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

FORM 10-K

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

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2019

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

For the transition period from ______ to

Commission File Number 1-8519

CINCINNATI BELL INC.

Ohio	**31-1056105**
(State of Incorporation)	**(I.R.S. Employer Identification No.)**

221 East Fourth Street, Cincinnati, Ohio 45202
(Address of principal executive offices) (Zip Code)

(513) 397-9900
(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 Shares ($0.01 par value)	CBB	New York Stock Exchange
Depository Shares, each representing 1/20 interest in a Share of 6 3/4% Cumulative Convertible Preferred Stock, without par value	CBB.PB	New York Stock Exchange

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or 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 the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act:

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

The aggregate market value of the voting common shares owned by non-affiliates of the registrant was $0.2 billion, computed by reference to the closing sale price of the common stock on the New York Stock Exchange on June 30, 2019, the last trading day of the registrant's most recently completed second fiscal quarter. The Company has no non-voting common shares.

At January 31, 2020, there were 50,529,765 common shares outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement relating to the Company's 2020 Annual Meeting of Shareholders are incorporated by reference into Part III of this report to the extent described herein.

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This report contains trademarks, service marks and registered marks of Cincinnati Bell Inc., as indicated.

Part I

Item 1. Business

Overview and Strategy

Cincinnati Bell Inc. and its consolidated subsidiaries ("Cincinnati Bell", "we", "our", "us" or the "Company") provide integrated communications and IT solutions that keep consumer and business customers connected with each other and with the world.

On December 21, 2019, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") pursuant to which the Company will be acquired by an affiliate of the Brookfield Infrastructure Group ("Brookfield"), the infrastructure investment division of Brookfield Asset Management (the "Merger"). At the effective time of the Merger (the "Effective Time"), each of our issued and outstanding Common Shares will be converted into the right to receive $10.50 in cash per Common Share, without interest, and the 6 3/4% Cumulative Convertible Preferred Shares will remain issued and outstanding as 6 3/4% Cumulative Convertible Preferred Shares of the Company, without par value, following the Effective Time. The consummation of the Merger is subject to customary closing conditions and is expected to close by the end of 2020, although there can be no assurance that the Merger will occur by that date. As a result of the Merger, the Company will cease to be a publicly traded company.

Through its Entertainment and Communications segment, the Company provides high-speed data, video, and voice solutions to consumers and businesses over an expanding fiber network and a legacy copper network. During 2018, the Company acquired Hawaiian Telcom Holdco, Inc. ("Hawaiian Telcom"), the largest full service provider of communication services on all of Hawaii's major islands. This acquisition added operational scale to our business by adding access to both Honolulu, a well-developed, fiber-rich city, as well as the growing neighbor islands. After the acquisition, the Company's combined fiber networks are approximately 17,000 fiber route miles.

Through its IT Services and Hardware segment, business customers across the U.S., Canada and Europe rely on the Company for the sale and service of efficient, end-to-end communications and IT systems and solutions. During 2017, the Company expanded the geographic footprint of its IT Services and Hardware segment as a result of the acquisitions of SunTel Services LLC ("SunTel") and OnX Holdings LLC ("OnX"), transforming the segment into a North American hybrid-cloud services provider. In addition, the acquisition of Hawaiian Telcom in 2018 also expanded the IT Services and Hardware segment to Hawaii.

Our goal is to continue the transformation of Cincinnati Bell from a legacy copper-based telecommunications company into a technology company with state-of-the-art fiber assets servicing customers with data, video, voice and IT solutions to meet their evolving needs. To this end, we believe that, by leveraging our past and future investments, we have created a company with a healthy balance sheet, growing revenue, growing profitability and sustainable cash flows.

In an effort to achieve our objectives, we continue to focus on the following key initiatives:

- expand our fiber network; and
- grow our IT Services and Hardware segment.

Expand our fiber network

We invested $105.9 million of capital in the Entertainment and Communications segment in products that can be categorized as either Fioptics in Cincinnati or Consumer/SMB Fiber in Hawaii (collectively, "Consumer/SMB Fiber") during 2019. Revenue from these high demand products totaled $440.4 million, up 15% over the prior year including the contribution from Hawaii, and up 4% over the prior year in Cincinnati, partially mitigating the decline in legacy products. The primary focus of these investments is the expansion of high-speed internet products which are designed to compete directly with the cable Multiple System Operators, such as Charter Communications, serving the Company's operating territories. Year-over-year revenue growth in these products is outlined in the table below:

Cincinnati Operating Territory	**2019**	**2018**	**2017**
Consumer / SMB Fiber Revenue (in millions):	$ 353.2	$ 341.2	$ 309.9
Subscribers (in thousands):			
High-speed internet	250.6	239.0	226.6
Video	135.1	139.9	146.5
Voice	106.8	107.6	105.9

Hawaii Operating Territory	2019	2018
Consumer / SMB Fiber Revenue (in millions):	$ 87.2	$ 42.3
Subscribers (in thousands):		
High-speed internet	68.2	65.9
Video	42.7	48.8
Voice	30.0	30.3

During the year, we passed an additional 12,400 addresses in the Greater Cincinnati area with Fioptics, which included a focus on Fiber to the Premise ("FTTP") addresses as FTTP has become a more relevant solution for our customers. As of December 31, 2019, the Fioptics products are now available to approximately 623,400 customer locations or 75% of the Greater Cincinnati operating territory. During 2019, we passed an additional 5,900 addresses in Hawaii. The Consumer/SMB Fiber products are now available to approximately 246,400 addresses, or 50% of the operating territory in Hawaii, including Oahu and the neighbor islands.

In 2019, the Company also invested $24.0 million in Enterprise Fiber products, which includes fiber and IP-based core network technology. These investments position the Company to meet increased business and carrier demand within Greater Cincinnati and in contiguous markets in the Midwest region. In Hawaii, expenditures are for high-bandwidth data transport products, such as metro-ethernet, including the Southeast Asia to United States ("SEA-US") cable. We continue to evolve and optimize network assets to support the migration of legacy products to new technology, and as of December 31, 2019, the Company has:

- increased the total number of commercial addresses with fiber-based services (referred to as a lit address) to 28,800 in Greater Cincinnati and 20,300 in Hawaii by connecting approximately 2,200 additional lit addresses in Greater Cincinnati and 1,200 additional lit addresses in Hawaii during the twelve months ended December 31, 2019;

- expanded the fiber network to span more than 12,500 route miles in Greater Cincinnati and 4,700 route miles in Hawaii; and

- provided cell site back-haul services to approximately 90% of the 1,000 cell sites in the Greater Cincinnati market, of which approximately 97% of these sites are lit with fiber, and 80% of the 1,100 cell sites in Hawaii, all of which are lit with fiber.

As a result of our investments, we have generated year-over-year Entertainment and Communications revenue growth each year since 2013. The Company's expanding fiber assets allow us to support the ever-increasing demand for data, video and internet devices with speed, agility and security. We believe our fiber investments are a long-term solution for our customers' bandwidth needs.

Grow our IT Services and Hardware Segment

Cincinnati Bell continues to grow the IT Services and Hardware segment by developing new products, as well as expanding its reach to new customers. During 2017, the Company completed the acquisitions of SunTel and OnX, which enabled us to extend our geographic footprint across the U.S., Canada and Europe, diversify our customer base, and expand our product portfolio. During 2018, the acquisition of Hawaiian Telcom helped to expand the segment even further across the U.S. to Hawaii. The Company continues to develop high-demand products for business customers through our investments in unified communications and cloud services. Our ability to be innovative and to react to the changing technology demands of our customers is important to the growth of our IT Services and Hardware segment. Our offerings under the Infrastructure Solutions practice provide a platform for buyer engagement and an opportunity for bridging the customer to higher value professional and managed services. In 2019 and 2018, the Company saw significant increases in revenue from Communications solutions, specifically Unified Communications as a Service ("UCaaS"), Software-Defined Wide Area Network ("SD-WAN") and Network as a Service ("NaaS"), to customers that historically have purchased our hardware offerings.

As a company with a long history of managing customers' network and technology needs, we combine the management of the network, whether owned or leased from other carriers out of territory, with integrated voice and IT offerings. We supply the architecture and integration intelligence, labor and hardware as well as any combination of these services. These projects can be established based on hourly billing rates, service-level driven agreements or utility-based managed service models. Customers are attracted to our ability to combine our historic knowledge, unique assets and talented workforce in order to help them improve their operational efficiency, mitigate risk and reduce costs.

Operations

As of December 31, 2019, the Company operated two segments: Entertainment and Communications and IT Services and Hardware.

The Entertainment and Communications segment provides products and services that can be categorized as either Consumer/SMB Fiber, Enterprise Fiber or Legacy. The table below demonstrates how our products and services are categorized:

Entertainment and Communications			
	Consumer / SMB Fiber	**Enterprise Fiber**	**Legacy**
Data	Fiber to the Premise (“FTTP”) Fiber to the Node (“FTTN”) DSL (> 10 Mb) (1)	Ethernet (>10Mb) Dedicated Internet Access Wavelength IRU Small Cell SONET (2)	DSL (< 10 Mb) DS0 (3), DS1, DS3 TDM (4) Ethernet (<10 Mb)
Voice	Voice (Fiber)		Traditional Voice Consumer Long Distance Switched Access Digital Trunking
Video	Television Service		
Other			Maintenance Information Services Connect America Fund support Directory Assistance Advertising Wireless Handsets and Accessories Wireless Services Wiring Projects

(1) Digital Subscriber Line
(2) Synchronous Optical Network
(3) Digital Signal
(4) Time Division Multiplexing

We classify the products and services of our IT Services and Hardware segment into four distinct practices: Consulting, Cloud, Communications and Infrastructure Solutions. The table below demonstrates how our products and services are categorized:

IT Services and Hardware	
Consulting	IT Staffing Application Services
Cloud	Virtual Data Centers Storage Backup Network Management/Monitoring Security Data Center Cloud Consulting
Communications	Unified Communications as a Services ("UCaaS") Contact Center Software Defined Wide Area Networking ("SD-WAN") Networking Solutions Multi-Protocol Label Switching ("MPLS") Network as a Service ("NaaS")
Infrastructure Solutions	Hardware Software Licenses Maintenance

Entertainment and Communications

The Entertainment and Communications segment provides products and services such as high-speed internet, data transport, local voice, video and other services. Cincinnati Bell Telephone Company LLC ("CBT"), a subsidiary of the Company, is the incumbent local exchange carrier ("ILEC") for a geography that covers a radius of approximately 25 miles around Cincinnati, Ohio, and includes parts of northern Kentucky and southeastern Indiana. CBT has operated in this territory for over 145 years. Voice and data services in the Enterprise Fiber and Legacy categories that are delivered beyond the Company's ILEC territory, particularly in Dayton and Mason, Ohio, are provided through the operations of Cincinnati Bell Extended Territories LLC ("CBET"), a subsidiary of CBT. On July 2, 2018, the Company acquired Hawaiian Telcom. Hawaiian Telcom is the ILEC for the State of Hawaii and the largest full service provider of communications services and products in that state. Originally incorporated in Hawaii in 1883 as Mutual Telephone Company, Hawaiian Telcom has a strong heritage of over 135 years as Hawaii’s communications carrier. Its services are offered on all of Hawaii’s major islands, except its video service, which currently is only available on the island of Oahu. The key products and services provided by the Entertainment and Communications segment include the following:

Data

The Company's data products include high-speed internet access, data transport and interconnection services. Consumer demand for increased internet speeds is accelerating, and more customers are opting for higher bandwidth solutions. To address this demand, the Company is focused on building out FTTP addresses, enabling these addresses to receive speeds up to one gigabit per second ("Gbps"). FTTP addresses now cover 59% of the market in Greater Cincinnati and 35% of the market in Hawaii. The Company is now able to provide internet speeds of up to 30 megabits per second ("Mbps") or more to approximately 75% of Greater Cincinnati and up to 20 Mbps or more to approximately 68% of homes and businesses on the island of Oahu, of which approximately 484,800 and 173,500 addresses are capable of receiving speeds up to one Gbps in Greater Cincinnati and Hawaii, respectively.

As business customers migrate from legacy products and copper-based technology, our metro-ethernet product becomes the access method of choice due to its ability to support multiple applications on a single physical connection. We are also expanding our metro-ethernet platform to deliver services across a wider geography to target business customers beyond our ILEC footprint. The Company’s regional network connects Greater Cincinnati, Columbus, and Dayton, Ohio, as well as Indianapolis, Indiana, Chicago, Illinois, and Louisville, Kentucky.

As a result of the acquisition of Hawaiian Telcom, the Company gained access to the SEA-US trans Pacific submarine cable system connecting Indonesia, the Philippines, Guam, Hawaii and the mainland United States. The system provides an initial 20 Terabytes per second ("Tbps") of capacity using state-of-the-art 100 Gbps technology to accommodate the increase in data consumption.

Voice

Voice represents local service over both copper and fiber. It also includes consumer long distance, digital trunking, switched access and other value-added services such as caller identification, voicemail, call waiting and call return.

The Company's voice access lines over copper continue to decrease as our customers have increasingly employed wireless technologies in lieu of wireline voice services ("wireless substitution"), migrated to competitors, or migrated to VoIP services provided by the Company and others.

Customers purchasing traditional long distance service can choose from a variety of long distance plans, which include unlimited long distance for a flat fee, purchase of minutes at a per-minute-of-use rate, or a fixed number of minutes for a flat fee. The Company's long distance lines and related minutes of use have continued to decline as a result of wireless substitution.

Video

In the Greater Cincinnati territory, the Company launched Fioptics in 2009 and initially focused our fiber network investment on densely populated areas, such as apartments and condominiums. Since that time, Fioptics has been deployed over a much broader base and is now available to approximately 75% of Greater Cincinnati. As of December 31, 2019, we have 135,100 video subscribers in Greater Cincinnati. Our Fioptics customers enjoy access to over 400 entertainment channels, including digital music, local, movie and sports programming with over 150 high-definition channels, parental controls, HD DVR and video On-Demand.

In Hawaii, the Company launched its next-generation television service on the island of Oahu in July 2011. The TV service is 100% digital with hundreds of local, national, international and music channels, including high-definition, premium, pay-per-view channels and video on-demand service. TV service has been deployed to 42,700 subscribers in Hawaii as of the end of 2019.

Other

Other revenue consists of revenue generated from wiring projects for business customers, Connect America Fund support (see “Regulatory Matters and Competitive Trends” for further discussion of universal service), advertising, directory assistance, maintenance and information services.

IT Services and Hardware

The IT Services and Hardware segment provides a full range of managed IT solutions, telephony and IT equipment sales, and professional IT staffing services. These services and products are provided through the Company's subsidiaries in various geographic areas throughout the U.S., Canada and Europe. By offering a full range of Infrastructure Solutions in addition to Cloud, Communications and Consulting services, the IT Services and Hardware segment provides end-to-end IT solutions designed to reduce cost and mitigate risk while optimizing performance for its customers.

The key products and services provided by the IT Services and Hardware segment include the following:

Consulting

The Company's consulting services offerings consist of IT staffing and project-based engagements, including engineering and installation of voice, connectivity and IT technologies, development of digital application solutions and staff augmentation by highly skilled and industry-certified technical resources. Engagements can be short-term IT implementation and project-based work as well as longer term staffing and permanent placement assignments. The Company utilizes a team of experienced recruiting and hiring personnel to provide its customers with a wide range of skilled IT professionals.

Communications

The Company offers a complete portfolio of hosted solutions that include converged IP communications platforms of data, voice, video and mobility applications. We offer our customers expert management for all hardware and software components, including maintenance contracts and service level agreement ("SLA") based services. Fully hosted and managed, these voice platforms and applications can also be delivered as a service for a monthly utility fee allowing our customers to scale without a large capital investment.

The solutions offered in the Communications practice include UCaaS, SD-WAN, NaaS, Contact Center and other Networking Solutions. UCaaS provides a portfolio of solutions that includes VoIP, room-based video, mobile solutions, chat/presence, messaging, web conferencing, audio conferencing, social media, contact center solutions, and more in order to serve a customer's collaboration needs. Cloud delivered SD-WAN is a revolutionary, agile platform to deploy, manage and monitor hybrid public, private, wireline and wireless networks. NaaS is a fully managed networking solution with cloud integration, security, switching, Wi-Fi, management, monitoring and SD-WAN. Our Contact Center offering features speech-enabled Interactive Voice Response ("IVR"), call-back services, call analytics and surveys, speech analytics, alerts and notification, and improved customer satisfaction and productivity. Additionally, we manage the maintenance of a large base of customers with traditional voice systems as well as converged VoIP systems under Networking Solutions.

Cloud

Virtual data center ("VDC") is a robust and scalable virtual infrastructure consisting of equipment, security, people and processes. This offering is provided in three different models - private cloud, dedicated cloud or public cloud - and provides customers with either a long-term or a short-term flexible solution that is fully managed by the Company and monitored around the clock from our Enterprise Network Operations Center ("ENOC").

Storage is a flexible, on-demand solution that enables businesses to eliminate capital expenditures and ongoing asset management with SLA-based services. The Company offers Tier I, Tier II and Tier III storage to meet its customers' availability, accessibility, protection, performance and capacity needs.

Backup is a scalable solution that allows businesses to eliminate capital outlay and ongoing equipment management with SLA-based services and includes virtual data center, hardware, software, monitoring and support.

The Company provides SLA-based monitoring and management services utilizing our ENOC. The ENOC includes highly certified engineers and operation experts that proactively monitor and manage our customers’ technology environments and applications. Standalone monitoring services provide customers with scheduled and automatic checks of customers' servers, routers, switches, load balancers and firewalls. We also provide customers with advance trouble shooting, repair and changes of customers' servers, routers, switches, load balancers and other network devices from our ENOC. These services can be provided to customers with equipment provided by the Company or customer-owned equipment and do not have geographical constraints. Services can be purchased individually or bundled by combining multiple products, services, and assets into a utility or service model.

Infrastructure Solutions

The Company maintains premium resale relationships and certifications with a variety of branded technology vendors which allows it to competitively sell, architect and install a wide array of telecommunications and IT infrastructure equipment to meet the needs of its customers.

Sales and Distribution Channels

The Company's Entertainment and Communications segment utilizes a number of distribution channels to acquire customers. As of December 31, 2019, the Company operated eight retail stores in the Cincinnati operating territory to market and distribute our Fioptics suite of products. The Company works to locate retail stores in high traffic but affordable areas, with a distance between each store that considers optimal returns per store and customer convenience. The Company also offers fully-automated, end-to-end web-based sales of various other Company services and accessories for both the Cincinnati operating territory and the Hawaii operating territory. In addition, the Company utilizes a call center, as well as a door-to-door sales force, to target the sale of our consumer products to residents.

For both operating segments, we utilize a business-to-business sales force and a call center organization to reach business customers in our operating territories. Larger business customers are supported by sales account representatives and solution architects located in our branch offices across the U.S., Canada and Europe that understand the customer's technology needs and recommend Company-offered solutions. Smaller business customers are supported through a telemarketing sales force, customer representatives and store locations.

The IT Services and Hardware segment utilizes an indirect distribution channel to sell services, primarily focused on Communications. Compensation to the distributor is success-based and typically involves a residual payment based on revenue from customers.

Suppliers and Product Supply Chain

The Company generally subjects purchases to competitive bids and selects its vendors based on price, service level, delivery terms, quality of product and terms and conditions.

The Entertainment and Communications segment's primary purchases are for video content, network equipment, software, fiber cable and contractors to maintain and support the growth of the fiber network. The Company maintains facilities and operations for storing cable and other equipment, product distribution and customer fulfillment.

The Company purchases some of its programming directly from the program networks by entering into affiliation agreements with the programming suppliers. The Company also benefits from membership with the National Cable Television Cooperative ("NCTC"), which enables us to take advantage of volume discounts. As of December 31, 2019, approximately 65% of CBET's programming was sourced from the NCTC and approximately 55% of Hawaiian Telcom's programming was sourced from the NCTC.

The IT Services and Hardware segment primarily purchases IT and telephony equipment that is either sold to a customer or used to provide service to the customer. The Company is a certified distributor of leading technology and software solutions including, but not limited to, Cisco, EMC, Avaya and Oracle. Most of this equipment is shipped directly to the customer from vendor locations, but the Company does maintain warehouse facilities for replacement parts and equipment testing and staging.

In addition, we have long-term commitments to outsource various services, such as certain information technology functions, cash remittance and accounts payable functions, call center operations and maintenance services.

Competition

The telecommunications industry is very competitive, and the Company competes against larger, well-capitalized national providers.

The Entertainment and Communications segment faces competition from other local exchange carriers, wireless service providers, inter-exchange carriers, as well as cable, broadband, and internet service providers. The Company has lost, and will likely continue to lose, access lines as a portion of the customer base migrates to competitive wireline or wireless providers in lieu of the Company's services. Wireless providers, particularly those that provide unlimited wireless service plans with no additional fees for long distance, offer customers a substitution service for the Company's local voice and long-distance services. The Company believes wireless substitution and competition is the reason for the largest portion of the Company's access line and long-distance line losses.

Our Consumer/SMB Fiber and Enterprise Fiber products also face intense competition from cable operators, other telecom companies and niche fiber companies. Many of our competitors have lower operating costs and access to resources that provide economies of scale that allow them to more aggressively price products, as well as provide products on a much broader scale given their expanded geographic operations. Our competitors continuously upgrade their service quality and offerings which could substantially erode the competitive advantage we currently have with our fiber-based products. These competitive factors could limit the Company's ability to grow revenue and cash flows despite the strategic initiatives implemented.

The Company's video product also faces competition from a number of different sources, including companies that deliver movies, television shows and other video programming over broadband Internet connections. Increasingly, content owners are utilizing Internet-based delivery of content directly to consumers, some without charging a fee for access to the content.

Furthermore, due to consumer electronics innovations, consumers are able to watch such Internet-delivered content on television sets and mobile devices. Increased customer migration to these non-traditional entertainment products could result in increased churn and decreased penetration for video; however, this trend could also drive increased demand for our high-speed internet product.

The IT Services and Hardware segment competes against numerous information technology consulting, web-hosting, and computer system integration companies, many of which are larger in scope and well-financed. The Company believes that participants in this market must grow rapidly and achieve significant scale to compete effectively. Other competitors may consolidate with larger companies or acquire software application vendors or technology providers, enabling them to more effectively compete. This consolidation could affect prices and other competitive factors in ways that could impede the ability of these businesses to compete successfully in the market. In addition, as more customers migrate to the public cloud, we expect to see declines in the demand for Infrastructure Solutions. However, this trend could provide an opportunity in Consulting, Communications and Cloud Services as the Company has IT professionals that can assist customers through this migration to the public cloud.

Customers

The Company had no customers whose revenue comprised greater than 10% of total revenue in 2019, 2018 and 2017.

Employees

At December 31, 2019, the Company had approximately 4,400 employees. Approximately 30% of its employees are covered by collective bargaining agreements. Approximately 15% of total employees are covered by a collective bargaining agreement with the Communications Workers of America (“CWA”), which is affiliated with the AFL-CIO, and approximately 15% of total employees are covered by a collective bargaining agreement with the International Brotherhood of Electrical Workers (IBEW) Local 1357. The collective bargaining agreements with the CWA and IBEW are effective through the second quarter of 2021 and third quarter of 2022, respectively.

Website Access and Other Information

The Company was incorporated under the laws of Ohio in 1983 with its headquarters at 221 East Fourth Street, Cincinnati, Ohio 45202 (telephone number (513) 397-9900 and website address http://www.cincinnatibell.com). The Company files annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission (the "SEC") under the Exchange Act of 1934 (the "Exchange Act"). The SEC maintains an internet site that contains reports, proxy statements, and other information about issuers, like the Company, which file electronically with the SEC. The address of that site is http://www.sec.gov. The Company makes available its reports on Forms 10-K, 10-Q, and 8-K (as well as all amendments to these reports), proxy statements and other information, free of charge, at the Investor Relations section of its website.

Executive Officers

Refer to Part III, Item 10. "Directors, Executive Officers and Corporate Governance" of this Annual Report on Form 10-K for information regarding executive officers of the registrant.

Business Segment Information

The amounts of revenue, intersegment revenue, operating income, expenditures for long-lived assets, and depreciation and amortization attributable to each of the Company’s business segments for the years ended December 31, 2019, 2018, and 2017 and assets as of December 31, 2019 and 2018 are set forth in Note 17 to the consolidated financial statements.

Item 1A. Risk Factors

In addition to the other information contained in this Form 10-K, the following risk factors should be considered carefully in evaluating us. Our business, financial condition, liquidity or results of operations could be materially affected by any of these risks.

Risk Factors Related to our Business and Operations

The Company operates in highly competitive industries, and customers may not continue to purchase products or services, which would result in reduced revenue and loss of market share.

The telecommunications industry is very competitive and the Company competes against larger, well-capitalized national providers. Competitors may reduce pricing, create new bundled offerings, or develop new technologies, products or services that they can offer in expanded geographic regions. Our competitors are expected to continuously upgrade their service quality and offerings. If the Company cannot continue to offer reliable, competitively priced, value-added services, or if the Company does not keep pace with technological advances and upgrades, competitive forces could adversely affect it through a loss of market share or a decrease in revenue and profit margins. The Company has lost access lines, and will likely continue to lose them as part of the customer base migrates to competitors or alternative products of the Company. These competitive factors could limit the Company's ability to grow revenue and cash flows despite the strategic initiatives implemented.

The Entertainment and Communications segment faces competition from other local exchange carriers, wireless service providers, inter-exchange carriers, cable, broadband and internet service providers, other telecom companies, niche fiber companies and companies that deliver movies, television shows and other video programming over broadband Internet connections. Wireless providers, particularly those that provide unlimited wireless voice and data plans with no additional fees for long distance, offer customers a substitution for the Company’s services. The Company believes wireless substitution accounts for the largest portion of its access line losses. Also, cable competitors that have existing service relationships with the Company's customers in the Entertainment and Communications segment offer substitution services, such as VoIP and long distance voice services in the Company's operating areas. As a result of wireless substitution and increased competition, legacy voice lines decreased by 13% and 10% in Cincinnati and Hawaii, respectively, in 2019 compared to 2018.

In addition, our strategic products, particularly our fiber-based products, face competition from a number of different sources including cable operators, other telecom companies, niche fiber companies, and companies that deliver movies, television shows and other video programming over broadband Internet connections. Increasingly, content owners are utilizing Internet-based delivery of content directly to consumers, some without charging a fee for access to the content. Furthermore, due to consumer electronics innovations, consumers are able to watch such Internet-delivered content on television sets and mobile devices. Increased customer migration to these non-traditional entertainment products could result in increased churn and decreased penetration in our Consumer/SMB Fiber products. If the Company is unable to effectively implement strategies to attract and retain video and high-speed internet subscribers, retain access lines and long distance subscribers, or replace such customers with other sources of revenue, the Company's Entertainment and Communications segment will be adversely affected.

The IT Services and Hardware segment competes against numerous other information technology consulting, web-hosting, and computer system integration companies, many of which are large in scope and well-financed. Other competitors may consolidate with larger companies or acquire software application vendors or technology providers, which may provide competitive advantages. The Company believes that many of the participants in this market must grow rapidly and achieve significant scale to compete effectively. This consolidation could affect prices and other competitive factors in ways that could impede our ability to compete successfully in the market. The competitive forces described above could adversely affect the Company’s IT Services and Hardware segment and have a material adverse impact on the Company’s business, financial condition, results of operations and cash flows.

The Company may be unable to grow our revenues and cash flows despite the initiatives we have implemented.

We must produce adequate revenues and cash flows that, when combined with cash on hand and funds available under our revolving credit facilities, will be sufficient to service our debt, fund our capital expenditures, fund our pension and other employee benefit obligations and pay preferred dividends pursuant to our dividend policy. We have identified some potential areas of opportunity and implemented several growth initiatives. We cannot be assured that these opportunities will be successful or that these initiatives will improve our financial position or our results of operations.

Failure to anticipate the need to introduce new products and services or to compete with new technologies may compromise the Company’s success in the telecommunications industry.

The Company’s success depends, in part, on being able to anticipate the needs of current and future business, carrier and consumer customers. The Company seeks to meet these needs through new product introductions, service quality and technological improvements. New products and services are important to the Company’s success because its industry is technologically driven, such that new technologies can offer alternatives to the Company’s existing services. The development of new technologies and products could accelerate the Company’s loss of access lines or limit the growth from its strategic products, which would have a material adverse effect on the Company’s revenue, results of operations, financial condition and cash flows.

The Company's access lines, which generate a significant portion of its cash flows and profits, are decreasing in number. If the Company continues to experience access line losses similar to the past several years, its revenues, earnings and cash flows from operations may be adversely impacted.

The Company generates a substantial portion of its revenues by delivering voice and data services over access lines. The Company's local telecommunications subsidiaries have experienced substantial access line losses over the past several years due to a number of factors, including wireless and broadband substitution and increased competition. The Company expects access line losses to continue into the foreseeable future. Failure to retain access lines without replacing such losses with an alternative source of revenue would adversely impact the Company's revenues, earnings and cash flow from operations.

The Company has provided alternative sources of revenue by way of our strategic products; however, these products may generate lower profit margins than our traditional services. In addition, as a larger portion of our customer base has already migrated to these new product offerings, a decreased growth rate of strategic products can be expected. Moreover, we cannot provide assurance that the revenues generated from our new offerings will mitigate revenue losses from the reduced sales of our legacy products or that our new strategic offerings will be as successful as anticipated.

Negotiations with the providers of content for our video programming may not be successful, potentially resulting in our inability to carry certain programming channels, which could result in the loss of subscribers. In addition, due to the influence of some content providers, we may be forced to pay higher rates for some content, resulting in increased costs.

We must negotiate with the content owners of the programming that we carry. These content owners are the exclusive provider of the channels they offer. If we are unable to reach a mutually-agreed upon contract with a content owner, our existing agreements to carry this content may not be renewed, resulting in the blackout of these channels. The loss of content could result in our loss of customers who place a high value on the particular content that is lost. In addition, many content providers own multiple channels. As a result, we typically have to negotiate the pricing for multiple channels rather than one, and carry and pay for content for which customers do not associate much value, in order to have access to other content that customers do associate value. Some of our competitors have materially larger scale than we do, and may, as a result, be better positioned than we are in such negotiations. As a result of these factors, the expense of content may continue to increase and have a material adverse impact on the Company's results of operations and cash flows.

The Company's failure to meet performance standards under its agreements could result in customers terminating their relationships with the Company or customers being entitled to receive financial compensation, leading to reduced revenues and/or increased costs.

The Company's agreements with its customers contain various requirements regarding performance and levels of service. If the Company fails to provide the levels of service or performance required by its agreements, customers may be able to receive financial compensation or may be able to terminate their relationship with the Company. In order to provide these levels of service, the Company is required to protect against human error, natural disasters, equipment failure, power failure, sabotage and vandalism, and have disaster recovery plans available in the event of disruption of service. The failure to address these or other events may result in a disruption of service. In addition, any inability to meet service level commitments or other performance standards could reduce the confidence of customers. Decreased customer confidence could impair the Company's ability to attract and retain customers, which could adversely affect the Company's ability to generate revenues and operating results.

The Company generates a substantial portion of its revenue by serving a limited geographic area.

The Company generates a substantial portion of its revenue by serving customers in Cincinnati, Ohio, Dayton, Ohio and the islands of Hawaii. Furthermore, because of Hawaii's geographic isolation, the successful operation and growth of the business in Hawaii is dependent on favorable economic and regulatory conditions in the state. An economic downturn or natural disaster occurring in any of these limited operating territories would have a disproportionate effect on the Company's business, financial condition, results of operations and cash flows compared to similar companies of a national scope and similar companies operating in different geographic areas.

The customer base for telecommunications services in Hawaii is small and geographically concentrated. The population of Hawaii is approximately 1.4 million, approximately 70% of whom live on the island of Oahu. Any adverse economic conditions affecting Oahu, or Hawaii generally, could materially impair our ability to operate our business. Labor shortages or increased labor costs in Hawaii could also have a material adverse effect on our business. In addition, we may be subject to increased costs for goods and services that the Company is unable to control or defray as a result of operating in this limited territory. Increased expenses including, but not limited to, energy and health care could have a material adverse effect on our business and results of operations.

One large customer accounts for a significant portion of the Company's accounts receivable. The loss or significant reduction in business from this customer would cause operating results to decline and could negatively impact profitability and cash flows.

As of December 31, 2019 and 2018, Verizon Communications Inc. ("Verizon") comprised 25% and 18% of consolidated accounts receivable, respectively. As a result of these concentrations, the Company's results of operations and financial condition could be materially affected if the Company lost this customer or if products and services purchased were significantly reduced. In addition, if Verizon were to default on its accounts receivable obligations, the Company would be exposed to potentially significant losses in excess of the provisions established. This would also negatively impact the available borrowing capacity under the Company's accounts receivable securitization facility ("Receivables Facility").

Maintaining the Company's telecommunications networks requires significant capital expenditures, and the Company's inability or failure to maintain its telecommunications networks could have a material impact on its market share and ability to generate revenue.

Over the past several years, the Company has improved its wireline network through increased capital expenditures for fiber optic cable in areas of its operating network. The Company intends to continue its capital expenditures for fiber optic cable.

In order to provide appropriate levels of service to the Company's customers, the network infrastructure must be protected against damage from human error, natural disasters, unexpected equipment failure, power loss or telecommunications failures, terrorism, sabotage or other intentional acts of vandalism. The Company's networks may not address all of the problems that may be encountered in the event of a disaster or other unanticipated problems, which may result in disruption of service to customers.

The Company may also incur significant additional capital expenditures as a result of unanticipated developments, regulatory changes and other events that impact the business.

Increases in broadband usage may cause network capacity limitations, resulting in service disruptions or reduced capacity for customers.

Video streaming services and peer-to-peer file sharing applications use significantly more bandwidth than traditional Internet activity such as web browsing and email. As utilization rates and availability of these services continue to grow, our high-speed internet customers may use much more bandwidth than in the past. If this occurs, we could be required to make significant capital expenditures to increase network capacity in order to avoid service disruptions or reduced capacity for customers. We may not be able to recover the costs of the necessary network investments. This could result in an adverse impact to our results of operations and financial condition.

We may be liable for the material that content providers distribute over our networks.

The law relating to the liability of private network operators for information carried on, stored or disseminated through their networks is still unsettled. As such, we could be exposed to legal claims relating to content disseminated on our networks. Claims could challenge the accuracy of materials on our network or could involve matters such as defamation, invasion of privacy or copyright infringement. If we need to take costly measures to reduce our exposure to these risks or are required to defend ourselves against such claims, our financial results would be negatively affected.

An IT and/or network security breach or cyber-attack may lead to unauthorized use or disabling of our network, theft of customer data, unauthorized use or publication of our confidential business information and could have a material adverse effect on our business.

Cyber-attacks or other breaches of network or information technology security may cause equipment failures or disruptions to our operations. Our inability to operate our wireline networks as a result of such events, even for a limited period of time, may result in significant expenses and/or loss of market share. In addition, the potential liabilities associated with these events could exceed the insurance coverage we maintain. Cyber-attacks, which include the use of malware, computer viruses and other means for disruption or unauthorized access, have increased in frequency, scope and potential harm in recent years. These risks may be heightened as we expand our managed services, data center services and cloud-based services. While, to date, we have not been subject to cyber-attacks or other cyber incidents which, individually or in the aggregate, have been material to our operations or financial condition, the preventative actions we take to reduce the risk of cyber incidents and protect our information technology and networks may be insufficient to repel a major cyber-attack in the future. Significant security failures could result in the unauthorized use or disabling of our network elements. The costs associated with a major cyber-attack could include material incentives offered to existing customers and business partners to retain their business, increased expenditures on cyber security measures, lost revenues from business interruption, litigation, fines from regulatory authorities and damage to our reputation. If we fail to prevent the theft of valuable information such as financial data, sensitive information about the Company and intellectual property, or if we fail to protect the privacy of customer and employee confidential data against breaches of network or information technology security, it could result in damage to our reputation, which could adversely impact customer and investor confidence. Any of these occurrences could result in a material adverse effect on our results of operations and financial condition.

Weather conditions, natural disasters, terrorist acts or acts of war could cause damage to our infrastructure and result in significant disruptions to our operations.

Our business operations are subject to interruption by natural disasters, power outages, terrorist attacks, other hostile acts and events beyond our control. Such events could cause significant damage to our infrastructure, resulting in degradation or disruption of service to our customers. The potential liabilities associated with these events could exceed the insurance coverage we maintain. Our system redundancy may be ineffective or inadequate and our disaster recovery planning may not be sufficient for all eventualities. These events could also damage the infrastructure of suppliers that provide us with the equipment and services we need to operate our business and provide products to our customers. A natural disaster or other event causing significant physical damage could cause us to experience substantial losses resulting in significant recovery time and expenditures to resume operations. In addition, these occurrences could result in lost revenues from business interruption as well as damage to our reputation.

In particular, from time to time, the islands of Hawaii experience severe weather conditions such as high winds and heavy rainfall and natural disasters such as earthquakes, volcanic eruptions and tsunami, which can overwhelm our employees, disrupt our services and severely damage our property. Such disruptions in service and damage to property could materially harm our business, financial condition, results of operations, liquidity and/or market price of our securities. Moreover, it is impossible to predict the extent to which climate change could cause extreme weather conditions to become more frequent or more extreme.

The regulation of the Company's businesses by federal and state authorities may, among other things, place the Company at a competitive disadvantage, restrict its ability to price its products and services competitively, and threaten its operating licenses.

Several of the Company's subsidiaries are subject to regulatory oversight of varying degrees at both the state and federal levels, which may differ from the regulatory scrutiny faced by the Company's competitors. A significant portion of the Company's revenue is derived from pricing plans that are subject to regulatory review and approval. These regulated pricing plans limit the rates the Company can charge for some services while the competition has typically been able to set rates for services with limited or no restriction. In the future, regulatory initiatives that would put the Company at a competitive disadvantage or mandate lower rates for its services would result in lower profitability and cash flows for the Company. In addition, different regulatory interpretations of existing regulations or guidelines may affect the Company's revenues and expenses in future periods.

At the federal level, the Company's telecommunications services are subject to the Communications Act of 1934 as amended by the Telecommunications Act of 1996 (the "Act"), including rules adopted by the Federal Communications Commission ("FCC"). At the state level, CBT operates as the incumbent local exchange carrier ("ILEC") and carrier of last resort in portions of Ohio, Kentucky, and Indiana, while Hawaiian Telcom, Inc. ("HTI") serves as the ILEC and carrier of last resort in Hawaii. As the ILEC in those states, these entities are subject to regulation by the Public Utilities Commissions in those states. Various regulatory decisions or initiatives at the federal or state level may from time to time have a negative impact on CBT's and HTI's ability to compete in their respective markets. In addition, although less heavily regulated than the Company's ILEC operations, other subsidiaries are authorized to provide competitive local exchange service, long distance, and cable television service in various states, and are consequently also subject to various state and federal telecommunications and cable regulations that could adversely impact their operations.

There are currently many regulatory actions under way and being contemplated by federal and state authorities regarding issues that could result in significant changes to the business conditions in the telecommunications industry. In addition, in connection with our Internet access offerings, we could become subject to laws and regulations as they are adopted or applied to the Internet. There is currently only limited regulation applicable to these services although court decisions and/or legislative action could lead to greater regulation of the Internet (including Internet access services). We cannot provide any assurances that changes in current or future regulations adopted by the FCC or state regulators, or other legislative, administrative, or judicial initiatives relating to the telecommunications industry, will not have a material adverse effect on the Company's business, financial condition, results of operations and cash flows.

From time to time, different regulatory agencies conduct audits to ensure that the Company is in compliance with the respective regulations. The Company could be subject to fines and penalties if found to be out of compliance with these regulations, and these fines and penalties could be material to the Company's financial condition.

The Company depends on a number of third-party providers and the loss of or problems with one or more of these providers may impede the Company's growth or cause it to lose customers.

The Company depends on third-party providers to supply products and services. For example, many of the Company's information technology and call center functions are performed by third-party providers, and network equipment is purchased from and maintained by vendors. The loss of or problems with one or more of these third-party providers may result in an adverse effect on our ability to provide products and services to our customers and on our results of operations and financial condition.

A failure of back-office information technology systems could adversely affect the Company's results of operations and financial condition.

The efficient operation of the Company's business depends on back-office information technology systems. The Company relies on back-office information technology systems to effectively manage customer billing, business data, communications, supply chain, order entry and fulfillment and other business processes. A failure of the Company's information technology systems to perform as anticipated could disrupt the Company's business and result in a failure to collect accounts receivable, transaction errors, processing inefficiencies, and the loss of sales and customers, causing the Company's reputation and results of operations to suffer. In addition, information technology systems may be vulnerable to damage or interruption from circumstances beyond the Company's control, including fire, natural disasters, systems failures, security breaches and viruses. Any such damage or interruption could have a material adverse effect on the Company's business.

If the Company fails to extend or renegotiate its collective bargaining agreements with its labor unions when they expire, or if its unionized employees were to engage in a strike or other work stoppage, the Company's business and operating results could be materially harmed.

The Company is a party to collective bargaining agreements with its labor unions in both the Cincinnati and Hawaii operating territories, which represents approximately 30% of its employees. No assurance can be given that the Company will be able to successfully extend or renegotiate its collective bargaining agreements in the future. If the Company fails to extend or renegotiate its collective bargaining agreements, if disputes with its union arise, or if its unionized workers engage in a strike or a work stoppage, the Company could experience a significant disruption of operations or incur higher ongoing labor costs, either of which could have a material adverse effect on the business.

The loss of any of the senior management team or attrition among key sales associates could adversely affect the Company's business, financial condition, results of operations and cash flows.

The Company's success will continue to depend on its senior management team and key sales associates and the Company's ability to retain such key management personnel and other key employees. Senior management has specific knowledge relating to the Company and the industry that would be difficult to replace. The loss of key sales associates could hinder the Company's ability to continue to benefit from long-standing relationships with customers. The loss of any of these individuals could adversely affect the Company's business, financial condition, results of operations and cash flows.

The future results of the Company will suffer if the Company does not effectively manage its expanded operations following the acquisitions of OnX and Hawaiian Telcom.

The size of the Company has increased significantly as a result of the acquisitions of OnX and Hawaiian Telcom. The Company's future success depends, in part, upon its ability to manage this expanded business, which could pose substantial challenges for management. There can be no assurances that the Company will be successful or that it will realize the expected operating efficiencies, cost savings, revenue enhancements and other benefits anticipated deriving from these acquisitions.

Risks Related to our Indebtedness

The Company's debt could limit its ability to fund operations, raise additional capital, and fulfill its obligations, which, in turn, would have a material adverse effect on its businesses and prospects generally.

As of December 31, 2019, the Company and its subsidiaries had outstanding indebtedness of $1,923.6 million, on which it incurred $137.4 million of interest expense in 2019, and had a total shareowners' deficit of $140.0 million. In October 2017, the Company entered into a new Credit Agreement. The Credit Agreement provides for (i) a five year $200 million senior secured revolving credit facility including both a letter of credit subfacility of up to $30 million and a swingline loan subfacility of up to $25 million (the "Revolving Credit Facility") and (ii) a seven-year $600 million senior secured term loan facility (the "Tranche B Term Loan due 2024"). At December 31, 2019, the Company and its subsidiaries had $0.2 million of borrowing availability under its Receivables Facility and had the ability to borrow up to an additional $143.0 million under the Revolving Credit Facility, subject to compliance with certain conditions.

The Company's debt has important consequences, including the following:

- the Company is required to use a substantial portion of its cash flow from operations to pay principal and interest on its debt, thereby reducing the availability of cash flow to fund working capital, capital expenditures, strategic acquisitions, investments and alliances, and other general corporate requirements;
- there is a variable interest rate on a portion of its debt which will increase if the market interest rates increase;
- the Company's debt increases its vulnerability to adverse changes in the credit markets, which adverse changes could increase the Company's borrowing costs and limit the availability of financing;
- the Company's debt service obligations limit its flexibility to plan for or react to changes in its business and the industries in which it operates;

- the Company’s level of debt and shareowners’ deficit may restrict it from raising additional financing on satisfactory terms to fund working capital, capital expenditures, strategic acquisitions, investments and alliances, and other general corporate requirements; and
- the Company’s debt instruments contain limitations on the Company and require the Company to comply with specified financial ratios and other restrictive covenants. Failure to comply with these covenants, if not cured or waived, could limit availability to the cash required to fund the Company's operations and general obligations and could result in the Company’s dissolution, bankruptcy, liquidation or reorganization.

In addition, certain of our variable rate debt, including debt under the Revolving Credit Facility and the Receivables Facility, uses LIBOR as one of the benchmarks for establishing the rate of interest and may be hedged with LIBOR-based interest rate derivatives. LIBOR is the subject of recent regulatory guidance and proposals for reform. These reforms and other pressures may cause LIBOR to be replaced with a new benchmark in 2021 or to perform differently than in the past. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our variable rate indebtedness.

The Company’s creditors and preferred stockholders have claims that are superior to claims of the holders of the Company's common stock. Accordingly, in the event of the Company’s dissolution, bankruptcy, liquidation, or reorganization, payment is first made on the claims of creditors of the Company and its subsidiaries, then preferred stockholders, and finally, if amounts are available, to holders of the Company's common stock.

The Credit Agreement, the indenture governing the Company's notes due 2024, the indenture governing the Company's notes due 2025 and other indebtedness impose significant restrictions on the Company.

The Company’s debt instruments impose, and the terms of any future debt may impose, operating and other restrictions on the Company. These restrictions affect, and in many respects limit or prohibit, among other things, the Company’s ability to:

- incur additional indebtedness;
- create liens;
- make investments;
- enter into transactions with affiliates;
- sell assets;
- guarantee indebtedness;
- declare or pay dividends or make other distributions to shareholders;
- repurchase equity interests;
- enter into agreements that restrict dividends or other payments from subsidiaries;
- issue or sell capital stock of certain of its subsidiaries;
- consolidate, merge, or transfer all or substantially all of its assets and the assets of its subsidiaries on a consolidated basis; and
- change its fiscal year.

The agreements governing the Credit Agreement also require the Company to achieve and maintain compliance with specified financial ratios.

The restrictions contained in the terms of the Credit Agreement and its other debt instruments could:

- limit the Company’s ability to plan for or react to market conditions or meet capital needs or otherwise restrict the Company’s activities or business plans; and
- adversely affect the Company’s ability to finance its operations, strategic acquisitions, investments or alliances, other capital needs, or to engage in other business activities that would be in its interest.

A breach of any of the debt's restrictive covenants or the Company's inability to comply with the required financial ratios would result in a default under some or all of the debt agreements. During the occurrence and continuance of a default, lenders may elect to declare all outstanding borrowings, together with accrued interest and other fees, to be immediately due and payable. Additionally, under the Credit Agreement, the lenders may elect not to provide loans under the Revolving Credit Facility until such default is cured or waived. The Company's debt instruments also contain cross-acceleration provisions, which generally cause each instrument to be subject to early repayment of outstanding principal and related interest upon a qualifying acceleration of any other debt instrument. Failure to comply with these covenants, if not cured or waived, would limit the cash available to the Company required to fund operations and its general obligations and could result in the Company's dissolution, bankruptcy, liquidation or reorganization.

