

**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, 2017

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number 001-36713

**LIBERTY BROADBAND CORPORATION**

(Exact name of Registrant as specified in its charter)

**State of Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**47-1211994**  
(I.R.S. Employer  
Identification No.)

**12300 Liberty Boulevard**  
**Englewood, Colorado**  
(Address of principal executive offices)

**80112**  
(Zip Code)

Registrant's telephone number, including area code: **(720) 875-5700**

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

<b>Title of each class</b>	<b>Name of exchange on which registered</b>
Series A Common Stock, par value \$.01 per share	The Nasdaq Stock Market LLC
Series C Common Stock, par value \$.01 per share	The Nasdaq Stock Market LLC

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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   
(do not check if smaller reporting 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 and non-voting stock held by non-affiliates of Liberty Broadband Corporation computed by reference to the last sales price of such stock, as of the closing of trading on June 30, 2017, was \$14.9 billion.

The number of outstanding shares of Liberty Broadband Corporation common stock as of January 31, 2018 was:

	<b>Series A</b>	<b>Series B</b>	<b>Series C</b>
Liberty Broadband Corporation common stock	26,304,641	2,455,179	152,576,524

Documents Incorporated by Reference

The Registrant's definitive proxy statement for its 2018 Annual Meeting of Stockholders is hereby incorporated by reference into Part III of this Annual Report on Form 10-K.

**LIBERTY BROADBAND  
CORPORATION  
2017 ANNUAL REPORT ON FORM 10-K**

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**PART I.**

**Item 1. Business.**

(a) *General Development of Business*

***Spin-Off of Liberty Broadband from Liberty Media Corporation***

During May 2014, the board of directors of Liberty Media Corporation and its subsidiaries (“Liberty”) authorized management to pursue a plan to spin-off to its stockholders common stock of a wholly-owned subsidiary, Liberty Broadband Corporation (“Liberty Broadband”), and to distribute subscription rights to acquire shares of Liberty Broadband’s common stock (the “Broadband Spin-Off”). Liberty Broadband was formed in 2014 as a Delaware corporation. At the time of the Broadband Spin-Off, Liberty Broadband was comprised of, (i) Liberty’s former interest in Charter Communications, Inc. (“Legacy Charter”), (ii) Liberty’s former wholly-owned subsidiary TruePosition, Inc. (“TruePosition”), (iii) Liberty’s former minority equity investment in Time Warner Cable, Inc. (“Time Warner Cable”, “TWC”, “Legacy Time Warner Cable” or “Legacy TWC”), (iv) certain deferred tax liabilities, as well as liabilities related to the Time Warner Cable written call options and (v) initial indebtedness, pursuant to margin loans entered into prior to the completion of the Broadband Spin-Off. The Broadband Spin-Off was accounted for at historical cost due to the pro rata nature of the distribution to holders of Liberty common stock.

In the Broadband Spin-Off, record holders of Liberty’s former Series A, Series B and Series C common stock received one-fourth of a share of the corresponding series of Liberty Broadband common stock for each share of Liberty common stock held by them, with cash paid in lieu of fractional shares. In addition, following the completion of the Broadband Spin-Off, on December 10, 2014, Liberty Broadband stockholders received a subscription right to acquire one share of Liberty Broadband Series C common stock for every five shares of Liberty Broadband common stock they held at a per share subscription price of \$40.36, which was a 20% discount to the 20-trading day volume weighted average trading price of the Liberty Broadband Series C common stock following the completion of the Broadband Spin-Off. The rights offering was fully subscribed on January 9, 2015, with 17,277,224 shares of Series C common stock issued to those rightsholders exercising basic and, as applicable, oversubscription privileges. The subscription rights were issued to raise capital for general corporate purposes of Liberty Broadband. The Broadband Spin-Off and rights offering were intended to be tax-free to stockholders of Liberty and Liberty Broadband, respectively. During September 2015, Liberty entered into a closing agreement with the IRS which provided that the Broadband Spin-Off qualified for tax-free treatment.

Following the Broadband Spin-Off, Liberty and Liberty Broadband operate as separate, publicly traded companies, and neither has any stock ownership, beneficial or otherwise, in the other. In connection with the Broadband Spin-Off, Liberty and Liberty Broadband entered into certain agreements in order to govern certain of the ongoing relationships between the two companies after the Broadband Spin-Off and to provide for an orderly transition. These agreements include a reorganization agreement, a services agreement, a facilities sharing agreement and a tax sharing agreement.

The reorganization agreement provides for, among other things, the principal corporate transactions (including the internal restructuring) required to effect the Broadband Spin-Off, certain conditions to the Broadband Spin-Off and provisions governing the relationship between Liberty Broadband and Liberty with respect to and resulting from the Broadband Spin-Off. The tax sharing agreement provides for the allocation and indemnification of tax liabilities and benefits between Liberty and Liberty Broadband and other agreements related to tax matters. Pursuant to the tax sharing agreement, Liberty Broadband has agreed to indemnify Liberty, subject to certain limited exceptions, for losses and taxes resulting from the Broadband Spin-Off to the extent such losses or taxes result primarily from, individually or in the aggregate, the breach of certain restrictive covenants made by Liberty Broadband (applicable to actions or failures to act by Liberty Broadband and its subsidiaries following the completion of the Broadband Spin-Off). Pursuant to the services agreement, Liberty provides Liberty Broadband with general and administrative services including legal, tax, accounting, treasury and investor relations support. Under the facilities sharing agreement, Liberty Broadband shares office space with Liberty and related amenities at Liberty’s corporate headquarters. Liberty Broadband will reimburse Liberty for direct, out-of-pocket expenses incurred by Liberty in providing these services and for costs that will be negotiated semi-annually.

***Charter's Time Warner Cable Merger and Bright House Transaction***

On May 18, 2016, Time Warner Cable merged with Legacy Charter (the "Time Warner Cable Merger"). In connection with the Time Warner Cable Merger, Legacy Charter underwent a corporate reorganization, resulting in CCH I, LLC, a former subsidiary of Legacy Charter ("Charter"), becoming the new publicly traded parent company. Also on May 18, 2016, the previously announced acquisition of Bright House Networks, LLC ("Bright House" or "Legacy Bright House") from Advance/Newhouse Partnership ("A/N") by Charter (the "Bright House Transaction") was completed. In connection with the Time Warner Cable Merger and Bright House Transaction, Liberty Broadband entered into certain agreements with Legacy Charter, Charter, Liberty Interactive Corporation ("Liberty Interactive") and Time Warner Cable. In connection with the Time Warner Cable Merger and Bright House Transaction (collectively, the "Transactions"), Liberty Broadband exchanged its shares of Time Warner Cable for shares of Charter and purchased additional shares of Charter. As a result, and pursuant to proxy agreements entered into with Liberty Interactive and A/N, Liberty Broadband controls 25.01% of the aggregate voting power of Charter. For further discussion of the Transactions, see "Narrative Description of Business."

\* \* \* \* \*

Certain statements in this Annual Report on Form 10-K constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding our business, product and marketing strategies; new service and product offerings; the recoverability of our goodwill and other long-lived assets; the performance of our equity affiliate; our projected sources and uses of cash; and the anticipated non-material impact of certain contingent liabilities related to legal and tax proceedings and other matters arising in the ordinary course of business. In particular, statements under Item 1. "Business," Item 1A. "Risk Factors," Item 2. "Properties," Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Item 7A. "Quantitative and Qualitative Disclosures About Market Risk" contain forward-looking statements. Forward-looking statements inherently involve many risks and uncertainties that could cause actual results to differ materially from those projected in these statements. Where, in any forward-looking statement, we express an expectation or belief as to future results or events, such expectation or belief is expressed in good faith and believed to have a reasonable basis, but such statements necessarily involve risks and uncertainties and there can be no assurance that the expectation or belief will result or be achieved or accomplished. The following include some but not all of the factors that could cause actual results or events to differ materially from those anticipated:

- Charter's ability to efficiently and effectively integrate acquired operations;
- the ability of Charter to sustain and grow revenue and cash flow from operations by offering video, Internet, voice, mobile, advertising and other services to residential and commercial customers, to adequately meet the customer experience demands in its markets and to maintain and grow its customer base, particularly in the face of increasingly aggressive competition, the need for innovation and the related capital expenditures;
- the impact of competition from other market participants, including but not limited to incumbent telephone companies, direct broadcast satellite operators, wireless broadband and telephone providers, digital subscriber line ("DSL") providers, fiber to the home providers, video provided over the Internet by (i) market participants that have not historically competed in the multichannel video business, (ii) traditional multichannel video distributors, and (iii) content providers that have historically licensed cable networks to multichannel video distributors, and providers of advertising over the Internet;
- general business conditions, economic uncertainty or downturn, unemployment levels and the level of activity in the housing sector;
- Charter's ability to obtain programming at reasonable prices or to raise prices to offset, in whole or in part, the effects of higher programming costs (including retransmission consents);
- Charter's ability to develop and deploy new products and technologies, including mobile products, cloud-based user interface, Spectrum Guide®, and downloadable security for set top boxes, and any other cloud-based consumer services and service platforms;
- failure to protect the security of personal information about the customers of our operating subsidiary and equity affiliate, subjecting us to costly government enforcement actions or private litigation and reputational damage;

- changes in, or failure or inability to comply with, government regulations, including, without limitation, regulations of the Federal Communications Commission (“FCC”), and adverse outcomes from regulatory proceedings;
- the effects of governmental regulation on the business of our equity affiliate and our operating subsidiary, including costs, disruptions and possible limitations on Charter’s operating flexibility related to, and its ability to comply with, regulatory conditions applicable to Charter as a result of the Transactions;
- any events that disrupt Charter’s or Skyhook’s networks, information systems or properties and impair its operating activities or negatively impact their respective reputation;
- the ability to retain and hire key personnel;
- the ability of suppliers and vendors to deliver products, equipment, software and services;
- the outcome of any pending or threatened litigation;
- changes in the nature of key strategic relationships with partners, vendors and joint venturers;
- the availability and access, in general, of funds to meet debt obligations prior to or when they become due and to fund operations and necessary capital expenditures, either through (i) cash on hand, (ii) free cash flow, or (iii) access to the capital or credit markets;
- the ability of Charter and our company to comply with all covenants in their and our respective debt instruments, any violation of which, if not cured in a timely manner, could trigger a default of other obligations under cross-default provisions; and
- our ability to successfully monetize certain of our assets.

These forward-looking statements and such risks, uncertainties and other factors speak only as of the date of this Annual Report, and we expressly disclaim any obligation or undertaking to disseminate any updates or revisions to any forward-looking statement contained herein, to reflect any change in our expectations with regard thereto, or any other change in events, conditions or circumstances on which any such statement is based. When considering such forward-looking statements, you should keep in mind the factors described in Item 1A, "Risk Factors" and other cautionary statements contained in this Annual Report. Such risk factors and statements describe circumstances which could cause actual results to differ materially from those contained in any forward-looking statement.

This Annual Report includes information concerning Charter, a public company that files reports and other information with the Securities and Exchange Commission (the “SEC”) in accordance with the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Information in this Annual Report concerning Charter has been derived from the reports and other information filed by it with the SEC. If you would like further information about Charter, the reports and other information it files with the SEC can be accessed on the Internet website maintained by the SEC at [www.sec.gov](http://www.sec.gov). Those reports and other information are not incorporated by reference in this Annual Report.

(b) *Financial Information About Operating Segments*

Through our ownership of interests in subsidiaries and other companies, we are primarily engaged in the cable, broadband, and mobile location technology industries. Each of these businesses is separately managed.

We identify our reportable segments as (A) those consolidated subsidiaries that represent 10% or more of our annual consolidated revenue, Adjusted OIBDA or total assets and (B) those equity method affiliates whose share of earnings represent 10% or more of our annual pre-tax earnings. Financial information related to our operating segments can be found in note 12 to our consolidated financial statements found in Part II of this report.

(c) *Narrative Description of Business*

***Charter Communications, Inc.***

*Introduction*

Charter is the second largest cable operator in the United States and a leading broadband communications services company providing video, Internet and voice services to approximately 27.2 million residential and business customers at December 31, 2017. In addition, Charter sells video and online advertising inventory to local, regional and national advertising customers and fiber-delivered communications and managed information technology (“IT”) solutions to large enterprise customers.

Charter also owns and operates regional sports networks and local sports, news and community channels and sells security and home management services in the residential marketplace. Charter’s core strategy is to deliver high quality products at competitive prices, combined with outstanding service. This strategy, combined with simple, easy to understand pricing and packaging, is central to Charter’s goal of growing its customer base while also selling more services to each customer. Charter expects to execute this strategy by managing its operations in a consumer-friendly, efficient and cost-effective manner. Charter’s operating strategy includes insourcing much of its customer care and field operations workforces, which results in higher quality service transactions. While an insourced operating model can increase field operations and customer care costs associated with each service transaction, the higher quality nature of insourced labor service transactions significantly reduces the volume of service transactions per customer, more than offsetting the higher investment made in each service transaction. As Charter reduces the number of service transactions and recurring costs per customer relationship, Charter effectively passes those savings on to customers in the form of products and prices that the company believes provides more value than what its competitors offer. The combination of offering competitively priced products and high quality service allows Charter to increase the number of customers it serves over its fixed network and increase the number of products it sells to each customer, while at the same time reducing the number of service transactions per relationship, improving customer satisfaction and reducing churn, which results in lower costs to acquire and serve customers. Charter is also reducing operating costs per customer relationship by providing customers with the ability to communicate with it through a variety of new forums that they may favor over telephonic communications. These forums include Charter’s customer website, mobile device applications, online chat and social media, which are less costly for Charter to provide than direct telephonic communications. Ultimately, this operating strategy enables Charter to offer high quality, competitively priced services profitably, while continuing to invest in new products and services.

*Time Warner Cable Merger*

On May 18, 2016, the previously announced Time Warner Cable Merger was completed, which resulted in Legacy Charter and TWC becoming wholly owned subsidiaries of Charter, which was a wholly owned subsidiary of Legacy Charter at the time. As a result of the Time Warner Cable Merger, Charter became the new public parent company that holds the operations of the combined companies and was renamed Charter Communications, Inc. Pursuant to the terms of the merger agreement, upon consummation of the Time Warner Cable Merger, 285 million outstanding shares of TWC common stock were converted into 143 million shares of Charter Class A common stock valued at approximately \$32 billion as of the date of acquisition. In addition, TWC shareholders (excluding Liberty Broadband and Liberty Interactive) received approximately \$28 billion in cash. As of May 18, 2016, the total value of the Time Warner Cable Merger was approximately \$85 billion, including cash, equity and TWC assumed debt. The purchase price also includes an estimated pre-combination vesting period fair value of \$514 million for equity awards converted into Charter awards upon closing of the Time Warner Cable Merger and \$69 million of cash paid to former TWC employees and non-employee directors who held equity awards, whether vested or not vested.

*Bright House Transaction*

Also, on May 18, 2016, Charter and A/N completed the previously announced Bright House Transaction, pursuant to a definitive Contribution Agreement. Pursuant to the Bright House Transaction, Charter became the owner of the membership interests in Bright House and the other assets primarily related to Bright House (other than certain excluded assets and liabilities and non-operating cash). As of the date of acquisition, the purchase price totaled approximately \$12.2 billion consisting of (a) \$2 billion in cash, (b) 25 million convertible preferred units of Charter Communications Holdings, LLC (“Charter Holdings”) with a face amount of \$2.5 billion that pay a 6% annual preferential dividend, (c) approximately 31.0 million common units of Charter

Holdings that are exchangeable into Charter Class A common stock on a one-for-one basis and (d) one share of Charter Class B common stock.

*Liberty Broadband Transactions*

In connection with the Time Warner Cable Merger, Charter and Liberty Broadband completed their previously announced transactions pursuant to their investment agreement, in which Liberty Broadband purchased for cash approximately 22.0 million shares of Charter Class A common stock valued at \$4.3 billion at the closing of the Time Warner Cable Merger to partially finance the cash portion of the Time Warner Cable Merger consideration. In connection with the Bright House Transaction, Liberty Broadband purchased approximately 3.7 million shares of Charter Class A common stock valued at \$700 million at the closing of the Bright House Transaction. See note 5 to the accompanying consolidated financial statements for more information on the Transactions.

**Products and Services**

Charter offers its customers subscription-based video services, including video on demand (“VOD”), high definition (“HD”) television, and digital video recorder (“DVR”) service, Internet services and voice services. As of December 31, 2017, 74% of Charter’s footprint was all-digital, enabling Charter to offer more HD channels, faster Internet speeds and better video picture quality and the company intends to transition the remaining portions of its Legacy TWC and Legacy Bright House footprints to all-digital. Charter’s video, Internet, and voice services are offered to residential and commercial customers on a subscription basis, with prices and related charges based on the types of service selected, whether the services are sold as a “bundle” or on an individual basis, and the equipment necessary to receive Charter’s services. Bundled services are available to substantially all of Charter’s passings, and approximately 59% of Charter’s customers subscribe to a bundle of services.

All customer statistics as of December 31, 2017 include the operations of Legacy TWC, Legacy Bright House and Legacy Charter, each of which is based on individual legacy company reporting methodology. These methodologies differ and their differences may be material. Statistical reporting will be conformed over time to a single reporting methodology. The

following table from Charter's Form 10-K for the year ended December 31, 2017 summarizes Charter's customer statistics for video, Internet and voice as of December 31, 2017 and 2016 (in thousands except per customer data and footnotes).

	<u>Approximate as of December 31,</u>	
	<u>2017 (a)</u>	<u>2016 (a)(b)</u>
<b>Customer Relationships (c)</b>		
Residential	25,639	24,801
Small and Medium Business	1,560	1,404
<b>Total Customer Relationships</b>	<b>27,199</b>	<b>26,205</b>
<b>Residential Primary Service Units ("PSUs")</b>		
Video	16,544	16,836
Internet	22,545	21,374
Voice	10,427	10,327
	<u>49,516</u>	<u>48,537</u>
Monthly Residential Revenue per Residential Customer (d)	\$ 109.75	\$ 109.57
<b>Small and Medium Business PSUs</b>		
Video	453	400
Internet	1,358	1,219
Voice	912	778
	<u>2,723</u>	<u>2,397</u>
Monthly Small and Medium Business Revenue per Customer (e)	\$ 207.36	\$ 213.87
<b>Enterprise PSUs (f)</b>	114	97

- (a) Charter calculates the aging of customer accounts based on the monthly billing cycle for each account. On that basis, as of December 31, 2017 and 2016, customers include approximately 245,800 and 208,400 customers, respectively, whose accounts were over 60 days past due, approximately 19,500 and 15,500 customers, respectively, whose accounts were over 90 days past due, and approximately 12,600 and 8,000 customers, respectively, whose accounts were over 120 days past due.
- (b) In the second quarter of 2017, Charter conformed the seasonal customer program in the Legacy Bright House footprint to its program. Prior to the plan change, Legacy Bright House customers enrolling in the seasonal plan were charged a one-time fee and counted as customer disconnects, and as new connects, when moving off the seasonal plan. Under Charter's seasonal plan, residential customers pay a reduced monthly fee while the seasonal plan is active and remain reported as customers. Excluding the impact of customer activity related to Legacy Bright House's seasonal plan, residential customer relationships and video, Internet and voice PSUs at December 31, 2016 would have been higher by approximately 10,000, 8,000, 12,000 and 7,000 respectively.
- (c) Customer relationships include the number of customers that receive one or more levels of service, encompassing video, Internet and voice services, without regard to which service(s) such customers receive. Customers who reside in residential multiple dwelling units ("MDUs") and that are billed under bulk contracts are counted based on the number of billed units within each bulk MDU. Total customer relationships excludes enterprise customer relationships.
- (d) Monthly residential revenue per residential customer is calculated as total residential video, Internet and voice annual revenue divided by twelve divided by average residential customer relationships during the respective year.
- (e) Monthly small and medium business revenue per customer is calculated as total small and medium business annual revenue divided by twelve divided by average small and medium business customer relationships during the respective year.
- (f) Enterprise PSUs represent the aggregate number of fiber service offerings counting each separate service offering as an individual PSU.



## **Residential Services**

### *Video Services*

Charter's video customers receive a package of basic programming which, in its all-digital markets, generally includes a digital set-top box that provides an interactive electronic programming guide with parental controls, access to pay-per-view services, including VOD (available to nearly all of their passings), digital music channels and the option to view certain video services on third party devices. Customers have the option to purchase additional tiers of services including premium channels which provide original programming, commercial-free movies, sports, and other special event entertainment programming. Substantially all of Charter's video programming is available in HD. Charter also offers certain video packages containing a limited number of channels via its cable television systems.

In the vast majority of its footprint, Charter offers VOD service which allows customers to select from approximately 35,000 titles at any time. VOD includes standard definition, HD and three dimensional content. VOD programming options may be accessed for free if the content is associated with a customer's linear subscription, or for a fee on a transactional basis. VOD services are also offered on a subscription basis included in a digital tier premium channel subscription or for a monthly fee. Pay-per-view channels allow customers to pay on a per-event basis to view a single showing of a one-time special sporting event, music concert, or similar event on a commercial-free basis.

Charter's goal is to provide its video customers with the programming they want, when they want it, on any device. DVR service enables customers to digitally record programming and to pause and rewind live programming. Customers can also use the Spectrum TV application available on mobile devices, residential devices and on their website to watch up to 250 channels of cable TV, view VOD programming, remotely control digital set-top boxes while in the home and to program DVRs remotely. Customers also have access to programmer authenticated applications and websites (known as TV Everywhere services) such as HBO Go®, Fox Now®, Discovery Go® and WatchESPN®.

In certain markets, Charter has launched Spectrum Guide®, a network or "cloud-based" user interface that can run on traditional set-top boxes, with a look and feel that is similar to that of the Spectrum TV App. Spectrum Guide® is designed to allow Charter's customers to enjoy a state-of-the-art video experience on the majority of its set-top boxes, including accessing third-party video applications such as Netflix. The guide enables customers to find video content more easily across cable TV channels and VOD options. Charter plans to continue to deploy Spectrum Guide across its footprint and enhance this technology in 2018 and beyond.

### *Internet Services*

In 2017, Charter completed its launch of Spectrum pricing and packaging ("SPP") and now offers an entry level Internet download speed of at least 100 megabits per second ("Mbps") across 99% of its footprint and 200 Mbps across 17% of its footprint, which among other things, allows several people within a single household to stream HD video content online while simultaneously using their Internet service for non-video purposes. Additionally, leveraging DOCSIS 3.1 technology, Charter had introduced speed offerings of 940 Mbps ("Spectrum Internet Gig") in 17% of its footprint as of December 31, 2017. Finally, Charter offers a security suite with its Internet services which, upon installation by customers, provides protection against computer viruses and spyware and includes parental control features.

Charter offers an in-home Wi-Fi product that provides customers with high performance wireless routers to maximize their in-home wireless Internet experience. Additionally, Charter offers an out-of-home Wi-Fi service in most of its footprint to Internet customers at designated "hot spots." In 2018, Charter expects to continue to expand Wi-Fi accessibility to its customers through its network of Wi-Fi hotspots.

### *Voice Services*

Charter provides voice communications services using voice over Internet protocol ("VoIP") technology to transmit digital voice signals over its network. Charter's voice services include unlimited local and long distance calling to the United States, Canada, Mexico and Puerto Rico, voicemail, call waiting, caller ID, call forwarding and other features and offers

international calling either by the minute, or through packages of minutes per month. For customers that subscribe to both voice and video offerings, caller ID on TV is also available in most areas.

#### *Mobile Services*

Charter's mobile strategy is built on the long-term vision of an integrated fixed/wireless network with differentiated products, and the ability to maximize the potential of its existing cable business. Charter intends to launch its Spectrum-branded mobile service in 2018 to residential customers via its mobile virtual network operator ("MVNO") reseller agreement with Verizon Wireless. In the second phase, Charter plans to use its Wi-Fi network in conjunction with additional unlicensed or licensed spectrum to improve network performance and expand capacity to offer consumers a superior wireless service. In furtherance of this second phase, Charter has experimental wireless licenses from the FCC that it is utilizing to test next generation wireless services in several markets around the country. Charter currently plans to only offer its Spectrum mobile service to residential customers subscribing to its Internet service. In the future, Charter may also offer mobile service to its small and medium business customers on similar terms. Charter believes Spectrum-branded mobile services will drive more sales of its core products, create longer customer lives and increase profitability and cash flow over time. As Charter launches its new mobile services, it expects an initial funding period to grow a new product as well as negative working capital impacts from the timing of device-related cash flows when it provides the handset or tablet to customers pursuant to equipment installment plans.

Charter is exploring working with a variety of partners and vendors in a number of operational areas within the wireless space, including: creating common operating platforms; technical standards development and harmonization; device forward and reverse logistics; and emerging wireless technology platforms. The efficiencies created are expected to provide more choice, innovative products and competitive prices for customers. Charter intends to consider and pursue opportunities in the mobile space which may include entering into joint ventures or partnerships with wireless or cable providers which may require significant investment. There is no assurance Charter will enter into such arrangements or that if it does, that they will be successful.

#### **Commercial Services**

Charter offers scalable broadband communications solutions for businesses and carrier organizations of all sizes, selling Internet access, data networking, fiber connectivity to cellular towers and office buildings, video entertainment services and business telephone services.

#### *Small and Medium Business*

Spectrum Business offers Internet, voice and video services to small and medium businesses over its hybrid fiber coaxial network that are similar to those that Charter provides to its residential customers. Spectrum Business includes a full range of video programming and entry-level Internet speeds of 100 Mbps downstream and 10 Mbps upstream. Additionally, customers can upgrade their Internet speeds to 200 or 300 Mbps downstream. Spectrum Business also includes a set of business services including web hosting, e-mail and security, and multi-line telephone services with more than 30 business features including web-based service management, that are generally not available to residential customers.

#### *Enterprise Solutions*

Spectrum Enterprise offers fiber-delivered communications and managed IT solutions to larger businesses, as well as high-capacity last-mile data connectivity services to wireless and wireline carriers, Internet Service Providers and other competitive carriers on a wholesale basis. Spectrum Enterprise's product portfolio includes fiber Internet access, voice trunking services, hosted voice, Ethernet services that privately and securely connect geographically dispersed client locations, and video solutions designed to meet the needs of hospitality, education, and health care clients. In addition, Spectrum Enterprise is beginning market field trials of an innovative Hybrid Software-Defined Wide Area Network, that enables businesses to leverage the performance of Ethernet, the ubiquity of Internet connectivity and the flexibility of a software-defined solution to solve a wide array of business communications and networking challenges. Charter's managed IT portfolio includes Cloud Infrastructure as a Service and Cloud Desktop as a Service, and managed hosting, application, and messaging solutions, along with other related IT and professional services. Charter's large serviceable footprint allows it to effectively serve business customers with multiple

sites across given geographic regions. These customers can benefit from obtaining advanced services from a single provider simplifying procurement and potentially reducing their costs.

### **Advertising Services**

Charter's advertising sales division, Spectrum Reach®, offers local, regional and national businesses the opportunity to advertise in individual and multiple markets on cable television networks and digital outlets. Charter receives revenue from the sale of local advertising across various platforms such as MTV®, CNN® and ESPN®. In any particular market, Charter typically inserts local advertising on up to 60 channels. Charter's large footprint provides opportunities for advertising customers to address broader regional audiences from a single provider and thus reach more customers with a single transaction. Charter's size also provides scale to invest in new technology to create more targeted and addressable advertising capabilities.

Available advertising time is generally sold by Charter's advertising sales force. In some markets, Charter has formed advertising interconnects or entered into representation agreements with other video distributors, including, among others, Verizon Communications Inc.'s ("Verizon") fiber optic service ("FiOS") and AT&T Inc.'s ("AT&T") U-verse and DIRECTV platforms, under which Charter sells advertising on behalf of those operators. In other markets, Charter enters into representation agreements under which another operator in the area will sell advertising on its behalf. These arrangements enable Charter and its partners to deliver linear commercials across wider geographic areas, replicating the reach of local broadcast television stations to the extent possible. In addition, Charter enters into interconnect agreements from time to time with other cable operators, which, on behalf of a number of video operators, sells advertising time to national and regional advertisers in individual or multiple markets.

Additionally, Charter sells the advertising inventory of its owned and operated local sports, news and lifestyle channels, of its regional sports networks that carry Los Angeles Lakers' basketball games and other sports programming and of SportsNet LA, a regional sports network that carries Los Angeles Dodgers' baseball games and other sports programming.

Charter is in the process of deploying advanced advertising products such as its Audience App, which uses its proprietary set-top box viewership data (all anonymized and aggregated) to optimize linear inventory, and household addressability, which allows for more finite targeting, within various parts of its footprint. These new products will be distributed across more of its footprint in 2018.

### **Other Services**

#### *Regional Sports and News Networks*

Charter has an agreement with the Los Angeles Lakers for rights to distribute all locally available Los Angeles Lakers' games through 2033. Charter broadcasts those games on its regional sports network, Spectrum SportsNet. Charter also manages 16 local news channels, including Spectrum News NY1, a 24-hour news channel focused on New York City, 10 local sports channels and one local lifestyle community channel, and it owns 26.8% of Sterling Entertainment Enterprises, LLC (doing business as SportsNet New York), a New York City-based regional sports network that carries New York Mets' baseball games as well as other regional sports programming.

American Media Productions, LLC ("American Media Productions"), an unaffiliated third party, owns SportsNet LA, a regional sports network carrying the Los Angeles Dodgers' baseball games and other sports programming. In accordance with agreements with American Media Productions, Charter acts as the network's exclusive affiliate and advertising sales representative and has certain branding and programming rights with respect to the network. In addition, Charter provides certain production and technical services to American Media Productions. The affiliate, advertising, production and programming agreements continue through 2038.

#### *Security and Home Management*

Charter provides security and home management services to its residential customers in certain markets. Charter's broadband cable system connects the customer's in-home system to Charter's emergency response center for traditional security, fire and medical emergency monitoring and dispatch. The service also allows customers to remotely arm or disarm their security

system, monitor their home via indoor and outdoor cameras, and remotely operate key home functions, including setting and controlling lights, thermostats and door locks.

#### Pricing of Charter's Products and Services

Charter's revenues are principally derived from the monthly fees customers pay for the services Charter provides. Charter typically charges a one-time installation fee which is sometimes waived or discounted in certain sales channels during certain promotional periods.

Charter's SPP generally offers a standardized price for each tier of service, bundle of services, and add-on service, regardless of market and emphasizes triple play bundles of video, Internet and voice services. Charter's most popular and competitive services are combined in core packages at what it believes are attractive prices. Charter believes its approach:

- offers simplicity for customers to understand its offers, and for Charter employees in service delivery;
- drives Charter's ability to package more services at the time of sale, thus increasing revenue per customer;
- offers a higher quality and more value-based set of services, including faster Internet speeds, more HD channels, lower equipment fees and a more transparent pricing structure;
- drives higher customer satisfaction, lower service calls and churn; and
- allows for gradual price increases at the end of promotional periods.

#### Charter's Network Technology and Customer Premise Equipment

Charter's network includes three key components: a national backbone, regional/metro networks and a "last-mile" network. Both its national backbone and regional/metro network components utilize a redundant Internet Protocol ("IP") ring/mesh architecture. The national backbone component provides connectivity from regional demarcation points to nationally centralized content, connectivity and services. The regional/metro network components provide connectivity between the regional demarcation points and headends within a specific geographic area and enable the delivery of content and services between these network components.

Charter's last-mile network utilizes a hybrid fiber coaxial cable ("HFC") architecture, which combines the use of fiber optic cable with coaxial cable. In most systems, Charter delivers its signals via fiber optic cable from the headend to a group of nodes, and uses coaxial cable to deliver the signal from individual nodes to the homes served by that node. For Charter's fiber Internet, Ethernet, carrier wholesale, SIP and PRI Spectrum Enterprise customers, fiber optic cable is extended from individual nodes to the customer's site. For certain new build and MDU sites, Charter increasingly brings fiber to the customer site. Charter's design standard is six strands of fiber to each node, with two strands activated and four strands reserved for spares and future services. This design standard allows these additional strands to be utilized for additional residential traffic capacity, and enterprise customer needs as they arise. Charter believes that this hybrid network design provides high capacity and signal quality. The design also provides two-way signal capabilities for the support of interactive services.

HFC architecture benefits include:

- bandwidth capacity to enable traditional and two-way video and broadband services;
- dedicated bandwidth for two-way services; and
- signal quality and high service reliability.

Approximately 98% of Charter's estimated passings are served by systems that have bandwidth of 750 megahertz or greater as of December 31, 2017. This bandwidth capacity enables Charter to offer HD television, DOCSIS-based Internet services and voice services.

An all-digital platform enables Charter to offer a larger selection of HD channels, faster Internet speeds and better picture quality while providing greater plant security and enabling lower installation and disconnect service truck rolls. Charter is

currently all-digital in 74% of its footprint and intends to transition the remaining portions of its Legacy TWC and Legacy Bright House footprints.

Charter has been introducing its new set-top box, WorldBox, to consumers in certain markets. The WorldBox design has opened the set-top box market to new vendors and reduced Charter's set-top box costs. WorldBox also includes more advanced features and functionality than older set-top boxes, including faster processing times, IP capabilities with increased speed, additional simultaneous recordings, increased DVR storage capacity, and a greater degree of flexibility for consumers to take Charter-provisioned set-top boxes with them, if and when, they move residences. Charter has also been introducing its new cloud-based user interface, Spectrum Guide®, to its video customers in certain markets. Spectrum Guide® improves video content search and discovery, and fully enables Charter's on-demand offering. In addition, Spectrum Guide® can function on the majority of Charter's set-top boxes, reducing costs and customer disruption to swap equipment for new functionality.

#### Management, Customer Operations and Marketing

Charter's operations are centralized, with senior executives located at several key corporate offices, responsible for coordinating and overseeing operations, including establishing company-wide strategies, policies and procedures. Sales and marketing, network operations, field operations, customer operations, engineering, advertising sales, human resources, legal, government relations, information technology and finance are all directed at the corporate level. Regional and local field operations are responsible for customer premise service transactions and maintaining and constructing that portion of Charter's network which is located outdoors. In 2018, Charter's field operations group continues to focus on standardizing practices, processes, procedures and metrics.

Charter continues to focus on improving the customer experience through enhanced product offerings, reliability of services, and delivery of quality customer service. As part of Charter's operating strategy, Charter is committed to investments and hiring plans that continue to insource most of its customer operations workload.

In-house domestic call centers handled approximately 75% of Charter's customer service calls and are managed centrally to ensure a consistent, high quality customer experience. Routing calls by particular call types to specific agents that only handle such call types, enables agents to become experts in addressing specific customer needs, thus creating a better customer experience. Charter also continues to migrate its call centers to full virtualization which allows calls to be routed across Charter's call centers regardless of the location origin of the call, reducing call wait times, and saving costs. A new call center agent desktop interface tool, already used at Legacy Charter, is being developed for Legacy TWC and Legacy Bright House. This new desktop interface tool will enable virtualization of all call centers, regardless of legacy billing platform, and will better serve its customers.

Charter also provides customers with the opportunity to interact with the company through a variety of forums in addition to telephonic communications, including through its customer website, mobile device applications, online chat, and social media. Charter's customer websites and mobile applications enable customers to pay their bills, manage their accounts, order new services and utilize self-service help and support.

Charter sells its residential and commercial services using a national brand platform known as Spectrum®, Spectrum Business® and Spectrum Enterprise®. These brands reflect Charter's comprehensive approach to industry-leading products, driven by speed, performance and innovation. Charter's marketing strategy emphasizes the sale of its bundled services through targeted direct response marketing programs to existing and potential customers, and increases awareness and the value of the Spectrum brand. Charter's marketing organization creates and executes marketing programs intended to grow customer relationships, increase the number of services it sells per relationship, retain existing customers and cross-sell additional products to current customers. Charter monitors the effectiveness of its marketing efforts, customer perception, competition, pricing, and service preferences, among other factors, in order to increase its responsiveness to customers and to improve sales and customer retention. Charter's marketing organization manages the majority of the sales channels including direct sales, on-line, outbound telemarketing and stores.

Programming

Charter believes that offering a wide variety of video programming choices influences a customer's decision to subscribe and retain its cable video services. Charter obtains basic and premium programming, usually pursuant to written contracts, from a number of suppliers. Media corporation consolidation has, however, resulted in fewer suppliers and additional selling power on the part of programming suppliers. Charter's programming contracts are generally for a fixed period of time, usually for multiple years, and are subject to negotiated renewal. Recently, Charter has begun entering into agreements to co-produce original content which gives it the right to provide customers with certain exclusive content, for a period of time.

Programming is usually made available to Charter for a license fee, which is generally paid based on the number of customers to whom it makes that programming available. Programming license fees may include "volume" discounts and financial incentives to support the launch of a channel and/or ongoing marketing support, as well as discounts for channel placement or service penetration. For home shopping channels, Charter typically receives a percentage of the revenue attributable to its customers' purchases. Charter also offers VOD and pay per view channels of movies and events that are subject to a revenue split with the content provider.

Charter's programming costs have increased in excess of customary inflationary and cost-of-living type increases. Charter expects programming costs to continue to increase due to a variety of factors including, annual increases pursuant to Charter's programming contracts, contract renewals with programmers and the carriage of incremental programming, including new services, higher expanded basic video penetration and VOD programming. Increases in the cost of sports programming and the amounts paid for broadcast station retransmission consent have been the largest contributors to the growth in Charter's programming costs over the last few years. Additionally, the demands of large media companies who link carriage of their most popular networks to carriage and cost increases of their less popular networks, has limited Charter's flexibility in creating more tailored and cost-sensitive programming packages for consumers.

Federal law allows commercial television broadcast stations to make an election between "must-carry" rights and an alternative "retransmission-consent" regime. When a station opts for retransmission-consent, Charter is not allowed to carry the station's signal without that station's permission. Continuing demands by owners of broadcast stations for cash payments at substantial increases over amounts paid in prior years in exchange for retransmission consent will increase Charter's programming costs or require Charter to cease carriage of popular programming, potentially leading to a loss of customers in affected markets.

Over the past several years, increases in Charter's video service rates have not fully offset the increases in its programming costs, and with the impact of increasing competition and other marketplace factors, Charter does not expect the increases in its video service rates to fully offset the increase in its programming costs for the foreseeable future. Although Charter passes along a portion of amounts paid for retransmission consent to the majority of its customers, Charter's inability to fully pass programming cost increases on to its video customers has had, and is expected in the future to have, an adverse impact on Charter's cash flow and operating margins associated with its video product. In order to mitigate reductions of Charter's operating margins due to rapidly increasing programming costs, Charter continues to review its pricing and programming packaging strategies.

Charter currently has programming contracts that have expired and others that will expire at, or before the end, of 2018. Charter will seek to renew these agreements on terms that it believes are favorable. There can be no assurance, however, that these agreements will be renewed on favorable or comparable terms. To the extent that Charter is unable to reach agreements with certain programmers on terms that Charter believes are reasonable, Charter has been, and may in the future be, forced to remove such programming channels from its line-up, which may result in a loss of customers.

