067</u>
Net earnings attributable to Greenbrier			
Basic earnings per common share	<u>\$ 2.18</u>	<u>\$ 4.92</u>	<u>\$ 3.97</u>
Diluted earnings per common share	<u>\$ 2.14</u>	<u>\$ 4.68</u>	<u>\$ 3.65</u>
Weighted average common shares:			
Basic	32,615	30,857	29,225
Diluted	33,165	32,835	32,562
Dividends declared per common share	\$ 1.00	\$ 0.96	\$ 0.86

The accompanying notes are an integral part of these financial statements.

Consolidated Statements of Comprehensive Income

YEARS ENDED AUGUST 31,

<i>(In thousands)</i>	2019	2018	2017
Net earnings	\$105,811	\$172,063	\$160,462
Other comprehensive income (loss)			
Translation adjustment	(12,725)	(16,159)	15,488
Reclassification of derivative financial instruments recognized in net earnings ¹	1,854	(415)	3,729
Unrealized gain (loss) on derivative financial instruments ²	(10,264)	(197)	1,944
Other (net of tax effect)	(351)	(335)	(665)
	<u>(21,486)</u>	<u>(17,106)</u>	<u>20,496</u>
Comprehensive income	84,325	154,957	180,958
Comprehensive income attributable to noncontrolling interest	(34,698)	(20,263)	(44,417)
Comprehensive income attributable to Greenbrier	\$ 49,627	\$134,694	\$136,541

¹ Net of tax effect of \$0.5 million, \$nil and \$1.0 million for the years ended August 31, 2019, 2018 and 2017

² Net of tax effect of (\$2.9 million), (\$0.1 million) and \$0.8 million for the years ended August 31, 2019, 2018 and 2017

The accompanying notes are an integral part of these financial statements.

Consolidated Statements of Equity

<i>(In thousands)</i>	Attributable to Greenbrier							
	Common Stock Shares	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Equity - Greenbrier	Noncontrolling Interest	Total Equity	Contingently Redeemable Noncontrolling Interest
Balance August 31, 2016	28,205	\$282,886	\$618,178	\$(26,753)	\$ 874,311	\$142,516	\$1,016,827	\$ –
Net earnings	–	–	116,067	–	116,067	46,535	162,602	(2,140)
Other comprehensive income, net	–	–	–	20,474	20,474	22	20,496	–
Noncontrolling interest adjustments	–	–	–	–	–	(677)	(677)	–
Joint venture partner distribution declared	–	–	–	–	–	(28,027)	(28,027)	–
Noncontrolling interest acquired	–	–	–	–	–	394	394	–
Contingently redeemable noncontrolling interest	–	–	–	–	–	–	–	38,288
Restricted stock awards (net of cancellations)	298	5,520	–	–	5,520	–	5,520	–
Unamortized restricted stock	–	(10,734)	–	–	(10,734)	–	(10,734)	–
Restricted stock amortization	–	19,826	–	–	19,826	–	19,826	–
Tax deficiency from restricted stock awards	–	(2,339)	–	–	(2,339)	–	(2,339)	–
Cash dividends (\$0.86 per share)	–	–	(25,142)	–	(25,142)	–	(25,142)	–
2.875% Convertible Senior Notes, due 2024 – equity component, net of tax	–	20,818	–	–	20,818	–	20,818	–
2.875% Convertible Senior Notes, due 2024, issuance costs – equity component, net of tax	–	(671)	–	–	(671)	–	(671)	–
Balance August 31, 2017	28,503	\$315,306	\$709,103	\$ (6,279)	\$1,018,130	\$160,763	\$1,178,893	\$36,148
Net earnings	–	–	151,781	–	151,781	26,662	178,443	(6,380)
Other comprehensive loss, net	–	–	–	(17,087)	(17,087)	(19)	(17,106)	–
Noncontrolling interest adjustments	–	–	–	–	–	2,864	2,864	–
Joint venture partner distribution declared	–	–	–	–	–	(62,649)	(62,649)	–
Investment by joint venture partner	–	–	–	–	–	6,500	6,500	–
Noncontrolling interest acquired	–	–	–	–	–	(7)	(7)	–
Restricted stock awards (net of cancellations)	336	7,334	–	–	7,334	–	7,334	–
Unamortized restricted stock	–	(15,058)	–	–	(15,058)	–	(15,058)	–
Restricted stock amortization	–	16,100	–	–	16,100	–	16,100	–
Cash dividends (\$0.96 per share)	–	–	(29,986)	–	(29,986)	–	(29,986)	–
Conversion of 3.5% 2018 Convertible Senior Notes	3,352	118,887	–	–	118,887	–	118,887	–
Balance August 31, 2018	32,191	\$442,569	\$830,898	\$(23,366)	\$1,250,101	\$134,114	\$1,384,215	\$29,768
Cumulative effect adjustment due to adoption of ASU 2014-09 (See Note 2)	–	–	5,461	–	5,461	–	5,461	–
Net earnings	–	–	71,076	–	71,076	39,598	110,674	(4,863)
Other comprehensive loss, net	–	–	–	(21,449)	(21,449)	(37)	(21,486)	–
Noncontrolling interest adjustments	–	–	(6,659)	–	(6,659)	7,402	743	6,659
Joint venture partner distribution declared	–	–	–	–	–	(18,025)	(18,025)	–
Noncontrolling interest acquired	–	–	–	–	–	1,915	1,915	–
Restricted stock awards (net of cancellations)	297	12,077	–	–	12,077	–	12,077	–
Unamortized restricted stock	–	(16,801)	–	–	(16,801)	–	(16,801)	–
Restricted stock amortization	–	12,321	–	–	12,321	–	12,321	–
Cash dividends (\$1.00 per share)	–	–	(33,174)	–	(33,174)	–	(33,174)	–
2.25% Convertible Senior Notes, due 2024 – equity component, net of tax	–	3,777	–	–	3,777	–	3,777	–
Balance August 31, 2019	32,488	\$453,943	\$867,602	\$(44,815)	\$1,276,730	\$164,967	\$1,441,697	\$31,564

The accompanying notes are an integral part of these financial statements.

Consolidated Statements of Cash Flows

YEARS ENDED AUGUST 31,

<i>(In thousands)</i>	2019	2018	2017
Cash flows from operating activities:			
Net earnings	\$ 105,811	\$ 172,063	\$ 160,462
Adjustments to reconcile net earnings to net cash provided by (used in) operating activities:			
Deferred income taxes	(20,225)	(40,496)	4,377
Depreciation and amortization	83,731	74,356	65,129
Net gain on disposition of equipment	(40,963)	(44,369)	(9,740)
Stock based compensation expense	11,153	29,314	26,427
Accretion of debt discount	4,458	4,171	2,340
Noncontrolling interest adjustments	7,402	2,864	(677)
Goodwill impairment	10,025	-	-
Other	145	1,688	(845)
Decrease (increase) in assets:			
Accounts receivable, net	13,022	(83,551)	(25,272)
Inventories	(143,168)	(26,592)	(2,787)
Leased railcars for syndication	(96,110)	(54,023)	41,015
Other	6,843	34,115	17,558
Increase (decrease) in liabilities:			
Accounts payable and accrued liabilities	55,910	54,032	(25,422)
Deferred revenue	(19,275)	(20,231)	33,039
Net cash provided by (used in) operating activities	(21,241)	103,341	285,604
Cash flows from investing activities:			
Acquisitions, net of cash acquired	(361,878)	(34,874)	(27,127)
Proceeds from sales of assets	125,427	153,224	24,149
Capital expenditures	(198,233)	(176,848)	(86,065)
Investment in and advances to unconsolidated affiliates	(11,393)	(26,455)	(40,632)
Cash distribution from joint ventures	2,096	4,661	550
Net cash used in investing activities	(443,981)	(80,292)	(129,125)
Cash flows from financing activities:			
Net changes in revolving notes with maturities of 90 days or less	(105)	23,401	4,324
Proceeds from issuance of notes payable	525,000	13,771	276,093
Repayments of notes payable	(182,971)	(22,269)	(8,297)
Debt issuance costs	(8,630)	-	(9,082)
Dividends	(33,193)	(29,914)	(24,890)
Cash distribution to joint venture partner	(16,879)	(73,033)	(28,511)
Investment by joint venture partner	-	6,500	-
Tax payments for net share settlement of restricted stock	(6,321)	(7,723)	(5,215)
Net cash provided by (used in) financing activities	276,901	(89,267)	204,422
Effect of exchange rate changes	(12,666)	(14,666)	12,499
Increase (decrease) in cash and cash equivalents and restricted cash	(200,987)	(80,884)	373,400
Cash and cash equivalents and restricted cash			
Beginning of period	539,474	620,358	246,958
End of period	\$ 338,487	\$ 539,474	\$ 620,358
Balance Sheet Reconciliation:			
Cash and cash equivalents	\$ 329,684	\$ 530,655	\$ 611,466
Restricted Cash	8,803	8,819	8,892
Total cash and cash equivalents and restricted cash as presented above	\$ 338,487	\$ 539,474	\$ 620,358
Cash paid during the period for:			
Interest	\$ 18,330	\$ 18,878	\$ 13,962
Income taxes, net	\$ 62,084	\$ 66,423	\$ 45,280
Non-cash activity			
Issuance of 2.25% Convertible notes in connection with the acquisition of the manufacturing business of ARI	\$ 50,000	\$ -	\$ -
Transfer from Leased railcars for syndication and Inventories to Equipment on operating leases, net	\$ 43,845	\$ 20,945	\$ 8,668
Capital expenditures accrued in Accounts payable and accrued liabilities	\$ 19,385	\$ 13,534	\$ 16,145
Change in Accounts payable and accrued liabilities associated with dividends declared	\$ 19	\$ (72)	\$ (252)
Change in Accounts payable and accrued liabilities associated with cash distributions to joint venture partner	\$ (1,146)	\$ 14	\$ 484
Conversion of 3.5% Convertible notes	\$ -	\$ 118,887	\$ -

The accompanying notes are an integral part of these financial statements.

Notes to Consolidated Financial Statements

Note 1 - Nature of Operations

The Company operates in three reportable segments: Manufacturing; Wheels, Repair & Parts; and Leasing & Services. The segments are operationally integrated. The Manufacturing segment, which currently operates from facilities in the U.S., Mexico, Poland, Romania and Turkey, produces double-stack intermodal railcars, tank cars, conventional railcars, automotive railcar products and marine vessels. The Wheels, Repair & Parts segment performs wheel and axle servicing; railcar repair, refurbishment and maintenance; as well as production of a variety of parts for the rail industry in North America. The Leasing & Services segment owns approximately 9,400 railcars and provides management services for approximately 380,000 railcars for railroads, shippers, carriers, institutional investors and other leasing and transportation companies in North America as of August 31, 2019. Through unconsolidated affiliates the Company produces rail and industrial components and has an ownership stake in a railcar manufacturer in Brazil and a lease financing warehouse.

Note 2 - Summary of Significant Accounting Policies

Principles of consolidation - The financial statements include the accounts of the Company and its subsidiaries in which it has a controlling interest. All intercompany transactions and balances are eliminated upon consolidation.

Unclassified balance sheet - The balance sheets of the Company are presented in an unclassified format as a result of significant leasing activities for which the current or non-current distinction is not relevant. In addition, the activities of the Manufacturing; Wheels, Repair & Parts; and Leasing & Services segments are so intertwined that in the opinion of management, any attempt to separate the respective balance sheet categories would not be meaningful and may lead to the development of misleading conclusions by the reader.

Foreign currency translation - Certain operations outside the U.S., primarily in Europe, prepare financial statements in currencies other than the U.S. Dollar. Revenues and expenses are translated at monthly average exchange rates during the year, while assets and liabilities are translated at year-end exchange rates. Translation adjustments are accumulated as a separate component of equity in other comprehensive income (loss). The net foreign currency translation adjustment balances were \$34.2 million, \$21.5 million and \$5.4 million as of August 31, 2019, 2018 and 2017, respectively.

Cash and cash equivalents - Cash may temporarily be invested primarily in money market funds. All highly-liquid investments with a maturity of three months or less at the date of acquisition are considered cash equivalents.

Restricted cash - Restricted cash primarily relates to amounts held to support a target minimum rate of return on certain agreements and a pass through account for activity related to management services provided for certain third party customers.

Accounts receivable - Accounts receivable includes receivables from related parties (see Note 18 – Related Party Transactions) and is stated net of allowance for doubtful accounts of \$2.2 million and \$2.7 million as of August 31, 2019 and 2018, respectively.

<i>(In thousands)</i>	As of August 31,		
	2019	2018	2017
Allowance for doubtful accounts			
Balance at beginning of period	\$ 2,701	\$1,768	\$2,215
Additions, net of reversals	773	938	370
Usage	(1,311)	(54)	(891)
Currency translation effect	13	49	74
Balance at end of period	\$ 2,176	\$2,701	\$1,768

Inventories - Inventories are valued at the lower of cost or net realizable value using the first-in first-out method. Work-in-process includes material, labor and overhead. Finished goods includes completed wheels, parts and railcars not on lease or in transit.

Leased railcars for syndication - Leased railcars for syndication consist of newly-built railcars manufactured at one of the Company's facilities or railcars purchased from third parties, which have been placed on lease to a customer and which the Company intends to sell to an investor with the lease attached. These railcars are generally anticipated to be sold within six months of delivery of the last railcar in a group or six months from when the Company acquires the railcar from a third party and are typically not depreciated during that period as the Company does not believe any economic value of a railcar is lost in the first six months. In the event the railcars are not sold in the first six months, the railcars are either held in Leased railcars for syndication and are depreciated or are transferred to Equipment on operating leases and are depreciated. As of August 31, 2019, Leased railcars for syndication was \$182.3 million compared to \$130.9 million as of August 31, 2018.

Equipment on operating leases, net - Equipment on operating leases is stated net of accumulated depreciation. Depreciation to estimated salvage value is provided on the straight-line method over the estimated useful lives of up to thirty-five years. Management periodically reviews salvage value estimates based on current scrap prices and what the Company expects to receive upon disposal.

Investment in unconsolidated affiliates - Investment in unconsolidated affiliates includes the Company's interests which are accounted for under the equity method of accounting. See Note 8 – Investments In Unconsolidated Affiliates for additional information.

Property, plant and equipment - Property, plant and equipment is stated at cost, net of accumulated depreciation. Depreciation is provided on the straight-line method over estimated useful lives which primarily are as follows:

	<u>Depreciable Life</u>
Buildings and improvements	10 – 30 years
Machinery and equipment	3 – 20 years
Other	3 – 7 years

Goodwill - Goodwill is recorded when the purchase price of an acquisition exceeds the fair market value of the net assets acquired. Goodwill is not amortized and is tested for impairment at least annually and more frequently if material changes in events or circumstances arise. The provisions of ASC 350 *Intangibles – Goodwill and Other*, require the Company to perform an annual impairment test on goodwill. The Company reviews goodwill for impairment annually using either a qualitative assessment or a quantitative goodwill impairment test. If the qualitative assessment is selected and determines that fair value of each reporting unit more likely than not exceeds its carrying value, no further assessment is necessary. For reporting units where we perform the quantitative goodwill impairment test an impairment loss is recorded to the extent that the reporting unit's carrying amount exceeds the reporting unit's fair value. An impairment loss cannot exceed the total amount of goodwill allocated to the reporting unit. See Note 9 – Goodwill for additional information.

Intangible and other assets, net - Intangible assets are recorded when a portion of the purchase price of an acquisition is allocated to assets such as customer contracts and relationships and trade names. Intangible assets with finite lives are amortized using the straight line method over their estimated useful lives which are up to 20 years. Other assets include revolving note fees which are capitalized and amortized as interest expense over the life of the related borrowings.