The Company depends on its Revolving Credit Facility and Receivables Facility to provide for its short-term financing requirements in excess of amounts generated by operations, and the availability of those funds may be reduced or limited.

The Company depends on the Revolving Credit Facility and its Receivables Facility to provide for short-term financing requirements in excess of amounts generated by operations. The Revolving Credit Facility has a maturity date of October 2022. The Receivables Facility has a termination date of May 2021 and is subject to renewal every 364 days with the next renewal occurring in May 2020.

The Company's ability to borrow under its Revolving Credit Facility is subject to the Company's compliance with covenants, including covenants requiring compliance with specified financial ratios. Failure to satisfy these covenants would constrain or prohibit its ability to borrow under these facilities.

As of December 31, 2019, the Company had $57.0 million of outstanding borrowings under the Revolving Credit Facility, leaving $143.0 million in additional borrowing availability under this facility. The $200.0 million available under the Revolving Credit Facility is funded by various financial institutions. If one or more of these banks is not able to fulfill its funding obligations, the Company's financial condition could be adversely affected.

As of December 31, 2019, the Company had a total borrowing capacity of $142.2 million on a maximum borrowing capacity of $225.0 million on its Receivables Facility. At that date, there were $131.5 million of outstanding borrowings and $10.5 million of outstanding letters of credit. The available borrowing capacity is calculated monthly based on the amount and quality of outstanding accounts receivable and thus may be lower than the maximum borrowing limit. If the quality of the Company's accounts receivables deteriorates, this will negatively impact the available capacity under this facility. As of December 31, 2019, the Company had $0.2 million of borrowing capacity remaining under its Receivables Facility.

The servicing of the Company's indebtedness is dependent on its ability to generate cash, which could be impacted by many factors beyond its control.

The Company's ability to generate cash is subject to general economic, financial, competitive, legislative, regulatory, and other factors, many of which are beyond its control. The Company cannot provide assurance that its business will generate sufficient cash flow from operations, that additional sources of debt financing will be available, or that future borrowings will be available under its Revolving Credit Facility Credit or Receivables Facility, in each case, in amounts sufficient to enable the Company to service its indebtedness or to fund other liquidity needs. If the Company cannot service its indebtedness, it will have to take actions such as reducing or delaying capital expenditures, strategic acquisitions, investments and alliances, selling assets, restructuring or refinancing indebtedness, or seeking additional equity capital, which may adversely affect its shareholders, debt holders and customers. The Company may not be able to negotiate remedies on commercially reasonable terms or at all. In addition, the terms of existing or future debt instruments may restrict the Company from adopting any of these alternatives. The Company's inability to generate the necessary cash flows could result in its dissolution, bankruptcy, liquidation or reorganization.

The Company depends on the receipt of dividends or other intercompany transfers from its subsidiaries and investments.

Virtually all of the Company's operations are conducted through its subsidiaries and most of the Company's debt is held at the parent company. Certain of the Company's material subsidiaries are subject to regulatory authority which may potentially limit the ability of such subsidiaries to distribute funds or assets. If any of the Company's subsidiaries were to be prohibited from paying dividends or making distributions, the Company may not be able to make the scheduled interest and principal repayments on its debt. This failure would have a material adverse effect on the Company's liquidity and the trading price of the Company's common stock, preferred stock, and debt instruments, which could result in its dissolution, bankruptcy, liquidation or reorganization.

Risks Relating to the Merger with Brookfield

There are material uncertainties and risks associated with the proposed Merger Agreement and Merger.

On December 21, 2019, the Company entered into the Merger Agreement with affiliates of Brookfield. Below are material uncertainties and risks associated with the Merger Agreement and the proposed Merger. If any of the risks develop into actual events, then the Company's business, financial condition, results and ongoing operations, share price or prospects could be materially adversely affected.

- The announcement or pendency of the Merger may impede the Company's ability to retain and hire key personnel and its ability to maintain relationships with its customers, suppliers and others with whom it does business or its operating results and business generally;
- The attention of the Company's employees and management may be diverted due to activities related to the Merger, which may affect the Company's business operations;
- Matters relating to the transactions may require substantial commitments of time and resources by the Company's management, which could harm the Company's relationships with its employees, customers, distributors, suppliers or other business partners, and may result in a loss of or a substantial decrease in purchases by its customers;
- The Merger Agreement restricts the Company from engaging in certain actions without the approval of Brookfield, which could prevent the Company from pursuing certain business opportunities outside the ordinary course of business that arise prior to the closing of the Merger;
- The Merger Agreement contains provisions that could discourage a potential competing acquirer of the Company;
- The Company's directors and executive officers have financial interests in the Merger that may be different from, or in addition to, the interests of the Company's shareholders generally, which could have influenced their decisions to support or approve the Merger; and
- Shareholder litigation in connection with the transactions contemplated by the Merger Agreement may result in significant costs of defense, indemnification and liability.
- The Merger may materially limit the Company's ability to utilize existing deferred tax assets related to federal and state net operating losses.

The proposed Merger may not be completed in a timely manner or at all.

Completion of the Merger is subject to customary closing conditions, including (1) the absence of an order, injunction or law prohibiting the Merger, (2) the expiration or early termination of the waiting period (including any extension thereof) under the HSR Act and Competition Act (Canada) Compliance (as defined in the Company's preliminary proxy statement, under the section entitled "*The Merger—Regulatory Approvals Required for the Merger*") shall have been obtained, (3) approval of the Merger by the Committee on Foreign Investment in the United States under Section 721 of the Defence Production Act of 1950, as amended, (4) certain FCC consents and state regulatory consents required in connection with the Merger shall have been obtained, shall not be subject to agency reconsideration or judicial review, and the time for any person to petition for agency reconsideration or judicial review shall have expired and (5) the adoption of the Merger Agreement by the affirmative vote of shareholders holding at least two-thirds of the outstanding Company common shares and 6 ¾% Cumulative Convertible Preferred Shares (voting as a single class).

The obligation of each of the Company and Brookfield to consummate the Merger is also conditioned on, subject to certain materiality and other qualifiers, the accuracy of the representations and warranties of the other party and the performance in all material respects by the other party of its obligations under the Merger Agreement. In addition, the Merger Agreement may require the Company and Brookfield to comply with conditions imposed by regulatory entities and neither company is required to take any action with respect to obtaining any regulatory approval that, individually or in the aggregate, would be reasonably likely to have a material adverse effect on Brookfield and its affiliates (taken as a whole) or the Company and its subsidiaries (taken as a whole). There can be no assurance that regulators will not impose conditions, terms, obligations or restrictions and that such conditions, terms, obligations or restrictions will not result in the delay or abandonment of the Merger. There can be no assurance that all of these required approvals and clearances will be obtained or will be obtained on a timely basis. Competing offers or acquisition proposals for the Company may be made, resulting in delay of the Merger or termination of the Merger Agreement. Lawsuits may be filed against the Company relating to the Merger and an adverse ruling in any such lawsuit may prevent the Merger from being completed in the time frame expected or at all.

Failure to complete the Merger could negatively impact the Company’s business, financial results and stock price.

If the merger is delayed or not completed, the Company’s ongoing businesses may be adversely affected and will be subject to several risks and consequences, including the following:

- decline in share price to the extent that the current price of Company common shares reflects an assumption that the Merger will be completed;
- negative publicity and a negative impression of the Company in the investment community;
- loss of business opportunities and the ability to effectively respond to competitive pressures; and
- the Company may be required, under certain circumstance, to pay Brookfield a termination fee and additional expenses.

The Company has incurred, and will incur, substantial direct and indirect costs as a result of the Merger.

The Company has incurred, and will continue to incur, significant costs, expenses and fees for professional advisors, printing and other transaction costs in connection with the Merger, and some of these fees and costs are payable by the Company regardless of whether the Merger is consummated.

Other Risk Factors

The trading price of the Company's common stock may be volatile, and the value of an investment in the Company's common stock may decline.

The market price of the Company's common stock has been volatile and could be subject to wide fluctuations in response to, among other things, the risk factors described in this report and other factors beyond the Company's control, such as volatility in equity markets and fluctuations in the valuation of companies perceived by investors to be comparable to the Company. The Company’s recent stock price reflects the assumption that the Merger will be completed or a new offer will proceed to an agreement and an acquisition will be completed.

Equity markets have experienced price and volume fluctuations that have affected the Company's stock price and the market prices of equity securities of many other companies. These broad market and industry fluctuations, as well as general economic, political, and market conditions, may negatively affect the market price of the Company's stock.

Companies that have experienced volatility in the market price of common shares have periodically been subject to securities class action litigation. The Company may be the target of this type of litigation in the future. Securities litigation could result in substantial costs and/or damages and divert management's attention from other business concerns.

The uncertain economic environment, including uncertainty in the U.S. and world securities markets, could impact the Company's business and financial condition.

The uncertain economic environment could have an adverse effect on the Company's business and financial liquidity. The Company's primary source of cash is customer collections. If economic conditions were to worsen, some customers may cancel services or have difficulty paying their accounts receivable. These conditions would result in lower revenues and increases in the allowance for doubtful accounts, which would negatively affect the results of operations. Furthermore, the sales cycle would be further lengthened if business customers slow spending or delay decision-making on the Company's products and services, which would adversely affect revenues. If competitors lower prices as a result of economic conditions, the Company would also experience pricing pressure. If the economies of the U.S. and the world deteriorate, this could have a material adverse effect on the Company's business, financial condition, results of operations and cash flows.

The Company’s future cash flows could be adversely affected if it is unable to fully realize its deferred tax assets.

As of December 31, 2019, the Company had deferred tax assets of $305.2 million, which are primarily composed of deferred tax assets associated with U.S. federal net operating loss carryforwards of $163.2 million, and state and local net operating loss carryforwards of $47.0 million. The Company has recorded a valuation allowance against deferred tax assets related to certain state and local net operating losses and other deferred tax assets due to the uncertainty of the Company’s ability to utilize the assets within the statutory expiration period. In addition, the Company has recorded a valuation allowance against the portion of interest expense for which deduction is limited under Internal Revenue Code Section 163(j). The use of the Company’s deferred tax assets enables it to satisfy current and future tax liabilities without the use of the Company’s cash resources. If the Company is unable for any reason to generate sufficient taxable income to fully realize its deferred tax assets, or if the use of its net operating loss carryforwards is limited by Internal Revenue Code Section 382 or similar state statutes, the Company’s net income, shareowners’ deficit and future cash flows would be adversely affected.

Changes in tax laws and regulations, and actions by federal, state and local taxing authorities related to the interpretation and application of such tax laws and regulations, could have a negative impact on the Company's financial results and cash flows.

The Company calculates, collects and remits various federal, state, and local taxes, surcharges, and regulatory fees to numerous federal, state and local governmental authorities, including but not limited to federal Universal Service Fund contributions, sales tax, regulatory fees and use tax on purchases of goods and services used in our business. Tax laws are subject to change, and new interpretations of how various statutes and regulations should be adhered to are frequently issued. In many cases, the application of tax laws are uncertain and subject to differing interpretations, especially when evaluated against new technologies and telecommunications services, such as broadband Internet access and cloud services. In the event that we have incorrectly calculated, assessed, or remitted amounts due to governmental authorities, or if revenue and taxing authorities disagree with positions we have taken, we could be subject to additional taxes, fines, penalties, or other adverse actions. In the event that federal, state, or local municipalities were to significantly increase taxes on goods and services used to construct and maintain our network, operations, or provision of services, or seek to impose new taxes, there could be a material adverse impact on financial results.

Adverse changes in the value of assets or obligations associated with the Company’s employee benefit plans could negatively impact shareowners’ deficit and liquidity.

The Company sponsors noncontributory defined benefit pension plans for eligible management employees, non-management employees and certain former executives. The Company also provides healthcare and group life insurance benefits for eligible retirees. The Company’s Consolidated Balance Sheets indirectly reflect the value of all plan assets and benefit obligations under these plans. The accounting for employee benefit plans is complex, as is the process of calculating the benefit obligations under the plans. Adverse changes in interest rates or market conditions, among other assumptions and factors, could cause a significant increase in the Company’s benefit obligations or a significant decrease of the asset values, without necessarily impacting the Company’s net income. In addition, the Company’s benefit obligations could increase significantly if it needs to unfavorably revise the assumptions used to calculate the obligations. These adverse changes could have a significant negative impact on the Company’s shareowners’ deficit. Additionally, the Company’s postretirement costs are adversely affected by increases in medical and prescription drug costs. Further, if there are adverse changes to plan assets or if medical and prescription drug costs increase significantly, the Company could be required to contribute additional material amounts of cash to the plans or to accelerate the timing of required payments.

Third parties may claim that the Company is infringing upon their intellectual property, and the Company could suffer significant litigation or licensing expenses or be prevented from selling products.

The Company may be unaware of intellectual property rights of others that may cover some of its technology, products or services. Any litigation growing out of third-party patents or other intellectual property claims could be costly and time-consuming and would divert the Company’s management and key personnel from its business operations. The complexity of the technology involved and the uncertainty of intellectual property litigation increases these risks. Resolution of claims of intellectual property infringement might also require the Company to enter into costly license agreements. Likewise, the Company may not be able to obtain license agreements on acceptable terms. The Company also may be subject to significant damages or injunctions against the development and sale of certain of its products or services. Further, the Company often relies on licenses of third-party intellectual property for its businesses. The Company cannot ensure these licenses will be available in the future on favorable terms or at all.

Third parties may infringe upon the Company’s intellectual property, and the Company may expend significant resources enforcing its rights or suffer competitive injury.

The Company’s success significantly depends on the competitive advantage it gains from its proprietary technology and other valuable intellectual property assets. The Company relies on a combination of patents, copyrights, trademarks and trade secrets protections, confidentiality provisions and licensing arrangements to establish and protect its intellectual property rights. If the Company fails to successfully enforce its intellectual property rights, its competitive position could suffer, which could harm its operating results.

The Company may also be required to spend significant resources to monitor and police its intellectual property rights. The Company may not be able to detect third-party infringements and its competitive position may be harmed before the Company does so. In addition, competitors may design around the Company’s technology or develop competing technologies. Furthermore, some intellectual property rights are licensed to other companies, allowing them to compete with the Company using that intellectual property.

The Company could be subject to a significant amount of litigation, which could require the Company to pay significant damages or settlements.

The industry that the Company operates in faces a substantial risk of litigation, including, from time to time, patent infringement lawsuits, antitrust class actions, securities class actions, wage and hour class actions, personal injury claims and lawsuits relating to our advertising, sales, billing and collection processes. We may incur significant expenses in defending these lawsuits. In addition, we may be required to pay significant awards and settlements.

The Company could incur significant costs resulting from complying with, or potential violations of, environmental, health and human safety laws.

The Company's operations are subject to laws and regulations relating to the protection of the environment, health, and human safety, including those governing the management and disposal of, and exposure to, hazardous materials and the cleanup of contamination, and the emission of radio frequencies. While the Company believes its operations are in substantial compliance with environmental, health, and human safety laws and regulations, as an owner or operator of property and in connection with the current and historical use of hazardous materials and other operations at its sites, the Company could incur significant costs resulting from complying with or violations of such laws, the imposition of cleanup obligations and third-party suits. For instance, a number of the Company's sites formerly contained underground storage tanks for the storage of used oil and fuel for back-up generators and vehicles.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

As of December 31, 2019, the Company owned or maintained properties throughout the U.S. and Canada. Our headquarters is located in Cincinnati, Ohio where we lease approximately 240,000 square feet for executive, administrative and business offices for the Company. In addition to the space in Cincinnati, we own a building with approximately 465,000 square feet of office space in Honolulu, Hawaii for the Hawaiian Telcom operations. We lease office space in multiple locations in Canada for operations to support our Canadian operations.

Our properties include copper and fiber warehouses and associated equipment in each of our local operating markets. Each of the Company's subsidiaries maintains some investment in furniture and office equipment, computer equipment and associated operating system software, application system software, leasehold improvements and other assets.

With regard to its Cincinnati Entertainment and Communications operations, the Company owns substantially all of the central office switching stations and the land upon which they are situated. Some business and administrative offices are located in leased facilities, which are recorded as operating leases. The Company's network assets include a fiber network warehouse, internet protocol and circuit switches and integrated access terminal equipment. In addition, as of year-end, we lease eight Company-run retail locations.

With regard to its Hawaii Entertainment and Communications operations, the Company has properties consisting of both owned and leased properties, including our administrative facilities and facilities for call centers, customer service sites for the television business, switching equipment, fiber optic networks, cable head-end equipment, coaxial distribution networks, routers and servers used in our telecommunications business. Leased properties are recorded as operating leases.

With regard to the IT Services and Hardware operations, the majority of business and administrative offices are located in leased facilities, which are recorded as either finance or operating leases depending on respective terms.

For additional information about the Company's properties, see Note 6 to the consolidated financial statements.

Item 3. Legal Proceedings

The Company is subject to various lawsuits, actions, proceedings, claims and other matters asserted under laws and regulations in the normal course of business. We believe that the liabilities accrued for legal contingencies in our consolidated financial statements, as prescribed by generally accepted accounting principles ("GAAP"), are adequate in light of those contingencies that are probable and able to be estimated. However, there can be no assurances that the actual amounts required to satisfy alleged liabilities from various legal proceedings, claims, tax examinations, and other matters, and to comply with applicable laws and regulations, will not exceed the amounts reflected in our consolidated financial statements. As such, costs, if any, that may be incurred in excess of those amounts provided as of December 31, 2019, cannot be reasonably determined.

Based on information currently available, consultation with counsel, available insurance coverage and established reserves, management believes the eventual outcome of all outstanding claims will not, individually or in the aggregate, have a material effect on the Company's financial position, results of operations or cash flows.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

(a) Market Information

The Company's common shares (symbol: CBB) are listed on the New York Stock Exchange.

(b) Holders

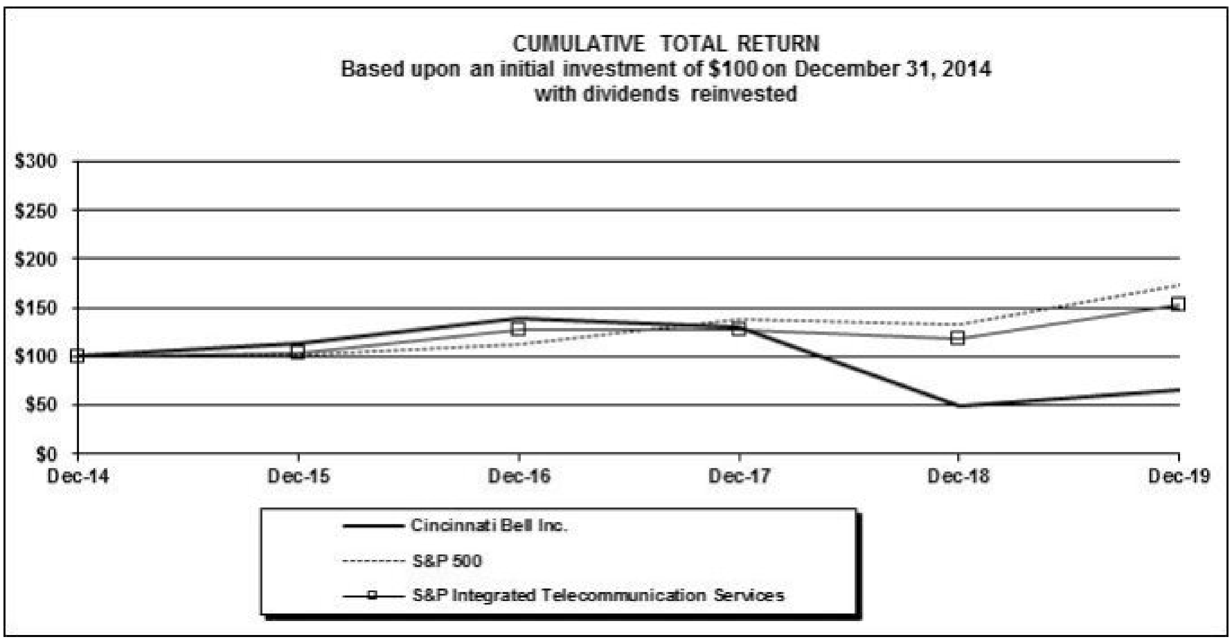
As of January 31, 2020, the Company had 4,868 holders of record of the 50,529,765 common shares outstanding and 155,250 shares outstanding of the 6 3/4% Cumulative Convertible Preferred Stock.

(c) Dividends

In both 2019 and 2018, the Company paid $10.4 million of dividends on its 6 3/4% Cumulative Convertible Preferred Stock. In 2019 and 2018, the Company did not pay any dividends on its common stock and does not intend to pay any common stock dividends in 2020.

(d) Stock Performance

The following graph compares Cincinnati Bell Inc.'s cumulative five-year total shareholder return on common stock with the cumulative total returns of the S&P 500 index and the S&P Integrated Telecommunication Services index. The graph tracks the performance of a $100 investment in our common stock and in each index (with the reinvestment of all dividends) from December 31, 2014 to December 31, 2019.



	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19
Cincinnati Bell Inc.	$ 100	$ 113	$ 140	$ 131	$ 49	$ 66
S&P 500	$ 100	$ 101	$ 114	$ 138	$ 132	$ 174
S&P Integrated Telecommunication Services	$ 100	$ 103	$ 128	$ 128	$ 118	$ 152

(e) Issuer Purchases of Equity Securities

The following table provides information regarding the Company’s purchases of its common stock during the quarter ended December 31, 2019:

Period	Total Number of Shares (or Units) Purchased	Average Price Paid per Share (or Unit)	Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs *	Approximate Dollar Value of Shares that May Yet Be Purchased Under Publicly Announced Plans or Programs (in millions)*
10/1/2019 - 12/31/2019	—	$ —	—	$ 124.4

* In February 2010, the Board of Directors approved an additional plan for the repurchase of the Company’s outstanding common stock in an amount up to $150.0 million. This repurchase plan does not have a stated maturity.

Item 6. Selected Financial Data

We ceased operations of our wireless business as of March 2015. As a result, wireless financial results during 2015 are presented as discontinued operations.

All shares of common stock and per share information presented in the following table have been adjusted to reflect the Reverse Split on a retroactive basis for all periods presented.

Accounting Standard Update ("ASU") 2015-03, Simplifying the Presentation of Debt Issuance Costs, was adopted effective January 1, 2016. As a result, certain note issuance costs were reclassed from "Other noncurrent assets" to "Long-term debt, less current portion." All periods presented in the following table have been recast to present the impact of ASU 2015-03.

ASU 2016-09, Compensation - Stock Compensation, was adopted effective January 1, 2017. As a result, cash flows related to excess tax benefits were reclassed from "Cash flows from operating activities" to "Cash flows from financing activities." All periods presented in the following table have been recast to present the impact of ASU 2016-09.

ASU 2014-09, Revenue from Contracts with Customers, was adopted effective January 1, 2018. As a result, there was a change to the treatment of hardware revenue in the Infrastructure Solutions category from recording hardware revenue as a principal (gross) to recording revenue as an agent (net), and as such recorded hardware sales net of the related cost of products. Additionally, contract assets related to fulfillment costs and costs of acquisition were recorded to "Other noncurrent assets." The periods ending in 2017 and 2016 have been recast to present the impact of ASU 2014-09, respectively. Financial data for the period ending in 2015 has not been adjusted to reflect the adoption of ASU 2014-09. See Note 3 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for further information regarding our adoption of Accounting Standards Codification ("ASC") 606.

ASU 2017-07, Improving the Presentation of Net Period Pension Cost and Net Periodic Postretirement Benefit Cost, was adopted effective January 1, 2018. As a result, expenses related to other components of net benefit cost were reclassed from "Cost of Services," "Selling, general and administrative" and "Other operating costs and losses" to a new line below Operating income, "Other components of pension and postretirement benefit plans expense." All periods presented in the following table have been recast to present the impact of ASU 2017-07.

ASU 2016-02, Leases, was adopted effective January 1, 2019. As a result, the Company recognized "operating lease right-of-use assets" and "operating lease liabilities" in the Consolidated Balance Sheets for 2019. ASU 2016-02 was adopted using the modified retrospective transition method, which did not require the Company to adjust comparative periods. Financial data for the periods ending in 2018, 2017, 2016 and 2015 have not been adjusted to reflect the adoption of ASU 2016-02. See Note 9 of Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for further information regarding our adoption of ASC 842.

The selected financial data should be read in conjunction with the consolidated financial statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in this document.

(dollars in millions, except per share amounts)	2019	2018 (e)	2017 (f)	2016	2015
Operating Data					
Revenue	$ 1,536.7	$ 1,378.2	$ 1,065.7	$ 1,017.6	$ 1,167.8
Cost of services and products, selling, general and administrative, depreciation and amortization expense	1,443.9	1,264.1	959.1	905.8	1,023.4
Other operating costs and losses (a)	19.7	30.8	51.2	13.0	8.2
Operating income	73.1	83.3	55.4	98.8	136.2
Interest expense	139.6	131.5	85.2	75.7	103.1
Loss on extinguishment of debt, net	—	1.3	3.2	19.0	20.9
Loss from CyrusOne investment (b)	—	—	—	—	5.1
Gain on sale of CyrusOne investment	—	—	(117.7)	(157.0)	(449.2)
(Loss) income from continuing operations	(77.2)	(60.4)	66.7	164.4	290.8
Income from discontinued operations, net of tax	—	—	—	0.3	62.9
Net (loss) income	(66.6)	(69.8)	40.0	103.0	353.7
Basic (loss) earnings per common share from continuing operations	$ (1.53)	$ (1.73)	$ 0.70	$ 2.19	$ 6.69
Basic earnings per common share from discontinued operations	$ —	$ —	$ —	$ 0.01	$ 1.50
Basic (loss) earnings per common share	$ (1.53)	$ (1.73)	$ 0.70	$ 2.20	$ 8.19
Diluted (loss) earnings per common share from continuing operations	$ (1.53)	$ (1.73)	$ 0.70	$ 2.19	$ 6.68
Diluted earnings per common share from discontinued operations	$ —	$ —	$ —	$ 0.01	$ 1.49
Diluted (loss) earnings per common share	$ (1.53)	$ (1.73)	$ 0.70	$ 2.20	$ 8.17
Dividends declared per common share	$ —	$ —	$ —	$ —	$ —
Weighted-average common shares outstanding					
Basic	50.4	46.3	42.2	42.0	41.9
Diluted	50.4	46.3	42.4	42.1	42.0
Financial Position					
Property, plant and equipment, net	$ 1,780.8	$ 1,844.0	$ 1,129.0	$ 1,085.5	$ 975.5
Total assets (c)	2,653.8	2,730.2	2,187.6	1,561.3	1,446.4
Total long-term obligations (d)	2,270.3	2,263.5	1,948.2	1,429.8	1,485.4
Other Data					
Cash flow provided by operating activities	$ 259.1	$ 214.7	$ 203.4	$ 173.1	$ 111.0
Cash flow (used in) provided by investing activities	(223.3)	(437.4)	(236.8)	(95.5)	383.2
Cash flow (used in) provided by financing activities	(39.6)	(158.1)	420.2	(75.3)	(544.7)
Capital expenditures	(223.8)	(220.6)	(210.5)	(286.4)	(283.6)

(a) Other operating costs and losses consist of restructuring and severance related charges (reversals), loss (gain) on disposal of assets - net and transaction and integration costs.

(b) Losses represent our equity method share of CyrusOne's losses from the date of the IPO through December 31, 2015. Effective January 1, 2016, our ownership in CyrusOne was no longer accounted for using the equity method.

(c) Total assets include current and noncurrent assets from discontinued operations.

(d) Total long-term obligations are comprised of long-term debt, less current portion, operating lease liabilities, pension and postretirement benefit obligations, pole license agreement obligation, deferred income tax liabilities and other noncurrent liabilities. See Notes 1, 8, 9, 10 and 12 to the consolidated financial statements for discussions related to 2019 and 2018.

(e) Operating data includes Hawaiian Telcom results beginning with the date of acquisition in July 2018.

(f) Operating data includes OnX results beginning with the date of acquisition in October 2017.

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

This Annual Report on Form 10-K and the documents incorporated by reference herein contain forward-looking statements regarding future events and results that are subject to the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, are statements that could be deemed forward-looking statements. See "Private Securities Litigation Reform Act of 1995 Safe Harbor Cautionary Statement" for further information on forward-looking statements.

Pending Acquisition by Brookfield

On December 21, 2019, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") pursuant to which the Company will be acquired by an affiliate of the Brookfield Infrastructure Group ("Brookfield"), the infrastructure investment division of Brookfield Asset Management (the "Merger"). At the effective time of the Merger (the "Effective Time"), each of our issued and outstanding Common Shares will be converted into the right to receive $10.50 in cash per Common Share, without interest, and the 6 3/4% Cumulative Convertible Preferred Shares will remain issued and outstanding as 6 3/4% Cumulative Convertible Preferred Shares of the Company, without par value, following the Effective Time.

The consummation of the Merger is subject to customary closing conditions, including (i) the adoption of the Merger Agreement by the affirmative vote of the holders of at least two-thirds of all outstanding Common Shares and 6 3/4% Cumulative Convertible Preferred Shares, voting as a single class; (ii) the expiration or early termination of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended and (iii) the receipt of any required consents or approvals from (a) the Committee on Foreign Investment in the United States, (b) the Federal Communications Commission, (c) state public service and state public utility commissions, and (d) local regulators in connection with the provision of telecommunications and media services; and (iv) the absence of any legal restraint preventing the consummation of the Merger.

The Merger Agreement contains representations and warranties and covenants of the parties customary for a transaction of this nature.

The Merger is expected to close by the end of 2020, although there can be no assurance that the Merger will occur by that date. As a result of the Merger, the Company will cease to be a publicly traded company.

Unsolicited Proposal

On January 22, 2020, the Company received an unsolicited, non-binding proposal from an infrastructure fund (the "Fund") to acquire all of the outstanding Common Shares for $12.00 per share in cash (the "Proposal"). On January 23, 2020, the Company commenced discussions with the Fund regarding the Proposal following the Board of Directors having made the required determinations under the Merger Agreement that allow it to do so. The Board also reaffirmed its recommendation in support of the Merger.

Executive Summary

Segment results described in the Executive Summary and Consolidated Results of Operations section are net of intercompany and intersegment eliminations.

On July 2, 2018, the Company acquired Hawaiian Telcom Holdco, Inc. ("Hawaiian Telcom"). The Unified Communications as a Service ("UCaaS"), hardware, and enterprise long distance products and services provided by the Hawaiian Telcom business are included within the IT Services and Hardware segment. The Entertainment and Communications segment includes products delivered by Hawaiian Telcom such as high-speed internet access, digital subscriber lines, ethernet, dedicated internet access, indefeasible right of use ("IRU"), video, voice lines, consumer long distance and digital trunking.

Consolidated revenue totaled $1,536.7 million for the year ended December 31, 2019, an increase of $158.5 million compared to the same period in 2018, primarily due to the acquisition of Hawaiian Telcom. Hawaiian Telcom contributed $346.7 million and $175.0 million of revenue in 2019 and 2018, respectively. Revenue growth from the acquisition was partially offset by the decline in Legacy revenue exceeding the growth in revenue from our fiber offerings in Cincinnati as well as the decline of higher margin revenue contributed by General Electric Company ("GE") of $20.6 million in the Cloud practice. Fioptics revenue in Cincinnati increased $12.0 million while Legacy revenue in Cincinnati decreased $25.1 million in 2019 compared to the same period in the prior year.

The increases in cost of services and products, selling, general and administrative ("SG&A"), and depreciation and amortization expenses are primarily related to the acquisition of Hawaiian Telcom.

Operating income in 2019 was $73.1 million, down $10.2 million compared to the same period in 2018. The revenue contribution from Hawaiian Telcom in addition to the decrease in transaction and integration costs were more than offset by declines in Legacy revenue and increases in cost of services and products, depreciation and amortization and SG&A costs.

Loss before income taxes totaled $77.2 million for the year ended December 31, 2019, resulting in an increase in the loss of $16.8 million as compared to the comparable period in 2018. In addition to the items impacting operating income, the increased loss before income taxes is primarily due to increased interest expense related to additional debt acquired to fund the acquisition of Hawaiian Telcom.

Consolidated Results of Operations

Revenue

(dollars in millions)	2019	2018	$ Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	$ Change 2018 vs. 2017	% Change 2018 vs. 2017
Revenue							
Entertainment and Communications	$ 974.1	$ 831.1	$ 143.0	17%	$ 684.9	$ 146.2	21%
IT Services and Hardware	562.6	547.1	15.5	3%	380.8	166.3	44%
Total revenue	$ 1,536.7	$ 1,378.2	$ 158.5	12%	$ 1,065.7	$ 312.5	29%

Entertainment and Communications revenue increased in 2019 and 2018 compared to the same periods in the prior year primarily due to the acquisition of Hawaiian Telcom, which contributed revenue of $306.6 million and $155.1 million in 2019 and 2018, respectively. In Cincinnati, the growth in Fioptics partially mitigated the decline in Legacy revenue. Fioptics revenue in Cincinnati totaled $353.2 million, $341.2 million and $309.9 million for the years ended December 31, 2019, 2018 and 2017, respectively, up 4% in 2019 and up 10% in 2018 from the comparable prior year.

IT Services and Hardware revenue increased in 2019 compared to 2018 primarily due to the acquisition of Hawaiian Telcom which contributed revenue of $40.1 million and $19.9 million in 2019 and 2018, respectively. In addition to the impact of the acquisition, increased revenue from the Communications and Consulting practices was partially offset by lower revenue in the Cloud and Infrastructure Solutions practices. Cloud revenue decline is primarily due to lower revenue contributed by GE of $20.6 million due to GE insourcing certain cloud services. Revenue increased in 2018 compared to 2017 primarily due to the acquisition of OnX that closed in the fourth quarter of 2017, and to a lesser extent, the acquisition of Hawaiian Telcom.

Operating costs

(dollars in millions)	2019	2018	$ Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	$ Change 2018 vs. 2017	% Change 2018 vs. 2017
Cost of services and products							
Entertainment and Communications	$ 445.0	$ 384.1	$ 60.9	16%	$ 304.6	$ 79.5	26%
IT Services and Hardware	339.6	314.6	25.0	8%	226.4	88.2	39%
Total cost of services and products	$ 784.6	$ 698.7	$ 85.9	12%	$ 531.0	$ 167.7	32%

Entertainment and Communications costs increased in 2019 and 2018 compared to the same periods in the prior year primarily due to the acquisition of Hawaiian Telcom which contributed costs of $150.9 million and $80.1 million in 2019 and 2018, respectively. Excluding the impact associated with the acquisition, costs of services and products decreased $9.9 million and $0.6 million for the years ended December 31, 2019 and 2018, respectively, as compared to the comparable periods in the prior year. The decrease in 2019 compared to 2018 is due to lower contract services costs and lower payroll related costs due to headcount reductions made during restructuring initiatives that were executed in 2017 and 2018. The decrease in 2018 compared to 2017 is due to lower payroll related costs resulting from restructuring initiatives which were partially offset by increased video content costs due to higher rates charged by our content providers.

IT Services and Hardware costs increased in 2019 compared to 2018 due to increased payroll and contractor costs associated with resources utilized to support the revenue growth in the Communications and Consulting practices for the year ended December 31, 2019 as compared to the same period in the prior year. In addition, Hawaiian Telcom contributed $21.9 million and $9.8 million to cost of services and products in 2019 and 2018, respectively. Costs increased in 2018 compared to the prior year comparable period primarily due to expense associated with headcount in place for twelve months in 2018 versus three months in 2017 as a result of the acquisition of OnX.

(dollars in millions)	2019	2018	$ Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	$ Change 2018 vs. 2017	% Change 2018 vs. 2017
Selling, general, and administrative							
Entertainment and Communications	$ 179.1	$ 148.0	$ 31.1	21%	$ 120.1	$ 27.9	23%
IT Services and Hardware	153.3	151.1	2.2	1%	97.7	53.4	55%
Corporate	22.0	14.3	7.7	54%	17.3	(3.0)	(17)%
Total selling, general and administrative	$ 354.4	$ 313.4	$ 41.0	13%	$ 235.1	$ 78.3	33%

Entertainment and Communications SG&A expenses were up in 2019 and 2018 compared to the same periods in the prior year primarily due to the acquisition of Hawaiian Telcom. Hawaiian Telcom contributed SG&A expense of $64.2 million and $32.9 million in 2019 and 2018, respectively. SG&A costs also increased in 2019 compared to the prior year due to an increase in advertising expense and the bad debt reserve for certain receivables with a wholesale customer that filed for bankruptcy in the first quarter of 2019 whose collectability remains uncertain. These increases were partially offset as the segment continues to focus on cost containment and realizing synergies with Hawaiian Telcom. The increase in 2018 as compared to 2017 was partially offset by lower payroll costs in Cincinnati that are a result of headcount reductions from restructuring initiatives that were executed in the first quarter of 2017.

IT Services and Hardware SG&A costs increased in 2019 compared to the prior year due to additional expense contributed by Hawaiian Telcom. Hawaiian Telcom contributed SG&A costs of $9.4 million and $5.4 million in 2019 and 2018, respectively. The increase in 2019 was partially offset by lower payroll costs resulting from headcount reductions carried out in 2018. SG&A costs were up in 2018 compared to 2017 primarily due to expense associated with headcount in place for twelve months in 2018 versus three months in 2017 as a result of the acquisition of OnX.

Corporate SG&A costs increased in 2019 driven largely by higher payroll related costs. In 2018, certain functions previously allocated to Corporate were better aligned with the segment these functions support and expenses allocated to those segments, resulting in lower costs in 2018 compared to 2017.

(dollars in millions)	2019	2018	$ Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	$ Change 2018 vs. 2017	% Change 2018 vs. 2017
Depreciation and amortization expense							
Entertainment and Communications	$ 255.8	$ 210.8	$ 45.0	21%	$ 163.7	$ 47.1	29%
IT Services and Hardware	48.9	41.0	7.9	19%	29.1	11.9	41%
Corporate	0.2	0.2	—	0%	0.2	—	0%
Total depreciation and amortization expense	$ 304.9	$ 252.0	$ 52.9	21%	$ 193.0	$ 59.0	31%

The increase in Entertainment and Communications depreciation and amortization expense in 2019 and 2018 versus the prior year comparable periods is due to the acquisition of Hawaiian Telcom and the related increase in intangibles and property, plant and equipment.

The increase in IT Services and Hardware depreciation and amortization expense in 2019 compared to the same period in 2018 is due to accelerated depreciation for certain network assets that were determined in the first quarter of 2019 to have a shorter useful life due to a change in customer requirements. Hawaiian Telcom also contributed $3.8 million to depreciation expense in the year ended December 31, 2019. The increase in 2018 compared to the same period in the prior year is primarily related to the amortization of intangible assets acquired as part of the SunTel Services LLC ("SunTel") and OnX acquisitions, as well as depreciation expense related to acquired property, plant and equipment.

(dollars in millions)	2019	2018	$ Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	$ Change 2018 vs. 2017	% Change 2018 vs. 2017
Restructuring and severance related charges							
Entertainment and Communications	$ 4.9	$ 3.1	$ 1.8	58%	$ 27.6	$ (24.5)	(89)%
IT Services and Hardware	2.0	4.9	(2.9)	(59)%	5.1	(0.2)	(4)%
Corporate	—	0.3	(0.3)	n/m	—	0.3	n/m
Total restructuring and severance related charges	$ 6.9	$ 8.3	$ (1.4)	(17)%	$ 32.7	$ (24.4)	(75)%

Restructuring and severance charges recorded in 2019 in the Entertainment and Communications segment are primarily related to a severance program for certain management employees as the Company continues its efforts to realize synergies from the acquisition of Hawaiian Telcom. The IT Services and Hardware segment also recorded restructuring and severance charges in 2019 associated with initiatives to reduce and contain costs as well as headcount reductions as a result of insourcing initiatives by one of our significant customers.

Restructuring and severance charges recorded in 2018 are primarily related to continued efforts to realize synergies following the acquisitions of Hawaiian Telcom and OnX. In the fourth quarter of 2018, there was a voluntary severance program ("VSP") for certain management employees in the Entertainment and Communications segment as well as Corporate. In the second quarter of 2018, the Company incurred severance costs associated with initiatives to reduce costs in the IT Services and Hardware segment. In addition, a restructuring charge associated with lease abandonment of $0.8 million was recorded in the second quarter of 2018 related to an office space that will no longer be utilized.

In 2017, restructuring and severance related charges were associated with the Company-initiated reorganizations within both segments of the business that resulted in headcount reductions. The reorganizations were intended to more appropriately align the Company for future growth and reduce field and network costs within our legacy copper network.

Other operating costs

(dollars in millions)	2019	2018	$ Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	$ Change 2018 vs. 2017	% Change 2018 vs. 2017
Other operating costs							
Transaction and integration costs	$ 12.8	$ 22.5	$ (9.7)	(43)%	$ 18.5	$ 4.0	22%
Total other operating costs	$ 12.8	$ 22.5	$ (9.7)	(43)%	$ 18.5	$ 4.0	22%

Transaction and integration costs incurred in 2019, recorded as a Corporate expense, are primarily due to the pending acquisition by Brookfield entered into in the fourth quarter of 2019. Transaction and integration costs incurred in 2018 are due to the acquisition of Hawaiian Telcom that closed in the third quarter of 2018. Transaction and integration costs incurred in 2017 are due to the acquisition of SunTel in the first quarter of 2017, the acquisition of OnX that closed in the fourth quarter of 2017, and costs incurred leading up to the acquisition of Hawaiian Telcom.

Non-operating expenses (income)

(dollars in millions)	2019	2018	$ Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	$ Change 2018 vs. 2017	% Change 2018 vs. 2017
Non-operating costs							
Interest expense	$ 139.6	$ 131.5	$ 8.1	6%	$ 85.2	$ 46.3	54%
Loss on extinguishment of debt, net	—	1.3	(1.3)	n/m	3.2	(1.9)	(59)%
Other components of pension and postretirement benefit plans expense	11.2	12.5	(1.3)	(10)%	16.6	(4.1)	(25)%
Gain on sale of CyrusOne investment	—	—	—	n/m	(117.7)	117.7	n/m
Other (income) expense, net	(0.5)	(1.6)	1.1	(69)%	1.4	(3.0)	n/m
Income tax (benefit) expense	(10.6)	9.4	(20.0)	n/m	26.7	(17.3)	(65)%

Interest expense increased in 2019 compared to the same period in 2018 primarily due to interest incurred on the amounts outstanding on the Receivables Facility and the Revolving Credit Facility used to partially fund the cash portion of the acquisition of Hawaiian Telcom. Interest expense increased in 2018 compared to comparable period in the prior year due to financing transactions that took place during the fourth quarter of 2017. The Company entered into the $600.0 million Tranche B Term Loan due 2024, issued $350.0 million 8% Senior Notes, and repaid the remaining $315.8 million Tranche B Term Loan due 2020 outstanding under its previous Corporate Credit Agreement with the proceeds from the $600.0 million Tranche B Term Loan due 2024.

Other components of pension and postretirement benefit plans expense was lower in 2018 compared to 2017 primarily due to a $4.0 million pension settlement charge for the Cincinnati Bell Pension Plan ("CBPP") in 2017 as a result of the lump sum payments to CBPP participants exceeding the sum of the service cost and interest cost component of net pension cost for the year.

In 2017, the Company recognized a gain of $117.7 million on the sale of 2.8 million CyrusOne common shares.

Income tax expense fluctuates based on changes in income from continuing operations before income taxes, adjusted for non-deductible expenses, as well as rate changes. In periods without tax law changes, the Company expects its effective tax rate to exceed statutory rates due to non-deductible expenses. Non-deductible expenses related to the Brookfield transaction were incurred during 2019 in the amount of $11.1 million. Non-deductible expenses related to the acquisitions of Hawaiian Telcom and OnX were incurred during 2018 and 2017 in the amount of $9.0 million and $10.4 million, respectively. In addition, changes in the valuation allowance impact income tax expense. In 2018, a valuation allowance of $14.8 million was established against non-deductible interest, which increased by $1.8 million in 2019. Valuation allowances on state NOLs decreased in 2019 by $2.9 million compared to the prior year.

The Company uses federal and state net operating loss carryforwards to defray payment of federal and state tax liabilities. The Company also had significant Alternative Minimum Tax (“AMT”) refundable tax credit carryforwards available to offset future income tax liabilities. The Company made elections on its 2016 and 2017 income tax returns to claim the available portion of these credits in lieu of claiming bonus depreciation. The Company received refunds of AMT credits in the amounts of $14.9 million and $14.8 million in 2018 and 2017, respectively, related to this matter. The Company also received a refund of $1.7 million in AMT credits in 2019. Remaining AMT credits outstanding total $1.7 million and are expected be refunded by 2023.

Discussion of Operating Segment Results

The Company manages its business based upon product and service offerings. For the years ended December 31, 2019, 2018, and 2017, we operated two business segments: Entertainment and Communications and IT Services and Hardware. Certain corporate administrative expenses have been allocated to our business segments based upon the nature of the expense and the relative size of the segment. Intercompany transactions between segments have been eliminated.

Entertainment and Communications

The Entertainment and Communications segment provides products and services that can be categorized as either Fioptics in Cincinnati or Consumer/SMB Fiber in Hawaii (collectively, "Consumer/SMB Fiber"), Enterprise Fiber or Legacy. Cincinnati Bell Telephone Company LLC ("CBT"), a subsidiary of the Company, is the incumbent local exchange carrier ("ILEC") for a geography that covers a radius of approximately 25 miles around Cincinnati, Ohio, and includes parts of northern Kentucky and southeastern Indiana. CBT has operated in this territory for over 145 years. Voice and data services in the Enterprise Fiber and Legacy categories that are delivered beyond the Company's ILEC territory, particularly in Dayton and Mason, Ohio, are provided through the operations of Cincinnati Bell Extended Territories LLC ("CBET"), a subsidiary of CBT. On July 2, 2018, the Company acquired Hawaiian Telcom. Hawaiian Telcom is the ILEC for the State of Hawaii and the largest full service provider of communications services and products in the state. Originally incorporated in Hawaii in 1883 as Mutual Telephone Company, Hawaiian Telcom has a strong heritage of over 135 years as Hawaii's communications carrier. Its services are offered on all of Hawaii's major islands, except its video service, which currently is only available on the island of Oahu.

Consumer/SMB Fiber products include high-speed internet access, voice lines and video. The Company is able to deliver speeds of up to 30 megabits or more to approximately 75% of Greater Cincinnati and up to 20 megabits or more to approximately 50% of Hawaii's total addressable market.

Enterprise Fiber products include metro-ethernet, dedicated internet access, wavelength, IRU contracts, and wireless backhaul to macro-towers and small cells. As enterprise customers migrate from legacy products and copper-based technology, our metro-ethernet product becomes the preferred method of transport due to its ability to support multiple applications on a single physical connection.

Legacy products include traditional voice lines, consumer long distance, switched access, digital trunking, DSL, DS0, DS1, DS3 and other value-added services such as caller identification, voicemail, call waiting and call return.