### *Regions*

Charter operates in geographically diverse areas which are organized in regional clusters. These regions are managed centrally on a consolidated level. Charter's 11 regions and the customer relationships within each region as of December 31, 2017 are as follows (in thousands):

<b>Regions</b>	<b>Total Customer Relationships</b>
Carolinas	2,668
Central	2,870
Florida	2,389
Great Lakes	2,208
Northeast	2,970
Northwest	1,472
NYC	1,334
South	2,085
Southern Ohio	2,093
Texas	2,736
West	4,374

### *Ownership Interests*

We own an approximate 22.7% economic ownership interest in Charter, based on shares of Charter's Class A common stock issued and outstanding as of December 31, 2017, and, pursuant to proxy agreements entered into with Liberty Interactive and A/N, control 25.01% of the aggregate voting power of Charter. Upon the closing of the Time Warner Cable Merger, the Second Amended and Restated Stockholders Agreement, dated as of May 23, 2015, by and among Legacy Charter, Charter, Liberty Broadband and A/N, as amended (the "Stockholders Agreement"), became fully effective. Under the Stockholders Agreement, we have the right to designate three directors to the Charter board of directors, subject to certain exclusions and requirements. Charter has agreed to cause the appointment of at least one of our designees to serve on the nominating and corporate governance, finance, audit and compensation and benefits committees of the board, provided they meet the independence and other qualifications for membership on those committees.

### *Skyhook*

Skyhook Holding, Inc. (formerly known as "TruePosition") was originally incorporated on November 24, 1992 to provide technology for locating wireless phones and other mobile devices. TruePosition offered a passive network-based location system based on its patented U-TDOA technology (the "U-TDOA Service") to provide E-9-1-1 services domestically and to enhance services in support of commercial applications and national security/law enforcement operations worldwide. In February 2014, TruePosition acquired Skyhook Wireless, Inc., an alternative location services provider that offered a positioning system using device-based measurements to calculate location, as opposed to TruePosition's network-based technology. In 2015, as a result of the loss of one of its major customers – a wireless carrier that accounted for 80-90% of TruePosition's revenue – as well as changes in the regulatory environment for E-9-1-1 services, TruePosition ceased making further investment in its U-TDOA Service. Thereafter, in May 2016, TruePosition and Skyhook Wireless, Inc. combined operations in order to focus on the development and sale of Skyhook's device-based location technology. On January 1, 2017, TruePosition changed its name to Skyhook Holding, Inc. to reflect this combination of operations. Skyhook Holding, Inc. and Skyhook Wireless, Inc. are referred to collectively herein as "Skyhook."

Today, Skyhook markets and sells two primary products: (1) a location determination service called the Precision Location Solution; and (2) a location intelligence and data insights service called Geospatial Insights.

Skyhook's Precision Location Solution works by collecting nearby radio signals (such as information from Wi-Fi access points, cell towers, IP addresses and other radio beacons) that are observed by a mobile device. The Precision Location Solution then matches these identified signals to the approximate geolocation of billions of geolocated Wi-Fi access points, cell towers and IP addresses which are maintained in Skyhook's proprietary reference database. Based on the signal strength of the received measurements and the pre-determined positions of the access points, cell towers and other beacons that are stored in the reference database, Skyhook can then calculate a precise location of the mobile device. Since the Precision Location Solution uses the

existing hardware on the mobile device and observes signal scans that have already been performed by the device, it does not require additional hardware installations or consume any additional power from the mobile device. The Precision Location Solution is primarily marketed to, and used by, mobile device makers (including phones, laptops, tablets, gaming devices, wearables and other wireless-connected Internet of Things products), wireless carriers, and asset tracking platforms to understand the precise geographic location and movement of mobile devices. In addition, the Precision Location Solution can contribute to improving the location determination capabilities of a hybrid location system that utilizes other satellite and terrestrial location technologies, such as GPS, by increasing accuracy, reducing power consumption and improving the time it takes to deliver a location result.

Skyhook's Geospatial Insights product uses anonymized location data to analyze foot traffic patterns and better understand the real-world behavior of consumers. By mapping the movement of mobile devices to specific venues and points-of-interest, Skyhook can draw insights regarding user visits to retail stores, restaurants, hotels, airports and other locations, as well as attendance at concerts, sporting events or other public gatherings. The resulting data provides a rich view of customer behavior, loyalty and purchase intent, as well as insights about the performance of a business or its competitors. Skyhook markets and sells Geospatial Insights to enterprises, research and consulting firms, financial institutions and advertisers, among others. These customers use Geospatial Insights data to understand, measure and optimize the performance of businesses, to benchmark performance against competitors, to improve customer experience, to advertise to and target existing and prospective customers with the right message, and to measure the efficacy of advertising campaigns in driving real-world actions.

Skyhook's revenue is derived from the sale and integration of its Precision Location Solution (including the licensing of software and data components that make up that solution) and the licensing of Geospatial Insights data. In addition, Skyhook earns revenue through entering into licensing agreements with companies to utilize its underlying intellectual property (including patents).

## **Regulatory Matters**

### *Charter*

The following summary addresses the key regulatory and legislative developments affecting the cable industry and Charter's services for both residential and commercial customers. Cable system operations are extensively regulated by the federal government (primarily the FCC), certain state governments, and many local governments. A failure to comply with these regulations could subject Charter to substantial penalties. Charter's business can be dramatically impacted by changes to the existing regulatory framework, whether triggered by legislative, administrative, or judicial rulings. Congress and the FCC have frequently revisited the subject of communications regulation and they are likely to do so again in the future. Charter could be materially disadvantaged in the future if it is subject to new regulations or regulatory actions that do not equally impact its key competitors. Charter cannot provide assurance that the already extensive regulation of its business will not be expanded in the future. In addition, Charter is already subject to Charter-specific conditions regarding certain business practices as a result of the FCC's approval of the Transactions.

### *Video Service*

#### Must Carry/Retransmission Consent

There are two alternative legal methods for carriage of local broadcast television stations on cable systems. Federal "must carry" regulations require cable systems to carry local broadcast television stations upon the request of the local broadcaster. Alternatively, federal law includes "retransmission consent" regulations, by which popular commercial television stations can prohibit cable carriage unless the cable operator first negotiates for "retransmission consent," which may be conditioned on significant payments or other concessions. Popular stations invoking "retransmission consent" have been demanding substantial compensation increases in their recent negotiations with cable operators, thereby significantly increasing Charter's operating costs.

Additional government-mandated broadcast carriage obligations, including those related to the FCC's newly adopted enhanced technical broadcasting option (Advanced Television Systems Committee 3.0), could disrupt existing programming



commitments, interfere with Charter's preferred use of limited channel capacity, and limit Charter's ability to offer services that appeal to customers and generate revenues.

#### Cable Equipment

In 1996, Congress enacted a statute requiring the FCC to adopt regulations designed to assure the development of an independent retail market for "navigation devices," such as cable set-top boxes. As a result, the FCC required cable operators to make a separate offering of security modules (i.e., a "CableCARD") that can be used with retail navigation devices. Some of the FCC's rules requiring support for CableCARDs were vacated by the United States Court of Appeals for the District of Columbia in 2013, and another of these rules was repealed by Congress in 2014, but the basic obligation to provide separable security for retail devices remains in place. In 2016, the FCC proposed to replace its CableCARD regime with burdensome new rules that would have required Charter to make disaggregated "information flows" available to set-top boxes and apps supplied by third parties. That proposal was not adopted, but various parties may continue to advocate alternative regulatory approaches to reduce consumer dependency on traditional operator provided set-top boxes. It remains uncertain whether the FCC or Congress will change the legal requirements related to Charter's set-top boxes and what the impact of any such changes might be.

#### Privacy and Information Security Regulation

The Communications Act of 1934, as amended (the "Communications Act") limits Charter's ability to collect, use, and disclose customers' personally identifiable information for its video, voice, and Internet services, as well as provides requirements to safeguard such information. Charter is subject to additional federal, state, and local laws and regulations that impose additional restrictions on the collection, use and disclosure of consumer information. Further, the FCC, Federal Trade Commission ("FTC"), and many states regulate and restrict the marketing practices of communications service providers, including telemarketing and sending unsolicited commercial emails.

As a result of the FCC's 2017 decision to reclassify broadband Internet access service as an "information service," the FTC once again has the authority, pursuant to its authority to enforce against unfair or deceptive acts and practices, to protect the privacy of Internet service customers, including Charter's use and disclosure of certain customer information. Although one court decision has raised questions regarding the extent of FTC jurisdiction over companies that offer both common carrier services as well as non-common carrier services, that decision has been stayed, pending review by the full Ninth Circuit Court of Appeals.

Charter's operations are also subject to federal and state laws governing information security. In the event of an information security breach, such rules may require consumer and government agency notification and may result in regulatory enforcement actions with the potential of monetary forfeitures. The FCC, the FTC and state attorneys general regularly bring enforcement actions against companies related to information security breaches and privacy violations.

Various security standards provide guidance to telecommunications companies in order to help identify and mitigate cybersecurity risk. One such standard is the voluntary framework released by the National Institute for Standards and Technology ("NIST") in February 2014, in cooperation with other federal agencies and owners and operators of U.S. critical infrastructure. The NIST cybersecurity framework provides a prioritized and flexible model for organizations to identify and manage cyber risks inherent to their business. It was designed to supplement, not supersede, existing cybersecurity regulations and requirements. Several government agencies have encouraged compliance with the NIST cybersecurity framework, including the FCC, which is also considering expansion of its cybersecurity guidelines or the adoption of cybersecurity requirements. NIST recently proposed draft updates to this voluntary framework and is expected to release final revisions in 2018.

After the repeal of the FCC's 2016 privacy rules through the Congressional Review Act in 2017, many states and local authorities have considered legislative or other actions that would impose additional restrictions on Charter's ability to collect, use and disclose certain information. Despite language in the FCC's December 2017 decision reclassifying broadband Internet access service as an "information service," that preempts state and local privacy regulations that conflict with federal policy, Charter expects these state and local efforts to regulate online privacy to continue in 2018. Additionally, several state legislatures are considering the adoption of new data security and cybersecurity legislation that could result in additional network and information security requirements for Charter's business. There are also bills pending in both the U.S. House of Representatives and Senate that could impose new privacy and data security obligations. Charter cannot predict whether any of these efforts will be successful or preempted, or how new legislation and regulations, if any, would affect its business.

#### Pole Attachments

The Communications Act requires most utilities owning utility poles to provide cable systems with access to poles and conduits and simultaneously subjects the rates charged for this access to either federal or state regulation. In 2011 and again in 2015, the FCC amended its existing pole attachment rules to promote broadband deployment. The 2011 order allows for new penalties in certain cases involving unauthorized attachments, but generally strengthens the cable industry’s ability to access investor-owned utility poles on reasonable rates, terms, and conditions. Additionally, the 2011 order reduces the federal rate formula previously applicable to “telecommunications” attachments to closely approximate the rate formula applicable to “cable” attachments. The 2015 order continues the reconciliation of rates, effectively closing the remaining “loophole” that potentially allowed for significantly higher rates for “telecommunications” than for “cable” attachments in certain scenarios, and minimizing the rate consequences of any of Charter’s services if deemed “telecommunications” for pole attachment purposes. Neither the 2011 order nor the 2015 order directly affect the rate in states that self-regulate (rather than allow the FCC to regulate pole rates), but many of those states have substantially the same rate for cable and telecommunications attachments.

Some municipalities have enacted “one-touch” make-ready pole attachment ordinances, which permit third parties to alter components of Charter’s network attached to utility poles in ways that could adversely affect its businesses. Some of these ordinances have been challenged with differing results. In 2017, the FCC initiated a rulemaking that considers amending its pole attachment rules to permit a “one-touch” make-ready-like process for the poles within its jurisdiction. If adopted, these rules could have a similar effect as the municipal one-touch make-ready ordinances and adversely affect Charter’s businesses.

#### Cable Rate Regulation

Federal law strictly limits the potential scope of cable rate regulation. Pursuant to federal law, all video offerings are universally exempt from rate regulation, except for a cable system’s minimum level of video programming service, referred to as “basic service,” and associated equipment. Rate regulation of basic service and associated equipment operates pursuant to a federal formula, with local governments, commonly referred to as local franchising authorities, primarily responsible for administering this regulation. The majority of Charter’s local franchising authorities have never certified to regulate basic service cable rates. In 2015, the FCC adopted an order (which was subsequently upheld on appeal) reversing its historic approach to rate regulation certifications and requiring a local franchise authority interested in regulating cable rates to first make an affirmative showing that there is no “effective competition” (as defined under federal law) in the community. Very few local franchise authorities have filed the necessary rate regulation certification, and the FCC’s 2015 order should make it more difficult for such entities to assert rate regulation in the future.

There have been calls to impose expanded rate regulation on the cable industry. Confronted with rapidly increasing cable programming costs, it is possible that Congress may adopt new constraints on the retail pricing or packaging of cable programming. Any such constraints could adversely affect Charter’s operations.

#### Ownership Restrictions

Federal regulation of the communications field traditionally included a host of ownership restrictions, which limited the size of certain media entities and restricted their ability to enter into competing enterprises. Through a series of legislative, regulatory, and judicial actions, most of these restrictions have been either eliminated or substantially relaxed. Changes in this regulatory area could alter the business environment in which Charter operates.

#### Access Channels

Local franchise agreements often require cable operators to set aside certain channels for public, educational, and governmental access programming. Federal law also requires cable systems to designate up to 15% of their channel capacity for commercial leased access by unaffiliated third parties, who may offer programming that Charter’s customers do not particularly desire. The FCC adopted revised rules in 2007 mandating a significant reduction in the rates that operators can charge commercial leased access users and imposing additional administrative requirements that would be burdensome on the cable industry. The effect of the FCC’s revised rules was stayed by a federal court, pending a cable industry appeal and an adverse finding by the Office of Management and Budget. Although commercial leased access activity historically has been relatively limited, increased activity in this area could further burden the channel capacity of Charter’s cable systems.

Other FCC Regulatory Matters

FCC regulations cover a variety of additional areas, including, among other things: (1) equal employment opportunity obligations; (2) customer service standards; (3) technical service standards; (4) mandatory blackouts of certain network and syndicated programming; (5) restrictions on political advertising; (6) restrictions on advertising in children's programming; (7) licensing of systems and facilities; (8) maintenance of public files; (9) emergency alert systems; (10) inside wiring and exclusive contracts for MDU complexes; and (11) disability access, including new requirements governing video-description and closed-captioning. Each of these regulations restricts Charter's business practices to varying degrees and may impose additional costs on Charter's operations.

It is possible that Congress or the FCC will expand or modify its regulation of cable systems in the future, and Charter cannot predict at this time how that might impact its business.

Copyright

Cable systems are subject to a federal copyright compulsory license covering carriage of television and radio broadcast signals. The copyright law provides copyright owners the right to audit Charter's payments under the compulsory license, and Charter is currently subject to ongoing compulsory copyright audits. The possible modification or elimination of this compulsory copyright license is the subject of continuing legislative proposals and administrative review and could adversely affect Charter's ability to obtain desired broadcast programming.

Copyright clearances for non-broadcast programming services are arranged through private negotiations. Cable operators also must obtain music rights for locally originated programming and advertising from the major music performing rights organizations. These licensing fees have been the source of litigation in the past, and Charter cannot predict with certainty whether license fee disputes may arise in the future.

Franchise Matters

Charter's cable systems generally are operated pursuant to nonexclusive franchises, permits, and similar authorizations granted by a municipality or other state or local government entity in order to utilize and cross public rights-of-way. Cable franchises generally are granted for fixed terms and in many cases include monetary penalties for noncompliance and may be terminable if the franchisee fails to comply with material provisions. The specific terms and conditions of cable franchises vary significantly between jurisdictions. Cable franchises generally contain provisions governing cable operations, franchise fees, system construction, maintenance, technical performance, customer service standards, supporting and carrying public access channels, and changes in the ownership of the franchisee. A number of states subject cable systems to the jurisdiction of centralized state government agencies, such as public utility commissions. Although local franchising authorities have considerable discretion in establishing franchise terms, certain federal protections benefit cable operators. For example, federal law caps local franchise fees.

Prior to the scheduled expiration of Charter's franchises, it generally initiates renewal proceedings with the granting authorities. The Communications Act, which is the primary federal statute regulating interstate communications, provides for an orderly franchise renewal process in which granting authorities may not unreasonably withhold renewals. In connection with the franchise renewal process, however, many governmental authorities require the cable operator to make additional costly commitments. Historically, Charter has been able to renew its franchises without incurring significant costs, although any particular franchise may not be renewed on commercially favorable terms or otherwise. If Charter fails to obtain renewals of franchises representing a significant number of its customers, it could have a material adverse effect on Charter's consolidated financial condition, results of operations, or its liquidity. Similarly, if a local franchising authority's consent is required for the purchase or sale of a cable system, the local franchising authority may attempt to impose more burdensome requirements as a condition for providing its consent.

The traditional cable franchising regime has undergone significant change as a result of various federal and state actions. The FCC has adopted rules that streamline entry for new competitors (particularly those affiliated with telephone companies) and reduce certain franchising burdens for these new entrants. The FCC adopted more modest relief for existing cable operators.

At the same time, a substantial number of states have adopted new franchising laws. Again, these laws were principally designed to streamline entry for new competitors, and they often provide advantages for these new entrants that are not immediately available to existing cable operators. In many instances, these franchising regimes do not apply to established cable operators until the existing franchise expires or a competitor directly enters the franchise territory.

#### *Internet Service*

In 2015, the FCC determined that broadband Internet access services, such as those Charter offers, were a form of “telecommunications service” under the Communications Act and, on that basis, imposed rules banning service providers from blocking access to lawful content, restricting data rates for downloading lawful content, prohibiting the attachment of non-harmful devices, giving special transmission priority to affiliates, and offering third parties the ability to pay for priority routing. The 2015 rules also imposed a “transparency” requirement, *i.e.*, an obligation to disclose all material terms and conditions of Charter’s service to consumers.

In December 2017, the FCC adopted an order reversing its treatment of broadband as a “telecommunications service,” reclassifying broadband as an “information service,” and eliminating the 2015 rules other than the transparency requirement, which it eased in significant ways. The FCC also ruled that state regulators may not impose obligations similar to federal obligations that the FCC removed. It is expected that various parties will challenge the FCC’s December 2017 ruling in court and at the FCC, and it cannot be predicted how any such court and administrative challenges will be resolved. Moreover, it is possible that the FCC might further revise its approach to broadband Internet access in the future, or that Congress might enact legislation affecting the rules applicable to the service.

The FCC’s December 2017 ruling does not affect other regulatory obligations on broadband Internet access providers. Notably, broadband providers are required by the Communications Assistance for Law Enforcement Act (“CALEA”) to configure their networks in a manner that facilitates the ability of law enforcement, with proper legal authorization, to obtain information about customers, including the content of their Internet communications. The FCC and Congress also are considering subjecting Internet access services to the Universal Service funding requirements. These funding requirements could impose significant new costs on Charter’s Internet service. Also, the FCC and some state regulatory commissions direct certain subsidies to telephone companies deploying broadband to areas deemed to be “unserved” or “underserved.” Charter has opposed such subsidies when directed to areas that it serves. Despite Charter’s efforts, future subsidies may be directed to areas served by Charter, which could result in subsidized competitors operating in its service territories. State and local governmental organizations have also adopted Internet-related regulations. These various governmental jurisdictions are also considering additional regulations in these and other areas, such as privacy, pricing, service and product quality, imposition of local franchise fees on Internet-related revenue and taxation. The adoption of new Internet regulations or the adaptation of existing laws to the Internet could adversely affect Charter’s business.

Aside from the FCC’s generally applicable regulations, Charter has made certain commitments to comply with the FCC’s order in connection with the FCC’s approval of the Time Warner Cable Merger and the Bright House Transaction (discussed below).

#### *Voice Service*

The Telecommunications Act of 1996 created a more favorable regulatory environment for Charter to provide telecommunications and/or competitive voice services than had previously existed. In particular, it established requirements ensuring that competitive telephone companies could interconnect their networks with those providers of traditional telecommunications services to open the market to competition. The FCC has subsequently ruled that competitive telephone companies that support VoIP services, such as those Charter offers its customers, are entitled to interconnection with incumbent providers of traditional telecommunications services, which ensures that Charter’s VoIP services can compete in the market. Since that time, the FCC has initiated a proceeding to determine whether such interconnection rights should extend to traditional and competitive networks utilizing IP technology, and how to encourage the transition to IP networks throughout the industry. The FCC initiated a further proceeding in 2017 to consider whether additional changes to interconnection obligations are needed, including how and where companies interconnect their networks with the networks of other providers. New rules or obligations arising from these proceedings may affect Charter’s ability to compete in the provision of voice services.

The FCC has collected extensive data from providers of point to point transport (“special access”) services, such as Charter, and the FCC may use those data to evaluate whether the market for such services is competitive, or whether the market should be subject to further regulation, which may increase Charter’s costs or constrain Charter’s ability to compete in this market.

Further regulatory changes are being considered that could impact Charter’s voice business and that of its primary telecommunications competitors. The FCC and state regulatory authorities are considering, for example, whether certain common carrier regulations traditionally applied to incumbent local exchange carriers should be modified or reduced, and, in some jurisdictions, the extent to which common carrier requirements should be extended to VoIP providers. The FCC has already determined that certain providers of voice services using Internet Protocol technology must comply with requirements relating to 9-1-1 emergency services (“E-9-1-1”), the CALEA (the statute governing law enforcement access to and surveillance of communications), Universal Service Fund contributions, customer privacy and Customer Proprietary Network Information issues, number portability, network outage reporting, rural call completion, disability access, regulatory fees, back-up power obligations and discontinuance of service. In March 2007, a federal appeals court affirmed the FCC’s decision concerning federal regulation of certain VoIP services, but declined to specifically find that VoIP service provided by cable companies, such as Charter provides, should be regulated only at the federal level. As a result, some states have begun proceedings to subject cable VoIP services to state level regulation, and at least one state has asserted jurisdiction over Charter’s VoIP services. Charter prevailed on a legal challenge to that state’s assertion of jurisdiction. However, the state has appealed that ruling in a case which is now pending before a federal appellate court in Minnesota. Although Charter has registered with, or obtained certificates or authorizations from the FCC and the state regulatory authorities in those states in which Charter offers competitive voice services in order to ensure the continuity of its services and to maintain needed network interconnection arrangements, it is unclear whether and how these and other ongoing regulatory matters ultimately will be resolved.

#### Transaction-Related Commitments

In connection with approval of the Transactions, federal and state regulators imposed a number of post-merger conditions on Charter including but not limited to the following.

##### *FCC Conditions*

- Offer settlement-free Internet interconnection to any party that meets the requirements of Charter’s Interconnection Policy (available on Charter’s website) on terms generally consistent with the policy for seven years (with a possible reduction to five);
- Deploy and offer high-speed broadband Internet access service to an additional two million locations over five years;
- Refrain from charging usage-based prices or imposing data caps on any fixed mass market broadband Internet access service plans for seven years (with a possible reduction to five);
- Offer 30/4 Mbps discounted broadband where technically feasible to eligible customers throughout Charter’s service area for four years from the offer’s commencement; and
- Continue to provide CableCARDS to any new or existing customer upon request for use in third-party retail devices for four years and continue to support such CableCARDS for seven years (in each case, unless the FCC changes the relevant rules).

The FCC conditions also contain a number of compliance reporting requirements.

##### *DOJ Conditions*

The Department of Justice (“DOJ”) Order prohibits Charter from entering into or enforcing any agreement with a video programmer that forbids, limits or creates incentives to limit the video programmer’s provision of content to online video distributors (“OVDs”). Charter will not be able to avail itself of other distributors’ provisions through its most favored nation provisions if they are inconsistent with this prohibition. The DOJ’s conditions are effective for seven years, although Charter may petition the DOJ to eliminate the conditions after five years.

*State Conditions*

Certain state regulators, including California, New York, Hawaii and New Jersey also imposed conditions in connection with the approval of the Transactions. These conditions include requirements related to:

- Upgrading networks within the designated state, including upgrades to broadband speeds and conversion of all households served within California and New York to an all-digital platform;
- Building out its network to households and business locations that are not currently served by cable within the designated states;
- Offering LifeLine service discounts and low-income broadband to eligible households served within the applicable states;
- Investing in service improvement programs and customer service enhancements and maintaining customer-facing jobs within the designated state;
- Continuing to make legacy service offerings available, including allowing Legacy TWC and Legacy Bright House customers to maintain their existing service offerings for a period of three years; and
- Complying with reporting requirements.

***Skyhook***

Skyhook is subject to a variety of laws and regulations in the United States and in foreign jurisdictions that involve matters central to its technology and ongoing business, including the collection and storage of location information, privacy and data protection, intellectual property, data security and data retention, and other business and compliance-related laws. The application, scope, interpretation, and enforcement of applicable laws and regulations in many of these areas are often uncertain, particularly in the new and rapidly-evolving mobile technology industry in which Skyhook operates. In addition, existing laws may be interpreted and applied inconsistently from one jurisdiction to another, and inconsistently with Skyhook's current policies and practices. The introduction of new products or the expansion of Skyhook's sales activities in certain jurisdictions may subject it to additional laws and regulations, or increase the risk posed to Skyhook's business by non-compliance.

In particular, data protection, privacy, and other laws and regulations can be more restrictive in certain jurisdictions than those in the United States. For example, as a result of its international activities, Skyhook is subject to laws and regulations that dictate whether, how, and under what circumstances it can transfer or process from the European Union (the "EU") to the United States. In addition, certain activities of Skyhook may be subject to the European Union's General Data Protection Regulation ("GDPR") which comes into effect in May 2018. The GDPR is intended to reach broadly most companies that operate in any manner in the EU, and serves to impose certain requirements on businesses that collect and process "personal data" from individuals in the EU. The GDPR subjects businesses to significant fines and other penalties for non-compliance. At this early stage, it is unclear how the GDPR will be applied by EU authorities in any specific manner, though the costs of compliance could be high.

Skyhook is also monitoring additional proposed and pending legislation and regulations in the U.S. and abroad that are related to its technology and business operations, including regulations that implement specific privacy or data protection rules.

**Competition**

***Charter***

**Residential Services**

Charter faces intense competition for residential customers, both from existing competitors, and, as a result of the rapid development of new technologies, services and products, from new entrants.

*Video competition*

Charter's residential video service faces competition from direct broadcast satellite ("DBS") service providers, which have a national footprint and compete in all of Charter's operating areas. DBS providers offer satellite-delivered pre-packaged programming services that can be received by relatively small and inexpensive receiving dishes. DBS providers offer aggressive promotional pricing, exclusive programming (e.g., NFL Sunday Ticket) and video services that are comparable in many respects to Charter's residential video service. Charter's residential video service also faces competition from companies with fiber-based networks, primarily AT&T U-verse, Frontier Communications Corporation ("Frontier") FiOS and Verizon FiOS, which offer wireline video services in approximately 27%, 8% and 4%, respectively, of Charter's operating areas. AT&T also owns DIRECTV, and as a combined company provides video service (via IP or satellite) and voice service (via IP or wireless) across Charter's entire footprint, and delivers video, Internet, voice and mobile services across 45% of Charter's passings. AT&T also announced the acquisition of Time Warner Inc. in October 2016 which is subject to regulatory approval. If approved, it is not yet clear how AT&T will use the various programming and studio assets it would acquire from Time Warner Inc. to benefit its own products on its four video platforms or what potential program access conditions, as part of any regulatory approval, might apply.

Charter's residential video service also faces growing competition from a number of other sources, including companies that deliver linear network programming, movies and television shows on demand and other video content over broadband Internet connections to televisions, computers, tablets and mobile devices. These newer categories of competitors include virtual multichannel video programming distributors ("V-MVPD") such as DirecTV NOW, Sling TV, Playstation Vue, YouTube TV and Hulu Live, and direct to consumer products offered by programmers that have not traditionally sold programming directly to consumers, such as HBO Now, CBS All Access and Showtime Anytime. Other online video business models have also developed, including, (i) subscription video on demand ("SVOD") services such as Netflix, Amazon Prime, and Hulu Plus, (ii) ad-supported free online video products, including YouTube and Hulu, some of which offer programming for free to consumers that Charter currently purchases for a fee, (iii) pay-per-view products, such as iTunes and Amazon Instant, and (iv) additional offerings from wireless providers which continue to integrate and bundle video services and mobile products. Historically, Charter has generally viewed SVOD online video services as complementary to its own video offering, and has developed a cloud-based guide that is capable of incorporating video from many online video services currently offered in the marketplace. As the proliferation of online video services grows, however, services from V-MVPDs and new direct to consumer offerings, as well as piracy and password sharing, could negatively impact the growth of Charter's video business.

*Internet competition*

Charter's residential Internet service faces competition from the phone companies' DSL, fiber-to-the-home ("FTTH") and wireless broadband offerings, as well as from a variety of companies that offer other forms of online services, including wireless and satellite-based broadband services. AT&T, Frontier FiOS and Verizon's FiOS are Charter's primary FTTH competitors. Given the FTTH deployments of Charter's competitors, launches of broadband services offering 1 gigabits per second ("Gbps") speed have recently grown. Several competitors, including AT&T, Verizon's FiOS and Google, deliver 1 Gbps broadband speed in at least a portion of their footprints which overlap Charter's footprint. DSL service is often offered at prices lower than Charter's Internet services, although typically at speeds much lower than the minimum speeds Charter offers as part of SPP. Various wireless phone companies are now offering third and fourth generation (3G and 4G) wireless Internet services and some have announced that they intend to offer faster fifth generation (5G) services in the future. Some wireless phone companies offer unlimited data packages to customers. In addition, a growing number of commercial areas, such as retail malls, restaurants and airports, offer Wi-Fi Internet service. Numerous local governments are also considering or actively pursuing publicly subsidized Wi-Fi Internet access networks. These options offer alternatives to cable-based Internet access.

*Voice competition*

Charter's residential voice service competes with wireless and wireline phone providers, as well as other forms of communication, such as text messaging on cellular phones, instant messaging, social networking services, video conferencing and email. Charter also competes with "over-the-top" phone providers, such as Vonage, Skype, magicJack, Google Voice and Ooma, Inc., as well as companies that sell phone cards at a cost per minute for both national and international service. The increase in the number of different technologies capable of carrying voice services and the number of alternative communication options available to customers as well as the replacement of wireline services by wireless have intensified the competitive environment in which Charter operates its residential voice service. When launched, Charter's mobile service will compete with other wireless providers such as Verizon, AT&T, T-Mobile US, Inc. ("T-Mobile") and Sprint Corporation ("Sprint").

### *Regional Competitors*

In some of Charter's operating areas, other competitors have built networks that offer video, Internet and voice services that compete with its services. For example, in certain markets, Charter's residential video, Internet and voice services compete with Google Fiber, Cincinnati Bell Inc., Hawaiian Telcom, RCN Telecom Services, LLC, Grande Communications Networks, LLC and WideOpenWest Finance, LLC.

### *Additional competition*

In addition to multi-channel video providers, cable systems compete with other sources of news, information and entertainment, including over-the-air television broadcast reception, live events, movie theaters and the Internet. Competition is also posed by fixed wireless and satellite master antenna television systems, or SMATV systems, serving MDUs, such as condominiums, apartment complexes, and private residential communities.

### **Business Services**

Charter faces intense competition across each of its business services product offerings. Charter's small and medium business video, Internet, networking and voice services face competition from a variety of providers as described above. Charter's enterprise solutions also face competition from the competitors described above as well as other telecommunications carriers, such as metro and regional fiber-based carriers. Charter also competes with cloud, hosting and related service providers and application-service providers.

### **Advertising**

Charter faces intense competition for advertising revenue across many different platforms and from a wide range of local and national competitors. Advertising competition has increased and will likely continue to increase as new advertising avenues seek to attract the same advertisers. Charter competes for advertising revenue against, among others, local broadcast stations, national cable and broadcast networks, radio stations, print media and online advertising companies and content providers.

### **Security and Home Management**

Charter's IntelligentHome service faces competition from traditional security companies, such as the ADT Corporation, service providers such as Verizon and AT&T, as well as new entrants, such as Vivint, Inc., Alarm.com, Inc. and NEST Labs, Inc.

### ***Skyhook***

Skyhook's Precision Location Solution competes against (1) other satellite and terrestrial based location technology offerings, such as GPS; (2) other providers of Wi-Fi and cell-based positioning, such as Google and HERE, a former subsidiary of Nokia; and (3) other in-house developed location solutions. There are also a number of new location technologies in development which may further increase competition to be a location solution for new devices and which may require Skyhook to meet more stringent accuracy standards. In addition, Skyhook's Geospatial Insights services compete against other geofencing and location intelligence offerings from other niche location companies.

Skyhook owns significant intellectual property around the world that relates to its location products and services and provides possible competitive advantages. Skyhook's intellectual property portfolio includes patents, patent applications, copyrights, trade secrets, trademarks, and other intellectual property rights. Skyhook believes that it has a defensible and useful intellectual property portfolio and it actively seeks to protect and license its global intellectual property rights as well as to deter unauthorized use of its intellectual property and other assets. For example, in 2015, Skyhook entered into a settlement agreement and license that resolved a lawsuit that Skyhook had brought against Google, in connection with claims that Google had infringed eight Skyhook patents. In 2016, Skyhook entered into a license agreement to grant to the licensee a perpetual, non-exclusive, non-transferable, worldwide license to patents and patent applications owned by Skyhook in exchange for a lump sum payment. Skyhook has successfully worked with customers to enter into license agreements but cannot provide assurance that current



patents will be enforceable or infringed, that they will deter unauthorized use, that Skyhook's attempts to secure intellectual property licenses will be successful, or that its additional patent applications will ever be allowed or granted.

## **Seasonality and Cyclicity**

### ***Charter***

Charter's business is subject to seasonal and cyclical variations. Its results are impacted by the seasonal nature of customers receiving cable services in college and vacation markets. Charter's revenue is subject to cyclical advertising patterns and changes in viewership levels. Its advertising revenue is generally higher in the second and fourth calendar quarters of each year, due in part to increases in consumer advertising in the spring and in the period leading up to and including the holiday season. U.S. advertising revenue is also cyclical, benefiting in even-numbered years from advertising related to candidates running for political office and issue oriented advertising. Charter's capital expenditures and trade working capital are also subject to significant seasonality based on the timing of subscriber growth, network programs, specific projects and construction.

## **Employees**

### ***Liberty Broadband***

Liberty Broadband currently does not have any corporate employees. Liberty provides Liberty Broadband with certain services pursuant to a services agreement, and certain of Liberty's corporate employees and executive officers serve as corporate employees and executive officers of Liberty Broadband.

### ***Charter***

As of December 31, 2017, Charter had approximately 94,800 active full-time equivalent employees.

### ***Skyhook***

As of December 31, 2017, Skyhook had 56 full and part-time employees. None of these employees is represented by a labor union or covered by a collective bargaining agreement. Liberty Broadband believes that relations with these employees are good.

#### **(d) *Financial Information About Geographic Areas***

For financial information related to the geographic areas in which we do business, see note 12 to our consolidated financial statements found in Part II of this report.

#### **(e) *Available Information***

All of our filings with the SEC including our Form 10-Ks, Form 10-Qs and Form 8-Ks, as well as amendments to such filings are available on our Internet website free of charge generally within 24 hours after we file such material with the SEC. Our website address is [www.libertybroadband.com](http://www.libertybroadband.com).

Our corporate governance guidelines, code of business conduct and ethics, compensation committee charter, nominating and corporate governance committee charter, and audit committee charter are available on our website. In addition, we will provide a copy of any of these documents, free of charge, to any shareholder who calls or submits a request in writing to Investor Relations, Liberty Broadband Corporation, 12300 Liberty Boulevard, Englewood, Colorado 80112, Tel. No. (877) 772-1518.

The information contained on our website is not incorporated by reference herein.

## **Item 1A. Risk Factors**

*The risks described below and elsewhere in this annual report are not the only ones that relate to our businesses or our capitalization. The risks described below are considered to be the most material. However, there may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that also could have material adverse effects on our businesses. Past financial performance may not be a reliable indicator of future performance and historical trends should not be used to anticipate results or trends in future periods. If any of the events described below were to occur, our businesses, prospects, financial condition, results of operations and/or cash flows could be materially adversely affected.*

### **Factors Relating to Our Corporate History and Structure**

***We are a holding company, and we could be unable to obtain cash in amounts sufficient to service our financial obligations or meet our other commitments.***

Our ability to meet our current and future financial obligations, including to make debt service obligations under the 2017 Margin Loan Agreement (defined below), and other contractual commitments depends upon our ability to access cash. We are a holding company, and our sources of cash include our available cash balances, net cash from the operating activities of our wholly-owned subsidiary Skyhook, any dividends and interest we may receive from our investments, available funds under the 2017 Margin Loan Agreement (defined below) (which was \$500 million as of December 31, 2017) and proceeds from any asset sales we may undertake in the future. In addition, the ability of our only operating subsidiary to pay dividends or to make other payments or advances to us depends on its operating results and any statutory, regulatory or contractual restrictions to which it may be or may become subject.

***We do not have access to the cash that Charter generates from its operating activities.***

Charter generated approximately \$11,954 million, \$8,041 million and \$2,359 million of cash from its operations during the years ended December 31, 2017, 2016 and 2015, respectively. Charter uses the cash it generates from its operations primarily to fund its business operations and to service its debt and other financial obligations. We do not have access to the cash that Charter generates unless Charter declares a dividend on its capital stock payable in cash, repurchases any or all of its outstanding shares of capital stock for cash (subject to any contractual restrictions on our ability to participate in any such repurchase) or otherwise distributes or makes payments to its stockholders, including us. Historically, Charter has not paid any dividends on its capital stock or, with limited exceptions, otherwise distributed cash to its stockholders and instead has used all of its available cash in the expansion of its business and to service its debt obligations. Covenants in Charter's existing debt instruments also restrict the payment of dividends and cash distributions to stockholders. We expect that Charter will continue to apply its available cash to the expansion of its business.

***Our company may have future capital needs and may not be able to obtain additional financing on acceptable terms.***

We had outstanding borrowings of \$500 million at December 31, 2017 under a credit agreement (the "2017 Margin Loan Agreement") governing a multi-draw margin loan agreement credit facility entered into in 2017 by a bankruptcy remote wholly owned subsidiary ("SPV") of Liberty Broadband. The obligations under the 2017 Margin Loan Agreement are secured by a portion of our ownership interest in Charter. Such equity interests are held through SPV. The terms of the 2017 Margin Loan Agreement limit our company's ability to secure additional financing on favorable terms, and our cash flow from operations may be insufficient to satisfy our financial obligations under indebtedness outstanding from time to time. Our ability to secure additional financing and satisfy our financial obligations will depend upon the operating performance of our subsidiary, Skyhook, the value of our investment in Charter, prevailing general economic and credit market conditions, including interest rate levels and the availability of credit generally, and financial, business and other factors, many of which are beyond our control. There can be no assurance that sufficient financing will be available on desirable terms or at all. If financing is not available when needed or is not available on favorable terms, we may be unable to take advantage of business or market opportunities as they arise, which could have a material adverse effect on our business and financial condition.