Impairment of long-lived assets - When changes in circumstances indicate the carrying amount of certain long-lived assets may not be recoverable, the assets are evaluated for impairment. If the forecasted undiscounted future cash flows are less than the carrying amount of the assets, an impairment charge to reduce the carrying value of the assets to estimated realizable value is recognized in the current period. No impairment of long-lived assets was recorded in the years ended August 31, 2019, 2018 and 2017.

Warranty accruals - Warranty costs are estimated and charged to operations to cover a defined warranty period. The estimated warranty cost is based on history of warranty claims for each particular product type. For new

product types without a warranty history, preliminary estimates are based on historical information for similar product types. The warranty accruals, included in Accounts payable and accrued liabilities, are reviewed periodically and updated based on warranty trends.

Income taxes - The asset and liability method is used to account for income taxes. Deferred income taxes are provided for the temporary effects of differences between assets and liabilities recognized for financial statement and income tax reporting purposes. Valuation allowances reduce deferred tax assets to an amount that will more likely than not be realized. The Company recognizes liabilities for uncertain tax positions based on whether evidence indicates that it is more likely than not that the position will be sustained on audit. The Company reevaluates these uncertain tax positions on a quarterly basis. Changes in tax law or court interpretations may result in the recognition of a tax benefit or an additional charge to the tax provision.

Deferred revenue - Cash payments received prior to meeting revenue recognition criteria are recorded in Deferred revenue. Amounts are reclassified out of Deferred revenue once the revenue recognition criteria have been met. Deferred revenue primarily consists of customer prepayments and the unrecognized portion of the \$40 million upfront fee from MUL. The Company also has a 40% interest in the common equity of an entity that buys and sells railcar assets that are leased to third parties. Deferred revenue includes 40% of the revenue and margin of railcars sold to this entity until the railcars are ultimately sold to a third party.

Noncontrolling interest and Contingently redeemable noncontrolling interest - The Company has a joint venture with Grupo Industrial Monclova, S.A. (GIMSA) that manufactures new railroad freight cars for the North American marketplace at GIMSA's existing manufacturing facility located in Frontera, Mexico. Each party owns a 50% interest in the joint venture. The financial results of this operation are consolidated for financial reporting purposes as the Company maintains a controlling interest as evidenced by the right to appoint the majority of the Board of Directors, control over accounting, financing, marketing and engineering and approval and design of products. The noncontrolling interest related to the partner's 50% interest in the joint venture is included in Noncontrolling interest in the equity section of the Company's Consolidated Balance Sheet.

Greenbrier-Astra Rail was formed in 2017 between the Company's existing European operations headquartered in Swidnica, Poland and Astra Rail, based in Arad, Romania. Greenbrier-Astra Rail is controlled by the Company with an approximate 75% interest. The Company consolidates Greenbrier-Astra Rail for financial reporting purposes and includes the noncontrolling interest in the mezzanine section of the Consolidated Balance Sheet in Contingently redeemable noncontrolling interest (see Note 4 – Acquisitions).

In August 2018, Greenbrier-Astra Rail entered into an agreement to take an approximately 68% ownership stake in Rayvag, a railcar manufacturing company based in Adana, Turkey. Rayvag is controlled by the Company. The Company consolidates Rayvag for financial reporting purposes. The noncontrolling interest related to the partner's interest is included in Noncontrolling interest in the equity section of the Company's Consolidated Balance Sheet.

The Company has a joint venture with Summit Railroad Products, Inc. to provide axle services. Each party owns a 50% interest in the joint venture. The financial results of this operation are consolidated for financial reporting purposes as the Company has the power to direct the activities which most significantly impact the economic performance of the entity. The noncontrolling interest related to the partner's 50% interest in the joint venture is included in Noncontrolling interest in the equity section of the Company's Consolidated Balance Sheet.

Net earnings attributable to noncontrolling interest on the Company's Consolidated Statement of Income represents the Company's partners' share of results from operations.

Accumulated other comprehensive loss - Accumulated other comprehensive loss, net of tax as appropriate, consisted of the following:

<i>(In thousands)</i>	Unrealized Gain (Loss) on Derivative Financial Instruments	Foreign Currency Translation Adjustment	Other	Accumulated Other Comprehensive Loss
Balance, August 31, 2018	\$ (431)	\$(21,506)	\$(1,429)	\$(23,366)
Other comprehensive loss before reclassifications	(10,264)	(12,688)	(351)	\$(23,303)
Amounts reclassified from accumulated other comprehensive loss	1,854	-	-	\$ 1,854
Balance, August 31, 2019	\$ (8,841)	\$(34,194)	\$(1,780)	\$(44,815)

The amounts reclassified out of Accumulated other comprehensive loss into the Consolidated Statements of Income, with the financial statement caption, were as follows:

<i>(In thousands)</i>	Year Ended August 31,		Financial Statement Caption
	2019	2018	
(Gain) loss on derivative financial instruments:			
Foreign exchange contracts	\$1,794	\$(716)	Revenue and Cost of revenue
Interest rate swap contracts	545	298	Interest and foreign exchange
	2,339	(418)	Total before tax
	(485)	3	Tax benefit (expense)
	\$1,854	\$(415)	Net of tax

Revenue recognition - The Company measures revenue at the amounts that reflect the consideration to which it expects to be entitled in exchange for transferring control of goods and services to customers. The Company recognizes revenue either at the point in time or over the period of time that performance obligations to customers are satisfied. Payment terms vary by segment and product type and are generally due within normal commercial terms. The Company's contracts with customers may include multiple performance obligations (e.g. railcars, maintenance, management services, etc.). For such arrangements, the Company allocates revenues to each performance obligation based on its relative standalone selling price. The Company has disaggregated revenue from contracts with customers into categories which describe the principal activities from which it generates revenues.

Manufacturing

Railcars are manufactured in accordance with contracts with customers. The Company recognizes revenue upon its customers' acceptance of the completed railcars at a specified delivery point. From time to time, the Company enters into multi-year supply agreements. Each railcar delivery is considered a distinct performance obligation, such that the amounts that are recognized as revenue following railcar delivery are generally not subject to change.

The Company typically recognizes marine vessel manufacturing revenue over time using the cost input method, based on progress toward contract completion measured by actual costs incurred to date in relation to the estimate of total expected costs. This method best depicts the Company's performance in completing the construction of the marine vessel for the customer and is consistent with the percentage of completion method used prior to the adoption of the new revenue standard.

Wheels, Repair & Parts

The Company operates a network of wheel, repair and parts shops in North America that provide complete wheelset reconditioning and railcar repair services.

Wheels revenue is recognized when wheelsets are shipped to the customer or when consumed by customers in the case of consignment arrangements. Parts revenue is recognized upon shipment of the parts to the customers.

Repair revenue is typically recognized over time using the cost input method, based on progress toward contract completion measured by actual costs incurred to date in relation to the estimate of total expected costs. This method best depicts the Company's performance in repairing the railcars for the customer. Repair services are typically completed in less than 90 days.

Leasing & Services

The Company owns a fleet of new and used cars which are leased to third-party customers. Lease revenue is recognized over the lease-term in the period in which it is earned in accordance with ASC 840 *Leases*.

Syndication transactions represent new and used railcars which have been placed on lease to a customer and which the Company intends to sell to an investor with the lease attached. At the time of such sale, revenue and cost of revenue associated with railcars that the Company has manufactured are recognized in the Manufacturing segment; while revenue and cost of revenue associated with railcars which were obtained from a third-party with the intent to resell them and subsequently sold, are recognized in Leasing & Services. In addition the Company will often perform management or maintenance services at market rates for these railcars. The Company evaluates the terms of any remarketing agreements and any contractual provisions that represent retained risk and the level of retained risk based on those provisions. The Company applies a 10% threshold to determine whether the level of retained risk exceeds 10% of the individual fair value of the rail cars delivered. If retained risk exceeded 10%, the transaction would not be recognized as a sale until such time as the retained risk declined to 10% or less.

The Company enters into multi-year contracts to provide management and maintenance services to customers for which revenue is generally recognized on a straight-line basis over the contract term as a stand-ready obligation. Costs to fulfill these contracts are recognized as incurred.

Interest and foreign exchange - Interest and foreign exchange includes foreign exchange transaction gains and losses, amortization of loan fee expense, accretion of debt discounts and external interest expense.

<i>(In thousands)</i>	<u>Years ended August 31,</u>		
	<u>2019</u>	<u>2018</u>	<u>2017</u>
Interest and foreign exchange:			
Interest and other expense	\$32,260	\$30,946	\$23,519
Foreign exchange (gain) loss	(1,348)	(1,578)	673
	<u>\$30,912</u>	<u>\$29,368</u>	<u>\$24,192</u>

Forward exchange contracts - Foreign operations give rise to risks from changes in foreign currency exchange rates. Forward exchange contracts with established financial institutions are used to hedge a portion of such risk. Realized and unrealized gains and losses on effective hedges are deferred in other comprehensive income (loss) and recognized in earnings concurrent with the hedged transaction or when the occurrence of the hedged transaction is no longer considered probable. Ineffectiveness is measured and any gain or loss is recognized in foreign exchange (gain) loss. Even though forward exchange contracts are entered into to mitigate the impact of currency fluctuations, certain exposure remains, which may affect operating results. In addition, there is risk for counterparty non-performance.

Interest rate instruments - Interest rate swap agreements are used to reduce the impact of changes in interest rates on certain debt. The net cash amounts paid or received under the agreements are recognized as an adjustment to interest expense.

Research and development - Research and development costs are expensed as incurred. Research and development costs incurred for new product development during the years ended August 31, 2019, 2018 and 2017 were \$5.4 million, \$6.0 million and \$4.2 million, respectively, included in Selling and administrative expenses.

Net earnings per share - Basic earnings per common share (EPS) includes restricted stock grants and restricted stock units that are considered participating securities, including some grants subject to certain performance criteria, in weighted average basic common shares outstanding when calculating EPS when the Company is in a net earnings position.

Diluted EPS is calculated using the more dilutive of two approaches. The first approach includes the dilutive effect, using the treasury stock method, associated with shares underlying the 2.875% Convertible notes, 2.25% Convertible notes, restricted stock units that are not considered participating securities and performance-based restricted stock units subject to performance criteria, for which actual levels of performance above target have been achieved. The second approach supplements the first by including the “if converted” effect of the 3.5% Convertible notes during the periods in which they were outstanding. Under the “if converted” method, debt issuance and interest costs, both net of tax, associated with the convertible notes are added back to net earnings and the share count is increased by the shares underlying the convertible notes. The 3.5% Convertible notes are included in the calculation of both approaches using the treasury stock method when the average stock price is greater than the applicable conversion price.

Stock-based compensation - The value of stock based compensation awards is amortized as compensation expense from the date of grant through the earlier of the vesting period or in some instances the recipient’s eligible retirement date. Stock based compensation expense consists of restricted stock units, restricted stock and phantom stock units awards. Stock based compensation expense for the years ended August 31, 2019, 2018 and 2017 was \$11.2 million, \$29.3 million and \$26.4 million, respectively and was recorded in Selling and administrative on the Consolidated Statements of Income.

Restricted stock units and restricted stock awards are accounted for as equity based awards (see Note 16 – Equity). Phantom stock units are accounted for as liability based awards.

Phantom Stock Units

The Company began granting phantom stock units during the year ended August 31, 2016. Every phantom stock unit entitles the participant to receive a cash payment equal to the value of a single share of the Company’s common stock upon vesting. The holders of unvested phantom stock units are entitled to participate in dividend equivalents.

There were no phantom stock units awarded during the years ended August 31, 2019 and 2018. During the year ended August 31, 2017, the Company awarded 151,634 phantom stock units which include performance-based grants. As of August 31, 2019, there were a total of 72,144 phantom stock units associated with unvested performance-based grants. The actual number of phantom stock units that will vest associated with performance-based phantom stock units will vary depending on the Company’s performance. An additional 72,144 phantom stock units, associated with awards granted in 2017, may be granted if performance-based phantom stock units vest at stretch levels of performance. The grant date fair value of phantom stock awards was \$6.7 million for the year ended August 31, 2017.

Our phantom stock unit grants are considered liability based awards and therefore are re-measured at the end of each reporting period. Compensation expense is recognized through the earlier of the vesting period or the recipient’s eligible retirement date. Time-based awards to employees are expensed upon grant when the recipient’s eligible retirement date precedes the grant date or during the vesting period if the grantee becomes retirement eligible before the vesting period is complete. Compensation expense related to phantom stock unit grants is recorded in Selling and administrative expense and Cost of revenue on the Company’s Consolidated Statements of Income. For the year ended August 31, 2019, a \$1.2 million benefit was recognized in compensation expense for the re-measurement of phantom stock units due to a lower stock price. Compensation expense recognized related to phantom stock units for the years ended August 31, 2018 and 2017 was \$12.1 million and \$6.2 million, respectively. Unamortized compensation cost related to phantom stock unit grants was \$0.3 million, \$5.9 million and \$10.9 million as of August 31, 2019, 2018 and 2017, respectively.

Management estimates - The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. requires judgment on the part of management to arrive at estimates and

assumptions on matters that are inherently uncertain. These estimates may affect the amount of assets, liabilities, revenue and expenses reported in the financial statements and accompanying notes and disclosure of contingent assets and liabilities within the financial statements. Estimates and assumptions are periodically evaluated and may be adjusted in future periods. Actual results could differ from those estimates.

Reclassifications - Certain immaterial reclassifications have been made to the accompanying prior year Consolidated Financial Statements to conform to the current year presentation.

Initial Adoption of Accounting Policies

Revenue Recognition

In the first quarter of 2019, the Company adopted Accounting Standard Update 2014-09, *Revenue from Contracts with Customers* (ASU 2014-09). This standard was issued to provide a common revenue recognition model for entities to recognize revenue in a way that depicts the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for the goods or services. The new standard also requires additional disclosures to sufficiently describe the nature, amount, timing, and uncertainty of revenue and cash flow arising from contracts with customers. As a result of adopting the new standard, the majority of the Company's revenue recognition timing remained unchanged, while certain minor changes have occurred related to maintenance and repair services. Costs incurred while fulfilling maintenance contracts are now recognized as incurred while the related revenue continues to be recognized over time. Additionally, repair and rail retrofit service revenue, while previously recognized upon completion of an order, is now recognized as costs are incurred. This standard was adopted using a modified retrospective approach through a cumulative effect adjustment, which increased retained earnings by \$5.5 million at September 1, 2018. Other adjustments recorded to the September 1, 2018 opening balance sheet were not material. The adoption of the new revenue standard did not have a material effect on the Condensed Consolidated Balance Sheet or Statement of Income.

Restricted Cash

In the first quarter of 2019, the Company adopted Accounting Standard Update 2016-18, *Restricted Cash* (ASU 2016-18). This update requires additional disclosure and that the Statement of Cash Flow explain the change during the period in the total cash, cash equivalents and amounts generally described as restricted cash. Therefore, amounts generally described as restricted cash should be included with cash & cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the Statement of Cash Flows. The guidance requires retrospective presentation to each period presented. The adoption of ASU 2016-18 did not have an impact on the Condensed Consolidated Balance Sheet and Statement of Income, but did result in revisions to the Condensed Consolidated Statement of Cash Flows as well as other revised disclosures.

Prospective Accounting Changes

Lease Accounting

In February 2016, the FASB issued Accounting Standards Update 2016-02, *Leases* (ASU 2016-02). The new guidance supersedes existing guidance on accounting for leases in Topic 840 and is intended to increase the transparency and comparability of accounting for lease transactions. ASU 2016-02 requires most leases to be recognized on the balance sheet by recording a right-of-use asset and a lease liability. The liability will be equal to the present value of lease payments. The asset will be based on the liability, subject to adjustment, such as for initial direct costs. For income statement purposes, the FASB retained a dual model, requiring leases to be classified as either operating or finance. Lessor accounting remains similar to the current model, but updated to align with certain changes to the lessee model and the new revenue recognition standard. The ASU will require both quantitative and qualitative disclosures regarding key information about leasing arrangements. The standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018 and the Company plans to adopt this standard on September 1, 2019. ASU 2016-02 initially required entities to adopt the standard using a modified retrospective transition method. In July 2018, the FASB issued certain updates including ASU 2018-11, *Leases* (Topic 842): Targeted Improvements, which provide optional transition practical expedients allowing companies to adopt the new standard with a cumulative effect adjustment as of the beginning of the year of adoption with prior year comparative financial information and disclosures remaining as previously reported. The Company plans to elect this optional practical expedient.