(dollars in millions)	2019	2018	$ Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	$ Change 2018 vs. 2017	% Change 2018 vs. 2017
Revenue:							
Data	$ 475.0	$ 402.6	$ 72.4	18%	$ 344.5	$ 58.1	17%
Video	203.0	183.3	19.7	11%	148.9	34.4	23%
Voice	284.9	244.9	40.0	16%	199.0	45.9	23%
Other	32.8	22.6	10.2	45%	13.7	8.9	65%
Total Revenue	995.7	853.4	142.3	17%	706.1	147.3	21%
Operating costs and expenses:							
Cost of services and products	450.4	388.2	62.2	16%	308.6	79.6	26%
Selling, general and administrative	179.1	148.0	31.1	21%	120.1	27.9	23%
Depreciation and amortization	255.8	210.8	45.0	21%	163.7	47.1	29%
Restructuring and severance charges	4.9	3.1	1.8	58%	27.6	(24.5)	(89)%
Total operating costs and expenses	890.2	750.1	140.1	19%	620.0	130.1	21%
Operating income	$ 105.5	$ 103.3	$ 2.2	2%	$ 86.1	$ 17.2	20%
Operating margin	10.6%	12.1%		(1.5) pts	12.2%		(0.1) pts
Capital expenditures	$ 201.3	$ 194.0	7.3	4%	$ 186.3	7.7	4%

Entertainment and Communications, continued

Metrics information (in thousands):	2019	2018	Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	Change 2018 vs. 2017	% Change 2018 vs. 2017
Cincinnati							
Fioptics							
Data							
Internet FTTP*	219.2	201.5	17.7	9%	179.6	21.9	12%
Internet FTTN*	31.4	37.5	(6.1)	(16)%	47.0	(9.5)	(20)%
Total Fioptics Internet	250.6	239.0	11.6	5%	226.6	12.4	5%
Video							
Video FTTP	112.7	115.0	(2.3)	(2)%	116.5	(1.5)	(1)%
Video FTTN	22.4	24.9	(2.5)	(10)%	30.0	(5.1)	(17)%
Total Fioptics Video	135.1	139.9	(4.8)	(3)%	146.5	(6.6)	(5)%
Voice							
Fioptics Voice Lines	106.8	107.6	(0.8)	(1)%	105.9	1.7	2%
Fioptics Units Passed							
Units passed FTTP	484.8	472.3	12.5	3%	431.3	41.0	10%
Units passed FTTN	138.6	138.7	(0.1)	0%	140.9	(2.2)	(2)%
Total Fioptics units passed	623.4	611.0	12.4	2%	572.2	38.8	7%
Enterprise Fiber							
Data							
Ethernet Bandwidth (Gb)	5,228	4,565	663	15%	3,919	646	16%
Legacy							
Data							
DSL	64.0	72.0	(8.0)	(11)%	82.1	(10.1)	(12)%
Voice							
Legacy Voice Lines	196.8	226.2	(29.4)	(13)%	262.0	(35.8)	(14)%

*Fiber to the Premise (FTTP), Fiber to the Node (FTTN)

Metrics information (in thousands):	2019	2018	Change 2019 vs. 2018	% Change 2019 vs. 2018
Hawaii				
Consumer / SMB Fiber				
Data				
Internet FTTP*	55.4	51.6	3.8	7%
Internet FTTN*	12.8	14.3	(1.5)	(10)%
Total Consumer / SMB Fiber Internet	68.2	65.9	2.3	3%
Video				
Video FTTP	30.6	33.8	(3.2)	(9)%
Video FTTN	12.1	15.0	(2.9)	(19)%
Total Consumer / SMB Fiber Video	42.7	48.8	(6.1)	(13)%
Voice				
Consumer / SMB Fiber Voice Lines	30.0	30.3	(0.3)	(1)%
Consumer / SMB Fiber Units Passed **				
Units passed FTTP	173.5	167.0	6.5	4%
Units passed FTTN	72.9	73.5	(0.6)	(1)%
Total Consumer / SMB Fiber units passed	246.4	240.5	5.9	2%
Enterprise Fiber				
Data				
Ethernet Bandwidth (Gb)	3,651	2,091	1,560	75%
Legacy				
Data				
DSL	42.9	48.7	(5.8)	(12)%
Voice				
Legacy Voice Lines	177.1	197.8	(20.7)	(10)%

* Fiber to the Premise (FTTP), Fiber to the Node (FTTN)

** Includes units passed for both consumer and business on Oahu and neighbor islands

Entertainment and Communications, continued

(dollars in millions)	Twelve Months Ended December 31, 2019 Cincinnati	2019 Hawaii	2019 Total	2018 Cincinnati	2018 Hawaii	2018 Total	2017 Cincinnati	2017 Hawaii	2017 Total
Revenue									
Consumer / SMB Fiber *									
Data	$ 155.4	$ 32.1	$ 187.5	$ 142.5	$ 13.5	$ 156.0	$ 126.3	$ —	$ 126.3
Video	159.5	43.5	203.0	160.1	23.2	183.3	148.9	—	148.9
Voice	36.8	10.9	47.7	37.4	5.4	42.8	33.6	—	33.6
Other	1.5	0.7	2.2	1.2	0.2	1.4	1.1	—	1.1
Total Consumer / SMB Fiber	353.2	87.2	440.4	341.2	42.3	383.5	309.9	—	309.9
Enterprise Fiber									
Data	84.9	39.4	124.3	84.3	17.7	102.0	86.1	—	86.1
Legacy									
Data	103.4	59.8	163.2	111.8	32.8	144.6	132.1	—	132.1
Voice	126.1	111.1	237.2	143.4	58.7	202.1	165.4	—	165.4
Other	14.1	16.5	30.6	13.5	7.7	21.2	12.6	—	12.6
Total Legacy	243.6	187.4	431.0	268.7	99.2	367.9	310.1	—	310.1
Total Entertainment and Communications revenue	$ 681.7	$ 314.0	$ 995.7	$ 694.2	$ 159.2	$ 853.4	$ 706.1	$ —	$ 706.1

*Represents Fioptics in Cincinnati.

Cincinnati Fioptics and Hawaii Consumer/SMB Fiber (collectively, "Consumer/SMB Fiber")

Consumer/SMB Fiber revenue increased by $56.9 million in 2019 compared to 2018 primarily due to increased revenue contributed by Hawaiian Telcom of $44.9 million. Hawaiian Telcom adds 42,700 video subscribers, 68,200 internet subscribers and 30,000 voice subscribers to the existing base of subscribers. The increase is also a result of the 5% increase in the subscriber base for internet in Cincinnati as we focus our attention on growing the internet FTTP subscriber base. In addition, the Average Revenue Per User (“ARPU”) increased 4% for both internet and video in Cincinnati as compared to the prior year partially offsetting the decline in video subscribers in Cincinnati. ARPU increases are related to price increases for internet and video as well as the change in the mix of subscribers for video.

Consumer/SMB Fiber revenue increased by $73.6 million in 2018 compared to 2017 primarily due to revenue contributed by Hawaiian Telcom of $42.3 million. The remaining revenue increase was due to increases in the subscriber base for internet and voice, as well as rate favorability across all products in Cincinnati. The internet subscriber base in Cincinnati increased by 5% and the voice subscriber base increased by 2%. The video subscriber base decreased by 5%; however, rate increases mitigated the impact of this decline on revenue. The ARPU on a year-to-date basis increased for internet, voice, and video by 3%, 6% and 6%, respectively, compared to the prior year.

Enterprise Fiber

Enterprise Fiber revenue increased year over year primarily due to incremental revenue from Hawaiian Telcom of $39.4 million and $17.7 million for the year ended December 31, 2019 and 2018, respectively. Hawaiian Telcom Enterprise Fiber includes revenue from the SEA-US cable, metro-ethernet and dedicated internet access. In addition, enterprise customers are migrating from legacy product offerings to higher bandwidth fiber solutions, as evidenced by the 15% and 16% increases in Ethernet Bandwidth in Cincinnati in 2019 and 2018, respectively, and 75% increase in Hawaii in 2019, compared to the comparable periods in the prior year. The increase to revenue from additional customers is offset by pricing pressures. In 2018, the increase in revenue contributed by Hawaiian Telcom and migration of customers was partially offset due to a one-time project that was completed in the second quarter of 2017 in the amount of $5.4 million.

Legacy

Legacy revenue increased year over year due to incremental revenue from Hawaiian Telcom of $187.4 million and $99.2 million for the year ended December 31, 2019 and 2018, respectively. Hawaiian Telcom adds 42,900 DSL subscribers and 177,100 voice subscribers to the existing base of subscribers. Increased revenue generated by Hawaiian Telcom was partially offset due to declines in both voice lines and DSL subscribers in Cincinnati. Declines in voice lines and DSL subscribers in 2019 and 2018 have contributed to the declining revenue in both of those years. Voice lines in Cincinnati declined 13% in 2019 compared to 2018, and 14% in 2018 compared to 2017, as the traditional voice lines become less relevant. DSL subscribers in Cincinnati decreased by 11% in 2019 compared to 2018, and 12% in 2018 compared to 2017, as subscribers demand the higher speeds that can be provided by fiber. In addition, declines in DS0, DS1, DS3 and digital trunking have contributed to the revenue decline in both 2019 and 2018 compared to the same periods in the prior year as customers migrate away from these solutions to fiber-based solutions.

Entertainment and Communications, continued

Operating Costs and Expenses

Cost of services and products increased in 2019 compared to 2018 primarily due to increased expense contributed by Hawaiian Telcom of $70.9 million. After considering the impact of the acquisition, costs of services and products decreased by $8.7 million. This decrease in 2019 compared to 2018 is primarily due to decreases in contract services and payroll costs. The decrease in contract services is driven by savings realized associated with the Company's call center. Lower payroll costs are due to reduced headcount and lower overtime. The reduced headcount is a result of the restructuring that took place in the prior two years. Lower overtime is the result of lower video activations as well as the rollout of certain internet installations performed by the consumer.

Cost of services and products increased in 2018 compared to the prior year primarily due to the acquisition of Hawaiian Telcom. Hawaiian Telcom contributed $80.2 million to cost of services and products in 2018. Excluding the impact associated with the acquisition, costs of services and products decreased by $0.6 million. This decrease in 2018 compared to 2017 was primarily due to lower payroll costs due to reduced headcount as a result of the restructuring that took place in the first quarter of 2017. Network costs were also down due to a large one-time project recognized in the second quarter of 2017. These decreases were partially offset by higher programming costs resulting from higher rates charged by content providers.

SG&A expenses increased $31.1 million in 2019 compared to the prior year primarily due to increased expense contributed by Hawaiian Telcom of $31.4 million. In addition, bad debt expense increased related to a reserve for certain receivables with a wholesale customer that filed for bankruptcy in the first quarter of 2019, and advertising expense increased due to additional media spending. These increases were offset as the segment continues to focus on cost containment and realizing synergies with Hawaiian Telcom. SG&A expenses increased in 2018 compared to 2017 due to the acquisition of Hawaiian Telcom. Hawaiian Telcom contributed $32.9 million of SG&A expense in 2018. The increase contributed by Hawaiian Telcom was partially offset by decreased payroll related costs as a result of the restructuring that took place in the first quarter of 2017. Payroll related costs were down $5.7 million in 2018 compared to 2017.

Depreciation and amortization expenses were up in 2019 compared to the prior year due to increased expense contributed by Hawaiian Telcom of $47.4 million. Excluding the increase associated with the acquisition, depreciation and amortization expense decreased $2.4 million due to certain property, plant and equipment reaching the end of its useful life. Depreciation and amortization expenses were up in 2018 compared to 2017 primarily due to the acquisition of Hawaiian Telcom as well as assets placed in service in connection with the expansion of our fiber network in Cincinnati. Hawaiian Telcom contributed $44.7 million of depreciation and amortization expense in 2018.

Restructuring and severance charges recorded in 2019 are related to a severance program for certain management employees as the Company continues its efforts to realize synergies that can be achieved due to the acquisition of Hawaiian Telcom. Restructuring and severance charges were recorded in the fourth quarter of 2018 related to a VSP for certain management employees in Cincinnati as the Company identified efficiencies that can be achieved due to the acquisition of Hawaiian Telcom. Restructuring and severance charges recorded in 2017 were related to a VSP for certain bargained employees to reduce field and network costs associated with our legacy copper network.

Entertainment and Communications, continued

Capital Expenditures

(dollars in millions)	Twelve Months Ended December 31, 2019 Cincinnati	Hawaii	Total
Consumer / SMB Fiber capital expenditures *			
Construction	$ 25.3	$ 9.4	$ 34.7
Installation	45.1	14.2	59.3
Other	10.6	1.3	11.9
Total Consumer / SMB Fiber	81.0	24.9	105.9
Enterprise Fiber	14.6	9.4	24.0
Other	39.4	32.0	71.4
Total Entertainment and Communications capital expenditures	$ 135.0	$ 66.3	$ 201.3

	Twelve Months Ended December 31, 2018 Cincinnati	Hawaii	Total
Consumer / SMB Fiber capital expenditures *			
Construction	$ 39.1	$ 5.1	$ 44.2
Installation	47.8	12.4	60.2
Other	12.2	1.5	13.7
Total Consumer / SMB Fiber	99.1	19.0	118.1
Enterprise Fiber	14.9	10.2	25.1
Other	37.3	13.5	50.8
Total Entertainment and Communications capital expenditures	$ 151.3	$ 42.7	$ 194.0

	Twelve Months Ended December 31, 2017 Cincinnati	Hawaii	Total
Consumer / SMB Fiber capital expenditures *			
Construction	$ 53.8	$ —	$ 53.8
Installation	55.1	—	55.1
Other	15.7	—	15.7
Total Consumer / SMB Fiber	124.6	—	124.6
Enterprise Fiber	19.6	—	19.6
Other	42.1	—	42.1
Total Entertainment and Communications capital expenditures	$ 186.3	$ —	$ 186.3

*Represents Fioptics in Cincinnati

Capital expenditures in Cincinnati are incurred to expand our Fioptics product suite, upgrade and increase capacity for our networks, and to extend the life of our fiber and copper networks. The Company is focused on building FTTP addresses, and during 2019, we passed 12,500 FTTP addresses in Cincinnati. As of December 31, 2019, the Company is able to deliver its Fioptics services with speeds up to 30 megabits or more to 623,400 residential and commercial addresses, or 75% of our operating territory in Cincinnati. Cincinnati construction capital expenditures decreased $13.8 million in 2019 compared to 2018 due to passing fewer addresses and the timing of capital expenditures, which does not necessarily coincide with the timing of when addresses become available. Cincinnati installation capital expenditures are primarily related to the timing of expenditures for customer premise equipment utilized for installations. In 2019, Cincinnati installation capital expenditures decreased $2.7 million compared to the prior year.

Cincinnati construction capital expenditures decreased $14.7 million in 2018 compared to 2017 even though we passed 38,800 doors in both 2018 and 2017 due to more efficient capital spending. In addition, construction costs incurred for Connect America Fund ("CAF") doors totaled $5.5 million in 2017 compared to $1.4 million in 2018. Cincinnati installation capital expenditures decreased $7.3 million for 2018 compared to 2017 due to fewer video and internet activations in 2018. Installation capital expenditures were also impacted by the timing of expenditures for customer premise equipment utilized for installations as well as the Company's implementation of self-installations in Cincinnati which has led to a decrease in the average cost per install.

Enterprise Fiber capital expenditures in Cincinnati are related to success-based fiber builds, including associated equipment, for enterprise and carrier projects to provide ethernet services. Other capital expenditures are related to IT projects, cable and equipment maintenance and capacity additions, real estate upgrades and maintenance, plus other minor capital purchases.

Entertainment and Communications, continued

Hawaii construction capital expenditures increased $4.3 million in 2019 compared to 2018 due to building out 5,900 new FTTP addresses in 2019, primarily in rural areas and on the neighbor islands. Hawaii installation capital expenditures increased $1.8 million compared to the same period in the prior year which only includes six months of activity subsequent to the acquisition close date. Enterprise fiber capital in Hawaii is primarily driven by new ethernet customers. Hawaii capital expenditures classified as Other include IT projects, real estate projects, road jobs or plant damage projects, and network upgrades or optimization projects.

IT Services and Hardware

The IT Services and Hardware segment provides end-to-end solutions from consulting to implementation to ongoing optimization. These solutions include Cloud, Communications and Consulting services along with the sale and maintenance of major branded Telecom and IT hardware reported as Infrastructure Solutions. These services and products are provided through the Company's subsidiaries in various geographic areas throughout the United States, Canada and Europe. By offering a full range of equipment and strategic services in conjunction with the Company's fiber and copper networks, the IT Services and Hardware segment provides our customers personalized solutions designed to meet their business objectives.

Cloud services include the design, implementation and on-going management of the customer's infrastructure. This includes on-premise, public cloud and private cloud solutions. The Company assists customers with the risk assessment phase through an in-depth understanding of the customer's business as well as building and designing a solution, using either the customer's existing infrastructure or new cloud-based options that transform the way the customer does business.

Communications solutions help to transform the way our customers do business by connecting employees, customers, and business partners. By upgrading legacy technologies through customized build projects and reducing customer costs, the Company helps to transform the customer's business. These services include Unified Communications as a Service ("UCaaS"), Software-Defined Wide Area Network ("SD-WAN"), Network as a Service ("NaaS"), Contact Center and Collaboration.

Using our experience and expertise, Infrastructure Solutions are tailored to our customers' organizational goals. We offer a complete portfolio of services that provide customers with efficient and optimized IT solutions that are agile and responsive to their business and are integrated, simplified and manageable. Through consulting with customers, the Company will build a solution using standard manufacturer equipment to meet our customers' specific requirements.

Consulting services help customers assess their business and technology needs and provide the talent needed to ensure success. The Company is a premier provider of application services and IT staffing.

(dollars in millions)	2019	2018	$ Change 2019 vs. 2018	% Change 2019 vs. 2018	2017	$ Change 2018 vs. 2017	% Change 2018 vs. 2017
Revenue:							
Consulting	$ 152.6	$ 138.7	$ 13.9	10%	$ 77.0	$ 61.7	80%
Cloud	92.1	98.0	(5.9)	(6)%	81.0	17.0	21%
Communications	198.7	178.5	20.2	11%	160.6	17.9	11%
Infrastructure Solutions	124.0	135.7	(11.7)	(9)%	66.5	69.2	n/m
Total revenue	567.4	550.9	16.5	3%	385.1	165.8	43%
Operating costs and expenses:							
Cost of services and products	359.6	335.7	23.9	7%	247.0	88.7	36%
Selling, general and administrative	154.3	152.1	2.2	1%	98.6	53.5	54%
Depreciation and amortization	48.9	41.0	7.9	19%	29.1	11.9	41%
Restructuring and severance related charges	2.0	4.9	(2.9)	(59)%	5.1	(0.2)	(4)%
Total operating costs and expenses	564.8	533.7	31.1	6%	379.8	153.9	41%
Operating income	$ 2.6	$ 17.2	$ (14.6)	(85)%	$ 5.3	$ 11.9	n/m
Operating margin	0.5%	3.1%		(2.6) pts	1.4%		1.7 pts
Capital expenditures	$ 22.4	$ 26.4	$ (4.0)	(15)%	$ 24.2	$ 2.2	9%

Metrics information (in thousands):	December 31, 2019	2018	Change	% Change
Consulting				
Billable Resources	1,034	1,039	(5)	0%
Communications				
NaaS Locations	4,047	2,257	1,790	79%
SD - WAN Locations	2,197	803	1,394	n/m
Hosted UCaaS Profiles*	274,654	239,581	35,073	15%

*Includes Hawaii Hosted UCaaS Profiles

IT Services and Hardware, continued

Revenue

IT Services and Hardware revenue increased $16.5 million in 2019 compared to 2018 due to increased revenue in the Consulting and Communications practices. Consulting revenue increased compared to the prior year due to obtaining significant new customers and projects throughout 2018. Communications revenue increased primarily due to the acquisition of Hawaiian Telcom, which contributed $23.9 million of revenue in 2019. In addition, Communications revenue increased as a result of customers migrating to newer technologies which has increased the Company's Hosted UCaaS profiles, NaaS locations and SD-Wan locations. This increase was partially offset by the decline in one-time Communications projects and legacy long distance revenue decline. Cloud revenue decreased compared to the prior year as increased revenue from one-time projects was more than offset by lower revenue contributed by GE of $20.6 million. Infrastructure Solutions revenue also decreased due to a decline in one-time projects and hardware sales.

IT Services and Hardware revenue increased $165.8 million in 2018 compared to the comparable period in 2017. Consulting and Infrastructure Solutions are the main contributors to this revenue increase in 2018, primarily due the acquisition of OnX in the fourth quarter of 2017. OnX contributed $87.2 million in Consulting revenue and $85.0 million in Infrastructure Solutions revenue for the year ended 2018 compared to $19.2 million in Consulting revenue and $27.7 million in Infrastructure Solutions for the year ended 2017. OnX also provided contributions in Cloud revenue, driving the $17.0 million increase in Cloud revenue in 2018 as compared to 2017. Additionally, Hawaiian Telcom contributed $20.0 million in revenue in 2018, predominantly in Communications. Increased revenue generated by OnX and Hawaiian Telcom was partially offset by declines in Consulting in 2018 as compared to 2017 due to one significant customer in-sourcing more work rather than outsourcing it to the Company. Communications revenue experienced growth in 2018 compared to the comparable prior year period. After consideration of revenue of $11.5 million generated from Hawaiian Telcom, Communications revenue increased $6.4 million in 2018 compared to 2017. This increased revenue is primarily due to customers migrating to newer technologies partially offset by the decline in legacy offerings.

Operating Costs and Expenses

Cost of services and products is predominantly impacted by fluctuations in the headcount and contractors required to deliver the services within Consulting, Cloud and Communications. The increase of $23.9 million and $88.7 million in cost of services and products for 2019 and 2018, respectively, as compared to the same periods in the prior year is related to the acquisitions of OnX and Hawaiian Telcom and consists primarily of payroll and contract services costs.

SG&A increased $2.2 million and $53.5 million for 2019 and 2018, respectively, as compared to the same periods in the prior year. The increase in 2019 is primarily driven by the acquisition of Hawaiian Telcom, which contributed $9.4 million in 2019 compared to $5.4 million in 2018. The acquisition of OnX contributed an increase of $51.3 million for 2018 as compared to the same period in 2017 in addition to the expense contributed by Hawaiian Telcom. Increases in SG&A related to the acquisitions in both comparable years were partially offset by lower payroll related costs due to restructuring initiatives executed in 2018 and 2017.

Restructuring and severance charges of $2.0 million recorded in 2019 are associated with initiatives to reduce and contain costs as well as headcount reductions as a result of insourcing initiatives by one of our significant customers. Restructuring and severance charges of $4.1 million recorded in 2018 are related to costs incurred in order to recognize future synergies as the Company identified efficiencies with the integration of OnX. In addition, a restructuring charge of $0.8 million was recorded in the second quarter of 2018 associated with a lease abandonment related to an office space that will no longer be utilized. Restructuring and severance related charges incurred in 2017 related to the reorganization initiated by the Company to better align the segment for future growth.

Capital Expenditures

Capital expenditures are dependent on the timing of success-based projects. Capital expenditures in 2019 were primarily related to projects supporting the Cloud and Communications practices. In addition to success-based projects, the Company incurred $3.9 million in capital expenditures for implementation work associated with internal software projects in 2019.

Corporate

Corporate is comprised primarily of general and administrative costs that have not been allocated to the business segments and transaction and integration costs related to acquisition transactions. Corporate costs totaled $35.0 million in 2019, $37.2 million in 2018 and $36.0 million in 2017.

Corporate costs decreased by $2.2 million in 2019 compared to 2018 as increases in payroll related costs and other general and administrative costs were more than offset by lower transaction and integration costs of $9.7 million. Corporate costs increased in 2018 primarily due to higher transaction and integration costs of $4.0 million partially offset by lower payroll related costs.

Financial Condition, Liquidity, and Capital Resources

Capital Investment, Resources and Liquidity

Short-term view

Our primary source of cash is generated by operations. In 2019, 2018 and 2017, we generated $259.1 million, $214.7 million and $203.4 million, respectively, of cash flows from operations. In 2017, dividends were received from our investment in CyrusOne of $1.1 million and proceeds from the monetization of our CyrusOne investment totaled $140.7 million.

The Company's primary uses of cash are for capital expenditures and debt service. To a lesser extent, cash is also used to fund our pension obligations, retiree medical obligations, and pay preferred stock dividends. In 2017 and 2018, cash was also utilized to fund merger and acquisition activity.

Capital expenditures increased $3.2 million and $10.1 million in 2019 and 2018, respectively, as compared to the same periods in the prior year primarily due to incremental capital expenditures contributed by Hawaiian Telcom of $69.3 million and $43.8 million in 2019 and 2018, respectively. The increases were partially offset by reductions in expenditures in the Entertainment and Communications segment in Cincinnati of $16.3 million and $35.0 million in 2019 and 2018, respectively, as compared to the comparable periods in the prior year due to lower construction costs and installation capital expenditures year over year.

In July 2018, the Company completed the acquisition of Hawaiian Telcom. Net proceeds received from the $350 million 8% Senior Notes in the fourth quarter of 2017, combined with a draw on the Revolving Credit and Receivable Facilities in the third quarter of 2018, were utilized to finance in part the cash portion of the merger agreement and the payoff of the Hawaiian Telcom debt of $314.7 million. In the fourth quarter of 2017, net proceeds totaling $577.0 million related to the issuance of the Tranche B Term Loan due 2024 were used to repay the remaining $315.8 million outstanding principal amount of the Tranche B Term Loan due 2020 as well as the related accrued interest. The remaining proceeds of the Tranche B Term Loan due 2024 were used to fund the acquisition of OnX that closed in October 2017. The proceeds covered the purchase price, $77.6 million for repayment of outstanding debt, and associated transaction costs.

Interest payments were $129.3 million, $131.7 million and $65.7 million in 2019, 2018 and 2017, respectively. Interest payments decreased in 2019 compared to the prior year primarily due to payments in 2018 which included $3.5 million of accrued interest related to Hawaiian Telcom. The increase in 2018 compared to 2017 is due to additional debt incurred to fund the acquisitions completed in 2018 and 2017, respectively. Our contractual debt maturities in 2020, including finance lease obligations and other financing arrangements, are $22.7 million and associated contractual interest payments are expected to be approximately $130 million.

As of December 31, 2019, we had $154.8 million of short-term liquidity, comprised of $11.6 million of cash and cash equivalents, $143.0 million of undrawn capacity on our Revolving Credit Facility and $0.2 million available under the Receivables Facility. While we expect to continue to renew the Receivables Facility, we would be required to use cash, our Revolving Credit Facility, or other sources to repay any outstanding balance on the Receivables Facility if it was not renewed.

The Company believes that its cash on hand, cash generated from operations and available funding under its credit facilities will be adequate to meet its cash requirements for the next 12 months.

Long-term view, including debt covenants

As of December 31, 2019, the Company had $1.9 billion of outstanding indebtedness and an accumulated deficit of $2.8 billion. In addition to the uses of cash described in the *Short-term view* section above, the Company has to satisfy its long-term debt obligations. The Company has no significant debt maturities until 2024. In addition, we have ongoing obligations to fund our qualified pension plans. Funding requirements for future years are uncertain and will significantly depend on changes in future actuarial assumptions. It is also possible that we will use a portion of our cash flows generated from operations for de-leveraging in the future, including discretionary, opportunistic repurchases of debt prior to the scheduled maturities.

In the fourth quarter of 2017, the Company entered into a new Credit Agreement (the "Credit Agreement") and terminated the then-existing Corporate Credit Agreement. The Credit Agreement has financial covenants that require the Company to maintain certain leverage and interest coverage ratios. As of December 31, 2019, these ratios and limitations include a maximum consolidated secured total leverage ratio of 3.50 to 1.00 and a minimum consolidated interest coverage ratio of 1.50 to 1.00. See Note 8 to the accompanying consolidated financial statements contained in "Part II. Item 8. Financial Statements and Supplementary Data" for further details regarding our outstanding debt and other financing arrangements, including certain information about maturities, covenants and restrictions related to such debt and financing arrangements. The agreements and instruments governing our debt and financing arrangements are complicated, and you should consult such agreements and instruments which are filed with the SEC for more detailed information.

As of December 31, 2019, the Company was in compliance with the Credit Agreement covenants and ratios.

Certain of our variable rate debt, including debt under the Revolving Credit Facility and the Receivables Facility, uses LIBOR as one of the benchmarks for establishing the rate of interest and may be hedged with LIBOR-based interest rate derivatives. LIBOR is the subject of recent regulatory guidance and proposals for reform. These reforms and other pressures may cause LIBOR to be replaced with a new benchmark in 2021 or to perform differently than in the past. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our variable rate indebtedness.

Indentures

The Company's Senior Notes are governed by indentures which contain covenants that, among other things, limit the Company's ability to incur additional debt or liens, pay dividends or make other restricted payments, sell, transfer, lease, or dispose of assets and make investments or merge with another company. The Company is in compliance with all of its debt indentures as of December 31, 2019.

Management believes that cash on hand, operating cash flows, its Revolving Credit Facility and its Receivables Facility, and the expectation that the Company will continue to have access to capital markets to refinance debt and other obligations as they mature and come due, should allow the Company to meet its cash requirements for the foreseeable future.

Cash Flows

Cash flows from operating activities

Cash provided by operating activities during 2019 was $259.1 million, an increase of $44.4 million compared to 2018. Hawaiian Telcom contributed operating cash flow of approximately $92.0 million in 2019 compared to approximately $18.0 million in 2018. In addition, the increase was due to lower restructuring and transaction and integration payments of $2.1 million and $33.9 million, respectively, compared to 2018. These increases were partially offset by lower tax refunds of $13.2 million for AMT refundable tax credits in 2019 compared to 2018, lower contribution due to loss of GE cloud revenue in 2019 and unfavorable working capital.

Cash provided by operating activities during 2018 was $214.7 million, an increase of $11.3 million compared to 2017. The increase was primarily due to contributions from recent acquisitions, lower restructuring payments of $13.0 million compared to 2017, and improved working capital. These increases were partially offset by increased interest payments of $66.0 million and increased payments for transaction and integrations costs of $24.8 million in 2018 compared to 2017.

Cash flows from investing activities

Cash used by investing activities totaled $223.3 million 2019, a decrease of $214.1 million compared to the prior year, primarily due to the acquisition of Hawaiian Telcom in 2018.

Cash used by investing activities totaled $437.4 million in 2018, an increase of $200.6 million compared to 2017, primarily due to the acquisition of Hawaiian Telcom. In 2017, cash used for the acquisition of OnX was partially offset by cash provided by the sale of our remaining 2.8 million shares of CyrusOne Inc. common stock for net proceeds totalling $140.7 million.

Cash flows from financing activities

Cash used in financing activities was $39.6 million in 2019. In 2019, the Company made debt repayments of $21.5 million related to finance leases and the Tranche B Term Loan due 2024. Additionally, the Company made net debt repayments of $6.1 million related to the Revolving Credit and the Receivables Facilities.

Cash used in financing activities was $158.1 million in 2018. In 2018, the Company borrowed $194.6 million on the Credit Facility and the Receivables Facility. Proceeds were used to partially fund the cash portion of the acquisition of Hawaiian Telcom. This increase in cash flow was offset by the repayment of debt of $328.7 million in 2018, which included the payoff of the Hawaiian Telcom debt of $314.7 million.

Cash provided by financing activities was $420.2 million in 2017. In the fourth quarter of 2017, the Company terminated its existing Corporate Credit Agreement and entered into a new Credit Agreement that provides for a seven-year $600 million Tranche B Term Loan due 2024 with proceeds totaling $593 million, net of discounts, and a $200 million Revolving Credit Facility. Also in the fourth quarter of 2017, CB Escrow Corp., an Ohio corporation and wholly owned subsidiary of Cincinnati Bell Inc., closed the private offering of $350 million aggregate principal amount of 8% Senior Notes at par. The proceeds of the note issuance were deposited into an escrow account and subsequently utilized at the time of closing of the acquisition of Hawaiian Telcom. Debt repayments totaling $403.0 million related to the repayment of the remaining $315.8 million outstanding principal amount of the Tranche B Term Loan due 2020, including the related accrued and unpaid interest, as well as $77.6 million paid for OnX outstanding debt at the time of acquisition. Debt issuance costs paid totaled $19.1 million for the year. In addition, the Company repaid $89.5 million on the Receivables Facility in 2017.

Dividends paid on the Company's preferred stock totaled $10.4 million in each of 2019, 2018 and 2017.

Future Operating Trends

Entertainment and Communications

We continue to mitigate the revenue decline experienced with our Legacy products with increases in revenue of our fiber-based products. In addition, the merger with Hawaiian Telcom has allowed us to build scale and fiber density to help capitalize on the growing demands for internet speeds that only a fiber network can provide. We expect the desire by customers for increased internet speeds will only continue as evidenced by the fact that more than 60% of Cincinnati’s internet customers subscribe to speeds of 100 megabits or more, compared to two years ago when less than 30% subscribed to such speeds. As of December 31, 2019, more than 40% of internet customers in Hawaii subscribe to speeds of 100 megabits or more.

During 2020, we expect continued competition for internet, voice and video services as the cable competitor in the Cincinnati market continues to target areas where we have copper and FTTN. Due to this competition, as well as customers migrating to obtaining video programming over broadband Internet connections, we expect to see a decline in video subscribers as well as FTTN and DSL internet subscribers. In the Hawaii market, we also expect continued competition for internet, voice and video services as the cable competitor has increased advertising subsequent to the acquisition of Hawaiian Telcom. In 2020, we plan to invest approximately $100 million for Consumer/SMB Fiber, including construction, installation and value-added services. Our focus for 2020 in both the Cincinnati and Hawaii markets is to identify opportunities to expand our FTTP footprint to residential and commercial addresses with the highest return profile, increase penetration, and drive operational efficiencies. We will take a FTTP internet-based focus due to the increased relevance of this product and the high return profile that it provides. Furthermore, we will apply a similar strategy as we identify opportunities to expand our network footprint in areas outside the Greater Cincinnati market.

For our enterprise fiber customers, we expect to continue to see a migration from Legacy products and copper-based technology to higher bandwidth fiber solutions as evidenced by the 15% and 75% increases in Ethernet Bandwidth in Cincinnati and Hawaii, respectively, in 2019 compared to 2018.

IT Services and Hardware

The Company's strategy for future growth is to diversify the geographies in which it operates. As a part of executing this strategy, in February 2017, the Company completed the acquisition of SunTel, a regional provider of network security, data connectivity, and unified communications solutions based in Troy, Michigan, and in October 2017 completed the acquisition of OnX, with locations throughout the U.S., Canada and Europe. The expectation is that these acquisitions will continue to provide future growth opportunities in the IT Services and Hardware segment by providing additional geographies to operate within, and an expanded customer base in which to sell our products and services. In addition, the acquisitions create synergies and opportunities for cost savings.

In 2020, the Company will continue to focus on expanding products and services to our customer base with our full stack of products from simple hardware sales through managed voice and software defined network management, creating contractual recurring revenue streams. We expect budget constraints by certain customers will continue to put pressure on our revenue and operating income in the future, increasing the need to diversify. In addition, as more customers migrate to the public cloud, we will see declines in the demand for Infrastructure products. However, this trend can provide an opportunity in the form of consulting as we have IT professionals that can develop the strategy to guide customers through this migration.

Contractual Obligations

The following table summarizes our contractual obligations as of December 31, 2019:

(dollars in millions)	Payments due by Period Total	< 1 Year	1-3 Years	3-5 Years	Thereafter
Long-term debt, excluding finance leases and other financing arrangements (1)					
Principal amount	$ 1,866.2	$ 6.0	$ 200.5	$ 1,221.8	$ 437.9
Interest payments (2)	597.9	120.4	233.4	198.6	45.5
Finance leases (3)					
Principal amount	73.8	14.3	17.6	10.4	31.5
Interest payments (2)	23.1	4.6	7.0	5.3	6.2
Non-cancellable operating lease obligations	57.1	13.3	14.1	8.6	21.1
Purchase obligations (4)	363.8	363.8	—	—	—
Pension and postretirement benefits obligations (5)	52.4	17.9	11.9	9.9	12.7
Unrecognized tax benefits (6)	21.9	2.1	—	—	19.8
Other liabilities (7)	108.9	12.8	9.0	14.7	72.4
Total	$ 3,165.1	$ 555.2	$ 493.5	$ 1,469.3	$ 647.1

(1) Excludes net unamortized discounts and premiums.

(2) Assumes no early payment of debt in future periods. The interest rate applied on variable rate borrowings is the rate in effect as of December 31, 2019.

(3) Includes finance lease obligations primarily related to vehicles, network equipment used in the deployment of our fiber network, and wireless towers assumed from our discontinued operations.

(4) Includes amounts under open purchase orders and open blanket purchase orders for purchases of network, IT and telephony equipment, video content, and other goods; contractual obligations for services such as software maintenance and outsourced services; and other purchase commitments.

(5) Includes payments for Cincinnati and Hawaii Pension and Postretirement Plans as well as other employee retirement agreements. Amounts for 2020 include approximately $8 million expected to be contributed for postretirement benefits. Although the Company expects to continue operating the plans past 2020, its contractual obligation related to postretirement obligations only extends through 2020. Amounts for 2020 through 2026 include approximately $24 million of estimated cash contributions to the qualified pension plans. Expected qualified pension plan contributions are based on current plan design, legislation and current actuarial assumptions. Any changes in plan design, legislation or actuarial assumptions may also affect the expected contribution amount.

(6) Includes the portion of liabilities related to unrecognized tax benefits. If the timing of payments cannot be reasonably estimated for unrecognized tax benefits, these liabilities are included in the "Thereafter" column of the table above.

(7) Includes contractual obligations primarily related to restructuring and employee severance reserves, asset removal obligations, long-term disability obligations, workers compensation liabilities, liabilities related to the pole license agreement obligation, a deferred vendor rebate, and other financing arrangements.

The amount of these obligations can be expected to change over time as new contracts are initiated and existing contracts are completed, terminated, or modified.

Contingencies

We are subject to various lawsuits, actions, proceedings, claims and other matters asserted under laws and regulations in the normal course of business. We believe that the amounts provided in our consolidated financial statements, as prescribed by generally accepted accounting principles, are adequate in light of the those contingencies that are probable and able to be estimated. However, there can be no assurances that the actual amounts required to satisfy alleged liabilities from various legal proceedings, claims, tax examinations, and other matters, including the matters discussed below, and to comply with applicable laws and regulations, will not exceed the amounts reflected in our consolidated financial statements. As such, costs, if any, that may be incurred in excess of those amounts provided as of December 31, 2019, cannot be reasonably determined.

Based on information currently available, consultation with counsel, available insurance coverage and established reserves, management believes that the eventual outcome of all outstanding claims will not, individually or in the aggregate, have a material effect on the Company's financial position, results of operations or cash flows.

Off-Balance Sheet Arrangements

Indemnifications

During the normal course of business, the Company makes certain indemnities, commitments, and guarantees under which it may be required to make payments in relation to certain transactions. These include: (a) intellectual property indemnities to customers in connection with the use, sale, and/or license of products and services, (b) indemnities to customers in connection with losses incurred while performing services on their premises, (c) indemnities to vendors and service providers pertaining to claims based on negligence or willful misconduct, (d) indemnities involving the representations and warranties in certain contracts, and (e) outstanding letters of credit which totaled $10.5 million as of December 31, 2019. In addition, the Company has made contractual commitments to several employees providing for payments upon the occurrence of certain prescribed events. The majority of these indemnities, commitments, and guarantees do not provide for any limitation on the maximum potential for future payments.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States. Application of these principles requires management to make estimates or judgments that affect the amounts reported in the financial statements and accompanying notes. These estimates are based on information available as of the date of the financial statements; accordingly, as this information changes, the financial statements could reflect different estimates or judgments. Certain accounting policies inherently have a greater reliance on the use of estimates, and, as such, have a greater possibility of producing results that could be materially different than originally reported.

Our most significant accounting policies are presented in Note 1 to the consolidated financial statements. Management views critical accounting policies to be those policies that are highly dependent on subjective or complex judgments, estimates or assumptions, and where changes in those estimates and assumptions could have a significant impact on the consolidated financial statements. We have discussed our most critical accounting policies, judgments and estimates with our Audit and Finance Committee.

The discussion below addresses major judgments used in:

- reviewing the carrying values of goodwill;
- accounting for income taxes; and
- accounting for pension and postretirement expenses.

Reviewing the Carrying Values of Goodwill — The Company adheres to the guidance under ASC 350-20 in testing goodwill for impairment. Under this guidance, the Company has the option of performing a qualitative assessment for impairment prior to performing the quantitative tests. A quantitative analysis was performed in 2019 and 2018 and a qualitative analysis was performed in 2017. The Company performs impairment testing of goodwill on an annual basis or when events or changes in circumstances indicate that an asset may be impaired. We perform our annual impairment tests in the fourth quarter when our five-year plan is updated.

Management estimates the fair value of each reporting unit using a combination of valuation methods, including both income-based and market-based methods. The income-based approach utilizes a discounted cash flow model using projected cash flows derived from the five-year plan, adjusted to reflect market participants' assumptions. Expected future cash flows are discounted at the weighted average cost of capital applying a market participant approach. The market-based approach utilizes earnings multiples from comparable publicly-traded companies. No goodwill impairment losses were recognized in 2019, 2018 or 2017.

Changes in certain assumptions could have a significant impact on the impairment tests for goodwill. The most critical assumptions are projected future growth rates, operating margins, capital expenditures, terminal values, and discount rate selection and market multiples. These assumptions are subject to change as the Company's long-term plans and strategies are updated each year. As of December 31, 2019, each reporting unit had a fair value that exceeded its carrying value in the goodwill impairment test.

While none of our reporting units recorded a goodwill impairment in 2019, we determined the IT Services and Hardware is our only reporting unit with material goodwill where the estimated fair value does not substantially exceed the carrying value. The estimated fair value of the reporting unit exceeds its carrying amount by approximately 23 percent. Total goodwill in this reporting unit is $148.1 million. The goodwill in this reporting unit is primarily attributable to OnX, which was acquired and recorded at fair value in the fourth quarter of 2017. As a result, we did not expect the estimated fair value would exceed the carrying value by a significant amount. We valued this reporting unit using an income approach based on its expected future cash flows and a market approach. The critical assumptions that factored into the valuation are the projected future revenues and EBITDA margins of the business as well as the discount rate used to present value these future cash flows.

Accounting for Income Taxes — The Company and its subsidiaries file income tax returns in the U.S. federal jurisdiction as well as various foreign, state and local jurisdictions. The Company's previous tax filings are subject to normal reviews by regulatory agencies until the related statute of limitations expires. With a few exceptions, the Company is no longer subject to U.S. federal, state or local examinations for years prior to 2015.

The Company has net operating loss carryforwards at the federal, state and local levels. Federal net operating loss carryforwards are available to offset taxable income in current and future periods. Federal operating loss carryforwards of $125.6 million will expire in 2023 and are not currently limited under U.S. tax laws. The ultimate realization of the deferred income tax assets depends upon our ability to generate future taxable income during the periods in which basis differences and other deductions become deductible and prior to the expiration of the net operating loss carryforwards. Based on current income levels and anticipated future reversal of existing temporary differences, management expects to fully utilize its federal net operating loss carryforwards within their expiration periods. However, realization of certain state, local and foreign net operating losses, as well as other deferred tax assets, is not certain as changes in our current estimates, due to unanticipated market conditions, governmental legislative actions or events, could have a material effect on our ability to utilize deferred tax assets. A change in ownership, as defined in Section 382 of the Internal Revenue Code, could limit the Company's ability to fully utilize existing deferred tax assets related to federal and state net operating losses.

A valuation allowance of $49.3 million and $48.7 million has been recognized as of December 31, 2019 and 2018, respectively. While the valuation allowance is primarily against state and local net operating losses, it also includes $16.6 million against non-deductible interest and $5.3 million against Texas margin credits which are unlikely to be realized as of December 31, 2019. The valuation allowance included $14.8 million against non-deductible interest and $5.3 million against Texas margin credits as of December 31, 2018.

As of December 31, 2019 and 2018, the liability for unrecognized tax benefits was $21.9 million and $22.0 million, respectively. The liability is representative of governmental authorities' interpretation of tax law differing from the Company's interpretation. As of December 31, 2019, the amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate is $21.7 million. It is reasonably possible that existing unrecognized tax benefits related to a federal sequestration of AMT credits could decrease by $2.1 million within the next 12 months. Accrued interest related to unrecognized tax benefits is recognized in interest expense.

Accounting for Pension and Postretirement Expenses — In accounting for pension and postretirement expenses, we apply ASC 715, "Compensation — Retirement Benefits." A liability has been recognized on the Consolidated Balance Sheets for the unfunded status of the pension and postretirement plans. Actuarial gains (losses) and prior service costs (benefits) that arise during the period are recognized as a component of "Accumulated other comprehensive loss" on the Consolidated Balance Sheets.

The Company sponsors noncontributory defined benefit pension plans for eligible management employees, non-management employees, and certain former senior executives. We also provide healthcare and group life insurance benefits for eligible retirees. The measurement date for our pension and postretirement obligations is as of December 31. When changes to the plans occur during interim periods, management reviews the changes and determines if a remeasurement is necessary. No amendments to the plan were made during 2019 or 2018.

The measurement of our pension and postretirement projected benefit obligations involves significant assumptions and estimates. Each time we remeasure our projected benefit obligations, we reassess the significant assumptions and estimates. The actuarial assumptions attempt to anticipate future events and are used in calculating the expenses and liabilities related to these plans. The most significant of these numerous assumptions, which are reviewed annually, include the discount rate and
healthcare cost trend rates.

Discount rate

A discount rate is used to measure the present value of projected benefit obligations. The discount rate for each plan is individually calculated based upon the timing of expected future benefit payments. Our discount rates are derived based upon a yield curve developed to reflect yields available on high-quality corporate bonds as of the measurement date. As of December 31, 2019 and 2018, the average discount rate used to value the Cincinnati pension plans was 3.10% and 4.20%, respectively, while the average discount rate used to value the Cincinnati postretirement plans was 3.20% and 4.30%, respectively. As of December 31, 2019 and 2018, the average discount rate used to value the Hawaii pension plans was 3.10% and 4.20%, respectively, while the average rate used to value the Hawaii postretirement plans was 3.30% and 4.40%, respectively. Lower rates of interest available on high-quality corporate bonds drove the decrease in the discount rates in 2019.

Expected rate of return

The expected long-term rate of return on plan assets, developed using the building block approach, is based on the mix of investments held directly by the plans and the current view of expected future returns, which is influenced by historical averages. The required use of an expected versus actual long-term rate of return on plan assets may result in recognized pension expense or income that is greater or less than the actual returns of those plan assets in any given year. Over time, however, the expected long-term returns are designed to approximate the actual long-term returns. For the year ended December 31, 2019 and 2018, the estimated long-term rate of return on the Cincinnati pension plan assets was 6.50% and 7.00%, respectively. For the year ended December 31, 2019 and 2018, the estimated long-term rate of return on the Hawaii pension plan assets was 6.50% and 7.00%, respectively. The long-term rate of return on the Cincinnati and Hawaii postretirement plan assets was estimated to be zero for the disclosed periods as these plans have minimal assets with a low rate of return. Actual asset returns for the Cincinnati pension trusts were gains of 23.90% in 2019 and losses of 7.92% in 2018. Actual asset returns for the Hawaii pension trusts were gains of 18.32% in 2019 and losses of 4.44% in 2018. In our pension calculations, we utilized the market-related value of plan assets, which is a calculated asset value that recognizes changes in asset fair values in a systematic and consistent manner. Differences between actual and expected returns are recognized in the market-related value of plan assets over five years.