***We have significant indebtedness, which could adversely affect our business and financial condition.***

As discussed above, SPV entered into the 2017 Margin Loan Agreement pursuant to which SPV had outstanding borrowings of \$500 million at December 31, 2017. As a result of this significant indebtedness, our company may:

- Experience increased vulnerability to general adverse economic and industry conditions;
- Be required to dedicate a substantial portion of its cash flow from operations to principal and interest payments on its indebtedness, thereby reducing the availability of cash flow to fund working capital, capital expenditures, strategic acquisitions and investments and other general corporate purposes;
- Be handicapped in its ability to optimally capitalize and manage the cash flow for its businesses; and
- Be exposed to the risk of increased interest rates with respect to any variable rate portion of its indebtedness.

In addition, it is possible that we may need to incur additional indebtedness in the future. If new debt is added to the current debt levels, the risks described above could intensify. For additional limitations on our company's ability to potentially service our direct debt obligations, see "We are a holding company, and we could be unable to obtain cash in amounts sufficient to service our financial obligations or meet our other commitments" and "We do not have access to the cash that Charter generates from its operating activities" above.

***The agreements that govern our current and future indebtedness may contain various affirmative and restrictive covenants that will limit our discretion in the operation of our business.***

As discussed above, SPV entered into the 2017 Margin Loan Agreement pursuant to which SPV had outstanding borrowings of \$500 million, with \$500 million remaining available to be drawn until August 31, 2018, at December 31, 2017. The 2017 Margin Loan Agreement contains various covenants, including those that limit our ability to, among other things, incur indebtedness by having SPV enter into financing arrangements with respect to the portion of stock of Charter pledged to secure the loans under the 2017 Margin Loan Agreement, and cause SPV to enter into unrelated businesses or otherwise conduct business other than owning common stock of Charter and other assets as permitted under the 2017 Margin Loan Agreement documents. We may also enter into certain other indebtedness arrangements in the future. The instruments governing such indebtedness, often contain covenants that, among other things, place certain limitations on our ability to incur more debt, exceed specified leverage ratios, pay dividends, make distributions, make investments, repurchase stock, create liens, enter into transactions with affiliates, merge or consolidate, and transfer or sell assets. Any failure to comply with such covenants could result in an event of default, which, if not cured or waived, could have a material adverse effect on our business and financial condition.

***We rely on Charter to provide us with the financial information that we use in accounting for our ownership interest in Charter as well as information regarding Charter that we include in our public filings.***

We account for our approximately 22.7% economic ownership interest in Charter using the equity method of accounting and, accordingly, in our financial statements we record our share of Charter's net income or loss. Within the meaning of U.S. accounting rules, we rely on Charter to provide us with financial information prepared in accordance with generally accepted accounting principles, which we use in the application of the equity method. We also rely on Charter to provide us with the information regarding their company that we include in our public filings. In addition, we cannot change the way in which Charter reports its financial results or require Charter to change its internal controls over financial reporting. No assurance can be given that Charter will provide us with the information necessary to enable us to complete our public filings on a timely basis or at all. Furthermore, any material misstatements or omissions in the information Charter provides to us or publicly files could have a material adverse effect on our financial statements and filing status under federal securities laws.

***We may become subject to the Investment Company Act of 1940.***

We do not believe we are currently subject to regulation under the Investment Company Act of 1940, because our investment in Charter enables us to exercise significant influence over Charter. We have substantial involvement in the management and affairs of Charter, including through our board nominees. We nominated three of Charter's thirteen current directors. In connection with the Bright House Transaction, on May 23, 2015, we entered into the Stockholders Agreement, which continues to provide us with board nomination rights. If, however, our investment in Charter were deemed to become passive

(such as in the event that our equity interest were significantly diluted and our nominees ceased to serve as directors of Charter), we could become subject to regulation under the Investment Company Act of 1940. In such event, we would be required to register as an investment company, which could result in significant registration and compliance costs, could require changes to our corporate governance structure and financial reporting and could restrict our activities going forward. Our restated certificate of incorporation includes a provision that would enable us, at the option of our board of directors, to automatically convert each outstanding share of our Series B common stock into one share of our Series A common stock at such time as we have outstanding less than 20% of the total number of shares of our Series B common stock issued in the Broadband Spin-Off. In addition, if we were to become inadvertently subject to the Investment Company Act of 1940, any violation of this act could subject us to material adverse consequences, including potentially significant regulatory penalties and the possibility that our contracts would be deemed unenforceable.

***Our company has overlapping directors and officers with Liberty, Liberty Interactive, Liberty TripAdvisor Holdings, Inc. and Liberty Expedia Holdings, Inc. and is expected to have overlapping directors and officers with GCI Liberty, Inc., which may lead to conflicting interests.***

As a result of the Broadband Spin-Off, other transactions between 2011 and 2016 that resulted in the separate corporate existence of Liberty, Liberty Interactive, Liberty TripAdvisor Holdings, Inc. (“TripCo”) and Liberty Expedia Holdings, Inc. (“ExpediaCo”), as well as the completion of the proposed transactions (the “GCI Transactions”) involving Liberty Interactive and General Communication, Inc. (to be renamed GCI Liberty), most of the executive officers of Broadband also serve or will serve as executive officers of Liberty, Liberty Interactive, TripCo, ExpediaCo and GCI Liberty and there are overlapping directors. With the exception of Liberty Interactive’s current ownership of shares of our non-voting Series C common stock, which we expect to be held by GCI Liberty after the completion of the GCI Transactions, none of these companies has any ownership interest in any of the others. Our executive officers and members of our company’s board of directors have fiduciary duties to our stockholders. Likewise, any such persons who serve in similar capacities at Liberty, Liberty Interactive, TripCo, ExpediaCo, GCI Liberty or any other public company have fiduciary duties to that company’s stockholders. For example, there may be the potential for a conflict of interest when our company, Liberty, Liberty Interactive, TripCo, ExpediaCo or GCI Liberty pursues acquisitions and other business opportunities that may be suitable for each of them. Therefore, such persons may have conflicts of interest or the appearance of conflicts of interest with respect to matters involving or affecting more than one of the companies to which they owe fiduciary duties. Our company has renounced its rights to certain business opportunities and our restated certificate of incorporation provides that no director or officer of our company will breach their fiduciary duty and therefore be liable to our company or its stockholders by reason of the fact that any such individual directs a corporate opportunity to another person or entity (including Liberty, Liberty Interactive, TripCo, ExpediaCo and GCI Liberty) instead of our company, or does not refer or communicate information regarding such corporate opportunity to our company, unless (x) such opportunity was expressly offered to such person solely in his or her capacity as a director or officer of our company or as a director or officer of any of our subsidiaries, and (y) such opportunity relates to a line of business in which our company or any of its subsidiaries is then directly engaged. In addition, any potential conflict that qualifies as a “related party transaction” (as defined in Item 404 of Regulation S-K) is subject to review by an independent committee of the applicable issuer’s board of directors in accordance with its corporate governance guidelines. In addition, we understand that GCI Liberty is expected to adopt similar renouncement and waiver provisions if it is successfully able to reincorporate in Delaware following the closing of the GCI Transactions. Any other potential conflicts that arise will be addressed on a case-by-case basis, keeping in mind the applicable fiduciary duties owed by the executive officers and directors of each issuer. From time to time, we may enter into transactions with Liberty, Liberty Interactive, TripCo, ExpediaCo or GCI Liberty and/or their respective subsidiaries or other affiliates. There can be no assurance that the terms of any such transactions will be as favorable to our company, Liberty, Liberty Interactive, TripCo, ExpediaCo or GCI Liberty or any of their respective subsidiaries or affiliates as would be the case where there is no overlapping officer or director.

***Our inter-company agreements were negotiated while we were a subsidiary of Liberty.***

We entered into a number of inter-company agreements covering matters such as tax sharing and our responsibility for certain liabilities previously undertaken by Liberty for certain of our businesses. In addition, we entered into a services agreement with Liberty pursuant to which it will provide to us certain management, administrative, financial, treasury, accounting, tax, legal and other services, for which we will reimburse them on a fixed fee basis. The terms of all of these agreements were established while we were a wholly-owned subsidiary of Liberty, and hence may not be the result of arms’ length negotiations. We believe that the terms of these inter-company agreements are commercially reasonable and fair to all parties under the circumstances;

however, conflicts could arise in the interpretation or any extension or renegotiation of the foregoing agreements after the Broadband Spin-Off.

#### **Factors Relating to Charter**

*The following risks relate specifically to our equity affiliate Charter. If any of these risks were realized, they could have a material adverse effect on the value of our equity interests in Charter, which could negatively impact our stock price and our financial prospects.*

***If Charter is not able to successfully complete the integration of its business with that of Legacy Time Warner Cable and Legacy Bright House, the anticipated benefits of the Transactions may not be fully realized or may take longer to realize than expected. In such circumstance, Charter may not perform as expected and the value of Charter's Class A common stock may be adversely affected.***

There can be no assurances that Charter can successfully complete the integration of its business with that of Legacy Time Warner Cable and Legacy Bright House. Charter now has significantly more systems, assets, investments, businesses, customers and employees than each company did prior to the Transactions. It is possible that the integration process could result in the loss of customers, the disruption of Charter's ongoing businesses or in unexpected integration issues, higher than expected integration costs and an overall post-completion integration process that takes longer than originally anticipated. The process of integrating Legacy Time Warner Cable and Legacy Bright House with the Legacy Charter operations will require significant capital expenditures and the expansion of certain operations and operating and financial systems. Charter management continues to devote a significant amount of time and attention to the integration process and there is a significant degree of difficulty and management involvement inherent in that process.

Even if the new businesses are successfully integrated, it may not be possible to realize the benefits that are expected to result from the Transactions, or realize these benefits within the time frame that is expected. For example, the benefits of Charter's pricing and packaging and converting our video product to all-digital in certain Legacy Time Warner Cable and Legacy Bright House systems may not be fully realized or may take longer than anticipated, or the benefits from the Transactions may be offset by costs incurred or delays in integrating the businesses and increased operating costs. If the combined company fails to realize the anticipated benefits from the transactions, its liquidity, results of operations, financial condition and/or share price may be adversely affected. In addition, at times, the attention of certain members of Charter's management and resources may be focused on the integration of the businesses and diverted from day-to-day business operations, which may disrupt the business of the combined company.

***Charter operates in a very competitive business environment, which affects its ability to attract and retain customers and can adversely affect its business, operations and financial results.***

The industry in which Charter operates is highly competitive and has become more so in recent years. In some instances, Charter competes against companies with fewer regulatory burdens, better access to financing, greater personnel resources, greater resources for marketing, greater and more favorable brand name recognition, and long-established relationships with regulatory authorities and customers. Increasing consolidation in the cable industry and the repeal of certain ownership rules have provided additional benefits to certain of Charter's competitors, either through access to financing, resources, or efficiencies of scale.

Charter's residential video service faces competition from a number of sources, including direct broadcast satellite services, as well as other companies that deliver movies, television shows and other video programming over broadband Internet connections to TVs, computers, tablets and mobile devices. Charter's residential Internet service faces competition from the phone companies' DSL, FTTH and wireless broadband offerings as well as from a variety of companies that offer other forms of online services, including wireless and satellite-based broadband services. Charter's residential voice service and its planned mobile service competes with wireless and wireline phone providers, as well as other forms of communication, such as text messaging on cellular phones, instant messaging, social networking services, video conferencing and email. Competition from these companies, including intensive marketing efforts with aggressive pricing, exclusive programming and increased HD broadcasting may have an adverse impact on Charter's ability to attract and retain customers.

Overbuilds could also adversely affect Charter's growth, financial condition, and results of operations, by creating or increasing competition. Charter is aware of traditional overbuild situations impacting certain of its markets, however, Charter is unable to predict the extent to which additional overbuild situations may occur.

Charter's services may not allow it to compete effectively. Competition may reduce its expected growth of future cash flows which may contribute to future impairments of Charter's franchises and goodwill and Charter's ability to meet cash flow requirements, including debt service requirements.

***Charter faces risks relating to competition for the leisure time and discretionary spending of audiences, which has intensified in part due to advances in technology and changes in consumer expectations and behavior.***

In addition to the various competitive factors discussed above, Charter is subject to risks relating to increasing competition for the leisure time, shifting consumer needs and discretionary spending of consumers. Charter competes with all other sources of entertainment, news and information delivery, as well as a broad range of communications products and services. Technological advancements, such as new video formats and Internet streaming and downloading of programming that can be viewed on televisions, computers, smartphones and tablets, many of which have been beneficial to Charter, have nonetheless increased the number of entertainment and information delivery choices available to consumers and intensified the challenges posed by audience fragmentation.

Newer products and services, particularly alternative methods for the distribution, sale and viewing of content will likely continue to be developed, further increasing the number of competitors that Charter faces. The increasing number of choices available to audiences, including low-cost or free choices, could negatively impact not only consumer demand for Charter's products and services, but also advertisers' willingness to purchase advertising from Charter. Charter competes for the sale of advertising revenue with television networks and stations, as well as other advertising platforms, such as radio, print and, increasingly, online media. Charter's failure to effectively anticipate or adapt to new technologies and changes in consumer expectations and behavior could significantly adversely affect its competitive position and its business and results of operations.

***Charter's exposure to the economic conditions of its current and potential customers, vendors and third parties could adversely affect its cash flow, results of operations and financial condition.***

Charter is exposed to risks associated with the economic conditions of its current and potential customers, the potential financial instability of its customers and their financial ability to purchase its products. If there were a general economic downturn, Charter may experience increased cancellations by its customers or unfavorable changes in the mix of products purchased, including an increase in the number of homes that replace their video service with Internet-delivered and/or over-air content, which would negatively impact Charter's ability to attract customers, increase rates and maintain or increase revenue. In addition, providing video services is an established and highly penetrated business. Charter's ability to gain new video subscribers is dependent to a large extent on growth in occupied housing in its service areas, which is influenced by both national and local economic conditions. Weak economic conditions may also have a negative impact on Charter's advertising revenue. These events have adversely affected Charter in the past, and may adversely affect its cash flow, results of operations and financial condition if a downturn were to occur.

In addition, Charter is susceptible to risks associated with the potential financial instability of the vendors and third parties on which Charter relies to provide products and services or to which it outsources certain functions. The same economic conditions that may affect Charter's customers, as well as volatility and disruption in the capital and credit markets, also could adversely affect vendors and third parties and lead to significant increases in prices, reduction in output or the bankruptcy of Charter's vendors or third parties upon which Charter relies. Any interruption in the services provided by Charter's vendors or by third parties could adversely affect Charter's cash flow, results of operation and financial condition.

***Charter faces risks inherent in its commercial business.***

Charter may encounter unforeseen difficulties as it increases the scale of its service offerings to businesses. Charter sells Internet access, data networking and fiber connectivity to cellular towers and office buildings, and video and business voice services to businesses and has increased its focus on growing this business. In order to grow its commercial business, Charter expects to continue to invest in technology, equipment and personnel focused on the commercial business. Commercial business

customers often require service level agreements and generally have heightened customer expectations for reliability of services. If Charter's efforts to build the infrastructure to scale the commercial business are not successful, the growth of its commercial services business would be limited. Charter depends on interconnection and related services provided by certain third parties for the growth of its commercial business. As a result, its ability to implement changes as the services grow may be limited. If Charter is unable to meet these service level requirements or expectations, its commercial business could be adversely affected. Finally, Charter expects advances in communications technology, as well as changes in the marketplace and the regulatory and legislative environment. Consequently, Charter is unable to predict the effect that ongoing or future developments in these areas might have on its voice and commercial businesses and operations.

***Programming costs are rising at a much faster rate than wages or inflation, and Charter may not have the ability to reduce or moderate the growth rates of, or pass on to its customers, its increasing programming costs, which would adversely affect its cash flow and operating margins.***

Video programming has been, and is expected to continue to be, Charter's largest operating expense item. In recent years, the cable industry has experienced a rapid escalation in the cost of programming. Charter expects programming costs to continue to increase due to a variety of factors including amounts paid for broadcast station retransmission consent, annual increases imposed by programmers, including sports programmers, and the carriage of incremental programming, including new services and VOD programming. The inability to fully pass programming cost increases on to its customers has had, and is expected in the future to have, an adverse impact on Charter's cash flow and operating margins associated with the video product. Charter has programming contracts that have expired and others that will expire at or before the end of 2018. There can be no assurance that these agreements will be renewed on favorable or comparable terms. In addition, a number of programmers have begun to sell their services through alternative distribution channels, including IP-based platforms, which are less secure than Charter's video distribution platforms. There is growing evidence that these less secure video distribution platforms are leading to video product theft via password sharing among customers. Password sharing may drive down the number of customers who pay for certain programming, putting programmer revenues at risk, and which in turn may cause certain programmers to seek even higher programming fees from Charter. To the extent that Charter is unable to reach agreement with certain programmers on terms that it believes are reasonable, Charter has been, and may be in the future, forced to remove such programming channels from its line-up, which may result in a loss of customers. Charter's failure to carry programming that is attractive to its customers could adversely impact Charter's customer levels, operations and financial results. In addition, if Charter's Internet customers are unable to access desirable content online because content providers block or limit access by its customers as a class, its ability to gain and retain customers, especially Internet customers, may be negatively impacted.

Increased demands by owners of some broadcast stations for carriage of other services or payments to those broadcasters for retransmission consent are likely to further increase Charter's programming costs. Federal law allows commercial television broadcast stations to make an election between "must-carry" rights and an alternative "retransmission-consent" regime. When a station opts for the retransmission-consent regime, Charter is not allowed to carry the station's signal without that station's permission. In some cases, Charter carries stations under short-term arrangements while it attempts to negotiate new long-term retransmission agreements. If negotiations with these programmers prove unsuccessful, they could require Charter to cease carrying their signals, possibly for an indefinite period. Any loss of stations could make its video service less attractive to customers, which could result in less subscription and advertising revenue. In retransmission-consent negotiations, broadcasters often condition consent with respect to one station on carriage of one or more other stations or programming services in which they or their affiliates have an interest. Carriage of these other services, as well as increased fees for retransmission rights, may increase Charter's programming expenses and diminish the amount of capacity it has available to introduce new services, which could have an adverse effect on its business and financial results.

***Charter's inability to respond to technological developments and meet customer demand for new products and services could adversely affect its ability to compete effectively.***

Charter operates in a highly competitive, consumer-driven and rapidly changing environment. From time to time, Charter may pursue strategic initiatives, including, for example, its mobile strategy. Charter's success is, to a large extent, dependent on its ability to acquire, develop, adopt, upgrade and exploit new and existing technologies to address consumers' changing demands and distinguish its services from those of its competitors. Charter may not be able to accurately predict technological trends or the success of new products and services. If Charter chooses technologies or equipment that are less effective, cost-efficient or attractive to customers than those chosen by its competitors, if Charter offers services that fail to appeal to consumers, are not available at competitive prices or that do not function as expected, or if Charter is not able to fund the

expenditures necessary to keep pace with technological developments, its competitive position could deteriorate, and its business and financial results could suffer.

The ability of some of Charter's competitors to introduce new technologies, products and services more quickly than Charter does may adversely affect its competitive position. Furthermore, advances in technology, decreases in the cost of existing technologies or changes in competitors' product and service offerings may require Charter in the future to make additional research and development expenditures or to offer at no additional charge or at a lower price certain products and services that Charter currently offers to customers separately or at a premium. In addition, the uncertainty of Charter's ability, and the costs, to obtain intellectual property rights from third parties could impact its ability to respond to technological advances in a timely and effective manner.

Charter's inability to maintain and expand its upgraded systems and provide advanced services such as a state of the art user interface in a timely manner, or to anticipate the demands of the marketplace, could materially adversely affect Charter's ability to attract and retain customers. In addition, as Charter launches its new mobile services using virtual network operator rights from a third party, Charter expects an initial funding period to grow a new product as well as negative working capital impacts from the timing of device-related cash flows when Charter provides the handset or tablet pursuant to equipment installation plans. Consequently, its growth, financial condition and results of operations could suffer materially.

***Charter depends on third party service providers, suppliers and licensors; thus, if it is unable to procure the necessary services, equipment, software or licenses on reasonable terms and on a timely basis, its ability to offer services could be impaired, and Charter's growth, operations, business, financial results and financial condition could be materially adversely affected.***

Charter depends on a limited number of third party service providers, suppliers and licensors to supply some of the services, hardware, software and operational support necessary to provide some of its services. Some of Charter's hardware, software and operational support vendors, and service providers represent its sole source of supply or have, either through contract or as a result of intellectual property rights, a position of some exclusivity. If any of these parties breaches or terminates its agreement with Charter or otherwise fails to perform its obligations in a timely manner, demand exceeds these vendors' capacity, they experience operating or financial difficulties, they significantly increase the amount Charter pays for necessary products or services, or they cease production of any necessary product due to lack of demand, profitability or a change in ownership or are otherwise unable to provide the equipment or services Charter needs in a timely manner, at its specifications and at reasonable prices, its ability to provide some services might be materially adversely affected, or the need to procure or develop alternative sources of the affected materials or services might delay Charter's ability to serve its customers. In addition, the existence of only a limited number of vendors of key technologies can lead to less product innovation and higher costs. These events could materially and adversely affect Charter's ability to retain and attract customers and its operations, business, financial results and financial condition.

Charter's cable systems have historically been restricted to using one of two proprietary conditional access security systems, which Charter believes has limited the number of manufacturers producing set-top boxes for such systems. As an alternative, Charter has developed a new conditional access security system which can be downloaded into set-top boxes with features Charter specifies that could be provided by a variety of manufacturers. Charter refers to its specified set-top box as the Worldbox. Additionally, Charter is developing technology to allow its two current proprietary conditional access security systems to be software downloadable into its Worldbox. In order to realize the broadest benefits of Charter's Worldbox technology, Charter must now complete the support for the downloadable proprietary conditional access security systems within the Worldbox. Charter cannot provide assurances that this implementation will ultimately be successful or completed in the expected timeframe or at the expected budget.

***Charter's business may be adversely affected if Charter cannot continue to license or enforce the intellectual property rights on which its business depends.***

Charter relies on patent, copyright, trademark and trade secret laws and licenses and other agreements with its employees, customers, suppliers and other parties to establish and maintain Charter's intellectual property rights in technology and the products and services used in its operations. Also, because of the rapid pace of technological change, Charter both develops its own technologies, products and services and relies on technologies developed or licensed by third parties. However, any of Charter's intellectual property rights could be challenged or invalidated, or such intellectual property rights may not be sufficient to permit Charter to take advantage of current industry trends or otherwise to provide competitive advantages, which



could result in costly redesign efforts, discontinuance of certain product or service offerings or other competitive harm. Charter may not be able to obtain or continue to obtain licenses from these third parties on reasonable terms, if at all. In addition, claims of intellectual property infringement could require Charter to enter into royalty or licensing agreements on unfavorable terms, incur substantial monetary liability or be enjoined preliminarily or permanently from further use of the intellectual property in question, which could require Charter to change its business practices or offerings and limit its ability to compete effectively. Even unsuccessful claims can be time-consuming and costly to defend and may divert management's attention and resources away from Charter's business. In recent years, the number of intellectual property infringement claims has been increasing in the communications and entertainment industries, and, with increasing frequency, Charter is party to litigation alleging that certain of its services or technologies infringe the intellectual property rights of others.

***Various events could disrupt Charter's networks, information systems or properties and could impair its operating activities and negatively impact Charter's reputation and financial results.***

Network and information systems technologies are critical to Charter's operating activities, both for its internal uses, such as network management and supplying services to Charter's customers, including customer service operations and programming delivery. Network or information system shutdowns or other service disruptions caused by events such as computer hacking, dissemination of computer viruses, worms and other destructive or disruptive software, "cyber attacks," process breakdowns, denial of service attacks and other malicious activity pose increasing risks. Both unsuccessful and successful "cyber attacks" on companies have continued to increase in frequency, scope and potential harm in recent years. While Charter develops and maintains systems seeking to prevent systems-related events and security breaches from occurring, the development and maintenance of these systems is costly and requires ongoing monitoring and updating as techniques used in such attacks become more sophisticated and change frequently. Charter, and the third parties on which Charter relies, may be unable to anticipate these techniques or implement adequate preventative measures. While from time to time attempts have been made to access Charter's network, these attempts have not as yet resulted in any material release of information, degradation or disruption to its network and information systems.

Charter's network and information systems are also vulnerable to damage or interruption from power outages, telecommunications failures, accidents, natural disasters (including extreme weather arising from short-term or any long-term changes in weather patterns), terrorist attacks and similar events. Further, the impacts associated with extreme weather or long-term changes in weather patterns, such as rising sea levels or increased and intensified storm activity, may cause increased business interruptions or may require the relocation of some of Charter's facilities. Charter's system redundancy may be ineffective or inadequate, and Charter's disaster recovery planning may not be sufficient for all eventualities.

Any of these events, if directed at, or experienced by, Charter or technologies upon which Charter depends, could have adverse consequences on Charter's network, customers and business, including degradation of service, service disruption, excessive call volume to call centers, and damage to Charter's or its customers' equipment and data. Large expenditures may be necessary to repair or replace damaged property, networks or information systems or to protect them from similar events in the future. Moreover, the amount and scope of insurance that Charter maintains against losses resulting from any such events or security breaches may not be sufficient to cover Charter's losses or otherwise adequately compensate Charter for any disruptions to its business that may result. Any such significant service disruption could result in damage to Charter's reputation and credibility, customer dissatisfaction and ultimately a loss of customers or revenue. Any significant loss of customers or revenue, or significant increase in costs of serving those customers, could adversely affect Charter's growth, financial condition and results of operations.

Furthermore, Charter's operating activities could be subject to risks caused by misappropriation, misuse, leakage, falsification or accidental release or loss of information maintained in its information technology systems and networks and those of its third-party vendors, including customer, personnel and vendor data. Charter provides certain confidential, proprietary and personal information to third parties in connection with its business, and there is a risk that this information may be compromised.

As a result of the increasing awareness concerning the importance of safeguarding personal information, the potential misuse of such information and legislation that has been adopted or is being considered regarding the protection, privacy and security of personal information, information-related risks are increasing, particularly for businesses like Charter's that process, store and transmit large amount of data, including personal information for Charter's customers. Charter could be exposed to significant costs if such risks were to materialize, and such events could damage Charter's reputation, credibility and business and have a negative impact on its revenue. Charter could be subject to regulatory actions and claims made by consumers in

private litigations involving privacy issues related to consumer data collection and use practices. Charter also could be required to expend significant capital and other resources to remedy any such security breach.

The risk described above may be increased during the period in which Charter is integrating its people, processes and systems as a result of the Transactions.

***For tax purposes, Charter could experience a deemed ownership change in the future that could limit its ability to use its tax loss carryforwards.***

Charter had approximately \$10.9 billion of federal tax net operating loss carryforwards resulting in a gross deferred tax asset of approximately \$2.3 billion as of December 31, 2017. These losses resulted from the operations of Charter Communications Holdings Company, LLC (“Charter Holdco”) and its subsidiaries, and from loss carryforwards received as a result of the Time Warner Cable Merger. Federal tax net operating loss carryforwards expire in the years 2018 through 2035. In addition, Charter had state tax net operating loss carryforwards resulting in a gross deferred tax asset (net of federal tax benefit) of approximately \$359 million as of December 31, 2017. State tax net operating loss carryforwards generally expire in the years 2018 through 2037.

In the past, Charter has experienced “ownership changes” as defined in Section 382 of the Internal Revenue Code of 1986, as amended (the “Code”). In general, an “ownership change” occurs whenever the percentage of the stock of a corporation owned, directly or indirectly, by “5-percent stockholders” (within the meaning of Section 382 of the Code) increases by more than 50 percentage points over the lowest percentage of the stock of such corporation owned, directly or indirectly, by such “5-percent stockholders” at any time over the preceding three years. As a result, Charter is subject to an annual limitation on the use of its loss carryforwards which existed at November 30, 2009 for the first “ownership change,” those that existed at May 1, 2013 for the second “ownership change,” and those created at May 18, 2016 for the third “ownership change.” The limitation on Charter’s ability to use its loss carryforwards, in conjunction with the loss carryforward expiration provisions, could reduce its ability to use a portion of its loss carryforwards to offset future taxable income, which could result in Charter being required to make material cash tax payments. Charter’s ability to make such income tax payments, if any, will depend at such time on its liquidity or its ability to raise additional capital, and/or on receipt of payments or distributions from Charter Holdco and its subsidiaries.

If Charter were to experience additional ownership changes in the future (as a result of purchases and sales of stock by its “5-percent stockholders,” new issuances or redemptions of its stock, certain acquisitions of its stock and issuances, redemptions, sales or other dispositions or acquisitions of interests in Charter’s “5-percent stockholders”), its ability to use its loss carryforwards could become subject to further limitations.

***If Legacy Time Warner Cable’s Separation Transactions (as defined below), including the Distribution (as defined below), do not qualify as tax-free, either as a result of actions taken or not taken by Legacy Time Warner Cable or as a result of the failure of certain representations by Legacy Time Warner Cable to be true, Legacy Time Warner Cable has agreed to indemnify Time Warner Inc. for its taxes resulting from such disqualification, which would be significant.***

As part of Legacy Time Warner Cable’s separation from Time Warner Inc. (“Time Warner”) in March 2009 (the “Separation”), Time Warner received a private letter ruling from the IRS and Time Warner and Time Warner Cable received opinions of tax counsel confirming that the transactions undertaken in connection with the Separation, including the transfer by a subsidiary of Time Warner of its 12.43% non-voting common stock interest in TW NY Cable Holding Inc. to Legacy Time Warner Cable in exchange for 80 million newly issued shares of Legacy Time Warner Cable’s Class A common stock, Legacy Time Warner Cable’s payment of a special cash dividend to holders of Legacy Time Warner Cable’s outstanding Class A and Class B common stock, the conversion of each share of Legacy Time Warner Cable’s outstanding Class A and Class B common stock into one share of Legacy Time Warner Cable common stock, and the pro-rata dividend of all shares of Legacy Time Warner Cable common stock held by Time Warner to holders of record of Time Warner’s common stock (the “Distribution” and, together with all of the transactions, the “Separation Transactions”), should generally qualify as tax-free to Time Warner and its stockholders for U.S. federal income tax purposes. The ruling and opinions rely on certain facts, assumptions, representations and undertakings from Time Warner and Legacy Time Warner Cable regarding the past and future conduct of the companies’ businesses and other matters. If any of these facts, assumptions, representations or undertakings are incorrect or not otherwise satisfied, Time Warner and its stockholders may not be able to rely on the ruling or the opinions and could be subject to significant tax liabilities. Notwithstanding the private letter ruling and opinions, the IRS could determine on audit that the Separation

Transactions should be treated as taxable transactions if it determines that any of these facts, assumptions, representations or undertakings are not correct or have been violated, or for other reasons, including as a result of significant changes in the stock ownership of Time Warner or Legacy Time Warner Cable after the Distribution.

Under the tax sharing agreement among Time Warner and Legacy Time Warner Cable, Legacy Time Warner Cable generally would be required to indemnify Time Warner against its taxes resulting from the failure of any of the Separation Transactions to qualify as tax-free as a result of (i) certain actions or failures to act by Legacy Time Warner Cable or (ii) the failure of certain representations made by Legacy Time Warner Cable to be true. In addition, even if Legacy Time Warner Cable bears no contractual responsibility for taxes related to a failure of the Separation Transactions to qualify for their intended tax treatment, Treasury regulation section 1.1502-6 imposes on Legacy Time Warner Cable several liability for all Time Warner federal income tax obligations relating to the period during which Legacy Time Warner Cable was a member of the Time Warner federal consolidated tax group, including the date of the Separation Transactions. Similar provisions may apply under foreign, state or local law. Absent Legacy Time Warner Cable causing the Separation Transactions to not qualify as tax-free, Time Warner has indemnified Legacy Time Warner Cable against such several liability arising from a failure of the Separation Transactions to qualify for their intended tax treatment.

***If Charter is unable to retain key employees, its ability to manage its business could be adversely affected.***

Charter's operational results have depended, and its future results will depend, upon the retention and continued performance of its management team. Charter's ability to retain and hire new key employees for management positions could be impacted adversely by the competitive environment for management talent in the broadband communications industry. The loss of the services of key members of management and the inability or delay in hiring new key employees could adversely affect Charter's ability to manage its business and its future operational and financial results.

***Charter has a significant amount of debt and may incur significant additional debt, including secured debt, in the future, which could adversely affect its financial health and its ability to react to changes in its business.***

Charter has a significant amount of debt and may (subject to applicable restrictions in its debt instruments) incur additional debt in the future. As of December 31, 2017, Charter's total principal amount of debt was approximately \$69.0 billion.

Charter's significant amount of debt could have consequences, such as:

- impact its ability to raise additional capital at reasonable rates, or at all;
- make it vulnerable to interest rate increases, in part because approximately 14% of its borrowings as of December 31, 2017 were, and may continue to be, subject to variable rates of interest;
- expose it to increased interest expense to the extent it refinances existing debt with higher cost debt;
- require it to dedicate a significant portion of its cash flow from operating activities to make payments on its debt, reducing its funds available for working capital, capital expenditures, and other general corporate expenses;
- limit its flexibility in planning for, or reacting to, changes in its business, the cable and telecommunications industries, and the economy at large;
- place it at a disadvantage compared to its competitors that have proportionately less debt; and
- adversely affect its relationship with customers and suppliers.

If current debt amounts increase, Charter's business results are lower than expected, or credit rating agencies downgrade its debt limiting its access to investment grade markets, the related risks that Charter now faces will intensify.

***The agreements and instruments governing Charter's debt contain restrictions and limitations that could significantly affect its ability to operate its business, as well as significantly affect its liquidity.***

Charter's credit facilities and the indentures governing its debt contain a number of significant covenants that could adversely affect Charter's ability to operate its business, its liquidity, and its results of operations. These covenants restrict, among other things, Charter's and Charter's subsidiaries' ability to:

- incur additional debt;
- repurchase or redeem equity interests and debt;
- issue equity;
- make certain investments or acquisitions;
- pay dividends or make other distributions;
- dispose of assets or merge;
- enter into related party transactions; and
- grant liens and pledge assets.

Additionally, the Charter Communications Operating, LLC ("Charter Operating") credit facilities require Charter Operating to comply with a maximum total leverage covenant and a maximum first lien leverage covenant. The breach of any covenants or obligations in Charter's indentures or credit facilities, not otherwise waived or amended, could result in a default under the applicable debt obligations and could trigger acceleration of those obligations, which in turn could trigger cross defaults under other agreements governing Charter's long-term indebtedness. In addition, the secured lenders under Charter's notes and the Charter Operating credit facilities could foreclose on their collateral, which includes equity interests in Charter's subsidiaries, and exercise other rights of secured creditors.

***Charter's business is subject to extensive governmental legislation and regulation, which could adversely affect its business.***

Regulation of the cable industry has increased cable operators' operational and administrative expenses and limited their revenues. Cable operators are subject to various laws and regulations including those covering the following:

- the provision of high-speed Internet service, including transparency rules;
- the provision of voice communications;
- cable franchise renewals and transfers;
- the provisioning and marketing of cable equipment and compatibility with new digital technologies;
- customer and employee privacy and data security;
- limited rate regulation of video service;
- copyright royalties for retransmitting broadcast signals;
- when a cable system must carry a particular broadcast station and when it must first obtain retransmission consent to carry a broadcast station;
- the provision of channel capacity to unaffiliated commercial leased access programmers;
- limitations on Charter's ability to enter into exclusive agreements with multiple dwelling unit complexes and control Charter's inside wiring;
- equal employment opportunity, emergency alert systems, disability access, technical standards, marketing practices, customer service, and consumer protection; and

approval for mergers and acquisitions often accompanied by the imposition of restrictions and requirements on an applicant's business in order to secure approval of the proposed transaction.

Legislators and regulators at all levels of government frequently consider changing, and sometimes do change, existing statutes, rules, regulations, or interpretations thereof, or prescribe new ones. Any future legislative, judicial, regulatory or administrative actions may increase Charter's costs or impose additional restrictions on Charter's businesses.

***As a result of the closing of the Transactions, Charter's businesses are subject to the conditions set forth in the related FCC Order and DOJ Order and those imposed by state utility commissions and local franchise authorities, and there can be no assurance that these conditions will not have an adverse effect on its businesses and results of operations.***

In connection with the Transactions, the related FCC Order, DOJ Order, and approvals from state utility commissions and local franchise authorities incorporated numerous commitments and voluntary conditions made by the parties and imposed numerous conditions on Charter's businesses relating to the operation of Charter's business and other matters. Among other things, (i) Charter is not permitted to charge usage-based prices or impose data caps and is prohibited from charging interconnection fees for qualifying parties; (ii) Charter is prohibited from entering into or enforcing any agreement with a programmer that forbids, limits or creates incentives to limit the programmer's provision of content to OVD and cannot retaliate against programmers for licensing to OVDs; (iii) Charter is not able to avail itself of other distributors' provisions through its "most favored nation" provisions if they are inconsistent with this prohibition; (iv) Charter must undertake a number of actions designed to promote diversity; (v) Charter appointed an independent compliance monitor and complies with a broad array of reporting requirements; and (vi) Charter must satisfy various other conditions relating to its Internet services, including building out an additional two million locations with access to a high-speed connection of at least 60 megabits per second, and implementing a reduced price high-speed Internet program for low income families. These and other conditions and commitments relating to the Transactions are of varying duration, ranging from three to seven years. In light of the breadth and duration of the conditions and potential changes in market conditions during the time the conditions and commitments are in effect, there can be no assurance that Charter's compliance, and ability to comply, with the conditions will not have a material adverse effect on its business or results of operations.

***Changes to existing statutes, rules, regulations, or interpretations thereof, or adoption of new ones, could have an adverse effect on Charter's business.***

There are ongoing efforts to amend or expand the federal, state, and local regulation of some of the services offered over Charter's cable systems, which may compound the regulatory risks Charter already faces. For example, with respect to its retail broadband Internet access service, the FCC has reclassified the service twice in the last few years, with the first change adding regulatory obligations and the second change largely removing those new regulatory obligations. These changes reflect a lack of regulatory certainty in this business area, which may continue as a result of litigation, as well as future legislative or administrative changes.

Other potential legislative and regulatory changes could adversely impact Charter's business by increasing its costs and competition and limiting its ability to offer services in a manner that that would maximize its revenue potential. These changes could include, for example, the adoption of new privacy restrictions on Charter's collection, use and disclosure of certain customer information, new data security and cybersecurity mandates that could result in additional network and information security requirements for Charter's business, new restraints on its discretion over programming decisions, including the provision of public, educational and governmental access programming and unaffiliated, commercial leased access programming, new restrictions on the rates Charter charges for video programming and the marketing of that video programming, changes to the cable industry's compulsory copyright license to carry broadcast signals, new requirements to assure the availability of navigation devices (such as set-top boxes) from third party providers, new Universal Service Fund obligations on Charter's provision of Internet service that would add to the cost of that service, increases in government-administered broadband subsidies to rural areas that could result in subsidized overbuilding of Charter's more rural facilities, and changes in the regulatory framework for VoIP phone service, including the scope of regulatory obligations associated with Charter's VoIP service and Charter's ability to interconnect its VoIP service with incumbent providers of traditional telecommunications service.

If any of these pending laws and regulations are enacted, they could affect Charter's operations and require significant expenditures. Charter cannot predict future developments in these areas, and Charter is already subject to Charter-specific

conditions regarding certain Internet practices as a result of the FCC's approval of the Transactions, but any changes to the regulatory framework for Charter's video, Internet or VoIP services could have a negative impact on its business and results of operations.