The Company evaluated the transition and presentation approaches available as well as the impact of the new guidance on its consolidated financial statements and related disclosures, including the increase in the assets and liabilities on its balance sheet, and the impact on its current lease portfolio from both a lessor and lessee perspective. To facilitate this, the Company utilized a comprehensive approach to review its lease portfolio, as well as assessed system requirements and control implications. The new guidance provides a number of optional practical expedients in transition. The Company elected the “package of practical expedients,” which allows it not to reassess under the new guidance their prior conclusions about lease identification and initial direct costs. The Company did not elect the use-of-hindsight practical expedient. In addition, the new guidance provides practical expedients for an entity’s ongoing lessee accounting. The Company elected to not separate lease and non-lease components for the majority of its asset classes. The Company elected the short-term lease recognition exemption for all leases that qualify which means it will not recognize right-of-use assets or lease liabilities for these leases.

The most significant effects of adoption relate to the recognition of a right-of-use asset and lease liability on the Company’s balance sheet for operating leases and providing new disclosures about its leasing activities. The Company currently expect the right-of-use asset and lease liability as of September 1, 2019 will be between \$40 and \$45 million. The adoption of this new standard also requires the Company to eliminate deferred gains associated with certain sale-leaseback transactions and upon implementation the Company will record an increase to retained earnings of approximately \$5 million. In addition, the Company will derecognize approximately \$9 million of existing assets and approximately \$13 million of deferred revenue for railcar transactions previously not qualifying as sales due to continuing involvement, that now qualify for sale accounting under the new guidance upon adoption. The gain associated with this change in accounting, will be offset by the recognition of a new guarantee liability, resulting in an immaterial net adjustment to retained earnings as of September 1, 2019. The Company does not expect the new guidance to have a material impact on its results of operations.

Derivatives and Hedging

In August 2017, the FASB issued Accounting Standards Update 2017-12, *Derivatives and Hedging: Targeted Improvements to Accounting for Hedging Activities* (ASU 2017-12). This update improves the financial reporting of hedging relationships to better portray the economic results of an entity’s risk management activities in its financial statements and make certain targeted improvements to simplify the application of the hedge accounting guidance. The guidance expands the ability to qualify for hedge accounting for non-financial and financial risk components, reduces complexity in fair value hedges of interest rate risk and eliminates the requirement to separately measure and report hedge ineffectiveness, as well as eases certain hedge effectiveness assessment requirements. The new guidance is effective for reporting periods beginning after December 15, 2018, with early adoption permitted. The Company plans to adopt this guidance beginning September 1, 2019. We do not expect the new guidance to have a material impact on our results of operations.

Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued Accounting Standard Update 2016-13, *Financial Instruments – Credit Losses* (ASU 2016-13). This update introduces a new model for recognizing credit losses on financial instruments based on an estimate of current expected credit losses. The new guidance will apply to loans, accounts receivable, trade receivables, other financial assets measured at amortized cost, loan commitments and other off-balance sheet credit exposures. The new guidance will also apply to debt securities and other financial assets measured at fair value through other comprehensive income. The new guidance is effective for reporting periods beginning after December 15, 2019, with early adoption permitted. The Company plans to adopt this guidance beginning September 1, 2020. The Company is currently evaluating the impact of this standard on its consolidated financial statements and disclosures.

Note 3 - Revenue Recognition

Contract balances

Contract assets primarily consist of unbilled receivables related to marine vessel construction and repair services, for which the respective contracts do not yet permit billing at the reporting date. Contract liabilities primarily

consist of customer prepayments for manufacturing, maintenance, and other management-type services, for which the Company has not yet satisfied the related performance obligations.

The opening and closing balances of the Company's contract balances are as follows:

<i>(in thousands)</i>	Balance sheet classification	September 1, 2018	August 31, 2019	\$ change
Contract assets	Inventories	\$ 7,228	\$10,196	\$ 2,968
Contract liabilities ¹	Deferred revenue	\$41,250	\$39,203	\$(2,047)

¹ Contract liabilities balance includes deferred revenue within the scope of the new revenue standard.

For the year ended August 31, 2019, the Company recognized \$11.3 million of revenue that was included in Contract liabilities as of September 1, 2018.

Performance obligations

As of August 31, 2019, the Company has entered into contracts with customers for which revenue has not yet been recognized. The following table outlines estimated revenue related to performance obligations wholly or partially unsatisfied, that the Company anticipates will be recognized in future periods.

<i>(in millions)</i>	August 31, 2019
Revenue type:	
Manufacturing – Railcar sales	\$2,897.9
Manufacturing – Marine	\$ 100.2
Services	\$ 153.0
Other	\$ 42.1

Manufacturing – Railcars intended for syndication ¹ \$ 317.2

¹ Not a performance obligation as defined in the new revenue standard and therefore not subject to audit

Based on current production and delivery schedules and existing contracts, approximately \$1.9 billion of the Railcar Sales amount is expected to be recognized in 2020 while the remaining amount is expected in future periods. The table above excludes estimated revenue to be recognized at the Company's Brazilian manufacturing operation, as they are accounted for under the equity method.

Revenue amounts reflected in Railcars intended for syndication may be syndicated to third parties or held in the Company's fleet depending on a variety of factors.

Marine revenue is expected to be recognized through 2021 as vessel construction is completed.

Services includes management and maintenance services of which approximately 51% are expected to be performed through 2024 and the remaining amount ratably through 2037.

Note 4 - Acquisitions

Manufacturing business of American Railcar Industries, Inc. (ARI)

On July 26, 2019, the Company completed its acquisition of the manufacturing business of ARI for a purchase price of approximately \$418.3 million. In connection with the acquisition, the Company acquired two railcar manufacturing facilities in Arkansas, as well as other facilities which produce a range of railcar components and parts and create enhanced vertical integration for our manufacturing operations. The purchase price includes approximately \$8.0 million for capital expenditures on railcar lining operations and other facility improvements. Included in the acquisition were equity interests in two railcar component manufacturing businesses which Greenbrier will account for under the equity method of accounting and recognize at their respective fair value as investments in unconsolidated affiliates.

The purchase price was funded by, and consisted of, a combination of cash on hand, the proceeds of a \$300 million secured term loan, the issuance to the seller of a \$50 million senior convertible note and a payable to the seller for a working capital true-up amount (See Note 14 – Notes Payable, net).

For the year ended August 31, 2019, the operations contributed by ARI's manufacturing business generated revenues of \$43.0 million and a loss from operations of \$1.6 million, which are reported in the Company's consolidated financial statements as part of the Manufacturing segment.

The preliminary purchase price of the net assets acquired from ARI was allocated as follows:

(in thousands)

Accounts receivable, net	\$ 28,257
Inventories	98,227
Property, plant and equipment, net	225,045
Investments in unconsolidated affiliates	40,314
Intangibles and other assets, net	36,785
Goodwill	56,816
Total assets acquired	485,444
Total liabilities assumed	67,174
Net assets acquired	\$418,270

The above purchase price allocation, including the residual amount allocated to goodwill, are based on preliminary information and is subject to change as additional information is obtained related to the amounts allocated to the assets acquired and liabilities assumed. As a result of the proximity of the acquisition date to August 31, 2019 and as we did not acquire 100% of ARI, the amounts of all assets acquired and liabilities assumed are preliminary. During the measurement period, which may extend up to 12 months after the date of acquisition, the Company will adjust these assets and liabilities if new information is obtained about the facts and circumstances that existed as of the acquisition date and revised amounts will be recorded as of that date. The effect of measurement period adjustments to the estimated amounts will be reflected on a prospective basis.

The identified intangible assets assumed in the acquisition were recognized as follows:

<i>(In thousands)</i>	Fair value	Weighted average estimated useful life (in years)
Trademarks and patents	\$19,500	9
Customer and supplier relationships	16,071	7
Identified intangible assets subject to amortization	35,571	
Other identified intangible assets not subject to amortization	860	
Total identified intangible assets	\$36,431	

In accordance with ASC 805, the following unaudited pro forma financial information summarizes the combined operating results of Greenbrier and ARI's manufacturing business as if the acquisition of ARI's manufacturing business occurred on September 1, 2017. In addition, this pro forma financial information includes acquisition-related adjustments including depreciation expense to reflect the increased fair value of property, plant and equipment, amortization expense related to identified intangible assets, interest expense on the \$50 million convertible senior note and \$300 million senior term debt issued, and the related income tax effects. This pro forma financial information is presented for informational purposes only and does not include adjustments relating to the Company's expected cost-savings and other synergies, and as such, is not indicative of the results of operations that would have been achieved if the acquisition had occurred on September 1, 2017 or of results that may occur in the future.

<i>(In thousands, except per share amounts)</i>	As of August 31,	
	2019	2018
Revenue	\$3,462,255	\$2,893,400
Net earnings attributable to Greenbrier	\$ 57,284	\$ 137,399
Basic earnings per common share	\$ 1.76	\$ 4.45
Diluted earnings per common share	\$ 1.73	\$ 4.25

GBW

On August 20, 2018, the Company entered into a dissolution agreement with Watco Companies, LLC, its previous joint venture partner, to discontinue their GBW Railcar Services railcar repair joint venture. Pursuant to the dissolution agreement, previously operated Greenbrier repair shops and associated employees returned to the Company. Additionally, the dissolution agreement provides that certain agreements entered into in connection with the original creation of GBW in 2014 were terminated as of the transaction date, including the leases of real and personal property, service agreements, and certain employment-related agreements.

As the assets received and liabilities assumed from GBW meet the definition of a business, the Company has accounted for this transaction as a business combination. The total net assets acquired were approximately \$57.6 million. Additionally, the Company removed the book value of its remaining equity method investment in, and note receivable due from, the joint venture.

For the year ended August 31, 2019, the Repair operations generated consolidated revenues of \$87.5 million and a loss from operations of \$24.9 million, which are reported in the Company's consolidated financial statements as part of the Wheels, Repair & Parts segment. This loss from operations includes \$10.0 million of non-cash impairment loss from goodwill. See Note 9 – Goodwill.

Greenbrier Astra Rail

On June 1, 2017, Greenbrier and Astra Holding GmbH (Astra) contributed its European operations to a newly formed company, Greenbrier-Astra Rail (GAR), a Europe-based freight railcar manufacturing, engineering and repair business. As consideration for an approximate 75% controlling interest, Greenbrier agreed to pay Astra €30 million at closing, an additional €30 million which was paid on June 1, 2018 and issue an approximate 25% noncontrolling interest in the new company. The total net assets acquired of \$115.8 million includes \$38.3 million representing the fair value of the noncontrolling interest at the acquisition date.

Astra also received a put option to sell its entire noncontrolling interest to Greenbrier at an exercise price equal to the higher of fair value or a defined EBITDA multiple as measured on the exercise date. The option is exercisable 30 days prior to and up until June 1, 2022. Due to Astra's redemption right under the put option, the noncontrolling interest has been classified as a Contingently redeemable noncontrolling interest in the mezzanine section of the Consolidated Balance Sheets. The carrying value of the noncontrolling interest cannot be less than the maximum redemption amount, which is the amount Greenbrier will settle the put option for if exercised. Adjustments to reconcile the carrying value to the maximum redemption amount are recorded to retained earnings.

For the year ended August 31, 2019 and 2018, the European operations contributed by Astra generated revenues of \$150.3 million and \$136.8 million, respectively, and a loss from operations of \$19.4 million and \$11.5 million, respectively, which are reported in the Company's consolidated financial statements as part of the Manufacturing segment.

The purchase price of the net assets acquired from Astra was allocated as follows:

(in thousands)

Cash and cash equivalents	\$ 6,562
Accounts receivable, net	10,984
Inventories	30,454
Property, plant and equipment, net	75,296
Intangibles and other assets, net	17,300
Goodwill	25,746
Total assets acquired	166,342
Accounts payable and accrued liabilities	17,879
Deferred income taxes	7,292
Deferred revenue	964
Notes payable, net	24,382
Total liabilities assumed	50,517
Net assets acquired	\$115,825

On August 2, 2018, GAR entered in to an agreement with Rayvag Vagon Sanavi ve Ticaret A.S. (Rayvag) to take an approximately 68% ownership stake in Rayvag. Rayvag is a railcar manufacturer and provider of railcar repair and parts services based in Adana, Turkey. The amount paid to acquire the 68% ownership stake in Rayvag was not material to the Company's consolidated financial statements.

Note 5 - Inventories

<i>(In thousands)</i>	As of August 31,	
	2019	2018
Manufacturing supplies and raw materials	\$387,015	\$274,938
Work-in-process	156,614	105,021
Finished goods	130,576	57,969
Excess and obsolete adjustment	(9,512)	(5,614)
	<u>\$664,693</u>	<u>\$432,314</u>

<i>(In thousands)</i>	As of August 31,		
	2019	2018	2017
Excess and obsolete adjustment			
Balance at beginning of period	\$ 5,614	\$ 4,136	\$ 3,257
Charge to cost of revenue	9,734	4,023	2,781
Disposition of inventory	(5,651)	(2,455)	(2,003)
Currency translation effect	(185)	(90)	101
Balance at end of period	<u>\$ 9,512</u>	<u>\$ 5,614</u>	<u>\$ 4,136</u>

Note 6 - Equipment on Operating Leases, net

Equipment on operating leases is reported net of accumulated depreciation of \$44.2 million and \$64.9 million as of August 31, 2019 and 2018, respectively. Depreciation expense was \$13.3 million, \$11.2 million and \$12.1 million as of August 31, 2019, 2018 and 2017, respectively. In addition, certain railcar equipment leased-in by the Company on operating leases (see Note 22 – Lease Commitments) is subleased to customers under non-cancelable operating leases. Aggregate minimum future amounts receivable under all non-cancelable operating leases and subleases are as follows:

<i>(In thousands)</i>	
Year ending August 31,	
2020	\$23,490
2021	20,076
2022	17,949
2023	13,717
2024	9,450
Thereafter	5,583
	<u>\$90,265</u>

Certain equipment is also operated under daily, monthly or car hire utilization arrangements. Associated revenue amounted to \$14.0 million, \$12.8 million and \$13.0 million for the years ended August 31, 2019, 2018 and 2017, respectively.

Note 7 - Property, Plant and Equipment, net

<i>(In thousands)</i>	As of August 31,	
	2019	2018
Land and improvements	\$ 87,872	\$ 84,432
Machinery and equipment	539,952	414,865
Buildings and improvements	338,639	202,973
Construction in progress	66,744	48,406
Other	90,822	68,452
	<u>1,124,029</u>	<u>819,128</u>
Accumulated depreciation	<u>(406,056)</u>	<u>(361,932)</u>
	<u>\$ 717,973</u>	<u>\$ 457,196</u>

Depreciation expense was \$62.3 million, \$54.5 million and \$45.5 million for the years ended August 31, 2019, 2018 and 2017, respectively.

Note 8 - Investments In Unconsolidated Affiliates

GBW

The Company had a 50% ownership interest in GBW which performed railcar repair, refurbishment and maintenance until August 20, 2018, on which date the Company entered into a dissolution agreement (See Note 4 – Acquisitions). The Company accounted for its interest in GBW under the equity method of accounting.

The assets and liabilities shown below as of August 31, 2019 primarily represent remaining cash and a payable to its owners, while the summarized income statement for the year ended August 31, 2019 is for GBW’s full year of activity.