Healthcare cost trend

Our healthcare cost trend rate is developed based on historical cost data, the near-term outlook and an assessment of likely long-term trends. As of both December 31, 2019 and 2018, the healthcare cost trend rate used to measure the Cincinnati postretirement health benefit obligations was 6.5%. As of both December 31, 2019 and 2018, the healthcare cost trend rate used to measure the Hawaii postretirement health benefit obligations was 6.8%. As of December 31, 2019, the healthcare cost trend rate is assumed to decrease gradually to 4.5% and 5.0% by the year 2024 and 2026 for the Cincinnati and Hawaii plans, respectively.

The actuarial assumptions used may differ materially from actual results due to the changing market and economic conditions and other changes. Revisions to and variations from these estimates would impact liabilities, equity, cash flow and other components of pension and postretirement benefit plans expense.

The following table represents the sensitivity of changes in certain assumptions related to the Cincinnati pension and postretirement plans as of December 31, 2019:

		Pension Benefits		Postretirement and Other Benefits	
(dollars in millions)	**% Point Change**	**(Decrease)/ Increase in Obligation**	**(Decrease)/ Increase in Expense**	**(Decrease)/ Increase in Obligation**	**(Decrease)/ Increase in Expense**
Discount rate	+/- 0.5%	($19.9)/$19.9	($0.6)/$0.6	($3.4)/$3.8	($0)/$0
Expected return on assets	+/- 0.5%	n/a	($1.7)/$1.7	n/a	($0)/$0
Healthcare cost trend rate	+/- 1.0%	n/a	n/a	($1.4)/$1.5	($0.1)/$0.1

The following table represents the sensitivity of changes in certain assumptions related to the Hawaii pension and postretirement plans as of December 31, 2019:

		Pension Benefits		Postretirement and Other Benefits	
(dollars in millions)	**% Point Change**	**(Decrease)/ Increase in Obligation**	**(Decrease)/ Increase in Expense**	**(Decrease)/ Increase in Obligation**	**(Decrease)/ Increase in Expense**
Discount rate	+/- 0.5%	($7.0)/$7.0	($0.5)/$0.5	($2.3)/$2.5	($0.1)/$0.1
Expected return on assets	+/- 0.5%	n/a	($0.7)/$0.7	n/a	n/a
Healthcare cost trend rate	+/- 1.0%	n/a	n/a	n/a	n/a

At December 31, 2019 and 2018, unrecognized actuarial net losses were $215.3 million and $234.0 million, respectively. The unrecognized net losses have been primarily generated by differences between assumed and actual rates of return on invested assets, changes in discount rates and healthcare costs. Because gains and losses reflect refinements in estimates, as well as real changes in economic values, and because some gains in one period may be offset by losses in another or vice versa, we are not required to recognize these gains and losses in the periods that they occur. Instead, if the gains and losses exceed a 10% corridor defined in the accounting literature, we amortize the excess over the average remaining service life of active employees for the Cincinnati pension plans (approximately 8-11 years) and average remaining life expectancy of retirees for the Cincinnati postretirement plans (approximately 14-17 years). The accumulated gains or losses associated with the Hawaii plans do not exceed the corridor requiring amortization.

Regulatory Matters and Competitive Trends

Federal - The Telecommunications Act of 1996 (the "1996 Act") was enacted with the goal of establishing a pro-competitive, deregulatory framework to promote competition and investment in advanced telecommunications facilities and services to all Americans. From 1996 to 2008, federal regulators considered a multitude of proceedings aimed at promoting competition and deregulation. Although the 1996 Act called for a deregulatory framework, the FCC continued to maintain significant regulatory restraints on the traditional ILECs while increasing opportunities for new competitive entrants and new services by applying minimal regulation. Since 2009, federal regulators have devoted considerable attention to initiatives aimed at promoting investment in, and adoption of, advanced telecommunications services, particularly broadband Internet access services. Simultaneously, the FCC has been adopting measures that it believes would promote competition, protect consumers, reform universal service, and enhance public safety and national security. Since January 2017, the FCC has focused on eliminating burdensome and unnecessary regulations that impede broadband investment. We expect this trend to continue, and we will monitor the changing regulatory environment for any potential impacts, particularly on the following proceedings.

Universal Service

The federal Universal Service Fund ("USF") is funded via an assessment on the interstate end-user revenue of all telecommunications carriers and interconnected VoIP providers. The assessment is used to support high cost, low income, rural healthcare, and schools and libraries programs.

In October 2011, the FCC adopted new rules aimed at controlling the size of the high-cost portion of the fund and transitioning it from supporting legacy circuit-switched networks to broadband. These rules capped the high-cost fund and established a framework for transitioning support to the new Connect America Fund ("CAF") to bring broadband to unserved areas. Phase I reforms froze existing high-cost support and provided a mechanism for distributing additional support for qualifying price cap companies. Hawaiian Telcom received $1.4 million in Phase I support and has completed its Phase I buildout. Under Phase II, $1.8 billion of annual support was made available to expand broadband in unserved areas served by price cap ILECs. In August 2015, price cap ILECs, which had the right of first refusal, accepted over $1.5 billion of the annual Phase II support that was available to them. Carriers accepting the Phase II support commitment have the funds available for a six-year period and must complete their commitment by the end of 2020. Cincinnati Bell Telephone ("CBT") accepted approximately $2 million in annual Phase II support beginning in 2015 in exchange for a commitment to expand broadband to 6,339 Kentucky locations and 745 Ohio locations. Hawaiian Telcom accepted $4.4 million to build to 11,081 locations in Hawaii over the six-year award period.

In August 2018, bidding concluded in the FCC's Connect America Fund Phase II auction. Under this reverse auction, up to $2 billion in support over a 10-year period was available to expand fixed broadband service into additional unserved high-cost areas of the country. There were 103 winning bidders and the total amount of support that will be provided to these bidders over the 10-year term is $1.5 billion. Winning bidders must build out their broadband networks within the winning geographic areas (specific census block groups covering 713,176 locations in 45 states) within the first six years of the support term. CBT and Hawaiian Telcom were both winning bidders. As a result, CBT will receive $1.1 million to extend its broadband service to 342 unserved locations and Hawaiian Telcom will receive $18.1 million to build to 3,936 unserved locations. CBT and Hawaiian Telcom auction support distributions began in May 2019 and will continue until May 2029. The build out to all funded auction locations must be completed by December 31, 2025.

In January 2020, the FCC adopted a Report and Order establishing the Rural Digital Opportunity Fund ("RDOF"), which will be used to distribute $20.4 billion over ten years to expand broadband in areas that remain unserved at the conclusion of the CAF II price cap support program. The FCC anticipates distributing $16.0 billion via a reverse auction to be held in late 2020. The remaining $4.4 billion will be distributed via a second auction to be held at a later date when more accurate broadband availability data becomes available. The Order also extended the current price cap CAF II support for an additional year (through 2021). CBT and Hawaiian Telcom have the opportunity to accept the seventh year of CAF II support and will also evaluate whether to bid on any eligible areas in the upcoming RDOF Phase I auction.

Intercarrier Compensation

In October 2011, in conjunction with its reform of the USF high cost support program, the FCC adopted comprehensive reforms to the switched access and reciprocal compensation rules that govern the means by which carriers compensate one another for use of their networks. The end point of the reforms is a bill-and-keep system under which all per-minute intercarrier charges are eliminated.

Terminating switched access and reciprocal compensation rates were phased out over a six-year period that concluded in 2018 for price cap carriers including CBT and Hawaiian Telcom. The plan contains a mechanism that enables ILECs to recover some of the lost revenue from increased end-user charges, which CBT and Hawaiian Telcom have utilized to the fullest extent possible. The transition and recovery mechanism for originating access and transport rates has not yet been established by the FCC. However, during 2018, the FCC released its proposal for transitioning originating access charges for 8XX calls to bill and keep. Although the public comment period on this proposal has concluded, the FCC has not yet issued a decision. The Company is monitoring this proceeding, but will not know the full impact until the FCC adopts final rules, particularly as it relates to any recovery mechanism to offset proposed rate reductions.

Special Access/Business Data Services

In 2005, the FCC opened a proceeding to review its Special Access (aka Business Data Services or "BDS") pricing rules. Under the rules in effect at that time, special access services were subject to price cap regulation with no earnings cap, and ILECs had pricing flexibility in certain metropolitan statistical areas served by a sufficient number of competitors. During 2012, the FCC suspended the grant of any new pricing flexibility requests and issued a mandatory data request. Responses to the data request were provided in the first quarter of 2015.

In April 2017, the FCC adopted a Report and Order finding that the market for all packet-based services, Ethernet services, TDM services above the DS3 level, and DS1 and DS3 transport services is competitive in all geographic markets and should no longer be subject to price regulation. Price regulation of TDM services of DS3 or below terminating to end users depends upon the competitive status of the county in which the service is provided. The FCC designated counties as competitive or non-competitive for these TDM end user services based upon historical data submitted by providers and purchasers of BDS in response to a mandatory data request issued in 2012 and supplemented with cable broadband deployment data submitted by providers in the FCC’s semi-annual broadband deployment report. Price regulation will be eliminated for these TDM end user services in competitive counties. In non-competitive counties price regulation will continue, although carriers are permitted to offer contract tariffs and volume and term discounts. The Order requires all price cap companies to remove all competitive BDS services from their tariffs by August 2020. The list of competitive and non-competitive counties released by the FCC in May 2017 designated all but two of the counties in the Company’s CBT ILEC territory as competitive, and in Hawaii four of the five counties were deemed competitive. In November 2017, Hawaiian Telcom filed an application with the FCC to discontinue offering BDS services in Kalawao County (the non-competitive county). This application was granted in January 2018 and Hawaiian Telcom subsequently filed to detariff all BDS services statewide. At this time, CBT’s BDS services remain under tariffs, but those BDS services offered in the competitive counties will be detariffed prior to the 2020 deadline. Nearly all of the Company’s current special access revenue is derived from the competitive counties. In August 2018, the US Court of Appeals for the Eighth Circuit vacated and remanded the ex ante deregulation of DS1 and DS3 transport services. However, in July 2019, the FCC adopted an Order in response to the remand and reaffirmed its previous conclusion that DS1 and DS3 transport services are competitive nationwide. As a result, price cap carriers must remove these services from their Special Access tariffs by August 1, 2020.

Unbundled Network Elements

Under rules adopted pursuant to the Telecommunications Act of 1996, ILECs have been required to unbundle the components of their network and provide the unbundled network elements ("UNE's") to requesting competitive local exchange carriers at cost-based rates set by state public utility commissions in the 1990’s. The rules also required ILECs to resell their voice service to requesting competitive carriers at wholesale rates set by state regulators. In May 2018, USTelecom – The Broadband Association (“USTelecom”) filed a petition with the FCC seeking forbearance from the unbundling and resale rules for all ILECs. On July 10, 2019, the FCC granted the requested forbearance for unbundled DS1 and DS3 transport and on August 2, 2019, it granted forbearance from UNE loop and resale requirements. Specifically, it granted forbearance from the unbundling requirements for DS1 and DS3 transport along routes where competitive fiber is present within a half mile of the ILEC wire center endpoints that trigger the unbundling obligation. As it relates to UNE loops and resale, forbearance was granted for analog voice-grade copper loops and the avoided-cost resale requirements. While Cincinnati Bell’s ILECs may benefit from the ability to charge competitive commercially negotiated prices for these facilities and services following the three-year transition period required by the Order, the Company’s competitive carrier operations will likely see increased prices for such facilities currently purchased from other ILECs. As a result, the Company is reviewing its current UNE purchases to determine where to transition to commercial agreements for these facilities versus deploying its own facilities and will pursue the most cost effective solution in each market. In November 2019, the FCC opened a new proceeding to consider whether to update the remaining unbundling and resale obligations that apply to ILECs. Specifically, the FCC has proposed eliminating most remaining unbundling obligations with the exception of mass-market broadband-capable loops in rural areas. The Company does not anticipate a decision by the FCC on this in the near-term.

IP Transition

In late 2013, the FCC opened a proceeding to explore how to transition from the legacy circuit-switched TDM networks to Internet Protocol (“IP”) networks. Examination of the myriad of technical, legal and policy issues surrounding the IP transition moved to the forefront during 2014, and during 2015 and 2016, the FCC adopted several orders imposing additional requirements on service providers seeking to transition their networks from copper to fiber. However, during the second quarter of 2017, the FCC opened several proceedings aimed at removing barriers to wireline and wireless broadband deployment and proposed reversing several of the additional requirements imposed in 2015 and 2016. Following this review, in November 2017, the FCC revised its rules to streamline the ILEC copper retirement process and the approval process for discontinuing legacy TDM service to speed the transition from legacy copper-based TDM services to IP services. It also reformed the pole attachment rules to make it easier for providers to attach equipment necessary for next-generation networks. In 2018, the FCC adopted additional changes aimed at streamlining the pole attachment process and preempting state and local processes considered to be detrimental to broadband deployment, particularly the small cells that will be used for 5G networks. The Company does not anticipate any significant financial impact due to these proceedings.

Broadband Internet Access/Net Neutrality

In an order adopted in 2005, the FCC provided wireline carriers the option of offering broadband Internet access as a non-regulated information service (comparable treatment to cable modem Internet access at that time) or as a regulated telecommunications service. In 2007, CBT and Hawaiian Telcom elected the non-regulated information service designation for broadband Internet access service. The FCC also ruled that wireless broadband service was a non-regulated information service, placing it on the same regulatory footing as other broadband services such as cable modem service and wireline DSL service.

In conjunction with the adoption of the 2005 wireline broadband Internet access order, the FCC adopted a policy statement intended to ensure that broadband networks are widely deployed, open, affordable, and accessible to all consumers. In April 2010, the D.C. Circuit Court of Appeals issued an opinion finding that an FCC enforcement action regarding Comcast's network management practices exceeded the FCC's authority, causing the FCC to reassess its approach to crafting net neutrality rules. In December 2010, the FCC adopted net neutrality rules that required broadband providers to publicly disclose network management practices, restricted them from blocking Internet content and applications, and prohibited fixed broadband providers from engaging in unreasonable discrimination in transmitting traffic. In January 2014, the D.C. Circuit Court of Appeals vacated the net neutrality order’s anti-blocking and anti-discrimination requirements finding that they were akin to common carrier regulation. However, the Court upheld the transparency and disclosure requirements and found that the FCC has general authority under Section 706 of the Communications Act to promulgate rules to encourage broadband deployment. In response to the Court’s decision, the FCC adopted new rules in February 2015 under which it reclassified broadband Internet access as a telecommunications service under Title II of the Communications Act. Although these new rules were appealed by numerous parties, in June 2016, the D.C. Circuit Court of Appeals upheld the FCC’s new rules in their entirety. In November 2016, the FCC adopted an order establishing broadband privacy and security requirements for Internet service providers using its authority under Title II. The restrictive new privacy rules diverged from the Federal Trade Commission framework that had for years set the standard for protecting Internet users’ privacy.

In March 2017, Congress adopted a resolution under the Congressional Review Act to invalidate the new broadband privacy and security rules approved by the FCC in November 2016. In December 2017, the FCC issued a Declaratory Ruling restoring the information service classification of broadband Internet access service that existed prior to 2015 and affirmed that broadband consumer protection authority resides with the Federal Trade Commission. An accompanying Report and Order requires that Internet service providers disclose information about their practices relative to blocking, throttling, paid prioritization, or affiliated prioritization. The impact of this decision is neutral for the Company.

Robocalls

During 2019, the FCC took several steps to mitigate the impact of illegal robocalls and spoofed calls on consumers and businesses, including the Chairman calling on the largest voice service providers to “voluntarily” adopt the secure telephone identity revisited signature-based handling of asserted information using tokens (“STIR/SHAKEN”) call authentication standards developed by the Alliance for Telecommunications Industry Standards (“ATIS”). In addition, in December 2019, Congress passed and the President signed into law the Pallone-Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence Act (“Pallone-Thune TRACED Act”). Under the Pallone-Thune TRACED Act, within 18 months, all voice service providers must implement the STIR/SHAKEN framework in their IP networks and take reasonable measures to implement an effective call authentication framework in their non-IP networks. The Company is taking the steps necessary to implement the required call authentication frameworks within the Pallone-Thune TRACED Act timeframes.

State - Ohio and Kentucky - CBT, the Company’s ILEC in Ohio and Kentucky, moved from rate of return regulation to alternative regulation plans for its local services in 1994. These alternative regulation plans restricted CBT’s ability to increase the price of basic local service and related services, but eliminated any earnings cap associated with traditional rate of return regulation. Under alternative regulation, price increases and enhanced flexibility for some services partially offset the effect of fixed pricing for basic local service and reduced pricing for other, primarily wholesale services.

In Ohio, statutory changes enacted by the Ohio General Assembly in 2005 gave the Public Utilities Commission of Ohio ("PUCO") the authority to provide ILECs with pricing flexibility for basic local rates upon a showing that consumers have sufficient competitive alternatives (House Bill 218). As a result of that legislation, the Company received authority from the PUCO to increase its rates for basic local exchange service in eight of its Ohio exchanges. In September 2010, the Ohio General Assembly passed Substitute Senate Bill 162, which revised state policy concerning the provision of telecommunications service, repealed Ohio's alternative regulation legislation, and authorized additional pricing flexibility for ILEC basic local exchange service ("BLES" - a standalone access line not bundled with other services) upon a competitive showing by the ILEC. CBT filed an application for pricing flexibility under the new rules and, in January 2011, received authority to increase the monthly rate for a standalone local service line throughout its Ohio serving area by $1.25 annually. Nearly all other retail services were removed from rate regulation, including local service lines bundled with other services. Substitute SB 162 also provided cost savings and revenue opportunities resulting from revision of the PUCO's retail rules and service standards beginning in January 2011. In June 2015, House Bill 64 was enacted, which included provisions that could relieve ILECs from their carrier of last resort obligations, pending the outcome of the FCC's IP Transition proceeding. As part of the provisions of HB 64, the PUCO is currently conducting a process that would assist in the identification of BLES customers that might not have a competitive alternative should the ILEC withdraw BLES as part of its transitioning from a circuit-switched TDM network to an IP Network. The 2015 rules have the potential to provide CBT with substantial regulatory relief in Ohio in the future; however, there is no impact in the near-term. Finally, in December 2018, the General Assembly passed House Bill 402 giving ILECs the ability to increase the monthly BLES rate by $2.00 annually. Beginning in 2022, BLES rate regulation will cease entirely in exchanges in which the ILEC demonstrates that it has lost more than 50% of its access lines. The 2018 legislation also limited the PUCO's authority over other aspects of telecom regulation, including eliminating the PUCO's authority to review and approve mergers and acquisitions for telecom companies.

In Kentucky, CBT entered into an alternative regulation plan in July 2006 under terms established by the Kentucky General Assembly in House Bill No. 337. Under this plan, BLES prices were capped in exchange for earnings freedom and pricing flexibility on other retail services. The caps on BLES prices expired in July 2011 providing CBT with flexibility to increase rates for basic local exchange service. In March 2015, the General Assembly passed House Bill 152, which removed the Public Service Commission's authority to regulate terms, conditions, rates or availability of any retail service in urban exchanges (greater than 15,000 Households) for a modifying utility. In March 2017, the General Assembly passed Senate Bill 10, which extended the same privileges as HB 152 to all exchanges, thus providing CBT with nearly complete deregulation for all retail services in Kentucky.

Hawaii - In Hawaii, the legislature and the Hawaii Public Utilities Commission ("HPUC") have taken steps over the last decade to reduce rate regulation of some of the services of the Company's Hawaiian Telcom subsidiaries.

In 2009 and 2010, the Hawaii State Legislature required the HPUC to treat all intrastate retail telecommunications services, including intrastate toll (*i.e.*, inter island), central exchange (Centrex), most residential and business local exchange services, integrated service digital network (ISDN) private lines and special assemblies, and directory assistance, as "fully competitive" under the HPUC's rules with certain qualifications. As a result, HPUC approval and cost support filings were no longer required to establish or reduce rates or to bundle service offerings; however, all service offerings were required to be priced above the service's long run incremental cost and HPUC retained the ability to suspend and investigate any offering. In 2012, the Hawaii State Legislature passed legislation that gave Hawaiian Telcom pricing flexibility to increase tariffed intrastate rates for any retail telecommunications service without approval from the HPUC, with the exception of basic exchange service (*i.e.*, single line residential and single line business services).

In May 2019, the Hawaii State Legislature granted nearly full pricing flexibility to telecommunications carriers, including Hawaiian Telcom, for intrastate telecommunications services. Rate changes for retail telecommunications services no longer need to be filed with and approved by the HPUC except for any price increase greater than $6.50 on an annual basis for basic exchange services in counties with a population of less than 500,000. In addition, the traditional cost-of-service regulatory framework that required cost support for retail telecommunications service offerings and pricing above a service's long run incremental cost are no longer applicable; however, the HPUC retains the ability to investigate any offering. The legislation also eliminated the requirements for providers of fully competitive retail telecommunications services to obtain HPUC approval for financing and the sale or encumbrance of regulated property and assets, except when such sale or encumbrance occurs as part of a merger or consolidation with any other public utility. Additional relief was also granted on reporting affiliated transactions and accidents. Based on these regulatory reforms, the Company can now compete more effectively in Hawaii by making decisions based on marketplace dynamics and other economic information.

Cable Franchises - Ohio, Kentucky and Indiana - The states of Ohio and Indiana permit statewide video service authorization. The Company is now authorized by Ohio and Indiana to provide service in its self-described territory with only 10-day notification to the local government entity and other providers. The authorization can be amended to include additional territory upon notification to the state. A franchise agreement with each local franchising authority is required in Kentucky. The Company has agreements with fifty-three franchising authorities in Kentucky.

Hawaii - In Hawaii, cable franchises must be approved by the Hawaii Department of Commerce and Consumer Affairs. Since 2011, the Company's Hawaiian Telcom Services Company, Inc. subsidiary has held a cable franchise authorizing it to provide video services throughout the island of Oahu.

Recently Issued Accounting Standards

Refer to Note 2 of the consolidated financial statements for further information on recently issued accounting standards.

Private Securities Litigation Reform Act of 1995 Safe Harbor Cautionary Statement

This Form 10-K contains "forward-looking" statements, as defined in federal securities laws including the Private Securities Litigation Reform Act of 1995, which are based on our current expectations, estimates, forecasts and projections. Statements that are not historical facts, including statements concerning plans, objectives, goals, future events, future revenues or performance, financing needs, plans or intentions relating to acquisitions and restructuring, business trends, statements regarding the proposed merger with Brookfield Infrastructure (‘the merger”) and the expected timetable for completing the merger, are forward-looking statements. Words such as “expects,” “anticipates,” “predicts,” “projects,” “intends,” “plans,” “believes,” “seeks,” “estimates,” “continues,” “endeavors,” “strives,” “will”, “may,” or variations of such words and similar expressions are intended to identify such forward-looking statements. In addition, any statements that refer to projections of future financial performance, anticipated growth and trends in businesses, and other characterizations of future events or circumstances are forward-looking statements. There are a number of risks, uncertainties and other important factors that could cause our actual results to differ materially from the forward-looking statements contained in this report. The following important factors, among other things, could cause or contribute to actual results being materially and adversely different from those described or implied by such forward-looking statements, including, but not limited to:

- The Company operates in highly competitive industries, and customers may not continue to purchase products or services, which would result in reduced revenue and loss of market share;
- The Company may be unable to grow our revenues and cash flows despite the initiatives we have implemented;
- Failure to anticipate the need for and introduce new products and services or to compete with new technologies may compromise the Company's success in the telecommunications industry;
- The Company’s access lines, which generate a significant portion of its cash flows and profits, are decreasing in number. If the Company continues to experience access line losses similar to the past several years, its revenues, earnings and cash flows from operations may be adversely impacted;
- Negotiations with the providers of content for our video programming may not be successful, potentially resulting in our inability to carry certain programming channels, which could result in the loss of subscribers. In addition, due to the influence of some content providers, we may be forced to pay higher rates for some content, resulting in increased costs;
- The Company's failure to meet performance standards under its agreements could result in customers terminating their relationships with the Company or customers being entitled to receive financial compensation, leading to reduced revenues and/or increased costs;
- The Company generates a substantial portion of its revenue by serving a limited geographic area;
- One large customer accounts for a significant portion of the Company’s accounts receivable. The loss or significant reduction in business from this customer would cause operating results to decline and could negatively impact profitability and cash flows;
- Maintaining the Company's telecommunications networks requires significant capital expenditures, and the Company's inability or failure to maintain its telecommunications networks could have a material impact on its market share and ability to generate revenue;
- Increases in broadband usage may cause network capacity limitations, resulting in service disruptions or reduced capacity for customers;
- We may be liable for the material that content providers distribute over our networks;
- An IT and/or network security breach or cyber-attack may lead to unauthorized use or disabling of our network, theft of customer data, unauthorized use or publication of our confidential business information and could have a material adverse effect on our business;
- Weather conditions, natural disasters, terrorist acts or acts of war could cause damage to our infrastructure and result in significant disruptions to our operations;
- The regulation of the Company’s businesses by federal and state authorities may, among other things, place the Company at a competitive disadvantage, restrict its ability to price its products and services, and threaten its operating licenses;
- The Company depends on a number of third-party providers and the loss of or problems with one or more of these providers may impede the Company's growth or cause it to lose customers;
- A failure of back-office information technology systems could adversely affect the Company’s results of operations and financial condition;

- If the Company fails to extend or renegotiate its collective bargaining agreements with its labor unions when they expire, or if its unionized employees were to engage in a strike or other work stoppage, the Company’s business and operating results could be materially harmed;
- The loss of any of the senior management team or attrition among key sales associates could adversely affect the Company’s business, financial condition, results of operations and cash flows;
- The future results of the Company will suffer if the Company does not effectively manage its expanded operations following the acquisitions of OnX and Hawaiian Telcom;
- The Company’s debt could limit its ability to fund operations, raise additional capital, and fulfill its obligations, which, in turn, would have a material adverse effect on its businesses and prospects generally;
- The Credit Agreement, the indenture governing the Company's notes due 2024, the indenture governing the Company's notes due 2025 and other indebtedness impose significant restrictions on the Company;
- The Company depends on its Revolving Credit Facility and Receivables Facility to provide for its short-term financing requirements in excess of amounts generated by operations, and the availability of those funds may be reduced or limited;
- The servicing of the Company’s indebtedness is dependent on its ability to generate cash, which could be impacted by many factors beyond its control;
- The Company depends on the receipt of dividends or other intercompany transfers from its subsidiaries and investments;
- There are material uncertainties and risks associated with the proposed Merger Agreement and Merger.
- The proposed Merger may not be completed in a timely manner or at all.
- Failure to complete the Merger could negatively impact the Company’s business, financial results and stock price.
- The Company has incurred, and will incur, substantial direct and indirect costs as a result of the Merger.
- The trading price of the Company's common stock may be volatile, and the value of an investment in the Company's common stock may decline;
- The uncertain economic environment, including uncertainty in the U.S. and world securities markets, could impact the Company's business and financial condition;
- The Company’s future cash flows could be adversely affected if it is unable to fully realize its deferred tax assets;
- Changes in tax laws and regulations, and actions by federal, state and local taxing authorities related to the interpretation and application of such tax laws and regulations, could have a negative impact on the Company's financial results and cash flows;
- Adverse changes in the value of assets or obligations associated with the Company’s employee benefit plans could negatively impact shareowners’ deficit and liquidity;
- Third parties may claim that the Company is infringing upon their intellectual property, and the Company could suffer significant litigation or licensing expenses or be prevented from selling products;
- Third parties may infringe upon the Company’s intellectual property, and the Company may expend significant resources enforcing its rights or suffer competitive injury;
- The Company could be subject to a significant amount of litigation, which could require us to pay significant damages or settlements;
- The Company could incur significant costs resulting from complying with, or potential violations of, environmental, health and human safety laws.

Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this report. The Company does not undertake any obligation to revise or update any forward-looking statements, whether as a result of new information, future events or otherwise.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Risk

The Company borrows funds at a combination of fixed and variable rates. The Company has exposure to interest rate risk, primarily in the form of variable-rate borrowings from its Revolving Credit Facility and Receivables Facility, as well as changes in current rates compared to that of its fixed rate debt. Certain of our variable rate debt, including debt under the Credit Agreement and the Receivables Facility, uses LIBOR as one of the benchmarks for establishing the rate of interest and may be hedged with LIBOR-based interest rate derivatives. LIBOR is the subject of recent regulatory guidance and proposals for reform. These reforms and other pressures may cause LIBOR to be replaced with a new benchmark in 2021 or to perform differently than in the past. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our variable rate indebtedness.

The Company's management periodically employs interest rate hedge contracts, such as swaps, to manage exposure to interest rate risk. The use of these types of instruments to hedge a portion of our exposure to changes in interest rates carries additional risks, such as counterparty credit risk and the legal enforceability of hedging contracts.

The Company had $1,085.2 million principal amount of fixed rate debt outstanding as of December 31, 2019 and 2018, excluding debt with a variable rate that is effectively fixed by related interest rate hedge contracts. The estimated aggregate fair market value of this debt was $1,137.5 million and $904.4 million as of December 31, 2019 and 2018, respectively. At December 31, 2019, the weighted average interest rate on fixed-rate debt is 7.3%.

At December 31, 2019, the Company had variable-rate borrowings of $25.5 million under the Tranche B Term Loan due 2024 not protected by interest rate hedge contracts, $131.5 million of borrowings under the Receivables Facility, and $57.0 million of borrowings under the Credit Agreement's Revolving Credit Facility. The estimated aggregate fair market value of this debt was $214.1 million as of December 31, 2019. At December 31, 2018, the Company had variable-rate borrowings of $298.5 million under the Tranche B Term Loan due 2024 not protected by interest rate hedge contracts, $176.6 million of borrowings under the Receivables Facility, and $18.0 million of borrowings under the Credit Agreement's Revolving Credit Facility. The estimated aggregate fair market value of this debt was $481.2 million as of December 31, 2018. At December 31, 2019, the weighted average interest rate on variable-rate debt is 3.9%. A hypothetical increase or decrease of one hundred basis points in the LIBOR rate would increase or decrease our annual interest expense by $2.3 million.

At December 31, 2019, the Company had $592.5 million of variable rate debt outstanding under the Tranche B Term Loan due 2024 with $567.0 million of related floating-to-fixed interest rate swaps. The interest rate swaps are comprised of one swap with a notional amount of $300.0 million and three swaps with a notional amount $89.0 million each. These swaps effectively fix the underlying one-month LIBOR rate at a weighted average rate of 2.938%, 2.275%, 2.244% and 2.328%, respectively, plus the applicable margin per the requirements in the Credit Agreement. If the underlying LIBOR interest rate increases or decreases by 100 basis points, the aggregate fair market value of the swaps at December 31, 2019 would increase by $18.5 million or decrease by $12.9 million. The $300.0 million swap expires in June 2023 and the three $89.0 million swaps expire in March 2024. At December 31, 2018, the Company had $598.5 million of variable rate debt outstanding under the Tranche B Term Loan due 2024 with $300.0 million related to a floating-to-fixed interest rate swap. The swap effectively fixed the underlying one-month LIBOR rate at a weighted average rate of 2.938% plus the applicable margin per the requirements in the Credit Agreement. If the underlying LIBOR interest rate increased or decreased by 100 basis points, the aggregate fair market value of the swap at December 31, 2018 would increase by $11.5 million or decrease by $11.0 million. The swap expires in June 2023. For further information, see Footnote 11 to the accompanying consolidated financial statements contained in “Part II. Item 8. Financial Statements and Supplementary Data.”

Foreign Currency Risk

IT Services and Hardware currently has business operations in Canada, the U.K. and India, and foreign currency risk might arise in the future. We do not currently employ forward contracts or other financial instruments to mitigate foreign currency risk.

Commodity Price Risk

Certain of our operating costs are subject to price fluctuations caused by the volatility of the underlying commodity prices, such as gas utilized primarily by our field operations group, and network and building materials, such as steel, fiber and copper, used in the construction of our networks.

Item 8. Financial Statements and Supplementary Data

Index to Consolidated Financial Statements

Financial statement schedules other than those listed above have been omitted because the required information is contained in the financial statements and notes thereto, or because such schedules are not required or applicable.

MANAGEMENT’S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Cincinnati Bell Inc. and its subsidiaries (the "Company") is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. The Company’s internal control system is designed to produce reliable financial statements in conformity with accounting principles generally accepted in the United States.

Management assessed the effectiveness of the Company’s internal control over financial reporting as of December 31, 2019. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control — Integrated Framework (2013)*. Based on this assessment, management has concluded that, as of December 31, 2019, the Company’s internal control over financial reporting is effective based on those criteria.

The effectiveness of the Company’s internal control over financial reporting has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report included herein.

February 24, 2020

/s/ Leigh R. Fox
Leigh R. Fox
Chief Executive Officer

/s/ Andrew R. Kaiser
Andrew R. Kaiser
Chief Financial Officer

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareowners and Board of Directors of Cincinnati Bell Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Cincinnati Bell Inc. and subsidiaries (the "Company") as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements and financial statement as of and for the year ended December 31, 2019, of the Company and our report dated February 24, 2020, expressed an unqualified opinion on those financial statements and included an explanatory paragraph related to the Company's change in method of accounting for leases due to the adoption of Accounting Standards Update 2016-02, *Leases*, during 2019.

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 included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Deloitte & Touche LLP

Cincinnati, Ohio

February 24, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareowners and Board of Directors of Cincinnati Bell Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Cincinnati Bell Inc. and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, shareowners' deficit and cash flows, for each of the three years in the period ended December 31, 2019, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 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 February 24, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principles

As discussed in Note 2 to the financial statements, the Company has changed its method of accounting for leases due to the adoption of Accounting Standards Update 2016-02, *Leases* ("ASU 2016-02"), during 2019.

Basis for Opinion

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

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

Critical Audit Matters

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

Income Taxes – Valuation Allowance — Refer to Notes 1 and 13 to the financial statements

Critical Audit Matter Description

The Company recognizes deferred taxes (including Federal net operating loss carryforwards, or "NOL carryforwards") for temporary differences between the financial statement and income tax basis of assets and liabilities at enacted statutory tax rates in effect for the years in which the differences are expected to reverse. In addition, valuation allowances are recorded to reduce deferred tax assets to amounts that are more likely than not to be realized. As of December 31, 2019, the Company has recorded a valuation allowance of $16.6 million to reduce the deferred tax asset related to non-deductible interest to an amount that is more likely than not realizable. The ultimate realization of the remaining Federal deferred tax assets depends upon the Company's ability to generate future taxable income in an amount sufficient to utilize such deferred tax assets prior to any applicable expiration periods.

As of December 31, 2019, the Company had $777.1 million of federal net operating loss carryforwards with a deferred tax asset value of $163.2 million. Approximately $125.6 million of the Federal NOL carryforwards expire in 2023. In addition, the Company has recognized cumulative pre-tax losses for financial statement purposes over the previous three-year period ended December 31, 2019, requiring the Company’s projections of future taxable income to be based on objectively verifiable historical results. Based on those projections, management believes the Company will realize the unreserved, net of any valuation allowances, Federal deferred tax assets (including all Federal NOL carryforwards) prior to their expiration. While U.S. tax laws limit the annual utilization of net operating loss carryforwards of acquired entities, the Company also expects to fully utilize the net operating loss carryforwards associated with their 2018 acquisition of Hawaiian Telcom Holdco, Inc.
We identified management's assertion that the unreserved Federal deferred income tax assets are more likely than not going to be realized as a critical audit matter due to the significance of management's judgments and the inherent uncertainty in forecasting financial results, coupled with the specialized tax knowledge that is necessary to accurately schedule future taxable income and deductions. A high degree of auditor judgment and the involvement of our tax specialists was required when performing audit procedures to evaluate management’s assertions.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures to evaluate management’s assertion that the unreserved Federal deferred tax assets (including Federal NOL carryforwards) are more likely than not realizable included the following:

- We tested the effectiveness of the Company’s controls over income taxes, including those over the calculation of the valuation allowance and the projections of future taxable income.
- We evaluated management’s projections of future taxable income by:
    - Evaluating management’s ability to accurately project future reversals of temporary differences including the use of tax planning strategies by comparing these projections to historical results and our understanding of anticipated future events.
    - Testing the reasonableness of management’s determination of the Company’s objectively verifiable income by:
        - Testing that amounts therein agree to historical results
        - Testing the normalization for appropriate non-recurring items
        - Evaluating that non-deductible interest amounts are reasonable based on prior year historical results.
- We evaluated management’s assessment that it is more likely than not that sufficient taxable income will be generated in the future to utilize the unreserved Federal deferred tax assets.
- We tested the mathematical accuracy of the Company’s valuation allowance analysis.
- We evaluated whether the projections of future taxable income were consistent with evidence obtained in other areas of the audit.
- We evaluated the sufficiency of the Company’s disclosures related to the realizability of deferred income tax assets and valuation allowances in the financial statements.

/s/ Deloitte & Touche LLP

Cincinnati, Ohio

February 24, 2020

We have served as the Company's auditor since 2005.

Cincinnati Bell Inc.
CONSOLIDATED BALANCE SHEETS
(Dollars in millions, except share amounts)

	December 31, 2019	December 31, 2018
Assets		
Current assets		
Cash and cash equivalents	$ 11.6	$ 15.4
Receivables, less allowances of $14.3 and $13.0	307.7	342.8
Inventory, materials and supplies	44.6	46.5
Prepaid expenses	28.3	30.7
Other current assets	11.6	10.5
Total current assets	403.8	445.9
Property, plant and equipment, net	1,780.8	1,844.0
Operating lease right-of-use assets	35.8	—
Goodwill	160.5	157.0
Intangible assets, net	155.4	168.1
Deferred income tax assets	59.3	47.5
Other noncurrent assets	58.2	67.7
Total assets	$ 2,653.8	$ 2,730.2
Liabilities and Shareowners' Deficit		
Current liabilities		
Current portion of long-term debt	$ 22.3	$ 20.2
Accounts payable	284.6	331.9
Unearned revenue and customer deposits	59.1	55.9
Accrued taxes	29.1	24.8
Accrued interest	26.8	26.8
Accrued payroll and benefits	49.0	42.9
Other current liabilities	52.6	39.2
Total current liabilities	523.5	541.7
Long-term debt, less current portion	1,901.3	1,909.6
Operating lease liabilities	32.1	—
Pension and postretirement benefit obligations	215.5	230.6
Pole license agreement obligation	38.0	39.1
Deferred income tax liabilities	11.7	11.4
Other noncurrent liabilities	71.7	72.8
Total liabilities	2,793.8	2,805.2
Shareowners' deficit		
Preferred stock, 2,357,299 shares authorized; 155,250 shares (3,105,000 depositary shares) of 6 3/4% Cumulative Convertible Preferred Stock issued and outstanding at December 31, 2019 and 2018; liquidation preference $1,000 per share ($50 per depositary share)	129.4	129.4
Common shares, $.01 par value; 96,000,000 shares authorized; 50,420,700 and 50,184,114 shares issued and outstanding at December 31, 2019 and 2018, respectively	0.5	0.5
Additional paid-in capital	2,676.2	2,680.0
Accumulated deficit	(2,776.0)	(2,709.4)
Accumulated other comprehensive loss	(170.1)	(175.5)
Total shareowners' deficit	(140.0)	(75.0)
Total liabilities and shareowners' deficit	$ 2,653.8	$ 2,730.2

The accompanying notes are an integral part of the consolidated financial statements.

Cincinnati Bell Inc.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Dollars in millions, except per share amounts)

	Year Ended December 31, 2019	2018	2017
Revenue	$ 1,536.7	$ 1,378.2	$ 1,065.7
Costs and expenses			
Cost of services and products, excluding items below	784.6	698.7	531.0
Selling, general and administrative	354.4	313.4	235.1
Depreciation and amortization	304.9	252.0	193.0
Restructuring and severance related charges	6.9	8.3	32.7
Transaction and integration costs	12.8	22.5	18.5
Total operating costs and expenses	1,463.6	1,294.9	1,010.3
Operating income	73.1	83.3	55.4
Interest expense	139.6	131.5	85.2
Loss on extinguishment of debt, net	—	1.3	3.2
Other components of pension and postretirement benefit plans expense	11.2	12.5	16.6
Gain on sale of CyrusOne investment	—	—	(117.7)
Other (income) expense, net	(0.5)	(1.6)	1.4
(Loss) income before income taxes	(77.2)	(60.4)	66.7
Income tax (benefit) expense	(10.6)	9.4	26.7
Net (loss) income	(66.6)	(69.8)	40.0
Preferred stock dividends	10.4	10.4	10.4
Net (loss) income applicable to common shareowners	$ (77.0)	$ (80.2)	$ 29.6
Basic and diluted net (loss) earnings per common share	$ (1.53)	$ (1.73)	$ 0.70
Weighted-average common shares outstanding (millions)			
Basic	50.4	46.3	42.2
Diluted	50.4	46.3	42.4

The accompanying notes are an integral part of the consolidated financial statements.

Cincinnati Bell Inc.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Dollars in millions)

	Year Ended December 31,		
	2019	2018	2017
Net (loss) income	$ (66.6)	$ (69.8)	$ 40.0
Other comprehensive income (loss), net of tax:			
Unrealized gains on Investment in CyrusOne, net of tax of $4.4	—	—	8.3
Reclassification adjustment for gain on sale of Investment in CyrusOne included in net income, net of tax of ($41.3)	—	—	(76.4)
Foreign currency translation gain (loss)	3.7	(6.5)	0.2
Cash flow hedges:			
Unrealized loss on cash flow hedges arising during the period, net of tax of ($3.7), ($1.4)	(12.5)	(4.8)	—
Reclassification adjustment for net losses included in net income, net of tax of $0.5, $0.3	1.7	0.9	—
Defined benefit plans:			
Net gain (loss) arising from remeasurement during the period, net of tax of $0.7, ($1.6), $0.8	2.5	(5.5)	2.8
Amortization of prior service benefits included in net income, net of tax of ($0.6), ($0.7), ($1.6)	(1.9)	(2.4)	(2.9)
Amortization of net actuarial loss included in net income, net of tax of $3.6, $4.7, $7.9	11.9	16.4	14.3
Reclassification adjustment for pension settlement charges included in net income, net of tax of $0.0, $1.5	—	0.1	2.5
Total other comprehensive income (loss), net of tax	5.4	(1.8)	(51.2)
Total comprehensive loss	$ (61.2)	$ (71.6)	$ (11.2)

The accompanying notes are an integral part of the consolidated financial statements.

Cincinnati Bell Inc.
CONSOLIDATED STATEMENTS OF SHAREOWNERS' DEFICIT
(in millions)

	6 3/4% Cumulative Convertible Preferred Shares		Common Shares		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total
	Shares	Amount	Shares	Amount				
Balance at December 31, 2016	3.1	$ 129.4	42.1	$ 0.4	$ 2,570.9	$ (2,711.8)	$ (90.3)	$ (101.4)
Net income	—	—	—	—	—	40.0	—	40.0
Reclassification adjustment to accumulated deficit for stranded other comprehensive income taxes arising from tax reform (a)	—	—	—	—	—	32.2	(32.2)	—
Other comprehensive loss, excluding reclassification adjustment to accumulated deficit for stranded other comprehensive income taxes arising from tax reform	—	—	—	—	—	—	(51.2)	(51.2)
Shares issued under employee plans	—	—	0.1	—	0.5	—	—	0.5
Shares purchased under employee plans and other	—	—	—	—	(1.3)	—	—	(1.3)
Stock-based compensation	—	—	—	—	5.9	—	—	5.9
Dividends on preferred stock	—	—	—	—	(10.4)	—	—	(10.4)
Balance at December 31, 2017	3.1	129.4	42.2	0.4	2,565.6	(2,639.6)	(173.7)	(117.9)
Net loss	—	—	—	—	—	(69.8)	—	(69.8)
Other comprehensive loss	—	—	—	—	—	—	(1.8)	(1.8)
Shares issued under employee plans	—	—	0.3	—	0.2	—	—	0.2
Shares purchased under employee plans and other	—	—	—	—	(2.1)	—	—	(2.1)
Stock-based compensation	—	—	—	—	5.6	—	—	5.6
Dividends on preferred stock	—	—	—	—	(10.4)	—	—	(10.4)
Stock consideration for acquisition of Hawaiian Telcom	—	—	7.7	0.1	121.1	—	—	121.2
Balance at December 31, 2018	3.1	129.4	50.2	0.5	2,680.0	(2,709.4)	(175.5)	(75.0)
Net loss	—	—	—	—	—	(66.6)	—	(66.6)
Other comprehensive income	—	—	—	—	—	—	5.4	5.4
Shares issued under employee plans	—	—	0.2	—	—	—	—	—
Shares purchased under employee plans and other	—	—	—	—	(0.8)	—	—	(0.8)
Stock-based compensation	—	—	—	—	7.4	—	—	7.4
Dividends on preferred stock	—	—	—	—	(10.4)	—	—	(10.4)
Balance at December 31, 2019	3.1	$ 129.4	50.4	$ 0.5	$ 2,676.2	$ (2,776.0)	$ (170.1)	$ (140.0)

(a) Per ASU 2018-02, entities can elect to make a one-time reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from enacted corporate tax rates under the Tax Cuts and Jobs Act. The Company elected to make the change and recorded the adjustment in 2017.

The accompanying notes are an integral part of the consolidated financial statements.

Cincinnati Bell Inc.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in millions)

	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities			
Net (loss) income	$ (66.6)	$ (69.8)	$ 40.0
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation and amortization	304.9	252.0	193.0
Loss on extinguishment of debt	—	1.3	3.2
Gain on sale of Investment in CyrusOne	—	—	(117.7)
Provision for loss on receivables	12.5	8.4	6.9
Noncash portion of interest expense	6.2	5.4	2.8
Deferred income taxes	(10.9)	6.9	26.3
Pension and other postretirement payments (in excess of) less than expense	(0.1)	(7.2)	6.4
Stock-based compensation	7.4	5.6	5.9
Other, net	(5.0)	(3.5)	2.5
Changes in operating assets and liabilities:			
Decrease (increase) in receivables	27.6	(83.1)	21.3
Decrease (increase) in inventory, materials, supplies, prepaid expenses and other current assets	5.0	2.2	(16.6)
(Decrease) increase in accounts payable	(40.0)	95.1	22.4
Increase in accrued and other current liabilities	13.0	10.5	16.2
Decrease (increase) in other noncurrent assets	9.3	(0.9)	1.4
Decrease in other noncurrent liabilities	(4.2)	(8.2)	(10.6)
Net cash provided by operating activities	259.1	214.7	203.4
Cash flows from investing activities			
Capital expenditures	(223.8)	(220.6)	(210.5)
Proceeds from sale of Investment in CyrusOne	—	—	140.7
Acquisitions of businesses, net of cash acquired	—	(216.8)	(167.0)
Other, net	0.5	—	—
Net cash used in investing activities	(223.3)	(437.4)	(236.8)
Cash flows from financing activities			
Proceeds from issuance of long-term debt	—	—	943.0
Net (decrease) increase in corporate credit and receivables facilities with initial maturities less than 90 days	(6.1)	194.6	(89.5)
Repayment of debt	(21.5)	(328.7)	(403.0)
Debt issuance costs	(0.8)	(11.7)	(19.1)
Dividends paid on preferred stock	(10.4)	(10.4)	(10.4)
Other, net	(0.8)	(1.9)	(0.8)
Net cash (used in) provided by financing activities	(39.6)	(158.1)	420.2
Effect of exchange rate changes on cash, cash equivalents and restricted cash	—	(0.3)	—
Net (decrease) increase in cash, cash equivalents and restricted cash	(3.8)	(381.1)	386.8
Cash, cash equivalents and restricted cash at beginning of year	15.4	396.5	9.7
Cash, cash equivalents and restricted cash at end of year	$ 11.6	$ 15.4	$ 396.5

The accompanying notes are an integral part of the consolidated financial statements.