It remains uncertain what rule changes, if any, will ultimately be adopted by Congress and the FCC and what operating or financial impact any such rules might have on Charter, including on its programming agreements, customer privacy and the user experience. In addition, the FCC's Enforcement Bureau has been actively investigating certain industry practices of various companies and imposing forfeitures for alleged regulatory violations.

***Charter's cable system franchises are subject to non-renewal or termination and are non-exclusive. The failure to renew a franchise or the grant of additional franchises in one or more key markets could adversely affect its business.***

Charter's cable systems generally operate pursuant to franchises, permits, and similar authorizations issued by a state or local governmental authority controlling the public rights-of-way. Many franchises establish comprehensive facilities and service requirements, as well as specific customer service standards and monetary penalties for non-compliance. In many cases, franchises are terminable if the franchisee fails to comply with significant provisions set forth in the franchise agreement governing system operations. Franchises are generally granted for fixed terms and must be periodically renewed. Franchising authorities may resist granting a renewal if either past performance or the prospective operating proposal is considered inadequate. Franchise authorities often demand concessions or other commitments as a condition to renewal. In some instances, local franchises have not been renewed at expiration, and Charter has operated and is operating under either temporary operating agreements or without a franchise while negotiating renewal terms with the local franchising authorities.

There can be no assurance that Charter will be able to comply with all significant provisions of its franchise agreements and certain of its franchisers have from time to time alleged that Charter has not complied with these agreements. Additionally, although historically Charter has renewed its franchises without incurring significant costs, there can be no assurance that Charter will be able to renew, or to renew as favorably, its franchises in the future. A termination of or a sustained failure to renew a franchise in one or more key markets could adversely affect Charter's business in the affected geographic area.

Charter's cable system franchises are non-exclusive. Consequently, local and state franchising authorities can grant additional franchises to competitors in the same geographic area or operate their own cable systems. In some cases, local government entities and municipal utilities may legally compete with Charter on more favorable terms. Potential competitors (like Google) have recently pursued and obtained local franchises that are more favorable than the incumbent operator's franchise.

***Tax legislation and administrative initiatives or challenges to Charter's tax and fee positions could adversely affect its results of operations and financial condition.***

Charter operates cable systems in locations throughout the United States and, as a result, is subject to the tax laws and regulations of federal, state and local governments. From time to time, various legislative and/or administrative initiatives may be proposed that could adversely affect Charter's tax positions. There can be no assurance that its effective tax rate or tax payments will not be adversely affected by these initiatives. Certain states and localities have imposed or are considering imposing new or additional taxes or fees on Charter's services or changing the methodologies or base on which certain fees and taxes are computed. Potential changes include additional taxes or fees on Charter's services which could impact its customers, changes to income tax sourcing rules and other changes to general business taxes, central/unit-level assessment of property taxes and other matters that could increase Charter's income, franchise, sales, use and/or property tax liabilities. For example, some local franchising authorities are seeking to impose franchise fee assessments on our broadband Internet access service, and more may do so in the future. If they do so, and challenges to such assessments are unsuccessful, it could adversely impact Charter's costs. In addition, federal, state and local tax laws and regulations are extremely complex and subject to varying interpretations. There can be no assurance that Charter's tax positions will not be challenged by relevant tax authorities or that it would be successful in any such challenge.

## **Factors Relating to Skyhook**

### ***Skyhook faces competition from multiple sources.***

Skyhook's Precision Location Solution competes against (1) other satellite and terrestrial based location technology offerings, such as GPS, Observed Time Difference of Arrival and terrestrial beacons; (2) other providers of Wi-Fi and cell-based positioning, such as Google and HERE, a former subsidiary of Nokia; and (3) other in-house developed location solutions. In the smartphone location provider market, because Apple and Google control a large percentage of the market share for smartphone operating systems and both offer location provider services free as part of the iOS and Android markets, Skyhook is constrained in the distribution and monetization of the Precision Location Solution in that market. There are also a number of new location technologies in development which may further increase competition to be a location solution for new devices (such as Internet of Things and wearable devices) and which may require Skyhook to meet more stringent accuracy standards. In addition, Skyhook's Geospatial Insights services compete against other geofencing and location data offerings from other niche location companies.

Certain of Skyhook's competitors are substantially larger than Skyhook and have greater financial, technical, marketing and other resources. Thus, many of these large enterprises are in a better position to withstand any significant reduction in spending by customers in its markets, and often have broader product lines and market focus, have greater brand recognition and may not be as susceptible to downturns in a single market. These competitors may also be able to bundle their products together (such as with mapping software) to meet the needs of a particular customer, may be able to respond more rapidly to new or emerging technologies or changes in customer requirements and may be capable of delivering more complete solutions than Skyhook is able to provide. If large enterprises that currently do not compete directly with Skyhook choose to enter its markets by acquisition or otherwise, competition for both revenue and data would likely intensify. In addition, the growth of new location technologies currently in development may further increase competition to provide these new technologies. If Skyhook is not able to compete successfully for customers, its financial position may be materially adversely affected.

### ***Skyhook is investing in a number of new markets, products and services, but those efforts are still in the early stages and there is no guarantee that such investments will be successful.***

In addition to its traditional Precision Location Solution, Skyhook is also investing significant capital in the development, introduction and sale of its Geospatial Insights products. Investing in these new markets and technologies – many of which are early stage – necessarily involves significant risks and uncertainties, including the possibility that revenues from such investments will be insufficient to offset any new liabilities assumed and expenses, an inadequate return of capital on its investments, and the distraction of management and Skyhook from current operations. Such risks and uncertainties could cause Skyhook to fail to realize the anticipated benefits of such investments and incur unanticipated liabilities.

Skyhook's research, development and other investments in new technologies, products or services may not succeed due to, among other things: improvements in alternate technologies in ways that reduce the advantages it anticipates from its investments; competitors' products or services being more cost effective, having more capabilities or fewer limitations or being brought to market faster than Skyhook's new products and services; and competitors having longer operating histories in industry segments that are new to Skyhook. Skyhook may also underestimate the costs of or overestimate the future operating income and/or margins that could result from these investments, and these investments may not, or may take many years to, generate material returns. If Skyhook's new technologies, products or services are not successful, or are not successful in the time frame Skyhook anticipates, Skyhook may incur significant costs and/or asset impairments, its business may not grow as anticipated, its revenues and/or margins may be negatively impacted and/or its reputation may be harmed.

### ***The revenue of Skyhook depends on a limited number of customers, and the loss of its more significant customers could adversely affect its business.***

Skyhook derives a significant amount of its revenue from a limited number of customers, and it is anticipated that these customers will continue to represent a significant portion of the revenue of Skyhook. Because Skyhook depends on a limited number of customers, the loss of one or more of these customers could have a material adverse effect on its operating results. Certain of these customers may fail to renew their contracts with Skyhook from time to time, creating additional risk with respect to the potential loss of revenue from these customers. In addition, Skyhook depends on certain customers to transmit location data that assists in keeping Skyhook's proprietary reference database current. If Skyhook is unable to maintain access to these

data sources (or alternative sources are unavailable), then Skyhook's ability to derive revenue for its capabilities could be harmed. The loss or reduction of business or data from any combination of these existing customers of Skyhook would materially adversely affect revenue, financial condition and results of operations of Skyhook.

***The revenue of Skyhook depends on the performance of device manufacturers, application developers and other resellers of its technology.***

Skyhook does not sell its Precisions Location Solution directly to end consumers. Instead, Skyhook provides location technology that integrates with devices and applications that are created or distributed by third parties. Accordingly, Skyhook's future growth significantly depends on third parties choosing to incorporate its technology into new device types and markets other than smartphone devices, such as industrial Internet of Things, connected home and wearable markets. Skyhook also depends on its customers, resellers and licensees to develop products and services with value-added features to drive sales and demand. There can be no assurance that such efforts will be successful.

***Skyhook reported a net operating loss for the year as a result of its investments in new products and markets, and there is no assurance it will be able to attain profitable operations.***

Skyhook reported a net operating loss for the year due, in part, to significant operating expenses related to the aforementioned investments in new markets, products and services. These new investments are intended to replace the revenue that Skyhook lost from the decline of its U-TDOA Service and the loss of another large Skyhook customer, as well as to further grow and diversify Skyhook's revenue stream in a competitive technological environment. There can be no assurance that these investments will drive the revenue growth that is necessary to replace contracts that were lost or that they will be sufficient to achieve profitability.

***The underlying business and technology of Skyhook depends on the commercial deployment of wireless and other communications technologies and its ability to continue to drive customer demand for Skyhook products and services in a rapidly evolving and developing industry.***

Skyhook develops, patents and commercializes products and services based on wireless and other communications technologies. Skyhook depends on third parties to deploy these wireless technologies and networks in order to operate and deploy Skyhook's products and services. If third parties do not deploy wireless networks or other communication technologies used by Skyhook to operate its location services, or if new technologies or standards are introduced, it could have a material adverse effect on Skyhook's results of operations and financial condition.

As a result of this possibility, Skyhook must stay abreast of rapidly evolving technological developments and offerings (such as the introduction of LoRa Wireless RF technology, a long range, low power consumption and data transmission protocol for Internet of Things devices) to remain competitive and increase the utility of their products and services, and it must be able to incorporate new technologies into its products and services in order to address the needs of its customers. The failure to successfully introduce new or enhanced products and services on a timely and cost-competitive basis that complies with evolving industry standards and regulations or the inability to continue to market existing products on a cost-competitive basis could also have a material adverse effect on Skyhook's results of operations and financial condition.

In addition, in order to successfully develop and market certain of Skyhook's products and services, Skyhook may be required to enter into technology development or licensing agreements with third parties. Skyhook cannot provide assurances that it will be able to timely enter into necessary technology development or licensing agreements on reasonable terms, or at all.

***Actions taken by Skyhook to protect its intellectual property rights, such as through a licensing program or through litigation to enforce its intellectual property rights, could result in substantial costs, and Skyhook's ability to compete could be harmed if it fails to take such actions or is unsuccessful in doing so.***

Skyhook relies primarily on a combination of patents, trademarks, trade secrets, employee and third-party nondisclosure agreements, licensing arrangements and other methods to protect its intellectual property in the United States and internationally. Skyhook has numerous patents issued, allowed and pending in the United States and/or in foreign jurisdictions which primarily relate to products and the technology used in connection with the products and services it offers. Skyhook cannot be certain that



the steps it has taken, or may take in the future, will prevent the misappropriation or unauthorized use of its proprietary information and technologies, particularly in foreign countries where international treaties, organizations and foreign laws may not protect its proprietary intellectual property rights as fully or as readily as United States laws or where the enforcement of such laws may be lacking or ineffective. Any pending patent applications and any future applications may not be approved, and any issued patents may not provide Skyhook with competitive advantages, or such issued patents may be challenged, invalidated, infringed, circumvented or misappropriated by third parties.

While Skyhook believes that it has a defensible and useful patent portfolio and it actively seeks to generate revenue through the licensing of its patents and other assets, it cannot assure you that its attempts to secure future patent licenses will be successful or that it will generate meaningful revenue from licensing. In addition, in connection with actively seeking to license and enforce its patents and other intellectual property, Skyhook has in the past been required and may be required in the future to initiate litigation in order to assert claims of infringement of its intellectual property, enforce patents issued or licensed to them, protect their trade secrets or know-how or to determine the scope and/or validity of a third party's patent or other proprietary rights. Such litigation may involve significant costs and any such litigation could also result in rulings impacting the validity or enforceability of Skyhook's patents, which could result in new or increased competition that could have a material adverse effect on Skyhook's results of operations and financial condition. There can be no assurances that Skyhook would be successful in any such litigation.

***Skyhook could face intellectual property lawsuits from competitors or non-practicing entities.***

Other companies, including some of Skyhook's largest competitors, hold intellectual property rights in its industry which could inhibit Skyhook's ability to introduce new products and services unless it secures necessary licenses on commercially reasonable terms. Furthermore, as the number of issued patents increases and as competition intensifies, the volume of intellectual property infringement claims and lawsuits may also increase. Skyhook may in the future become involved in lawsuits or other legal proceedings alleging patent infringement or other intellectual property rights violations by Skyhook or parties that it has agreed to indemnify for certain claims of infringement. Third parties may also claim that employees of Skyhook have misappropriated or divulged their former employers' trade secrets or confidential information. Any such litigation, regardless of outcome, could subject Skyhook to significant costs or liabilities or require it to cease using proprietary third party technology and, consequently, could have a material adverse effect on its results of operations and financial condition. If infringement claims are made against Skyhook or its products are found to infringe a third parties' patent or intellectual property, Skyhook or one of its indemnitees may have to seek a license to the third parties' patent or other intellectual property rights. However, Skyhook may not be able to obtain licenses at all or on terms acceptable to it particularly from its competitors. If Skyhook or one of its indemnitees is unable to obtain a license from a third party for technology that Skyhook uses or that is used in one of its products, Skyhook could be subject to substantial liabilities or have to suspend or discontinue the manufacture and sale of one or more of its products. It may also have to make royalty or other payments, cross license technology or make payments pursuant to third party indemnitees.

***The success of Skyhook depends on the integrity of its systems and infrastructures.***

Skyhook relies on its enterprise resource planning systems to support such critical business operations as processing sales orders and invoicing, purchasing and supply chain management, human resources and financial reporting. Portions of Skyhook's IT infrastructure may experience interruptions of service or produce errors in connection with systemic failures, systems integration or migration work that takes place from time to time. Skyhook may not be successful in implementing new systems and transitioning data, which could cause business disruptions and be more expensive, time consuming, disruptive and resource-intensive. If Skyhook is unable to successfully implement major systems initiatives and maintain critical information systems, it could encounter difficulties that could have a material adverse impact on its business.

Furthermore, the businesses of Skyhook depend on delivering products and services of consistently high quality and reliability to customers. If the services offered by Skyhook were to fail or not to perform as expected, its services could be rendered ineffective, and any significant or systemic service failure could also result in a loss of customer confidence, as well as reputational damage, resulting in a material adverse impact on Skyhook's business.

***The regulatory environment in which Skyhook operates is complex.***

Skyhook is subject to a variety of laws and regulations in the United States and in foreign jurisdictions that involve matters central to its technology and ongoing business, including the collection and storage of location information, privacy and data protection, intellectual property, data security and data retention, and other business and ethics compliance-related laws. The application, scope, interpretation, and enforcement of applicable laws and regulations in many of these areas are often uncertain, particularly in the new and rapidly-evolving mobile technology industry in which Skyhook operates. In addition, existing laws may be interpreted and applied inconsistently from one jurisdiction to another, and inconsistently with Skyhook's current policies and practices. The introduction of new products or the expansion of Skyhook's sales activities in certain jurisdictions may subject it to additional laws and regulations, or increase the risk posed to Skyhook's business by non-compliance.

Skyhook is also monitoring additional proposed and pending legislation and regulations in the U.S. and abroad that are related to its technology and business operations, including regulations that implement specific privacy or data protection rules. There can be no assurance that future legislation or regulations will not have a material impact upon Skyhook's ability to operate its business, collect the location data required for its operational needs, or generate revenue.

The existing and proposed laws and regulations that are applicable to Skyhook's business, as well as any associated inquiries, investigations, or actions from governmental authorities or private citizens, can be costly to comply with and can delay or impede the development of new products, may result in negative publicity or cause reputational damage, may increase operating cost and require significant management time and attention, and may subject Skyhook to various possible remedies, including fines, penalties, injunctions or other orders.

***New Data Protection and Data Transfer laws around the world could impact Skyhook's business, its ability to collect location data, and impose significant compliance costs.***

Skyhook is, or may become, subject to various data protection, privacy, and other laws and regulations in various jurisdictions around the world. Such laws could impact Skyhook's ability to generate revenue, to transfer or collect data necessary to its operations, or prevent, slow or deter Skyhook's entry into certain regions. For example, as a result of its international activities, Skyhook is subject to laws and regulations that dictate whether, how, and under what circumstances it can transfer or process data from the EU to the United States. In addition, certain activities of Skyhook may be subject to the GDPR which comes into effect in May 2018 and imposes stringent requirements on businesses that collect and process "personal data" from individuals in the EU. The GDPR subjects businesses to significant fines and other penalties for non-compliance.

At this stage, the scope, application and enforcement of the GDPR is uncertain. There can be no assurance that Skyhook will be compliant, or that the costs of compliance (and the resources and changes to technology and infrastructure that could be required) will not be material to Skyhook's business.

***Privacy concerns relating to location data generally and Skyhook's technology could damage its reputation and deter current and potential users from using its products and applications.***

Concerns about the collection of location data generally, or about the specific practices of Skyhook with regard to the collection, use, disclosure, or security of location information or other privacy related matters, even if unfounded, could damage its reputation and operating results. While Skyhook strives to comply with all applicable data protection laws and regulations, as well as its own posted privacy policies, any failure or perceived failure to comply may result in proceedings or actions against Skyhook by government entities or others, or could cause it to lose users and customers, which could potentially have an adverse effect on Skyhook's data inflows and revenue generating capabilities.

***Security breaches and other disruptions, including as a result of cyber attacks, could compromise the information collected and stored by Skyhook and expose it to liability, which would cause business and reputational damage.***

In the ordinary course of business, Skyhook collects and stores sensitive data, including intellectual property, its proprietary business information and information about mobile device and radio beacon locations (of its customers and suppliers). The secure processing, maintenance and transmission of this information in its facilities and on its networks is important to its operations. Despite security measures in place at Skyhook, its information technology and infrastructure may be vulnerable to

attacks by hackers or breached due to employee error or other disruptions. Any such breach could compromise its networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, disruption of operations, reputational damage, and cause a loss of confidence, which could adversely affect Skyhook's business and revenue.

**Factors Relating to our Common Stock and the Securities Market**

*We expect our stock price to continue to be directly affected by the results of operation of Charter and developments in its business.*

The fair value of our investment in Charter, on an as-converted basis, was approximately \$18.2 billion as of December 31, 2017, which represents all of our total market value. As a result, our stock price will continue to be directly affected by the results of operations of Charter and the developments in its business.

*Although our Series B common stock is quoted on the OTC Markets, there is no meaningful trading market for the stock.*

Our Series B common stock is not widely held, with approximately 96% of the outstanding shares beneficially owned by John C. Malone, the Chairman of the board and a director of our company. Although it is quoted on the OTC Markets, it is sparsely traded and does not have an active trading market. The OTC Markets tend to be highly illiquid, in part, because there is no national quotation system by which potential investors can track the market price of shares except through information received or generated by a limited number of broker-dealers that make markets in particular stocks. There is also a greater chance of market volatility for securities that trade on the OTC Markets as opposed to a national exchange or quotation system. This volatility is due to a variety of factors, including a lack of readily available price quotations, lower trading volume, absence of consistent administrative supervision of "bid" and "ask" quotations, and market conditions. Each share of the Series B common stock is convertible, at any time at the option of the holder, into one share of our Series A common stock, which is listed and traded on the Nasdaq Global Select Market under the symbol "LBRDA."

*It may be difficult for a third party to acquire us, even if doing so may be beneficial to our stockholders.*

Certain provisions of our certificate of incorporation and bylaws may discourage, delay or prevent a change in control of our company that a stockholder may consider favorable. These provisions include the following:

- authorizing a capital structure with multiple series of common stock: a Series B that entitles the holders to ten votes per share, a Series A that entitles the holders to one vote per share and a Series C that, except as otherwise required by applicable law, entitles the holders to no voting rights;
- authorizing the issuance of "blank check" preferred stock, which could be issued by our board of directors to increase the number of outstanding shares and thwart a takeover attempt;
- classifying our board of directors with staggered three-year terms, which may lengthen the time required to gain control of our board of directors;
- limiting who may call special meetings of stockholders;
- prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of the stockholders;
- establishing advance notice requirements for nominations of candidates for election to our board of directors or for proposing matters that can be acted upon by stockholders at stockholder meetings;
- requiring stockholder approval by holders of at least 80% of our voting power or the approval by at least 75% of our board of directors with respect to certain extraordinary matters, such as a merger or consolidation of our company, a sale of all or substantially all of our assets or an amendment to our restated certificate of incorporation; and

the existence of authorized and unissued stock which would allow our board of directors to issue shares to persons friendly to current management, thereby protecting the continuity of its management, or which could be used to dilute the stock ownership of persons seeking to obtain control of us.

In addition, John C. Malone currently beneficially owns shares representing the power to direct approximately 47% of the aggregate voting power in our company, due to his beneficial ownership of approximately 96% of the outstanding shares of our Series B common stock as of January 31, 2018.

***Holders of a single series of our common stock may not have any remedies if an action by our directors has an adverse effect on only that series of our common stock.***

Principles of Delaware law and the provisions of our certificate of incorporation may protect decisions of our board of directors that have a disparate impact upon holders of any single series of our common stock. Under Delaware law, the board of directors has a duty to act with due care and in the best interests of all of our stockholders, including the holders of all series of our common stock. Principles of Delaware law established in cases involving differing treatment of multiple classes or series of stock provide that a board of directors owes an equal duty to all common stockholders regardless of class or series and does not have separate or additional duties to any group of stockholders. As a result, in some circumstances, our directors may be required to make a decision that is viewed as adverse to the holders of one series of our common stock. Under the principles of Delaware law and the business judgment rule, holders may not be able to successfully challenge decisions that they believe have a disparate impact upon the holders of one series of our stock if our board of directors is disinterested and independent with respect to the action taken, is adequately informed with respect to the action taken and acts in good faith and in the honest belief that the board is acting in the best interest of all of our stockholders.

**Item 1B. Unresolved Staff Comments**

None.

**Item 2. Properties.**

***Liberty Broadband***

In connection with the Broadband Spin-Off, a wholly-owned subsidiary of Liberty entered into a facilities sharing agreement with Liberty Broadband, pursuant to which Liberty Broadband shares office facilities with Liberty, Liberty Interactive, TripCo and ExpediaCo located at 12300 Liberty Boulevard, Englewood, Colorado, 80112.

***Charter***

Charter's principal physical assets consist of cable distribution plant and equipment, including signal receiving, encoding and decoding devices, headend reception facilities, distribution systems, and customer premise equipment for each of its cable systems.

Charter's cable plant and related equipment are generally attached to utility poles under pole rental agreements with local public utilities and telephone companies, and in certain locations are buried in underground ducts or trenches. Charter owns or leases real property for signal reception sites, and owns its service vehicles.

Charter's subsidiaries generally lease space for business offices. Charter's headend and tower locations are located on owned or leased parcels of land, and Charter generally owns the towers on which its equipment is located.

The physical components of Charter's cable systems require maintenance as well as periodic upgrades to support the new services and products Charter introduces. Charter believes that its properties are generally in good operating condition and are suitable for its business operations.

***Skyhook***

Skyhook maintains corporate offices in two locations: Boston, Massachusetts and Wayne, Pennsylvania. Skyhook leases a 7,900 square foot facility in Boston, which expires in December 2019. In addition, in 2017, Skyhook entered into a new lease for a 6,751 square foot facility in Wayne, which expires in January 2021.

**Item 3. Legal Proceedings**

***Charter and Liberty Broadband - Delaware Litigation***

On August 21, 2015, a purported stockholder of Legacy Charter filed a lawsuit in the Delaware Court of Chancery (the “Court”), on behalf of a putative class of Legacy Charter stockholders, challenging the Transactions. The lawsuit is captioned *Sciabacucchi v. Liberty Broadband Corp.*, C.A. No. 11418-VCG (the “Delaware Action”), and names as defendants Liberty Broadband, Legacy Charter, the board of directors of Charter, and Charter. Plaintiff alleged that the Transactions improperly benefit Liberty Broadband at the expense of other Legacy Charter stockholders. Charter and Liberty Broadband filed a motion to dismiss this litigation. The Court has not yet made a final ruling on the motion to dismiss. Charter and Liberty Broadband deny any liability, believe that they have substantial defenses, and intend to vigorously defend this suit. Although Charter is unable to predict the outcome of this lawsuit, it does not expect the outcome will have a material effect on its operations, financial condition or cash flows.

***Other Charter Proceedings***

The California Attorney General and the Alameda County, California District Attorney are investigating whether certain of Legacy Charter’s waste disposal policies, procedures and practices are in violation of the California Business and Professions Code and the California Health and Safety Code. That investigation was commenced in January 2014. A similar investigation involving Legacy TWC was initiated in February 2012. Charter is cooperating with these investigations. While Charter is unable to predict the outcome of these investigations, it does not expect that the outcome will have a material effect on its operations, financial condition, or cash flows.

On December 19, 2011, Sprint Communications Company L.P. (“Sprint”) filed a complaint in the U.S. District Court for the District of Kansas alleging that Legacy TWC infringed certain U.S. patents purportedly relating to VoIP services. A trial began on February 13, 2017. The plaintiff is seeking monetary damages of approximately \$150 million. On March 3, 2017 the jury returned a verdict of \$140 million against Legacy TWC and further concluded that Legacy TWC had willfully infringed Sprint’s patents. The court subsequently declined to enhance the damage award as a result of the purported willful infringement and awarded Sprint an additional \$6 million, representing pre-judgment interest on the damages award. Charter has appealed the case to the United States Court of Appeals for the Federal Circuit. In addition to its appeal, Charter continues to pursue indemnity from one of its vendors. Charter does not expect that the outcome of this litigation will have a material adverse effect on its operations or financial condition. The ultimate outcome of this litigation or the pursuit of indemnity against Charter’s vendor cannot be predicted.

Subsequently, on December 2, 2017, Sprint filed suit against Charter in the United States District Court for the District of Delaware. The new suit alleges infringement of 15 patents related to Charter’s provision of voice services (ten of which were already asserted against Legacy TWC in the matter described above). Charter is investigating the allegations and will vigorously defend this case. While Charter is unable to predict the outcome of its investigations, it does not expect that this litigation will have a material effect on its operations, financial condition, or cash flows.

On October 23, 2015, the New York Office of the Attorney General (the “NY AG”) began an investigation of Legacy TWC’s advertised Internet speeds and other Internet product advertising. On February 1, 2017, the NY AG filed suit in the Supreme Court for the State of New York alleging that Legacy TWC’s advertising of Internet speeds was false and misleading. The suit seeks restitution and injunctive relief. Charter has moved to dismiss the NY AG’s complaint and intends to defend itself vigorously. Although no assurances can be made that such defenses would ultimately be successful, Charter does not expect that the outcome of this litigation will have a material adverse effect on its operations, financial condition or cash flows.

Charter is a defendant or co-defendant in several additional lawsuits involving alleged infringement of various patents relating to various aspects of its businesses. Other industry participants are also defendants in certain of these cases. In the event that a court ultimately determines that Charter infringes on any intellectual property rights, Charter may be subject to substantial damages and/or an injunction that could require Charter or its vendors to modify certain products and services it offers to its subscribers, as well as negotiate royalty or license agreements with respect to the patents at issue. While Charter believes the lawsuits are without merit and intends to defend the actions vigorously, no assurance can be given that any adverse outcome would not be material to Charter's consolidated financial condition, results of operations, or liquidity. Charter cannot predict the outcome of any such claims nor can it reasonably estimate a range of possible loss.

Charter is party to lawsuits, claims and regulatory inquiries that arise in the ordinary course of conducting its business. The ultimate outcome of these other legal matters pending against Charter or its subsidiaries cannot be predicted, and although such lawsuits and claims are not expected individually to have a material adverse effect on our or Charters' consolidated financial condition, results of operations, or liquidity, such lawsuits could have in the aggregate a material adverse effect on ours or Charter's consolidated financial condition, results of operations, or liquidity. Whether or not Charter ultimately prevails in any particular lawsuit or claim, litigation can be time consuming and costly and injure its reputation.

**Item 4. Mine Safety Disclosures**

Not applicable.

**PART II****Item 5. Market for Registrant's Common Equity and Related Stockholder Matters of Equity Securities.*****Market Information***

Our Series A and Series C common stock trade on the Nasdaq Global Select Market under the symbols "LBRDA" and "LBRDK," respectively. Our Series B common stock is eligible for quotation on the OTC Markets under the symbol "LBRDB", but it is not actively traded. The following table sets forth the quarterly range of high and low sales prices of shares of each series of our common stock for the years ended December 31, 2017 and 2016. With respect to our Series B common stock, this information represents inter-dealer prices without dealer mark-ups, mark-downs or commissions, and may not be indicative of the value of the common stock or the existence of an active market.

	Liberty Broadband Corporation					
	Series A (LBRDA)		Series B (LBRDB)		Series C (LBRDK)	
	High	Low	High	Low	High	Low
<u>2016</u>						
First quarter	\$ 58.82	42.03	52.81	41.00	58.50	41.30
Second quarter	\$ 60.27	54.53	52.81	52.81	60.46	54.45
Third quarter	\$ 71.77	58.96	67.97	61.11	72.94	59.59
Fourth quarter	\$ 73.90	61.69	76.25	63.97	75.67	63.64
<u>2017</u>						
First quarter	\$ 87.47	70.45	83.96	75.75	88.12	72.00
Second quarter	\$ 91.16	80.46	91.71	82.43	92.40	81.77
Third quarter	\$ 104.35	82.24	104.19	86.14	104.66	84.29
Fourth quarter	\$ 97.45	80.39	96.64	83.90	98.51	80.41

***Holdings***

As of January 31, 2018, there were 826, 62 and 1,077 holders of our Series A, Series B and Series C common stock, respectively. The foregoing numbers of record holders do not include the number of stockholders whose shares are held nominally by banks, brokerage houses or other institutions, but include each such institution as one shareholder.

***Dividends***

We have not paid any cash dividends on our common stock, and we have no present intention of so doing. Payment of cash dividends, if any, in the future will be determined by our board of directors in light of our earnings, financial condition and other relevant considerations.

***Securities Authorized for Issuance Under Equity Compensation Plans***

Information required by this item is incorporated by reference to our definitive proxy statement for our 2018 Annual Meeting of stockholders.

***Purchases of Equity Securities by the Issuer***

There were no repurchases of Liberty Broadband Series A, B or C common stock during the period. However, the Company elected physical settlement of 527,156 shares of Liberty Broadband Series C common stock at a price of \$90.54 per share to settle a zero-strike call option contract in December 2017. During the three months ended December 31, 2017, no shares of Liberty Broadband common stock were surrendered by certain of our officers and employees to pay withholding taxes and other deductions in connection with the vesting of their restricted stock.

**Item 6. Selected Financial Data.**

The following tables present selected historical information relating to our financial condition and results of operations for the past five years. The following data should be read in conjunction with our consolidated financial statements.

	December 31,				
	2017	2016	2015	2014	2013
<i>Summary Balance Sheet Data:</i>					
	amounts in thousands				
Cash and cash equivalents	\$ 81,257	205,728	655,079	44,809	9,251
Investments in available for sale securities (1)	\$ —	—	439,560	360,762	326,700
Investment in affiliates, accounted for using the equity method (1)	\$ 11,835,613	9,315,253	2,372,699	2,498,804	2,402,024
Net deferred income tax assets	\$ —	—	55,368	30,822	—
Total assets	\$ 11,931,789	9,590,960	3,565,741	3,003,471	2,891,781
Long-term debt	\$ 497,370	198,512	399,703	371,539	—
Net deferred income tax liabilities (2)	\$ 932,593	504,644	—	—	6,740
Total equity (3)	\$ 10,486,901	8,473,092	3,148,219	2,494,769	2,779,194

	Years Ended December 31,				
	2017	2016	2015	2014	2013
<i>Summary Statement of Operations Data:</i>					
	amounts in thousands, except per share amounts				
Revenue	\$ 13,092	30,586	91,182	69,045	77,363
Operating income (loss)	\$ (25,478)	(21,160)	58,955	(42,974)	(88)
Share of earnings (losses) of affiliate (1)(4)	\$ 2,508,991	641,544	(120,962)	(127,573)	(76,090)
Gain (loss) on dilution of investment in affiliate (1)	\$ (17,872)	770,766	(7,198)	(87,158)	(92,933)
Realized and unrealized gains (losses) on financial instruments	\$ 3,098	94,122	2,619	51,189	97,860
Net earnings (loss) attributable to Liberty Broadband shareholders	\$ 2,033,667	917,303	(50,187)	(134,605)	(41,728)
Basic earnings (loss) per common share (5)	\$ 11.19	6.03	(0.49)	(1.52)	(0.47)
Diluted earnings (loss) per common share (5)	\$ 11.10	6.00	(0.49)	(1.52)	(0.47)

- (1) As discussed in note 5 to the accompanying consolidated financial statements, on May 18, 2016 Time Warner Cable merged with Charter, causing a significant increase in Share of earnings (losses) of affiliate and gain on dilution of investment in affiliate in 2016. As a result of the merger transaction, Time Warner Cable is no longer accounted for as an available for sale security as of December 31, 2016.
- (2) The increase in deferred tax liabilities is due to recognition of deferred tax liabilities at the closing of the transactions, further increased in 2016 and 2017 by share of earnings in the equity investment in Charter.
- (3) As discussed in note 8 to the accompanying consolidated financial statements, in connection with the Time Warner Cable Merger, in May 2016, Liberty Broadband funded its purchase of Charter Class A common stock using proceeds of \$4.4 billion related to subscriptions for approximately 78.3 million newly issued shares of Liberty Broadband Series C common stock.
- (4) Share of earnings (losses) of affiliate increased in 2016 due primarily to Charter releasing approximately \$3.3 billion of its preexisting valuation allowance, which was recognized directly to income tax benefit for the year ended December 31, 2016. Additionally, Charter recognized \$9.1 billion of income tax benefit, as a result of the enactment of the Tax Cuts and Jobs Act (the "Tax Act") in 2017. See further discussion in Item 7 regarding the tax reform implications.
- (5) We issued 85,761,332 common shares, which is the aggregate number of shares of Series A, Series B and Series C common stock outstanding upon the completion of the Broadband Spin-Off on November 4, 2014. Additionally, Liberty Broadband distributed subscription rights, which were priced at a discount to the market value, to all holders of Liberty Broadband common stock as of the rights record date. Because of the discount, the rights offering is considered a stock dividend which requires retroactive treatment for prior periods for the weighted average shares outstanding based on a factor determined by the fair value per share immediately prior to the rights exercise and the theoretical fair value after the rights exercise. The number of shares issued upon completion of the Broadband Spin-Off, adjusted for the rights factor,



was used to determine both basic and diluted earnings (loss) per share (“EPS”) for the years ended December 31, 2013 and 2012 and for the period from January 1, 2014 through the date of the Broadband Spin-Off, as no Company equity awards were outstanding prior to the Broadband Spin-Off. Basic EPS subsequent to the Broadband Spin-Off was computed using the weighted average number of shares outstanding (“WASO”), adjusted for the rights factor, from the date of the completion of the Broadband Spin-Off through January 9, 2015, the date on which the rights offering was fully subscribed. Diluted EPS subsequent to the Broadband Spin-Off was computed using the WASO from the date of the completion of the Broadband Spin-Off through January 9, 2015, adjusted for the rights factor and potentially dilutive equity awards outstanding during the same period. Subsequent to January 9, 2015, basic EPS was computed using the WASO during the period, and diluted EPS was computed using the WASO adjusted for potentially dilutive equity awards outstanding during the period.

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

The following discussion and analysis provides information concerning our results of operations and financial condition. This discussion should be read in conjunction with our accompanying consolidated financial statements and the notes thereto. Additionally, see note 3 in the accompanying consolidated financial statements for an overview of new accounting standards that we have adopted or that we plan to adopt that have had or may have an impact on our financial statements.

### *Overview*

During May 2014, the board of directors of Liberty Media Corporation and its subsidiaries (“Liberty”) authorized management to pursue a plan to spin-off to its stockholders common stock of a wholly-owned subsidiary, Liberty Broadband Corporation (“Liberty Broadband”), and to distribute subscription rights to acquire shares of Liberty Broadband’s common stock (the “Broadband Spin-Off”). At the time of the Broadband Spin-Off, Liberty Broadband was comprised of, (i) Liberty’s former interest in Charter Communications, Inc. (“Legacy Charter”), (ii) Liberty’s former wholly-owned subsidiary TruePosition, Inc. (“TruePosition”), (iii) Liberty’s former minority equity investment in Time Warner Cable, Inc. (“Time Warner Cable”, “TWC”, “Legacy Time Warner Cable” or “Legacy TWC”), (iv) certain deferred tax liabilities, as well as liabilities related to the Time Warner Cable written call options and (v) initial indebtedness, pursuant to margin loans entered into prior to the completion of the Broadband Spin-Off. The Broadband Spin-Off was accounted for at historical cost due to the pro rata nature of the distribution to holders of Liberty common stock.

In the Broadband Spin-Off, record holders of Liberty Series A, Series B and Series C common stock received one-fourth of a share of the corresponding series of Liberty Broadband common stock for each share of Liberty common stock held by them, with cash paid in lieu of fractional shares. In addition, following the completion of the Broadband Spin-Off, on December 10, 2014, stockholders received a subscription right to acquire one share of Series C Liberty Broadband common stock for every five shares of Liberty Broadband common stock they held at a per share subscription price of \$40.36, which was a 20% discount to the 20-trading day volume weighted average trading price of the Series C Liberty Broadband common stock following the completion of the Broadband Spin-Off. The rights offering was fully subscribed on January 9, 2015, with 17,277,224 shares of Series C common stock issued to those rightsholders exercising basic and, as applicable, oversubscription privileges. The subscription rights were issued to raise capital for general corporate purposes of Liberty Broadband. The Broadband Spin-Off and rights offering were intended to be tax-free to stockholders of Liberty. During September 2015, Liberty entered into a closing agreement with the IRS which provided that the Broadband Spin-Off qualified for tax-free treatment.

On May 18, 2016, Time Warner Cable merged with Legacy Charter (the “Time Warner Cable Merger”). In connection with the Time Warner Cable Merger, Legacy Charter underwent a corporate reorganization, resulting in CCH I, LLC, a former subsidiary of Legacy Charter (“Charter”), becoming the new publicly traded parent company. Also on May 18, 2016, the previously announced acquisition of Bright House Networks, LLC (“Bright House” or “Legacy Bright House”) from Advance/Newhouse Partnership (“A/N”) by Charter (the “Bright House Transaction”) was completed. In connection with the Time Warner Cable Merger and Bright House Transaction, Liberty Broadband entered into certain agreements with Legacy Charter, Charter, Liberty Interactive Corporation (“Liberty Interactive”) and Time Warner Cable. In connection with the Time Warner Cable Merger and Bright House Transaction (collectively, the “Transactions”), Liberty Broadband exchanged its shares of Time Warner Cable for shares of Charter and purchased additional shares of Charter. As a result, and pursuant to proxy agreements entered into with Liberty Interactive and A/N, Liberty Broadband controls 25.01% of the aggregate voting power of Charter. In addition, in connection with the Time Warner Cable Merger, Liberty Broadband funded its purchase of shares of Charter Class A common stock using proceeds of \$4.4 billion related to subscriptions for approximately 78.3 million newly issued shares of Liberty Broadband Series C common stock.

The financial information represents a combination of the historical financial information of Skyhook, Liberty Broadband’s interest in Charter, Liberty’s former minority equity investment in Time Warner Cable and certain deferred tax liabilities. This financial information refers to the combination of the aforementioned subsidiary, investments, and financial instruments, as “Liberty Broadband,” “the Company,” “us,” “we” and “our” here and in the notes to the consolidated financial statements, except as the context otherwise requires.