Summarized financial data for GBW is as follows:

<i>(In thousands)</i>	As of August 31,		
	2019	2018	2017
Current assets	\$1,248	\$ 8,531	
Total assets	\$1,248	\$ 8,531	
Current liabilities	\$1,248	\$23,283	
Total liabilities	\$1,248	\$23,283	

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Revenue	\$ 879	\$238,033	\$253,436
Margin	\$(1,126)	\$(6,047)	\$(4,058)
Net loss ⁽¹⁾	\$(4,104)	\$(51,679)	\$(36,947)

⁽¹⁾ In 2018 and 2017, GBW recorded a pre-tax goodwill impairment loss of \$26.4 million and \$11.2 million, respectively.

Greenbrier-Maxion

The Company has a 60% ownership interest in Greenbrier-Maxion, a railcar manufacturer in Brazil. Greenbrier-Maxion also assembles bogies and offers a range of aftermarket services including railcar overhaul and refurbishment. The Company does not consolidate Greenbrier-Maxion for financial reporting purposes and accounts for its interest under the equity method of accounting as the entity’s governance provisions require that all significant decisions of Greenbrier-Maxion are subject to shared consent of its shareholders.

Summarized financial data for Greenbrier-Maxion is as follows:

<i>(In thousands)</i>	As of August 31,		
	2019	2018	2017
Current assets	\$39,768	\$41,619	
Total assets	\$85,167	\$61,034	
Current liabilities	\$62,541	\$38,027	
Total liabilities	\$74,261	\$41,539	

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Revenue	\$99,547	\$187,664	\$228,510
Margin	\$ 2,017	\$ 10,086	\$ 24,372
Net income (loss)	\$(9,144)	\$(3,006)	\$ 1,378

Amsted-Maxion

The Company has a 24.5% ownership interest in Amsted-Maxion, a manufacturer of castings and components for railcars and other heavy equipment. The Company retains an option to increase its ownership to 29.5% subject to certain conditions. Amsted-Maxion has a 40% ownership position in Greenbrier-Maxion. The Company accounts for its interest in Amsted-Maxion under the equity method of accounting.

Summarized financial data for Amsted-Maxion is as follows:

<i>(In thousands)</i>	As of August 31,		
	2019	2018	
Current assets	\$ 25,220	\$ 21,463	
Total assets	\$107,451	\$111,589	
Current liabilities	\$ 54,445	\$ 27,981	
Total liabilities	\$ 88,016	\$ 83,407	

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Revenue	\$86,421	\$96,490	\$ 90,114
Margin	\$ 4,949	\$ 8,001	\$ 5,983
Net loss	\$(9,268)	\$(9,590)	\$(20,114)

Other Unconsolidated Affiliates

The Company has nine other unconsolidated affiliates which are accounted for under the equity method of accounting. For the year ended August 31, 2019, the Company recognized net earnings of \$3.7 million from these other unconsolidated affiliates.

Summarized financial information, shown as 100% of these other unconsolidated affiliates in aggregate are as follows:

<i>(In thousands)</i>	As of August 31,	
	2019	2018
Current assets	\$ 45,287	\$ 32,168
Total assets	\$255,549	\$239,535
Current liabilities	\$ 9,836	\$ 3,647
Total liabilities	\$ 49,747	\$ 52,852

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Revenue	\$50,423	\$25,549	\$39,161
Margin	\$19,877	\$11,360	\$ 8,015
Net income	\$12,751	\$ 6,988	\$ 5,202

Note 9 - Goodwill

Changes in the carrying value of goodwill are as follows:

<i>(In thousands)</i>	Manufacturing	Wheels, Repair & Parts	Leasing & Services	Total
Balance August 31, 2018	\$27,083	\$ 51,128	\$ –	\$ 78,211
Additions ⁽¹⁾	61,408	2,162	–	63,570
Translation	(1,809)	–	–	(1,809)
Goodwill Impairment	–	(10,025)	–	(10,025)
Balance August 31, 2019	\$86,682	\$ 43,265	\$ –	\$129,947

⁽¹⁾ Additions to goodwill relate to purchase price adjustments for the GBW repair shop transaction (Wheels, Repair & Parts) and the Rayvag acquisition (Manufacturing) and the acquisition of ARI (Manufacturing). See Note 4 – Acquisitions.

<i>(In thousands)</i>	Goodwill
Gross goodwill balance before accumulated goodwill impairment losses and other reductions	\$ 292,497
Accumulated goodwill impairment losses	(138,234)
Accumulated other reductions	(24,316)
Balance August 31, 2019	\$ 129,947

The Company performed its annual goodwill impairment test during the third quarter. The Company utilized both the qualitative assessment and the quantitative goodwill impairment test as part of its annual goodwill impairment test. For reporting units requiring a quantitative goodwill impairment test, the Company determined the fair value of the reporting units while considering both the income and market approaches. Under the income approach, the Company calculates the fair value of a reporting unit based on the present value of estimated future cash flows. Under the market approach, the Company estimates the fair value based on observed market multiples for comparable businesses, when appropriate.

Based on the results of the Company's annual impairment test, the fair values of its reporting units exceeded their carrying values except for the repair reporting unit. The Company initially recorded the repair goodwill following the GBW repair shop transaction in 2018. As a result of near-term operational challenges and updated estimated future cash flows, a non-cash impairment charge of \$10.0 million was recorded during the year ended August 31, 2019.

Note 10 - Intangibles and Other Assets, net

Intangible assets that are determined to have finite lives are amortized over their useful lives. Intangible assets with indefinite useful lives are not amortized and are periodically evaluated for impairment.

The following table summarizes the Company's identifiable intangible and other assets balance:

<i>(In thousands)</i>	As of August 31,	
	2019	2018
Intangible assets subject to amortization:		
Customer and supplier relationships	\$ 89,722	\$ 73,601
Accumulated amortization	(48,850)	(44,656)
Other intangibles	34,031	15,219
Accumulated amortization	(6,908)	(5,319)
	67,995	38,845
Intangible assets not subject to amortization	5,450	5,115
Prepaid and other assets	15,749	18,935
Nonqualified savings plan investments	27,967	26,299
Debt issuance costs, net	4,568	1,824
Assets held for sale	3,650	3,650
	\$125,379	\$ 94,668

Amortization expense for the years ended August 31, 2019, 2018 and 2017 was \$6.3 million, \$5.3 million and \$4.8 million, respectively. Amortization expense for the years ending August 31, 2020, 2021, 2022, 2023 and 2024 is expected to be \$10.9 million, \$10.9 million, \$7.6 million, \$6.3 million and \$6.3 million, respectively.

Note 11 - Revolving Notes

Senior secured credit facilities, consisting of three components, aggregated to \$705.4 million as of August 31, 2019.

As of August 31, 2019, a \$600.0 million revolving line of credit, maturing June 2024, secured by substantially all the Company's assets in the U.S. not otherwise pledged as security for term loans, was available to provide

working capital and interim financing of equipment, principally for the U.S. and Mexican operations. Advances under this facility bear interest at LIBOR plus 1.50% or Prime plus 0.50% depending on the type of borrowing. Available borrowings under the credit facility are generally based on defined levels of inventory, receivables, property, plant and equipment and leased equipment, as well as total debt to consolidated capitalization and fixed charges coverage ratios.

As of August 31, 2019, lines of credit totaling \$55.4 million secured by certain of the Company's European assets, with variable rates that range from Warsaw Interbank Offered Rate (WIBOR) plus 1.1% to WIBOR plus 1.5% and Euro Interbank Offered Rate (EURIBOR) plus 1.1% to EURIBOR plus 1.5%, were available for working capital needs of the European manufacturing operations. European credit facilities are continually being renewed. Currently, these European credit facilities have maturities that range from December 2019 through November 2021.

As of August 31, 2019, the Company's Mexican railcar manufacturing joint venture has two lines of credit totaling \$50.0 million. The first line of credit provides up to \$30.0 million. Advances under this facility bear interest at LIBOR plus 2.0%. The Mexican railcar manufacturing joint venture will be able to draw against this facility through March 2024. The second line of credit provides up to \$20.0 million, of which the Company and its joint venture partner have each guaranteed 50%. Advances under this facility bear interest at LIBOR plus 2.0%. The Mexican railcar manufacturing joint venture will be able to draw amounts available under this facility through June 2021.

As of August 31, 2019, outstanding commitments under the senior secured credit facilities consisted of \$24.4 million in letters of credit under the North American credit facility and \$27.1 million outstanding under the European credit facilities.

As of August 31, 2018, outstanding commitments under the senior secured credit facilities consisted of \$72.2 million in letters of credit under the North American credit facility and \$27.7 million outstanding under the European credit facilities.

Note 12 - Accounts Payable and Accrued Liabilities

<i>(In thousands)</i>	As of August 31,	
	2019	2018
Trade payables	\$302,009	\$226,405
Other accrued liabilities	108,939	86,175
Accrued payroll and related liabilities	106,669	105,111
Accrued warranty	46,678	27,395
Income taxes payable	4,065	4,771
	<u>\$568,360</u>	<u>\$449,857</u>

Note 13 - Warranty Accrual

<i>(In thousands)</i>	As of August 31,		
	2019	2018	2017
Balance at beginning of period	\$27,395	\$20,737	\$12,159
Charged to cost of revenue	5,014	12,323	6,872
Acquisition	23,895	–	3,526
Payments	(8,594)	(5,217)	(2,649)
Currency translation effect	(1,032)	(448)	829
Balance at end of period	<u>\$46,678</u>	<u>\$27,395</u>	<u>\$20,737</u>

Note 14 - Notes Payable, net

<i>(In thousands)</i>	As of August 31,	
	2019	2018
Term loans	\$521,544	\$179,923
2.875% Convertible senior notes, due 2024	275,000	275,000
2.25% Convertible senior notes, due 2024	50,000	–
Other notes payable	14,001	14,798
	<u>\$860,545</u>	<u>\$469,721</u>
Debt discount and issuance costs	<u>(37,660)</u>	<u>(33,516)</u>
	<u>\$822,885</u>	<u>\$436,205</u>

Term loans are primarily composed of:

- \$300 million of senior term debt, with a maturity date of June 2024 unless the Convertible senior notes due July 2024 are outstanding as of November 1, 2023, in which case the debt matures on that date. The debt bears a floating interest rate of LIBOR plus 1.5% with principal of \$3.75 million paid quarterly in arrears and a balloon payment of \$232.5 million due at maturity. An interest rate swap agreement was entered into on 50% of the initial balance to swap the floating interest rate of LIBOR plus 1.5% to a fixed rate of 3.19%. The principal balance as of August 31, 2019 was \$300.0 million.
- \$225 million of senior term debt, with a maturity date of September 2023, which is secured by a pool of leased railcars. The debt bears a floating interest rate of LIBOR plus 1.5% with principal of \$1.97 million paid quarterly in arrears and a balloon payment of \$185.6 million due at maturity. An interest rate swap agreement was entered into on 50% of the initial balance to swap the floating interest rate of LIBOR plus 1.5% to a fixed rate of 4.49%. The principal balance as of August 31, 2019 was \$217.1 million.
- Other term loans with an aggregate balance of \$4.4 million as of August 31, 2019 and maturity dates ranging from April 2020 to September 2022.

Convertible senior notes, due 2024, bear interest at a fixed rate of 2.875%, paid semi-annually in arrears on February 1st and August 1st. The convertible notes mature on February 1, 2024, unless earlier repurchased by the Company or converted in accordance with their terms. Upon the satisfaction of certain conditions, holders may convert at their option at any time prior to the business day immediately preceding the stated maturity date. The convertible notes are senior unsecured obligations and rank equally with other senior unsecured debt. The convertible notes are convertible into shares of the Company's common stock, at an initial conversion rate of 16.6234 shares per \$1,000 principal amount of the notes (which is equal to an initial conversion price of \$60.16 per share). The initial conversion rate and conversion price are subject to adjustment upon the occurrence of certain events, such as distributions, dividends or stock splits. There were \$33.1 million of initial debt discount and \$8.0 million of original debt issuance costs included in Notes Payable, net on the Company's Consolidated Balance Sheet. The debt discount represents the difference between the debt principal and the value of a similar debt instrument that does not have a conversion feature at issuance. The debt discount is being amortized using the effective interest rate method through February 2024 and the amortization expense is included in Interest and Foreign exchange on the Company's Consolidated Statement of Income. In accordance with ASC 470-20, the Company separately accounts for the liability component (debt principal net of debt discount) and equity component. The liability component is recognized as the fair value of a similar instrument that does not have a conversion feature at issuance. To determine the fair value of the liability component, the Company assumed an interest rate of approximately 5% which resulted in a fair value of \$241.9 million. The equity component, which is the conversion feature at issuance, is recognized as the difference between the proceeds from the issuance of the notes (\$275 million) and the fair value of the liability component (\$241.9 million). As of August 31, 2019 and 2018, the equity component was \$33.1 million which was recorded on the Company's Consolidated Balance Sheet in Additional paid-in capital, net of tax of \$12.3 million. As of August 31, 2019, the Company has reserved approximately 6.3 million shares for issuance upon conversion of these notes.

Convertible senior notes, due 2024, bear interest at a fixed rate of 2.25%, paid semi-annually in arrears on February 1st and August 1st. The convertible notes mature on July 26, 2024, unless earlier repurchased by the Company or converted in accordance with their terms. Upon the satisfaction of certain conditions, holders may convert at their option at any time prior to the business day immediately preceding the stated maturity date. The

convertible notes are senior unsecured obligations and rank equally with other senior unsecured debt. The convertible notes are convertible into shares of the Company's common stock, at an initial conversion rate of 22.1910 shares per \$1,000 principal amount of the notes (which is equal to an initial conversion price of \$45.06 per share). The initial conversion rate and conversion price are subject to adjustment upon the occurrence of certain events, such as distributions, dividends or stock splits. There was \$4.9 million of initial debt discount included in Notes Payable, net on the Company's Consolidated Balance Sheet. The debt discount represents the difference between the debt principal and the value of a similar debt instrument that does not have a conversion feature at issuance. The debt discount is being amortized using the effective interest rate method through July 2024 and the amortization expense is included in Interest and Foreign exchange on the Company's Consolidated Statement of Income. In accordance with ASC 470-20, the Company separately accounts for the liability component (debt principal net of debt discount) and equity component. The liability component is recognized as the fair value of a similar instrument that does not have a conversion feature at issuance. To determine the fair value of the liability component, the Company assumed an interest rate of approximately 5% which resulted in a fair value of \$45.1 million. The equity component, which is the conversion feature at issuance, is recognized as the difference between the proceeds from the issuance of the notes (fair value of \$50 million) and the fair value of the liability component (\$45.1 million). As of August 31, 2019, the equity component was \$4.9 million which was recorded on the Company's Consolidated Balance Sheet in Additional paid-in capital, net of tax of \$1.2 million. As of August 31, 2019, the Company has reserved approximately 1.5 million shares for issuance upon conversion of these notes.

Other notes payable includes \$14.0 million of unsecured debt with maturity dates of November 2019 and September 2020.

The notes payable, along with the revolving and operating lines of credit, contain certain covenants with respect to the Company and various subsidiaries, the most restrictive of which, among other things, limit the ability to: incur additional indebtedness or guarantees; pay dividends or repurchase stock; enter into capital leases; create liens; sell assets; engage in transactions with affiliates, including joint ventures and non U.S. subsidiaries, including but not limited to loans, advances, equity investments and guarantees; enter into mergers, consolidations or sales of substantially all the Company's assets; and enter into new lines of business. The covenants also require certain maximum ratios of debt to total capitalization and minimum levels of fixed charges (interest and rent) coverage.