Cincinnati Bell Inc.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Description of Business and Accounting Policies

Description of Business — Cincinnati Bell Inc. and its consolidated subsidiaries ("Cincinnati Bell," "we," "our," "us" or the "Company") provides diversified telecommunications and technology services. The Company generates a large portion of its revenue by serving customers in Cincinnati, Ohio, Dayton, Ohio and the islands of Hawaii. An economic downturn or natural disaster occurring in these, or a portion of these, limited operating territories could have a disproportionate effect on our business, financial condition, results of operations and cash flows compared to similar companies of a national scope and similar companies operating in different geographic areas.

As of December 31, 2019, we operate our business through the following segments: Entertainment and Communications and IT Services and Hardware.

The Company has approximately 4,400 employees as of December 31, 2019. Approximately 30% of total employees are covered by collective bargaining agreements with the Communications Workers of America (“CWA”) and the International Brotherhood of Electrical Workers ("IBEW)" Local 1357. The effective dates for collective bargaining agreements with the CWA and IBEW range through the second quarter of 2021 and third quarter of 2022, respectively.

Basis of Presentation — The consolidated financial statements of the Company have been prepared pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC") and, in the opinion of management, include all adjustments necessary for a fair presentation of the results of operations, comprehensive income, financial position and cash flows for each period presented.

Basis of Consolidation — The consolidated financial statements include the consolidated accounts of Cincinnati Bell Inc. and its majority-owned subsidiaries over which it exercises control. Intercompany accounts and transactions have been eliminated in the consolidated financial statements.

Use of Estimates — The preparation of financial statements in conformity with generally accepted accounting principles ("GAAP") requires management to make estimates and assumptions that affect the amounts reported. Actual results could differ from those estimates. Significant items subject to such estimates and judgments include: the carrying value of property, plant and equipment; the valuation of insurance and claims liabilities; the valuation of allowances for receivables and deferred income taxes; reserves recorded for income tax exposures; the valuation of asset retirement obligations; assets and liabilities related to employee benefits; the valuation of deferred costs under Accounting Standards Codification ("ASC") 606, “Revenue Recognition”; purchase price allocation for acquired businesses; and the valuation of intangible assets and goodwill. In the normal course of business, the Company is also subject to various regulatory and tax proceedings, lawsuits, claims and other matters. The Company believes adequate provision has been made for all such asserted and unasserted claims in accordance with GAAP. Such matters are subject to many uncertainties and outcomes that are not predictable with assurance. We periodically review our estimates in light of changes in circumstances, facts and experience. The effects of material revisions in estimates are reflected in our financial statements prospectively from the date of the change in estimate.

Cash, Cash Equivalents and Restricted Cash — Cash consists of funds held in bank accounts. Cash equivalents consist of short-term, highly liquid investments with original maturities of three months or less.

Receivables — Receivables consist principally of trade receivables from customers and are generally unsecured and due within 21 - 90 days. The Company has receivables with one customer, Verizon Communications Inc., which make up 25% and 18% of the outstanding accounts receivable balance at December 31, 2019 and 2018, respectively. Unbilled receivables arise from services rendered but not yet billed. As of December 31, 2019 and 2018, unbilled receivables totaled $15.3 million and $19.0 million, respectively. Expected credit losses related to trade receivables are recorded as an allowance for uncollectible accounts in the Consolidated Balance Sheets. The Company establishes the allowances for uncollectible accounts using percentages of aged accounts receivable balances to reflect the historical average of credit losses as well as specific provisions for certain identifiable, potentially uncollectible balances. When internal collection efforts on accounts have been exhausted, the accounts are written off and the associated allowance for uncollectible accounts is reduced.

Factoring Arrangements — In the second quarter of 2018, the Company executed an amendment of its Receivables Facility that includes an option for Cincinnati Bell Funding LLC (“CBF”) to sell certain receivables, on a non-recourse basis, directly to PNC Bank. The terms of the factoring arrangement provides for the factoring of certain receivables, which are purchased at the face amount of the receivable discounted at the annual rate of LIBOR plus a bank determined spread on the purchase date. Such sales of accounts receivable are reflected as a reduction of "Receivables, less allowances" in the Consolidated Balance Sheets as they meet the applicable criteria in ASC 860, "Transfers and Servicing." The fees recorded in relation to such sales of accounts receivable were $0.7 million and $0.1 million in 2019 and 2018, respectively, and are included in "Selling, general, and administrative" in the Consolidated Statements of Operations. As of December 31, 2019 and 2018, the outstanding balance of receivables sold under the terms of the factoring agreement were $44.7 million and $20.0 million, respectively. See Note 8 for further information related to the Receivables

Inventory, Materials and Supplies — Inventory, materials and supplies consists of network components, various telephony and IT equipment to be sold to customers, maintenance inventories, and other materials and supplies, which are carried at the lower of average cost or market.

Property, Plant and Equipment — Property, plant and equipment is stated at original cost and presented net of accumulated depreciation and impairment losses. Property, plant and equipment acquired in conjunction with the acquisition of Hawaiian Telcom was stated at fair value in accordance with ASC 805, "Business Combinations". Maintenance and repairs are charged to expense as incurred while improvements, which extend an asset's useful life or increase its functionality, are capitalized and depreciated over the asset's remaining life. The majority of the Entertainment and Communications network property, plant and equipment used to generate its voice and data revenue is depreciated using the group method, which develops a depreciation rate annually based on the average useful life of a specific group of assets rather than for each individual asset as would be utilized under the unit method. Provision for depreciation of other property, plant and equipment, except for leasehold improvements, is based on the straight-line method over the estimated economic useful life. Depreciation of leasehold improvements is based on a straight-line method over the lesser of the economic useful life of the asset or the term of the lease, including optional renewal periods if renewal of the lease is reasonably assured.

Additions and improvements, including interest and certain labor costs incurred during the construction period, are capitalized. The Company records the fair value of a legal liability for an asset retirement obligation in the period it is incurred. The estimated removal cost is initially capitalized and depreciated over the remaining life of the underlying asset. The associated liability is accreted to its present value each period. Once the obligation is ultimately settled, any difference between the final cost and the recorded liability is recognized as gain or loss on disposition.

Goodwill — Goodwill represents the excess of the purchase price consideration over the fair value of net assets acquired and recorded in connection with business acquisitions. Goodwill is allocated at the business segment level. Goodwill is tested for impairment on an annual basis or when events or changes in circumstances indicate that such assets may be impaired. If the net book value of the reporting unit exceeds its fair value, an impairment loss is recognized. An impairment loss is measured as the excess of the carrying value of goodwill of a reporting unit over its fair value.

Long-Lived Assets — Management reviews the carrying value of property, plant and equipment and other long-lived assets, including intangible assets with definite lives, when events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. An impairment loss is recognized when the estimated future undiscounted cash flows expected to result from the use of an asset (or group of assets) and its eventual disposition is less than its carrying amount. An impairment loss is measured as the amount by which the asset's carrying value exceeds its estimated fair value. Long-lived intangible assets are amortized based on the estimated economic value generated by the asset in future years.

Investment in CyrusOne — On January 24, 2013, we completed the initial public offering ("IPO") of CyrusOne Inc. ("CyrusOne"), which owns and operates our former Data Center Colocation business.

In the first quarter of 2017, we sold our remaining 2.8 million shares of CyrusOne Inc. common stock for net proceeds totaling $140.7 million that resulted in a realized gain of $117.7 million. The Company no longer has an investment in CyrusOne Inc.

Equity Method Investments — The Company records equity method investments at carrying value within "Other noncurrent assets" in the Consolidated Balance Sheets. The Company's proportionate share of the investments' net loss had a minimal impact on our Consolidated Statements of Operations in 2019, 2018 and 2017. Equity method investments are tested for impairment on an annual basis or when events or changes in circumstances indicate that such assets may be impaired. In the third quarter of 2017, the entire carrying value of $4.7 million of an equity method investment was impaired and recorded to "Other (income) expense, net" in the Consolidated Statements of Operations.

Cost Method Investments — Certain of our cost method investments do not have readily determinable fair values. The carrying value of these investments was $6.6 million and $5.8 million as of December 31, 2019 and 2018, respectively, and was included in "Other noncurrent assets" in the Consolidated Balance Sheets. Investments are reviewed annually for impairment, or sooner if changes in circumstances indicate the carrying value may not be recoverable. If the carrying value of the investment exceeds its estimated fair value and the decline in value is determined to be other-than-temporary, an impairment loss is recognized for the difference. The Company estimates fair value using external information and discounted cash flow analysis.

Leases — Effective January 1, 2019, the Company adheres to lease accounting principles described in ASC 842, "Leases." Under ASC 842, the Company determines if an arrangement is a lease at inception based on the facts and circumstances present. In lease transactions where the Company acts as the lessor, the lease component is accounted for in accordance with ASC 842, and the non-lease component is accounted for in accordance with ASC 606. Although separation of lease and non-lease components is required, certain practical expedients are available that release the Company from this requirement. Adoption of the practical expedient allows the Company to account for each lease component and the related non-lease component together as a single component provided that the timing and patterns of revenue recognition for the components are the same and the combined, single unit of account would be classified as an operating lease. The Company's operating leases for certain services that include Customer Premise Equipment, including handsets and set-top boxes, have lease and non-lease components. In these arrangements, management has concluded that the non-lease components are the predominant characteristic, and, as a result, the Company has elected to account for these arrangements as one single non-lease component recorded as "Revenue" in the Consolidated Statements of Operations in accordance with ASC 606.

Right-of-use assets represent our right to use an underlying asset for the lease term, and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease right-of-use assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. Certain adjustments to the right-of-use asset may be required for items such as initial direct costs paid or incentives received.

The Company's lease terms include options to extend, terminate or buyout the lease when it is reasonably certain that we will exercise that option. Leases that have contract prices based on variable factors, such as power usage, are recognized as variable lease expense in the period in which the obligation for those payments are incurred. Lease expense for variable lease payments is recognized on a straight-line basis over the lease term.

Treasury Shares — The repurchase of common shares is recorded at purchase cost as treasury shares. Our policy is to retire, either formally or constructively, treasury shares that management anticipates will not be reissued. Upon retirement, the purchase cost of the treasury shares that exceeds par value is recorded as a reduction to "Additional paid-in capital" in the Consolidated Balance Sheets.

Revenue Recognition — The Company adheres to revenue recognition principles described in ASC 606. Under ASC 606, revenue is recognized when the Company transfers promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. A good or service is considered to be transferred when the customer obtains control.

Revenue derived from foreign operations is approximately 5%, 6% and 3% of consolidated revenue in 2019, 2018 and 2017, respectively.

Entertainment and Communications — Revenues from local telephone, special access, internet product and video services, which are billed monthly prior to performance of service, are not recognized upon billing or cash receipt but rather are deferred until the service is provided. Consumer long distance, switched access and other usage based charges are billed monthly in arrears. Entertainment and Communications bills service revenue in regular monthly cycles, which are spread throughout the days of the month. As the last day of each billing cycle rarely coincides with the end of the reporting period for usage-based services such as long distance and switched access, we must estimate service revenues earned but not yet billed. These estimates are based upon historical usage, and we adjust these estimates during the period in which actual usage is determinable, typically in the following reporting period.

Pricing of local voice services is generally subject to oversight by both state and federal regulatory commissions. Such regulation also covers services, competition, and other public policy issues. Various regulatory rulings and interpretations could result in increases or decreases to revenue in future periods.

For long-term indefeasible right of use, or IRU, contracts for fiber circuit capacity, the Company may receive up-front payments for services to be delivered for a period of up to 25 years. In these situations, the Company defers the revenue and amortizes it on a straight-line basis to earnings over the term of the contract. The Company began recognizing a financing component, in accordance with ASC 606, associated with the up-front payments for services to be delivered under IRU contracts for fiber circuit capacity. See Note 3 for further information.

IT Services and Hardware — Revenue is generally recognized as the service is provided. Maintenance on telephony equipment is deferred and recognized ratably over the term of the underlying customer contract, generally one to three years.

For hardware sales, revenue is recognized net of the cost of product and is recognized when the hardware is either shipped or delivered in accordance with the terms of the contract. Installation service revenue is generally recognized when installation is complete. We sell equipment and installation services on both a combined and standalone basis.

For the sale of hardware within the Infrastructure Solutions category, the Company evaluated whether it is the principal (in which case we report revenues on a gross basis) or the agent (in which case we report revenues on a net basis). The Company has concluded it acts as an agent because it does not control the inventory before it is transferred to customers, it does not have the ability to direct the product to anyone besides the purchasing customer, and it does not integrate the hardware with any of its own goods or services.

Advertising Expenses — Costs related to advertising are expensed as incurred. Advertising costs were $18.6 million, $14.2 million, and $13.5 million in 2019, 2018, and 2017, respectively.

Legal Expenses — In the normal course of business, the Company is involved in various claims and legal proceedings. Legal costs incurred in connection with loss contingencies are expensed as incurred. Legal claim accruals are recorded once determined to be both probable and estimable.

Income, Operating, and Regulatory Taxes

Income taxes — The Company and its subsidiaries file income tax returns in the U.S. federal jurisdiction as well as various foreign, state and local jurisdictions. The provision for income taxes is based upon income in the consolidated financial statements, rather than amounts reported on the income tax return. The income tax provision consists of an amount for taxes currently payable and an amount for tax consequences deferred to future periods. Deferred investment tax credits are amortized as a reduction of the provision for income taxes over the estimated useful lives of the related property, plant and equipment. Deferred income taxes are provided for temporary differences between financial statement and income tax assets and liabilities. Deferred income taxes are recalculated annually at rates then in effect. Valuation allowances are recorded to reduce deferred tax assets to amounts that are more likely than not to be realized. The ultimate realization of the deferred income tax assets depends upon the ability to generate future taxable income during the periods in which basis differences and other deductions become deductible and prior to the expiration of the net operating loss carryforwards.

Previous tax filings are subject to normal reviews by regulatory agencies until the related statute of limitations expires.

Operating taxes — Certain operating taxes such as property, sales, use, and gross receipts taxes are reported as expenses in operating income primarily within cost of services. These taxes are not included in income tax expense because the amounts to be paid are not dependent on our level of income. Liabilities for audit exposures are established based on management's assessment of the probability of payment. The provision for such liabilities is recognized as either property, plant and equipment, operating tax expense, or depreciation expense depending on the nature of the audit exposure. Upon resolution of an audit, any remaining liability not paid is released against the account in which it was originally recorded.

Regulatory taxes — The Company incurs federal and state regulatory taxes on certain revenue producing transactions. We are permitted to recover certain of these taxes by billing the customer; however, collections cannot exceed the amount due to the federal regulatory agency. These federal regulatory taxes are presented in revenue and cost of services on a gross basis because, while the Company is required to pay the tax, it is not required to collect the tax from customers and, in fact, does not collect the tax from customers in certain instances. The amounts recorded as revenue for 2019, 2018, and 2017 were $29.2 million, $22.2 million and $16.8 million, respectively. The amounts reported as expense for 2019, 2018 and 2017 were $32.5 million, $23.4 million, and $17.7 million, respectively. We record all other federal taxes collected from customers on a net basis.

Stock-Based Compensation — Compensation cost is recognized for all share-based awards to employees and non-employee directors. We value all share-based awards to employees at fair value on the date of grant and expense this amount over the required service period, generally defined as the applicable vesting period. For awards which contain a performance condition, compensation expense is recognized over the service period, when achievement of the performance condition is deemed probable. The fair value of stock options and stock appreciation rights is determined using the Black-Scholes option-pricing model using assumptions such as volatility, risk-free interest rate, holding period and dividends. The fair value of stock awards is based on the Company's closing share price on the date of grant. For all share-based payments, the Company accounts for forfeitures as they occur. Actual forfeiture activity reduces the total fair value of the awards to be recognized as compensation expense. When an award is granted to an employee who is retirement eligible, the compensation cost is recognized over the service period up to the date that the employee first becomes eligible to retire.

Pension and Postretirement Benefit Plans — The Company maintains qualified and non-qualified defined benefit pension plans, and also provides postretirement healthcare and life insurance benefits for eligible employees. We recognize the overfunded or underfunded status of the defined benefit pension and other postretirement benefit plans as either an asset or liability. Changes in the funded status of these plans are recognized as a component of comprehensive income (loss) in the year they occur. Pension and postretirement healthcare and life insurance benefits earned during the year and interest on the projected benefit obligations are accrued and recognized currently in net periodic benefit cost. Prior service costs and credits are amortized over the average remaining life expectancy of participants or remaining service period, based upon whether plan participants are mostly retirees or active employees. Net gains or losses resulting from differences between actuarial estimates or from changes in actuarial assumptions are recognized as a component of annual net periodic benefit cost. Unrecognized actuarial gains or losses that exceed 10% of the projected benefit obligation are amortized on a straight-line basis over the average remaining service life of active employees for the Cincinnati pension plans (approximately 8-11 years) and average remaining life expectancy of retirees for the Cincinnati postretirement plans (approximately 14-17 years). The accumulated gains or losses associated with the Hawaii plans do not exceed the corridor requiring amortization.

Business Combinations — In accounting for business combinations, we apply the accounting requirements of ASC 805, which requires the recording of net assets of acquired businesses at fair value. The Company utilizes management estimates and an independent third-party valuation firm to assist in determining the fair values of acquired assets and assumed liabilities. In developing estimates of the fair value of net assets, the Company analyzes a variety of factors including market data, estimated future cash flows of the acquired operations, industry growth rates, current replacement cost for fixed assets, and market rate assumptions for contractual obligations. Such a valuation requires management to make significant estimates and assumptions, particularly with respect to the intangible assets.

Fair Value Measurements — Fair value of financial and non-financial assets and liabilities is defined as the 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. Fair value is utilized to measure certain investments on a recurring basis. Fair value measurements are also utilized to determine the initial value of assets and liabilities acquired in a business combination, to perform impairment tests, and for disclosure purposes.

Management uses quoted market prices and observable inputs to the maximum extent possible when measuring fair value. In the absence of quoted market prices or observable inputs, fair value is determined using valuation models that incorporate assumptions that a market participant would use in pricing the asset or liability.

Fair value measurements are classified within one of three levels, which prioritize the inputs used in the methodologies of measuring fair value for assets and liabilities, as follows:

Level 1 — Quoted market prices for identical instruments in an active market;

Level 2 — Quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (i.e., interest rates, yield curves, etc.), and inputs that are derived principally from or corroborated by observable market data by correlation or other means (market corroborated inputs); and

Level 3 — Unobservable inputs that reflect management's determination of assumptions that market participants would use in pricing the asset or liability. These inputs are developed based on the best information available, including our own data.

The determination of where an asset or liability falls in the hierarchy requires significant judgment.

Foreign Currency Translation and Transactions — The financial position of foreign subsidiaries is translated at the exchange rates in effect at the end of the period, while revenues and expenses are translated at average rates of exchange during the period. Gains or losses from translation of foreign operations where the local currency is the functional currency are included as components of accumulated other comprehensive income. Gains and losses arising from foreign currency transactions are recorded in "Other (income) expense, net" in the period incurred.

2. Recently Issued Accounting Standards

In May 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update ("ASU") 2014-09, Revenue from Contracts with Customers. The standard’s core principle is that a company will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. This standard also includes expanded disclosure requirements that result in an entity providing users of financial statements with comprehensive information about the nature, amount, timing, and uncertainty of revenue and cash flows arising from the entity’s contracts with customers. The Company adopted the new standard and all subsequent amendments as of January 1, 2018. The Company utilized the full retrospective method; therefore, each prior reporting period presented was adjusted beginning with the issuance of the Company’s 2018 interim financial statements.

The most significant impact of adopting the new standard is the change to the treatment of hardware revenue in the Infrastructure Solutions category from recording hardware revenue as a principal (gross) to recording revenue as an agent (net). Based on our assessment of ASU 2016-08, Revenue from Contracts with Customers: Principal versus Agent Considerations (Reporting Revenue Gross versus Net), issued by the FASB in March 2016, the Company acts as an agent and as such will record hardware sales net of the related cost of products. ASU 2016-08 clarifies the implementation guidance on principal versus agent considerations focusing on a control model rather than a risk and reward model. As a result of adopting ASU 2014-09, revenue and cost of products decreased by $222.8 million for 2017. Changes in accounting policies related to variable consideration or rebates did not have a material effect on the Company's consolidated financial statements. Fulfillment and acquisition costs that are now recorded as an asset and amortized on a monthly basis decreased expense by $0.7 million for 2017. Additionally, as a result of the adoption of ASC 606 a decrease to tax expense of $4.2 million was recorded in 2017. This change to expense for fulfillment and acquisition costs and tax expense increased both basic and diluted earnings per share for 2017 by $0.11 and $0.12, respectively. See Note 3 for additional disclosures as a result of adopting ASC Topic 606.

In February 2016, the FASB issued ASU 2016-02, Leases, which represents a wholesale change to lease accounting. Since that date, the FASB has issued additional ASUs clarifying certain aspects of ASU 2016-02 but did not change the core principal. The standard introduces a lessee model that brings most leases onto the balance sheet, as well as aligns certain underlying principles of the new lessor model with those in ASC 606. The ASU is effective for public entities for fiscal years beginning after December 15, 2018. The Company adopted the standard and all subsequent amendments effective January 1, 2019, using the modified retrospective transition method, which did not require the Company to adjust comparative periods.

The Company elected the package of practical expedients permitted under the transition guidance, which allowed the Company to carryforward its historical assessments of: (1) whether contracts are or contain leases, (2) lease classification and (3) initial direct costs. In addition to the package of practical expedients, the Company elected the practical expedients of using hindsight in determining the lease term and in assessing impairment of the entity’s right-of-use assets as well as not to assess whether existing or expired land easements that were not previously accounted for as leases under ASC 840 are or contain a lease under ASC 842.

Upon adoption of this standard, the Company recognized operating lease right-of-use assets of $38.3 million and operating lease liabilities of $46.2 million in the Consolidated Balance Sheets for 2019. The Company elected the practical expedient outlined in ASU 2018-11 allowing entities to initially apply the new lease standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. The adoption of ASU 2016-02 had no impact to accumulated deficit.

The Company implemented internal controls and procured a third-party lease accounting software solution to facilitate the ongoing accounting and financial reporting requirements of the ASU. The standard did not have a material impact on our Consolidated Statements of Operations for 2019. The most significant impact was the recognition of right-of-use assets and lease liabilities for operating leases, while our accounting for finance leases remained substantially unchanged. See Note 9 for required disclosures as a result of adopting ASC 842.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments – Credit Losses (Topic 326), which replaces the incurred loss model with the current expected credit loss ("CECL") model to estimate credit losses for financial assets measured at amortized cost and certain off-balance sheet credit exposures. The CECL model requires a company to estimate credit losses expected over the life of the financial assets based on all relevant information including historical information, current conditions and reasonable and supportable forecasts that affect the collectability of the amounts. This standard is effective for public entities for fiscal years beginning after December 15, 2019. The standard requires a modified retrospective approach by recording a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. ASU 2016-13 was amended in November 2018 by the provisions of ASU 2018-19, Codification Improvements to Topic 326, Financial Instruments – Credit Losses, and in April 2019 by the provisions of ASU 2019-04, Codification Improvements to Topic 326, Financial Instruments – Credit Losses, and in May 2019 by the provisions of ASU 2019-05, Financial Instruments – Credit Loses (Topic 326) and in November 2019 by the provisions of ASU 2019-11, Codification Improvements to Topic 326, Financial Instruments – Credit Losses. The Company adopted the standard and all subsequent amendments on January 1, 2020. The adoption of this standard, as amended, did not have a material effect on the Company's consolidated financial statements.

In March 2017, the FASB issued ASU 2017-07, Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost, which amends the requirements in ASC 715 related to the income statement presentation of the components of net periodic benefit cost for an entity's sponsored defined benefit pension and other postretirement plans. The ASU requires entities to disaggregate the current service cost component from the other components of net benefit cost (the "other components") and present it with other current compensation costs for related employees in the income statement. The other components shall be presented elsewhere in the income statement and outside of income from operations, if such a subtotal is presented, on a retrospective basis as of the date of adoption. In addition, only the service cost component of net benefit cost is eligible for capitalization on a prospective basis. The ASU is effective for public business entities for annual periods beginning after December 15, 2017. The Company retrospectively adopted the standard effective January 1, 2018. The Company re-classed $6.6 million and $6.0 million of other components of net benefit cost from "Cost of services and products" and "Selling, general and administrative," respectively, to a new line below Operating income, "Other components of pension and postretirement benefit plans expense," on the Consolidated Statements of Operations for 2017. The Company re-classed $4.0 million of other components of net benefit cost from "Other" related to a settlement charge to "Other components of pension and postretirement benefit plans expense," on the Consolidated Statements of Operations for 2017.

In August 2018, the FASB issued ASU 2018-15, Intangibles-Goodwill and Other-Internal-Use Software, which aligns the accounting for implementation costs incurred in a hosting arrangement that is a service contract with the requirements in ASC 350-40 for capitalizing implementation costs incurred to develop or obtain internal-use software. The amendments in this ASU also require the entity to present the expense related to the capitalized implementation costs in the same line item in the statement of income as the fees associated with the hosting element of the arrangement and classify payments for capitalized implementation costs in the statement of cash flows in the same manner as payments made for fees associated with the hosting element. The amendments in this ASU are effective for public business entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. The amendments should be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. Early adoption is permitted in any interim period after issuance of the update. The Company early adopted this standard prospectively effective January 1, 2019. The adoption of this standard did not have a material impact on the Company's consolidated financial statements.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes, which simplifies the accounting for income taxes, eliminates certain exceptions within *Income Taxes (740)*, and clarifies certain aspects of the current guidance to promote consistency among reporting entities, and is effective for fiscal years, and for interim periods within those fiscal years, beginning after December 15, 2020, with early adoption permitted. Most amendments within ASU 2019-12 are required to be applied on a prospective basis, while certain amendments must be applied on a retrospective or modified retrospective basis. The Company is currently in the process of evaluating the effects of this standard on its consolidated financial statements, including potential early adoption.

Other accounting standards that have been issued or proposed by the FASB or other standards-setting bodies that do not require adoption until a future date are not expected to have a material impact on the Company's consolidated financial statements upon adoption.

3. Revenue

The Entertainment and Communications segment provides products and services to both consumer and enterprise customers that can be categorized as either Fioptics in Cincinnati or Consumer/SMB Fiber in Hawaii (collectively, "Consumer/SMB Fiber"), Enterprise Fiber or Legacy. The products and services within these three categories can be further categorized as either Data, Voice, Video or Other. Consumer/SMB Fiber and Legacy revenue include both consumer and commercial customers. Enterprise Fiber revenue includes ethernet and dedicated internet access services that are provided to enterprise customers. Enterprise Fiber also includes revenue associated with the Southeast Asia to United States ("SEA-US") trans Pacific submarine cable system, which was acquired in conjunction with the acquisition of Hawaiian Telcom in the third quarter of 2018, and connects Indonesia, the Philippines, Guam, Hawaii and the mainland United States.

Residential customers have implied month-to-month contracts, while commercial customers, with the exception of contracts associated with the SEA-US, typically have contracts with a duration of one to five years and automatically renew on a month to month basis. Customers are invoiced on a monthly basis for services rendered. Contracts for projects that are included within the Other revenue stream are typically short in duration and less than one year. Contracts associated with the SEA-US typically range from 15 to 25 years and payment is prepaid.

The IT Services and Hardware segment provides a full range of Information Technology ("IT") solutions, including Communications, Cloud and Consulting services. IT Services and Hardware customers enter into contracts that have a typical duration of one to five years, with varied renewal options at the end of the term. Customers are invoiced on a monthly basis for services rendered. The IT Services and Hardware segment also provides enterprise customers with Infrastructure Solutions, which includes the sale of hardware and maintenance contracts. These contracts are typically satisfied in less than twelve months and revenue is recognized at a point in time.

The Company accounts for revenue in accordance with ASC Topic 606, Revenue from Contracts with Customers, which was adopted on January 1, 2018, using the full retrospective method.

The Company has elected the practical expedient described in ASC 606-10-32-18 that allows an entity to not adjust the promised amount of consideration for the effects of a significant financing component if the entity expects that the period of time between the transfer of a promised good or service to the customer and when the customer pays for such good or service will be one year or less. Customers are typically billed immediately upon the rendering of services or the delivery of products. Payment terms for customers are between 30 and 180 days. Subsequent to the acquisition of Hawaiian Telcom, the Company began recognizing a financing component associated with the up-front payments for services to be delivered under indefeasible right of use ("IRU") contracts for fiber circuit capacity. The IRU contracts are associated with the SEA-US. The IRU contracts typically have a duration ranging from 15 to 25 years.

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer, or a series of distinct goods or services, and is the unit of account defined in ASC Topic 606. The transaction price identified in the contract is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. Contract modifications for changes to services provided are routine throughout the term of our contracts. In most instances, contract modifications are for the addition or reduction of services that are distinct, and price changes are based on the stand-alone selling price of the service and, as such, are accounted for on a prospective basis as a new contract.

Goods and services are sold individually, or a contract may include multiple goods or services. For contracts with multiple goods and services, the contract transaction price is allocated to each performance obligation using the stand-alone selling price of each distinct good or service in the contract.

Certain customers of the Company may receive cash-based rebates based on volume of sales, which are accounted for as variable consideration. Potential rebates are considered at contract inception in our estimate of transaction price based on the projected volume of sales. Estimates are reassessed quarterly.

Performance obligations are satisfied either over time as services are performed or at a point in time. Substantially all of our service revenue is recognized over time. For services transferred over time, the Company has elected the practical expedient to recognize revenue based on amounts invoiced to the customer as the Company has concluded that the invoice amount directly corresponds with the value of services provided to the customer. Management considers this a faithful depiction of the transfer of control as services are provided evenly over the month and are substantially the same over the life of the contract. As the Company has elected the practical expedients detailed at ASC 606-10-50-13, revenue for these unsatisfied performance obligations that will be billed in future periods has not been disclosed.

As of December 31, 2019, our estimated revenue, including a financing component, expected to be recognized in the future related to performance obligations associated with customer contracts that are unsatisfied (or partially unsatisfied) is $37.3 million. Approximately 80% of this revenue is related to IRU contracts associated with the SEA-US (see Note 10). Certain IRU contracts extend for periods of up to 30 years and are invoiced at the beginning of the contract term. The revenue from such contracts is recognized over time as services are provided over the contract term. The expected revenue to be recognized for existing IRU contracts is as follows:

(dollars in millions)		
2020	$	2.6
2021		2.5
2022		2.6
2023		2.5
2024		2.6
Thereafter		24.5

Entertainment and Communications

The Company has identified four distinct performance obligations in the Entertainment and Communications segment, namely Data, Voice, Video and Other. For each of the Data, Voice and Video services, service is delivered to the customer continuously and in a substantially similar manner for each period of the agreement, the customer takes full control over the services as the service is delivered, and as such, Data, Voice and Video are identified to be a series of distinct services. Services provided by the Entertainment and Communications segment can be categorized into three main categories that include Consumer/SMB Fiber, Enterprise Fiber and Legacy, each of which may include one or more of the aforementioned performance obligations. Data services include high-speed internet access, digital subscriber lines, ethernet, routed network services, SONET (Synchronous Optical Network), dedicated internet access, wavelength, digital signal and IRU revenue. Voice services include traditional and fiber voice lines, switched access, digital trunking and consumer long distance calling. Video services are offered through our fiber network to residential and commercial customers based on various standard plans with the opportunity to add premium channels. To receive video services, customers are required to use the Company's set top boxes that are billed as part of the monthly recurring service. Set top boxes are not considered a separate performance obligation from video because the equipment is necessary for the service to operate and the customer has no alternative use for the equipment.

Services and products not included in Data, Voice or Video are included in Other revenue and are comprised of wire care, wire time and materials projects and advertising. Transfer of control of these services and products is evaluated on an individual project basis and can occur over time or at a point in time.

The Company uses multiple methods to determine stand-alone selling prices in the Entertainment and Communications segment. For Data, Video and Voice products in Consumer/SMB Fiber, market rate is the primary method used to determine stand-alone selling prices. For Data performance obligations under the Enterprise Fiber category, and Voice, Data and Other performance obligations under the Legacy category, stand-alone selling prices are determined based on a list price, discount off of list price, a tariff rate, a margin percentage range, or a minimum margin percentage.

IT Services and Hardware

The Company has identified four distinct performance obligations in the IT Services and Hardware segment. These performance obligations are Communications, Cloud, Consulting and Infrastructure Solutions. Communications services are monthly services that include data and VoIP services, tailored solutions that include converged IP communications of data, voice, video and mobility applications, enterprise long distance, MPLS (Multi-Protocol Label Switching) and conferencing services. Cloud services include storage, backup, disaster recovery, SLA-based monitoring and management, cloud computing and cloud consulting. Consulting services provide customers with IT staffing, consulting and emerging technology solutions. Infrastructure Solutions includes the sale of hardware and maintenance contracts as well as installation projects.

For the sale of hardware, the Company evaluated whether it is the principal or the agent. The Company has concluded it acts as an agent because it does not control the inventory before it is transferred to customers, it does not have the ability to direct the product to anyone besides the purchasing customer, and it does not integrate the hardware with any of its own goods or services. Based on this assessment, the performance obligation is to arrange a sale of hardware between the vendor and the customer. In the instance where there is an issue with the hardware, the Company coordinates with the manufacturer to facilitate a return in accordance with the standard manufacturer warranty. Hardware returns are not significant to the Company.

Within the IT Services and Hardware segment, stand-alone selling prices for the four performance obligations are determined based on either a margin percentage range, minimum margin percentage or standard price list.

For hardware sales, revenue is recognized net of the cost of product and is recognized when the hardware is shipped or delivered in accordance with the terms of the contract. For certain projects within Communications and Consulting, revenue is recognized when the customer communicates acceptance of the services performed. For contracts with freight on board shipping terms, management has elected to account for shipping and handling as activities to fulfill the promise to transfer the good, and therefore, has not evaluated whether shipping and handling activities are promised services to its customers.

Contract Balances

The Company recognizes incremental fulfillment costs as an asset when installation expenses are incurred as part of performing the agreement for Voice, Video and Data product offerings in the Entertainment and Communications segment in which the contract life is longer than one year. These fulfillment costs are amortized ratably over the expected life of the customer, which is representative of the expected period of benefit of the asset capitalized. The expected life of the customer is determined utilizing the average churn rate for each product. The Company calculates average churn based on the historical average customer life. We also recognize an asset for incremental fulfillment costs for certain Communications services in the IT Services and Hardware segment that require us to incur installation and provisioning expenses. The asset recognized for Communication services is amortized over the average contract life. Churn rates and average contract life are reviewed on an annual basis. Fulfillment costs are capitalized to “Other noncurrent assets.” The related amortization expense is recorded to “Cost of services and products.”

The Company recognizes an asset for the incremental costs of acquiring a contract with a customer if we expect the benefit of those costs to be longer than one year. We have determined that certain sales incentive programs related to Voice, Video, Data and certain Communications and Cloud services meet the requirements to be capitalized. The contract asset established for the costs of acquiring a contract is recorded to “Other noncurrent assets.” Sales incentives are amortized ratably over the period that services are delivered using either an average churn rate or average contract term, both representative of the expected period of benefit of the asset capitalized. Customer churn rates and average contract term assumptions are reviewed on an annual basis. The related amortization expense is recorded to “Selling, general and administrative.”

Management has elected to use the practical expedient detailed in ASC 340-40-25-4 to expense any costs to fulfill a contract and costs to obtain a contract as they are incurred when the amortization period would be one year or less. This practical expedient has been applied to fulfillment costs that include installation costs associated with wiring projects and certain Cloud services. In addition, this practical expedient has been applied to acquisition costs associated with revenue from certain Communications projects.

The following table presents the activity for the Company’s contract assets:

	Fulfillment Costs			Cost of Acquisition			Total Contract Assets		
(dollars in millions)	Entertainment and Communications	IT Services and Hardware	Total Company	Entertainment and Communications	IT Services and Hardware	Total Company	Entertainment and Communications	IT Services and Hardware	Total Company
Balance as of December 31, 2016	$ 17.0	$ 1.6	$ 18.6	$ 12.1	$ 1.3	$ 13.4	$ 29.1	$ 2.9	$ 32.0
Additions	13.7	1.6	15.3	6.8	1.1	7.9	20.5	2.7	23.2
Amortization	(13.2)	(1.2)	(14.4)	(7.3)	(1.1)	(8.4)	(20.5)	(2.3)	(22.8)
Balance as of December 31, 2017	17.5	2.0	19.5	11.6	1.3	12.9	29.1	3.3	32.4
Additions	9.9	1.9	11.8	7.9	1.7	9.6	17.8	3.6	21.4
Amortization	(12.9)	(1.4)	(14.3)	(6.5)	(1.0)	(7.5)	(19.4)	(2.4)	(21.8)
Balance as of December 31, 2018	14.5	2.5	17.0	13.0	2.0	15.0	27.5	4.5	32.0
Additions	3.6	3.5	7.1	10.0	1.6	11.6	13.6	5.1	18.7
Amortization	(10.1)	(1.9)	(12.0)	(8.2)	(1.3)	(9.5)	(18.3)	(3.2)	(21.5)
Balance as of December 31, 2019	8.0	4.1	12.1	14.8	2.3	17.1	22.8	6.4	29.2

The Company recognizes a liability for cash received upfront for IRU contracts. At December 31, 2019 and 2018, $1.5 million and $1.4 million, respectively, of contract liabilities were included in "Other current liabilities." At December 31, 2019 and 2018, $27.1 million and $28.0 million, respectively, of contract liabilities were included in "Other noncurrent liabilities."

Disaggregated Revenue

The following table presents revenues disaggregated by product and service lines:

(dollars in millions)	Year ended December 31, 2019	2018	2017
Data	$ 475.0	$ 402.6	$ 344.5
Video	203.0	183.3	148.9
Voice	284.9	244.9	199.0
Other	32.8	22.6	13.7
Total Entertainment and Communications	995.7	853.4	706.1
Consulting	152.6	138.7	77.0
Cloud	92.1	98.0	81.0
Communications	198.7	178.5	160.6
Infrastructure Solutions	124.0	135.7	66.5
Total IT Services and Hardware	567.4	550.9	385.1
Intersegment revenue	(26.4)	(26.1)	(25.5)
Total revenue	$ 1,536.7	$ 1,378.2	$ 1,065.7

In the first quarter of 2019, the Company determined that certain revenue in the IT Services and Hardware segment associated with nonrecurring projects is better aligned with Infrastructure Solutions, rather than Consulting, where it was previously reported. As a result, the Company reclassed revenue of $26.6 million and $12.3 million from Consulting to Infrastructure Solutions for the twelve months ended December 31, 2018 and 2017, respectively. This reclassification of revenue had no impact on the Consolidated Statements of Operations.

The following table presents revenues disaggregated by contract type:

(dollars in millions)	Year ended December 31, 2019	2018	2017
Entertainment and Communications			
Products and services transferred at a point in time	$ 31.7	$ 25.3	$ 20.6
Products and services transferred over time	942.4	805.8	664.3
Intersegment revenue	21.6	22.3	21.2
Total Entertainment and Communications	995.7	853.4	706.1
IT Services and Hardware			
Products and services transferred at a point in time	138.7	142.9	80.8
Products and services transferred over time	423.9	404.2	300.0
Intersegment revenue	4.8	3.8	4.3
Total IT Services and Hardware	567.4	550.9	385.1
Total Revenue			
Total products and services transferred at a point in time	170.4	168.2	101.4
Total products and services transferred over time	1,366.3	1,210.0	964.3
Total revenue	$ 1,536.7	$ 1,378.2	$ 1,065.7

4. Mergers and Acquisitions

Acquisition of Hawaiian Telcom Holdco, Inc.

On July 2, 2018, the Company acquired Hawaiian Telcom Holdco, Inc. ("Hawaiian Telcom") for cash consideration of $218.3 million, stock consideration of $121.2 million and debt repayments, including accrued interest, of $318.2 million. Hawaiian Telcom is the ILEC for the State of Hawaii and the largest full service provider of communication services and products in the state. With the acquisition, the Company gains access to both Honolulu, a well-developed, fiber-rich city, as well as the growing neighbor islands. The companies' combined fiber networks are nearly 17,000 fiber route miles.

The purchase price for Hawaiian Telcom consisted of the following:

(dollars in millions)	
Cash consideration plus debt assumed	$ 536.5
Cincinnati Bell Inc. stock issued	121.2
Debt repayment	(318.2)
Total purchase price	$ 339.5

In order to fund the acquisition, the Company utilized proceeds of $350.0 million from the 8% Senior Notes due 2025 ("8% Notes"), $16.5 million of the cash that was previously restricted to fund interest payments on the 8% Notes, drew $35.0 million on the Revolving credit facility and $154.0 million on the accounts receivable securitization facility (see Note 8). In conjunction with the acquisition, the Company issued 7.7 million Common Shares at a price of $15.70 per share as stock consideration. The Company recorded a total of $28.1 million in acquisition expenses related to the acquisition of Hawaiian Telcom, of which $0.9 million, $19.2 million and $8.0 million were recorded in 2019, 2018 and 2017, respectively. These expenses are recorded in "Transaction and integration costs" on the Consolidated Statements of Operations.

Acquisition of OnX Holdings LLC

On October 2, 2017, the Company acquired 100% of OnX Holdings LLC ("OnX"), a privately held company that provides technology services and solutions to enterprise customers in the U.S., Canada and the U.K. The acquisition extends the IT Services and Hardware segment's geographic footprint and accelerates its initiatives in IT cloud migration.

The purchase price for OnX consisted of the following:

(dollars in millions)		
Cash consideration	$	241.2
Debt repayment		(77.6)
Working capital adjustment		2.8
Total purchase price	$	166.4

The cash portion of the purchase price was funded through borrowings under the Credit Agreement (see Note 8). The cash consideration includes $77.6 million related to existing debt, including accrued interest, which was repaid in conjunction with the close of the acquisition. In addition, a working capital adjustment of $2.8 million was paid in the first quarter of 2018. The Company recorded $8.6 million in acquisition expenses related to the OnX acquisition, of which $0.5 million and $8.1 million were recorded in 2018 and 2017, respectively. These expenses are recorded in "Transaction and integration costs" on the Consolidated Statements of Operations.

Purchase Price Allocation and Other Items

The determination of the purchase price allocation to specific assets acquired and liabilities assumed is final for the Hawaiian Telcom and OnX transactions. The purchase price for Hawaiian Telcom and OnX have been allocated to individual assets acquired and liabilities assumed as follows:

(dollars in millions)	Hawaiian Telcom	OnX
Assets acquired		
Cash	$ 4.3	$ 6.5
Receivables	24.8	69.9
Inventory, materials and supplies	6.7	9.0
Prepaid expenses and other current assets	5.9	2.8
Property, plant and equipment	697.6	11.6
Goodwill	10.2	133.1
Intangible assets	52.0	134.0
Deferred income tax asset	45.6	1.4
Other noncurrent assets	2.1	1.8
Total assets acquired	849.2	370.1
Liabilities assumed		
Accounts payable	60.0	63.6
Current portion of long-term debt	10.2	1.3
Unearned revenue and customer deposits	13.5	—
Accrued expenses and other current liabilities	21.8	18.3
Deferred income tax liabilities	—	42.3
Long-term debt, less current portion	304.5	76.7
Pension and postretirement benefit obligations	68.9	—
Other noncurrent liabilities	30.8	1.5
Total liabilities assumed	509.7	203.7
Net assets acquired	$ 339.5	$ 166.4

During 2019 and 2018, the Company recorded immaterial measurement period adjustments for Hawaiian Telcom. The offset of these adjustments were recorded as an increase to "Goodwill."

During 2018, the Company recorded immaterial measurement period adjustments for OnX. The offset of these adjustments were recorded as an increase to "Goodwill."

The revenues and net income of OnX included in the Consolidated Statements of Operations from the acquisition date through December 31, 2017 were $53.0 million and $11.5 million, respectively. The revenues and net income of Hawaiian Telcom included in the Consolidated Statements of Operations from the acquisition date through December 31, 2018 were $175.0 million and $0.7 million, respectively.

The estimated fair value of identifiable intangible assets and their estimated useful lives are as follows:

	Hawaiian Telcom		OnX	
(dollars in millions)	Fair Value	Useful Lives	Fair Value	Useful Lives
Customer relationships	$ 26.0	15 years	$ 108.0	15 years
Trade name	26.0	15 years	16.0	10 years
Technology	—	—	10.0	10 years
Total identifiable intangible assets	$ 52.0		$ 134.0	

The goodwill for OnX is attributable to increased access to a diversified customer base and acquired workforce in the U.S., Canada and the U.K. The amount of goodwill related to OnX that is expected to be deductible for income tax purposes is $2.3 million. The goodwill for Hawaiian Telcom is attributable to the acquired workforce in Honolulu and the neighbor islands, deep fiber infrastructures that include direct access to the SEA-US cable linking the U.S. with Asia and increased access to a diversified customer base.

Pro Forma Information (Unaudited)

The following table provides the unaudited pro forma results of operations for the year ended 2018 and 2017 as if the acquisitions of OnX and Hawaiian Telcom had taken place as of the beginning of fiscal year 2016 and 2017, respectively. These pro forma results include adjustments related to the financing of the acquisitions, an increase to depreciation and amortization associated with the higher values of property, plant and equipment and intangible assets, an increase to interest expense for the additional debt incurred to complete the acquisitions, and reflects the related income tax effect and change in tax status. Revenue has been retrospectively adjusted for the adoption of ASC 606 to reflect hardware revenue in the Infrastructure Solutions category net of related cost of products. ASC 606 was not applied to the year ended December 31, 2017 for Hawaiian Telcom results because they utilized the modified retrospective method of adoption. Reported amounts for 2017 could be materially different if Hawaiian Telcom had adopted the standard using the full retrospective method of adoption.

The pro forma information does not necessarily reflect the actual results of operations had the acquisitions been consummated at the beginning of the annual reporting period indicated, nor is it necessarily indicative of future operating results. The pro forma information does not include any (i) potential revenue enhancements, cost synergies or other operating efficiencies that could result from the acquisitions or (ii) transaction or integration costs relating to the acquisitions.