*Strategies and Challenges*

Executive Summary

Skyhook Holding, Inc. (formerly known as “TruePosition”) markets and sells two primary products: (1) a location determination service called the Precision Location Solution; and (2) a location intelligence and data insights service called Geospatial Insights. Skyhook’s revenue is derived from the sale and integration of its Precision Location Solution (including the licensing of software and data components that make up that solution) and the licensing of Geospatial Insights data. In addition, Skyhook earns revenue through entering into licensing agreements with companies to utilize its underlying intellectual property (including patents).

Charter is the second largest cable operator in the United States and a leading broadband communications services company providing video, Internet and voice services to approximately 27.2 million residential and business customers at December 31, 2017. In addition, Charter sells video and online advertising inventory to local, regional and national advertising customers and fiber-delivered communications and managed information technology (“IT”) solutions to large enterprise customers. Charter also owns and operates regional sports networks and local sports, news and community channels and sells security and home management services in the residential marketplace. Liberty acquired its interest in Charter on May 1, 2013. At December 31, 2017, Liberty Broadband owned approximately 54.1 million shares of Charter Class A common stock, representing an approximate 22.7% economic ownership interest in the issued and outstanding shares. Upon the closing of the Time Warner Cable Merger, the Second Amended and Restated Stockholders Agreement, dated as of May 23, 2015, by and among Legacy Charter, Charter, Liberty Broadband and A/N, as amended (the “Stockholders Agreement”), became fully effective. Under the Stockholders Agreement, we have the right to designate three directors to the Charter board of directors, subject to certain exclusions and requirements. Charter has agreed to cause the appointment of at least one of our designees to serve on the nominating and corporate governance, finance, audit and compensation and benefits committees of the board, provided they meet the independence and other qualifications for membership on those committees.

Key Drivers of Revenue

Skyhook earns revenue from the sale and integration of its Precision Location Solution (including the licensing of software and data components that make up that solution) and the licensing of Geospatial Insights data. In addition, Skyhook earns revenue from licensing its intellectual property (including patents) to other enterprises. Prior to 2016, Skyhook also earned significant revenue from the sale of hardware and the licensing of its U-TDOA Service, and from professional and support services related thereto.

Charter’s revenue is principally derived from the monthly fees customers pay for the residential and commercial video, Internet and voice services provided. Charter also earns revenue from one-time installation fees and advertising sales. Charter’s marketing organization creates and executes marketing programs intended to grow customer relationships, increase the number of services they sell per relationship, retain existing customers and cross-sell additional products to current customers.

Current Trends Affecting Our Business

Skyhook’s location determination services compete against (1) other satellite and terrestrial based location technology offerings, such as GPS; (2) other providers of Wi-Fi and cell-based positioning, such as Google, Inc. (“Google”) and HERE, a former subsidiary of Nokia; and (3) other in-house developed location solutions. In the smartphone location provider market, because Apple and Google control a large percentage of the market share for smartphone operating systems and both offer location provider services free as part of the iOS and Android markets, Skyhook is constrained in the distribution and monetization of the Precision Location Solution in that market. There are also a number of new location technologies in development which may further increase competition to be a location solution for new devices (including Internet of Things devices and wearable) and which may require Skyhook to meet more stringent accuracy standards. In addition, Skyhook’s context services compete against other geofencing and location data offerings from other niche location companies.

Charter faces intense competition for residential customers, both from existing competitors and, as a result of the rapid development of new technologies, services and products, from new entrants. With respect to its residential business, Charter competes with other providers of video, high-speed Internet access, telephone services, and other sources of home entertainment. Specifically, newer categories of competitors include virtual multichannel video programming distributors such as DirecTV

NOW, Sling TV, Playstation Vue, YouTube TV and Hulu Live. In the broadband communications industry, Charter’s principal competitors for video services are DBS service providers and telephone companies that offer video services. Charter’s principal competitors for high-speed Internet services are the broadband services provided by telephone companies, including both traditional DSL, fiber-to-the-node, and fiber-to-the-home offerings. A growing number of commercial areas, such as retail malls, restaurants and airports, offer Wi-Fi Internet service. Numerous local governments are also considering or actively pursuing publicly subsidized Wi-Fi Internet access networks. These options offer alternatives to cable-based Internet access. Charter’s principal competitors for telephone services are established telephone companies, other telephone service providers, and other carriers, including VoIP providers. The increase in the number of different technologies capable of carrying voice services and the number of alternative communication options available to customers as well as the replacement of wireline services by wireless have intensified the competitive environment in which Charter operates its residential voice service.

Skyhook and Charter must stay abreast of rapidly evolving technological developments and offerings to remain competitive and increase the utility of their products and services. These companies must be able to incorporate new technologies into their products and services in order to address the needs of their customers.

Results of Operations—Consolidated

Consolidated operating results:

	<u>Years ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	amounts in thousands		
Revenue	\$ 13,092	30,586	91,182
Operating expenses, excluding stock-based compensation			
Operating expense	2,584	2,798	6,089
Research and development	7,973	10,082	16,637
Selling, general and administrative	18,951	29,148	36,814
Stock-based compensation	5,292	5,713	6,380
Depreciation and amortization	3,770	4,005	6,088
Net gain on legal settlement	—	—	(60,450)
Impairment of intangible assets	—	—	20,669
Operating income (loss)	\$ (25,478)	(21,160)	58,955
Less impact of stock-based compensation, net gain on legal settlement, depreciation and amortization, and impairment of intangible assets	9,062	9,718	(27,313)
Adjusted OIBDA	<u>\$ (16,416)</u>	<u>(11,442)</u>	<u>31,642</u>

*Revenue*

Revenue decreased \$17.5 million and \$60.6 million for the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior year periods. The decrease in revenue in 2017 was attributable to the fact that Skyhook entered into a patent license in 2016 pursuant to which Skyhook agreed to grant to the licensee a perpetual, non-exclusive, non-transferable, worldwide license to patents and patent applications for a one-time payment of \$17.5 million, and no comparable license was entered in 2017.

The decrease in revenue in 2016 was due to the loss of Skyhook’s largest legacy U-TDOA Service customer whose contract expired on December 31, 2015. This customer accounted for approximately 85% of Skyhook’s revenue during 2015. The decrease in revenue in 2016 resulting from the lost customer was partially offset by the new license agreement entered into during 2016 discussed above. Apart from the one-time revenue received from the license agreement in 2016, and excluding the recognition of \$35.5 million of deferred revenue in 2015 upon the expiration of the aforementioned contract with Skyhook’s largest legacy U-TDOA Service customer on December 31, 2015, revenue from Skyhook’s operations decreased by approximately \$42.6 million during 2016.

*Operating, research and development, and selling, general and administrative expenses*

Operating, research and development, and selling, general and administrative expenses, decreased collectively by \$12.5 million and \$17.5 million for December 31, 2017 and 2016, respectively, as compared to the corresponding prior year periods. The decrease in 2017 was due to headcount reductions and other cost containment measures taken by Skyhook upon combining the operations of its businesses, coupled with reduced legal expenses at both Skyhook and corporate. The decrease in 2016 was due to headcount reductions and other cost containment measures taken by Skyhook in 2016 and 2015, upon combining the operations of its businesses, coupled with lower legal expenses, and lower corporate selling general and administrative expenses during the year. Legal expenses decreased \$3.2 million and \$3.8 million in the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior years. The decrease in legal expenses during 2017 is due to a decrease in activity associated with license sales, as well as a significant decrease in legal expenses related to the Time Warner Cable Merger in 2016. The decrease in legal expenses during 2016 is a result of the settlement of Skyhook's patent infringement lawsuit during the first quarter of 2015, lower costs to maintain the patent portfolio and the resolution of various other legal matters, offset by legal costs associated with the license agreement entered into by Skyhook and corporate legal expenses related to the Time Warner Cable Merger. Additionally, lobbying costs of \$431 thousand related to indoor accuracy regulations were incurred during the year ended December 31, 2015. Lobbying costs decreased significantly after the first quarter of 2015 based upon rulemaking timelines, and no lobbying costs were incurred during 2016 or 2017.

*Stock-based compensation*

Stock-based compensation expense decreased \$421 thousand and \$667 thousand for the years ended December 31, 2017 and 2016, respectively, as compared to the same periods in the prior year. The decrease in 2017 is due to a decrease in the fair value of outstanding awards under Skyhook's long-term incentive plans as of December 31, 2017 as compared to December 31, 2016, coupled with adjustments made to certain outstanding awards in 2016 that increased their fair value, partially offset by additional grants of awards and the ongoing vesting of outstanding grants. The decrease in 2016 is due to a decrease in the number of vested outstanding awards as a result of headcount reductions coupled with a reduction in the fair value of the awards. This decrease was partially offset by an increase in stock-based compensation due to the vesting of options to purchase shares of Liberty Broadband Series C common stock granted during 2014, 2015 and 2016.

*Depreciation and amortization*

Depreciation and amortization decreased \$235 thousand and \$2.1 million for the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior year periods. The decrease in depreciation and amortization expense during 2017 and 2016 is due to a decrease in the general depreciable asset base as assets have become fully depreciated coupled with the write-off of fixed assets during the first quarter of 2015.

*Net gain on legal settlement*

On September 10, 2010, Skyhook filed a patent infringement lawsuit in the U.S. District Court for the District of Massachusetts against Google. In March 2013, Skyhook amended its lawsuit to add additional claims. The case had been scheduled to be tried before a jury commencing March 9, 2015, with Skyhook alleging at that time that Google infringed on eight Skyhook patents involving location technology and seeking an injunction and/or award of damages in an amount to be determined at trial. However, on March 5, 2015, the parties advised the District Court that the case had been settled and thereby dismissed the action without costs and without prejudice to the right, upon good cause shown within 45 days, to reopen the action if settlement was not consummated. On March 27, 2015, the parties consummated a final settlement agreement and on April 24, 2015, Google paid Skyhook settlement consideration of \$90 million. In return for payment of the settlement consideration, Google received dismissal of the action with prejudice, a license to the existing Skyhook patents and patent applications (and their continuations, divisionals, continuations-in-part), a three-year covenant not to sue (subject to limited exceptions) and a mutual release of claims. As a result of the settlement, Skyhook realized a net gain, after legal fees, of approximately \$60.5 million during the first quarter of 2015.

*Impairment of intangible assets*

During September 2015, Skyhook's largest customer (AT&T) gave notice that it did not intend to renew its contract related to Skyhook's legacy U-TDOA Service, which expired on December 31, 2015. The Company believed that the receipt of

the notification represented a significant change in circumstances since we last performed our annual goodwill impairment test. Accordingly, we performed a goodwill impairment test upon receipt of the notification. At that time, the estimated fair value of the reporting unit was primarily determined based on the cash and cash equivalents held by the reporting unit, and when compared to its carrying value, it was concluded that a goodwill impairment did not exist. The carrying value of Skyhook included a \$35.5 million deferred revenue liability related to the contract with AT&T. Upon expiration of the contract on December 31, 2015, the deferred revenue was recognized, as all contractual obligations were satisfied at that time. The recognition of this deferred revenue liability increased the reporting unit carrying value. As a result, the Company determined the fair value of Skyhook. As the reporting unit's carrying value now exceeded the fair value, we performed a Step 2 impairment test and recorded a \$20.7 million impairment loss related to Skyhook's goodwill during December 2015.

*Operating Income (Loss)*

Operating income (loss) declined \$4.3 million and \$80.1 million for the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior year periods, due to the items discussed above.

*Adjusted OIBDA*

We define Adjusted OIBDA as revenue less operating expenses and selling, general and administrative expenses (excluding stock compensation). Our chief operating decision maker and management team use this measure of performance in conjunction with other measures to evaluate our businesses and make decisions about allocating resources among our businesses. We believe this is an important indicator of the operational strength and performance of our businesses, including each business's ability to service debt and fund capital expenditures. In addition, this measure allows us to view operating results, perform analytical comparisons and benchmarking between businesses and identify strategies to improve performance. This measure of performance excludes such costs as depreciation and amortization, stock-based compensation, separately reported litigation settlements and restructuring and impairment charges that are included in the measurement of operating income pursuant to Generally Accepted Accounting Principles in the United States ("GAAP"). Accordingly, Adjusted OIBDA should be considered in addition to, but not as a substitute for, operating income, net income, cash flow provided by operating activities and other measures of financial performance prepared in accordance with GAAP. See note 12 to the accompanying consolidated financial statements for a reconciliation of Adjusted OIBDA to Operating income and Earnings (loss) from continuing operations before income taxes.

Adjusted OIBDA declined \$5.0 million and \$43.1 million in the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior year periods. Adjusted OIBDA for the years ended December 31, 2017, 2016 and 2015 included \$6.9 million, \$8.7 million, and \$11.9 million of corporate selling, general and administrative expenses, respectively. The decrease in Adjusted OIBDA for the year ended December 31, 2017 is due to the \$17.5 million decrease in revenue, discussed above, partially offset by a \$3.2 million decline in legal expenses and a \$9.3 million improvement in operating, research and development, and selling, general and administrative expenses during the year (discussed above). The decrease in Adjusted OIBDA for the year ended December 31, 2016 is due to the \$60.6 million decrease in revenue, discussed above, partially offset by a \$3.8 million decline in legal expenses during the year (discussed above) and a \$13.7 million improvement in operating, research and development, and selling, general and administrative expenses during the year (discussed above).

Other Income and Expense:

Components of Other Income (Expense) are presented in the table below.

	Years ended December 31,		
	2017	2016	2015
amounts in thousands			
Other income (expense):			
Interest expense	\$ (19,570)	(14,956)	(7,424)
Dividend and interest income	1,449	5,020	3,797
Share of earnings (losses) of affiliate	2,508,991	641,544	(120,962)
Gain (loss) on dilution of investment in affiliate	(17,872)	770,766	(7,198)
Realized and unrealized gains (losses) on financial instruments, net	3,098	94,122	2,619
Other, net	(18)	336	158
	<u>\$ 2,476,078</u>	<u>1,496,832</u>	<u>(129,010)</u>

*Interest expense*

Interest expense increased \$4.6 million and \$7.5 million during the years ended December 31, 2017 and 2016, respectively. The increase in 2017 was primarily due to an increase in LIBOR during 2017 as compared to the prior year. The increase in 2016 is attributable to additional amounts outstanding on the two margin loan agreements entered into by our wholly owned subsidiary (the “2016 Margin Loan Agreements”) during 2016 as compared to the prior year. See note 6 in the accompanying consolidated financial statements for additional information on our margin loan agreements.

*Dividend and interest income*

Dividend and interest income decreased \$3.6 million and increased \$1.2 million for each of the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior year periods. The decrease in 2017 was the result of a loss of dividend income previously received from Time Warner Cable, following the Time Warner Cable Merger during May 2016. The increase in 2016 was the result of increased interest income due to a higher cash and short-term marketable securities balance during the first and second quarters of 2016, with an increase in interest rates during the entire year in 2016, partially offset by a loss of dividend income due to the Time Warner Cable Merger during May 2016.

*Share of earnings (losses) of affiliates*

Share of earnings (losses) from affiliates improved \$1,867.4 million and \$762.5 million during the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior year periods. Share of earnings (losses) from affiliates is attributable to the Company’s ownership interest in Charter. In May 2013, the Company acquired its initial investment in Legacy Charter. Upon acquisition, the Company allocated the excess basis, between the book basis of Legacy Charter and fair value of the shares acquired, and ascribed remaining useful lives of 7 years and 13 years to property and equipment and customer relationships, respectively, and indefinite lives to franchise fees, trademarks and goodwill. Outstanding debt is amortized over the contractual period using the effective interest rate method. Amortization related to debt and intangible assets with identifiable useful lives is included in the Company’s share of earnings (losses) from affiliates line item in the accompanying consolidated statements of operations and aggregated \$277 million, \$42 million, and \$52 million, net of related taxes, for the years ended December 31, 2017, 2016 and 2015, respectively.

On May 18, 2016, the Time Warner Cable Merger and Bright House Transaction were completed. The Time Warner Cable Merger resulted in Legacy Charter and Time Warner Cable becoming wholly owned subsidiaries of Charter, which was a wholly owned subsidiary of Legacy Charter at the time. As a result of the Time Warner Cable Merger and Bright House Transaction, Liberty Broadband exchanged its shares of Time Warner Cable for shares of Charter and purchased additional shares of Charter. As a result, and pursuant to proxy agreements entered into with Liberty Interactive and A/N, Liberty Broadband controls 25.01% of the aggregate voting power of Charter following the completion of the Transactions. The increase in share of earnings from affiliates during 2016 is attributable to the earnings of Charter subsequent to the Time Warner Cable Merger and Bright House Transaction. See note 5 in the accompanying notes to the consolidated financial statements for additional discussion of the Company’s investment in Charter.

The following is a discussion of Charter’s stand alone results of operations. In order to provide a better understanding of Charter’s operations, we have included a summarized presentation of Charter’s results from operations. Charter is a separate publicly traded company and additional information about Charter can be obtained through its website and public filings, which are not incorporated by reference. The amounts included in the table below, derived from Charter’s public filings, represent Charter’s results for each of the years ended December 31, 2017, 2016 and 2015, as well as a year over year comparison on a pro forma basis as if the Transactions were completed on January 1, 2015.

	Years ended December 31,			Pro forma (2) Years ended December 31,	
	2017	2016	2015	2016	2015
	amounts in millions				
Revenue	\$ 41,581	29,003	9,754	40,023	37,394
Operating expenses, excluding stock-based compensation	(26,626)	(19,396)	(6,437)		
Adjusted OIBDA	14,955	9,607	3,317	13,736	12,917
Depreciation and amortization	(10,588)	(6,907)	(2,125)		
Stock-based compensation	(261)	(244)	(78)		
Operating income (1)	4,106	2,456	1,114	3,886	3,323
Other expenses, net	(3,078)	(1,636)	(1,445)		
Net income (loss) before income taxes	1,028	820	(331)		
Income tax benefit (expense)	9,087	2,925	60		
Net income (loss)	\$ 10,115	3,745	(271)		

- (1) Income from operations for the year ended December 31, 2016 has been reduced from what was previously reported by \$899 million to reflect the adoption of pension accounting guidance, and on a pro forma basis, income from operations for the years ended December 31, 2016 and 2015 have been reduced from what was previously reported by \$915 million and \$73 million, respectively.
- (2) Pro forma information was determined assuming the transactions occurred as of January 1, 2015.

Charter’s revenue increased \$12.6 billion and \$19.2 billion during the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior years. Revenue growth primarily reflects the Transactions and increases in the number of residential Internet and commercial business customers, price adjustments as well as growth in expanded basic video penetration offset by a decrease in limited basic video customers. The Transactions increased revenue for the years ended December 31, 2017 and 2016 as compared to the corresponding prior years by approximately \$11.4 billion and \$18.6 billion, respectively. Actual revenue increased \$1.6 billion for the year ended December 31, 2017 as compared to the pro forma revenue for the year ended December 31, 2016, and pro forma revenue increased \$2.6 billion for the year ended December 31, 2016 as compared to 2015.

The increase in revenue during 2017 and 2016 was partially offset by the net impact of an increase in operating expenses, excluding stock-based compensation, of \$7.2 billion and \$13.0 billion respectively. The increase in operating expenses in 2017 and 2016 was primarily due to the Transactions. Operating costs also increased due to an increase in programming costs as a result of contractual rate adjustments, including renewals and increases in amounts paid for retransmission consents, higher expanded basic video package customers and higher pay-per-view events, offset by synergies as a result of the Transactions. Charter expects programming expenses to continue to increase in future periods due to a variety of factors, including annual increases imposed by programmers with additional selling power as a result of media consolidation, increased demands by owners of broadcast stations for payment for retransmission consent or linking carriage of other services to retransmission consent, and additional programming, particularly new services. Charter has been unable to fully pass these increases on to its customers nor do they expect to be able to do so in the future without a potential loss of customers.

Charter’s Adjusted OIBDA in 2017 and 2016 increased as a result of the above discussion. Actual December 31, 2017 Adjusted OIBDA increased by \$1.2 billion as compared to the pro forma Adjusted OIBDA for the year ended December 31, 2016. Pro forma Adjusted OIBDA increased by \$819 million for the year ended December 31, 2016 as compared to 2015. Increases in both of these periods primarily were the result of an increase in residential and commercial revenue offset by increases in programming costs and other expenses.



Depreciation and amortization expense increased \$3.7 billion and \$4.8 billion during the years ended December 31, 2017 and 2016, respectively. The increase in depreciation and amortization expense in 2017 and 2016 is the result of additional depreciation and amortization related to the Transactions, inclusive of the incremental amounts as a result of the higher fair values recorded in acquisition accounting and, in 2017, higher capital expenditures.

Stock compensation expense increased \$17 million and \$166 million in the years ended December 31, 2017 and 2016, respectively. Stock compensation expense increased less significantly in 2017 as a result of lower headcount as a result of integration synergies. Stock compensation expense increased in 2016 due to increases in headcount and the value of equity issued.

Other expenses increased \$1.4 billion and \$191 million in the years ended December 31, 2017 and 2016, respectively, compared to the same periods in the prior year. In 2017, net interest expense increased by \$591 million, as compared to 2016, due to an increase in weighted average debt outstanding of \$11.7 billion, primarily as the result of the issuance of notes in 2017 for general corporate purposes including stock buybacks. Interest expense associated with debt assumed from Legacy TWC also increased interest expense during the year ended December 31, 2017. In 2016, net interest expense increased by \$1.2 billion, as compared to 2015, primarily due to an increase of \$463 million of interest expense associated with the debt incurred to fund the Transactions and \$604 million associated with debt assumed from Legacy TWC. Additionally, other pension benefits decreased by \$898 million in the year ended December 31, 2017 compared to 2016 and increased \$899 million during 2016 compared to 2015, primarily due to the pension curtailment gain of \$675 million and rereasurement gain of \$195 million recognized in 2016 as opposed to rereasurement losses of \$55 million recognized in 2017.

Income tax benefit (expense) increased \$6.2 billion and \$2.9 billion during the years ended December 31, 2017 and 2016, respectively, compared to the same periods in the prior year. The income tax benefit for the year ended December 31, 2017 of \$9.1 billion was primarily due to the impact of the 2017 tax reform, which was enacted on December 22, 2017.

Income tax benefit for the year ended December 31, 2016 was the result of a reduction of substantially all of Legacy Charter's preexisting valuation allowance associated with its deferred tax assets of approximately \$3.3 billion as certain of the deferred tax liabilities that were assumed in connection with the closing of the Time Warner Cable Merger will reverse and provide a source of future taxable income.

*Gain (loss) on dilution of investment in equity affiliate*

The loss during 2017 is primarily due to the Company's increased basis in Charter as a result of the Transactions during 2016, along with the issuance of Charter common stock from the exercise of stock options and warrants held by employees and other third parties, at prices below Liberty Broadband's book basis per share. As Liberty Broadband's ownership in Charter changes due to exercises of Charter warrants and stock options, a loss is recorded with the effective sale of common stock, because the exercise price of Charter warrants or stock options is typically lower than the book value of the Charter shares held by Liberty Broadband.

The gain during 2016 is primarily due to the Time Warner Cable Merger. Even after considering the exchange of Time Warner Cable shares held by Liberty Broadband to shares of Charter, Liberty Broadband's interest in Charter was diluted as a result of the conversion of outstanding Time Warner Cable shares held by third parties into shares of Charter. However, Liberty Broadband recognized a gain during the period as Liberty Broadband's investment basis in Legacy Charter was at a price per share below the new equity issued in the Time Warner Cable Merger. This gain was slightly offset by losses due to the issuance of Charter common stock from the exercise of warrants and stock options, held by outside investors (employees and other third parties), at prices below Liberty Broadband's book basis per share during the year.

*Realized and unrealized gains (losses) on financial instruments, net*

Realized and unrealized gains on financial instruments, net decreased \$91.0 million and increased \$91.5 million for each of the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior year periods. The realized gains during the year ended December 31, 2017 were related to zero-strike call options (see note 4 in the accompanying consolidated financial statements for additional discussion). Realized and unrealized gains on financial instruments, net during the year ended December 31, 2016 were attributable to changes in the fair value of our former investment in Time Warner Cable and corresponding outstanding written call options and collar agreement. Historically, the change in fair value of our investment in Time Warner Cable was directly correlated to changes in the underlying Time Warner Cable stock price. The change in fair

value of our derivative instruments related to our former investment in Time Warner Cable was typically inversely correlated to changes in the underlying Time Warner Cable stock price. The net realized gain of \$94.1 million during the year ended December 31, 2016, was attributable to gains in the fair value of our investment in Time Warner Cable prior to the Time Warner Cable Merger, due to increases in the Time Warner Cable stock price during the period.

*Other, net*

Other income (expense), net decreased \$354 thousand and increased \$178 thousand for each of the years ended December 31, 2017 and 2016, respectively, as compared to the corresponding prior year periods. Other, net during the year ended December 31, 2017 is primarily attributable to a gain on the sale of certain fixed assets at Skyhook during the year, partially offset by tax penalties. Other, net during the year ended December 31, 2016 was attributable to a gain on the sale of a certain Skyhook cost investment.

*Income taxes*

Our effective tax rate for the years ended December 31, 2017, 2016 and 2015 was 17%, 38% and 28%, respectively. During 2017, our effective tax rate was lower than the federal tax rate of 35% primarily due to the effect of changes in the U.S. federal corporate tax rate from 35% to 21% on deferred taxes partially offset by the effect of state income taxes. During 2016, our effective tax rate was higher than the federal tax rate of 35% primarily due to the effect of state income taxes. During 2015, our effective tax rate was lower than the federal tax rate of 35% primarily due to the non-deductible impairment of goodwill related to Skyhook’s legacy U-TDOA Service.

In connection with our initial analysis of the impact of the Tax Cuts and Jobs Act (the “Tax Act”), as discussed in note 7 in the accompanying consolidated financial statements, the Company has recorded a discrete net tax benefit in the period ending December 31, 2017. This net benefit primarily consists of a net benefit for the corporate rate reduction.

*Net earnings (losses)*

We had net earnings of \$2,033.7 million and \$917.3 million, and net losses of \$50.2 million for the years ended December 31, 2017, 2016 and 2015, respectively. The change in net earnings (losses) was the result of the above-described fluctuations in our revenue, expenses and other gains and losses.

**Liquidity and Capital Resources**

As of December 31, 2017, substantially all of our cash and cash equivalents are invested in U.S. Treasury securities, other government securities or government guaranteed funds, AAA rated money market funds and other highly rated financial and corporate debt instruments.

The following are potential sources of liquidity: available cash balances, cash generated by the operating activities of our privately-owned subsidiaries (to the extent such cash exceeds the working capital needs of the subsidiaries and is not otherwise restricted), proceeds from asset sales, monetization of our other investments, outstanding debt facilities including \$500 million available to be drawn under our 2017 Margin Loan Agreement until August 31, 2018, debt and equity issuances, and dividend and interest receipts.

As of December 31, 2017, Liberty Broadband had a cash balance of \$81.3 million.

	<b>Years ended December 31,</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
	<b>amounts in thousands</b>		
<b>Cash flow information</b>			
Net cash provided (used) by operating activities	\$ (30,031)	(11,898)	35,289
Net cash provided (used) by investing activities	\$ (56)	(4,990,800)	(2,479)
Net cash provided (used) by financing activities	\$ (94,384)	4,553,347	577,460

The increase in cash used by operating activities in 2017 was primarily driven by the increase in operating loss and interest payments, as well as the timing of differences in cash receipts and payments.

The most significant factor contributing to the cash generated from operations during 2015 was the receipt by Skyhook of legal settlement proceeds, partially offset by the payment of legal fees. The most significant factor contributing to the cash used by operations during 2016 was a decline in revenue related to the loss of Skyhook's largest legacy U-TDOA Service customer at the end of 2015. Due to the loss of this customer, we expect declines in cash flows from operations to continue in future periods.

During the year ended December 31, 2017, net cash flows from financing activities were primarily related to the net debt repayments of \$103 million and settlement of zero-strike call options.

As discussed in note 5 of the accompanying consolidated financial statements, in support of the Time Warner Cable Merger, the Company issued \$4.4 billion in additional shares of Liberty Broadband Series C common stock in order to purchase \$4.3 billion in shares of Charter Class A common stock. Furthermore, as also discussed in note 5 of the accompanying consolidated financial statements, Liberty Broadband used cash on hand and proceeds from a new margin loan to purchase an additional \$700 million of Charter Class A common stock in connection with Charter's acquisition of Bright House from A/N. Additionally, the Company had incremental borrowings of \$200 million during the year ended December 31, 2016.

The projected use of our cash will be primarily to fund any operational needs of our subsidiary, to service debt, to fund potential investment opportunities, and refinance Liberty Broadband's margin loan, under its 2017 Margin Loan Agreement, that come due in 2019. We expect corporate cash to cover these expenses for the foreseeable future.

***Off-Balance Sheet Arrangements and Aggregate Contractual Obligations***

Information about the amount and timing of required payments, both accrued and off-balance sheet, under our contractual obligations, without uncertain tax positions as it is indeterminable when payments will be made, is summarized below.

	Payments due by period				
	Total	Less than 1 year	2 - 3 years	4 - 5 years	After 5 years
amounts in thousands					
<i>Consolidated contractual obligations</i>					
Long-term debt	\$ 500,000	—	500,000	—	—
Interest payments (1)	\$ 35,872	23,458	12,414	—	—
Other	\$ 2,042	987	1,044	11	—
Total	\$ 537,914	24,445	513,458	11	—

(1) Amounts (i) are based on our understanding of debt at December 31, 2017, (ii) assume the interest rates on our variable debt remain constant at the December 31, 2017 rates and (iii) assume that our existing debt is repaid at maturity.

***Critical Accounting Estimates and Policies***

The preparation of our financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Listed below are the accounting estimates and accounting policies that we believe are critical to our financial statements due to the degree of uncertainty regarding the estimates or assumptions involved and the magnitude of the asset, liability, revenue or expense being reported. All of these accounting estimates and assumptions, as well as the resulting impact to our financial statements, have been discussed with our audit committee.

***Application of the Equity Method of Accounting for Investments in Affiliates.*** For those investments in affiliates in which the Company has the ability to exercise significant influence, the equity method of accounting is used. Under this method, the investment, originally recorded at cost, is adjusted to recognize the Company's share of net earnings or losses of the affiliate as they occur rather than as dividends or other distributions are received. Losses are limited to the extent of the Company's investment in, advances to and commitments for the investee. The Company determines the difference between the purchase

price of the investee and the underlying equity which results in an excess basis in the investment. This excess basis is allocated to the underlying assets and liabilities of the Company's investee through a purchase accounting exercise and is allocated within memo accounts used for equity accounting purposes. Depending on the applicable underlying assets, these amounts are either amortized over the applicable useful lives or determined to be indefinite lived.

Changes in the Company's proportionate share of the underlying equity of an equity method investee, which result from the issuance of additional equity securities by such equity investee, to investors other than the Company, are recognized in the statement of operations through the gain (loss) on dilution of investment in affiliate line item. We periodically evaluate our equity method investment to determine if decreases in fair value below our cost basis are other than temporary. If a decline in fair value is determined to be other than temporary, we are required to reflect such decline in our consolidated statement of operations. Other than temporary declines in fair value of our equity method investment would be included in share of earnings (losses) of affiliates in our consolidated statement of operations.

The primary factors we consider in our determination of whether declines in fair value are other than temporary are the length of time that the fair value of the investment is below our carrying value; the severity of the decline; and the financial condition, operating performance and near term prospects of the investee. In addition, we consider the reason for the decline in fair value, be it general market conditions, industry specific or investee specific; analysts' ratings and estimates of 12 month share price targets for the investee; changes in stock price or valuation subsequent to the balance sheet date; and our intent and ability to hold the investment for a period of time sufficient to allow for a recovery in fair value. Fair value of our publicly traded cost and equity investments is based on the market prices of the investments at the balance sheet date. Impairments are calculated as the difference between our carrying value and our estimate of fair value. As our assessment of the fair value of our investments and any resulting impairment losses and the timing of when to recognize such charges requires a high degree of judgment and includes significant estimates and assumptions, actual results could differ materially from our estimates and assumptions.

Our evaluation of the fair value of our investments and any resulting impairment charges are made as of the most recent balance sheet date. Changes in fair value subsequent to the balance sheet date due to the factors described above are possible. Subsequent decreases in fair value will be recognized in our consolidated statement of operations in the period in which they occur to the extent such decreases are deemed to be other than temporary. Subsequent increases in fair value will be recognized in our consolidated statement of operations only upon our ultimate disposition of the investment.

**Income Taxes.** We are required to estimate the amount of tax payable or refundable for the current year and the deferred income tax liabilities and assets for the future tax consequences of events that have been reflected in our financial statements or tax returns for each taxing jurisdiction in which we operate. This process requires our management to make judgments regarding the timing and probability of the ultimate tax impact of the various agreements and transactions that we enter into. Based on these judgments we may record tax reserves or adjustments to valuation allowances on deferred tax assets to reflect the expected realizability of future tax benefits. Actual income taxes could vary from these estimates due to future changes in income tax law, significant changes in the jurisdictions in which we operate, our inability to generate sufficient future taxable income or unpredicted results from the final determination of each year's liability by taxing authorities. These changes could have a significant impact on our financial position.

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

We are exposed to market risk in the normal course of business due to our ongoing investing and financial activities. Market risk refers to the risk of loss arising from adverse changes in stock prices and interest rates. The risk of loss can be assessed from the perspective of adverse changes in fair values, cash flows and future earnings. We have established policies, procedures and internal processes governing our management of market risks and the use of financial instruments to manage our exposure to such risks.

We are exposed to changes in interest rates primarily as a result of our borrowing and investment activities, which could include investments in fixed and floating rate debt instruments and borrowings used to maintain liquidity and to fund business operations. The nature and amount of our long-term and short-term debt are expected to vary as a result of future requirements, market conditions and other factors. We manage our exposure to interest rates by maintaining what we believe is an appropriate mix of fixed and variable rate debt. We believe this best protects us from interest rate risk. In the future, we could achieve this mix by (i) issuing fixed rate debt that we believe has a low stated interest rate and significant term to maturity, (ii) issuing variable

rate debt with appropriate maturities and interest rates and (iii) entering into interest rate swap arrangements when we deem appropriate. As of December 31, 2017, our debt is comprised of the following amounts:

Variable rate debt		Fixed rate debt	
Principal amount	Weighted avg interest rate	Principal amount	Weighted avg interest rate
dollar amounts in millions			
\$ 500	3.2%	\$ —	NA

Our stock in Charter (our equity method affiliate) is publicly traded and not reflected at fair value in our balance sheet. Our investment in Charter is also subject to market risk that is not directly reflected in our financial statements.

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

The consolidated financial statements of Liberty Broadband Corporation are filed under this Item, beginning on Page II-19. The financial statement schedules required by Regulation S-X are filed under Item 15 of this Annual Report on Form 10-K.

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

None.

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

In accordance with Exchange Act Rules 13a-15 and 15d-15, the Company carried out an evaluation, under the supervision and with the participation of management, including its chief executive officer and its principal accounting and financial officer (the "Executives"), of the effectiveness of its disclosure controls and procedures as of the end of the period covered by this report. Based on that evaluation, the Executives concluded that the Company's disclosure controls and procedures were effective as of December 31, 2017 to provide reasonable assurance that information required to be disclosed in its reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms.

See page II-16 for *Management's Report on Internal Control Over Financial Reporting*.

See page II-17 for *Report of Independent Registered Public Accounting Firm* for their attestation regarding our internal control over financial reporting.

There has been no change in the Company's internal control over financial reporting that occurred during the three months ended December 31, 2017 that has materially affected, or is reasonably likely to materially affect, its internal control over financial reporting.

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

None.

## MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Liberty Broadband Corporation's (the "Company") management is responsible for establishing and maintaining adequate internal control over the Company's financial reporting, as such term is defined in Rule 13a-15(f) of the Securities Exchange Act of 1934, as amended. The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Because of 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 and procedures may deteriorate.

The Company's management assessed the effectiveness of internal control over financial reporting as of December 31, 2017, using the criteria in *Internal Control-Integrated Framework (2013)*, issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation the Company's management believes that, as of December 31, 2017, its internal control over financial reporting is effective.

The Company's independent registered public accounting firm that audited the consolidated financial statements and related disclosures in the Annual Report on Form 10-K has issued an audit report on the effectiveness of the Company's internal control over financial reporting. This report appears on page II-17 of this Annual Report on Form 10-K.

**Report of Independent Registered Public Accounting Firm**

To the Stockholders and Board of Directors  
Liberty Broadband Corporation:

*Opinion on Internal Control Over Financial Reporting*

We have audited Liberty Broadband Corporation and subsidiaries' (the "Company") internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive earnings (loss), cash flows, and equity for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the consolidated financial statements), and our report dated February 9, 2018 expressed an unqualified opinion on those consolidated financial statements.

*Basis for Opinion*

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

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

*Definition and Limitations of Internal Control Over Financial Reporting*

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

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

Denver, Colorado  
February 9, 2018

/s/ KPMG LLP

**Report of Independent Registered Public Accounting Firm**

To the Stockholders and Board of Directors  
Liberty Broadband Corporation:

*Opinion on the Consolidated Financial Statements*

We have audited the accompanying consolidated balance sheets of Liberty Broadband Corporation and subsidiaries (the “Company”) as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive earnings (loss), cash flows, and equity for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2017, 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 9, 2018 expressed an unqualified opinion on the effectiveness of the Company’s internal control over financial reporting.

*Basis for Opinion*

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

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

/s/ KPMG LLP

We have served as the Company’s auditor since 2014.

Denver, Colorado  
February 9, 2018



**LIBERTY BROADBAND CORPORATION**  
**Consolidated Balance Sheets**  
**December 31, 2017 and 2016**

	2017	2016
	amounts in thousands	
<i>Assets</i>		
Current assets:		
Cash and cash equivalents	\$ 81,257	205,728
Derivative instruments	—	49,019
Other current assets	2,797	3,672
Total current assets	84,054	258,419
Investment in Charter, accounted for using the equity method (note 5)	11,835,613	9,315,253
Other tangible and intangible assets, net	12,073	15,803
Other assets	49	1,485
Total assets	\$ 11,931,789	9,590,960
<i>Liabilities and Equity</i>		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 5,381	7,931
Current portion of debt (note 6)	—	400,000
Deferred revenue and other current liabilities	5,168	4,185
Total current liabilities	10,549	412,116
Debt (note 6)	497,370	198,512
Deferred income tax liabilities (note 7)	932,593	504,644
Other liabilities	4,376	2,596
Total liabilities	1,444,888	1,117,868
<i>Equity</i>		
Preferred stock, \$.01 par value. Authorized 50,000,000 shares; no shares issued	—	—
Series A common stock, \$.01 par value. Authorized 500,000,000 shares; issued and outstanding 26,301,755 and 26,251,533 at December 31, 2017 and 2016, respectively	262	262
Series B common stock, \$.01 par value. Authorized 18,750,000 shares; issued and outstanding 2,455,179 and 2,467,509 at December 31, 2017 and 2016, respectively	25	25
Series C common stock, \$.01 par value. Authorized 500,000,000 shares; issued and outstanding 152,563,229 and 153,019,547 at December 31, 2017 and 2016, respectively	1,526	1,530
Additional paid-in capital	7,907,900	7,945,883
Accumulated other comprehensive earnings, net of taxes	8,424	7,656
Retained earnings (accumulated deficit)	2,568,764	517,736
Total equity	10,486,901	8,473,092
Commitments and contingencies (note 11)		
Total liabilities and equity	\$ 11,931,789	9,590,960

See accompanying notes to consolidated financial statements.