As of August 31, 2019 principal payments on the notes payable are expected as follows:

(In thousands)

Year ending August 31,	
2020	\$ 29,084
2021	30,921
2022	23,258
2023	22,907
2024 ⁽¹⁾	754,375
Thereafter	—
	\$860,545

(1) The repayment of the \$275.0 million of Convertible senior notes due February 2024 and the \$50.0 million of Convertible senior notes due July 2024 is assumed to occur at the scheduled maturity in 2024 instead of assuming an earlier conversion by the holders.

Note 15 - Derivative Instruments

Foreign operations give rise to market risks from changes in foreign currency exchange rates. Foreign currency forward exchange contracts with established financial institutions are utilized to hedge a portion of that risk. Interest rate swap agreements are used to reduce the impact of changes in interest rates on certain debt. The Company's foreign currency forward exchange contracts and interest rate swap agreements are designated as cash flow hedges, and therefore the effective portion of unrealized gains and losses is recorded in accumulated other comprehensive income or loss.

At August 31, 2019 exchange rates, notional amounts of forward exchange contracts for the purchase of Polish Zlotys and the sale of Euros and Pound Sterling aggregated to \$71.6 million. The fair value of the contracts is included on the Consolidated Balance Sheets as Accounts payable and accrued liabilities when there is a loss, or

as Accounts receivable, net when there is a gain. As the contracts mature at various dates through May 2022, any such gain or loss remaining will be recognized in manufacturing revenue along with the related transactions. In the event that the underlying transaction does not occur or does not occur in the period designated at the inception of the hedge, the amount classified in accumulated other comprehensive loss would be reclassified to the results of operations in Interest and foreign exchange at the time of occurrence. At August 31, 2019 exchange rates, approximately \$0.9 million would be reclassified to revenue or cost of revenue in the next year.

At August 31, 2019, an interest rate swap agreement maturing in September 2023 had a notional amount of \$109.5 million and an interest rate swap agreement maturing in June 2024 had a notional amount of \$150.0 million. The fair value of the contracts are included on the Consolidated Balance Sheets in Accounts payable and accrued liabilities when there is a loss, or in Accounts receivable, net when there is a gain. As interest expense on the underlying debt is recognized, amounts corresponding to the interest rate swap are reclassified from Accumulated other comprehensive loss and charged or credited to interest expense. At August 31, 2019 interest rates, approximately \$0.2 million would be reclassified to interest expense in the next year.

Fair Values of Derivative Instruments

	Asset Derivatives				Liability Derivatives			
	Balance sheet caption	August 31,		Balance sheet caption	August 31,			
		2019	2018		2019	2018		
(In thousands)		Fair Value	Fair Value		Fair Value	Fair Value		
Derivatives designated as hedging instruments								
Foreign forward exchange contracts	Accounts receivable, net	\$64	\$ 700	Accounts payable and accrued liabilities	\$ 437	\$1,211		
Interest rate swap contracts	Intangibles and other assets, net	–	781	Accounts payable and accrued liabilities	10,255	1		
		\$64	\$1,481		\$10,692	\$1,212		
Derivatives not designated as hedging instruments								
Foreign forward exchange contracts	Accounts receivable, net	\$ –	\$ 76	Accounts payable and accrued liabilities	\$ 587	\$ 354		

The Effect of Derivative Instruments on the Consolidated Statements of Income

Derivatives in cash flow hedging relationships	Financial statement caption of gain recognized in income on derivative	Gain (loss) recognized in income on derivatives	
		Years ended August 31, 2019	2018
Foreign forward exchange contract	Interest and foreign exchange	\$213	\$1,052
Interest rate swap contracts	Interest and foreign exchange	–	(1)
		\$213	\$1,051

Derivatives in cash flow hedging relationships	Gain (loss) recognized in OCI on derivatives (effective portion) Years ended August 31,		Financial statement caption of gain (loss) reclassified from accumulated OCI into income	Gain (loss) reclassified from accumulated OCI into income (effective portion) Years ended August 31,		Financial statement caption of gain (loss) in income on derivative (ineffective portion and amount excluded from effectiveness testing)	Gain (loss) recognized on derivative (ineffective portion and amount excluded from effectiveness testing) Years ended August 31,	
	2019	2018		2019	2018		2019	2018
Foreign forward exchange contracts	\$ (1,261)	\$ (658)	Revenue	\$ (764)	\$1,145	Revenue	\$1,346	\$ 854
Foreign forward exchange contracts	(421)	(1,093)	Cost of revenue	(1,030)	(429)	Cost of revenue	935	306
Interest rate swap contracts	(11,582)	1,632	Interest and foreign exchange	(545)	(298)	Interest and foreign exchange	(587)	–
	\$(13,264)	\$ (119)		\$(2,339)	\$ 418		\$1,694	\$1,160

Note 16 - Equity

Stock Incentive Plan

The 2014 Amended and Restated Stock Incentive Plan was amended and restated as the 2017 Amended and Restated Stock Incentive Plan on October 24, 2017 and approved by stockholders on January 5, 2018. The stockholders also approved an increase in the total number of shares reserved for issuance by 1,100,000 shares. As a result, the maximum aggregate number of the Company's common shares authorized for issuance is 5,425,000. The 2017 Amended and Restated Stock Incentive Plan provides for the grant of incentive stock options, non-statutory stock options, restricted shares, restricted stock units and stock appreciation rights.

On August 31, 2019 there were 849,522 shares available for grant compared to 1,050,675 and 233,271 shares available for grant as of the years ended August 31, 2018 and 2017, respectively. There are no stock options or stock appreciation rights outstanding as of August 31, 2019. The Company currently grants restricted shares and restricted stock units. Restricted share grants are considered outstanding shares of common stock at the time they are issued. The holders of unvested restricted shares are entitled to voting rights and participation in dividends. Shares associated with restricted stock unit awards are not considered legally outstanding shares of common stock until vested. Restricted stock unit awards, including performance-based awards, are entitled to participate in dividends and these awards are considered participating securities and are considered outstanding for earnings per share purposes when the effect is dilutive.

During the years ended August 31, 2019, 2018 and 2017, the Company awarded restricted share and restricted stock unit grants totaling 313,540, 317,036, and 269,705 shares, respectively, which include performance-based grants. As of August 31, 2019, there were a total of 397,260 shares associated with unvested performance-based grants. The actual number of shares that will vest associated with performance-based grants will vary depending on the Company's performance. Approximately 397,260 additional shares may be granted if performance-based restricted stock unit awards vest at stretch levels of performance. These additional shares are associated with restricted stock unit awards granted during the years ended August 31, 2019, 2018 and 2017. The fair value of awards granted was \$17.4 million, \$15.2 million, and \$11.3 million for the years ended August 31, 2019, 2018 and 2017, respectively.

The value, at the date of grant, of stock awarded under restricted share grants and restricted stock unit grants is amortized as compensation expense over the lesser of the vesting period of one to three years or to the recipients eligible retirement date. Compensation expense recognized related to restricted share grants and restricted stock unit grants for the years ended August 31, 2019, 2018 and 2017 was \$12.4 million, \$17.2 million, and \$20.2 million, respectively, and was recorded in Selling and administrative and Cost of revenue on the Consolidated Statements of Income. Unamortized compensation cost related to restricted stock grants was \$15.0 million as of August 31, 2019.

Total unvested restricted share and restricted stock unit grants were 697,949 and 788,744 as of August 31, 2019 and 2018. The following table summarizes restricted share and restricted stock unit grant transactions for shares, both vested and unvested, under the 2017 Amended and Restated Stock Incentive Plan:

	Shares
Balance at August 31, 2016 ⁽¹⁾	3,848,230
Granted	269,705
Forfeited	(26,206)
Balance at August 31, 2017 ⁽¹⁾	4,091,729
Granted	317,036
Forfeited	(34,440)
Balance at August 31, 2018 ⁽¹⁾	4,374,325
Granted	313,540
Forfeited	(112,387)
Balance at August 31, 2019 ⁽¹⁾	4,575,478

⁽¹⁾ Balance represents cumulative grants net of forfeitures.

Share Repurchase Program

The Board of Directors has authorized the Company to repurchase shares of the Company's common stock. The share repurchase program has an expiration date of March 31, 2021 and the amount remaining for repurchase is

\$100 million. Under the share repurchase program, shares of common stock may be purchased on the open market or through privately negotiated transactions from time to time. The timing and amount of purchases will be based upon market conditions, securities law limitations and other factors. The program may be modified, suspended or discontinued at any time without prior notice. The share repurchase program does not obligate the Company to acquire any specific number of shares in any period.

There were no shares repurchased during the years ended August 31, 2019 and 2018. As of August 31, 2019 the Company had cumulatively repurchased 3,206,226 shares for approximately \$137.0 million.

Note 17 - Earnings Per Share

The shares used in the computation of the Company's basic and diluted earnings per common share are reconciled as follows:

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Weighted average basic common shares outstanding ⁽¹⁾	32,615	30,857	29,225
Dilutive effect of 3.5% Convertible notes ⁽²⁾	n/a	1,821	3,295
Dilutive effect of 2.875% Convertible notes ⁽³⁾	—	—	—
Dilutive effect of 2.25% Convertible notes ⁽⁴⁾	—	n/a	n/a
Dilutive effect of restricted stock units ⁽⁵⁾	550	157	42
Weighted average diluted common shares outstanding	33,165	32,835	32,562

(1) Restricted stock grants and restricted stock units that are considered participating securities, including some grants subject to certain performance criteria, are included in weighted average basic common shares outstanding when the Company is in a net earnings position. No restricted stock and restricted stock units were anti-dilutive for the years ended August 31, 2019, 2018 and 2017.

(2) The dilutive effect of the 3.5% Convertible notes was included as they were considered dilutive under the "if converted" method as further discussed below for the years ended August 31, 2018 and 2017. The 3.5% Convertible notes matured on April 1, 2018.

(3) The 2.875% Convertible notes were issued in February 2017. The dilutive effect of the 2.875% Convertible notes was excluded for the years ended August 31, 2019, 2018 and 2017 as the average stock price was less than the applicable conversion price and therefore was considered anti-dilutive.

(4) The 2.25% Convertible notes were issued in July 2019. The dilutive effect of the 2.25% Convertible notes was excluded for the year ended August 31, 2019 as the average stock price was less than the applicable conversion price and therefore was considered anti-dilutive.

(5) Restricted stock units that are not considered participating securities and restricted stock units subject to performance criteria, for which actual levels of performance above target have been achieved, are included in weighted average diluted common shares outstanding when the Company is in a net earnings position.

Diluted EPS is calculated using the more dilutive of two approaches. The first approach includes the dilutive effect, using the treasury stock method, associated with shares underlying the 2.875% Convertible notes, 2.25% Convertible notes, restricted stock units that are not considered participating securities and performance based restricted stock units subject to performance criteria, for which actual levels of performance above target have been achieved. The second approach supplements the first by including the "if converted" effect of the 3.5% Convertible notes during the periods in which they were outstanding. Under the "if converted" method, debt issuance and interest costs, both net of tax, associated with the convertible notes are added back to net earnings and the share count is increased by the shares underlying the convertible notes. The 3.5% Convertible notes were included in the calculation of both approaches using the treasury stock method when the average stock price is greater than the applicable conversion price.

	Years ended August 31,		
	2019	2018	2017
Net earnings attributable to Greenbrier	\$71,076	\$151,781	\$116,067
Add back:			
Interest and debt issuance costs on the 3.5% Convertible notes, net of tax	n/a	2,031	2,932
Earnings before interest and debt issuance costs on the 3.5% Convertible notes	\$71,076	\$153,812	\$118,999
Weighted average diluted common shares outstanding	33,165	32,835	32,562
Diluted earnings per share ⁽¹⁾	\$ 2.14	\$ 4.68	\$ 3.65

(1) Diluted earnings per share was calculated as follows:

Earnings before interest and debt issuance costs on the 3.5% Convertible notes
Weighted average diluted common shares outstanding

Note 18 - Related Party Transactions

In June 2017, the Company purchased a 40% interest in the common equity of an entity that buys and sells railcar assets that are leased to third parties. The railcars sold to this leasing warehouse are principally built by Greenbrier. The Company accounts for this leasing warehouse investment under the equity method of accounting. As of August 31, 2019, the carrying amount of the investment was \$5.8 million which is classified in Investment in unconsolidated affiliates in the Consolidated Balance Sheet. Upon sale of railcars to this entity from Greenbrier, 60% of the related revenue and margin is recognized and 40% is deferred until the railcars are ultimately sold by the entity. The Company recognized \$18 million, \$16 million and \$130 million in revenue associated with railcars sold into the leasing warehouse during the years ended August 31, 2019, 2018 and 2017, respectively. An additional \$6 million and \$48 million in revenue was recognized associated with railcars sold out of the leasing warehouse during the years ended August 31, 2019 and 2018, respectively. The Company also provides administrative and remarketing services to this entity and earns management fees for these services which were immaterial for the year ended August 31, 2019, 2018 and 2017.

As of August 31, 2019, the Company had a \$10.0 million note receivable from Amsted-Maxion, its unconsolidated Brazilian castings and components manufacturer and an \$18.4 million note receivable balance from Greenbrier-Maxion, its unconsolidated Brazilian railcar manufacturer. These note receivables are included on the Consolidated Balance Sheet in Accounts receivable, net.

The Company has a 41.9% interest in Axis, LLC (Axis), a joint venture that manufactures and sells axles to its joint venture partners for use and distribution both domestically and internationally in traditional freight railcar markets and other railcar markets. The Company obtained its ownership interest in Axis as part of the acquisition of the manufacturing business of ARI on July 26, 2019. For the year ended August 31, 2019, the Company purchased \$1.6 million of railcar components from Axis.

Mr. Furman is the owner of a private aircraft managed by a private independent management company. From time to time, the Company's business requires charter use of privately-owned aircraft. In such instances, it is possible that charters may be placed on Mr. Furman's aircraft. The Company placed charters on Mr. Furman's aircraft aggregating \$1.5 million, \$0.5 million and \$0.5 million for each of the years ended August 31, 2019, 2018 and 2017, respectively.

In July 2014, the Company and Watco Companies LLC completed the formation of GBW, an unconsolidated 50/50 joint venture. The Company accounted for its interest in GBW under the equity method of accounting. On August 20, 2018 we entered into an agreement with our joint venture partner to discontinue the GBW railcar repair joint venture. The Company leased real and personal property to GBW with lease revenue totaling approximately \$5 million for the years ended August 31, 2018 and 2017. The Company sold wheel sets and components to GBW which totaled \$16.5 million and \$18.3 million for the years ended August 31, 2018 and 2017, respectively. GBW provided services to the Company which totaled \$0.4 million and \$1.0 million for the years ended August 31, 2018 and 2017, respectively.

Note 19 - Income Taxes

Components of income tax expense were as follows:

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Current			
Federal	\$ 18,894	\$ 28,357	\$22,710
State	4,775	3,244	305
Foreign	37,391	38,628	35,893
	61,060	70,229	58,908
Deferred			
Federal	(8,559)	(33,459)	9,418
State	(2,542)	(344)	(1,467)
Foreign	(8,433)	(3,690)	(2,732)
	(19,534)	(37,493)	5,219
Change in valuation allowance	62	157	(113)
Income tax expense	\$ 41,588	\$ 32,893	\$64,014

Income tax expense was computed using different statutory rates for the years presented. Due to the 2017 Tax Cuts and Jobs Act (Tax Act) enacted on December 22, 2017, the federal statutory rate was reduced from 35% to 21% effective January 1, 2018. The U.S. federal corporate statutory rates presented are 21%, 25.7% and 35% for fiscal years 2019, 2018 and 2017, respectively.