	Year Ended December 31,	
(dollars in millions, except per share amounts)	2018	2017
Revenue	$ 1,556.5	$ 1,588.5
Net loss applicable to common shareholders	(77.7)	(84.6)
Earnings per share:		
Basic and diluted loss per common share	(1.55)	(1.70)

Other Acquisition Activity

On February 28, 2017, the Company acquired 100% of SunTel Services LLC ("SunTel"), a private company that provides network security, data connectivity, and unified communications solutions to commercial and enterprise customers across multiple sectors throughout Michigan for cash consideration of $10.0 million. Based on final fair value assessment and the finalization of the working capital adjustment, the acquired assets and liabilities assumed consisted primarily of property, plant and equipment of $0.4 million, customer relationship intangible assets of $1.2 million, working capital of $4.1 million and goodwill of $4.6 million. These assets and liabilities are included in the IT Services and Hardware segment.

Agreement and Plan of Merger with Brookfield

On December 21, 2019, the Company entered into an Agreement and Plan of Merger (the “Merger Agreement”) pursuant to which the Company will be acquired by an affiliate of the Brookfield Infrastructure Group (“Brookfield”), the infrastructure investment division of Brookfield Asset Management (the “Merger”). At the effective time of the Merger (the “Effective Time”), each of our issued and outstanding Common Shares will be converted into the right to receive $10.50 in cash per Common Share, without interest, and the 6 3/4% Cumulative Convertible Preferred Shares will remain issued and outstanding as 6 3/4% Cumulative Convertible Preferred Shares of the Company, without par value, following the Effective Time.

The consummation of the Merger is subject to customary closing conditions, including (i) the adoption of the Merger Agreement by the affirmative vote of the holders of at least two-thirds of all outstanding Common Shares and 6 3/4% Cumulative Convertible Preferred Shares, voting as a single class; (ii) the expiration or early termination of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended and (iii) the receipt of any required consents or approvals from (a) the Committee on Foreign Investment in the United States, (b) the Federal Communications Commission, (c) state public service and state public utility commissions, and (d) local regulators in connection with the provision of telecommunications and media services; and (iv) the absence of any legal restraint preventing the consummation of the Merger.

The Merger Agreement contains representations and warranties and covenants of the parties customary for a transaction of this nature. Among other things, the parties have agreed to use reasonable best efforts to obtain any required regulatory approvals. Until the earlier of the termination of the Merger Agreement and the Effective Time, the Company has agreed to operate its business in the ordinary course in all material respects and has agreed to certain other operating covenants and to not take certain specified actions prior to the consummation of the Merger, as set forth more fully in the Merger Agreement. The Company has also agreed to convene and hold a meeting of its shareholders for the purpose of obtaining the Shareholder Approval.

Brookfield has obtained equity financing commitments from certain of its affiliates to fund the transactions contemplated by the Merger Agreement. The Merger Agreement requires Brookfield to use its commercially reasonable efforts to obtain the financing on the terms and conditions described in the financing commitments. The Company is entitled to specific performance to force Brookfield to close the transaction if all closing conditions are met.

The Merger is expected to close by the end of 2020, although there can be no assurance that the Merger will occur by that date. As a result of the Merger, the Company will cease to be a publicly traded company.

Unsolicited Proposal

On January 22, 2020, the Company received an unsolicited, non-binding proposal from an infrastructure fund (the “Fund”) to acquire all of the outstanding Common Shares for $12.00 per share in cash (the “Proposal”). On January 23, 2020, the Company commenced discussions with the Fund regarding the Proposal following the Board of Directors having made the required determinations under the Merger Agreement that allow it to do so.

5. Earnings Per Common Share

Basic earnings per common share ("EPS") is based upon the weighted-average number of common shares outstanding during the period. Diluted EPS reflects the potential dilution that would occur upon issuance of common shares for awards under stock-based compensation plans, or conversion of preferred stock, but only to the extent that they are considered dilutive.

The following table shows the computation of basic and diluted EPS:

	Year Ended December 31,		
(in millions, except per share amounts)	**2019**	**2018**	**2017**
Numerator:			
Net (loss) income	$ (66.6)	$ (69.8)	$ 40.0
Preferred stock dividends	10.4	10.4	10.4
Net (loss) income applicable to common shareowners - basic and diluted	$ (77.0)	$ (80.2)	$ 29.6
Denominator:			
Weighted-average common shares outstanding - basic	50.4	46.3	42.2
Stock-based compensation arrangements	—	—	0.2
Weighted-average common shares outstanding - diluted	50.4	46.3	42.4
Basic and diluted net (loss) earnings per common share	$ (1.53)	$ (1.73)	$ 0.70

In conjunction with the acquisition of Hawaiian Telcom in the third quarter of 2018, the Company issued 7.7 million Common Shares as a part of the acquisition consideration. In addition, the Company granted 0.1 million time-based restricted stock units to certain Hawaiian Telcom employees under the Hawaiian Telcom 2010 Equity Incentive Plan.

For the years ended December 31, 2019 and December 31, 2018, the Company had a net loss available to common shareholders and, as a result, all common stock equivalents were excluded from the computation of diluted EPS as their inclusion would have been anti-dilutive. For the year ended December 31, 2017, awards under the Company’s stock-based compensation plans for common shares of 0.2 million, were excluded from the computation of diluted EPS as their inclusion would have been anti-dilutive. For all periods presented, preferred stock convertible into 0.9 million common shares was excluded as it was anti-dilutive.

6. Property, Plant and Equipment

Property, plant and equipment is comprised of the following:

(dollars in millions)	December 31, 2019	December 31, 2018	Depreciable Lives (Years)
Land and rights-of-way	$ 117.2	$ 117.2	20 – Indefinite
Buildings and leasehold improvements	315.4	305.2	5 – 40
Network equipment	4,044.6	3,913.3	2 – 50
Office software, furniture, fixtures and vehicles	229.3	216.3	2 – 14
Construction in process	38.9	47.1	n/a
Gross value	4,745.4	4,599.1	
Accumulated depreciation	(2,964.6)	(2,755.1)	
Property, plant and equipment, net	$ 1,780.8	$ 1,844.0	

Depreciation expense on property, plant and equipment, including assets accounted for as finance leases, totaled $290.2 million in 2019, $239.6 million in 2018 and $190.4 million in 2017. The portion of depreciation expense associated with cost of providing services was 87%, 85% and 84% in 2019, 2018 and 2017, respectively. There are numerous assets included within network equipment resulting in a range of depreciable lives between 2 and 50 years, the majority of which fall within the range of 7 to 25 years.

No asset impairment losses were recognized in 2019, 2018 or 2017 on property, plant and equipment.

7. Goodwill and Intangible Assets

Goodwill

The changes in the Company's goodwill consisted of the following:

	IT Services and Hardware		Entertainment and Communications		Total Company	
(dollars in millions)	December 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Goodwill, beginning balance	$ 146.0	$ 148.8	$ 11.0	$ 2.2	$ 157.0	$ 151.0
Activity during the year						
Adjustments to prior year acquisitions	—	0.7	1.4	—	1.4	0.7
Acquisitions	—	—	—	8.8	—	8.8
Currency translations	2.1	(3.5)	—	—	2.1	(3.5)
Goodwill, ending balance	$ 148.1	$ 146.0	$ 12.4	$ 11.0	$ 160.5	$ 157.0

During 2018, goodwill in the Entertainment and Communications segment increased by $8.8 million due to the acquisition of Hawaiian Telcom. During 2019, the Company recorded immaterial measurement period adjustments for Hawaiian Telcom. For further information related to the acquisition, see Note 4.

No impairment losses were recognized in goodwill for the years ended December 31, 2019, 2018 and 2017. The Company completed its most recent goodwill impairment testing in the fourth quarter of 2019 and determined that there was no impairment in the carrying value of this asset.

Intangible Assets

The Company’s intangible assets consisted of the following:

	December 31, 2019			December 31, 2018		
(dollars in millions)	Gross Carrying Amount (a)	Accumulated Amortization	Net Amount	Gross Carrying Amount (a)	Accumulated Amortization	Net Amount
Customer relationships	$ 140.8	$ (28.4)	$ 112.4	$ 139.4	$ (17.8)	$ 121.6
Trade names	41.3	(6.0)	35.3	40.7	(2.8)	37.9
Technology	9.9	(2.2)	7.7	9.9	(1.3)	8.6
Total	$ 192.0	$ (36.6)	$ 155.4	$ 190.0	$ (21.9)	$ 168.1

(a) Change in gross carrying amounts is due to foreign currency translation on intangible assets related to the OnX acquisition. For further information related to the acquisition, see Note 4.

The intangible assets were established in connection with completed acquisitions. They are amortized over their useful lives based on a number of assumptions including the estimated period of economic benefit and utilization.

The amortization expense for intangible assets was $14.7 million, $12.4 million and $2.5 million in 2019, 2018 and 2017, respectively. No impairment losses were recognized on intangible assets for the years ended December 31, 2019, 2018 and 2017.

The estimated useful lives for each intangible asset class are as follows:

Customer relationships	8 to 15 years
Trade names	10 to 15 years
Technology	10 years

The annual estimated amortization expense for future years is as follows:

(dollars in millions)	
Year ended December 31,	
2020	$ 14.5
2021	14.3
2022	14.0
2023	13.6
2024	13.4
Thereafter	85.6
Total	$ 155.4

8. Debt and Other Financing Arrangements

The Company's debt consists of the following:

	December 31,	
(dollars in millions)	2019	2018
Current portion of long-term debt:		
Credit Agreement - Tranche B Term Loan due 2024	$ 6.0	$ 6.0
Other financing arrangements	2.0	0.8
Finance lease liabilities	14.3	13.4
Current portion of long-term debt	22.3	20.2
Long-term debt, less current portion:		
Receivables Facility	131.5	176.6
Credit Agreement - Revolving Credit Facility	57.0	18.0
Credit Agreement - Tranche B Term Loan due 2024	586.5	592.5
7 1/4% Senior Notes due 2023	22.3	22.3
7% Senior Notes due 2024	625.0	625.0
8% Senior Notes due 2025	350.0	350.0
Various Cincinnati Bell Telephone notes	87.9	87.9
Other financing arrangements	3.2	2.3
Finance lease liabilities	59.5	60.5
	1,922.9	1,935.1
Net unamortized premium	1.3	1.7
Unamortized note issuance costs	(22.9)	(27.2)
Long-term debt, less current portion	1,901.3	1,909.6
Total debt	$ 1,923.6	$ 1,929.8

Credit Agreement

In the fourth quarter of 2017, the Company entered into a new Credit Agreement (the "Credit Agreement") and terminated the existing Corporate Credit Agreement. The Credit Agreement provides for (i) a five-year $200 million senior secured revolving credit facility including both a letter of credit subfacility of up to $30 million and a swingline loan subfacility of up to $25 million) (the "Revolving Credit Facility") and (ii) a seven-year $600 million senior secured term loan facility (the "Tranche B Term Loan due 2024"). The Revolving Credit Facility expires in October 2022, and the Tranche B Term Loan due 2024 expires in October 2024. Borrowings under the Credit Agreement's Revolving Credit Facility will be used to provide ongoing working capital as well as other general corporate cash flow needs of the Company. As a result of the Company entering into the Credit Agreement, certain previously deferred costs and unamortized discount associated with the terminated Corporate Credit Agreement's Revolving Credit Facility and Tranche B Term Loan due 2020 were written off in the fourth quarter of 2017. The loss on extinguishment of debt associated with the transaction was $3.2 million.

Borrowings under the Credit Agreement bear interest, at the Company's election, at a rate per annum equal to (i) LIBOR plus the applicable margin or (ii) the base rate plus the applicable margin. In the second quarter of 2018, the Company amended the Credit Agreement to reduce the applicable margin on the Revolving Credit Facility and Tranche B Term Loan due 2024. The LIBOR applicable margin for advances under the Revolving Credit Facility and Tranche B Term Loan due 2024 was changed from the previous 3.75% per annum to 3.25% per annum. The base rate applicable margin for advances under the Revolving Credit Facility and Tranche B Term Loan due 2024 was changed from 2.75% per annum to 2.25% per annum. Base rate is the higher of (i) the bank prime rate, (ii) the one-month LIBOR rate plus 1.00% and (iii) the federal funds rate plus 0.5%. In the case of the Tranche B Term Loan due 2024, the LIBOR rate may not fall below 1.00%. In addition, the Company will be required to pay a commitment fee on any unused portion of the Revolving Credit Facility at a rate of 0.50% per annum, or, if the consolidated total leverage ratio of the Company and its restricted subsidiaries is equal to or less than 3.25 to 1.00, 0.375% per annum. The Company will also pay customary letter of credit fees, including a fronting fee equal to 0.125% per annum of the dollar equivalent of the maximum amount available to be drawn under all outstanding letters of credit, as well as customary issuance and administration fees. At December 31, 2019, borrowings under the Credit Agreement's Revolving Credit Facility were $57.0 million, leaving $143.0 million available.

The Revolving Credit Facility requires maintenance of a maximum consolidated secured leverage ratio of 3.50 to1.00 and a minimum consolidated interest coverage ratio of 1.50 to 1.00. The Company may voluntarily repay and reborrow outstanding loans under the Revolving Credit Facility at any time without a premium or a penalty, other than customary “breakage” costs with respect to LIBOR revolving loans.

In addition, certain of our variable rate debt, including debt under the Credit Agreement and the Receivables Facility, uses LIBOR as one of the benchmarks for establishing the rate of interest and may be hedged with LIBOR-based interest rate derivatives. LIBOR is the subject of recent regulatory guidance and proposals for reform. These reforms and other pressures may cause LIBOR to be replaced with a new benchmark in 2021 or to perform differently than in the past. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our variable rate indebtedness.

On October 2, 2017, the Credit Facilities net proceeds of $577.0 million were used to repay the remaining $315.8 million outstanding principal amount of the Tranche B Term Loan due 2020 and related accrued and unpaid interest. The remaining proceeds of the Tranche B Term Loan due 2024 were used to fund the purchase price and associated transaction costs of the acquisition of OnX that closed on October 2, 2017. In the second quarter of 2018, the Company amended the Credit Agreement resulting in a loss on extinguishment of debt of $1.3 million.

Guarantors and Security Interests, Credit Agreement

All existing and future subsidiaries of the Company (other than Cincinnati Bell Funding LLC (and any other similar special purpose receivables financing subsidiary), the Company's joint ventures, subsidiaries prohibited by applicable law from becoming guarantors, unrestricted subsidiaries and foreign subsidiaries) are required to guarantee borrowings under the Credit Agreement. Debt outstanding under the Credit Agreement is secured by perfected first priority pledges of and security interests in (i) substantially all of the equity interests of the Company's U.S. subsidiaries (other than subsidiaries of non-guarantors of the Credit Agreement) and 66% of the equity interests in certain first-tier foreign subsidiaries held by the Company and the guarantors under the Credit Agreement and (ii) certain personal property and intellectual property of the Company and its subsidiaries (other than that of non-guarantors of the Credit Agreement and certain other excluded property).

Accounts Receivable Securitization Facility

Cincinnati Bell Inc. and certain of its subsidiaries have an accounts receivable securitization facility ("Receivables Facility"). In the second quarter of 2019, the Company executed amendments to its Receivables Facility, which replaced, amended and added certain provisions and definitions to increase the credit availability and renew the facility, which is subject to renewal every 364 days, until May 2020. The facility’s termination date is May 2021 and was not changed by these amendments. The maximum borrowing limit for loans and letters of credit under the Receivables Facility is $225.0 million in the aggregate. The available borrowing capacity is calculated monthly based on the quantity and quality of outstanding accounts receivable and thus may be lower than the maximum borrowing limit. At December 31, 2019, the available borrowing capacity was $142.2 million. Of the total borrowing capacity of $142.2 million, there were $131.5 million of outstanding borrowings and $10.5 million of outstanding letters of credit, leaving $0.2 million available as of December 31, 2019.

Interest on the Receivables Facility is based on the LIBOR rate plus 1.1%. The average interest rate on the Receivables Facility was 2.9% in 2019. The Company pays letter of credit fees on the securitization facility and also pays commitment fees on the unused portion of the total facility.

Under this agreement, certain U.S. and Canadian subsidiaries, as originators, sell their respective trade receivables on a continuous basis to Cincinnati Bell Funding LLC (“CBF”) or Cincinnati Bell Funding Canada Ltd. ("CBFC"), wholly-owned consolidated subsidiaries of the Company. Although CBF and CBFC are wholly-owned consolidated subsidiaries of the Company, CBF and CBFC are legally separate from the Company and each of the Company’s other subsidiaries. Upon and after the sale or contribution of the accounts receivable to CBF or CBFC, such accounts receivable are legally assets of CBF and CBFC and, as such, are not available to creditors of other subsidiaries or the parent company. The Receivables Facility includes an option for CBF to sell, rather than borrow against, certain receivables on a non-recourse basis. As of December 31, 2019, the outstanding balance of certain accounts receivable sold was $44.7 million.

The transferors sell their respective trade receivables on a continuous basis to CBF or CBFC. In turn, CBF or CBFC grants, without recourse, a senior undivided interest in the pooled receivables to various purchasers, including commercial paper conduits, in exchange for cash while maintaining a subordinated undivided interest in the form of over-collateralization in the pooled receivables. The transferors have agreed to continue servicing the receivables for CBF and CBFC at market rates; accordingly, no servicing asset or liability has been recorded.

For the purposes of consolidated financial reporting, the Receivables Facility is accounted for as secured financing. Because CBF and CBFC have the ability to prepay the Receivables Facility at any time by making a cash payment and effectively repurchasing the receivables transferred pursuant to the facility, the transfers do not qualify for "sale" treatment on a consolidated basis under ASC 860, "Transfers and Servicing."

7 1/4% Notes due 2023

In 1993, the Company issued $50.0 million of 7 1/4% Notes due 2023 ("7 1/4% Notes"). The indenture related to the 7 1/4% Notes does not subject the Company to restrictive financial covenants, but it does contain a covenant providing that if the Company incurs certain liens on its property or assets, the Company must secure the outstanding 7 1/4% Notes equally and ratably with the indebtedness or obligations secured by such liens. The liens under the Credit Agreement have resulted in the debt outstanding under the 7 1/4% Notes being secured equally and ratably with the obligations secured under the Credit Agreement. Interest on the 7 1/4% Notes is payable semi-annually on June 15 and December 15. The Company may not call the 7 1/4% Notes prior to maturity. The indenture governing the 7 1/4% Notes provides for customary events of default, including for failure to make any payment when due and for one or more defaults of any other existing debt instruments that exceeds $20.0 million, in the aggregate.

7% Senior Notes due 2024

In the third quarter of 2016, the Company issued in a private offering $425.0 million aggregate principal amount of 7% Senior Notes due 2024 ("7% Senior Notes") at par. The Company issued an additional $200.0 million aggregate principal amount of 7% Senior Notes at a price of 105.000% in the fourth quarter of 2016. The 7% Senior Notes are senior unsecured obligations of the Company, which rank equally in right of payment with all existing and future unsecured senior debt of the Company. The 7% Senior Notes will be effectively subordinated to all existing and future secured indebtedness of the Company to the extent of the value of the assets securing such indebtedness. The 7% Senior Notes are guaranteed on a joint and several basis by certain of the Company's existing and future domestic subsidiaries. Each such guarantee is a senior unsecured obligation of the applicable guarantor, ranking equally with all existing and future unsecured senior debt of such guarantor and effectively subordinated to all existing and future secured indebtedness of such guarantor to the extent of the value of the assets securing that indebtedness. The 7% Senior Notes are structurally subordinated to all liabilities (including trade payables) of each subsidiary of the Company that does not guarantee the 7% Senior Notes.

The 7% Senior Notes bear interest at a rate of 7% per annum, payable semi-annually on January 15 and July 15 of each year, beginning on January 15, 2017, to persons who are registered holders of the 7% Senior Notes on the immediately preceding January 1 and July 1, respectively.

The 7% Senior Notes will mature on July 15, 2024. The Company may, at its option, redeem some or all of the 7% Senior Notes at any time at declining redemption prices equal to (i) 105.250% through September 14, 2020, (ii) 103.500% beginning on September 15, 2020, (iii) 101.750% beginning on September 15, 2021 and (iv) 100.000% beginning on September 15, 2022 and thereafter, plus, in each case, accrued and unpaid interest, if any, to the applicable redemption date.

The indenture governing the 7% Senior Notes contains covenants including but not limited to the following: limitations on dividends to shareowners and other restricted payments; dividend and other payment restrictions affecting the Company's subsidiaries such that the subsidiaries are generally not permitted to enter into an agreement that would limit their ability to make dividend payments to the parent; issuance of indebtedness; asset dispositions; transactions with affiliates; liens; investments; issuances and sales of capital stock of subsidiaries; and redemption of debt that is junior in right of payment. The indenture governing the 7% Senior Notes provides for customary events of default, including a cross-default provision for both nonpayment at final maturity or acceleration due to a default of any other existing debt instrument that equals or exceeds $35 million.

8% Senior Notes due 2025

In the fourth quarter of 2017, CB Escrow Corp. (the "Issuer"), an Ohio corporation and wholly owned subsidiary of Cincinnati Bell Inc., closed the private offering of $350 million aggregate principal amount of 8% Senior Notes at par. The 8% Senior Notes were issued pursuant to an indenture, dated as of October 6, 2017 (the "Indenture"), between the Issuer and Regions Bank, as trustee.

Concurrently with the closing of the offering, the Issuer entered into an escrow agreement (the "Escrow Agreement") pursuant to which the initial purchasers of the 8% Senior Notes on behalf (and at the direction) of the Issuer, deposited the gross proceeds of the offering into an escrow account. The Issuer deposited into the escrow account an additional amount of cash that would be sufficient to pay all interest that accrued on the 8% Senior Notes up to, but not including, October 9, 2018.

The offering of the 8% Senior Notes was part of the financing of the cash portion of the acquisition consideration for Hawaiian Telcom Holdco, Inc. (“Hawaiian Telcom”) by the Company. At the closing of the acquisition of Hawaiian Telcom, the Issuer merged with and into the Company (the “Escrow Merger”), with the Company continuing as the surviving corporation. At the time of the Escrow Merger, the Company assumed the obligations of the Issuer under the 8% Senior Notes and the Indenture (the “Assumption”) and, the proceeds from the offering were released from the escrow account to the Company.

The 8% Senior Notes bear interest at a rate of 8.00% per annum, payable semi-annually on April 15 and October 15 of each year, beginning on April 15, 2018, to persons who are registered holders of the 8% Senior Notes on the immediately preceding April 1 and October 1, respectively.

The 8% Senior Notes will mature on October 15, 2025. However, prior to October 15, 2020, the Company may, at its option, redeem some or all of the Notes at a redemption price equal to 100% of the principal amount of the Notes, together with accrued and unpaid interest, if any, plus a “make-whole” premium. On or after October 15, 2020, the Company may, at its option, redeem some or all of the Notes at any time at declining redemption prices equal to (i) 106.000% beginning on October 15, 2020, (ii) 104.000% beginning on October 15, 2021, (iii) 102.000% beginning on October 15, 2022 and (iv) 100.000% beginning on October 15, 2023 and thereafter, plus, in each case, accrued and unpaid interest, if any, to the applicable redemption date. In addition, before October 15, 2020, and subject to certain conditions, the Company may, at its option, redeem up to 40% of the aggregate principal amount of Notes with the net proceeds of certain equity offerings at 108.000% of the principal amount thereof, plus accrued and unpaid interest, if any, to the date of redemption; provided that (i) at least 60% of the aggregate principal amount of Notes remains outstanding after such redemption and (ii) the redemption occurs within 180 days of the closing of any such equity offering.

Cincinnati Bell Telephone Notes

In 1998, CBT's predecessor issued $150.0 million in aggregate principal of 6.30% unsecured senior notes due 2028 (the "CBT Notes"), which are guaranteed on a subordinated basis by the Company but not its subsidiaries. The indenture related to the CBT Notes does not subject the Company or CBT to restrictive financial covenants, but it does contain a covenant providing that if CBT incurs certain liens on its property or assets, CBT must secure the outstanding CBT Notes equally and ratably with the indebtedness or obligations secured by such liens. In 2017, CBT pledged its assets in support of the Company's debt incurred under the Credit Agreement, and as a result, the CBT Notes became equally and ratably secured. The maturity date of the CBT notes is in 2028, and the CBT Notes may be redeemed at any time at a redemption price equal to the greater of 100% of the principal amount of the CBT Notes to be redeemed or the sum of the present values of the remaining scheduled payments of principal and interest to maturity, plus accrued interest to the redemption date. The indenture governing the CBT Notes provides for customary events of default, including for failure to make any payment when due and for one or more defaults of any other existing debt instruments of the Company or CBT that exceeds $20.0 million, in the aggregate.

Finance Lease Liabilities

Finance lease liabilities represent our obligation for certain leased assets, including vehicles and various equipment. These leases generally contain renewal or buyout options.

Debt Maturity Schedule

The following table summarizes our annual principal maturities of debt and other financing arrangements for the five years subsequent to December 31, 2019, and thereafter:

(dollars in millions)	Debt	Other financing arrangements
Year ended December 31,		
2020	$ 6.0	$ 2.0
2021	137.5	2.0
2022	63.0	0.6
2023	28.3	0.6
2024	1,193.5	—
Thereafter	437.9	—
	1,866.2	5.2
Net unamortized premium	1.3	—
Unamortized note issuance costs	(22.9)	—
Total debt	$ 1,844.6	$ 5.2

Deferred Financing Costs

Deferred financing costs are costs incurred in connection with obtaining long-term financing and renewing revolving credit agreements. Deferred financing costs are amortized on the effective interest method. The Company incurred deferred financing costs of $0.8 million and $2.3 million in 2019 and 2018, respectively, related to amending and renewing revolving credit agreements. In 2018, the Company incurred deferred financing costs of $1.0 million related to the amendment to the Tranche B Term Loan due 2024 and $8.7 million related to the 8% Senior Notes due 2025 that was payable at the close of the acquisition transaction. The Company wrote-off deferred financing costs associated with the extinguishment of debt of $1.3 million and $2.1 million in 2018 and 2017, respectively.

The Company records costs incurred in connection with obtaining revolving credit agreements as an asset. As of December 31, 2019 and 2018, deferred financing costs recorded to "Other non-current assets" totaled $3.1 million and $4.9 million, respectively. Amortization of deferred financing costs, included in "Interest expense" in the Consolidated Statements of Operations, totaled $6.4 million in 2019, $5.7 million in 2018, and $3.4 million in 2017.

Debt Covenants

Credit Agreement

The Credit Agreement has financial covenants that require the Company to maintain certain leverage and interest coverage ratios. As of December 31, 2019, these ratios and limitations include a maximum secured consolidated total leverage ratio of 3.50 to 1.00 and a minimum consolidated interest coverage ratio of 1.50 to 1.00. In addition, the Credit Agreement contains customary affirmative and negative covenants, including but not limited to, restrictions on Company's ability to incur additional indebtedness, create liens, pay dividends, make certain investments, and prepay other indebtedness, sell, transfer, lease, or dispose of assets and enter into, or undertake, certain liquidations, mergers, consolidations or acquisitions.

The Credit Agreement contains customary events of default (which are in some cases subject to certain exceptions, thresholds

and grace periods), including, but not limited to, nonpayment of principal or interest, failure to perform or observe covenants, breaches of representations and warranties, cross-defaults with certain other indebtedness, certain bankruptcy-related events or proceedings, final monetary judgments or orders, ERISA defaults, invalidity of loan documents or guarantees, and certain change of control events. If the Company were to violate any of its covenants and were unable to obtain a waiver, it would be considered a default. If the Company were in default under the Credit Agreement, no additional borrowings under this facility would be available until the default was waived or cured.

The Tranche B Term Loan due 2024 is subject to the same affirmative and negative covenants and events of default as the Revolving Credit Facility, except that a breach of the financial covenants will not result in an event of default under the Tranche B Term Loan due 2024 unless and until the agent or a majority in interest of the lenders under the Revolving Credit Facility have terminated their commitments under the Revolving Credit Facility and accelerated the loans then outstanding under the Revolving Credit Facility in response to such breach in accordance with the terms and conditions of the Credit Agreement.

Extinguished Notes

In the fourth quarter of 2017, the Company repaid the remaining $315.8 million outstanding principal amount of its Tranche B Term Loan due 2020 and related accrued and unpaid interest. As a result, a loss on extinguishment of debt is recorded in the fourth quarter of 2017 of $2.6 million.

9. Leases

Lessee Disclosures

The Company primarily leases real estate for offices, retail stores and central offices, as well as equipment, cell towers and fleet vehicles. The Company leases its real estate for terms between 1 and 55 years, its equipment for terms between 2 and 6 years, its cell towers for terms between 4 and 21 years and its vehicles for terms of 5 years. Our leases have various expiration dates through 2066, some of which include options to extend the leases for up to 15 years, and some of which include options to terminate the leases within one year.

Upon adoption of ASC 842 on January 1, 2019, the Company elected not to recognize leases with terms of one-year or less on the balance sheet. The Company's leases generally do not provide an implicit rate, and therefore the Company uses its incremental borrowing rate as the discount rate when measuring operating lease liabilities. The incremental borrowing rate represents an estimate of the interest rate the Company would incur at lease commencement to borrow an amount equal to the lease payments on a collateralized basis over the term of the lease.

Supplemental balance sheet information related to the Company's leases was as follows:

(dollars in millions)	Balance Sheet Location	December 31, 2019
Operating lease assets, net of amortization	Operating lease right-of-use assets	$ 35.8
Finance lease assets, net of amortization	Property, plant and equipment, net	33.2
Operating lease liabilities:		
Current operating lease liabilities	Other current liabilities	10.9
Noncurrent operating lease liabilities	Operating lease liabilities	32.1
Total operating lease liabilities		43.0
Finance lease liabilities:		
Current finance lease liabilities	Current portion of long-term debt	14.3
Noncurrent finance lease liabilities	Long-term debt, less current portion	59.5
Total finance lease liabilities		$ 73.8

Under ASC 840, the Company had $73.9 million of capital lease obligations at December 31, 2018.

The components of lease expense were as follows:

(dollars in millions)	Year Ended December 31, 2019
Operating lease cost	$ 13.2
Short-term lease cost	0.3
Variable lease cost	2.1
Finance lease cost:	
Depreciation on leased assets	8.3
Interest on lease liabilities	5.1
Total lease cost	$ 29.0

Under ASC 840, the Company recorded lease expense of $18.4 million and $10.7 million in 2018 and 2017, respectively.

Other information related to leases was as follows:

(dollars in millions)	Year Ended December 31, 2019
Supplemental Cash Flows Information	
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from finance leases	$ 5.1
Operating cash flows from operating leases	$ 11.0
Financing cash flows from finance leases	$ 14.4
Right-of-use assets obtained in exchange for lease obligations:	
New operating leases	$ 7.5
New finance leases	$ 14.5
Weighted Average Remaining Lease Term	
Operating leases	7.93 years
Finance leases	7.20 years
Weighted Average Discount Rate	
Operating leases	6.94%
Finance leases	7.00%

Future minimum lease payments under non-cancellable leases as of December 31, 2019 are as follows:

(dollars in millions)	Operating Leases	Finance Leases
Year ended December 31,		
2020	$ 13.3	$ 18.9
2021	8.3	14.5
2022	5.8	10.1
2023	4.7	8.2
2024	3.9	7.5
Thereafter	21.1	37.7
Total future minimum lease payments	57.1	96.9
Less imputed interest	(14.1)	(23.1)
Total	$ 43.0	$ 73.8

Lessor Disclosures

The Company has operating leases related to its dark fiber arrangements for terms between 3 and 30 years. Our leases have various expiration dates through 2048, some of which include options to extend the lease. The Company recorded $3.1 million in lease income related to operating lease payments in 2019.

The Company owns the underlying assets associated with its operating leases and records them in "Property, plant and equipment, net" on the Consolidated Balance Sheets.

Future minimum lease payments to be received under non-cancellable leases as of December 31, 2019 are as follows:

(dollars in millions)	Operating Leases
Year ended December 31,	
2020	$ 2.7
2021	2.3
2022	1.7
2023	1.7
2024	1.7
Thereafter	17.0
Total future minimum lease payments	27.1
Less imputed interest	(9.9)
Total	$ 17.2

10. Commitments and Contingencies

Other Installment Financing Arrangements

Prior to the acquisition of Hawaiian Telcom in July 2018, Hawaiian Telcom had an open dispute related to jointly-owned utility poles. Each of the electric utilities for the four counties in the State of Hawaii had separate agreements with Hawaiian Telcom for the joint ownership and maintenance of utility poles along with other third parties, such as the State of Hawaii. The agreements set forth various circumstances requiring pole removal, installation and replacement and the sharing of costs among the joint pole owners. The agreements allowed for the cost of work done by one joint pole owner to be shared by the other joint pole owners based on the apportionment of costs in the agreements. Generally, the electric utilities had maintained, replaced and installed the majority of the jointly-owned poles and had billed the other joint pole owners for their respective share of the costs. Hawaiian Telcom had a disagreement with the common owner of the utilities in three of the counties in Hawaii regarding the amount the utilities were requesting for their share of the capitalized costs.

The agreement approved by the Hawaii Public Utilities Commission in October 2018 provided for the transfer of Hawaiian Telcom's ownership responsibility of the poles to Hawaiian Electric Company (HEC) and Hawaiian Telcom to pay a fixed annual fee to HEC for continued use of the poles. The agreement, referred to as the Pole License Agreement, has a duration of 10 years at a fixed rate with two renewal options each for five year terms. Due to the continuing involvement by the Company, this transaction does not meet the requirements to be accounted for as a sale-leaseback, and therefore it has been treated as a financing obligation. As of December 31, 2019, the Company has a liability recorded of $39.1 million related to the payments for the use of the poles, of which $1.1 million is recognized within "Other current liabilities" in the Consolidated Balance Sheets. As of December 31, 2018, the Company had a liability recorded of $40.1 million related to the payments for the use of the poles for the next 20 years, of which $1.0 million is recognized within "Other current liabilities" in the Consolidated Balance Sheets.

The IT Services and Hardware segment entered into an agreement in June 2018 for a building to use in its data center operations. Structural improvements were made to the facility in excess of normal tenant improvements and, as such, we are deemed the accounting owner of the facility. The term of the agreement for the building shell is a duration of 10 years with two renewal options each with a two-year term. As of December 31, 2019 and 2018, the liability related to the financing arrangement is $4.4 million and $4.5 million, respectively, and recognized within "Other noncurrent liabilities" in the Consolidated Balance Sheets.

The future minimum payments under the base agreements, as well as the renewal options for each lease which the Company expects to exercise, are as follows:

(dollars in millions)		
Year ended December 31,		
2020	$	0.7
2021		0.7
2022		3.5
2023		5.8
2024		5.8
Thereafter		57.8
Total future minimum financing obligation payments		74.3
Less imputed interest		(33.8)
Total	$	40.5

Trans-Pacific Submarine Cable

Commensurate to the acquisition of Hawaiian Telcom, the Company gained access to the SEA-US cable. In August 2014, Hawaiian Telcom joined several other telecommunication companies to form a consortium to build and operate the SEA-US cable. The total system cost was $235.0 million and was primarily composed of a supply contract with the lead contractor. The Company has a fractional ownership in the system and recognizes its fractional share at cost. In addition, the Company constructed a cable landing station in Hawaii and provides cable landing services. The system was completed in August 2017. During 2019 and 2018, the Company incurred costs of $0.4 million and $1.7 million, respectively, primarily to the cable contractor for construction, with all such costs capitalized.

The Company has excess capacity on its share of the SEA-US cable that it makes available to other carriers for a fee. The Company has contracted and expects to enter into additional IRU agreements with other carriers for use of this excess fiber circuit capacity. The Company may receive up-front payments for services to be delivered over a period of up to 25 years. As of December 31, 2019 and 2018, the Company has a remaining obligation related to the sale of capacity and other services of $22.5 million and $23.0 million, respectively, which was previously received in up-front payments. The Company is recognizing revenue for the cable on a straight-line basis over the contract term. The Company recognizes a financing component in accordance with ASC 606 associated with the upfront payments as the contract terms range up to 25 years.

Asset Retirement Obligations

Asset retirement obligations exist for certain assets. In conjunction with the acquisition of Hawaiian Telcom, the Company recognized certain asset retirement obligations related to underground tanks and environmental remediation that will occur prior to the retirement of certain assets. These obligations are recorded in "Other noncurrent liabilities" in the Consolidated Balance Sheets. Additionally, the Company recognizes certain asset retirement obligations related to data center leases which are recorded in "Accounts payable" in the Consolidated Balance Sheets.

The following table presents the activity for the Company's asset retirement obligations:

	December 31,			
(dollars in millions)	2019		2018	
Balance, beginning of period	$	9.1	$	2.3
Hawaiian Telcom opening balance sheet adjustment		(3.2)		6.6
Liabilities incurred		1.8		—
Liabilities settled		(0.7)		(0.1)
Accretion expense		0.1		0.3
Balance, end of period	$	7.1	$	9.1

Indemnifications

During the normal course of business, the Company makes certain indemnities, commitments, and guarantees under which it may be required to make payments in relation to certain transactions. These include (a) intellectual property indemnities to customers in connection with the use, sale, and/or license of products and services, (b) indemnities to customers in connection with losses incurred while performing services on their premises, (c) indemnities to vendors and service providers pertaining to claims based on negligence or willful misconduct of the Company, (d) indemnities involving the representations and warranties in certain contracts, and (e) outstanding letters of credit which totaled $10.5 million as of December 31, 2019. In addition, the Company has made contractual commitments to several employees providing for payments upon the occurrence of certain prescribed events. The majority of these indemnities, commitments, and guarantees do not provide for any limitation on the maximum potential for future payments that the Company could be obligated to make.

As permitted under Ohio law, the Company has agreements whereby the Company indemnifies its officers and directors for certain events or occurrences while the officer or director is, or was, serving at the Company's request in such capacity. The term of the indemnification period is for the lifetime of the officer or director. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited; however, the Company has a director and officer insurance policy that limits the Company's exposure and enables the Company to recover a portion of any future amounts paid. As a result of the Company's insurance policy coverage, the Company believes the estimated fair value of these indemnification agreements is minimal. The Company has no liabilities recorded for these agreements as of December 31, 2019 or 2018.

Purchase Commitments

The Company has purchase commitments and blanket purchase requisitions related to certain goods and services. These agreements typically range from one to three years. As of December 31, 2019 and 2018, the minimum commitments associated with these arrangements that are noncancellable in nature, are not considered significant. The Company generally has the right to cancel open purchase orders prior to delivery and to terminate the contracts without cause.

Litigation

Cincinnati Bell and its subsidiaries are subject to various lawsuits, actions, proceedings, claims and other matters asserted under laws and regulations in the normal course of business. We believe the liabilities accrued for legal contingencies in our consolidated financial statements, as prescribed by GAAP, are adequate in light of the probable and estimable contingencies. However, there can be no assurances that the actual amounts required to satisfy alleged liabilities from various legal proceedings, claims, tax examinations, and other matters, and to comply with applicable laws and regulations, will not exceed the amounts reflected in our consolidated financial statements. As such, costs, if any, that may be incurred in excess of those amounts provided as of December 31, 2019, cannot be reasonably determined.

11. Financial Instruments and Fair Value Measurements

Interest Rate Swaps

The Company uses interest rate swap agreements to minimize its exposure to interest rate fluctuations on variable rate debt borrowings. Interest rate swaps involve the exchange of fixed and variable rate interest payments and do not represent an actual exchange of the underlying notional amounts between parties.

In the second quarter of 2018, the Company entered into one forward starting non-amortizing interest rate swap with a notional amount of $300.0 million to convert variable rate debt to fixed rate debt. The interest rate swap became effective in June 2018 and expires in June 2023. The interest rate swap results in interest payments based on an average fixed rate of 2.938% plus the applicable margin per the requirements in the Credit Agreement.

In the first quarter of 2019, the Company entered into three forward starting non-amortizing interest rate swaps, with a notional amount of $89.0 million each, to convert variable rate debt to fixed rate debt. The interest rate swaps became effective in March 2019 and expire in March 2024. The interest rate swaps result in interest payments based on an average fixed rate per swap of 2.275%, 2.244% and 2.328% plus the applicable margin per the requirements in the Credit Agreement.

During the next twelve months, the Company estimates that $5.8 million will be reclassified as an increase to interest expense.

The fair value of the Company's interest rate swaps are impacted by the credit risk of both the Company and its counterparties. The Company has agreements with its derivative financial instrument counterparties that contain provisions providing that if the Company defaults on the indebtedness associated with its derivative financial instruments, then the Company could also be declared in default on its derivative financial instruments obligations. In addition, the Company minimizes nonperformance risk on its derivative instruments by evaluating the creditworthiness of its counterparties, which are limited to major banks and financial institutions.

Upon inception, the interest rate swaps were designated as cash flow hedges under ASC 815, with gains and losses, net of tax, measured on an ongoing basis recorded in accumulated other comprehensive loss. The fair value of the interest rate swaps are categorized as Level 2 in the fair value hierarchy as they are based on well-recognized financial principles and available market data.

As of December 31, 2019, the fair value of the interest rate swap liability was $19.0 million and is recorded in the Consolidated Balance Sheets as of December 31, 2019 as follows:

(dollars in millions)	Balance Sheet Location	December 31, 2019	Quoted Prices in Active Markets Level 1	Significant Observable Inputs Level 2	Significant Unobservable Inputs Level 3
Liabilities:					
Interest Rate Swap	Other current liabilities	$ 5.7	$ —	$ 5.7	$ —
Interest Rate Swap	Other noncurrent liabilities	$ 13.3	$ —	$ 13.3	$ —

As of December 31, 2018, the fair value of the interest rate swap liability was $5.0 million and is recorded in the Consolidated Balance Sheets as of December 31, 2018 as follows:

(dollars in millions)	Balance Sheet Location	December 31, 2018	Quoted Prices in Active Markets Level 1	Significant Observable Inputs Level 2	Significant Unobservable Inputs Level 3
Liabilities:					
Interest Rate Swap	Other current liabilities	$ 1.2	$ —	$ 1.2	$ —
Interest Rate Swap	Other noncurrent liabilities	$ 3.8	$ —	$ 3.8	$ —

The amount of losses recognized in Accumulated Other Comprehensive Income ("AOCI") net of reclassifications into earnings is as follows:

	Year Ended December 31,	
(dollars in millions)	2019	2018
Interest Rate Swap	$ (14.0)	$ (5.0)

The amount of losses reclassified from AOCI into earnings is as follows:

		Year Ended December 31,	
(dollars in millions)	Statement of Operations Location	2019	2018
Interest Rate Swap	Interest Expense	$ (2.2)	$ (1.2)

Disclosure on Financial Instruments

The carrying values of the Company's financial instruments approximate the estimated fair values as of December 31, 2019 and December 31, 2018, except for the Company's long-term debt and other financing arrangements. The carrying and fair values of these items are as follows:

	December 31, 2019		December 31, 2018	
(dollars in millions)	Carrying Value	Fair Value	Carrying Value	Fair Value
Long-term debt, including current portion*	$ 1,867.5	$ 1,921.5	$ 1,880.0	$ 1,673.6
Other financing arrangements	43.5	55.5	44.6	43.6

* Excludes finance leases, other financing arrangements and note issuance costs

The fair value of our long-term debt was based on closing or estimated market prices of the Company’s debt at December 31, 2019 and December 31, 2018, which is considered Level 2 of the fair value hierarchy. The fair value of other financing arrangements was calculated using a discounted cash flow model that incorporates current borrowing rates for obligations of similar duration, which is considered Level 3 of the fair value hierarchy. As of December 31, 2019, the current borrowing rate was estimated by applying the Company's credit spread to the risk-free rate for a similar duration borrowing.

Non-Recurring Fair Value Measurements

Certain long-lived assets, intangibles, and goodwill may be required to be measured at fair value on a non-recurring basis subsequent to their initial measurement. These non-recurring fair value measurements generally occur when evidence of impairment has occurred. In 2019 and 2018, no assets were remeasured at fair value. During 2017, the following assets were remeasured at fair value in connection with impairment tests:

		Fair Value Measurements Using			
(dollars in millions)	Year Ended December 31, 2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Impairment Losses
Equity method investment:					
Equity method investment	—	—	—	—	$ (4.7)
Impairment of equity method investment					$ (4.7)

In the third quarter of 2017, an equity method investment recorded within “Other noncurrent assets” in the Consolidated Balance Sheets was remeasured at fair value due to a triggering event identified by management. As a result of the fair value analysis, the entire carrying value of $4.7 million was impaired and recorded to "Other expense (income), net" on the Consolidated Statements of Operations. This fair value measurement is considered a Level 3 measurement due to the significance of its unobservable inputs.

12. Pension and Postretirement Plans

Savings Plans

The Company sponsors several defined contribution plans covering substantially all employees. The Company's contributions to the plans are based on matching a portion of the employee contributions. Both employer and employee contributions are invested in various investment funds at the direction of the employee. Employer contributions to the defined contribution plans were $12.9 million, $11.3 million, and $8.2 million in 2019, 2018, and 2017, respectively.

Pension and Postretirement Plans

Cincinnati Plans

The Company sponsors three noncontributory defined benefit pension plans: one for eligible management employees, one for non-management employees, and one supplemental, nonqualified, unfunded plan for certain former senior executives (collectively the "Cincinnati Plans"). The management pension plan is a cash balance plan in which the pension benefit is determined by a combination of compensation-based credits and annual guaranteed interest credits. The non-management pension plan is also a cash balance plan in which the combination of service and job-classification-based credits and annual interest credits determine the pension benefit. Benefits for the supplemental plan are based on eligible pay, adjusted for age and service upon retirement. We fund both the management and non-management plans in an irrevocable trust through contributions, which are determined using the traditional unit credit cost method. We also use the traditional unit credit cost method for determining pension cost for financial reporting purposes.

During 2017, the non-management pension plan made lump sum payments of $11.0 million resulting in a reduction of the plan benefit obligation of $11.3 million. The Company recorded a pension settlement cost of $4.0 million in 2017 as a result of the lump sum payments to the plan participants exceeding the sum of the service cost and the interest cost component of the net pension cost.

The Company also provides healthcare and group life insurance benefits for eligible retirees. We fund healthcare benefits and other group life insurance benefits using Voluntary Employee Benefit Association ("VEBA") trusts. It is our practice to fund amounts as deemed appropriate from time to time. Contributions are subject to Internal Revenue Service ("IRS") limitations developed using the traditional unit credit cost method. The actuarial expense calculation for our postretirement health plan is based on numerous assumptions, estimates, and judgments including healthcare cost trend rates and cost sharing with retirees. Retiree healthcare benefits were phased out as of December 31, 2018 for all employees, with the exception of a small group of grandfathered employees. The postretirement health plan also includes liabilities associated with employees who have special death benefits only.

Hawaii Plans

The Company sponsors one noncontributory defined benefit plan for union employees, one cash balance pension plan for

nonunion employees, and two postretirement health and life insurance plans for Hawaiian Telcom employees (collectively the "Hawaii Plans"). The noncontributory defined benefit plan was frozen as of March 1, 2012, and the cash balance pension plan was frozen as of April 1, 2007.