**LIBERTY BROADBAND CORPORATION**  
**Consolidated Statements of Operations**  
**Years Ended December 31, 2017, 2016 and 2015**

	2017	2016	2015
	amounts in thousands, except per share amounts		
Revenue:			
Software sales	\$ 12,320	28,597	10,364
Service	772	1,858	76,139
Other	—	131	4,679
Total revenue	13,092	30,586	91,182
Operating costs and expenses			
Operating, including stock-based compensation (note 9)	2,582	2,798	6,096
Selling, general and administrative, including stock-based compensation (note 9)	24,065	34,703	42,792
Research and development, including stock-based compensation (note 9)	8,153	10,240	17,032
Gain on legal settlement	—	—	(60,450)
Impairment of intangible assets	—	—	20,669
Depreciation and amortization	3,770	4,005	6,088
	38,570	51,746	32,227
Operating income (loss)	(25,478)	(21,160)	58,955
Other income (expense):			
Interest expense	(19,570)	(14,956)	(7,424)
Dividend and interest income	1,449	5,020	3,797
Share of earnings (losses) of affiliate (note 5)	2,508,991	641,544	(120,962)
Gain (loss) on dilution of investment in affiliate (note 5)	(17,872)	770,766	(7,198)
Realized and unrealized gains (losses) on financial instruments, net (note 4)	3,098	94,122	2,619
Other, net	(18)	336	158
Earnings (loss) from continuing operations before income taxes	2,450,600	1,475,672	(70,055)
Income tax benefit (expense)	(416,933)	(558,369)	19,868
Net earnings (loss) attributable to Liberty Broadband shareholders	\$ 2,033,667	917,303	(50,187)
Basic earnings (loss) from continuing operations attributable to Series A, Series B and Series C Liberty Broadband shareholders per common share (note 3)	\$ 11.19	6.03	(0.49)
Diluted net earnings (loss) attributable to Series A, Series B and Series C Liberty Broadband shareholders per common share (note 3)	\$ 11.10	6.00	(0.49)

See accompanying notes to consolidated financial statements.

**LIBERTY BROADBAND CORPORATION**  
**Consolidated Statements of Comprehensive Earnings (Loss)**  
**Years ended December 31, 2017, 2016 and 2015**

	<u>2017</u>	<u>2016</u>	<u>2015</u>
	<u>amounts in thousands</u>		
Net earnings (loss)	\$ 2,033,667	917,303	(50,187)
Other comprehensive earnings (loss), net of taxes:			
Unrealized holding gains (losses) arising during the period	—	(221)	(287)
Share of other comprehensive earnings (loss) of equity affiliate	768	811	1,274
Other	—	(1,839)	—
Other comprehensive earnings (loss), net of taxes	<u>768</u>	<u>(1,249)</u>	<u>987</u>
Comprehensive earnings (loss) attributable to Liberty Broadband shareholders	<u>\$ 2,034,435</u>	<u>916,054</u>	<u>(49,200)</u>

See accompanying notes to consolidated financial statements.

**LIBERTY BROADBAND CORPORATION**  
**Consolidated Statements of Cash Flows**  
**Years ended December 31, 2017, 2016 and 2015**

	2017	2016	2015
	amounts in thousands		
<b>Cash flows from operating activities:</b>			
Net earnings (loss)	\$ 2,033,667	917,303	(50,187)
Adjustments to reconcile net earnings (loss) to net cash provided by operating activities:			
Depreciation and amortization	3,770	4,005	6,088
Stock-based compensation	5,292	5,713	6,380
Impairment of intangible assets	—	—	20,669
Cash payments for stock-based compensation	(525)	(591)	(1,268)
Share of (earnings) losses of affiliate, net	(2,508,991)	(641,544)	120,962
(Gain) loss on dilution of investment in affiliate	17,872	(770,766)	7,198
Realized and unrealized (gains) losses on financial instruments, net	(3,098)	(94,122)	(2,619)
Deferred income tax expense (benefit)	416,838	560,778	(24,964)
Other, net	2,030	1,033	(1,440)
Changes in operating assets and liabilities:			
Current and other assets	2,310	9,161	(1,238)
Payables and other liabilities	804	(2,868)	(44,292)
Net cash provided by operating activities	<u>(30,031)</u>	<u>(11,898)</u>	<u>35,289</u>
<b>Cash flows from investing activities:</b>			
Capital expended for property and equipment	(70)	(267)	(731)
Investments in equity investees	—	(5,000,000)	—
Purchases of short term investments and other marketable securities	—	(155,444)	(18,032)
Sales of short term investments and other marketable securities	—	164,458	18,019
Other investing activities, net	14	453	(1,735)
Net cash used in investing activities	<u>(56)</u>	<u>(4,990,800)</u>	<u>(2,479)</u>
<b>Cash flows from financing activities:</b>			
Cash received from rights offering	—	—	697,309
Borrowings of debt	500,000	200,000	67,995
Repayments of debt	(600,000)	—	(40,000)
Cash received from issuance of Series C Liberty Broadband common stock	—	4,400,000	—
Proceeds (payments) from issuances of financial instruments	(149,368)	(47,888)	30,158
Proceeds (payments) from settlements of financial instruments	155,683	—	(182,192)
Other financing activities, net	(699)	1,235	4,190
Net cash provided by (used in) financing activities	<u>(94,384)</u>	<u>4,553,347</u>	<u>577,460</u>
Net increase (decrease) in cash	(124,471)	(449,351)	610,270
Cash and cash equivalents, beginning of year	205,728	655,079	44,809
Cash and cash equivalents, end of year	<u>\$ 81,257</u>	<u>205,728</u>	<u>655,079</u>

Supplemental disclosure to the consolidated statements of cash flows:

	Years ended December 31,		
	2017	2016	2015
	amounts in thousands		
Cash paid for interest	\$ 17,496	13,783	7,251
Cash paid (received) for taxes	\$ (1,787)	(9,410)	5,485

See accompanying notes to consolidated financial statements.

**LIBERTY BROADBAND CORPORATION**  
**Consolidated Statement of Equity**  
**Years ended December 31, 2017, 2016 and 2015**

	Preferred Stock	Common stock			Additional paid-in capital	Accumulated other comprehensive earnings	Retained earnings (accumulated deficit)	Total equity
		Series A	Series B	Series C				
amounts in thousands								
Balance at January 1, 2015	\$ —	261	25	572	2,835,373	7,918	(349,380)	2,494,769
Net earnings (loss)	—	—	—	—	—	—	(50,187)	(50,187)
Other comprehensive earnings (loss)	—	—	—	—	—	987	—	987
Stock-based compensation	—	—	—	—	5,200	—	—	5,200
Issuance of common stock upon exercise of stock options	—	1	—	1	138	—	—	140
Excess tax benefits from stock-based compensation	—	—	—	—	1,217	—	—	1,217
Common stock issued pursuant to the rights offering	—	—	—	173	697,136	—	—	697,309
Other	—	—	—	—	(1,216)	—	—	(1,216)
Balance at December 31, 2015	—	262	25	746	3,537,848	8,905	(399,567)	3,148,219
Net earnings (loss)	—	—	—	—	—	—	917,303	917,303
Other comprehensive earnings (loss)	—	—	—	—	—	(1,249)	—	(1,249)
Stock-based compensation	—	—	—	—	5,362	—	—	5,362
Issuance of common stock upon exercise of stock options	—	—	—	1	3,529	—	—	3,530
Issuance of common stock	—	—	—	783	4,399,217	—	—	4,400,000
Other	—	—	—	—	(73)	—	—	(73)
Balance at December 31, 2016	—	262	25	1,530	7,945,883	7,656	517,736	8,473,092
Net earnings (loss)	—	—	—	—	—	—	2,033,667	2,033,667
Other comprehensive earnings (loss)	—	—	—	—	—	768	—	768
Stock-based compensation	—	—	—	—	5,358	—	—	5,358
Issuance of common stock upon exercise of stock options	—	—	—	1	2,456	—	—	2,457
Cumulative effect of accounting change at Charter	—	—	—	—	—	—	17,361	17,361
Non-cash settlement of financial instrument	—	—	—	(5)	(45,797)	—	—	(45,802)
Balance at December 31, 2017	\$ —	262	25	1,526	7,907,900	8,424	2,568,764	10,486,901

See accompanying notes to consolidated financial statements.

## LIBERTY BROADBAND CORPORATION

### Notes to Consolidated Financial Statements

December 31, 2017, 2016 and 2015

#### (1) Basis of Presentation

During May 2014, the board of directors of Liberty Media Corporation and its subsidiaries (“Liberty”) authorized management to pursue a plan to spin-off to its stockholders common stock of a wholly-owned subsidiary, Liberty Broadband Corporation (“Liberty Broadband” or the “Company”), and to distribute subscription rights to acquire shares of Liberty Broadband’s common stock (the “Broadband Spin-Off”). At the time of the Broadband Spin-off, Liberty Broadband was comprised of (i) Liberty’s former interest in Charter Communications, Inc. (“Legacy Charter”), (ii) Liberty’s former wholly-owned subsidiary TruePosition, Inc. (“TruePosition”), (iii) Liberty’s former minority equity investment in Time Warner Cable, Inc. (“Time Warner Cable”), (iv) certain deferred tax liabilities, as well as liabilities related to the Time Warner Cable written call options and (v) initial indebtedness, pursuant to margin loans entered into prior to the completion of the Broadband Spin-Off. These financial statements refer to the combination of the aforementioned subsidiary, investments, and financial instruments, as “Liberty Broadband,” “the Company,” “us,” “we” and “our” in the notes to the consolidated financial statements. The Broadband Spin-Off was accounted for at historical cost due to the pro rata nature of the distribution to holders of Liberty common stock.

In the Broadband Spin-Off, record holders of Liberty Series A, Series B and Series C common stock received one-fourth of a share of the corresponding series of Liberty Broadband common stock for each share of Liberty common stock held by them, with cash paid in lieu of fractional shares. In addition, following the completion of the Broadband Spin-Off, on December 10, 2014, Liberty Broadband stockholders received a subscription right to acquire one share of Series C Liberty Broadband common stock for every five shares of Liberty Broadband common stock. See note 8 for additional information related to the rights offering.

Following the Broadband Spin-Off, Liberty and Liberty Broadband operate as separate, publicly traded companies, and neither has any stock ownership, beneficial or otherwise, in the other. In connection with the Broadband Spin-Off, Liberty (for accounting purposes a related party of the Company) and Liberty Broadband entered into certain agreements in order to govern certain of the ongoing relationships between the two companies after the Broadband Spin-Off and to provide for an orderly transition. These agreements include a reorganization agreement, a services agreement, a facilities sharing agreement and a tax sharing agreement.

The reorganization agreement provides for, among other things, the principal corporate transactions (including the internal restructuring) required to effect the Broadband Spin-Off, certain conditions to the Broadband Spin-Off and provisions governing the relationship between Liberty Broadband and Liberty with respect to and resulting from the Broadband Spin-Off. The tax sharing agreement provides for the allocation and indemnification of tax liabilities and benefits between Liberty and Liberty Broadband and other agreements related to tax matters. Pursuant to the tax sharing agreement, Liberty Broadband has agreed to indemnify Liberty, subject to certain limited exceptions, for losses and taxes resulting from the Broadband Spin-Off to the extent such losses or taxes result primarily from, individually or in the aggregate, the breach of certain restrictive covenants made by Liberty Broadband (applicable to actions or failures to act by Liberty Broadband and its subsidiaries following the completion of the Broadband Spin-Off). Pursuant to the services agreement, Liberty provides Liberty Broadband with general and administrative services including legal, tax, accounting, treasury and investor relations support. Under the facilities sharing agreement, Liberty Broadband shares office space with Liberty and related amenities at Liberty’s corporate headquarters. Liberty Broadband will reimburse Liberty for direct, out-of-pocket expenses incurred by Liberty in providing these services which will be negotiated semi-annually. Under these various agreements, approximately \$3.2 million and \$3.4 million were reimbursed to Liberty for the years ended December 31, 2017 and 2016, respectively.

On May 18, 2016, Time Warner Cable merged with Charter (the “Time Warner Cable Merger”). In connection with the Time Warner Cable Merger, Legacy Charter underwent a corporate reorganization, resulting in CCH I, LLC (“Charter”), a former subsidiary of Charter, becoming the new publicly traded parent company. Also on May 18, 2016, the previously announced acquisition of Bright House Networks, LLC (“Bright House”) from Advance/Newhouse Partnership (“A/N”) by Charter (the “Bright House Transaction”) was completed. In connection with the Time Warner Cable Merger and Bright House Transaction,

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

Liberty Broadband entered into certain agreements with Legacy Charter, Charter (for accounting purposes a related party of the Company), Liberty Interactive Corporation (“Liberty Interactive,” for accounting purposes a related party of the Company) and Time Warner Cable. As a result of the Time Warner Cable Merger and Bright House Transaction (collectively, the “Transactions”), Liberty Broadband exchanged its shares of Time Warner Cable for shares of Charter and purchased additional shares of Charter. As a result, and pursuant to proxy agreements entered into with Liberty Interactive and A/N, Liberty Broadband controls 25.01% of the aggregate voting power of Charter. See note 5 for additional detail regarding these transactions and corresponding agreements.

The accompanying consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States (“GAAP”) and represent a combination of the historical financial information of Skyhook, the Company’s interest in Charter, the Company’s former minority equity investment in Time Warner Cable and certain deferred tax liabilities. All significant intercompany accounts and transactions have been eliminated in the consolidated financial statements.

**(2) Description of Business**

Skyhook Holding, Inc. (formerly known as TruePosition) was originally incorporated on November 24, 1992 to provide technology for locating wireless phones and other mobile devices. TruePosition offered a passive network-based location system based on its patented U-TDOA technology (“U-TDOA Service”) to provide E-9-1-1 services domestically and to enhance services in support of commercial applications and national security law enforcement worldwide. In February 2014, TruePosition acquired 100% of the outstanding common shares of Skyhook Wireless, Inc., for approximately \$57.5 million in cash. Skyhook Wireless, Inc. was an alternative location services provider that offered a positioning system that used device-based measurements, as opposed to TruePosition’s network-based technology.

In 2015, as a result of the loss of one of its major customers – a wireless carrier that accounted for 80% - 90% of TruePosition’s revenue – as well as changes in the regulatory environment, TruePosition ceased making further investment in its U-TDOA Service. Thereafter, in May 2016, TruePosition and Skyhook Wireless, Inc. combined operations in order to focus on the development and sale of Skyhook’s device-based location technology, and TruePosition subsequently changed its name to Skyhook Holding, Inc. Skyhook Holding, Inc. and Skyhook Wireless, Inc. are referred to collectively herein as “Skyhook.”

Today, Skyhook markets and sells two primary products: (1) a location determination service called the Precision Location Solution; and (2) a location intelligence and data insights service called Geospatial Insights.

Skyhook’s Precision Location Solution works by collecting nearby radio signals (such as information from Wi-Fi access points, cell towers, IP addresses and other radio beacons) that are observed by a mobile device. Skyhook’s Geospatial Insights product uses anonymized location data to analyze foot traffic patterns and better understand the real-world behavior of consumers. Skyhook’s revenue is derived from the sale and integration of its Precision Location Solution (including the licensing of software and data components that make up that solution) and the licensing of Geospatial Insights data. In addition, Skyhook earns revenue through entering into licensing agreements with companies to utilize its underlying intellectual property (including patents).

Charter is the second largest cable operator in the United States and a leading broadband communications services company providing video, Internet and voice services to approximately 27.2 million residential and business customers at December 31, 2017. In addition, Charter sells video and online advertising inventory to local, regional and national advertising customers and fiber-delivered communications and managed information technology (“IT”) solutions to large enterprise customers. Charter also owns and operates regional sports networks and local sports, news and community channels and sells security and home management services in the residential marketplace. Charter’s core strategy is to deliver high quality products at highly competitive prices, combined with outstanding service.

Also included in Liberty Broadband is a former investment in outstanding shares of Time Warner Cable, which was classified as available-for-sale and carried at fair value based on quoted market prices until the second quarter of 2016 when

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

Time Warner Cable merged with Charter. Additionally, the Company historically had written call options and a cashless collar agreement on Time Warner Cable shares. See note 4 for information regarding the Time Warner Cable written call options and cashless collar agreement.

**(3) Summary of Significant Accounting Policies**

***Cash and Cash Equivalents***

Cash consists of cash deposits held in global financial institutions. Cash equivalents consist of highly liquid investments with original maturities of three months or less at the time of acquisition. Cash that has restrictions upon its usage has been excluded from cash and cash equivalents.

***Derivative Instruments and Hedging Activities***

All of the Company's derivatives, whether designated in hedging relationships or not, are recorded on the balance sheet at fair value. None of the Company's derivatives are currently designated as hedges, as a result, changes in the fair value of the derivative are recognized in earnings.

The fair value of certain of the Company's derivative instruments are estimated using the Black Scholes Merton option-pricing model ("Black-Scholes model"). The Black-Scholes model incorporates a number of variables in determining such fair values, including expected volatility of the underlying security and an appropriate discount rate. The Company obtained volatility rates from pricing services based on the expected volatility of the underlying security over the remaining term of the derivative instrument. A discount rate was obtained at the inception of the derivative instrument and updated each reporting period, based on the Company's estimate of the discount rate at which it could currently settle the derivative instrument. The Company considered its own credit risk as well as the credit risk of its counterparties in estimating the discount rate. Management judgment was required in estimating the Black-Scholes variables. See note 4 for further discussion of fair value of the Company's derivative instruments. The Company had an outstanding derivative instrument classified as an asset at December 31, 2016. See note 4 for further information.

***Investment in Equity Method Affiliate***

For those investments in affiliates in which the Company has the ability to exercise significant influence, the equity method of accounting is used. Under this method, the investment, originally recorded at cost, is adjusted to recognize the Company's share of net earnings or losses of the affiliate as they occur rather than as dividends or other distributions are received. Losses are limited to the extent of the Company's investment in, advances to and commitments for the investee. The Company determines the difference between the purchase price of the investee and the underlying equity which results in an excess basis in the investment. This excess basis is allocated to the underlying assets and liabilities of the Company's investee through a purchase accounting exercise and is allocated within memo accounts used for equity accounting purposes. Depending on the applicable underlying assets, these amounts are either amortized over the applicable useful lives or determined to be indefinite lived. Changes in the Company's proportionate share of the underlying equity of an equity method investee, which result from the issuance of additional equity securities by such equity investee, are recognized in the statement of operations through the gain (loss) on dilution of investment in affiliate line item. We periodically evaluate our equity method investment to determine if decreases in fair value below our cost basis are other than temporary. If a decline in fair value is determined to be other than temporary, we are required to reflect such decline in our consolidated statement of operations. Other than temporary declines in fair value of our equity method investment would be included in share of earnings (losses) of affiliate in our consolidated statement of operations.

The primary factors we consider in our determination of whether declines in fair value are other than temporary are the length of time that the fair value of the investment is below our carrying value; the severity of the decline; and the financial condition, operating performance and near term prospects of the investee. In addition, we consider the reason for the decline in fair value, be it general market conditions, industry specific or investee specific; analysts' ratings and estimates of 12 month share



**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

price targets for the investee; changes in stock price or valuation subsequent to the balance sheet date; and our intent and ability to hold the investment for a period of time sufficient to allow for a recovery in fair value. Fair value of our publicly traded cost and equity investments is based on the market prices of the investments at the balance sheet date. Impairments are calculated as the difference between our carrying value and our estimate of fair value. As our assessment of the fair value of our investments and any resulting impairment losses and the timing of when to recognize such charges requires a high degree of judgment and includes significant estimates and assumptions, actual results could differ materially from our estimates and assumptions.

As Liberty Broadband does not control the decision making process or business management practices of our affiliate accounted for using the equity method, Liberty Broadband relies on management of its affiliate to provide it with accurate financial information prepared in accordance with GAAP that the Company uses in the application of the equity method. In addition, Liberty Broadband relies on the audit reports that are provided by the affiliate's independent auditors on the financial statements of such affiliate. The Company is not aware, however, of any errors in or possible misstatements of the financial information provided by its equity affiliate that would have a material effect on Liberty Broadband's consolidated financial statements. See note 5 for additional discussion regarding our investment in Charter and the Transactions that occurred during the second quarter of 2016.

***Other tangible and intangible assets***

Other tangible and intangible assets consist of long-lived assets, goodwill and other intangible assets. Intangible assets with definite useful lives and long-lived assets, including property and equipment, are carried at cost and are amortized on a straight-line basis over their estimated useful lives of three to five and a half years. The Company reviews the carrying value of long-lived assets and intangible assets with definite useful lives for impairment upon triggering events. Goodwill is reviewed annually on a qualitative basis.

In January 2017, the FASB issued new accounting guidance to simplify the measurement of goodwill impairment. Under the new guidance, an entity no longer performs a hypothetical purchase price allocation to measure goodwill impairment. Instead, a goodwill impairment is measured using the difference between the carrying value and the fair value of the reporting unit. The Company early adopted this guidance during the fourth quarter of 2017 with no impact to our financial position.

There was no indication of impairment of long-lived assets during the years end December 31, 2017, 2016 or 2015, and no goodwill impairment loss recorded during the years ended December 31, 2017 and 2016. In 2015, the impairment test resulted in a \$20.7 million impairment loss related to Skyhook's goodwill on its legacy U-TDOA Service.

***Foreign Currency Translation and Transaction Gains and Losses***

The functional currency of the Company is the United States ("U.S.") dollar. Transactions denominated in currencies other than the functional currency are recorded based on exchange rates at the time such transactions arise. Subsequent changes in exchange rates result in transaction gains and losses which are reflected in the accompanying consolidated statements of operations and comprehensive earnings (loss) as unrealized (based on the applicable period end exchange rate) or realized upon settlement of the transactions.

***Revenue Recognition***

Skyhook earns revenue from the sale and integration of its Precision Location Solution (including the licensing of software and data components that make up that solution) and the licensing of Geospatial Insights data. In addition, Skyhook earns revenue from licensing its intellectual property to other enterprises. Prior to 2016, Skyhook also earned significant revenue from the sale of hardware and the licensing of associated software required to operate a passive network overlay system for generating location records for wireless devices using U-TDOA technology, and from professional and support services related thereto. These services were primarily sold to wireless carriers to provide E-9-1-1 services domestically and to enhance services in support of commercial applications, national security and law enforcement worldwide.

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

Skyhook recognizes fees received from intellectual property licensing at the inception of a license term for perpetual licenses (or licenses with terms comprising substantially all of the remaining life of the intellectual property) when collectability of the license fee is probable and there are no ongoing performance obligations. Revenue recognition is deferred when collectability of the license fee is not considered probable, when the license term is less than substantially all of the remaining life of the intellectual property, or when there are ongoing performance obligations which are not separate elements from the license. In such circumstances, revenue may be recognized as the license fees are collected or over the license term or performance period as appropriate.

Fees from the integration of Skyhook technology are accounted for consistent with the outstanding guidance for software revenue recognition. Under those policies, for revenue derived from multiple-element arrangements, if vendor specific objective evidence (“VSOE”) exists for each of the elements of the arrangement at the outset, the Company allocates the revenue to the various elements for recognition upon delivery of each element. If VSOE is not present, the revenue is deferred until the earlier of establishing sufficient VSOE for allocating revenue for recognition or delivery of all of the elements. If a multiple-element arrangement includes post-contract customer support (commonly referred to as maintenance), VSOE must exist for the maintenance in order to allocate revenue to all of the elements of the arrangement. If VSOE does not exist for the maintenance, revenue for the entire arrangement is recognized ratably over the contractual or expected term of the maintenance arrangement.

Revenue from the provision of location services and through the sale of data and revenue from tangible products that contain software components and non-software components that function together to deliver the tangible products essential functionality are not under the scope of software revenue recognition guidance and are instead subject to the guidance for multiple-element arrangements. Accordingly, for multiple-element arrangements entered into or materially modified on or after January 1, 2011, the overall arrangement fee is allocated to each element (both delivered and undelivered items) based on their relative selling prices, regardless of whether those selling prices are evidenced by VSOE or third-party evidence of selling price or are based on the entity’s estimated selling price. The associated revenue for each element is recognized upon delivery assuming all other criteria for revenue recognition are met.

In May 2014, the FASB issued new accounting guidance on revenue from contracts with customers. The new guidance requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. This new guidance also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. In March 2016, the FASB issued additional guidance which clarifies principal versus agent considerations, and in April 2016, the FASB issued further guidance which clarifies the identification of performance obligations and the implementation guidance for licensing. The updated guidance will replace most existing revenue recognition guidance in GAAP when it becomes effective and permits the use of either a full retrospective or modified retrospective transition method. This guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. The Company has adopted this guidance under the modified retrospective transition method as of January 1, 2018. Skyhook has also adopted this guidance under the modified retrospective transition method as of January 1, 2018 and the adoption did not have a material impact on its financial position or results of operations. Additionally, Charter, which is accounted for as an equity method investment, has adopted the new guidance as of January 1, 2018 using the modified retrospective transition method and the adoption did not have a material impact on its financial position or results of operations.

***Research and Development Costs***

Research and development costs are expensed as incurred.

***Deferred Revenue and Deferred Costs***

Deferred revenue represents billings in excess of revenue previously recognized. Deferred costs represent direct costs related to installation services, hardware, and software, which, to the extent not previously recognized, are recognized as the related revenue is recognized. Skyhook recognized \$35.5 million of deferred revenue during December 2015, which was

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

attributable to prepaid transaction fees, in connection with the expiration of its largest legacy U-TDOA Service customer's contract.

***Stock-Based Compensation***

As more fully described in note 9, Liberty Broadband has granted to its directors, employees and employees of certain of its subsidiaries options, restricted stock and stock appreciation rights ("SARs") to purchase shares of Liberty Broadband common stock (collectively, "Awards"). Liberty Broadband measures the cost of employee services received in exchange for an Award of equity instruments (such as stock options and restricted stock) based on the grant-date fair value of the Award, and recognizes that cost over the period during which the employee is required to provide service (usually the vesting period of the Award). Liberty Broadband measures the cost of employee services received in exchange for an Award of liability instruments (such as stock appreciation rights that will be settled in cash) based on the current fair value of the Award, and remeasures the fair value of the Award at each reporting date. Certain outstanding awards of Liberty were assumed by Liberty Broadband at the time of the Broadband Spin-Off.

Additionally, Skyhook sponsors long-term incentive plans ("LTIPs") which provide for the granting of phantom stock units ("PSUs"), and phantom stock appreciation rights ("PARs") to employees, directors, and consultants of Skyhook. Skyhook measures the cost of employee services received in exchange for awards of equity instruments based on the grant-date fair value of the award and recognizes that cost ratably over the period during which the employee is required to provide service (usually the vesting period of the award). Skyhook measures the cost of employee services received in exchange for awards of liability instruments (such as PSUs and PARs that will be settled in cash) based on the current fair value of the award, and remeasures the fair value of the award at each reporting date. The consolidated statements of operations includes stock-based compensation related to Skyhook awards.

In March 2016, the FASB issued new guidance which simplifies several aspects of the accounting for share-based payment award transactions, including the income tax consequences, forfeitures, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The new standard is effective for the Company for fiscal years and interim periods beginning after December 15, 2016, with early application permitted. The Company adopted this guidance in the third quarter of 2016. In accordance with the new guidance, excess tax benefits and tax deficiencies are recognized as income tax benefit or expense rather than as additional paid-in capital. The Company has elected to recognize forfeitures as they occur rather than continue to estimate expected forfeitures. In addition, pursuant to the new guidance, excess tax benefits are classified as an operating activity on the consolidated statements of cash flows. The recognition of excess tax benefits and deficiencies are applied prospectively from January 1, 2016. Based on the Company's analysis, no cumulative effect adjustment to retained earnings was necessary for tax benefits that were not previously recognized and for adjustments to compensation cost based on actual forfeitures. The presentation changes for excess tax benefits have been applied retrospectively in the consolidated statements of cash flows, resulting in the reclassification of \$1.2 million of excess tax benefits for the year ended December 31, 2015, from cash flows from financing activities to cash flows from operating activities. There were no excess tax benefits reclassified for the year ended December 31, 2016.

***Income Taxes***

The Company accounts for income taxes using the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying value amounts and income tax bases of assets and liabilities and the expected benefits of utilizing net operating loss and tax credit carryforwards. The deferred tax assets and liabilities are calculated using enacted tax rates in effect for each taxing jurisdiction in which the Company operates for the year in which those temporary differences are expected to be recovered or settled. Net deferred tax assets are then reduced by a valuation allowance if the Company believes it more likely than not that such net deferred tax assets will not be realized. We consider all relevant factors when assessing the likelihood of future realization of our deferred tax assets, including our recent earnings experience by jurisdiction, expectations of future taxable income, and the carryforward periods available to us for tax reporting purposes, as well as assessing available tax planning strategies. The effect on deferred tax assets and liabilities of an enacted change in tax rates is recognized in income in the period that includes the enactment date. Due to

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

inherent complexities arising from the nature of our businesses, future changes in income tax law, tax sharing agreements or variances between our actual and anticipated operating results, we make certain judgments and estimates. Therefore, actual income taxes could materially vary from these estimates.

When the tax law requires interest to be paid on an underpayment of income taxes, the Company recognizes interest expense from the first period the interest would begin accruing according to the relevant tax law. Such interest expense is included in interest expense in the accompanying consolidated statements of operations. Any accrual of penalties related to underpayment of income taxes on uncertain tax positions is included in other income (expense) in the accompanying consolidated statements of operations.

We recognize in our consolidated financial statements the impact of a tax position, if that position is more likely than not to be sustained upon an examination, based on the technical merits of the position.

***Certain Risks and Concentrations***

The Skyhook business is subject to certain risks and concentrations including dependence on relationships with its customers. Skyhook had one significant legacy U-TDOA Service customer whose contract expired on December 31, 2015. The loss of this customer had a material adverse effect on Skyhook's business which is expected to continue unless Skyhook is able to generate significant new business to replace the financial impact of this customer. For the year ended December 31, 2015, this customer accounted for 85% of Skyhook's total revenue. The Company's largest customers, that accounted for greater than 10% of revenue, aggregated 57% of total revenue for the years ended December 31, 2017 and 2016.

***Contingent Liabilities***

Periodically, we review the status of all significant outstanding matters to assess any potential financial exposure. When (i) it is probable that an asset has been impaired or a liability has been incurred and (ii) the amount of the loss can be reasonably estimated, we record the estimated loss in our consolidated statements of operations. We provide disclosure in the notes to the consolidated financial statements for loss contingencies that do not meet both these conditions if there is a reasonable possibility that a loss may have been incurred that would be material to the financial statements. Significant judgment is required to determine the probability that a liability has been incurred and whether such liability is reasonably estimable. We base accruals made on the best information available at the time which can be highly subjective. The final outcome of these matters could vary significantly from the amounts included in the accompanying consolidated financial statements.

***Comprehensive Earnings (Loss)***

Comprehensive earnings (loss) consists of net earnings (loss), cumulative foreign currency translation adjustments, unrealized gains and losses on available-for-sale securities, net of tax and the Company's share of the comprehensive earnings (loss) of our equity method affiliate.

***Earnings per Share (EPS)***

Basic earnings (loss) per common share ("EPS") is computed by dividing net earnings (loss) by the weighted average number of common shares outstanding for the period. Diluted EPS presents the dilutive effect on a per share basis of potential common shares as if they had been converted at the beginning of the periods presented.

The Company issued 85,761,332 common shares, which is the aggregate number of shares of Series A, Series B and Series C common stock outstanding upon the completion of the Broadband Spin-Off on November 4, 2014. Additionally, following the completion of the Broadband Spin-Off, Liberty Broadband distributed subscription rights, which were priced at a discount to the market value, to all holders of Liberty Broadband common stock (see further discussion in note 8). The rights offering, because of the discount, is considered a stock dividend which requires retroactive treatment for prior periods for the weighted average shares outstanding based on a factor applied determined by the fair value per share immediately prior to the

**LIBERTY BROADBAND CORPORATION****Notes to Consolidated Financial Statements (Continued)****December 31, 2017, 2016 and 2015**

rights exercise and the theoretical fair value after the rights exercise. The number of shares issued upon completion of the Broadband Spin-Off, adjusted for the rights factor, was used to determine both basic and diluted EPS for the period from January 1, 2014 through the date of the Broadband Spin-Off, as no Company equity awards were outstanding prior to the Broadband Spin-Off. In addition, the Company issued 78,250,042 shares of Series C common stock in connection with the Time Warner Cable Merger on May 18, 2016 (see further discussion in note 8). Basic EPS subsequent to the Broadband Spin-Off was computed using the weighted average number of shares outstanding (“WASO”), adjusted for the rights factor, from the date of the completion of the Broadband Spin-Off through January 9, 2015, the date on which the rights offering was fully subscribed. Basic EPS subsequent to January 9, 2015 was computed using WASO. Diluted EPS subsequent to the Broadband Spin-Off was computed using the WASO from the date of the completion of the Broadband Spin-Off through January 9, 2015, adjusted for the rights factor and potentially dilutive equity awards outstanding during the same period. Subsequent to January 9, 2015, basic EPS was computed using the WASO during the period, and diluted EPS was computed using the WASO adjusted for potentially dilutive equity awards outstanding during the period.

	Years ended December 31,		
	2017	2016	2015
	number of shares in thousands		
Basic WASO	181,772	152,103	102,504
Potentially dilutive shares	1,374	749	494
Diluted WASO	183,146	152,852	102,998

Potential common shares excluded from diluted EPS because their inclusion would be antidilutive for the years ended December 31, 2017, 2016 and 2015 are approximately zero, 17 thousand, and 3 thousand, respectively.

***Reclasses and adjustments***

Certain prior period amounts have been reclassified for comparability with the current year presentation.

***Estimates***

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. The Company considers the application of the equity method of accounting for its affiliates and accounting for income taxes to be its most significant estimates.

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

**(4) Assets and Liabilities Measured at Fair Value**

For assets and liabilities required to be reported at fair value, GAAP provides a hierarchy that prioritizes inputs to valuation techniques used to measure fair value into three broad levels. Level 1 inputs are quoted market prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 2 inputs are inputs, other than quoted market prices included within Level 1, that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. The Company does not have any recurring assets or liabilities measured at fair value that would be considered Level 3.

The Company's assets and liabilities measured at fair value are as follows:

Description	December 31, 2017			December 31, 2016		
	Total	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Total	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)
	amounts in thousands					
Cash equivalents	\$ 76,304	76,304	—	198,011	198,011	—
Derivative instruments (1)	\$ —	—	—	49,019	—	49,019

- (1) As of December 31, 2016, the Company had an outstanding zero-strike call option on 704,908 shares of Liberty Broadband Series C common stock which expired in March 2017. The Company prepaid a premium of \$47.9 million in December 2016. Liberty Broadband exercised its option to settle the contract in cash in March 2017 for cash proceeds of \$50.0 million. The Company accounted for the zero-strike call option as a financial instrument asset due to its settlement provisions. The Company entered into another zero-strike call option on 527,156 shares of Liberty Broadband Series C common stock and prepaid a premium of \$47.7 million in October 2017. Upon expiration of the contract in December 2017, the Company elected to physically settle 527,156 shares of Liberty Broadband Series C common stock at a price of \$90.54 per share.

The fair value of Level 2 derivative instruments were derived from a Black-Scholes model using observable market data as the significant inputs. The inputs used in the model during the period outstanding (exclusive of the applicable trading price of Series C Liberty Broadband common stock and the strike prices associated with the call options) were as follows:

	Range					
Volatility	21.1	%	-	21.5	%	
Interest rate	1.0	%	-	1.0	%	
Dividend yield	0	%	-	0	%	

*Other Financial Instruments*

Other financial instruments not measured at fair value on a recurring basis include trade receivables, trade payables, accrued and other current liabilities, current portion of debt and long-term debt. With the exception of long-term debt, the carrying amount approximates fair value due to the short maturity of these instruments as reported on our consolidated balance sheets. The carrying value of our long-term debt bears interest at a variable rate and therefore is also considered to approximate fair value.

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

*Realized and Unrealized Gains (Losses) on Financial Instruments*

Realized and unrealized gains (losses) on financial instruments are comprised of changes in the fair value of the following:

	Years ended December 31,		
	2017	2016	2015
	(amounts in thousands)		
Time Warner Cable investment and financial instruments (1)(2)(3)	\$ —	92,990	2,619
Derivative instruments (4)	3,098	1,132	—
	<u>\$ 3,098</u>	<u>94,122</u>	<u>2,619</u>

- (1) As of December 31, 2014, the Company had an outstanding written call option on 625,000 Time Warner Cable shares with a strike price of \$92.02 per share which expired in February 2015. Upon expiration, this written call option was rolled into a new written call option on 625,000 Time Warner Cable shares with a strike price of \$100.39 per share which the Company cash settled during June 2015 for \$48.3 million. Additionally, as of December 31, 2014, the Company had another outstanding written call option on 625,000 Time Warner Cable shares with a strike price of \$90.84 per share which the Company cash settled during April 2015 for \$36.7 million.
- (2) On March 27, 2015, Liberty Broadband entered into a cashless collar agreement with a financial institution on 1.7 million Time Warner Cable shares held by the Company with a put option strike price of \$136.80 per share and a call option strike price of \$161.62 per share. The collar was originally scheduled to expire during March 2017. The Company unwound the agreement during July 2015 for \$67.1 million cash paid to the counterparty. In connection with this collar agreement, the Company also entered into a revolving loan agreement with an availability of \$234 million, which was terminated upon unwinding of the collar agreement during July 2015 (note 6).
- (3) As discussed in note 5, Time Warner Cable merged with Charter on May 18, 2016. Therefore the Company no longer has an investment in Time Warner Cable as of May 18, 2016, and the unrealized gain (loss) related to our investment in Time Warner Cable is recorded through this date. In connection with the merger, the Company exchanged, in a tax-free transaction, its shares of Time Warner Cable for shares of Charter Class A common stock.
- (4) As of December 31, 2016, the Company had an outstanding zero-strike call option on 704,908 shares of Liberty Broadband Series C common stock which expired in March 2017. The Company had an unrealized gain on the option during 2016 primarily due to an increase in the market price of Liberty Broadband Series C common stock during that period. In April 2017, the Company entered into another zero-strike call option on 600,242 shares of Liberty Broadband Series C common stock. The Company prepaid a premium of \$50.0 million in April 2017. Upon expiration in June 2017, the call option was rolled into a new zero-strike call option on 600,242 shares of Liberty Broadband Series C common stock. Liberty Broadband exercised its option to settle the contract in cash in August 2017 for cash proceeds of \$53.8 million. The Company realized gains on the options outstanding and settled during the current year primarily due to an increase in the market price of Liberty Broadband Series C common stock during that period.