The Company recognized the income tax effects of the Tax Act in its financial statements in accordance with Staff Accounting Bulletin No. 118 (SAB 118), which provided guidance for the application of ASC 740 *Income Taxes*, in the reporting period in which the Tax Act was signed into law. During the year ended August 31, 2018, deferred income taxes were remeasured as a result of the new statutory rate resulting in a tax benefit of \$33.6 million. The Tax Act also required the Company to accrue a transition tax on foreign earnings not previously subject to U.S. taxation, which resulted in \$6.9 million of tax expense in 2018. This benefit was partially offset by a one-time accrual of \$8.9 million of tax expense related to the transition tax on foreign earnings not previously subject to U.S. taxation. During the year ended August 31, 2019 the Company finalized all accounting for the specific income tax effects of the Tax Act for which the accounting under ASC 740 was previously incomplete.

For the year ended August 31, 2019, the Company has estimated the impacts of the Tax Act which became effective on January 1, 2018. The most significant item, impacting the Company in the current year, is the global intangible low-taxed income (GILTI) tax. The Company has made an accounting policy election to treat the GILTI tax as a current period expense and has included it in the financial statements.

The reconciliation between effective and statutory tax rates on operations is as follows:

	Years ended August 31,		
	2019	2018	2017
Federal statutory rate	21.0%	25.7%	35.0%
State income taxes, net of federal benefit	1.3	0.8	0.1
Foreign operations, excluding transition tax	5.8	1.8	(3.4)
Transition tax on foreign earnings	0.5	3.1	—
Remeasurement of domestic deferred taxes	—	(15.0)	—
Change in valuation allowance	—	0.1	—
Noncontrolling interest in flow-through entity	(5.7)	(2.4)	(6.0)
Permanent differences and other	4.2	0.6	1.4
Effective tax rate	27.1%	14.7%	27.1%

Earnings before income tax and earnings from unconsolidated affiliates for the years ended August 31, 2019, 2018 and 2017 were \$75.0 million, \$110.8 million and \$123.2 million, respectively, for our domestic U.S. operations and \$78.2 million, \$112.8 million and \$113.0 million, respectively, for our foreign operations.

The tax effects of temporary differences that give rise to significant portions of deferred tax assets and deferred tax liabilities were as follows:

<i>(In thousands)</i>	As of August 31,	
	2019	2018
Deferred tax assets:		
Accrued payroll and related liabilities	\$21,978	\$18,461
Deferred revenue	8,296	10,642
Inventories and other	15,392	10,518
Maintenance and warranty accruals	3,596	7,201
Net operating losses	3,182	2,002
Investment and asset tax credits	1,560	1,439
	54,004	50,263
Deferred tax liabilities:		
Fixed assets	56,760	70,942
Original issue discount	6,253	6,099
Intangibles	2,813	2,474
Other	1,432	1,831
	67,258	81,346
Valuation allowance	692	657
Net deferred tax liability	\$13,946	\$31,740

As of August 31, 2019, the Company had \$1.4 million of state credit carryforwards that will begin to expire in 2021 and \$19.6 million of foreign NOL carryforwards that will begin to expire in 2020. The Company has placed valuation allowances against any deferred tax assets for which no benefit is anticipated, including those for loss and credit carryforwards not likely to be used before their expiration dates. The net increase in the total valuation allowance on deferred taxes for which no benefit is anticipated was less than \$0.1 million for the year ended August 31, 2019.

Prior to 2018 no provision had been made for U.S. income taxes on the Company's cumulative undistributed earnings from foreign subsidiaries. During fiscal 2018 these earnings were subject to the one-time transition tax on the deemed repatriation of undistributed foreign earnings. Notwithstanding this deemed inclusion in taxable income, any actual repatriation would be accompanied by foreign withholding taxes. The Company does not intend to repatriate these foreign earnings and continues to assert that its foreign earnings are indefinitely reinvested.

The following is a tabular reconciliation of the total amounts of unrecognized tax benefits:

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Unrecognized Tax Benefit – Opening Balance	\$1,608	\$1,820	\$ 942
Gross increases – tax positions in prior period	–	237	1,368
Gross decreases – tax positions in prior period	(3)	(449)	(53)
Settlements	–	–	–
Lapse of statute of limitations	–	–	(437)
Unrecognized Tax Benefit – Ending Balance	\$1,605	\$1,608	\$1,820

The Company is subject to taxation in the U.S. and in various states and foreign jurisdictions. The Company is effectively no longer subject to U.S. Federal examination for fiscal years ending before 2016, to state and local examinations before 2015, or to foreign examinations before 2014.

Unrecognized tax benefits, excluding interest, at August 31, 2019 were \$1.6 million, all of which would affect the effective tax rate if recognized. The unrecognized tax benefits at August 31, 2018 were \$1.6 million. Accrued interest on unrecognized tax benefits as of August 31, 2019 was \$0.6 million and as of August 31, 2018 was \$0.2 million. The Company recorded annual interest expense of approximately \$0.4 million for changes in the reserves during each of the years ended August 31, 2019 and 2018. The Company has not accrued any penalties on the reserves. Interest and penalties related to income taxes are not classified as a component of income tax expense. Benefits from the realization of unrecognized tax benefits for deductible differences attributable to ordinary operations will be recognized as a reduction of income tax expense. The Company does not anticipate a significant change in the reserves for uncertain tax positions during the next twelve months.

Note 20 - Segment Information

The Company operates in three reportable segments: Manufacturing; Wheels, Repair & Parts; and Leasing & Services. Prior to August 20, 2018, the Company operated in four reportable segments: Manufacturing; Wheels & Parts; Leasing & Services; and GBW Joint Venture. On August 20, 2018 the Company entered into an agreement with its joint venture partner to discontinue the GBW railcar repair joint venture, which resulted in 12 repair shops returned to the Company. Beginning on August 20, 2018, the GBW Joint Venture was no longer considered a reportable segment.

The accounting policies of the segments are the same as those described in the summary of significant accounting policies. Performance is evaluated based on Earnings from operations. Corporate includes selling and administrative costs not directly related to goods and services and certain costs that are intertwined among segments due to our integrated business model. The Company does not allocate Interest and foreign exchange or Income tax expense for either external or internal reporting purposes. Intersegment sales and transfers are valued as if the sales or transfers were to third parties. Related revenue and margin are eliminated in consolidation and therefore are not included in consolidated results in the Company's Consolidated Financial Statements.

The information in the following table is derived directly from the segments' internal financial reports used for corporate management purposes. The results of operations for the GBW Joint Venture are not reflected in the tables below as the investment was accounted for under the equity method of accounting.

For the year ended August 31, 2019:

	Revenue			Earnings (loss) from operations		
	External	Intersegment	Total	External	Intersegment	Total
Manufacturing	\$2,431,499	\$ 97,086	\$2,528,585	\$217,583	\$ 6,370	\$223,953
Wheels, Repair & Parts	444,502	48,266	492,768	(2,941)	902	(2,039)
Leasing & Services	157,590	28,240	185,830	64,763	25,527	90,290
Eliminations	—	(173,592)	(173,592)	—	(32,799)	(32,799)
Corporate	—	—	—	(95,289)	—	(95,289)
	\$3,033,591	\$ —	\$3,033,591	\$184,116	\$ —	\$184,116

For the year ended August 31, 2018:

	Revenue			Earnings (loss) from operations		
	External	Intersegment	Total	External	Intersegment	Total
Manufacturing	\$2,044,586	\$ 118,157	\$2,162,743	\$240,901	\$ 17,721	\$258,622
Wheels, Repair & Parts	347,023	41,494	388,517	16,731	2,748	19,479
Leasing & Services	127,855	11,847	139,702	88,481	10,296	98,777
Eliminations	—	(171,498)	(171,498)	—	(30,765)	(30,765)
Corporate	—	—	—	(93,128)	—	(93,128)
	\$2,519,464	\$ —	\$2,519,464	\$252,985	\$ —	\$252,985

For the year ended August 31, 2017:

	Revenue			Earnings (loss) from operations		
	External	Intersegment	Total	External	Intersegment	Total
Manufacturing	\$1,725,188	\$ 19,291	\$1,744,479	\$295,334	\$ 1,022	\$296,356
Wheels, Repair & Parts	312,679	30,861	343,540	14,984	2,303	17,287
Leasing & Services	131,297	11,812	143,109	31,904	11,099	43,003
Eliminations	—	(61,964)	(61,964)	—	(14,424)	(14,424)
Corporate	—	—	—	(81,790)	—	(81,790)
	\$2,169,164	\$ —	\$2,169,164	\$260,432	\$ —	\$260,432

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Assets:			
Manufacturing	\$1,606,571	\$1,020,757	\$ 914,450
Wheels, Repair & Parts	306,725	306,756	236,315
Leasing & Services	708,799	578,818	535,323
Unallocated	368,542	559,133	711,617
	\$2,990,637	\$2,465,464	\$2,397,705
Depreciation and amortization:			
Manufacturing	\$ 49,240	\$ 44,225	\$ 33,807
Wheels, Repair & Parts	13,024	10,771	11,143
Leasing & Services	21,467	19,360	20,179
	\$ 83,731	\$ 74,356	\$ 65,129
Capital expenditures:			
Manufacturing	\$ 85,155	\$ 59,707	\$ 54,973
Wheels, Repair & Parts	13,291	5,204	3,129
Leasing & Services	99,787	111,937	27,963
	\$ 198,233	\$ 176,848	\$ 86,065

The following table summarizes selected geographic information.

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Revenue ⁽¹⁾:			
U.S.	\$2,115,934	\$1,840,877	\$1,674,517
Foreign	917,657	678,587	494,647
	\$3,033,591	\$2,519,464	\$2,169,164
Assets:			
U.S.	\$2,110,864	\$1,677,144	\$1,307,239
Mexico	628,511	517,543	791,974
Europe	251,262	270,777	298,492
	\$2,990,637	\$2,465,464	\$2,397,705

⁽¹⁾ Revenue is presented on the basis of geographic location of customers.

Reconciliation of Earnings from operations to Earnings before income tax and loss from unconsolidated affiliates:

<i>(In thousands)</i>	Years ended August 31,		
	2019	2018	2017
Earnings from operations	\$184,116	\$252,985	\$260,432
Interest and foreign exchange	30,912	29,368	24,192
Earnings before income tax and loss from unconsolidated affiliates	\$153,204	\$223,617	\$236,240

Note 21 - Customer Concentration

Customer concentration is defined as a single customer that accounts for more than 10% of total revenues or accounts receivable. In 2019, revenue from one customer represented 26% of total revenue. In 2018, revenue from two customers represented 20% and 11% of total revenue. In 2017, revenue from one customer represented 20% of total revenue. No other customers accounted for more than 10% of total revenues for the years ended August 31, 2019, 2018, or 2017. One customer had a balance that individually equaled or exceeded 10% of accounts receivable and represented 14% of the consolidated accounts receivable balance at August 31, 2019. One customer had a balance that individually equaled or exceeded 10% of accounts receivable and represented 19% of the consolidated accounts receivable balance at August 31, 2018.

Note 22 - Lease Commitments

Lease expense for railcar equipment leased-in under non-cancelable leases was \$7.7 million, \$7.5 million and \$7.6 million for the years ended August 31, 2019, 2018 and 2017. Aggregate minimum future amounts payable under these non-cancelable railcar equipment leases are as follows:

<i>(In thousands)</i>	
Year ending August 31,	
2020	\$ 6,200
2021	2,965
2022	1,762
2023	1,762
2024	1,413
Thereafter	376
	\$14,478

Operating leases for domestic railcar repair facilities, land, office space and certain manufacturing and office equipment expire at various dates through September 2098. Rental expense for these leases were \$12.2 million,

\$8.7 million and \$9.4 million for the years ended August 31, 2019, 2018 and 2017. Aggregate minimum future amounts payable under these non-cancelable operating leases are as follows:

(In thousands)

Year ending August 31,	
2020	\$ 8,099
2021	5,781
2022	3,965
2023	3,395
2024	2,109
Thereafter	9,821
	<hr/>
	\$33,170

Note 23 - Commitments and Contingencies

Portland Harbor Superfund Site

The Company's Portland, Oregon manufacturing facility is located adjacent to the Willamette River. In December 2000, the U.S. Environmental Protection Agency (EPA) classified portions of the Willamette River bed known as the Portland Harbor, including the portion fronting the Company's manufacturing facility, as a federal "National Priority List" or "Superfund" site due to sediment contamination (the Portland Harbor Site). The Company and more than 140 other parties have received a "General Notice" of potential liability from the EPA relating to the Portland Harbor Site. The letter advised the Company that it may be liable for the costs of investigation and remediation (which liability may be joint and several with other potentially responsible parties) as well as for natural resource damages resulting from releases of hazardous substances to the site. Ten private and public entities, including the Company (the Lower Willamette Group or LWG), signed an Administrative Order on Consent (AOC) to perform a remedial investigation/feasibility study (RI/FS) of the Portland Harbor Site under EPA oversight, and several additional entities did not sign such consent, but nevertheless contributed money to the effort. The EPA-mandated RI/FS was produced by the LWG and cost over \$110 million during a 17-year period. The Company bore a percentage of the total costs incurred by the LWG in connection with the investigation. The Company's aggregate expenditure during the 17-year period was not material. Some or all of any such outlay may be recoverable from other responsible parties. The EPA issued its Record of Decision (ROD) for the Portland Harbor Site on January 6, 2017 and accordingly on October 26, 2017, the AOC was terminated.

Separate from the process described above, which focused on the type of remediation to be performed at the Portland Harbor Site and the schedule for such remediation, 83 parties, including the State of Oregon and the federal government, entered into a non-judicial mediation process to try to allocate costs associated with remediation of the Portland Harbor site. Approximately 110 additional parties signed tolling agreements related to such allocations. On April 23, 2009, the Company and the other AOC signatories filed suit against 69 other parties due to a possible limitations period for some such claims; *Arkema Inc. et al v. A & C Foundry Products, Inc. et al*, U.S. District Court, District of Oregon, Case #3:09-cv-453-PK. All but 12 of these parties elected to sign tolling agreements and be dismissed without prejudice, and the case has been stayed by the court until January 16, 2020. The allocation process is continuing in parallel with the process to define the remediation steps.

The EPA's January 6, 2017 ROD identifies a clean-up remedy that the EPA estimates will take 13 years of active remediation, followed by 30 years of monitoring with an estimated undiscounted cost of \$1.7 billion. The EPA typically expects its cost estimates to be accurate within a range of -30% to +50%, but this ROD states that changes in costs are likely to occur as a result of new data it wanted to collect over a 2-year period prior to final remedy design. The ROD identifies 13 Sediment Decision Units (SDUs). One of the units, RM9W, includes the nearshore area of the river sediments offshore of our Portland, Oregon manufacturing facility as well as upstream and downstream of the facility. It also includes a portion of our riverbank. The ROD does not break down total remediation costs by SDU. The EPA's ROD concluded that more data was needed to better define clean-up scope and cost. On December 8, 2017, the EPA announced that Portland Harbor is one of 21 Superfund sites targeted for greater attention. On December 19, 2017, the EPA announced that it had entered a new AOC with a group of four potentially responsible parties to conduct additional sampling during 2018 and 2019 to provide more certainty about clean-up costs and aid the mediation process to allocate those costs. The parties to the mediation,

including the Company, have agreed to help fund the additional sampling. The sampling is completed and the EPA is evaluating possible resulting changes to remediation cost estimates.

The ROD does not address responsibility for the costs of clean-up, nor does it allocate such costs among the potentially responsible parties. Responsibility for funding and implementing the EPA's selected cleanup remedy will be determined at an unspecified later date. Based on the investigation to date, the Company believes that it did not contribute in any material way to contamination in the river sediments or the damage of natural resources in the Portland Harbor Site and that the damage in the area of the Portland Harbor Site adjacent to its property precedes its ownership of the Portland, Oregon manufacturing facility. Because these environmental investigations are still underway, sufficient information is currently not available to determine the Company's liability, if any, for the cost of any required remediation or restoration of the Portland Harbor Site or to estimate a range of potential loss. Based on the results of the pending investigations and future assessments of natural resource damages, the Company may be required to incur costs associated with additional phases of investigation, remedial design, or remedial action, and may be liable for damages to natural resources. In addition, the Company may be required to perform periodic maintenance dredging in order to continue to launch vessels from its launch ways in Portland, Oregon, on the Willamette River, and the river's classification as a Superfund site could result in some limitations on future dredging and launch activities. Any of these matters could adversely affect the Company's business and Consolidated Financial Statements, or the value of its Portland property.