During 2019, Hawaiian Telcom's pension plans made lump sum payments of $1.0 million resulting in a reduction of plan benefit obligation of $1.0 million and a nominal pension settlement cost. During 2018, Hawaiian Telcom's pension plans made lump sum payments of $3.6 million resulting in a reduction of plan benefit obligation of $3.6 million. The Company recorded a pension settlement cost of $0.1 million in 2018 as a result of the lump sum payments to the plan participants exceeding the sum of the service cost and the interest cost component of the net pension cost.

Components of Net Periodic Cost

The following information relates to noncontributory defined benefit pension plans, postretirement healthcare plans, and life insurance benefit plans at December 31, 2019, 2018 and 2017 for the Cincinnati Plans and at December 31, 2019 and 2018 for the Hawaii Plans. Hawaii pension and postretirement costs recorded in 2018 are related to the six month period subsequent to the July 2, 2018 acquisition date. In 2017, approximately 13% of these costs were capitalized to property, plant and equipment related to network construction in the Entertainment and Communications segment. In accordance with ASU 2017-07, adopted effective January 1, 2018, only the service cost component of net benefit cost is eligible for capitalization on a prospective basis, which was immaterial for 2019 and 2018.

Pension and postretirement benefit costs for these plans were comprised of:

	Pension Benefits			Postretirement and Other Benefits		
(dollars in millions)	2019	2018	2017	2019	2018	2017
Service cost	$ —	$ —	$ —	$ 0.6	$ 0.6	$ 0.2
Interest cost on projected benefit obligation	23.9	20.0	19.4	5.0	4.2	3.2
Expected return on plan assets	(30.7)	(29.8)	(26.0)	—	—	—
Amortization of:						
Prior service benefit	—	—	—	(2.5)	(3.1)	(4.5)
Actuarial loss	13.7	17.0	17.5	1.8	4.1	4.7
Pension settlement charges	—	0.1	4.0	—	—	—
Pension/postretirement cost	$ 6.9	$ 7.3	$ 14.9	$ 4.9	$ 5.8	$ 3.6

The following are the weighted-average assumptions used in measuring the net periodic cost of the pension and postretirement benefits:

Cincinnati Plans	Pension Benefits			Postretirement and Other Benefits		
	2019	2018	2017	2019	2018	2017
Discount rate	4.20%	3.60%	4.10%	4.30%	3.60%	4.00%
Expected long-term rate of return	6.50%	7.00%	7.25%	—	—	—
Future compensation growth rate	—	—	—	—	—	—

Hawaii Plans	Pension Benefits		Postretirement and Other Benefits	
	2019	2018	2019	2018
Discount rate	4.20%	4.10%	4.40%	4.20%
Expected long-term rate of return	6.50%	7.00%	—	—
Future compensation growth rate	—	—	—	—

The expected long-term rate of return on plan assets, developed using the building block approach, for each of the plans is based on the mix of investments held directly by the plans and the current view of expected future returns, which is influenced by historical averages. Changes in actual asset return experience and discount rate assumptions can impact the Company's operating results, financial position and cash flows.

Benefit Obligation and Funded Status

Changes in the plans' benefit obligations and funded status are as follows:

(dollars in millions)	Pension Benefits 2019	Pension Benefits 2018	Postretirement and Other Benefits 2019	Postretirement and Other Benefits 2018
Change in benefit obligation:				
Benefit obligation at January 1,	$ 606.8	$ 489.2	$ 123.7	$ 98.6
Hawaiian Telcom opening balance sheet adjustment	—	184.1	—	51.2
Service cost	—	—	0.6	0.6
Interest cost	23.9	20.0	5.0	4.2
Actuarial loss (gain)	72.7	(39.9)	(5.1)	(20.3)
Benefits paid	(49.5)	(43.0)	(8.6)	(13.1)
Retiree drug subsidy received	—	—	0.1	0.3
Settlements	(1.0)	(3.6)	—	—
Other	—	—	0.6	2.2
Benefit obligation at December 31,	$ 652.9	$ 606.8	$ 116.3	$ 123.7
Change in plan assets:				
Fair value of plan assets at January 1,	$ 482.4	$ 392.1	$ 5.8	$ 7.5
Hawaiian Telcom opening balance sheet adjustment	—	163.0	—	—
Actual return (loss) on plan assets	101.0	(37.7)	0.3	0.3
Employer contributions	5.9	11.6	6.7	10.8
Retiree drug subsidy received	—	—	0.1	0.3
Benefits paid	(49.5)	(43.0)	(8.6)	(13.1)
Settlements	(1.0)	(3.6)	—	—
Fair value of plan assets at December 31,	538.8	482.4	4.3	5.8
Unfunded status	$ (114.1)	$ (124.4)	$ (112.0)	$ (117.9)

The following are the weighted-average assumptions used in accounting for and measuring the projected benefit obligations:

Cincinnati Plans	Pension Benefits December 31, 2019	Pension Benefits December 31, 2018	Postretirement and Other Benefits December 31, 2019	Postretirement and Other Benefits December 31, 2018
Discount rate	3.10%	4.20%	3.20%	4.30%
Future compensation growth rate	—	—	—	—

Hawaii Plans	Pension Benefits December 31, 2019	Pension Benefits December 31, 2018	Postretirement and Other Benefits December 31, 2019	Postretirement and Other Benefits December 31, 2018
Discount rate	3.10%	4.20%	3.30%	4.40%
Future compensation growth rate	—	—	—	—

The assumed healthcare cost trend rate used to measure the postretirement health benefit obligation is shown below:

Cincinnati Plans	December 31, 2019	December 31, 2018
Healthcare cost trend	6.5%	6.5%
Rate to which the cost trend is assumed to decline (ultimate trend rate)	4.5%	4.5%
Year the rates reach the ultimate trend rate	2024	2023

Hawaii Plans	December 31, 2019	December 31, 2018
Healthcare cost trend	6.8%	6.8%
Rate to which the cost trend is assumed to decline (ultimate trend rate)	5.0%	5.0%
Year the rates reach the ultimate trend rate	2026	2026

A one-percentage point change in assumed healthcare cost trend rates would not impact the Hawaii postretirement plan due to the plan exceeding the per capita cost caps. A one-percentage point change in assumed healthcare cost trend rates would have the following effect on the Cincinnati postretirement benefit costs and obligation:

(dollars in millions)	1% Increase	1% Decrease
Service and interest costs for 2019	$ 0.1	$ (0.1)
Postretirement benefit obligation at December 31, 2019	1.5	(1.4)

The projected benefit obligation is recognized in the Consolidated Balance Sheets as follows:

	Pension Benefits		Postretirement and Other Benefits	
	December 31,		December 31,	
(dollars in millions)	2019	2018	2019	2018
Accrued payroll and benefits (current liability)	$ 2.1	$ 2.1	$ 9.5	$ 11.0
Pension and postretirement benefit obligations (noncurrent liability)	112.0	122.3	102.5	106.9
Total	$ 114.1	$ 124.4	$ 112.0	$ 117.9

Amounts recognized in "Accumulated other comprehensive loss" in the Consolidated Balance Sheets which have not yet been recognized in net pension costs consisted of the following:

	Pension Benefits		Postretirement and Other Benefits	
	December 31,		December 31,	
(dollars in millions)	2019	2018	2019	2018
Prior service (cost) benefit, net of tax of ($0.1), ($0.1), $4.0, $4.6	$ (0.1)	$ (0.1)	$ 15.6	$ 17.5
Actuarial loss, net of tax of ($42.4), ($45.0), ($5.4), ($7.1)	(147.5)	(156.3)	(20.0)	(25.6)
Total	$ (147.6)	$ (156.4)	$ (4.4)	$ (8.1)

Amounts recognized in "Accumulated other comprehensive loss" on the Consolidated Statements of Shareowners' Deficit and the Consolidated Statements of Comprehensive Income are shown below:

	Pension Benefits		Postretirement and Other Benefits	
(dollars in millions)	2019	2018	2019	2018
Prior service cost recognized:				
Reclassification adjustments	$ —	$ —	$ (2.5)	$ (3.1)
Actuarial (loss) gain recognized:				
Reclassification adjustments	13.7	17.1	1.8	4.1
Actuarial (loss) gain arising during the period	(2.3)	(27.7)	5.5	20.4

The following amounts currently included in "Accumulated other comprehensive loss" are expected to be recognized in 2020 as a component of net periodic pension and postretirement cost:

(dollars in millions)	Pension Benefits	Postretirement and Other Benefits
Prior service benefit	$ —	$ (2.5)
Actuarial loss	18.1	3.0
Total	$ 18.1	$ 0.5

Plan Assets, Investment Policies and Strategies

Cincinnati and Hawaii Plans

The primary investment objective for the trusts holding the assets of the pension and postretirement plans is preservation of capital with a reasonable amount of long-term growth and income without undue exposure to risk. The investment follows a glide path approach toward liability-driven investing that shifts a higher portfolio weighting to fixed income as the plan's funded status increases. The current target allocations for the pension plan assets are 50% equity securities and 50% investment grade fixed income securities. Equity securities are primarily held in the form of passively managed funds that seek to track the performance of a benchmark index. Equity securities include investments in growth and value common stocks of companies located in the United States, which represents approximately 50% of the equity securities held by the pension plans at December 31, 2019, as well as stock of international companies located in both developed and emerging markets around the world. Fixed income securities primarily include holdings of funds, which generally invest in a variety of intermediate and long-term investment grade corporate bonds from diversified industries and U.S. Treasuries. The postretirement plan assets held by the Cincinnati plan are currently invested in a group insurance contract.

The fair values of the pension plan assets at December 31, 2019 and 2018 by asset category are as follows:

(dollars in millions)	December 31, 2019	Quoted Prices in active markets Level 1	Significant observable inputs Level 2	Significant unobservable inputs Level 3
Mutual funds				
U.S. equity index funds	$ 137.2	$ 137.2	$ —	$ —
International equity index funds	137.4	137.4	—	—
Fixed income bond funds	263.7	263.7	—	—
Fixed income short-term money market funds	0.5	0.5	—	—
Group insurance contract	4.3	—	—	—
Total	$ 543.1	$ 538.8	$ —	$ —

(dollars in millions)	December 31, 2018	Quoted Prices in active markets Level 1	Significant observable inputs Level 2	Significant unobservable inputs Level 3
Mutual funds				
U.S. equity index funds	$ 165.0	$ 107.2	$ 57.8	$ —
International equity index funds	127.2	100.7	26.5	—
Fixed income bond funds	183.0	119.3	63.7	—
Fixed income short-term money market funds	7.2	0.1	7.1	—
Group insurance contract	5.8	—	—	—
Total	$ 488.2	$ 327.3	$ 155.1	$ —

The fair values of Level 1 investments are based on quoted prices in active markets.

In 2019, Hawaiian Telcom adjusted its overall investment strategy to align with the Cincinnati plans. As a result, the Hawaii Plans' assets moved from Level 2 investments to Level 1 investments.

In 2018, Level 2 investments included certain fixed income funds, equity funds, and short term investment funds that were held by the Hawaii Plans. Investment funds include commingled funds that are not open to public investment and are valued at the net asset value per share. The majority of such funds allow for redemption each trading day at the daily reported net asset value per share which is reported as the fund fair value on that trading day. There are no restrictions on fund redemptions. As the published net asset value reflects the amount at which the fund trades, the Company concluded it is reflective of the fund fair value as of the end of each reporting period.

The group insurance contract is valued at contract value plus accrued interest and has not been included in the fair value hierarchy, but is included in the totals above.

Contributions to our qualified pension plans were $3.6 million in 2019, $9.3 million in 2018, and $2.3 million in 2017. The 2018 contributions include a $5 million contribution to the Hawaii Plans that was required by the Public Utilities Commission of the State of Hawaii in order to complete the merger. Contributions to our non-qualified pension plan were $2.3 million in 2019, $2.3 million in 2018, and $2.3 million in 2017.

Based on current assumptions, contributions are expected to be approximately $6 million and $3 million to the qualified and non-qualified plans in 2020, respectively. Management expects to make cash payments of approximately $8 million related to its postretirement health plans in 2020.

Estimated Future Benefit Payments

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid over the next ten years:

(dollars in millions)	Pension Benefits	Postretirement and Other Benefits	Medicare Subsidy Receipts
2020	$ 60.7	$ 9.8	$ (0.3)
2021	54.7	9.5	(0.3)
2022	54.6	9.1	(0.3)
2023	50.1	8.6	(0.3)
2024	48.4	8.2	(0.2)
Years 2025 - 2029	201.6	35.3	(0.8)

13. Shareowners' Deficit

Common Shares

The par value of the Company's common shares is $0.01 per share. At December 31, 2019 and 2018, common shares outstanding were 50,420,700 and 50,184,114, respectively.

In 2010, the Board of Directors approved a plan for repurchase of up to $150.0 million of the Company's common shares. In 2019, 2018 and 2017, no shares were repurchased or retired under this plan. As of December 31, 2019, the Company had the authority to repurchase $124.4 million of its common stock.

On July 2, 2018, the Company completed its acquisition of Hawaiian Telcom. In conjunction with the acquisition, the Company issued 7.7 million common shares as stock consideration, with a total value of $121.2 million.

Preferred Shares

The Company is authorized to issue 1,357,299 shares of voting preferred stock without par value and 1,000,000 shares of nonvoting preferred stock without par value. The Company issued 155,250 voting shares of 6 3/4% cumulative convertible preferred stock at stated value. These shares were subsequently deposited into a trust in which the underlying 155,250 shares are equivalent to 3,105,000 depositary shares. Shares of this preferred stock can be converted at any time at the option of the holder into common stock of the Company at a conversion rate of 5.7676 shares of the Company common stock per one share of 6 3/4% cumulative convertible preferred stock. Annual dividends of $67.50 per share (or $3.3752 per depositary share) on the outstanding 6 3/4% convertible preferred stock are payable quarterly in arrears in cash, or in common stock in certain circumstances if cash payment is not legally permitted. The liquidation preference on the 6 3/4% cumulative convertible preferred stock is $1,000 per share (or $50 per depositary share). The Company paid $10.4 million in preferred stock dividends in each of 2019, 2018, and 2017.

Accumulated Other Comprehensive Loss

Shareowners' deficit includes an accumulated other comprehensive loss that is comprised of pension and postretirement unrecognized prior service cost and unrecognized actuarial losses, unrealized loss on cash flow hedges arising during the period and foreign currency translation losses.

For the years ended December 31, 2019 and 2018, the changes in accumulated other comprehensive loss by component were as follows:

(dollars in millions)	Unrecognized Net Periodic Pension and Postretirement Benefit Cost	Unrealized Loss on Cash Flow Hedges, Net	Foreign Currency Translation Loss	Total
Balance as of December 31, 2017	$ (173.1)	$ —	$ (0.6)	$ (173.7)
Remeasurement of benefit obligations	(5.5)	—	—	(5.5)
Reclassifications, net	14.1 (a)	0.9 (b)	—	15.0
Unrealized loss on cash flow hedge arising during the period, net	—	(4.8) (c)	—	(4.8)
Foreign currency loss	—	—	(6.5)	(6.5)
Balance as of December 31, 2018	$ (164.5)	$ (3.9)	$ (7.1)	$ (175.5)
Remeasurement of benefit obligations	2.5	—	—	2.5
Reclassifications, net	10.0 (a)	1.7 (b)	—	11.7
Unrealized loss on cash flow hedges arising during the period, net	—	(12.5) (c)	—	(12.5)
Foreign currency gain	—	—	3.7	3.7
Balance as of December 31, 2019	$ (152.0)	$ (14.7)	$ (3.4)	$ (170.1)

(a) These reclassifications are included in the other components of net periodic pension and postretirement benefit plans expense and represent amortization of prior service benefit and actuarial loss, net of tax and pension settlement charges, net of tax. The other components of net periodic pension and postretirement benefit plans expense are recorded in "Other components of pension and postretirement benefit plans expense" on the Consolidated Statements of Operations. See Note 12 for further disclosures.

(b) These reclassifications are reported within "Interest expense" on the Consolidated Statements of Operations when the hedged transactions impact earnings.

(c) The unrealized loss on cash flow hedges represents the change in the fair value of the derivative instruments that occurred during the period, net of tax. The unrealized loss on cash flow hedges is recorded in "Other current liabilities" and "Other noncurrent liabilities" on the Consolidated Balance Sheets. See Note 11 for further disclosures.

14. Income Taxes

Income tax expense for continuing operations consisted of the following:

	Year Ended December 31,		
(dollars in millions)	2019	2018	2017
Current:			
Federal	$ (1.4)	$ (0.6)	$ (14.8)
State and local	—	0.9	1.0
Foreign	0.5	1.6	—
Total current	(0.9)	1.9	(13.8)
Deferred:			
Federal	(9.1)	(10.3)	47.0
State and local	(1.5)	5.7	2.3
Foreign	0.4	(1.0)	0.4
Total deferred	(10.2)	(5.6)	49.7
Valuation allowance	0.5	13.1	(9.2)
Total	$ (10.6)	$ 9.4	$ 26.7

The following is a reconciliation of the statutory federal income tax rate with the effective tax rate for each year:

	Year Ended December 31,		
	2019	2018	2017
U.S. federal statutory rate	21.0%	21.0%	35.0%
State and local income taxes, net of federal income tax	2.1	1.4	0.7
Transaction costs	(3.0)	(3.1)	5.5
Non-Deductible meals and entertainment	(1.5)	(1.8)	1.3
Equity compensation	(1.7)	0.3	(0.5)
Merger adjustments	(1.7)	—	—
State net operating loss adjustments	(1.0)	(10.1)	2.0
Change in valuation allowance, net of federal income tax	(0.5)	(21.8)	(9.1)
Federal rate change	—	—	3.5
Unrecognized tax benefit changes	—	—	1.4
Other differences, net	—	(1.4)	0.3
Effective tax rate	13.7%	(15.5)%	40.1%

The income tax (benefit) provision was charged to continuing operations or accumulated other comprehensive income (loss) as follows:

	Year Ended December 31,		
(dollars in millions)	2019	2018	2017
Income tax (benefit) provision related to:			
Continuing operations	$ (10.6)	$ 9.4	$ 26.7
Accumulated other comprehensive income (loss)	0.2	1.3	(28.3)

Prior year balances related to deferred tax assets and liabilities have been recast to net the federal effect of state taxes with the specific deferred tax asset or liability to which it relates.

The components of our deferred tax assets and liabilities were as follows:

(dollars in millions)	December 31, 2019	December 31, 2018
Deferred tax assets:		
Net operating loss carryforwards	$ 210.2	$ 171.9
Finance and operating lease obligations	29.1	22.4
Pension and postretirement benefits	54.3	53.1
Employee benefits	6.1	9.9
Interest limitation	16.6	14.8
State tax credit	9.2	9.7
Other	29.0	26.3
Total deferred tax assets	354.5	308.1
Valuation allowance	(49.3)	(48.7)
Total deferred tax assets, net of valuation allowance	$ 305.2	$ 259.4
Deferred tax liabilities:		
Property, plant and equipment and intangibles	$ (239.2)	$ (211.5)
Other	(18.4)	(11.8)
Total deferred tax liabilities	(257.6)	(223.3)
Net deferred tax assets	$ 47.6	$ 36.1

As of December 31, 2019, the Company had $777.1 million of federal net operating loss carryforwards with a deferred tax asset value of $163.2 million and $47.0 million in deferred tax assets related to state and local net operating loss carryforwards. Federal net operating loss carryforwards of $125.6 million will expire in 2023. U.S. tax laws limit the annual utilization of net operating loss carryforwards of acquired entities but the Company expects to fully utilize the net operating loss carryforwards.

The Company assessed all available positive and negative evidence to determine whether it expects that future taxable income will be generated to allow it to realize its existing deferred tax assets. Despite the cumulative book loss incurred over the three-year period ended December 31, 2019, there is sufficient objectively verifiable income for management to conclude that it is more likely than not that the Company will utilize available federal net operating loss carryforwards prior to their expiration. As of December 31, 2019, the Company has recorded valuation allowances of $16.6 million against the portion of interest expense for which deduction is limited under section 163(j) of the Internal Revenue Code and $32.7 million against other attributes including primarily state and local net operating loss carryforwards. Management has concluded that it is more likely than not that it will realize all other deferred tax assets.

The total amount of unrecognized tax benefits that, if recognized, would impact the effective tax rate is $21.7 million and $21.9 million at December 31, 2019 and December 31, 2018, respectively. It is reasonably possible that existing unrecognized tax benefits related to a federal sequestration of AMT credits could decrease by $2.1 million within the next 12 months. Accrued interest and penalties on income tax uncertainties were immaterial as of December 31, 2019 and 2018.

A reconciliation of the unrecognized tax benefits is as follows:

(dollars in millions)	Year Ended December 31, 2019	2018	2017
Balance, beginning of year	$ 22.0	$ 22.2	$ 31.4
Change in tax positions for the current year	0.2	—	1.0
Change in tax positions for prior years	(0.3)	(0.2)	0.3
Change related to decrease in federal tax rate	—	—	(10.5)
Balance, end of year	$ 21.9	$ 22.0	$ 22.2

The Company and its subsidiaries file income tax returns in the U.S. federal jurisdiction and various foreign, state and local jurisdictions. With a few exceptions, the Company is no longer subject to U.S. federal, state or local examinations for years before 2015.

U.S. income and foreign withholding taxes have not been recognized on the excess of the amount for financial reporting over the tax basis of investments in foreign subsidiaries that is indefinitely reinvested outside the United States. The Company intends to indefinitely reinvest the undistributed earnings of these foreign subsidiaries in its operations outside the United States to support its international growth. Determination of the amount of any unrecognized deferred income tax liability on this temporary difference is not practicable because of the complexities of the hypothetical calculation.

15. Stock-Based and Deferred Compensation Plans

The Company may grant stock options, stock appreciation rights, performance-based awards, restricted stock units, and time-based restricted shares to officers and key employees under the 2017 Long-Term Incentive Plan and stock options, restricted shares, and restricted stock units to directors under the 2017 Stock Plan for Non-Employee Directors. The maximum number of shares authorized and available for award under the 2017 plans at December 31, 2019 was 1.2 million.

On May 2, 2017, the 2007 Long Term Incentive Plan and 2007 Stock Option Plan for Non-Employee Directors both expired. Under the 2007 Long Term Incentive Plan, the Company granted stock options, stock appreciation rights, performance-based awards, and time-based restricted shares to officers and key employees. Under the 2007 Stock Option Plan for Non-Employee Directors, the Company granted stock options, restricted shares, and restricted stock units to directors. The Company no longer grants shares under the 2007 plans as of May 2, 2017.

On July 2, 2018, the Company completed its acquisition of Hawaiian Telcom. In conjunction with the acquisition, the Company assumed responsibility for the eventual payout of certain stock-based compensation awards that were previously granted to Hawaiian Telcom employees under the Hawaiian Telcom 2010 Equity Incentive Plan. These awards were originally granted by Hawaiian Telcom in the first quarter of 2017 and in the first quarter of 2018, before the merger with Cincinnati Bell was completed. Going forward, all stock-based compensation awards for Hawaiian Telcom employees will be granted under the 2017 Long-Term Incentive Plan.

Stock Options and Stock Appreciation Rights

Generally, the awards of stock options and stock appreciation rights fully vest three years from grant date and expire ten years from grant date. Beginning in 2012, some of the stock options vested over a three year period based on the achievement of certain performance objectives. The Company generally issues new shares when options to purchase common shares or stock appreciation rights are exercised. The following table summarizes stock options and stock appreciation rights activity:

	2019		2018		2017	
(in thousands, except per share amounts)	**Shares**	**Weighted-Average Exercise Price Per Share**	**Shares**	**Weighted-Average Exercise Price Per Share**	**Shares**	**Weighted-Average Exercise Price Per Share**
Outstanding at January 1,	151	$ 18.29	181	$ 17.10	390	$ 20.00
Exercised	—	—	(19)	8.68	(35)	15.76
Forfeited	(7)	17.05	(9)	17.05	(35)	21.58
Expired	—	—	(2)	8.35	(139)	24.55
Outstanding and exercisable at December 31,	144	$ 18.35	151	$ 18.29	181	$ 17.10
(dollars in millions)						
Compensation expense for the year	$ —		$ —		$ 0.2	
Tax benefit related to compensation expense	$ —		$ —		$ (0.1)	
Intrinsic value of awards exercised	$ —		$ 0.1		$ 0.2	
Cash received from awards exercised	$ —		$ 0.2		$ 0.5	
Grant date fair value of awards vested	$ —		$ —		$ 0.3	

The following table summarizes our outstanding and exercisable awards at December 31, 2019:

	Outstanding		Exercisable	
(in thousands, except per share amounts)	**Shares**	**Weighted-Average Exercise Price Per Share**	**Shares**	**Weighted-Average Exercise Price Per Share**
Range of Grant Price				
$14.55 to $17.05	116	$ 17.04	116	$ 17.04
$23.75 to $26.05	28	23.83	28	23.83
Total	144	$ 18.35	144	$ 18.35

As of December 31, 2019, the aggregate intrinsic value for awards outstanding and exercisable was zero. The weighted-average remaining contractual life for awards outstanding and exercisable is approximately four years. As of December 31, 2019, there was no remaining unrecognized stock compensation expense related to stock options or stock appreciation rights.

Performance-Based Restricted Awards

Awards granted generally vest over three years and upon the achievement of certain performance-based objectives. Performance-based awards are expensed based on their grant date fair value if it is probable that the performance conditions will be achieved.

The following table summarizes our outstanding performance-based restricted award activity:

(in thousands, except per share amounts)	2019 Shares	2019 Weighted-Average Exercise Price Per Share	2018 Shares	2018 Weighted-Average Exercise Price Per Share	2017 Shares	2017 Weighted-Average Exercise Price Per Share
Non-vested at January 1,	692	$ 18.67	871	$ 17.30	954	$ 15.89
Granted*	763	8.34	288	17.60	245	22.03
Vested	(160)	15.45	(308)	15.45	(229)	16.74
Forfeited	(13)	11.32	(159)	15.45	(99)	16.62
Non-vested at December 31,	1,282	$ 13.00	692	$ 18.67	871	$ 17.30
(dollars in millions)						
Compensation expense for the year	$ 2.7		$ 2.1		$ 3.9	
Tax benefit related to compensation expense	$ (0.6)		$ (0.5)		$ (1.4)	
Grant date fair value of awards vested	$ 2.5		$ 4.7		$ 3.8	

* Assumes the maximum number of awards that can be earned if the performance conditions are achieved.

As of December 31, 2019, unrecognized compensation expense related to performance-based awards was $5.4 million, assuming maximum performance attainment, which is expected to be recognized over a weighted-average period of approximately two years.

Time-Based Restricted Awards

Awards granted to Cincinnati Bell employees in 2019, 2018 and 2017 vest at the end of a three year period. Awards granted to directors in 2019, 2018 and 2017 vest on the first anniversary of the grant date.

As part of the terms of the acquisition of Hawaiian Telcom, certain stock-based compensation awards granted by Hawaiian Telcom before the merger date were converted to time-based restricted stock units. The Company assumed responsibility for the eventual payout of these time-based restricted stock units as part of the acquisition. These awards were originally granted by Hawaiian Telcom in the first quarter of 2017 and 2018, and vest in one-fourth increments over a period of four years. One-fourth of the awards granted in the first quarter of 2017 vested and were distributed by Hawaiian Telcom prior to July 2, 2018. All remaining awards that vest after July 2, 2018 will be distributed by Cincinnati Bell Inc.

The following table summarizes our time-based restricted award activity:

(in thousands, except per share amounts)	2019 Shares	2019 Weighted-Average Exercise Price Per Share	2018 Shares	2018 Weighted-Average Exercise Price Per Share	2017 Shares	2017 Weighted-Average Exercise Price Per Share
Non-vested at January 1,	497	$ 17.02	164	$ 18.57	106	$ 16.75
Granted	625	8.43	245	17.05	96	20.78
Awards converted pursuant to Hawaiian Telcom acquisition	—	—	149	15.70	—	—
Vested	(167)	15.39	(61)	18.08	(38)	19.10
Forfeited	(13)	12.76	—	—	—	—
Non-vested at December 31,	942	$ 11.67	497	$ 17.02	164	$ 18.57
(dollars in millions)						
Compensation expense for the year	$ 4.7		$ 3.5		$ 1.8	
Tax benefit related to compensation expense	$ (1.1)		$ (0.8)		$ (0.6)	
Grant date fair value of awards vested	$ 2.6		$ 1.1		$ 0.7	

As of December 31, 2019, there was $4.4 million of unrecognized compensation expense related to these restricted stock awards, which is expected to be recognized over a weighted-average period of approximately two years.

16. Restructuring and Severance

Liabilities have been established for employee separations, lease abandonment and contract terminations. A summary of activity in the restructuring and severance liability is shown below:

(dollars in millions)	Employee Separation	Lease Abandonment	Total
Balance as of December 31, 2016	$ 11.0	$ 0.2	$ 11.2
Charges	32.7	—	32.7
Utilizations	(29.3)	(0.1)	(29.4)
Balance as of December 31, 2017	14.4	0.1	14.5
Charges	7.5	0.8	8.3
Hawaiian Telcom opening balance sheet adjustment	3.8	—	3.8
Utilizations	(16.2)	(0.2)	(16.4)
Balance as of December 31, 2018	9.5	0.7	10.2
Charges	6.9	—	6.9
Hawaiian Telcom opening balance sheet adjustment	0.1	—	0.1
Utilizations	(13.9)	(0.4)	(14.3)
Balance as of December 31, 2019	$ 2.6	$ 0.3	$ 2.9

Restructuring and severance charges recorded in 2019 in the Entertainment and Communications segment are related to a severance program for certain management employees as the Company continues its efforts to realize synergies that can be achieved due to the acquisition of Hawaiian Telcom. Restructuring and severance charges recorded in the IT Services and Hardware segment in 2019 are associated with initiatives to reduce and contain costs as well as headcount reductions as a result of insourcing initiatives by one of our significant customers.

In 2018, an opening balance sheet adjustment of $3.8 million was recorded for certain employees who received severance due to the change of control clause within their employment agreements that was triggered at the time of the acquisition of Hawaiian Telcom. Restructuring and severance charges recorded in 2018 are primarily related to a voluntary severance program ("VSP") for certain management employees in the Entertainment and Communications segment, as well as Corporate. The VSP that took place in the fourth quarter of 2018 related to the Company's continued efforts to realize synergies that can be achieved due to the acquisition of Hawaiian Telcom. The Company also incurred employee severance costs in 2018 associated with initiatives to reduce costs and recognize future synergies in the IT Services and Hardware segment as a result of the acquisition of, and integration with, OnX. In addition, a restructuring charge associated with lease abandonment of $0.8 million was recorded in the second quarter of 2018 related to an office space that will no longer be utilized.

In 2017, the Company initiated reorganizations within both segments of the business in order to more appropriately align the Company for future growth. In addition, during 2017 the Company finalized a voluntary severance program for certain bargained employees related to an initiative to reduce field and network costs within our legacy copper network which resulted in headcount reductions.

Lease abandonment costs represent future minimum lease obligations, net of expected sublease income, for abandoned facilities. Lease payments on abandoned facilities will continue through 2020.

A summary of restructuring activity by business segment is presented below:

(dollars in millions)	Entertainment and Communications	IT Services and Hardware	Corporate	Total
Balance as of December 31, 2016	$ 7.5	$ 3.0	$ 0.7	$ 11.2
Charges	27.6	5.1	—	32.7
Utilizations	(22.8)	(5.9)	(0.7)	(29.4)
Balance as of December 31, 2017	12.3	2.2	—	14.5
Charges	3.1	4.9	0.3	8.3
Hawaiian Telcom opening balance sheet adjustment	3.8	—	—	3.8
Utilizations	(10.6)	(5.8)	—	(16.4)
Balance as of December 31, 2018	8.6	1.3	0.3	10.2
Charges	4.9	2.0	—	6.9
Hawaiian Telcom opening balance sheet adjustment	0.1	—	—	0.1
Utilizations	(11.2)	(2.8)	(0.3)	(14.3)
Balance as of December 31, 2019	$ 2.4	$ 0.5	$ —	$ 2.9

At December 31, 2019 and 2018, $2.9 million and $9.6 million, respectively, of the restructuring liabilities were included in “Other current liabilities.” At December 31, 2018, $0.6 million was included in "Other noncurrent liabilities."

Subsequent to December 31, 2019, the Company finalized a voluntary severance program for certain bargained and management employees in the Entertainment and Communications segment in an effort to continue to reduce costs associated with our copper field and network operations. As a result, a severance charge of approximately $15 million will be recorded in the first quarter of 2020.

17. Business Segment Information

For the years ended December 31, 2019, 2018, and 2017, we operated two business segments: Entertainment and Communications and IT Services and Hardware.

Effective January 1, 2019, we adopted the requirement of ASU 2016-02, Leases. The standard was adopted using the modified retrospective transition method, which did not require the Company to adjust comparative period amounts.

Effective January 1, 2018, we adopted the requirements of ASU 2014-09, Revenue from Contracts with Customers, and ASU 2017-07, Improving the Presentation of Net Period Pension Cost and Net Periodic Postretirement Benefit Cost.

In July 2018, the Company acquired Hawaiian Telcom. Based on the nature of the products and services offered, financial results are presented in either the Entertainment and Communications segment or the IT Services and Hardware segment.

The Entertainment and Communications segment provides products and services that can be categorized as either Fioptics in Cincinnati or Consumer/SMB Fiber in Hawaii (collectively, "Consumer/SMB Fiber"), Enterprise Fiber or Legacy. Cincinnati Bell Telephone Company LLC ("CBT"), a subsidiary of the Company, is the incumbent local exchange carrier ("ILEC") for a geography that covers a radius of approximately 25 miles around Cincinnati, Ohio, and includes parts of northern Kentucky and southeastern Indiana. Voice and data services in the Enterprise Fiber and Legacy categories that are delivered beyond the Company's ILEC territory, particularly in Dayton and Mason, Ohio, are provided through the operations of Cincinnati Bell Extended Territories LLC ("CBET"), a subsidiary of CBT. On July 2, 2018, the Company acquired Hawaiian Telcom. Hawaiian Telcom is the ILEC for the State of Hawaii and the largest full service provider of communications services and products in the state. Revenue in 2019 and 2018 includes contributions by Hawaiian Telcom of $314.0 million and $159.2 million, respectively. Capital expenditures in the Entertainment and Communications segment are incurred to expand our Consumer/SMB Fiber product suite, upgrade and increase capacity for our internet and data networks, and to maintain our wireline network.

The IT Services and Hardware segment provides end-to-end solutions from consulting to implementation to ongoing optimization. These solutions include Cloud, Communications and Consulting services along with the sale and maintenance of major branded hardware reported as Infrastructure Solutions. In the fourth quarter of 2017, the Company acquired OnX, a privately held company that provides technology services and solutions to enterprise customers in the U.S., Canada and the U.K. In July 2018, the Company completed the acquisition of Hawaiian Telcom, and products such as UCaaS, hardware and enterprise long distance delivered by Hawaiian Telcom are included in the IT Services and Hardware segment.

Total assets for the Company decreased $76.4 million as of December 31, 2019 as compared to December 31, 2018. Entertainment and Communications assets decreased $58.8 million due to a decrease in property, plant and equipment primarily as a result of the increased depreciation in 2019 related to Hawaiian Telcom property, plant and equipment exceeding capital expenditures. IT Services and Hardware assets increased by $32.6 million primarily due to the Company’s recognition of operating lease right-of-use assets in the Consolidated Balance Sheets upon adoption of ASU 2016-02. Corporate assets decreased $50.2 million primarily due to decreased receivables. Lower receivables is partially due to timing of sales in the fourth quarter as well as additional sales of certain receivables under the factoring arrangement as of December 31, 2019 compared to December 31, 2018. Deferred tax assets and liabilities totaled $59.3 million and $11.7 million as of December 31, 2019, respectively. Deferred tax assets and liabilities totaled $47.5 million and $11.4 million as of December 31, 2018, respectively. The increase in deferred tax assets in 2019, as compared to 2018, is due to increased net operating losses in 2019.

Our business segment information is as follows:

(dollars in millions)	Year Ended December 31, 2019	2018	2017
Revenue			
Entertainment and Communications	$ 995.7	$ 853.4	$ 706.1
IT Services and Hardware	567.4	550.9	385.1
Intersegment	(26.4)	(26.1)	(25.5)
Total revenue	$ 1,536.7	$ 1,378.2	$ 1,065.7
Intersegment revenue			
Entertainment and Communications	$ 21.6	$ 22.3	$ 21.2
IT Services and Hardware	4.8	3.8	4.3
Total intersegment revenue	$ 26.4	$ 26.1	$ 25.5
Operating income			
Entertainment and Communications	$ 105.5	$ 103.3	$ 86.1
IT Services and Hardware	2.6	17.2	5.3
Corporate	(35.0)	(37.2)	(36.0)
Total operating income	$ 73.1	$ 83.3	$ 55.4
Expenditures for long-lived assets*			
Entertainment and Communications	$ 201.3	$ 408.0	$ 186.3
IT Services and Hardware	22.4	29.2	191.2
Corporate	0.1	0.2	—
Total expenditures for long-lived assets	$ 223.8	$ 437.4	$ 377.5
Depreciation and amortization			
Entertainment and Communications	$ 255.8	$ 210.8	$ 163.7
IT Services and Hardware	48.9	41.0	29.1
Corporate	0.2	0.2	0.2
Total depreciation and amortization	$ 304.9	$ 252.0	$ 193.0

*Includes cost of acquisitions

(dollars in millions)	As of December 31, 2019	2018
Assets		
Entertainment and Communications	$ 1,840.0	$ 1,898.8
IT Services and Hardware	500.7	468.1
Corporate and eliminations	313.1	363.3
Total assets	$ 2,653.8	$ 2,730.2

18. Quarterly Financial Information (Unaudited)

(in millions, except per common share amounts)	2019 First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Revenue	$ 379.6	$ 384.2	$ 382.5	$ 390.4	$ 1,536.7
Operating income	10.1	24.9	22.8	15.3	73.1
Net loss	(26.9)	(5.5)	(13.6)	(20.6)	(66.6)
Basic and diluted loss per common share	$ (0.59)	$ (0.16)	$ (0.32)	$ (0.46)	$ (1.53)

(in millions, except per common share amounts)	2018 First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Revenue	$ 295.7	$ 296.8	$ 386.7	$ 399.0	$ 1,378.2
Operating income	24.2	20.2	14.5	24.4	83.3
Net loss	(8.3)	(13.8)	(17.7)	(30.0)	(69.8)
Basic and diluted loss per common share	$ (0.26)	$ (0.39)	$ (0.41)	$ (0.65)	$ (1.73)

The effects of assumed common share conversions are determined independently for each respective quarter and year and may not be dilutive during every period due to variations in operating results. Therefore, the sum of quarterly per share results will not necessarily equal the per share results for the full year.

Restructuring and employee severance charges totaled $3.3 million, $1.8 million, $1.3 million and $0.5 million in the first, second, third and fourth quarter of 2019, respectively. Restructuring and employee severance charges totaled $0.3 million, $4.6 million and $3.4 million in the first, second and fourth quarter of 2018, respectively.

Transaction and integration costs totaled $3.0 million, $0.6 million, $0.2 million and $9.0 million in the first, second, third and fourth quarter of 2019, respectively. These costs were primarily related to the pending acquisition by Brookfield entered into in the fourth quarter of 2019. Transaction and integration costs totaled $2.2 million, $2.7 million, $13.3 million and $4.3 million in the first, second, third and fourth quarter of 2018, respectively. These costs were primarily related to the acquisition of Hawaiian Telcom that closed in the third quarter of 2018.

Interest expense totaled $139.6 million in 2019 compared to $131.5 million in 2018. This increase is due to interest incurred on the amounts outstanding on the Receivables Facility and the Revolving Credit Facility used to partially fund the cash portion of the acquisition of Hawaiian Telcom.

In the second quarter of 2018, the Company amended its Credit Agreement resulting in a loss on extinguishment of debt of $1.3 million being recorded.

In the third quarter of 2018, the Company acquired Hawaiian Telcom. The revenues of Hawaiian Telcom included in the quarterly financial information for the third and fourth quarter of 2018 totaled $87.1 million and $87.9 million, respectively. Hawaiian Telcom had net loss of $0.5 million in the third quarter of 2018 and net income of $1.2 million in the fourth quarter of 2018. Revenues totaled $86.6 million, $87.8 million, $85.7 million and $86.6 million in the first, second, third and fourth quarter of 2019, respectively. Hawaiian Telcom had net loss of $2.3 million, $1.7 million, $2.4 million, and $1.2 million in the first, second, third and fourth quarter of 2019, respectively. For further information related to this acquisition, see Note 4.

19. Supplemental Cash Flow Information

	Year Ended December 31,		
(dollars in millions)	2019	2018	2017
Capitalized interest expense	$ 1.7	$ 1.0	$ 0.7
Cash paid/(received) for:			
Interest	129.3	131.7	65.7
Income taxes, net of refunds	0.5	(13.8)	(12.9)
Noncash investing and financing activities:			
Stock consideration for acquisition of Hawaiian Telcom	—	121.2	—
Acquisition of property by assuming debt and other financing arrangements	14.5	51.5	17.3
Acquisition of property on account	26.0	35.8	12.0

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

No reportable information under this item.

Item 9A. Controls and Procedures

(a) Evaluation of disclosure controls and procedures.

Cincinnati Bell Inc.’s management, with the participation of the Chief Executive Officer and Chief Financial Officer, have evaluated the effectiveness of the Company’s disclosure controls and procedures (as defined in SEC Rule 13a-15(e)) as of the end of the period covered by this report. Based on this evaluation, Cincinnati Bell Inc.’s Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of the period covered by this report, such controls and procedures were effective.

(b) Management's annual report on internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting and the Report of Independent Registered Public Accounting Firm are set forth in Part II, Item 8 of this Annual Report on Form 10-K.

(c) Changes in internal control over financial reporting.

There were no changes to Cincinnati Bell Inc.'s internal control over financial reporting during the fourth quarter of 2019 that materially affect, or are reasonably likely to materially affect, Cincinnati Bell Inc.’s internal control over financial reporting.

Item 9B. Other Information

No reportable information under this item.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by Item 401, Item 405, Item 406 and Item 407 (c)(3), (d)(4) and (d)(5) of Regulation S-K regarding directors of Cincinnati Bell Inc. can be found in the Proxy Statement for the 2020 Annual Meeting of Shareholders and is incorporated herein by reference.

The Company's Code of Ethics for Senior Financial Officers that applies to its Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer is posted on the Company's website at http://www.cincinnatibell.com. Within the time period required by the SEC and the New York Stock Exchange ("NYSE"), the Company will post on its website any amendment to the Code of Ethics for Senior Financial Officers and any waiver of such code relating to such senior executive officers of the Company.

In addition to the certifications of the Company's Chief Executive Officer and Chief Financial Officer required under Section 302 of the Sarbanes-Oxley Act of 2002 and filed as exhibits to this Annual Report on Form 10-K, in May 2019, the Company's Chief Executive Officer submitted to the NYSE the certification regarding compliance with the NYSE's corporate governance listing standards required by Section 303 A.12 of the NYSE Listed Company Manual.

Executive Officers of the Registrant:

The names, ages and positions of the executive officers of the Company as of February 24, 2020 are as follows:

Name	Age	Title
Leigh R Fox	47	President and Chief Executive Officer
Andrew R Kaiser	51	Chief Financial Officer
Christi H. Cornette	64	Chief Culture Officer
Thomas E. Simpson	47	Chief Operating Officer
Christopher J. Wilson	54	Vice President and General Counsel
Joshua T. Duckworth	41	Vice President of Treasury, Corporate Finance and Investor Relations
Suzanne E. Maratta	37	Vice President and Corporate Controller

Officers are elected annually but are removable at the discretion of the Board of Directors.

LEIGH R. FOX, President and Chief Executive Officer since May 31, 2017; President and Chief Operating Officer of the Company from September 2016 to May 2017; Chief Financial Officer of the Company from October 2013 to September 2016; Chief Administrative Officer of the Company from July 2013 to October 2013; Senior Vice President of Finance and Operations from December 2012 to July 2013; Vice President of Finance at Cincinnati Bell Technology Solutions Inc. (CBTS) from October 2008 to December 2012.

ANDREW R. KAISER, Chief Financial Officer of the Company since September 2016; Vice President, Consumer Marketing and Data Analytics of the Company from December 2015 to September 2016; Vice President, Corporate Finance of the Company from January 2014 to December 2015; Partner at Howard Roark Consulting, LLC from 2005 to January 2014.

CHRISTI H. CORNETTE, Chief Culture Officer of the Company since June 2017; Senior Vice President, Marketing of the Company from August 2013 to June 2017; Vice President, Marketing of the Company from October 2008 to August 2013; Director of CBTS Marketing from October 2002 to October 2008.

THOMAS E. SIMPSON, Chief Operating Officer since June 2017, Senior Vice President and Chief Technology Officer of the Company from January 2015 to June 2017; Vice President and Chief Technology Officer at Cincinnati Bell Technology Solutions (CBTS) from 2014 to 2015; Vice President, Research and Development at CBTS from 2010 to 2014; Director, Technical Operations at CBTS from 2008 to 2010.

CHRISTOPHER J. WILSON, Vice President and General Counsel of the Company since August 2003.

JOSHUA T. DUCKWORTH, Vice President of Treasury, Corporate Finance and Inventor Relations since October 2017; Vice President, Investor Relations and Controller of the Company from July 2013 to October 2017; Assistant Treasurer and Director of Investor Relations for Cincinnati Bell Inc. from August 2012 to July 2013; Assistant Controller for Cincinnati Bell Inc. from August 2010 to August 2012; Deloitte & Touche LLP's audit practice from October 2004 to August 2010.

SUZANNE E MARATTA, Vice President and Corporate Controller of the Company since May 2019; Assistant Corporate Controller of the Company from August 2017 to May 2019; Senior Financial Reporting Manager of the Company from May 2014 to August 2017; Auditor at PricewaterhouseCoopers from January 2007 to May 2014.

Item 11. Executive Compensation

The information required by this item can be found in the Proxy Statement for the 2020 Annual Meeting of Shareholders and is incorporated herein by reference.

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

The information required by this item can be found in the Proxy Statement for the 2020 Annual Meeting of Shareholders and is incorporated herein by reference.

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

The information required by this item can be found in the Proxy Statement for the 2020 Annual Meeting of Shareholders and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by this item can be found in the Proxy Statement for the 2020 Annual Meeting of Shareholders and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules

Financial Statements

Consolidated financial statements are included in Part II, Item 8.

Financial Statement Schedules

Financial Statement Schedule II — Valuation and Qualifying Accounts. All other schedules are not required under the related instructions or are not applicable.

Exhibits

Exhibits identified in parenthesis below, on file with the Securities and Exchange Commission, are incorporated herein by reference as exhibits hereto.