**(5) Investment in Charter Accounted for Using the Equity Method**

Through a number of prior years' transactions, Liberty Broadband has acquired an interest in Charter. The investment in Charter is accounted for as an equity method affiliate based on our ownership interest and the board seats held by individuals appointed by Liberty Broadband. As of December 31, 2017, the carrying value of Liberty Broadband's ownership in Charter was approximately \$11,836 million. The market value of Liberty Broadband's ownership in Charter as of December 31, 2017 was approximately \$18,166 million, which represented an approximate economic ownership of 22.7% of the outstanding equity of Charter as of that date.

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

Pursuant to Proxy Agreements with Liberty Interactive and A/N, Liberty Broadband has an irrevocable proxy to vote certain shares of Charter common stock owned beneficially or of record by Liberty Interactive and A/N following the closing of the Time Warner Cable Merger, for a five year term subject to extension upon the mutual agreement of both parties, subject to certain limitations.

As a result of the A/N Proxy and the Liberty Interactive Proxy Agreement, Liberty Broadband controls 25.01% of the aggregate voting power of Charter following the completion of the Time Warner Cable Merger and the Bright House Transaction and is Charter's largest stockholder.

Additionally, so long as the A/N Proxy is in effect, if A/N proposes to transfer common units of Charter Communications Holdings, LLC (which units are exchangeable into Charter shares and which will, under certain circumstances, result in the conversion of certain shares of Class B Common Stock into Charter shares) or Charter shares, in each case, constituting either (i) shares representing the first 7.0% of the outstanding voting power of Charter held by A/N or (ii) shares representing the last 7.0% of the outstanding voting power of New Charter held by A/N, Liberty Broadband will have a right of first refusal ("ROFR") to purchase all or a portion of any such securities A/N proposes to transfer. The purchase price per share for any securities sold to Liberty Broadband pursuant to the ROFR will be the volume-weighted average price of Charter shares for the two trading day period before the notice of a proposed sale by A/N, payable in cash. Certain transfers are permitted to affiliates of A/N, subject to the transferee entity entering into an agreement assuming the transferor's obligations under the A/N Proxy.

During the years ended December 31, 2017, 2016 and 2015, there was a dilution loss of \$18 million, a dilution gain of \$771 million, and a dilution loss of \$7 million, respectively, in the Company's investment in Charter. The gain during 2016 is primarily due to the Time Warner Cable Merger. Even after considering the exchange of Time Warner Cable shares held by Liberty Broadband to shares of Charter, Liberty Broadband's interest in Charter was diluted as a result of the conversion of outstanding Time Warner Cable shares held by third parties into shares of Charter. However, Liberty Broadband recognized a gain during the period as Liberty Broadband's investment basis in Charter was at a price per share below the new equity issued in the Time Warner Cable Merger. This gain was partially offset by losses due to the issuance of Charter common stock from the exercise of warrants and stock options, held by outside investors (employees and other third parties), at prices below Liberty Broadband's investment basis per share during the year. The dilution losses during the other periods presented are attributable to stock option exercises by employees and other third parties at prices below Liberty Broadband's book basis per share.

During the years ended December 31, 2017, 2016 and 2015, the Company recorded \$768 thousand, \$811 thousand and \$1.3 million, respectively, of its share of Charter's other comprehensive earnings, net of income taxes. Charter records gains and losses related to the fair value of its interest rate swap agreements which qualify as hedging activities in other comprehensive income. The pre-tax portion of Liberty Broadband's share of Charter's other comprehensive earnings was \$1.2 million, \$1.3 million and \$2.1 million for the years ended December 31, 2017, 2016 and 2015, respectively.



**LIBERTY BROADBAND CORPORATION****Notes to Consolidated Financial Statements (Continued)****December 31, 2017, 2016 and 2015**

The excess basis has increased to \$2,975 million as of December 31, 2017. Such amount has been allocated within memo accounts used for equity method accounting purposes as follows (amounts in millions):

Property and equipment	\$	361
Customer relationships		689
Franchise fees		1,670
Trademarks		29
Goodwill		986
Debt		(98)
Deferred income tax liability		(662)
	\$	<u>2,975</u>

Upon acquisition, the Company ascribed remaining useful lives of 7 years and 13 years to property and equipment and customer relationships, respectively, and indefinite lives to franchise fees, trademarks and goodwill. The excess basis of outstanding debt is amortized over the contractual period using the effective interest rate method. The increase in excess basis for the year ended December 31, 2017, was primarily related to the impact of income tax rate changes on the deferred tax liability recorded within the memo accounts for Charter, as well as Charter's share buyback program. Included in our share of earnings from Charter of \$2,509 million and \$642 million and losses of \$121 million for the years ended December 31, 2017, 2016 and 2015, respectively, are \$277 million, \$42 million and \$52 million, respectively, of losses, net of taxes, due to the amortization of the excess basis of our investment in Charter related to debt and intangible assets with identifiable useful lives. The excess basis amortization during the year ended December 31, 2015 was offset by the write-off of the excess basis related to debt instruments which Charter repaid during the second quarter of 2015 prior to their contractual maturity.

**LIBERTY BROADBAND CORPORATION**  
**Notes to Consolidated Financial Statements (Continued)**  
**December 31, 2017, 2016 and 2015**

**Charter Communications, Inc.**

Summarized financial information for Charter is as follows:

Consolidated Balance Sheets

	December 31, 2017	December 31, 2016
amounts in millions		
Current assets	\$ 2,555	3,300
Property and equipment, net	33,888	32,963
Goodwill	29,554	29,509
Intangible assets	79,270	81,924
Other assets	1,356	1,371
Total assets	<u>\$ 146,623</u>	<u>149,067</u>
Current liabilities	\$ 11,090	9,572
Deferred income taxes	17,314	26,665
Long-term debt	68,186	59,719
Other liabilities	2,502	2,745
Equity	47,531	50,366
Total liabilities and equity	<u>\$ 146,623</u>	<u>149,067</u>

Consolidated Statements of Operations

	Years ended December 31,		
	2017	2016	2015
amounts in millions			
Revenue	\$ 41,581	29,003	9,754
Cost and expenses:			
Operating costs and expenses (excluding depreciation and amortization)	26,541	18,655	6,426
Depreciation and amortization	10,588	6,907	2,125
Other operating expenses, net	346	985	89
	<u>37,475</u>	<u>26,547</u>	<u>8,640</u>
Operating income	4,106	2,456	1,114
Interest expense	(3,090)	(2,499)	(1,306)
Loss on extinguishment of debt	(40)	(111)	(128)
Other income (expense), net	52	974	(11)
Income tax (expense) benefit	9,087	2,925	60
Net earnings (loss)	10,115	3,745	(271)
Less: Net income attributable to noncontrolling interests	(220)	(223)	—
Net Income (loss) attributable to Charter shareholders	<u>\$ 9,895</u>	<u>3,522</u>	<u>(271)</u>

**LIBERTY BROADBAND CORPORATION**  
**Notes to Consolidated Financial Statements (Continued)**  
**December 31, 2017, 2016 and 2015**

**(6) Debt**

Outstanding debt at December 31, 2017 and December 31, 2016 is summarized as follows:

	<u>December 31, 2017</u>	<u>December 31, 2016</u>
	amounts in thousands	
2017 Margin Loans	\$ 500,000	—
2014 Margin Loans	—	400,000
2016 Margin Loans	—	200,000
Total	<u>\$ 500,000</u>	<u>600,000</u>

**2014 Margin Loans**

On October 30, 2014, in connection with and prior to the effectiveness of the Broadband Spin-Off, a wholly-owned special purpose subsidiary of the Company ("BroadbandSPV") entered into two margin loan agreements (the "2014 Margin Loan Agreements") with each of the lenders party thereto. The 2014 Margin Loan Agreements permitted BroadbandSPV, subject to certain funding conditions, to borrow term loans up to an aggregate principal amount equal to \$400 million (the "2014 Margin Loans"), of which BroadbandSPV borrowed \$320 million on October 31, 2014 and had \$80 million available to be drawn immediately following the Broadband Spin-Off. During November 2014, subsequent to the Broadband Spin-Off, Liberty Broadband borrowed an additional \$52 million to fund the exercise of the Legacy Charter warrants. During October 2015, Liberty Broadband borrowed an additional \$28 million pursuant to the 2014 Margin Loan Agreements. The maximum borrowing capacity of \$400 million under the 2014 Margin Loan Agreements was outstanding at December 31, 2016. The maturity date of the 2014 Margin Loans was October 30, 2017. Borrowings under the 2014 Margin Loan Agreements bore interest at the three-month LIBOR rate plus 1.55% and had an unused commitment fee of 0.25% per annum based on the average daily unused portion of the 2014 Margin Loans. Interest was payable quarterly in arrears beginning on December 31, 2014. On August 31, 2017, the outstanding borrowings of \$400 million were repaid, as discussed below.

**2016 Margin Loans**

On March 21, 2016, a wholly-owned special purpose subsidiary of the Company ("Cheetah 5"), entered into two margin loan agreements (the "2016 Margin Loan Agreements" and together with the 2014 Margin Loan Agreements, the "Margin Loan Agreements") with each of the lenders thereto. The 2016 Margin Loan Agreements permitted Cheetah 5, subject to certain funding conditions, to borrow initial term loans up to an aggregate principal amount equal to \$200 million and delayed draw loans (the "Draw Loans") up to an aggregate principal amount equal to \$100 million, for an aggregate total of \$300 million (collectively the "2016 Margin Loans"). Cheetah 5 had borrowed \$200 million as of December 31, 2016 and had \$100 million available to be drawn until September 21, 2017. The maturity date of the 2016 Margin Loans was March 21, 2018. Borrowings under the 2016 Margin Loans bore interest at the applicable LIBOR rate plus 2.10% per annum and have an unused commitment fee of 0.5% per annum based on the average daily unused portion of the Draw Loans. Interest was payable quarterly in arrears beginning on March 31, 2016. The proceeds of the 2016 Margin Loans were used for the Company's additional investment in Charter during May 2016 (note 5). On August 31, 2017, the outstanding borrowings of \$200 million were repaid, as discussed below.

**2017 Margin Loan Facility**

On August 31, 2017, a bankruptcy remote wholly owned subsidiary of the Company ("SPV"), entered into a multi-draw margin loan credit facility (the "2017 Margin Loan Facility" and, the credit agreement governing such facility, the "2017 Margin Loan Agreement") with Bank of America, N.A and the lenders thereunder. SPV is permitted, subject to certain funding conditions, to borrow term loans up to an aggregate principal amount equal to \$1.0 billion. SPV will also have the ability from time to time to request additional loans in an aggregate principal amount of up to \$1.0 billion on an uncommitted basis subject

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

to certain conditions. SPV had borrowed \$500 million as of December 31, 2017 and had \$500 million available to be drawn until August 31, 2018. The maturity date of the loans under the 2017 Margin Loan Agreement is August 30, 2019 (except for any incremental loans incurred thereunder to the extent SPV and the incremental lenders agree to a later maturity date). Accordingly, the debt is classified as noncurrent as of December 31, 2017. Borrowings under the 2017 Margin Loan Agreement bear interest at the three-month LIBOR rate plus a per annum spread of 1.5%, unless it is unlawful for the applicable lender to fund or maintain loans based on LIBOR or there are material restrictions on the applicable lender to do so, in which case borrowings under the 2017 Margin Loan Agreement will either (a) bear interest at 0.5% plus the higher of (i) the federal funds rate plus ½ of 1%, (ii) the prime rate and (iii) LIBOR plus 1% for each day during such period or (b) be prepaid. Borrowings outstanding under this margin loan bore interest at a rate of 3.19% per annum at December 31, 2017. Interest is payable quarterly in arrears beginning on September 29, 2017. SPV used available cash and a portion of the proceeds of the loans under the 2017 Margin Loan Facility to repay the Margin Loan Agreements. Borrowings may also be used for distribution as a dividend or a return of capital, for the purchase of margin stock and for general corporate purposes.

The 2017 Margin Loan Agreement contains various affirmative and negative covenants that restrict the activities of SPV (and, in some cases, the Company and its subsidiaries with respect to shares of Charter owned by the Company and its subsidiaries). The 2017 Margin Loan Agreement does not include any financial covenants. The 2017 Margin Loan Agreement also contains restrictions related to additional indebtedness and events of default customary for margin loans of this type.

SPV's obligations under the 2017 Margin Loan Agreement are secured by first priority liens on a portion of the Company's ownership interest in Charter, sufficient for SPV to meet the loan to value requirements under the 2017 Margin Loan Agreement. The 2017 Margin Loan Agreement indicates that no lender party shall have any voting rights with respect to the shares transferred, except to the extent that a lender party buys any shares in a sale or other disposition made pursuant to the terms of the loan agreements. As of December 31, 2017, 6.8 million shares of Charter with a value of \$2.3 billion were pledged as collateral pursuant to the 2017 Margin Loan Agreement.

**(7) Income Taxes**

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). The Tax Act makes broad and complex changes to the U.S. tax code, including, but not limited to, (1) reducing the U.S. federal corporate tax rate from 35 percent to 21 percent; (2) bonus depreciation that will allow for full expensing of qualified property; (3) creating a new limitation on deductible interest expense; (4) eliminating the corporate alternative minimum tax ("AMT") and changing how existing AMT credits can be realized; (5) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017; and (6) limitations on the deductibility of certain executive compensation. The SEC issued guidance on accounting for the tax effects of the Tax Act. The Company must reflect the income tax effects of those aspects of the Tax Act for which the accounting is known. To the extent that a company's accounting for certain income tax effects of the Tax Act is incomplete but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements and the Tax Act provides a measurement period that should not extend beyond one year from the Tax Act enactment date. If a company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply the tax laws that were in effect immediately before the enactment of the Tax Act.

The corporate tax rate reduction was applied to our inventory of deferred tax assets and deferred tax liabilities, which resulted in the net tax benefit in the period ending December 31, 2017. We have reported provisional amounts for the income tax effects of the Tax Act for which the accounting is incomplete but a reasonable estimate could be determined. Based on a continued analysis of the estimates and further guidance and interpretations on the application of the law, additional revisions may occur throughout the allowable measurement period.

**LIBERTY BROADBAND CORPORATION**  
**Notes to Consolidated Financial Statements (Continued)**  
**December 31, 2017, 2016 and 2015**

Income tax benefit (expense) consists of:

	Years ended December 31,		
	2017	2016	2015
	amounts in thousands		
<b>Current:</b>			
Federal	\$ (11)	1,556	(4,234)
State and local	(84)	853	(862)
	<u>(95)</u>	<u>2,409</u>	<u>(5,096)</u>
<b>Deferred:</b>			
Federal	(301,837)	(493,890)	23,512
State and local	(115,001)	(66,888)	1,452
	<u>(416,838)</u>	<u>(560,778)</u>	<u>24,964</u>
<b>Income tax benefit (expense)</b>	<b><u>\$ (416,933)</u></b>	<b><u>(558,369)</u></b>	<b><u>19,868</u></b>

Income tax benefit (expense) differs from the amounts computed by applying the U.S. federal income tax rate of 35% as a result of the following:

	Years ended December 31,		
	2017	2016	2014
	amounts in thousands		
Computed expected tax benefit (expense)	\$ (857,710)	(516,485)	24,519
State and local taxes, net of federal income taxes	(74,805)	(42,995)	1,786
Foreign taxes, net of foreign tax credit	—	(1,180)	(59)
Change in valuation allowance	(1,208)	683	612
Dividends received deduction	—	931	752
Change in tax rate - other	—	45	(179)
Change in tax rate - U.S. tax reform	515,773	—	—
Impairment of intangible assets not deductible for tax purposes	—	—	(7,234)
Derivative instrument	1,084	396	—
Other	(67)	236	(329)
<b>Income tax (expense) benefit</b>	<b><u>\$ (416,933)</u></b>	<b><u>(558,369)</u></b>	<b><u>19,868</u></b>

For the year ended December 31, 2017 the significant reconciling items, as noted in the table above, are the result of the effect of the change in the U.S. federal corporate tax rate from 35% to 21% on deferred taxes and the effect of state income taxes. In connection with the initial analysis of the impact of the Tax Act, the Company has recorded a discrete net tax benefit of \$516 million in the period ending December 31, 2017. This net benefit primarily consists of a net benefit for the corporate rate reduction.

For the year ended December 31, 2016 the significant reconciling items, as noted in the table above, are the result of the effect of state income taxes.

For the year ended December 31, 2015 the significant reconciling items, as noted in the table above, are the result of the impairment to non-deductible goodwill related to Skyhook's legacy U-TDOA Service.

**LIBERTY BROADBAND CORPORATION****Notes to Consolidated Financial Statements (Continued)****December 31, 2017, 2016 and 2015**

The tax effects of temporary differences and tax attributes that give rise to significant portions of the deferred income tax assets and deferred income tax liabilities are presented below:

	December 31,	
	2017	2016
	amounts in thousands	
Deferred tax assets:		
Net operating loss and tax credit carryforwards	\$ 49,555	23,017
Accrued stock-based compensation	4,275	4,812
Deferred revenue	1,805	1,721
Other	64	2,073
Total deferred tax assets	55,699	31,623
Less: valuation allowance	(8,153)	(6,945)
Net deferred tax assets	47,546	24,678
Deferred tax liabilities:		
Investments	(979,522)	(527,151)
Intangible assets	(617)	(2,170)
Other	—	(1)
Total deferred tax liabilities	(980,139)	(529,322)
Net deferred tax asset (liability)	\$ (932,593)	(504,644)

The Company's valuation allowance increased \$1.2 million in 2017, which affected tax expense during the year ended December 31, 2017.

At December 31, 2017, the Company had a deferred tax liability on investments of \$979.5 million due to its share of earnings in its equity investment in Charter, which were partially offset by the application of the rate change of the Tax Act and, in the prior year, the result of the Transactions, as discussed in note 5.

At December 31, 2017, Liberty Broadband had federal and state net operating losses (on a tax effected basis) and tax credit carryforwards for income tax purposes aggregating approximately \$49.6 million. These losses and credit carryforwards are expected to be utilized prior to expiration, except for \$8.2 million which based on current projections, may expire unused and accordingly are subject to a valuation allowance. The carryforwards that are expected to be utilized will begin to expire in 2021.

As of December 31, 2017, the Company had not recorded tax reserves related to unrecognized tax benefits for uncertain tax positions.

As of December 31, 2017, the IRS has completed its examination of Liberty Broadband's 2015 and 2016 tax years. Liberty Broadband's 2017 tax year is being examined as part of the IRS's Compliance Assurance Process "CAP" program. Because Liberty Broadband's ownership of Charter is less than the required 80%, Charter is not consolidated with Liberty Broadband for federal income tax purposes.

**(8) Stockholders' Equity**

In the Broadband Spin-Off, record holders of Liberty Series A, Series B and Series C common stock received one-fourth of a share of the corresponding series of Liberty Broadband common stock for each share of Liberty common stock held by them, with cash paid in lieu of fractional shares. This resulted in the issuance of an aggregate 85,761,332 shares of Series A, Series B and Series C common stock.

In addition, following the completion of the Broadband Spin-Off, on December 10, 2014, stockholders received a subscription right to acquire one share of Liberty Broadband Series C common stock for every five shares of Liberty Broadband common stock they held as of the rights record date at a per share subscription price of \$40.36, which was a 20% discount to the

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

20-trading day volume weighted average trading price of the Series C Liberty Broadband common stock following the completion of the Broadband Spin-Off. The rights offering was fully subscribed on January 9, 2015, with 17,277,224 shares of Series C common stock issued to those rightsholders exercising basic and, as applicable, oversubscription privileges. The subscription rights were issued to raise capital for general corporate purposes of Liberty Broadband.

In connection with the Time Warner Cable Merger in May 2016, Liberty Broadband funded its purchase of shares of Charter Class A common stock using proceeds of \$4.4 billion related to subscriptions for approximately 78.3 million newly issued shares of Liberty Broadband Series C common stock, par value \$0.01 per share (the "Series C Shares"), at a price per share of \$56.23, which was determined based upon the fair value of Liberty Broadband's net assets on a sum-of-the parts basis at the time certain Amended and Restated Investment Agreements were executed. The purchasers of the Series C Shares were Liberty Interactive through its Liberty Ventures Group (approximately 42.7 million shares) and certain other third party investors, which all invested on substantially similar terms. One of the third party investors also held a position in Time Warner Cable and agreed to vote its Time Warner Cable shares in favor of the Time Warner Cable Merger. Each of Legacy Charter and Liberty Broadband obtained stockholder approval during September 2015 for the issuance of the Charter shares and the Series C Shares, respectively, in accordance with the rules and requirements of the Nasdaq Stock Market. The issuance of the Series C Shares was not registered under the Securities Act of 1933, as amended (the "Securities Act"), in reliance on the exemption from registration provided by Section 4(a)(2) of the Securities Act and the rules and regulations of the Securities and Exchange Commission promulgated thereunder. As a result of the issuance of the Series C Shares in connection with the Transactions, Liberty Interactive's non-voting economic ownership in Liberty Broadband was 23.5% as of December 31, 2016.

As discussed in note 4, the Company had an outstanding zero-strike call option on 704,908 Series C Shares at December 31, 2016, which expired in March 2017. The Company prepaid a premium of \$47.9 million in December 2016. Liberty Broadband exercised its option to settle the contract in cash in March 2017 for cash proceeds of \$50.0 million. The Company entered into another zero-strike call option on 527,156 shares of Liberty Broadband Series C common stock and prepaid a premium of \$47.7 million in October 2017. Upon expiration of the contract in December 2017, the Company physically settled the contract by purchasing 527,156 shares of Liberty Broadband Series C common stock at a price of \$90.54 per share. As of December 31, 2017, the Company had no zero-strike call options outstanding. The Company accounted for the zero-strike call option as a financial instrument asset due to its settlement provisions. Accordingly, changes in the fair value of the asset are included in realized and unrealized gains (losses) on financial instruments in the accompanying statement of operations.

***Preferred Stock***

Liberty Broadband's preferred stock is issuable, from time to time, with such designations, preferences and relative participating, optional or other rights, qualifications, limitations or restrictions thereof, as shall be stated and expressed in a resolution or resolutions providing for the issue of such preferred stock adopted by Liberty Broadband's board of directors. As of December 31, 2017, no shares of preferred stock were issued.

***Common Stock***

Liberty Broadband's Series A common stock has one vote per share, Liberty Broadband's Series B common stock has ten votes per share and Liberty Broadband's Series C common stock has no votes per share (except as otherwise required by applicable law). Each share of the Series B common stock is exchangeable at the option of the holder for one share of Series A common stock. All series of our common stock participate on an equal basis with respect to dividends and distributions.

As of December 31, 2017, there were 404 thousand shares of Series A and 2.4 million shares of Series C common stock reserved for issuance under exercise privileges of outstanding stock options.

**LIBERTY BROADBAND CORPORATION****Notes to Consolidated Financial Statements (Continued)****December 31, 2017, 2016 and 2015****(9) Stock-Based Compensation**

Included in the accompanying consolidated statements of operations are the following amounts of stock-based compensation for the years ended December 31, 2017, 2016 and 2015 (amounts in thousands).

	December 31,		
	2017	2016	2015
Operating expense	\$ (2)	—	7
Selling, general and administrative	5,114	5,555	5,978
Research and development	180	158	395
	<u>\$ 5,292</u>	<u>5,713</u>	<u>6,380</u>

***Liberty Broadband - Incentive Plans***

Pursuant to the Liberty Broadband 2014 Omnibus Incentive Plan, as amended, the Company may grant Awards to be made in respect of a maximum of 8.4 million shares of Liberty Broadband common stock. Awards generally vest over 1-5 years and have a term of 7-10 years. Liberty Broadband issues new shares upon exercise of equity awards.

***Liberty Broadband – Grants of Stock Options***

During the years ended December 31, 2017, 2016 and 2015, Liberty Broadband granted 16 thousand, 17 thousand and 21 thousand options, respectively, to purchase shares of Series C common stock to its non-employee directors with a weighted average grant-date fair value (“GDFV”) of \$22.68, \$18.64 and \$13.51 per share, respectively, which mainly cliff vest over a one year vesting period. There were no options to purchase shares of Series A common stock granted during the period.

The Company has calculated the GDFV for all of its equity classified awards and any subsequent remeasurement of its liability classified awards using the Black-Scholes Model. The Company estimates the expected term of the Awards based on historical exercise and forfeiture data. For grants made in 2017, 2016 and 2015, the range of expected terms was 4.6 to 5.3 years. The volatility used in the calculation for Awards is based on the historical volatility of Liberty Broadband common stock and the implied volatility of publicly traded Liberty Broadband options. For grants made in 2017, 2016 and 2015, the range of volatilities was 24.4% to 28.2%. The Company uses a zero dividend rate and the risk-free rate for Treasury Bonds with a term similar to that of the subject option.



**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

***Liberty Broadband – Outstanding Awards***

The following table presents the number and weighted average exercise price (“WAEP”) of Awards to purchase Liberty Broadband common stock granted to certain officers, employees and directors of the Company, as well as the weighted average remaining life and aggregate intrinsic value of the Awards.

	Series A (in thousands)	WAEP	Weighted average remaining contractual life (in years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2017	454	\$ 32.47		
Granted	—	\$ —		
Exercised	(50)	\$ 26.85		
Forfeited/Cancelled	—	\$ —		
Outstanding at December 31, 2017	<u>404</u>	\$ 33.16	2.0	\$ 21
Exercisable at December 31, 2017	<u>402</u>	\$ 33.08	2.0	\$ 21

	Series C (in thousands)	WAEP	Weighted average remaining contractual life (in years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2017	2,467	\$ 42.45		
Granted	16	\$ 85.34		
Exercised	(95)	\$ 27.08		
Forfeited/Cancelled	—	\$ —		
Outstanding at December 31, 2017	<u>2,388</u>	\$ 43.35	5.2	\$ 100
Exercisable at December 31, 2017	<u>866</u>	\$ 34.34	2.1	\$ 44

The Company had no outstanding Series B options during 2017.

As of December 31, 2017, the total unrecognized compensation cost related to unvested Liberty Broadband Awards was approximately \$10.0 million. Such amount will be recognized in the Company’s consolidated statements of operations over a weighted average period of approximately 1.5 years.

As of December 31, 2017, Liberty Broadband reserved 2.8 million shares of Series A and Series C common stock for issuance under exercise privileges of outstanding stock Awards.

***Liberty Broadband – Exercises***

The aggregate intrinsic value of all options exercised during the years ended December 31, 2017, 2016 and 2015 was \$8.1 million, \$14.4 million and \$11.2 million, respectively.

***Liberty Broadband – Restricted Shares***

The aggregate fair value of all Series A and Series C restricted shares of Liberty Broadband common stock that vested during the years ended December 31, 2017, 2016 and 2015 was \$116 thousand, \$674 thousand and \$5.8 million, respectively.

**LIBERTY BROADBAND CORPORATION****Notes to Consolidated Financial Statements (Continued)****December 31, 2017, 2016 and 2015**

As of December 31, 2017, the Company had approximately 24,000 unvested restricted shares of Series A and Series C Liberty Broadband common stock held by certain directors, officers and employees of the Company with a weighted average GDFV of \$13.43 per share.

***Skyhook equity incentive plans******Long-Term Incentive Plans***

Skyhook has a long-term incentive plan which provides for the granting of PARs and PSUs to employees, directors, and consultants of Skyhook that is not significant to Liberty Broadband. As of December 31, 2017 and 2016, \$1.2 million and \$1.7 million, respectively, are included in other liabilities for the fair value (Level 2) of the Company's LTIP obligations.

**(10) Employee Benefit Plans**

Prior to January 1, 2015, Skyhook participated in Liberty's defined-contribution plan (the "Liberty 401(k) Plan").

Employees of Skyhook participate in a separate defined-contribution plan administered by Skyhook (the "Skyhook 401(k) Plan"). The Skyhook 401(k) Plan provides for employees to make contributions by salary reductions for investment in several mutual funds and/or a self-directed brokerage account pursuant to Section 401(k) of the Internal Revenue Code.

Pursuant to the existing Skyhook 401(k) Plan, Skyhook employees are eligible for 100% matching contributions for each dollar contributed up to 10%, subject to certain limitations. For the years ended December 31, 2017, 2016 and 2015, Skyhook contributed approximately \$1.0 million, \$0.8 million and \$1.1 million respectively.

**(11) Commitments and Contingencies*****Leases***

Skyhook leases various properties under operating leases expiring at various times through 2021. The aggregate minimum annual lease payments under the noncancelable operating leases as of December 31, 2017 are as follows (amounts in thousands):

2018	\$	445
2019		497
2020		548
2021		11
	\$	<u>1,501</u>

Skyhook's two principal facilities are under lease through December 2019 and January 2021, respectively. Total rental expense for the years ended December 31, 2017, 2016 and 2015 was \$1.1 million, \$2.4 million and \$3.7 million, respectively.

***Litigation***

On May 23, 2012, Skyhook (then known as TruePosition) filed a patent infringement lawsuit in the U.S. District Court for the District of Delaware against Polaris Wireless, Inc. ("Polaris"), related to the sale by Polaris of systems used to locate mobile devices. In parallel with the lawsuit, at Polaris's request, the U.S. Patent and Trademark Office initiated an Inter Partes Review. Both the District Court and the Patent Trial and Appeal Board ruled adversely to Skyhook and those rulings were upheld on appeal. No further appeal was taken. During the pendency of the appeal, Polaris filed a motion in the District Court for an award of approximately \$3 million in attorneys' fees and expenses incurred in defending the lawsuit. The matter was heard by the Court on October 16, 2015, wherein the court denied the Polaris motion.

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

On September 10, 2010, Skyhook filed a patent infringement lawsuit in the U.S. District Court for the District of Massachusetts against Google, Inc. (“Google”). In March 2013, Skyhook amended its lawsuit to add additional claims. In total, at the time the case was to be tried, Skyhook alleged that Google infringed on eight Skyhook patents involving location technology and sought an injunction and/or award of damages in an amount to be determined at trial. The case had been scheduled to be tried before a jury commencing March 9, 2015. However, on March 5, 2015, the parties advised the District Court that the case has been settled and thereby dismissed the action without costs and without prejudice to the right person, upon good cause shown within 45 days, to reopen the action if settlement is not consummated. On March 27, 2015, the parties consummated a final settlement agreement and on April 24, 2015, Google paid Skyhook settlement consideration of \$90 million. In return for payment of the settlement consideration, Google received dismissal of the action with prejudice, a license to the existing Skyhook patents and patent applications (and their continuations, divisionals, continuations-in-part), a three-year covenant not to sue (subject to limited exceptions) and a mutual release of claims. The settlement amount of \$90 million is recorded net of approximately \$29.5 million for legal fees in the statement of operations for the year ended December 31, 2015.

***General Litigation***

In the ordinary course of business, the Company and its consolidated subsidiaries are parties to legal proceedings and claims involving alleged infringement of third-party intellectual property rights, defamation, and other claims. Although it is reasonably possible that the Company may incur losses upon conclusion of such matters, an estimate of any loss or range of loss cannot be made. In the opinion of management, it is expected that amounts, if any, which may be required to satisfy such contingencies will not be material in relation to the accompanying consolidated financial statements.

***Off-Balance Sheet Arrangements***

Liberty Broadband did not have any off-balance sheet arrangements that have, or are reasonably likely to have, a current or future effect on the Company’s financial condition, results of operations, liquidity, capital expenditures or capital resources.

**(12) Segment Information**

Liberty Broadband identifies its reportable segments as (A) those consolidated companies that represent 10% or more of its consolidated annual revenue, annual Adjusted OIBDA or total assets and (B) those equity method affiliates whose share of earnings or losses represent 10% or more of Liberty Broadband’s annual pre-tax earnings (losses).

Liberty Broadband evaluates performance and makes decisions about allocating resources to its operating segments based on financial measures such as revenue, Adjusted OIBDA. In addition, Liberty Broadband reviews nonfinancial measures such as subscriber growth.

Liberty Broadband defines Adjusted OIBDA as revenue less cost of sales, operating expenses, and selling, general and administrative expenses (excluding stock-based compensation). Liberty Broadband believes this measure is an important indicator of the operational strength and performance of its businesses, including each business’s ability to service debt and fund capital expenditures. In addition, this measure allows management to view operating results and perform analytical comparisons and benchmarking between businesses and identify strategies to improve performance. This measure of performance excludes depreciation and amortization, stock based compensation, separately reported litigation settlements and restructuring and impairment charges that are included in the measurement of operating income pursuant to GAAP. Accordingly, Adjusted OIBDA should be considered in addition to, but not as a substitute for, operating income, net earnings, cash flow provided by operating activities and other measures of financial performance prepared in accordance with GAAP. Liberty Broadband generally accounts for intersegment sales and transfers as if the sales or transfers were to third parties, that is, at current prices.

**LIBERTY BROADBAND CORPORATION**

**Notes to Consolidated Financial Statements (Continued)**

**December 31, 2017, 2016 and 2015**

For the year ended December 31, 2017, Liberty Broadband has identified the following consolidated company and equity method investment as its reportable segments:

- Skyhook—a wholly owned subsidiary of the Company that provides the Precision Location Solution (a location determination service) and Geospatial Insights product (a location intelligence and data insights service).
- Charter—an equity method investment that is one of the largest providers of cable services in the United States, offering a variety of entertainment, information and communications solutions to residential and commercial customers.

Liberty Broadband's operating segments are strategic business units that offer different products and services. They are managed separately because each segment requires different technologies, distribution channels and marketing strategies. The accounting policies of the segments that are also consolidated companies are the same as those described in the Company's summary of significant accounting policies in the Company's annual financial statements. For periods in which Liberty Broadband owned Charter shares and warrants, we have included amounts attributable to Charter in the tables below. Although Liberty Broadband owns less than 100% of the outstanding shares of Charter, 100% of the Charter amounts are included in the schedule below and subsequently eliminated in order to reconcile the account totals to the Liberty Broadband consolidated financial statements.

**Performance Measures**

	Years ended December 31,					
	2017		2016		2015	
	Revenue	Adjusted OIBDA	Revenue	Adjusted OIBDA	Revenue	Adjusted OIBDA
	amounts in thousands					
Skyhook	\$ 13,092	(9,496)	30,586	(2,681)	91,182	43,600
Charter	41,581,000	14,955,000	29,003,000	9,607,000	9,754,000	3,317,000
Corporate and other	—	(6,920)	—	(8,761)	—	(11,958)
	41,594,092	14,938,584	29,033,586	9,595,558	9,845,182	3,348,642
Eliminate equity method affiliate	(41,581,000)	(14,955,000)	(29,003,000)	(9,607,000)	(9,754,000)	(3,317,000)
Consolidated Liberty Broadband	\$ 13,092	(16,416)	30,586	(11,442)	91,182	31,642

**Other Information**

	December 31, 2017			December 31, 2016		
	Total assets	Investments in affiliates	Capital expenditures	Total assets	Investments in affiliates	Capital expenditures
	amounts in thousands					
Skyhook	\$ 24,481	—	70	30,463	—	267
Charter	146,623,000	—	8,681,000	149,067,000	—	5,325,000
Corporate and other	11,907,308	11,835,613	—	9,560,497	9,315,253	—
	158,554,789	11,835,613	8,681,070	158,657,960	9,315,253	5,325,267
Eliminate equity method affiliate	(146,623,000)	—	(8,681,000)	(149,067,000)	—	(5,325,000)
Consolidated Liberty Broadband	\$ 11,931,789	11,835,613	70	9,590,960	9,315,253	267

**LIBERTY BROADBAND CORPORATION**  
**Notes to Consolidated Financial Statements (Continued)**  
**December 31, 2017, 2016 and 2015**

**Revenue by Geographic Area**

	<u>Years ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
	amounts in thousands		
United States	\$ 10,315	27,806	87,739
Other countries	2,777	2,780	3,443
	<u>\$ 13,092</u>	<u>30,586</u>	<u>91,182</u>



**PART III**

The following required information is incorporated by reference to our definitive proxy statement for our 2018 Annual Meeting of Stockholders presently scheduled to be held in the second quarter of 2018:

<u>Item 10.</u>	Directors, Executive Officers and Corporate Governance
<u>Item 11.</u>	Executive Compensation
<u>Item 12.</u>	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters
<u>Item 13.</u>	Certain Relationships and Related Transactions, and Director Independence
<u>Item 14.</u>	Principal Accountant Fees and Services

We expect to file our definitive proxy statement for our 2018 Annual Meeting of Shareholders with the Securities and Exchange Commission on or before April 30, 2018.

**PART IV .**

**Item 15. Exhibits and Financial Statement Schedules .**

(a)(1) *Financial Statements*

Included in Part II of this report:

	<b><u>Page No.</u></b>
Liberty Broadband Corporation:	
<a href="#">Reports of Independent Registered Public Accounting Firm</a>	II-17 - 18
<a href="#">Consolidated Balance Sheets, December 31, 2017 and 2016</a>	II-19
<a href="#">Consolidated Statements of Operations, Years ended December 31, 2017, 2016 and 2015</a>	II-20
<a href="#">Consolidated Statements of Comprehensive Earnings (loss), Years ended December 31, 2017, 2016 and 2015</a>	II-21
<a href="#">Consolidated Statements of Cash Flows, Years ended December 31, 2017, 2016 and 2015</a>	II-22
<a href="#">Consolidated Statements of Equity, Years ended December 31, 2017, 2016 and 2015</a>	II-23
<a href="#">Notes to Consolidated Financial Statements, December 31, 2017, 2016 and 2015</a>	II-24

(a)(2) *Financial Statement Schedules*

- (i) All schedules have been omitted because they are not applicable, not material or the required information is set forth in the financial statements or notes thereto.
- (ii) Separate financial statements for Charter Communications, Inc. and subsidiaries:

	<b><u>Page No.</u></b>
<a href="#">Report of Independent Registered Public Accounting Firm</a>	IV-5
<a href="#">Consolidated Balance Sheets, December 31, 2017 and 2016</a>	IV -6
<a href="#">Consolidated Statements of Operations, Years ended December 31, 2017, 2016 and 2015</a>	IV -7
<a href="#">Consolidated Statements of Comprehensive Income (Loss), Years ended December 31, 2017, 2016 and 2015</a>	IV -8
<a href="#">Consolidated Statements of Changes in Shareholders' Equity, Years ended December 31, 2017, 2016 and 2015</a>	IV -9
<a href="#">Consolidated Statements of Cash Flows, Years ended December 31, 2017, 2016 and 2015</a>	IV -10
<a href="#">Notes to Consolidated Financial Statements</a>	IV -11

(a)(3) *Exhibits*

Listed below are the exhibits which are filed as a part of this Report (according to the number assigned to them in Item 601 of Regulation S-K):

3 - Articles of Incorporation and Bylaws:

- 3.1 [Restated Certificate of Incorporation of Liberty Broadband Corporation \(incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K Filed on November 10, 2014\) \(File No. 001-36713\) \(the "November 10, 2014 8-K"\)](#).
- 3.2 [Amended and Restated Bylaws of Liberty Broadband Corporation \(incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on August 13, 2015 \(File No. 001-3671\)\)](#).

4 - Instruments Defining the Rights to Securities Holders, including Indentures:

- 4.1 [Specimen Certificate for shares of Series A Common Stock of the Registrant \(incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1 filed on July 25, 2014 \(File No. 333-197619\) \(the "S-1"\)\)](#).