On January 30, 2017 the Confederated Tribes and Bands of Yakama Nation sued 33 parties including the Company as well as the United States and the State of Oregon for costs it incurred in assessing alleged natural resource damages to the Columbia River from contaminants deposited in Portland Harbor. *Confederated Tribes and Bands of the Yakama Nation v. Air Liquide America Corp., et al.*, United States Court for the District of Oregon Case No. 3:17-CV-00164-SB. The complaint does not specify the amount of damages the Plaintiff will seek. The case has been stayed until January 16, 2020.

Oregon Department of Environmental Quality (DEQ) Regulation of Portland Manufacturing Operations

The Company has entered into a Voluntary Cleanup Agreement with the DEQ in which the Company agreed to conduct an investigation of whether, and to what extent, past or present operations at the Portland property may have released hazardous substances into the environment. The Company has also signed an Order on Consent with the DEQ to finalize the investigation of potential onsite sources of contamination that may have a release pathway to the Willamette River. Interim precautionary measures are also required in the order and the Company is discussing with the DEQ potential remedial actions which may be required. The Company's aggregate expenditure has not been material, however the Company could incur significant expenses for remediation. Some or all of any such outlay may be recoverable from other responsible parties.

Other Litigation, Commitments and Contingencies

In connection with the acquisition of the manufacturing business of ARI, the Company agreed to assume potential legacy liabilities (known and unknown) related to railcars manufactured by ARI. Among these potential liabilities are certain retrofit and repair obligations arising from regulatory actions by the Federal Railroad Administration and the Association of American Railroads. In some cases, ARI shares with the Company the costs of these retrofit and repair obligations. The Company currently is not able to determine if any of these liabilities will have a material adverse impact on the Company's results of operations.

From time to time, Greenbrier is involved as a defendant in litigation in the ordinary course of business, the outcomes of which cannot be predicted with certainty. While the ultimate outcome of such legal proceedings cannot be determined at this time, the Company believes that the resolution of pending litigation will not have a material adverse effect on the Company's Consolidated Financial Statements.

As of August 31, 2019, the Company had outstanding letters of credit aggregating to \$24.4 million associated with performance guarantees, facility leases and workers compensation insurance.

As of August 31, 2019, the Company had a \$10.0 million note receivable from Amsted-Maxion, its unconsolidated Brazilian castings and components manufacturer and an \$18.4 million note receivable balance from Greenbrier-Maxion, its unconsolidated Brazilian railcar manufacturer. These note receivables are included on the Consolidated Balance Sheet in Accounts receivable, net. In the future, the Company may make loans to or provide guarantees for Amsted-Maxion or Greenbrier-Maxion.

Note 24 - Fair Value of Financial Instruments

The estimated fair values of financial instruments and the methods and assumptions used to estimate such fair values are as follows:

<i>(In thousands)</i>	Carrying Amount ¹	Estimated Fair Value (Level 2)
Notes payable as of August 31, 2019	\$860,545	\$838,728
Notes payable as of August 31, 2018	\$469,721	\$517,925

¹ Carrying amount disclosed in this table excludes debt discount and debt issuance costs.

The carrying amount of cash and cash equivalents, accounts and notes receivable, revolving notes, accounts payable and accrued liabilities, foreign currency forward contracts and interest rate swaps is a reasonable estimate of fair value of these financial instruments. Estimated rates currently available to the Company for debt with similar terms and remaining maturities and current market data are used to estimate the fair value of notes payable.

Note 25 - Fair Value Measures

Certain assets and liabilities are reported at fair value on either a recurring or nonrecurring basis. Fair value, for this disclosure, is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants, under a three-tier fair value hierarchy which prioritizes the inputs used in measuring a fair value as follows:

- Level 1 - observable inputs such as unadjusted quoted prices in active markets for identical instruments;
- Level 2 - inputs, other than the quoted market prices in active markets for similar instruments, which are observable, either directly or indirectly; and
- Level 3 - unobservable inputs for which there is little or no market data available, which require the reporting entity to develop its own assumptions.

Assets and liabilities measured at fair value on a recurring basis as of August 31, 2019 are:

<i>(In thousands)</i>	Total	Level 1	Level 2 ⁽¹⁾	Level 3
Assets:				
Derivative financial instruments	\$ 64	\$ —	\$ 64	\$ —
Nonqualified savings plan investments	27,967	27,967	—	—
Cash equivalents	68,100	68,100	—	—
	\$96,131	\$96,067	\$ 64	\$ —

Liabilities:

Derivative financial instruments	\$11,279	\$ —	\$11,279	\$ —
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⁽¹⁾ Level 2 assets include derivative financial instruments which are valued based on significant observable inputs. See Note 15—Derivative Instruments for further discussion.

Assets and liabilities measured at fair value on a recurring basis as of August 31, 2018 are:

<i>(In thousands)</i>	Total	Level 1	Level 2 ⁽¹⁾	Level 3
Assets:				
Derivative financial instruments	\$ 1,557	\$ —	\$1,557	\$ —
Nonqualified savings plan investments	26,299	26,299	—	—
Cash equivalents	126,430	126,430	—	—
	\$154,286	\$152,729	\$1,557	\$ —

Liabilities:

Derivative financial instruments	\$ 1,566	\$ —	\$1,566	\$ —
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Quarterly Results of Operations (Unaudited)

<i>(In thousands, except per share amount)</i>	First	Second	Third	Fourth	Total
2019					
Revenue					
Manufacturing	\$471,789	\$476,019	\$681,588	\$802,103	\$2,431,499
Wheels, Repair & Parts	108,543	125,278	124,980	85,701	444,502
Leasing & Services	24,191	57,374	49,584	26,441	157,590
	604,523	658,671	856,152	914,245	3,033,591
Cost of revenue					
Manufacturing	417,805	442,996	590,788	686,036	2,137,625
Wheels, Repair & Parts	100,978	118,455	119,821	81,636	420,890
Leasing & Services	13,207	43,376	38,971	13,036	108,590
	531,990	604,827	749,580	780,708	2,667,105
Margin					
Selling and administrative	72,533	53,844	106,572	133,537	366,486
Net gain on disposition of equipment	50,432	47,892	54,377	60,607	213,308
Goodwill impairment	(14,353)	(12,102)	(11,019)	(3,489)	(40,963)
	–	–	10,025	–	10,025
Earnings from operations	36,454	18,054	53,189	76,419	184,116
Other costs					
Interest and foreign exchange	4,404	9,237	9,770	7,501	30,912
Earnings before income tax and earnings (loss) from unconsolidated affiliates	32,050	8,817	43,419	68,918	153,204
Income tax expense	(9,135)	(2,248)	(13,008)	(17,197)	(41,588)
Earnings (loss) from unconsolidated affiliates	467	(786)	(4,564)	(922)	(5,805)
Net earnings	23,382	5,783	25,847	50,799	105,811
Net earnings attributable to noncontrolling interest	(5,426)	(3,018)	(10,599)	(15,692)	(34,735)
Net earnings attributable to Greenbrier	\$ 17,956	\$ 2,765	\$ 15,248	\$ 35,107	\$ 71,076
Basic earnings per common share: ⁽¹⁾	\$ 0.55	\$ 0.08	\$ 0.47	\$ 1.08	\$ 2.18
Diluted earnings per common share: ⁽¹⁾	\$ 0.54	\$ 0.08	\$ 0.46	\$ 1.06	\$ 2.14

(1) Quarterly amounts do not total to the year to date amount as each period is calculated discretely. Diluted EPS is calculated by including the dilutive effect, using the treasury stock method, associated with shares underlying the 2.875% Convertible notes, 2.25% Convertible notes, restricted stock units that are not considered participating securities and performance based restricted stock units subject to performance criteria, for which actual levels of performance above target have been achieved.

Quarterly Results of Operations (Unaudited)

<i>(In thousands, except per share amount)</i>	First	Second	Third	Fourth	Total
2018					
Revenue					
Manufacturing	\$451,485	\$511,827	\$510,099	\$571,175	\$2,044,586
Wheels, Repair & Parts	78,011	88,710	94,515	85,787	347,023
Leasing & Services	30,039	28,799	36,773	32,244	127,855
	559,535	629,336	641,387	689,206	2,519,464
Cost of revenue					
Manufacturing	380,850	429,165	427,875	489,517	1,727,407
Wheels, Repair & Parts	72,506	80,708	85,850	79,266	318,330
Leasing & Services	16,865	14,116	19,155	14,536	64,672
	470,221	523,989	532,880	583,319	2,110,409
Margin	89,314	105,347	108,507	105,887	409,055
Selling and administrative	47,043	50,294	51,793	51,309	200,439
Net gain on disposition of equipment	(19,171)	(5,817)	(14,825)	(4,556)	(44,369)
Earnings from operations	61,442	60,870	71,539	59,134	252,985
Other costs					
Interest and foreign exchange	7,020	7,029	6,533	8,786	29,368
Earnings before income tax and earnings (loss) from unconsolidated affiliates	54,422	53,841	65,006	50,348	223,617
Income tax benefit (expense)	(18,135)	11,301	(15,944)	(10,115)	(32,893)
Earnings (loss) from unconsolidated affiliates	(2,910)	147	(12,823)	(3,075)	(18,661)
Net earnings	33,377	65,289	36,239	37,158	172,063
Net earnings attributable to noncontrolling interest	(7,124)	(3,647)	(3,288)	(6,223)	(20,282)
Net earnings attributable to Greenbrier	\$ 26,253	\$ 61,642	\$ 32,951	\$ 30,935	\$ 151,781
Basic earnings per common share: ⁽¹⁾	\$ 0.90	\$ 2.10	\$ 1.03	\$ 0.95	\$ 4.92
Diluted earnings per common share: ⁽¹⁾	\$ 0.83	\$ 1.91	\$ 1.01	\$ 0.94	\$ 4.68

(1) Quarterly amounts do not total to the year to date amount as each period is calculated discretely. Diluted EPS is calculated using the more dilutive of two approaches. The first approach includes the dilutive effect, using the treasury stock method, associated with shares underlying the 2.875% Convertible notes, restricted stock units that are not considered participating securities and performance based restricted stock units subject to performance criteria, for which actual levels of performance above target have been achieved. The second approach supplements the first by including the "if converted" effect of the 3.5% Convertible notes during the periods in which they were outstanding. Under the "if converted" method, debt issuance and interest costs, both net of tax, associated with the convertible notes are added back to net earnings and the share count is increased by the shares underlying the convertible notes. The 3.5% Convertible notes are included in the calculation of both approaches using the treasury stock method when the average stock price is greater than the applicable conversion price.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

Item 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management has evaluated, under the supervision and with the participation of our Principal Executive Officer and Principal Financial Officer, the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report pursuant to Rule 13a-15(b) under the Securities Exchange Act of 1934 (the Exchange Act). Based on that evaluation, our Principal Executive Officer and Principal Financial Officer have concluded that, as of the end of the period covered by this report, our disclosure controls and procedures were effective in ensuring that information required to be disclosed in our Exchange Act reports is (1) recorded, processed, summarized and reported in a timely manner, and (2) accumulated and communicated to our management, including our Principal Executive Officer and Principal Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Controls

There have been no changes in our internal control over financial reporting during the quarter ended August 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed under the supervision of our Principal Executive Officer and Principal Financial Officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external reporting purposes in accordance with accounting principles generally accepted in the United States of America.

As of the end of our 2019 fiscal year, management conducted an assessment of the effectiveness of our internal control over financial reporting based on the framework established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management has determined that our internal control over financial reporting as of August 31, 2019 was effective.

On July 26, 2019 we completed our acquisition of the manufacturing business of ARI. Management excluded the manufacturing business of ARI from our 2019 assessment of the effectiveness of our internal control over financial reporting as of August 31, 2019. The manufacturing business of ARI accounted for approximately 16.1% of our total assets as of August 31, 2019 and from July 26, 2019 to August 31, 2019 accounted for approximately 1.4% of our revenues for the year ended August 31, 2019. The manufacturing business of ARI will be included in our assessment of internal controls over financial reporting in fiscal 2020.

Our independent registered public accounting firm, KPMG LLP, independently assessed the effectiveness of our internal control over financial reporting, excluding the manufacturing business of ARI, as stated in their attestation report, which is included at the end of Part II, Item 9A of this Form 10-K.

Inherent Limitations on Effectiveness of Controls

Our management, including the Principal Executive Officer and Principal Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all

error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the our company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any evaluation of controls effectiveness to future periods are subject to risks. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
The Greenbrier Companies, Inc. and subsidiaries:

Opinion on Internal Control Over Financial Reporting

We have audited The Greenbrier Companies, Inc. and subsidiaries' (the Company) internal control over financial reporting as of August 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of August 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of August 31, 2019 and 2018, and the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the years in the three-year period ended August 31, 2019, and related notes (collectively, the consolidated financial statements), and our report dated October 29, 2019 expressed an unqualified opinion on those consolidated financial statements.

The Company acquired the manufacturing business of American Railcar Industries, Inc. on July 26, 2019, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of August 31, 2019, the manufacturing business of American Railcar Industries, Inc.'s internal control over financial reporting associated with total assets of approximately 16.1% and total revenues of approximately 1.4% included in the consolidated financial statements of the Company as of and for the year ended August 31, 2019. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of the manufacturing business of American Railcar Industries, Inc.

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 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 of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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/ KPMG LLP

Portland, Oregon
October 29, 2019

Item 9B. OTHER INFORMATION

None

PART III

Item 10. DIRECTORS AND EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item will be included under the captions “Election of Directors”, “Board Committees, Meetings and Charters” and “Our Code of Business Conduct and Ethics and FCPA Compliance” in our definitive Proxy Statement on Schedule 14A for the 2020 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission within 120 days after the year ended August 31, 2019 (“2020 Proxy Statement”) and is incorporated herein by reference. Information on the executive officers of the Company is found under the caption “Information about our Executive Officers” in Part I of this 10-K.

Item 11. EXECUTIVE COMPENSATION

The information required by this item will be included under the caption “Executive Compensation”, “Compensation Committee Report”, “2019 Director Compensation”, “Compensation Committee Interlocks and Insider Participation” and “Risk Oversight” in the 2020 Proxy Statement and is incorporated herein by reference.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDERS MATTERS

The information required by this item will be included under the captions “Stock Ownership of Certain Beneficial Owners and Management” and “Equity Compensation Plan Information” in the 2020 Proxy Statement and is incorporated herein by reference.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item will be included under the captions “Related Party Transactions” and “Director Independence” in 2020 Proxy Statement and is incorporated herein by reference.

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item will be included under the caption “Ratification of Appointment of Independent Auditors” in the 2020 Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(1) Financial Statements

See Consolidated Financial Statements in Item 8

(a) (2) Financial Statements Schedule*

* All other schedules have been omitted because they are inapplicable, not required or because the information is given in the Consolidated Financial Statements or notes thereto. This supplemental schedule should be read in conjunction with the Consolidated Financial Statements and notes thereto included in this report.