Exhibit Number	Description
(2.1)	Agreement and Plan of Merger, dated as of July 9, 2017, among Cincinnati Bell Inc., Twin Acquisition Corp. and Hawaiian Telcom Holdco, Inc. (Exhibit 2.1 to Current Report on Form 8-K, date of Report July 10, 2017, File No. 1-8519).
(2.2)	Agreement and Plan of Merger, dated as of July 9, 2017, among Cincinnati Bell Inc., Yankee Acquisition LLC, OnX Holdings LLC and MLN Holder Rep LLC (Exhibit 2.2 to Current Report on Form 8-K, date of Report July 10, 2017, File No. 1-8519).
(2.3)	Agreement and Plan of Merger, dated as of December 21, 2019, among Cincinnati Bell Inc., Charlie AcquireCo Inc. and Charlie Merger Sub Inc. (Exhibit 2.1 to Current Report on Form 8-K, date of Report December 23, 2019, File No. 1-8519).
(3.1)	Amended and Restated Articles of Incorporation of Cincinnati Bell Inc. (Exhibit 3.1 to Current Report on Form 8-K, date of Report April 25, 2008, File No. 1-8519).
(3.2)	Amendment to the Amended and Restated Articles of Incorporation of Cincinnati Bell Inc. (Exhibit 3.1 to Current Report on Form 8-K, date of Report October 4, 2016, File No. 1-8519).
(3.3)	Amended and Restated Regulations of Cincinnati Bell Inc. (Exhibit 3.3 to Quarterly Report on Form 10-Q for the quarter ended June 30, 2018, File No. 1-8519).
(4.1)	Indenture dated July 1, 1993, between Cincinnati Bell Inc., as Issuer, and The Bank of New York, as Trustee, relating to Cincinnati Bell Inc.'s $7^1/_4$% Notes Due June 15, 2023 (Exhibit 4-A to Current Report on Form 8-K, date of Report July 12, 1993, File No. 1-8519).
(4.2)	Indenture dated as of November 30, 1998, among Cincinnati Bell Telephone Company, as Issuer, Cincinnati Bell Inc., as Guarantor, and The Bank of New York, as Trustee (Exhibit 4-A to Current Report on Form 8-K, date of Report November 30, 1998, File No. 1-8519).
(4.3)	First Supplemental Indenture dated as of December 31, 2004 to the Indenture dated as of November 30, 1998, among Cincinnati Bell Telephone Company, as Issuer, Cincinnati Bell Inc., as Guarantor, and The Bank of New York, as Trustee (Exhibit 4(c)(iii)(2) to Annual Report on Form 10-K for the year ended December 31, 2004, File No. 1-8519).
(4.4)	Second Supplemental Indenture dated as of January 10, 2005 to the Indenture dated as of November 30, 1998, among Cincinnati Bell Telephone Company LLC (as successor entity to Cincinnati Bell Telephone Company), as Issuer, Cincinnati Bell Inc., as Guarantor, and The Bank of New York, as Trustee (Exhibit (4)(c)(iii)(3) to Annual Report on Form 10-K for the year ended December 31, 2004, File No. 1-8519).
(4.5)	Indenture, dated September 22, 2016, among Cincinnati Bell Inc., the guarantor parties thereto and Regions Bank, as trustee (Exhibit 4.1 to Current Report on Form 8-K, date of Report September 22, 2016, File No. 1-8519).
(4.6)	First Supplemental Indenture dated April 3, 2017 among Cincinnati Bell Inc., SunTel Services LLC and Regions Bank, as trustee (Exhibit 99.1 to Current Report on Form 8-K, date of Report April 3, 2017, File No. 1-8519).
(4.7)	Second Supplemental Indenture dated May 31, 2017 among Cincinnati Bell Inc., Cincinnati Bell Telephone Company LLC, Cincinnati Bell Extended Territories LLC, and Regions Bank, as trustee (Exhibit 10.1 to Current Report on Form 8-K, date of Report May 31, 2017, File No. 1-8519).
(4.8)	Third Supplemental Indenture dated October 2, 2017 among Cincinnati Bell Inc., Cincinnati Bell Shared Services LLC, Data Center South Holdings, LLC, Twin Acquisition Corp. and Regions Bank, as trustee (Exhibit 4.1 to Current Report on Form 8-K, date of Report October 2, 2017, File No. 1-8519).

(4.9)	Fourth Supplemental Indenture dated as of December 22, 2017 among Cincinnati Bell Inc., CBTS Holdco LLC, and Regions Bank, as trustee (Exhibit 10.1 to Current Report on Form 8-K, date of Report December 22, 2017, File No. 1-8519).
(4.10)	Fifth Supplemental Indenture, dated as of July 2, 2018, by and among Cincinnati Bell Inc., the guarantors party thereto and Regions Bank, as Trustee. (Exhibit 4.2 to Current Report on Form 8-K, date of Report July 2, 2018, File No. 1-8519).
(4.11)	Indenture, dated October 6, 2017, between CB Escrow Corp. and Regions Bank, as trustee (Exhibit 4.1 to Current Report on Form 8-K, date of Report October 6, 2017, File No. 1-8519).
(4.12)	Escrow Agreement, dated October 6, 2017, by and among CB Escrow Corp., Regions Bank, as trustee, and Regions Bank, as Escrow Agent (Exhibit 4.2 to Current Report on Form 8-K, date of Report October 6, 2017, File No. 1-8519).
(4.13)	Assumption Supplemental Indenture, dated as of July 2, 2018, by and among Cincinnati Bell Inc., the guarantors party thereto and Regions Bank, as Trustee. (Exhibit 4.1 to Current Report on Form 8-K, date of Report July 2, 2018, File No. 1-8519).
(4.14)	No other instrument which defines the rights of holders of long term debt of the registrant is filed herewith pursuant to Regulation S-K, Item 601(b)(4)(iii)(A). Pursuant to this regulation, the registrant hereby agrees to furnish a copy of any such instrument to the SEC upon request.
(4.15) +	Description of Registrant's Securities.
(10.1)	Credit Agreement by and among Cincinnati Bell Inc., the Guarantor parties thereto, the Lender parties thereto, PNC Bank, National Association, as the Swingline Lender, and Morgan Stanley Senior Funding, Inc., as Administrative Agent, Collateral Agent, Swingline Lender and an L\C Issuer, dated October 2, 2017 (Exhibit 10.1 to Current Report on Form 8-K, date of Report October 3, 2017, File No. 1-8519).
(10.2)	Amendment No. 1 to Credit Agreement dated as of April 5, 2018, by and among Cincinnati Bell Inc., the subsidiary guarantors thereto, Morgan Stanley Senior Funding, Inc. and the tranche B term lenders party thereto (Exhibit 10.1 to Current Report on Form 8-K, date of Report April 5, 2018, File No. 1-8519).
(10.3)	Amendment No. 2 to Credit Agreement dated as of April 5, 2018, by and among Cincinnati Bell Inc., the subsidiary guarantors thereto, Morgan Stanley Senior Funding, Inc. and the tranche B term lenders party thereto (Exhibit 10.2 to Current Report on Form 8-K, date of Report April 5, 2018, File No. 1-8519).
(10.4)	Receivables Financing Agreement dated as of May 10, 2018, among Cincinnati Bell Funding LLC and Cincinnati Bell Funding Canada Ltd., as Borrowers, Cincinnati Bell Inc. and OnX Enterprise Solutions Ltd., as Servicers, the Lenders, Letter of Credit Participants and Group Agents from time to time party thereto, PNC Bank, National Association, as Administrator and Letter of Credit Bank, and PNC Capital Markets LLC, as Structuring Agent (Exhibit 99.3 to Current Report on Form 8-K, date of Report May 10, 2018, File No. 1-8519).
(10.5)	First Amendment to the Receivables Financing Agreement, dated as of November 21, 2018, by and among Cincinnati Bell Funding LLC and Cincinnati Bell Funding Canada Ltd., as Borrowers, Cincinnati Bell Inc. and OnX Enterprise Solutions Ltd., as Servicers, the Lenders, Letter of Credit Participants and Group Agents from time to time party thereto, PNC Bank, National Association, as Administrator and Letter of Credit Bank, and PNC Capital Markets LLC, as Structuring Agent (Exhibit 99.2 to Current Report on Form 8-K, date of Report November 23, 2018, File No. 1-8519).
(10.6)	Second Amendment to Receivables Financing Agreement, dated as of May 9, 2019, by and among Cincinnati Bell Funding LLC and Cincinnati Bell Funding Canada Ltd., as Borrowers, Cincinnati Bell Inc. and OnX Enterprise Solutions Ltd., as Servicers, the Lenders, Letter of Credit Participants and Group Agents from time to time parties thereto, PNC Bank, National Association, as Administrator and Letter of Credit Bank, and PNC Capital Markets, as Structuring Agent. (Exhibit 10.3 to Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, File 1-8519).
(10.7)	Receivables Purchase Agreement dated as of May 10, 2018 among Cincinnati Bell Funding LLC, as Seller, Cincinnati Bell Inc., as Servicer, PNC Bank, National Association, as Buyer, and PNC Capital Markets LLC, as Structuring Agent (Exhibit 99.4 to Current Report on Form 8-K, date of Report May 10, 2018, File No. 1-8519).
(10.8)	First Amendment to Receivables Purchase Agreement, dated as of May 9, 2019, by and among Cincinnati Bell Funding LLC, as Seller, Cincinnati Bell Inc., as Servicer, and PNC Bank, National Association, as Buyer. (Exhibit 10.2 to Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, File 1-8519).
(10.9)*	Cincinnati Bell Inc. Pension Program, as amended and restated effective January 1, 2005 (Exhibit (10)(iii)(A)(3) to Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-8519).

(10.10)*	Amendment to Cincinnati Bell Inc. Pension Program, effective December 31, 2011 (Exhibit 10.12 to Annual Report on Form 10-K for the year ended December 31, 2011, File No. 1-8519).
(10.11)*	Restatement of the Cincinnati Bell Management Pension Plan executed December 22, 2016 (Exhibit 10.28 to Annual Report on Form 10-K for the year ended December 31, 2016, File No. 1-8519).
(10.12)*	Restatement of the Cincinnati Bell Pension Plan executed December 22, 2016 (Exhibit 10.29 to Annual Report on Form 10-K for the year ended December 31, 2016, File No. 1-8519).
(10.13)*	Amendment to Cincinnati Bell Management Pension Plan executed December 22, 2016 (Exhibit 10.30 to Annual Report on Form 10-K for the year ended December 31, 2016, File No. 1-8519).
(10.14)*	Amendment to the Cincinnati Bell Pension Plan executed December 22, 2016 (Exhibit 10.31 to Annual Report on Form 10-K for the year ended December 31, 2016, File No. 1-8519).
(10.15)*	Cincinnati Bell Inc. 2011 Short Term Incentive Plan (Appendix II to the Company's 2016 Proxy Statement on Schedule 14A filed March 17, 2016, File No. 1-8519).
(10.16)*	Cincinnati Bell Inc. Deferred Compensation Plan for Outside Directors, as amended and restated as of January 1, 2005 (Exhibit (10)(iii)(A)(2) to Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-8519).
(10.17)*	Amendment to Cincinnati Bell Inc. Deferred Compensation Plan for Outside Directors, as of November 7, 2016 (Exhibit 10.2 to Current Report on Form 8-K, date of Report November 7, 2016, File No. 1-8519).
(10.18)*	Cincinnati Bell Inc. Executive Deferred Compensation Plan, as amended and restated effective January 1, 2005 (Exhibit (10)(iii)(A)(4) to Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-8519).
(10.19)*	Amendment to Cincinnati Bell Inc. Executive Deferred Compensation Plan, as of November 7, 2016 (Exhibit 10.1 to Current Report on Form 8-K, date of Report November 7, 2016, File No. 1-8519).
(10.20)*	Cincinnati Bell Inc. 2007 Long Term Incentive Plan, as amended (Appendix I to the Company's 2015 Proxy Statement on Schedule 14A filed March 20, 2015, File No. 1-8519).
(10.21)*	Cincinnati Bell Inc. Form of Stock Option Agreement (2007 Long Term Incentive Plan) (Exhibit (10)(iii)(A)(22) to Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-8519).
(10.22)*	Cincinnati Bell Inc. Form of Performance Restricted Stock Agreement (2007 Long Term Incentive Plan) (Exhibit (10)(iii)(A)(23) to Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-8519).
(10.23)*	Cincinnati Bell Inc. Form of 2016 - 2018 Share-Based Performance Unit Award Agreement (2007 Long Term Incentive Plan) (Exhibit 10.40 to Annual Report on Form 10-K for the year ended December 31, 2016, File No. 1-8519).
(10.24)*	Cincinnati Bell Inc. Form of 2017-2019 Share-Based Performance Award Agreement (2007 Long Term Incentive Plan) (Exhibit 10.39 to Annual Report on Form 10-K for the year ended December 31, 2017, File No. 1-8519).
(10.25)*	Cincinnati Bell Inc. Form of Stock Appreciation Rights Agreement (Employees) (Exhibit (10)(iii)(A)(21) to Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-8519).
(10.26)*	Cincinnati Bell Inc. Form of Restricted Stock Unit Award Agreement (2007 Long Term Incentive Plan)(Exhibit 10.45 to Annual Report for the year ended December 31, 2015, File No. 1-8519).
(10.27)*	Cincinnati Bell Inc. 2007 Stock Option Plan for Non-Employee Directors, as amended (Appendix I to the Company's 2016 Proxy Statement on Schedule 14A filed on March 17, 2016, File No. 1-8519).
(10.28)*	Cincinnati Bell Inc. 2017 Long-Term Incentive Plan (Appendix I to the Company's 2017 Proxy Statement on Schedule 14A filed on March 24, 2017, File No. 1-8519).
(10.29)*	Cincinnati Bell Inc. Form of Restricted Stock Unit Award (2017 Long-Term Incentive Plan) (Exhibit 10.1 to Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File 1-8519).

(10.30)*	Cincinnati Bell Inc. Form of 2018-2020 Share-Based Performance Unit Award Agreement (2017 Long-Term Incentive Plan) (Exhibit 10.2 to Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File 1-8519).
(10.31)*	Cincinnati Bell Inc. Form of Restricted Stock Unit Award Agreement (2017 Long Term Incentive Plan) - 2019 version. (Exhibit 10.1 to Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, File 1-8519).
(10.32)*	Cincinnati Bell Inc. Form of 2019-2021 Share-Based Performance Unit Award Agreement (2017 Long Term Incentive Plan). (Exhibit 10.2 to Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, File 1-8519).
(10.33)*	Cincinnati Bell Inc. 2017 Stock Plan for Non-Employee Directors (Appendix II to the Company's 2017 Proxy Statement on Schedule 14A filed on March 24, 2017, File No. 1-8519).
(10.34)*	Cincinnati Bell Inc. Form of 2018-2023 Business Value Award Agreement (Exhibit 10.1 to Current Report, date of Report May 7, 2018, File No. 1-8519).
(10.35)*	Executive Compensation Recoupment/Clawback Policy effective as of January 1, 2011 (Exhibit 99.1 to Current Report on Form 8-K, date of Report October 29, 2010, File No. 1-8519).
(10.36)*	Amended and Restated Employment Agreement between Cincinnati Bell Inc. and Christopher J. Wilson effective January 1, 2015 (Exhibit 10.51 to Current Report on Form 10-K, date of Report February 26, 2015, File No. 1-8519).
(10.37)*	Employment Agreement between Cincinnati Bell Inc. and Christopher J. Wilson effective as of December 1, 2017 (Exhibit 10.4 to Current Report on Form 8-K, date of Report December 1, 2017, File No. 1-8519).
(10.38)*	Amended and Restated Employment Agreement between Cincinnati Bell Inc. and Leigh R. Fox effective as of September 1, 2016 (Exhibit 10.1 to Current Report on Form 8-K, date of Report September 1, 2016, File No. 1-8519).
(10.39)*	Amended and Restated Employment Agreement between Cincinnati Bell Inc. and Leigh R. Fox effective as of March 1, 2017 (Exhibit 10.1 to Current Report on Form 8-K, date of Report March 1, 2017, File No. 1-8519).
(10.40)*	Employment Agreement between Cincinnati Bell Inc. and Leigh R. Fox effective as of December 1, 2017 (Exhibit 10.1 to Current Report on Form 8-K, date of Report December 1, 2017, File No. 1-8519).
(10.41)*	Employment Agreement dated as of May 5, 2014 between Cincinnati Bell Inc. and Joshua T. Duckworth (Exhibit 10.1 to Current Report on Form 8-K, date of Report May 5, 2014, 2014, File No. 1-8519).
(10.42)*	Employment Agreement between Cincinnati Bell Inc. and Joshua T. Duckworth effective as of December 1, 2017 (Exhibit 10.5 to Current Report on Form 8-K, date of Report December 1, 2017, File No. 1-8519).
(10.43)*	Amended and Restated Employment Agreement between Cincinnati Bell Inc. and Thomas E. Simpson dated as of January 27, 2015 (Exhibit 10.50 to Annual Report on Form 10-K, date of report February 26, 2015, File No. 1-8519).
(10.44)*	Amended and Restated Employment Agreement between Cincinnati Bell Inc. and Thomas E. Simpson effective as of September 1, 2016 (Exhibit 10.1 to Current Report on Form 8-K, date of Report September 9, 2016, File No. 1-8519).
(10.45)*	Employment Agreement between Cincinnati Bell Inc. and Thomas E. Simpson effective as of December 1, 2017 (Exhibit 10.3 to Current Report on Form 8-K, date of Report December 1, 2017, File No. 1-8519).
(10.46)*	Employment Agreement between Cincinnati Bell Inc. and Andrew R. Kaiser effective as of September 1, 2016 (Exhibit 10.2 to Current Report on Form 8-K, date of Report September 1, 2016, File No. 1-8519).
(10.47)*	Employment Agreement between Cincinnati Bell Inc. and Andrew R. Kaiser effective as of September 1, 2017 (Exhibit 10.1 to Current Report on Form 8-K, date of Report August 3, 2017, File No. 1-8519).
(10.48)*	Employment Agreement between Cincinnati Bell Inc. and Andrew R. Kaiser effective as of December 1, 2017 (Exhibit 10.2 to Current Report on Form 8-K, date of Report December 1, 2017, File No. 1-8519).
(10.49)*	Employment Agreement between Cincinnati Bell Inc. and Christi H. Cornette effective as of September 1, 2017 (Exhibit 10.2 to Current Report on Form 8-K, date of Report August 3, 2017, File No. 1-8519).
(10.50)*	Employment Agreement between Cincinnati Bell Inc. and Christi H. Cornette effective as of December 1, 2017 (Exhibit 10.6 to Current Report on Form 8-K, date of Report December 1, 2017, File No. 1-8519).

(10.51)*	Employment Agreement between Cincinnati Bell Inc. and Shannon M. Mullen effective as of December 1, 2017 (Exhibit 10.7 to Current Report on Form 8-K, date of Report December 1, 2017, File No. 1-8519).
(10.52)*	Employment Agreement between Cincinnati Bell Inc. and Mark J. Fahner effective as of September 16, 2018 (Exhibit 10.3 to Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, File 1-8519).
(10.53)*	Employment Agreement between Cincinnati Bell Inc. and Suzanne E. Maratta effective May 12, 2019. (Exhibit 10.4 to Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, File 1-8519).
(14)	Code of Ethics for Senior Financial Officers, as adopted pursuant to Section 406 of Regulation S-K (Exhibit (10)(iii)(A)(15) to Annual Report on Form 10-K for the year ended December 31, 2003, File No. 1-8519).
(21) +	Subsidiaries of the Registrant.
(23) +	Consent of Independent Registered Public Accounting Firm.
(24) +	Powers of Attorney.
(31.1) +	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
(31.2) +	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
(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 statements from Cincinnati Bell Inc.'s Annual Report on Form 10-K for the year ended December 31, 2019 were formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) Condensed Consolidated Balance Sheets, (ii) Condensed Consolidated Statements of Operations and Comprehensive Income (Loss), (iii) Condensed Consolidated Statements of Shareholders' Deficit, (iv) Condensed Consolidated Statements of Cash Flows, and (v) Notes to Condensed Consolidated Financial Statements.
104	Cover Page Interactive Data File (formatted in Inline XBRL and contained in Exhibit 101).

\+ Filed herewith.
* Management contract or compensatory plan required to be filed as an exhibit pursuant to Item 15(a)(3) of the Instruction to Form 10-K.

The Company's reports on Form 10-K, 10-Q, 8-K, proxy and other information are available free of charge at the following website: *http://www.cincinnatibell.com*. Upon request, the Company will furnish a copy of the Proxy Statement to its security holders without charge, portions of which are incorporated herein by reference. The Company will furnish any other exhibit at cost.

VALUATION AND QUALIFYING ACCOUNTS

(dollars in millions)	Beginning of Period	Additions: Charge (Benefit) to Expenses	Additions: (To) From Other Accounts	Deductions	End of Period
Allowance for Doubtful Accounts					
Year 2019	$ 13.0	$ 12.5	$ —	$ 11.2	$ 14.3
Year 2018	$ 10.4	$ 8.4	$ —	$ 5.8	$ 13.0
Year 2017	$ 9.9	$ 6.9	$ —	$ 6.4	$ 10.4
Deferred Tax Valuation Allowance					
Year 2019	$ 48.7	$ 0.5	$ 0.1	$ —	$ 49.3
Year 2018	$ 36.1	$ 13.1	$ (0.5)	$ —	$ 48.7
Year 2017	$ 35.4	$ 0.3	$ 0.4	$ —	$ 36.1

SIGNATURES

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

Date: February 24, 2020

/s/ Andrew R. Kaiser
Andrew R. Kaiser
Chief Financial 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 date indicated.

Signature	Title	Date
/s/ Leigh R. Fox Leigh R. Fox	President and Chief Executive Officer (Principal Executive Officer)	February 24, 2020
/s/ Andrew R. Kaiser* Andrew R. Kaiser	Chief Financial Officer (Principal Financial Officer)	February 24, 2020
/s/ Suzanne E. Maratta* Suzanne E. Maratta	Vice President and Corporate Controller (Principal Accounting Officer)	February 24, 2020
Lynn A. Wentworth * Lynn A. Wentworth	Chairman of the Board and Director	February 24, 2020
Meredith J. Ching* Meredith J. Ching	Director	February 24, 2020
Walter A. Dods, Jr.* Walter A. Dods, Jr.	Director	February 24, 2020
John W. Eck* John W. Eck	Director	February 24, 2020
Jakki L. Haussler* Jakki L. Haussler	Director	February 24, 2020
Craig F. Maier* Craig F. Maier	Director	February 24, 2020
Russel P. Mayer* Russel P. Mayer	Director	February 24, 2020
Theodore H. Torbeck* Theodore H. Torbeck	Director	February 24, 2020
Martin J. Yudkovitz* Martin J. Yudkovitz	Director	February 24, 2020

*By: /s/ Leigh R. Fox
Leigh R. Fox
as attorney-in-fact and on his behalf
as President and Chief Executive Officer

Exhibit 4.15

DESCRIPTION OF REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

DESCRIPTION OF CAPITAL STOCK

The following description of the Company's capital stock is based upon the Company's Amended and Restated Articles of Incorporation, as amended (the "Amended Articles"), the Company's Amended and Restated Regulations (the "Amended Regulations") and applicable provisions of the Ohio General Corporation Law. We have summarized certain portions of the Amended Articles and Amended Regulations below. The summary is not complete and is subject to, and is qualified in its entirety by express reference to, the provisions of our Amended Articles and Amended Regulations, each of which is filed as an exhibit to the Annual report on Form 10-K of which this Exhibit is a part.

Authorized Capital Stock

The total authorized shares of capital stock of the Company consist of (i) 96,000,000 common shares, par value $.01 per share ("Common Shares"), (ii) 1,357,299 voting preferred shares, without par value, and (iii) 1,000,000 non-voting preferred shares, without par value (together with the voting preferred shares, "preferred shares"). The Company's board of directors has designated 400,000 of its voting preferred shares as Series A Preferred Shares and 155,250 shares of its voting preferred shares as 6¾% Cumulative Convertible Preferred Shares ("6¾% Preferred Shares"). The Series A Preferred shares were designated in connection with the Company's rights agreement, which has expired, and no Series A Preferred Shares are outstanding.

Common Shares

Common Shares Outstanding. The Company's Common Shares are duly authorized, validly issued, fully paid and nonassessable. The Company's Common Shares are listed and principally traded on the New York Stock Exchange (NYSE) under the ticker symbol "CBB".

Voting Rights. Each holder of Common Shares is entitled to cast one vote for each share held of record on all matters submitted to a vote of shareholders, including the election of directors. Holders of Common Shares do not have cumulative voting rights.

Dividend Rights. Holders of Common Shares are entitled to receive dividends or other distributions declared by the board of directors. The right of the board of directors to declare dividends, however, is subject to the rights of any holders of preferred shares of the Company, certain requirements of Ohio law, and certain limitations contained in the Company's credit agreements.

No Preemptive, Redemption or Conversion Rights. The Common Shares are not redeemable, are not subject to sinking fund provisions, do not have any conversion rights and are not subject to call. Holders of Common Shares have no preemptive rights.

Rights Upon Liquidation. Holders of the Company's Common Shares are entitled to share pro rata, upon any liquidation or dissolution of the Company, in all remaining assets available for distribution to shareholders after payment or providing for the Company's liabilities and the liquidation preferences of any outstanding preferred shares. The issuance of preferred shares affects certain rights of the Common Shares as described below.

Transfer Agent and Registrar. Computershare Investor Services, LLC is the transfer agent and registrar for the Company's Common Shares.

Preferred Shares

Preferred Shares Outstanding. Under the Company's Restated Articles, without further stockholder action, the Company's board of directors is authorized to provide for the issuance from time to time of preferred shares in series and, as to each series, to fix the designation, the dividend rate and the date or dates from which such dividends will be cumulative, the times when and the prices at which shares will be redeemable, the voluntary and involuntary liquidation prices, the sinking fund provisions, if any, applicable to such series, the conversion or exchange privileges, if any, of such series, the restrictions, if any, upon the payment of dividends or other distributions and upon the creation of indebtedness, if any, and any other rights, preferences and limitations. Cumulative dividends, dividend preferences and conversion, exchange and redemption provisions, to the extent that some or all of these features may be present when Company preferred shares are issued, could have an adverse effect on the availability of earnings for distribution to the holders of Common Shares.

The 6¾% Preferred Shares are the only currently outstanding preferred shares of the Company. The Company's 6¾% Preferred Shares are duly authorized, validly issued, fully paid and nonassessable. The Depositary Shares, each representing 1/20th interest in a 6¾% Preferred Share of the Company, are listed and principally traded on the New York Stock Exchange (NYSE) under the ticker symbol "CBB.PRB".

Voting Rights. Holders of 6¾% Preferred Shares are entitled to cast one vote per whole share that they own on all matters submitted to a vote of the shareholders, including the election of directors. Holders of 6¾% Preferred Shares and holders of Common Shares vote together as a single class, unless otherwise provided by law or the Amended Articles. Holders of 6¾% Preferred Shares do not have cumulative voting rights. Except as set forth in the immediately succeeding paragraph, the approval of each holder of 6¾% Preferred Shares is necessary to:

- alter the voting rights,
- reduce the liquidation preference,
- reduce the rate of or change the time for payment of dividends, or
- adversely alter certain redemption provisions

of the 6¾% Preferred Shares.

Dividend Rights. In addition, the approval of at least two-thirds of the votes entitled to be cast by holders of 6¾% Preferred Shares is required to amend the Amended Articles to affect adversely the specified rights, preferences, privileges or voting rights of holders of 6¾% Preferred Shares.

If and when declared, dividends on 6¾% Preferred Shares are payable quarterly and accrue at a rate of 6¾% per annum per share on a liquidation preference of $1,000 per share, $67.50 per annum per share. The Company is allowed to declare and pay dividends only if permitted by Ohio law.

Redemption Rights. The 6¾% Preferred Shares are redeemable by the Company at its option.

Conversion Rights. The 6¾% Preferred Shares may be converted at the option of the holders at an initial conversion rate of 28.838 Common Shares per 6¾% Preferred Share. In order to protect the interests of holders of 6¾% Preferred Shares, the Amended Articles provide for adjustment of the conversion rate and related terms in the case of certain consolidations, mergers or changes in control of the Company. Effective with the Company's reverse stock split in October 2016, the conversion rate was adjusted to 5.7676 Common Shares per 6¾% Preferred Shares.

No Preemptive Rights. Holders of 6¾% Preferred Shares have no preemptive rights.

Rights Upon Liquidation. In the event of the liquidation, dissolution or winding up of the business of the Company, holders of 6¾% Preferred Shares are entitled to receive the liquidation preference of $1,000 per share plus all accrued and unpaid dividends.

Certain Provisions of our Regulations

Board of Directors. The Company's board of directors is not classified. The Amended Regulations establish that the size of the board of directors will not be less than nine nor more than seventeen, with the exact number of directors to be fixed from time to time within such range by affirmative vote of two-thirds of the authorized number of directors or by the affirmative vote of the holders of at least two-thirds of the outstanding voting power of the Company.

Power to Call a Special Shareholder's Meeting. A special meeting of the Company's shareholders may be called by the president, the vice president authorized to exercise the authority of the president in case of the president's absence, death or disability, by resolution of the directors or by resolution of the holders of not less than one-half of the outstanding voting power of the Company.

Quorum. The quorum requirement for holding a shareholder meeting and transacting business is the presence, in person or by proxy, of a majority of the Common Shares and preferred shares issued and outstanding on the record date and entitled to vote at such meeting. However, if any particular action requires more than a simple majority because of the law, the NYSE rules, the Company's Amended Articles or the Company's Amended Regulations, that particular action will not be approved unless the required percentage of affirmative votes has been obtained or the required number of votes has been cast. Abstentions are counted as present for the purpose of determining the presence of a quorum. In general, broker non-votes are also counted as present for the purpose of determining the presence of a quorum.

Proxy Access. The Company's Amended Regulations allow eligible shareholders to nominate their own candidate(s), along with the Board's nominees, for inclusion in the Company's proxy materials for an annual meeting of shareholders. Any shareholder who intends to use such procedure must satisfy the requirements specified in Article IX of the Company's Amended Regulations.

Amendment. The Company's Amended Regulations may be altered, amended or repealed only by the affirmative vote of the holders of at least two-thirds of the outstanding voting power of the Company.

Anti-takeover Provisions

The Company's Amended Articles. The Company's Amended Articles regulate transactions between the Company and an interested shareholder. Under the Amended Articles, an "interested shareholder" is defined as (a) a shareholder who is the beneficial owner of 10% or more of the voting power of the Company, (b) a shareholder, who directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control, with the Company and such shareholder at any time within the previous two years was the beneficial owner of 10% or more of the voting power of the Company, or (c) is the assignee or successor of one of the above-described beneficial owners of 10% or more of the voting shares of the Company. If any person is an interested shareholder under the Amended Articles, the affirmative vote of 80% of the outstanding voting power of the Company is required for any of the following:

- any merger or consolidation of the Company or any of its subsidiaries with an interested shareholder;
- any sale, lease, exchange, mortgage, pledge, transfer or disposition to or with an interested shareholder of any assets of the Company or any of its subsidiaries having an aggregate fair market value of $5,000,000 or more;
- any sale or other transfer by the Company or any of its subsidiaries of any securities of the Company or any of its subsidiaries to an interested shareholder for consideration of $5,000,000 or more in fair market value;
- the adoption of any plan or proposal for the liquidation or dissolution of the Company proposed by or on behalf of an interested shareholder; or
- any reclassification of securities or recapitalization of the Company, or merger or consolidation or other transaction which has the effect, directly or indirectly, of increasing the proportionate share of outstanding shares of any class of equity or convertible securities of a corporation owned by an interested shareholder.

The supermajority voting requirement does not apply if a majority of the directors not associated with such an interested shareholder approves the transaction or certain other requirements regarding the consideration paid are met.

Exhibit 4.15

Ohio Law. Ohio law contains several anti-takeover provisions which apply to corporations like the Company. The Company is subject to these provisions because there are no opt-out provisions in the Amended Articles or Amended Regulations with respect to these provisions.

Chapter 1704 of the Ohio General Corporation Law applies to a broad range of business combinations between an Ohio corporation and an interested shareholder. The Ohio law definition of "business combination" includes mergers, consolidations, combinations or majority share acquisitions. An "interested shareholder" is defined as a shareholder who, directly or indirectly, exercises or directs the exercise of 10% or more of the voting power of the corporation. Chapter 1704 of the Ohio General Corporation Law restricts corporations from engaging in business combinations with interested shareholders, unless the articles of incorporation provide otherwise, for a period of three years following the date on which the shareholder became an interested shareholder, unless the directors of the corporation have approved the business combination or the interested shareholder's acquisition of shares of the corporation prior to the date the shareholder became an interested shareholder. After the initial three-year moratorium, Chapter 1704 prohibits such transactions absent approval by the directors of the interested shareholder's acquisition of shares of the corporation prior to the date that the shareholder became an interested shareholder, approval by disinterested shareholders of the corporation or the transaction meeting certain statutorily defined fair price provisions.

Under Section 1701.831 of the Ohio General Corporation Law, unless the articles of incorporation or regulations provide otherwise, any control share acquisition of a corporation can only be made with the prior approval of the corporation's shareholders. A "control share acquisition" is defined as any acquisition of shares of a corporation that, when added to all other shares of that corporation owned by the acquiring person, would enable that person to exercise levels of voting power in any of the following ranges: at least 20% but less than 33-1/3%; at least 33-1/3% but less than 50%; or 50% or more.

Exhibit 21

Subsidiaries of the Registrant
(as of February 24, 2020)

Subsidiary Name	State or Country of Incorporation or Formation
Cincinnati Bell Shared Services LLC	Ohio
Cincinnati Bell Wireless, LLC	Ohio
CBTS LLC	Delaware
Cincinnati Bell Entertainment Inc.	Ohio
Cincinnati Bell Funding LLC	Delaware
Cincinnati Bell Telephone Company LLC	Ohio
Cincinnati Bell Extended Territories LLC	Ohio
CBTS Technology Solutions LLC	Delaware
CBTS Virginia LLC	Virginia
CBTS Technology Solutions UK Ltd.	United Kingdom
OnX UK Limited	United Kingdom
OnX Enterprise Solutions Ltd.	Ontario
Cincinnati Bell Funding Canada Ltd.	Ontario
Hawaiian Telcom Holdco, Inc.	Delaware
Hawaiian Telcom Communications, Inc.	Delaware
Hawaiian Telcom, Inc.	Hawaii
Hawaiian Telcom Services Company, Inc.	Delaware
Wavecom Solutions Corporation	Hawaii
SystemMetrics Corporation	Hawaii
CBTS Technology Solutions India LLP	India

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements on Forms S-8 of our reports dated February 24, 2020, relating to the consolidated financial statements of Cincinnati Bell Inc., and the effectiveness of the Cincinnati Bell Inc.'s internal control over financial reporting, appearing in this Annual Report on Form 10-K for the year ended December 31, 2019.

Form S-8
333-192225
333-192226
333-159160
333-143089
333-204562
333-217839
333-217840
333-226027

Cincinnati, Ohio
February 24, 2020

Exhibit 24

POWER OF ATTORNEY

WHEREAS, Cincinnati Bell Inc., an Ohio corporation (hereinafter referred to as the “Company”), proposes shortly to file with the Securities and Exchange Commission under the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, an annual report on Form 10-K for the year ended December 31, 2019 and

WHEREAS, the undersigned is a director of the Company;

NOW, THEREFORE, the undersigned hereby designates and appoints Leigh R. Fox, Andrew R. Kaiser and Christopher J. Wilson, and each of them singly, her attorneys for her and in her name, place and stead, and in her office and capacity in the Company, to execute and file such annual report on Form 10-K, and thereafter to execute and file any amendments or supplements thereto, hereby giving and granting to said attorneys full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as she might or could do if personally present at the doing thereof, hereby ratifying and confirming all that said attorneys may or shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set her hand this 30th day of January, 2020.

/s/ Meredith J. Ching
Meredith J. Ching
Director

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

On the 30th day of January, 2020, personally appeared before me Meredith J. Ching, to me known and known to me to be the person described in and who executed the foregoing instrument, and she duly acknowledged to me that she executed and delivered the same for the purposes therein expressed.

Witness my hand and official seal this 30th day of January, 2020.

/s/ Connie M. Vogt
Connie M. Vogt
Notary Public, State of Ohio
My commission expires 04-28-2020

Exhibit 24

POWER OF ATTORNEY

WHEREAS, Cincinnati Bell Inc., an Ohio corporation (hereinafter referred to as the "Company"), proposes shortly to file with the Securities and Exchange Commission under the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, an annual report on Form 10-K for the year ended December 31, 2019 and

WHEREAS, the undersigned is a director of the Company;

NOW, THEREFORE, the undersigned hereby designates and appoints Leigh R. Fox, Andrew R. Kaiser and Christopher J. Wilson, and each of them singly, his attorneys for him and in his name, place and stead, and in his office and capacity in the Company, to execute and file such annual report on Form 10-K, and thereafter to execute and file any amendments or supplements thereto, hereby giving and granting to said attorneys full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as he might or could do if personally present at the doing thereof, hereby ratifying and confirming all that said attorneys may or shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand this 30th day of January, 2020.

/s/ Walter A. Dods, Jr.
Walter A. Dods, Jr.
Director

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

On the 30th day of January, 2020, personally appeared before me Walter A. Dods, Jr., to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed and delivered the same for the purposes therein expressed.

Witness my hand and official seal this 30th day of January, 2020.

/s/ Connie M. Vogt
Connie M. Vogt
Notary Public, State of Ohio
My commission expires 04-28-2020

Exhibit 24

POWER OF ATTORNEY

WHEREAS, Cincinnati Bell Inc., an Ohio corporation (hereinafter referred to as the "Company"), proposes shortly to file with the Securities and Exchange Commission under the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, an annual report on Form 10-K for the year ended December 31, 2019 and

WHEREAS, the undersigned is a director of the Company;

NOW, THEREFORE, the undersigned hereby designates and appoints Leigh R. Fox, Andrew R. Kaiser and Christopher J. Wilson, and each of them singly, his attorneys for him and in his name, place and stead, and in his office and capacity in the Company, to execute and file such annual report on Form 10-K, and thereafter to execute and file any amendments or supplements thereto, hereby giving and granting to said attorneys full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as he might or could do if personally present at the doing thereof, hereby ratifying and confirming all that said attorneys may or shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand this 30th day of January, 2020.

/s/ John W. Eck
John W. Eck
Director

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

On the 30th day of January, 2020, personally appeared before me John W. Eck, to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed and delivered the same for the purposes therein expressed.

Witness my hand and official seal this 30th day of January, 2020.

/s/ Connie M. Vogt
Connie M. Vogt
Notary Public, State of Ohio
My commission expires 04-28-2020

Exhibit 24

POWER OF ATTORNEY

WHEREAS, Cincinnati Bell Inc., an Ohio corporation (hereinafter referred to as the "Company"), proposes shortly to file with the Securities and Exchange Commission under the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, an annual report on Form 10-K for the year ended December 31, 2019 and

WHEREAS, the undersigned is a director of the Company;

NOW, THEREFORE, the undersigned hereby designates and appoints Leigh R. Fox, Andrew R. Kaiser and Christopher J. Wilson, and each of them singly, her attorneys for her and in her name, place and stead, and in her office and capacity in the Company, to execute and file such annual report on Form 10-K, and thereafter to execute and file any amendments or supplements thereto, hereby giving and granting to said attorneys full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as she might or could do if personally present at the doing thereof, hereby ratifying and confirming all that said attorneys may or shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set her hand this 30th day of January, 2020.

/s/ Jakki L. Haussler
Jakki L. Haussler
Director

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

On the 30th day of January, 2020, personally appeared before me Jakki L. Haussler, to me known and known to me to be the person described in and who executed the foregoing instrument, and she duly acknowledged to me that she executed and delivered the same for the purposes therein expressed.

Witness my hand and official seal this 30th day of January, 2020.

/s/ Connie M. Vogt
Connie M. Vogt
Notary Public, State of Ohio
My commission expires 04-28-2020

Exhibit 24

POWER OF ATTORNEY

WHEREAS, Cincinnati Bell Inc., an Ohio corporation (hereinafter referred to as the "Company"), proposes shortly to file with the Securities and Exchange Commission under the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, an annual report on Form 10-K for the year ended December 31, 2019 and

WHEREAS, the undersigned is a director of the Company;

NOW, THEREFORE, the undersigned hereby designates and appoints Leigh R. Fox, Andrew R. Kaiser and Christopher J. Wilson, and each of them singly, his attorneys for him and in his name, place and stead, and in his office and capacity in the Company, to execute and file such annual report on Form 10-K, and thereafter to execute and file any amendments or supplements thereto, hereby giving and granting to said attorneys full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as he might or could do if personally present at the doing thereof, hereby ratifying and confirming all that said attorneys may or shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand this 30th day of January, 2020.

/s/ Craig F. Maier
Craig F. Maier
Director

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

On the 30th day of January, 2020, personally appeared before me Craig F. Maier, to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed and delivered the same for the purposes therein expressed.

Witness my hand and official seal this 30th day of January, 2020.

/s/ Connie M. Vogt
Connie M. Vogt
Notary Public, State of Ohio
My commission expires 04-28-2020

Exhibit 24

POWER OF ATTORNEY

WHEREAS, Cincinnati Bell Inc., an Ohio corporation (hereinafter referred to as the "Company"), proposes shortly to file with the Securities and Exchange Commission under the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, an annual report on Form 10-K for the year ended December 31, 2019 and

WHEREAS, the undersigned is a director of the Company;

NOW, THEREFORE, the undersigned hereby designates and appoints Leigh R. Fox, Andrew R. Kaiser and Christopher J. Wilson, and each of them singly, his attorneys for him and in his name, place and stead, and in his office and capacity in the Company, to execute and file such annual report on Form 10-K, and thereafter to execute and file any amendments or supplements thereto, hereby giving and granting to said attorneys full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as he might or could do if personally present at the doing thereof, hereby ratifying and confirming all that said attorneys may or shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand this 30th day of January, 2020.

/s/ Russel P. Mayer
Russel P. Mayer
Director

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

On the 30th day of January, 2020, personally appeared before me Russel P. Mayer, to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed and delivered the same for the purposes therein expressed.

Witness my hand and official seal this 30th day of January, 2020.

/s/ Connie M. Vogt
Connie M. Vogt
Notary Public, State of Ohio
My commission expires 04-28-2020

Exhibit 24

POWER OF ATTORNEY

WHEREAS, Cincinnati Bell Inc., an Ohio corporation (hereinafter referred to as the "Company"), proposes shortly to file with the Securities and Exchange Commission under the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, an annual report on Form 10-K for the year ended December 31, 2019 and

WHEREAS, the undersigned is a director of the Company;

NOW, THEREFORE, the undersigned hereby designates and appoints Leigh R. Fox, Andrew R. Kaiser and Christopher J. Wilson, and each of them singly, his attorneys for him and in his name, place and stead, and in his office and capacity in the Company, to execute and file such annual report on Form 10-K, and thereafter to execute and file any amendments or supplements thereto, hereby giving and granting to said attorneys full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as he might or could do if personally present at the doing thereof, hereby ratifying and confirming all that said attorneys may or shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand this 30th day of January, 2019.

/s/ Theodore H. Torbeck
Theodore H. Torbeck
Director

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

On the 30th day of January, 2020, personally appeared before me Theodore H. Torbeck, to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed and delivered the same for the purposes therein expressed.

Witness my hand and official seal this 30th day of January, 2020.

/s/ Connie M. Vogt
Connie M. Vogt
Notary Public, State of Ohio
My commission expires 04-28-2020

Exhibit 24

POWER OF ATTORNEY

WHEREAS, Cincinnati Bell Inc., an Ohio corporation (hereinafter referred to as the “Company”), proposes shortly to file with the Securities and Exchange Commission under the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, an annual report on Form 10-K for the year ended December 31, 2019 and

WHEREAS, the undersigned is a director of the Company;

NOW, THEREFORE, the undersigned hereby designates and appoints Leigh R. Fox, Andrew R. Kaiser and Christopher J. Wilson, and each of them singly, her attorneys for her and in her name, place and stead, and in her office and capacity in the Company, to execute and file such annual report on Form 10-K, and thereafter to execute and file any amendments or supplements thereto, hereby giving and granting to said attorneys full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as she might or could do if personally present at the doing thereof, hereby ratifying and confirming all that said attorneys may or shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set her hand this 30th day of January, 2020.

/s/ Lynn A. Wentworth
Lynn A. Wentworth
Director

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

On the 30th day of January, 2020, personally appeared before me Lynn A. Wentworth, to me known and known to me to be the person described in and who executed the foregoing instrument, and she duly acknowledged to me that she executed and delivered the same for the purposes therein expressed.

Witness my hand and official seal this 30th day of January, 2020.

/s/ Connie M. Vogt
Connie M. Vogt
Notary Public, State of Ohio
My commission expires 04-28-2020

Exhibit 24

POWER OF ATTORNEY

WHEREAS, Cincinnati Bell Inc., an Ohio corporation (hereinafter referred to as the "Company"), proposes shortly to file with the Securities and Exchange Commission under the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, an annual report on Form 10-K for the year ended December 31, 2019 and

WHEREAS, the undersigned is a director of the Company;

NOW, THEREFORE, the undersigned hereby designates and appoints Leigh R. Fox, Andrew R. Kaiser and Christopher J. Wilson, and each of them singly, his attorneys for him and in his name, place and stead, and in his office and capacity in the Company, to execute and file such annual report on Form 10-K, and thereafter to execute and file any amendments or supplements thereto, hereby giving and granting to said attorneys full power and authority to do and perform all and every act and thing whatsoever requisite and necessary to be done in and about the premises as fully to all intents and purposes as he might or could do if personally present at the doing thereof, hereby ratifying and confirming all that said attorneys may or shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand this 30th day of January, 2020.

/s/ Martin J. Yudkovitz
Martin J. Yudkovitz
Director

STATE OF OHIO)
) SS:
COUNTY OF HAMILTON)

On the 30th day of January, 2020, personally appeared before me Martin J. Yudkovitz, to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed and delivered the same for the purposes therein expressed.

Witness my hand and official seal this 30th day of January, 2020.

/s/ Connie M. Vogt
Connie M. Vogt
Notary Public, State of Ohio
My commission expires 04-28-2020

Exhibit 31.1

Certifications

I, Leigh R. Fox, Chief Executive Officer, certify that:

1. I have reviewed this annual report on Form 10-K of Cincinnati Bell Inc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure control and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date:February 24, 2020

/s/ Leigh R. Fox
Leigh R. Fox
Chief Executive Officer

Exhibit 31.2

Certifications

I, Andrew R. Kaiser, Chief Financial Officer, certify that:

1. I have reviewed this annual report on Form 10-K of Cincinnati Bell Inc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure control and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date:February 24, 2020

/s/ Andrew R. Kaiser

Andrew R. Kaiser
Chief Executive Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Cincinnati Bell Inc. (the “Company”) on Form 10-K for the period ending December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Leigh R. Fox, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Leigh R. Fox
Leigh R. Fox
Chief Executive Officer
February 24, 2020

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Cincinnati Bell Inc. (the "Company") on Form 10-K for the period ending December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Leigh R. Fox, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Andrew R. Kaiser

Andrew R. Kaiser
Chief Financial Officer
February 24, 2020