(a) (3) The following exhibits are filed herewith and this list is intended to constitute the exhibit index:

- 3.1 Registrant's Articles of Incorporation are incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 10-Q filed April 5, 2006.
- 3.2 Articles of Merger amending the Registrant's Articles of Incorporation are incorporated herein by reference to Exhibit 3.2 to the Registrant's Form 10-Q filed April 5, 2006.
- 3.3 Registrant's Bylaws, as amended January 11, 2006, are incorporated herein by reference to Exhibit 3.3 to the Registrant's Form 10-Q filed April 5, 2006.
- 3.4 Amendment to the Registrant's Bylaws, dated October 31, 2006, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed November 6, 2006.
- 3.5 Amendment to the Registrant's Bylaws, dated January 8, 2008, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed November 8, 2007.
- 3.6 Amendment to the Registrant's Bylaws, dated April 8, 2008, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed April 11, 2008.
- 3.7 Amendment to the Registrant's Bylaws, dated April 7, 2009, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed April 13, 2009.
- 3.8 Amendment to the Registrant's Bylaws, dated June 8, 2009, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed June 10, 2009.
- 3.9 Amendment to the Registrant's Bylaws, dated June 10, 2009, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed June 12, 2009.
- 3.10 Amendment to the Registrant's Bylaws, dated October 30, 2012, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed November 5, 2012.
- 3.11 Amendment to the Registrant's Bylaws, dated January 9, 2013, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed January 15, 2013.
- 3.12 Amendment to the Registrant's Bylaws, dated October 29, 2013, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed October 31, 2013.
- 3.13 Amendment to the Registrant's Bylaws, dated October 29, 2014, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed November 3, 2014.
- 3.14 Amendment to the Registrant's Bylaws, dated March 31, 2015, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed April 6, 2015.
- 3.15 Amendment to the Registrant's Bylaws, dated July 1, 2015, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed July 8, 2015.
- 3.16 Amendment to the Registrant's Bylaws, dated October 21, 2015, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed October 22, 2015.

- 3.17 Amendment to the Registrant's Bylaws, dated October 30, 2015, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed November 2, 2015.
- 3.18 Amendment to the Registrant's Bylaws, dated March 31, 2017, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed March 31, 2017.
- 3.19 Amendment to the Registrant's Bylaws, dated June 23, 2017, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed June 29, 2017.
- 3.20 Amendment to the Registrant's Bylaws, dated August 26, 2019, is incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed August 29, 2019.
- 4.1 Specimen Common Stock Certificate of Registrant is incorporated herein by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-3 filed April 7, 2010 (SEC File Number 333-165924).
- 4.2 Indenture between the Registrant and Wells Fargo Bank, National Association, as Trustee, including the Form of Note attached as Exhibit A thereto, dated February 6, 2017, is incorporated herein by reference to Exhibit 4.1 to the Registrant's Form 8-K filed February 6, 2017.
- 4.3 Description of the Registrant's Securities Under Section 12 of the Securities Exchange Act of 1934.
- 10.1* Amended and Restated Employment Agreement between the Registrant and Mr. William A. Furman, dated August 28, 2012, is incorporated herein by reference to Exhibit 10.3 to the Registrant's Form 10-Q filed January 9, 2013.
- 10.2* Form of Amended and Restated Employment Agreement between the Registrant and certain of its executive officers, as amended and restated on August 28, 2012, is incorporated herein by reference to Exhibit 10.8 to the Registrant's Form 10-K filed November 1, 2012.
- 10.3* Amendment No. 1 to Form of Amended and Restated Employment Agreement between the Registrant and certain of its executive officers, as amended and restated on August 28, 2012, is incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 10-Q filed January 8, 2014.
- 10.4* Second Amendment to Form of Amended and Restated Employment Agreement between the Registrant and certain of its executive officers, as amended and restated on August 28, 2012, is incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 10-Q filed June 29, 2018.
- 10.5* Form of Amendment to Amended and Restated Employment Agreement between the Registrant and certain of its executive officers.
- 10.6* Form of Change of Control Agreement is incorporated herein by reference to Exhibit 10.5 to the Registrant's Form 10-Q filed April 4, 2013.
- 10.7* The Greenbrier Companies, Inc. Form of Amendment to Change of Control Agreement, approved on May 28, 2013, is incorporated herein by reference to Exhibit 10.2 of the Registrant's Form 8-K filed June 3, 2013.
- 10.8* The Greenbrier Companies, Inc. 2014 Amended and Restated Stock Incentive Plan is incorporated herein by reference to Appendix A to the Registrant's Proxy Statement on Schedule 14A filed November 19, 2014.
- 10.9* The Greenbrier Companies, Inc. 2017 Amended and Restated Stock Incentive Plan is incorporated herein by reference to Appendix A to the Registrant's Proxy Statement on Schedule 14A filed November 14, 2017.
- 10.10* The Greenbrier Companies, Inc. Nonqualified Deferred Compensation Plan 2018 Amendment and Restatement of the Basic Plan Document is incorporated herein by reference to Exhibit 10.4 to the Registrant's Form 10-Q filed June 29, 2018.

- 10.11* The Greenbrier Companies Nonqualified Deferred Compensation Plan 2018 Amendment and Restatement of the Adoption Agreement is incorporated herein by reference to Exhibit 10.5 to the Registrant's Form 10-Q filed June 29, 2018.
- 10.12* Updated Rabbi Trust Agreements, dated October 1, 2012, related to The Greenbrier Companies, Inc. Nonqualified Deferred Compensation Plan, are incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 10-Q filed January 9, 2013.
- 10.13* Amendment No. 1 to Trust Agreement, dated June 15, 2018, related to The Greenbrier Companies, Inc. Nonqualified Deferred Compensation Plan, is incorporated by reference to Exhibit 10.6 to the Registrant's Form 10-Q filed June 29, 2018.
- 10.14* The Greenbrier Companies Nonqualified Deferred Compensation Plan Adoption Agreement for Directors, dated July 1, 2012, is incorporated herein by reference to Exhibit 10.28 to the Registrant's Form 10-K filed November 1, 2012.
- 10.15* Amendment No. 1 to the Greenbrier Companies Nonqualified Deferred Compensation Plan Adoption Agreement for Directors, dated December 15, 2015, is incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 10-Q filed April 5, 2016.
- 10.16* The Greenbrier Companies, Inc. 2014 Employee Stock Purchase Plan is incorporated herein by reference to Appendix B to the Registrant's Definitive Proxy Statement on Schedule 14A filed on November 19, 2014.
- 10.17* The Greenbrier Companies, Inc. Amendment to 2014 Employee Stock Purchase Plan is incorporated herein by reference to Appendix A to the Registrant's Definitive Proxy Statement on Schedule 14A filed on November 14, 2018.
- 10.18* Consulting Services Agreement between Greenbrier Leasing Company LLC and Charles J. Swindells dated January 7, 2016 is incorporated herein by reference to Exhibit 10.3 to the Registrant's Form 10-Q filed April 5, 2016.
- 10.19 Dissolution Agreement, dated August 20, 2018, by and among the Registrant, Greenbrier Rail Services Holdings, LLC, Watco Companies, L.L.C., Millennium Rail, L.L.C., Watco Mechanical Services, L.L.C., GBW Railcar Services Holdings, L.L.C., GBW Railcar Services, L.L.C., and GBW Railcar Services Canada, Inc. is incorporated herein by reference to Exhibit 10.26 to the Registrant's Form 10-K filed October 26, 2018.
- 10.20 Second Amended and Restated Limited Liability Company Agreement of GBW Railcar Services Holdings, L.L.C., dated August 20, 2018, by and among Greenbrier Rail Services Holdings, LLC, Watco Mechanical Services, L.L.C., and Millennium Rail, L.L.C. is incorporated herein by reference to Exhibit 10.27 to the Registrant's Form 10-K filed October 26, 2018.
- 10.21 Fourth Amended and Restated Credit Agreement, dated as of September 26, 2018, by and among The Greenbrier Companies, Inc., Bank of America, N.A., as Administrative Agent, Merrill Lynch, Pierce, Fenner & Smith Incorporated, as Sole Lead Arranger and Sole Bookrunner, MUFG Union Bank, N.A., as Syndication Agent, Bank of the West, Branch Banking and Trust Company, Fifth Third Bank, and Wells Fargo Bank, National Association, as Co-Documentation Agents, and the lenders identified therein is incorporated herein by reference to Exhibit 10.28 to the Registrant's Form 10-K filed October 26, 2018.
- 10.22 First Amendment to the Fourth Amended and Restated Credit Agreement, dated as of September 26, 2018, by and among The Greenbrier Companies, Inc., Bank of America, N.A., as Administrative Agent, Merrill Lynch, Pierce, Fenner & Smith Incorporated, as Sole Lead Arranger and Sole Bookrunner, MUFG Union Bank, N.A., as Syndication Agent, Bank of the West, Branch Banking and Trust Company, Fifth Third Bank, and Wells Fargo Bank, National Association, as Co-Documentation Agents, and the lenders identified therein.
- 10.23 Fourth Amended and Restated Security Agreement, dated as of September 26, 2018, by and among The Greenbrier Companies, Inc., and the other parties identified as Debtors therein, in favor of Bank of America, N.A., as Administrative Agent is incorporated herein by reference to Exhibit 10.29 to the Registrant's Form 10-K filed October 26, 2018.

- 10.24 Fourth Amended and Restated Pledge Agreement, dated as of September 26, 2018, by and among The Greenbrier Companies, Inc., and the other parties identified as Debtors therein, in favor of Bank of America, N.A., as Administrative Agent is incorporated herein by reference to Exhibit 10.30 to the Registrant's Form 10-K filed October 26, 2018.
- 10.25 Amended and Restated Credit Agreement, dated as of September 26, 2018, by and among Greenbrier Leasing Company LLC, an Oregon limited liability company, Bank of America, N.A., as Administrative Agent, Merrill Lynch, Pierce, Fenner & Smith Incorporated, as Sole Lead Arranger and Sole Bookrunner, MUFG Union Bank, N.A., as Syndication Agent, and the lenders identified therein is incorporated herein by reference to Exhibit 10.31 to the Registrant's Form 10-K filed October 26, 2018.
- 10.26 Amended and Restated Security Agreement, dated as of September 26, 2018, by and between Greenbrier Leasing Company LLC, an Oregon limited liability company, in favor of Bank of America, N.A., as Administrative Agent is incorporated herein by reference to Exhibit 10.32 to the Registrant's Form 10-K filed October 26, 2018.
- 10.27 Purchase Agreement, dated January 31, 2017, among The Greenbrier Companies, Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated and Goldman, Sachs & Co. is incorporated herein by reference to Exhibit 10.1 of the Registrant's Form 8-K filed February 6, 2017.
- 10.28 Asset Purchase Agreement, dated as of April 17, 2019, by and among The Greenbrier Companies, Inc., GBXL, LLC, and American Railcar Industries, Inc., is incorporated herein by reference to Exhibit 2.1 to the Registrant's Form 8-K filed April 18, 2019.
- 10.29 Convertible Promissory Note issued by The Greenbrier Companies, Inc. to American Railcar Industries, Inc. is incorporated herein by reference to Exhibit 4.1 to the Registrant's Form 8-K filed July 29, 2019.
- 14.1 Code of Business Conduct and Ethics is incorporated herein by reference to Exhibit 14.1 to the Registrant's Form 8-K filed January 12, 2016.
- 21.1 List of the subsidiaries of the Registrant.
- 23.1 Consent of KPMG LLP.
- 31.1 Certification pursuant to Rule 13(a) – 14(a).
- 31.2 Certification pursuant to Rule 13(a) – 14(a).
- 32.1 Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2 Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101 The following financial information from the Company's Annual Report on Form 10-K for the year ended August 31, 2019, formatted in XBRL (eXtensible Business Reporting Language) and furnished electronically herewith: (i) the Consolidated Balance Sheets; (ii) the Consolidated Statements of Income; (iii) Consolidated Statements of Comprehensive Income (iv) the Consolidated Statements of Equity (v) the Consolidated Statements of Cash Flows; (vi) the Notes to Condensed Consolidated Financial Statements.

* Management contract or compensatory plan or arrangement

Note: For all exhibits incorporated by reference, unless otherwise noted above, the SEC file number is 001-13146.

Item 16. FORM 10-K SUMMARY

None.

SIGNATURES

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

THE GREENBRIER COMPANIES, INC.

Dated: October 29, 2019

By: /s/ William A. Furman
William A. Furman
Chief Executive Officer

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 Registrant and in the capacities and on the dates indicated.

Signature	Date
<u>/s/ William A. Furman</u> William A. Furman, Chief Executive Officer and Chairman of the Board	October 29, 2019
<u>/s/ Thomas B. Fargo</u> Thomas B. Fargo, Director	October 29, 2019
<u>/s/ Wanda F. Felton</u> Wanda F. Felton, Director	October 29, 2019
<u>/s/ Graeme A. Jack</u> Graeme A. Jack, Director	October 29, 2019
<u>/s/ Duane C. McDougall</u> Duane C. McDougall, Director	October 29, 2019
<u>/s/ David L. Starling</u> David L. Starling, Director	October 29, 2019
<u>/s/ Charles J. Swindells</u> Charles J. Swindells, Director	October 29, 2019
<u>/s/ Donald A. Washburn</u> Donald A. Washburn, Director	October 29, 2019
<u>/s/ Kelly M. Williams</u> Kelly M. Williams, Director	October 29, 2019
<u>/s/ Adrian J. Downes</u> Adrian J. Downes, Senior Vice President, Chief Financial Officer and Chief Accounting Officer (Principal Financial Officer and Principal Accounting Officer)	October 29, 2019

Directors

Director Name and Title

William A. Furman Chairman of the Board and Director

Thomas B. Fargo Independent Director

Wanda F. Felton Independent Director

Graeme A. Jack Independent Director

Duane C. McDougall Independent Director

David L. Starling Independent Director

Charles J. Swindells Independent Director

Wendy L. Teramoto Director⁽¹⁾

Donald A. Washburn Independent Director

Kelly M. Williams Independent Director

(1) Based on its review of the circumstances, the Board has determined that Ms. Teramoto will be eligible to qualify as independent in less than one year beginning on September 1, 2020. Ms. Teramoto's current non-independent status is a result of her affiliation with a third-party which had a joint-venture with Greenbrier that was concluded over two years ago.

Executive and Other Officers

William A. Furman

Chairman and Chief Executive Officer

Lorie L. Tekorius

President and Chief Operating Officer

Alejandro Centurion

Executive Vice President and President,
Greenbrier Manufacturing Operations

Brian J. Comstock

Executive Vice President,
Sales & Marketing

Mark J. Rittenbaum

Executive Vice President and
Chief Commercial & Leasing Officer

Martin R. Baker

Senior Vice President,
General Counsel and
Chief Compliance Officer

Laurie Dornan

Senior Vice President,
Human Resources

Adrian J. Downes

Senior Vice President,
Chief Financial Officer
and Chief Accounting Officer

Jack Isselmann

Senior Vice President,
External Affairs & Communications

Rick M. Turner

Senior Vice President,
Greenbrier Rail Services

Anne T. Manning

Vice President and
Corporate Controller

Justin M. Roberts

Vice President,
Corporate Finance and Treasurer

Sherrill A. Corbett

Tonkon Torp LLP
Corporate Secretary

Investor Information

Corporate Offices

The Greenbrier Companies, Inc.
One Centerpointe Drive, Suite 200
Lake Oswego, OR 97035

Annual Shareholders' Meeting

Wednesday, January 8, 2020 | 2:00 pm
Benson Hotel
309 SW Broadway
Portland, OR 97205

Financial Information

Request for copies of this annual report
and other financial information should be
made to:

Investor Relations

The Greenbrier Companies, Inc.
One Centerpointe Drive, Suite 200
Lake Oswego, OR 97035
investor.relations@gbrx.com
503-684-7000

Legal Counsel

Tonkon Torp LLP
Portland, OR 97204

Independent Auditors

KPMG LLP
Portland, OR 97201

Transfer Agent

Computershare Trust Company, N.A.
PO Box 505000
Louisville, KY 40233

Greenbrier's Transfer Agent maintains
stockholder records, issues stock
certificates and distributes dividends.
Requests concerning these matters
should be directed to Computershare
Trust Company, N.A.



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THE GREENBRIER COMPANIES

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