- 4.2 [Specimen Certificate for shares of Series B Common Stock of the Registrant \(incorporated by reference to Exhibit 4.2 to the S-1\).](#)
- 4.3 [Specimen Certificate for shares of Series C Common Stock of the Registrant \(incorporated by reference to Exhibit 4.3 to the S-1\).](#)
- 4.4 [Form of Margin Loan Agreements \(incorporated by reference to Exhibit 4.4 to Post-Effective Amendment No. 1 to the Registrant's Registration Statement on Form S-1 filed on November 4, 2014 \(File No. 333-197619\)\).](#)
- 4.5 [Form of Amendment No. 1 to Margin Loan Agreements, dated as of March 21, 2016 \(incorporated by reference to Exhibit 4.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 filed on May 9, 2016 \(File No. 001-36713\) \(the "First Quarter 2016 10-Q"\)\).](#)
- 4.6 [Form of Margin Loan Agreements, dated as of March 21, 2016 \(incorporated by reference to Exhibit 4.2 to the First Quarter 2016 10-Q\).](#)
- 4.7 [Margin Loan Agreement, dated as of August 31, 2017, among LBC Cheetah 6, LLC, as Borrower, various lenders and Bank of America, N.A., as Calculation Agent and Bank of America, N.A., as Administrative Agent \(incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017 filed on November 1, 2017 \(File No. 001-36713\)\).](#)

10 - Material Contracts:

- 10.1 [Liberty Broadband Corporation 2014 Omnibus Incentive Plan \(Amended and Restated as of March 11, 2015\) \(incorporated by reference to Annex A to the Registrant's Proxy Statement on Schedule 14A filed on April 22, 2015 \(File No. 001-36713\)\).](#)
- 10.2 [Liberty Broadband Corporation Transitional Stock Adjustment Plan \(incorporated by reference to Exhibit 99.1 to the Registrant's Registration Statement on Form S-8 filed on November 21, 2014 \(File No. 333-200436\)\).](#)
- 10.3 [Non-Qualified Stock Option Agreement under the Liberty Broadband Corporation 2014 Omnibus Incentive Plan for Gregory B. Maffei, effective December 17, 2014 \(incorporated by reference to Exhibit 10.11 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015 filed on August 13, 2015 \(File No. 001-36713\)\).](#)
- 10.4 [Stockholders Agreement, dated as of March 19, 2013, by and among Charter Communications, Inc. and Liberty Media Corporation \(incorporated by reference to Exhibit 10.1 to Liberty Media Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013 filed on May 9, 2013 \(File No. 001-35707\)\).](#)
- 10.5 [Amendment to Stockholders Agreement, dated as of September 29, 2014, by and among Charter Communications, Inc., Liberty Media Corporation and Liberty Broadband Corporation \(incorporated by reference to Exhibit 7\(d\) to Liberty Media Corporation's Schedule 13D in respect of common stock of Charter Communications, Inc., filed on October 10, 2014\).](#)
- 10.6 [Second Amended and Restated Stockholders Agreement, dated May 23, 2015, by and among Charter Communications, Inc., CCH I, LLC, Liberty Broadband Corporation, and Advance/Newhouse Partnership \(incorporated by reference to Annex C to CCH I, LLC's Registration Statement on Form S-4 filed on June 26, 2015 \(File No. 333-205240\)\).](#)

- 10.7 [Letter Agreement to the Second Amended and Restated Stockholders Agreement, dated May 18, 2016, by and among Liberty Broadband Corporation, Advance/Newhouse Partnership, CCH I, LLC and Charter Communications, Inc. \(incorporated by reference to Exhibit 7\(p\) to Amendment No. 3 to Liberty Broadband Corporation's Schedule 13D in respect of common stock of Charter Communications, Inc., filed on May 26, 2016 \(the "May 26, 2016 13D/A"\)\)](#).
- 10.8 [Proxy and Right of First Refusal Agreement, dated as of May 18, 2016, by and among Liberty Broadband Corporation, Advance/Newhouse Partnership, Charter Communications, Inc. and CCH I, LLC \(incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on May 20, 2016 \(File No. 001-36713\) \(the "May 20, 2016 8-K"\)\)](#).
- 10.9 [Proxy and Right of First Refusal Agreement, dated as of May 23, 2015, by and between Liberty Broadband Corporation and Liberty Interactive Corporation \(incorporated by reference to Exhibit 10.4 to the May 29, 2015 8-K\)](#).
- 10.10 [Amendment No. 1 to the Proxy and Right of First Refusal Agreement, dated May 13, 2016, by and among Liberty Broadband Corporation, Liberty Interactive Corporation and LV Bridge, LLC \(incorporated by reference to Exhibit 7\(n\) to the May 26, 2016 13D/A\)](#).
- 10.11 [Amended and Restated Investment Agreement, dated May 28, 2015, by and among Liberty Broadband Corporation, Liberty Interactive Corporation, JANA Nirvana Master Fund, L.P., JANA Master Fund, Ltd., and Coatue Offshore Master Fund, Ltd. \(incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed on May 29, 2015 \(File No. 001-36713\) \(the "May 29, 2015 8-K"\)\)](#).
- 10.12 [Amended and Restated Investment Agreement, dated May 29, 2015, by and between Liberty Broadband Corporation and Quantum Partners LP \(incorporated by reference to Exhibit 10.6 to the May 29, 2015 8-K\)](#).
- 10.13 [Registration Rights Agreement, dated May 18, 2016, by and between Liberty Broadband Corporation and Quantum Partners LP \(incorporated by reference to Exhibit 10.2 to the May 20, 2016 8-K\)](#).
- 10.14 [Amended and Restated Investment Agreement, dated May 28, 2015, by and among Liberty Broadband Corporation, Soroban Master Fund LP and Soroban Opportunities Master Fund LP \(incorporated by reference to Exhibit 10.7 to the May 29, 2015 8-K\)](#).
- 10.15 [Amended and Restated Assignment and Assumption Agreement, dated May 28, 2015, by and among Liberty Broadband Corporation, Liberty Interactive Corporation, Soroban Master Fund LP, and Soroban Opportunities Master Fund LP \(incorporated by reference to Exhibit 10.8 to the May 29, 2015 8-K\)](#).
- 10.16 [Tax Sharing Agreement, dated as of November 4, 2014, between Liberty Media Corporation and Liberty Broadband Corporation \(incorporated by reference to Exhibit 10.1 to the November 10, 2014 8-K\)](#).
- 10.17 [Form of Indemnification Agreement by and between the Registrant and its executive officers/directors \(incorporated by reference to Exhibit 10.11 of Amendment No. 2 to the Registrant's Registration Statement on Form S-1 filed on October 15, 2014 \(File No. 333-197619\)\)](#).
- 10.18 [Aircraft Time Sharing Agreements, dated as of November 6, 2015, by and between Liberty Broadband Corporation and Liberty Media Corporation \(incorporated by reference to Exhibit 10.19 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2015 filed on February 12, 2016 \(File No. 001-36713\) \(the "2015 10-K"\)\)](#).
- 10.19 [Form of Non-Qualified Stock Option Agreement under the Liberty Broadband Corporation 2014 Omnibus Incentive Plan \(Amended and Restated as of March 11, 2015\) \(incorporated by reference to Exhibit 10.21 to the 2015 10-K\)](#).
- 10.20 [Form of Restricted Stock Award Agreement under the Liberty Broadband Corporation 2014 Omnibus Incentive Plan \(Amended and Restated as of March 11, 2015\) \(incorporated by reference to Exhibit 10.22 to the 2015 10-K\)](#).

[Table of Contents](#)

10.21	<a href="#">Registration Rights Agreement, dated as of May 18, 2016, by and among Liberty Broadband Corporation, Advance/Newhouse Partnership and Charter Communications, Inc. (incorporated by reference to Exhibit 10.3 to Charter Communications, Inc.'s Current Report on Form 8-K (File No. 001-33664), filed on May 20, 2016).</a>
21	<a href="#">Subsidiaries of Liberty Broadband Corporation.*</a>
23.1	<a href="#">Consent of KPMG LLP.*</a>
23.2	<a href="#">Consent of KPMG LLP.*</a>
31.1	<a href="#">Rule 13a-14(a)/15d - 14(a) Certification.*</a>
31.2	<a href="#">Rule 13a-14(a)/15d - 14(a) Certification.*</a>
32	<a href="#">Section 1350 Certification.**</a>
101.INS	XBRL Instance Document.*
101.SCH	XBRL Taxonomy Extension Schema Document.*
101.CAL	XBRL Taxonomy Calculation Linkbase Document.*
101.LAB	XBRL Taxonomy Label Linkbase Document.*
101.PRE	XBRL Taxonomy Presentation Linkbase Document.*
101.DEF	XBRL Taxonomy Definition Document.*

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\* Filed herewith.

\*\* Furnished herewith.

**Item 16. Form 10-K Summary.**

Not applicable.

**Report of Independent Registered Public Accounting Firm**

To the Shareholders and Board of Directors  
Charter Communications, Inc.:

*Opinion on the Consolidated Financial Statements*

We have audited the accompanying consolidated balance sheets of Charter Communications, Inc. and subsidiaries (the “Company”) as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive income (loss), change in shareholders’ equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

*Basis for Opinion*

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

/s/ KPMG LLP

We have served as the Company’s auditor since 2002.

St. Louis, Missouri  
February 1, 2018

**CHARTER COMMUNICATIONS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**  
(dollars in millions, except share data)

	December 31,	
	2017	2016
<b>ASSETS</b>		
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents	\$ 621	\$ 1,535
Accounts receivable, less allowance for doubtful accounts of \$113 and \$124, respectively	1,635	1,432
Prepaid expenses and other current assets	299	333
Total current assets	<u>2,555</u>	<u>3,300</u>
<b>INVESTMENT IN CABLE PROPERTIES:</b>		
Property, plant and equipment, net of accumulated depreciation of \$18,077 and \$11,103, respectively	33,888	32,963
Customer relationships, net	11,951	14,608
Franchises	67,319	67,316
Goodwill	29,554	29,509
Total investment in cable properties, net	<u>142,712</u>	<u>144,396</u>
<b>OTHER NONCURRENT ASSETS</b>		
	1,356	1,371
Total assets	<u>\$ 146,623</u>	<u>\$ 149,067</u>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES:</b>		
Accounts payable and accrued liabilities	\$ 9,045	\$ 7,544
Current portion of long-term debt	2,045	2,028
Total current liabilities	<u>11,090</u>	<u>9,572</u>
<b>LONG-TERM DEBT</b>		
	68,186	59,719
<b>DEFERRED INCOME TAXES</b>		
	17,314	26,665
<b>OTHER LONG-TERM LIABILITIES</b>		
	<u>2,502</u>	<u>2,745</u>
<b>SHAREHOLDERS' EQUITY:</b>		
Class A common stock; \$.001 par value; 900 million shares authorized; 238,506,059 and 268,897,792 shares issued and outstanding, respectively		
	—	—
Class B common stock; \$.001 par value; 1,000 shares authorized; 1 share issued and outstanding		
	—	—
Preferred stock; \$.001 par value; 250 million shares authorized; no shares issued and outstanding		
	—	—
Additional paid-in capital	35,253	39,413
Retained earnings	3,832	733
Accumulated other comprehensive loss	(1)	(7)
Total Charter shareholders' equity	<u>39,084</u>	<u>40,139</u>
<b>Noncontrolling interests</b>		
	8,447	10,227
Total shareholders' equity	<u>47,531</u>	<u>50,366</u>
Total liabilities and shareholders' equity	<u>\$ 146,623</u>	<u>\$ 149,067</u>

**CHARTER COMMUNICATIONS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
(dollars in millions, except per share and share data)

	Year Ended December 31,		
	2017	2016	2015
REVENUES	\$ 41,581	\$ 29,003	\$ 9,754
COSTS AND EXPENSES:			
Operating costs and expenses (exclusive of items shown separately below)	26,541	18,655	6,426
Depreciation and amortization	10,588	6,907	2,125
Other operating expenses, net	346	985	89
	<u>37,475</u>	<u>26,547</u>	<u>8,640</u>
Income from operations	4,106	2,456	1,114
OTHER EXPENSES:			
Interest expense, net	(3,090)	(2,499)	(1,306)
Loss on extinguishment of debt	(40)	(111)	(128)
Gain (loss) on financial instruments, net	69	89	(4)
Other pension benefits	1	899	—
Other expense, net	(18)	(14)	(7)
	<u>(3,078)</u>	<u>(1,636)</u>	<u>(1,445)</u>
Income (loss) before income taxes	1,028	820	(331)
Income tax benefit	9,087	2,925	60
Consolidated net income (loss)	10,115	3,745	(271)
Less: Net income attributable to noncontrolling interests	(220)	(223)	—
Net income (loss) attributable to Charter shareholders	<u>\$ 9,895</u>	<u>\$ 3,522</u>	<u>\$ (271)</u>
EARNINGS (LOSS) PER COMMON SHARE ATTRIBUTABLE TO CHARTER SHAREHOLDERS:			
Basic	\$ 38.55	\$ 17.05	\$ (2.68)
Diluted	<u>\$ 34.09</u>	<u>\$ 15.94</u>	<u>\$ (2.68)</u>
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING:			
Basic	256,720,715	206,539,100	101,152,647
Diluted	<u>296,703,956</u>	<u>234,791,439</u>	<u>101,152,647</u>

**CHARTER COMMUNICATIONS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)**  
**(dollars in millions)**

	<u>Year Ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
Consolidated net income (loss)	\$ 10,115	\$ 3,745	\$ (271)
Net impact of interest rate derivative instruments	5	8	9
Foreign currency translation adjustment	1	(2)	—
Consolidated comprehensive income (loss)	10,121	3,751	(262)
Less: Comprehensive income attributable to noncontrolling interests	(220)	(223)	—
Comprehensive income (loss) attributable to Charter shareholders	<u>\$ 9,901</u>	<u>\$ 3,528</u>	<u>\$ (262)</u>

**CHARTER COMMUNICATIONS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY (DEFICIT)**  
(dollars in millions)

	Class A Common Stock	Class B Common Stock	Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Accumulated Other Comprehensive Loss	Total Charter Shareholders' Equity (Deficit)	Non- Controlling Interests	Total Shareholders' Equity (Deficit)
BALANCE, December 31, 2014	\$ —	\$ —	\$ 1,930	\$ (1,762)	\$ (22)	\$ 146	\$ —	\$ 146
Consolidated net loss	—	—	—	(271)	—	(271)	—	(271)
Stock compensation expense	—	—	78	—	—	78	—	78
Exercise of stock options	—	—	30	—	—	30	—	30
Changes in accumulated other comprehensive loss, net	—	—	—	—	9	9	—	9
Purchases and retirement of treasury stock	—	—	(10)	(28)	—	(38)	—	(38)
BALANCE, December 31, 2015	—	—	2,028	(2,061)	(13)	(46)	—	(46)
Consolidated net income	—	—	—	3,522	—	3,522	223	3,745
Stock compensation expense	—	—	244	—	—	244	—	244
Accelerated vesting of equity awards	—	—	248	—	—	248	—	248
Settlement of restricted stock units	—	—	(59)	—	—	(59)	—	(59)
Exercise of stock options	—	—	86	—	—	86	—	86
Changes in accumulated other comprehensive loss, net	—	—	—	—	6	6	—	6
Purchases and retirement of treasury stock	—	—	(834)	(728)	—	(1,562)	—	(1,562)
Issuance of shares to Liberty Broadband for cash	—	—	5,000	—	—	5,000	—	5,000
Converted TWC awards in the TWC Transaction	—	—	514	—	—	514	—	514
Issuance of shares in TWC Transaction	—	—	32,164	—	—	32,164	—	32,164
Issuance of subsidiary equity in Bright House Transaction	—	—	—	—	—	—	10,134	10,134
Partnership formation and change in ownership, net of tax	—	—	(364)	—	—	(364)	589	225
Purchase of noncontrolling interest, net of tax	—	—	(19)	—	—	(19)	(187)	(206)
Exchange of Charter Holdings units held by A/N, net of tax and TRA effects	—	—	405	—	—	405	(460)	(55)
Distributions to noncontrolling interest	—	—	—	—	—	—	(96)	(96)
Noncontrolling interests assumed in acquisitions	—	—	—	—	—	—	24	24
BALANCE, December 31, 2016	—	—	39,413	733	(7)	40,139	10,227	50,366
Consolidated net income	—	—	—	9,895	—	9,895	220	10,115
Stock compensation expense	—	—	261	—	—	261	—	261
Accelerated vesting of equity awards	—	—	49	—	—	49	—	49
Exercise of stock options	—	—	116	—	—	116	—	116
Changes in accumulated other comprehensive loss, net	—	—	—	—	6	6	—	6
Cumulative effect of accounting change	—	—	9	131	—	140	—	140
Purchases and retirement of treasury stock	—	—	(4,788)	(6,927)	—	(11,715)	—	(11,715)
Purchase of noncontrolling interest, net of tax	—	—	(295)	—	—	(295)	(1,187)	(1,482)
Exchange of Charter Holdings units held by A/N, net of tax and TRA effects	—	—	265	—	—	265	(298)	(33)
Change in noncontrolling interest ownership, net of tax	—	—	223	—	—	223	(362)	(139)
Distributions to noncontrolling interest	—	—	—	—	—	—	(153)	(153)
BALANCE, December 31, 2017	\$ —	\$ —	\$ 35,253	\$ 3,832	\$ (1)	\$ 39,084	\$ 8,447	\$ 47,531



**CHARTER COMMUNICATIONS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(dollars in millions)

	Year Ended December 31,		
	2017	2016	2015
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Consolidated net income (loss)	\$ 10,115	\$ 3,745	\$ (271)
Adjustments to reconcile consolidated net income (loss) to net cash flows from operating activities:			
Depreciation and amortization	10,588	6,907	2,125
Stock compensation expense	261	244	78
Accelerated vesting of equity awards	49	248	—
Noncash interest (income) expense	(370)	(256)	28
Other pension benefits	(1)	(899)	—
Loss on extinguishment of debt	40	111	128
(Gain) loss on financial instruments, net	(69)	(89)	4
Deferred income taxes	(9,116)	(2,958)	(65)
Other, net	16	8	11
Changes in operating assets and liabilities, net of effects from acquisitions and dispositions:			
Accounts receivable	(84)	(160)	5
Prepaid expenses and other assets	76	111	(3)
Accounts payable, accrued liabilities and other	449	1,029	319
Net cash flows from operating activities	<u>11,954</u>	<u>8,041</u>	<u>2,359</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>			
Purchases of property, plant and equipment	(8,681)	(5,325)	(1,840)
Change in accrued expenses related to capital expenditures	820	603	28
Purchases of cable systems, net	(9)	(28,810)	—
Change in restricted cash and cash equivalents	—	22,264	(15,153)
Real estate investments through variable interest entities	(105)	—	—
Other, net	(123)	(22)	(67)
Net cash flows from investing activities	<u>(8,098)</u>	<u>(11,290)</u>	<u>(17,032)</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>			
Borrowings of long-term debt	25,276	12,344	26,045
Repayments of long-term debt	(16,507)	(10,521)	(11,326)
Payments for debt issuance costs	(111)	(284)	(36)
Issuance of equity	—	5,000	—
Purchase of treasury stock	(11,715)	(1,562)	(38)
Proceeds from exercise of stock options and warrants	116	86	30
Settlement of restricted stock units	—	(59)	—
Purchase of noncontrolling interest	(1,665)	(218)	—
Distributions to noncontrolling interest	(153)	(96)	—
Proceeds from termination of interest rate derivatives	—	88	—
Other, net	(11)	1	—
Net cash flows from financing activities	<u>(4,770)</u>	<u>4,779</u>	<u>14,675</u>
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(914)	1,530	2
CASH AND CASH EQUIVALENTS, beginning of period	1,535	5	3
CASH AND CASH EQUIVALENTS, end of period	<u>\$ 621</u>	<u>\$ 1,535</u>	<u>\$ 5</u>
CASH PAID FOR INTEREST	<u>\$ 3,421</u>	<u>\$ 2,685</u>	<u>\$ 1,064</u>
CASH PAID FOR TAXES	<u>\$ 41</u>	<u>\$ 63</u>	<u>\$ 3</u>

## **1. Organization and Basis of Presentation**

### ***Organization***

Charter Communications, Inc. (together with its controlled subsidiaries, “Charter,” or the “Company”) is the second largest cable operator in the United States and a leading broadband communications company providing video, Internet and voice services to residential and business customers. In addition, the Company sells video and online advertising inventory to local, regional and national advertising customers and fiber-delivered communications and managed information technology solutions to larger enterprise customers. The Company also owns and operates regional sports networks and local sports, news and lifestyle channels and sells security and home management services to the residential marketplace.

Charter is a holding company whose principal asset is a controlling equity interest in Charter Communications Holdings, LLC (“Charter Holdings”), an indirect owner of Charter Communications Operating, LLC (“Charter Operating”) under which substantially all of the operations reside. All significant intercompany accounts and transactions among consolidated entities have been eliminated.

### ***Basis of Presentation***

The accompanying consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (“GAAP”) and the rules and regulations of the Securities and Exchange Commission (the “SEC”).

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Areas involving significant judgments and estimates include capitalization of labor and overhead costs; depreciation and amortization costs; purchase accounting valuations of assets and liabilities including, but not limited to, property, plant and equipment, intangibles and goodwill; pension benefits; income taxes; contingencies and programming expense. Actual results could differ from those estimates.

Certain prior period amounts have been reclassified to conform with the 2017 presentation.

## **2. Summary of Significant Accounting Policies**

### ***Consolidation***

The accompanying consolidated financial statements include the accounts of Charter and all entities in which Charter has a controlling interest, including variable interest entities where Charter is the primary beneficiary. The Company consolidates based upon evaluation of the Company’s power, through voting rights or similar rights, to direct the activities of another entity that most significantly impact the entity’s economic performance; its obligation to absorb the expected losses of the entity; and its right to receive the expected residual returns of the entity. Charter controls and consolidates Charter Holdings. The noncontrolling interest on the Company’s balance sheet primarily represents Advance/Newhouse Partnership’s (“A/N’s”) minority equity interests in Charter Holdings. See Note 11. All significant inter-company accounts and transactions among consolidated entities have been eliminated in consolidation.

### ***Cash and Cash Equivalents***

The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents. These investments are carried at cost, which approximates market value. Cash and cash equivalents consist primarily of money market funds.

### ***Property, Plant and Equipment***

Additions to property, plant and equipment are recorded at cost, including all material, labor and certain indirect costs associated with the construction of cable transmission and distribution facilities. While the Company’s capitalization is based on specific activities, once capitalized, costs are tracked on a composite basis by fixed asset category at the cable system level and

not on a specific asset basis. For assets that are sold or retired, the estimated historical cost and related accumulated depreciation is removed. Costs associated with the initial placement of the customer drop to the dwelling and the initial placement of outlets within a dwelling along with the costs associated with the initial deployment of customer premise equipment necessary to provide video, Internet or voice services are capitalized. Costs capitalized include materials, direct labor and certain indirect costs. Indirect costs are associated with the activities of the Company's personnel who assist in installation activities and consist of compensation and other costs associated with these support functions. Indirect costs primarily include employee benefits and payroll taxes, vehicle and occupancy costs, and the costs of sales and dispatch personnel associated with capitalizable activities. The costs of disconnecting service and removing customer premise equipment from a dwelling and the costs to reconnect a customer drop or to redeploy previously installed customer premise equipment are charged to operating expense as incurred. Costs for repairs and maintenance are charged to operating expense as incurred, while plant and equipment replacement, including replacement of certain components, betterments, including replacement of cable drops and outlets, are capitalized.

Depreciation is recorded using the straight-line composite method over management's estimate of the useful lives of the related assets as follows:

Cable distribution systems	8-20 years
Customer premise equipment and installations	3-8 years
Vehicles and equipment	4-9 years
Buildings and improvements	15-40 years
Furniture, fixtures and equipment	7-10 years

#### ***Asset Retirement Obligations***

Certain of the Company's franchise agreements and leases contain provisions requiring the Company to restore facilities or remove equipment in the event that the franchise or lease agreement is not renewed. The Company expects to continually renew its franchise agreements and therefore cannot reasonably estimate any liabilities associated with such agreements. A remote possibility exists that franchise agreements could be terminated unexpectedly, which could result in the Company incurring significant expense in complying with restoration or removal provisions. The Company does not have any significant liabilities related to asset retirements recorded in its consolidated financial statements.

#### ***Valuation of Long-Lived Assets***

The Company evaluates the recoverability of long-lived assets (e.g., property, plant and equipment and finite-lived intangible assets) to be held and used when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Such events or changes in circumstances could include such factors as impairment of the Company's indefinite life assets, changes in technological advances, fluctuations in the fair value of such assets, adverse changes in relationships with local franchise authorities, adverse changes in market conditions or a deterioration of current or expected future operating results. If a review indicates that the carrying value of such asset is not recoverable from estimated undiscounted cash flows, the carrying value of such asset is reduced to its estimated fair value. While the Company believes that its estimates of future cash flows are reasonable, different assumptions regarding such cash flows could materially affect its evaluations of asset recoverability. No impairments of long-lived assets to be held and used were recorded in 2017, 2016 and 2015.

#### ***Other Noncurrent Assets***

Other noncurrent assets primarily include investments, trademarks, right-of-entry costs and other intangible assets. The Company accounts for its investments in less than majority owned investees under either the equity or cost method. The Company applies the equity method to investments when it has the ability to exercise significant influence over the operating and financial policies of the investee. The Company's share of the investee's earnings (losses) is included in other expense, net in the consolidated statements of operations. The Company monitors its investments for indicators that a decrease in investment value has occurred that is other than temporary. If it has been determined that an investment has sustained an other than temporary decline in value, the investment is written down to fair value with a charge to earnings. Investments acquired are measured at fair value utilizing the acquisition method of accounting. The difference between the fair value and the amount of underlying equity in net assets for most equity method investments is due to previously unrecognized intangible assets at the investee. These

amounts are amortized as a component of equity earnings (losses), recorded within other expense, net over the estimated useful life of the asset. Trademarks have been determined to have an indefinite life and are tested annually for impairment. Right-of-entry costs represent upfront costs incurred related to agreements entered into with multiple dwelling units ("MDUs") including landlords, real estate companies or owners to gain access to a building in order to market and service customers who reside in the building. Right-of-entry costs are deferred and amortized to amortization expense over the term of the agreement.

### **Revenue Recognition**

Revenues from residential and commercial video, Internet and voice services are recognized when the related services are provided. Advertising sales are recognized at estimated realizable values in the period that the advertisements are broadcast. In some cases, the Company coordinates the advertising sales efforts of other cable operators in a certain market and remits amounts received from customers less an agreed-upon percentage to such cable operator. For those arrangements in which the Company acts as a principal, the Company records the revenues earned from the advertising customer on a gross basis and the amount remitted to the cable operator as an operating expense.

Fees imposed on the Company by various governmental authorities are passed through on a monthly basis to the Company's customers and are periodically remitted to authorities. Fees of \$961 million, \$711 million and \$255 million for the years ended December 31, 2017, 2016 and 2015, respectively, are reported in video, voice and commercial revenues, on a gross basis with a corresponding operating expense because the Company is acting as a principal. Other taxes, such as sales taxes imposed on the Company's customers, collected and remitted to state and local authorities, are recorded on a net basis because the Company is acting as an agent in such situation.

The Company's revenues by product line are as follows:

	Year Ended December 31,		
	2017	2016	2015
Video	\$ 16,641	\$ 11,967	\$ 4,587
Internet	14,105	9,272	3,003
Voice	2,542	2,005	539
Residential revenue	33,288	23,244	8,129
Small and medium business	3,686	2,480	764
Enterprise	2,210	1,429	363
Commercial revenue	5,896	3,909	1,127
Advertising sales	1,510	1,235	309
Other	887	615	189
	<u>\$ 41,581</u>	<u>\$ 29,003</u>	<u>\$ 9,754</u>

### **Programming Costs**

The Company has various contracts to obtain video programming from vendors whose compensation is typically based on a flat fee per customer. The cost of the right to exhibit network programming under such arrangements is recorded in operating expenses in the month the programming is available for exhibition. Programming costs are paid each month based on calculations performed by the Company and are subject to periodic audits performed by the programmers. Certain programming contracts contain cash and non-cash consideration from the programmers. If consideration received does not relate to a separate product or service, the Company recognizes the consideration on a straight-line basis over the life of the programming agreement as a reduction of programming expense. Programming costs included in the statements of operations were \$10.6 billion, \$7.0 billion and \$2.7 billion for the years ended December 31, 2017, 2016 and 2015, respectively.

### **Advertising Costs**

Advertising costs associated with marketing the Company's products and services are generally expensed as costs are incurred.

### ***Multiple-Element Transactions***

In the normal course of business, the Company enters into multiple-element transactions where it is simultaneously both a customer and a vendor with the same counterparty or in which it purchases multiple products and/or services, or settles outstanding items contemporaneous with the purchase of a product or service from a single counterparty. Transactions, although negotiated contemporaneously, may be documented in one or more contracts. The Company's policy for accounting for each transaction negotiated contemporaneously is to record each element of the transaction based on the respective estimated fair values of the products or services purchased and the products or services sold. In determining the fair value of the respective elements, the Company refers to quoted market prices (where available), historical transactions or comparable cash transactions. Cash consideration received from a vendor is recorded as a reduction in the price of the vendor's product unless (i) the consideration is for the reimbursement of a specific, incremental, identifiable cost incurred, in which case the cash consideration received would be recorded as a reduction in such cost (e.g., marketing costs), or (ii) an identifiable benefit in exchange for the consideration is provided, in which case revenue would be recognized for this element.

### ***Stock-Based Compensation***

Restricted stock, restricted stock units, stock options as well as equity awards with market conditions are measured at the grant date fair value and amortized to stock compensation expense over the requisite service period. The fair value of options is estimated on the date of grant using the Black-Scholes option-pricing model and the fair value of equity awards with market conditions is estimated on the date of grant using Monte Carlo simulations. The grant date weighted average assumptions used during the years ended December 31, 2017, 2016 and 2015, respectively, were: risk-free interest rate of 1.8%, 1.7% and 1.5%; expected volatility of 25.0%, 25.4% and 34.7%; and expected lives of 4.6 years, 1.3 years and 6.5 years. Weighted average assumptions for 2016 include the assumptions used for the converted TWC awards (see Note 16). The Company's volatility assumptions represent management's best estimate and were based on historical volatility of Legacy Charter and Legacy TWC. See Note 3. Expected lives were estimated using historical exercise data. The valuations assume no dividends are paid.

### ***Pension Plans***

The Company sponsors the TWC Pension Plan, TWC Union Pension Plan and TWC Excess Pension Plan (as defined in Note 21). Pension benefits are based on formulas that reflect the employees' years of service and compensation during their employment period. Actuarial gains or losses are changes in the amount of either the benefit obligation or the fair value of plan assets resulting from experience different from that assumed or from changes in assumptions. The Company has elected to follow a mark-to-market pension accounting policy for recording the actuarial gains or losses annually during the fourth quarter, or earlier if a remeasurement event occurs during an interim period.

### ***Income Taxes***

The Company recognizes deferred tax assets and liabilities for temporary differences between the financial reporting basis and the tax basis of the Company's assets and liabilities and expected benefits of utilizing loss carryforwards. Since substantially all the Company's operations are held through its partnership interest in Charter Holdings, the primary deferred tax component recorded in the consolidated balance sheet relates to the excess financial reporting outside basis, excluding amounts attributable to nondeductible goodwill, over Charter's tax basis in its investment in the partnership. Valuation allowances are established when management determines that it is more likely than not that some portion or the entire deferred tax asset will not be realized. The impact on deferred taxes of changes in tax rates and tax law, if any, applied to the years during which temporary differences are expected to be settled, are reflected in the consolidated financial statements in the period of enactment. In determining the Company's tax provision for financial reporting purposes, the Company establishes a reserve for uncertain tax positions unless such positions are determined to be "more likely than not" of being sustained upon examination, based on their technical merits. There is considerable judgment involved in making such a determination. Interest and penalties are recognized on uncertain income tax positions as part of the income tax provision. See Note 17.

### ***Segments***

The Company's operations are managed and reported to its Chief Executive Officer ("CEO"), the Company's chief operating decision maker, on a consolidated basis. The CEO assesses performance and allocates resources based on the

consolidated results of operations. Under this organizational and reporting structure, the Company has one reportable segment, cable services.

### 3. Mergers and Acquisitions

#### The Transactions

On May 18, 2016, the transactions contemplated by the Agreement and Plan of Mergers dated as of May 23, 2015 (the “Merger Agreement”), by and among Time Warner Cable Inc. (“Legacy TWC”), Charter Communications, Inc. prior to the closing of the Merger Agreement (“Legacy Charter”), CCH I, LLC, previously a wholly owned subsidiary of Legacy Charter and certain other subsidiaries of CCH I, LLC were completed (the “TWC Transaction,” and together with the Bright House Transaction described below, the “Transactions”). As a result of the TWC Transaction, CCH I, LLC became the new public parent company that holds the operations of the combined companies and was renamed Charter Communications, Inc. As of the date of completion of the Transactions, the total value of the TWC Transaction was approximately \$85 billion, including cash, equity and Legacy TWC assumed debt.

Also, on May 18, 2016, Legacy Charter and A/N, the former parent of Bright House Networks, LLC (“Legacy Bright House”), completed their previously announced transaction, pursuant to a definitive Contribution Agreement (the “Contribution Agreement”), under which Charter acquired Legacy Bright House (the “Bright House Transaction”) for approximately \$12.2 billion consisting of cash and convertible preferred units of Charter Holdings and common units of Charter Holdings. Pursuant to the Bright House Transaction, Charter became the owner of the membership interests in Legacy Bright House and the other assets primarily related to Legacy Bright House (other than certain excluded assets and liabilities and non-operating cash).

In connection with the TWC Transaction, Liberty Broadband purchased shares of Charter Class A common stock to partially finance the cash portion of the TWC Transaction consideration, and in connection with the Bright House Transaction, Liberty Broadband purchased shares of Charter Class A common stock (the “Liberty Transaction”).

#### Acquisition Accounting

Charter applied acquisition accounting to the Transactions. The total purchase price was allocated to the identifiable tangible and intangible assets acquired and the liabilities assumed based on their estimated fair values. The fair values were primarily based on third-party valuations using assumptions developed by management and other information compiled by management including, but not limited to, future expected cash flows. The excess of the purchase price over those fair values was recorded as goodwill.

The tables below present the final allocation of the purchase price to the assets acquired and liabilities assumed in the Transactions.

#### *TWC Allocation of Purchase Price*

Cash and cash equivalents	\$ 1,058
Current assets	1,417
Property, plant and equipment	21,413
Customer relationships	13,460
Franchises	54,085
Goodwill	28,337
Other noncurrent assets	1,040
Accounts payable and accrued liabilities	(4,107)
Debt	(24,900)
Deferred income taxes	(28,120)
Other long-term liabilities	(3,162)
Noncontrolling interests	(4)
	<u>\$ 60,517</u>

Subsequent to December 31, 2016 and through the end of the measurement period, the Company made adjustments to the fair value of certain assets acquired and liabilities assumed in the TWC Transaction, including a decrease to working capital of \$73 million and a decrease of \$28 million to deferred income tax liabilities, resulting in a net increase of \$45 million to goodwill.

**Bright House Allocation of Purchase Price**

Current assets	\$ 131
Property, plant and equipment	2,884
Customer relationships	2,150
Franchises	7,225
Goodwill	44
Other noncurrent assets	86
Accounts payable and accrued liabilities	(330)
Other long-term liabilities	(12)
Noncontrolling interests	(22)
	<u>\$ 12,156</u>

**Selected Pro Forma Financial Information**

The following unaudited pro forma financial information of the Company is based on the historical consolidated financial statements of Legacy Charter, Legacy TWC and Legacy Bright House and is intended to provide information about how the Transactions and related financing may have affected the Company's historical consolidated financial statements if they had closed as of January 1, 2015. The pro forma financial information below is based on available information and assumptions that the Company believes are reasonable. The pro forma financial information is for illustrative and informational purposes only and is not intended to represent or be indicative of what the Company's financial condition or results of operations would have been had the transactions described above occurred on the date indicated. The pro forma financial information also should not be considered representative of the Company's future financial condition or results of operations.

	<u>Year Ended December 31,</u>	
	<u>2016</u>	<u>2015</u>
Revenues	\$ 40,023	\$ 37,394
Net income attributable to Charter shareholders	\$ 1,070	\$ 159
Earnings per common share attributable to Charter shareholders:		
Basic	\$ 3.97	\$ 0.59
Diluted	\$ 3.91	\$ 0.58

**4. Allowance for Doubtful Accounts**

Activity in the allowance for doubtful accounts is summarized as follows for the years presented:

	<u>Year Ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
Balance, beginning of period	\$ 124	\$ 21	\$ 22
Charged to expense	469	328	135
Uncollected balances written off, net of recoveries	(480)	(225)	(136)
Balance, end of period	<u>\$ 113</u>	<u>\$ 124</u>	<u>\$ 21</u>

## 5. Property, Plant and Equipment

Property, plant and equipment consists of the following as of December 31, 2017 and 2016:

	December 31,	
	2017	2016
Cable distribution systems	\$ 26,104	\$ 23,317
Customer premise equipment and installations	15,909	12,867
Vehicles and equipment	1,501	1,212
Buildings and improvements	3,901	3,426
Furniture, fixtures and equipment	4,550	3,244
	51,965	44,066
Less: accumulated depreciation	(18,077)	(11,103)
	\$ 33,888	\$ 32,963

The Company periodically evaluates the estimated useful lives used to depreciate its assets and the estimated amount of assets that will be abandoned or have minimal use in the future. A significant change in assumptions about the extent or timing of future asset retirements, or in the Company's use of new technology and upgrade programs, could materially affect future depreciation expense.

Depreciation expense for the years ended December 31, 2017, 2016 and 2015 was \$7.8 billion, \$5.0 billion, and \$1.9 billion, respectively.

## 6. Franchises, Goodwill and Other Intangible Assets

Franchise rights represent the value attributed to agreements or authorizations with local and state authorities that allow access to homes in cable service areas. For valuation purposes, they are defined as the future economic benefits of the right to solicit and service potential customers (customer marketing rights), and the right to deploy and market new services to potential customers (service marketing rights).

Management estimates the fair value of franchise rights at the date of acquisition and determines if the franchise has a finite life or an indefinite life. The Company has concluded that all of its franchises qualify for indefinite life treatment given that there are no legal, regulatory, contractual, competitive, economic or other factors which limit the period over which these rights will contribute to the Company's cash flows. The Company reassesses this determination periodically or whenever events or substantive changes in circumstances occur.

All franchises are tested for impairment annually or more frequently as warranted by events or changes in circumstances. Franchise assets are aggregated into essentially inseparable units of accounting to conduct valuations. The units of accounting generally represent geographical clustering of the Company's cable systems into groups. The Company assesses qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that an indefinite lived intangible asset has been impaired. If, after this optional qualitative assessment, the Company determines that it is not more likely than not that an indefinite lived intangible asset has been impaired, then no further quantitative testing is necessary. In completing the qualitative impairment testing, the Company evaluates a multitude of factors that affect the fair value of our franchise assets. Examples of such factors include environmental and competitive changes within our operating footprint, actual and projected operating performance, the consistency of our operating margins, equity and debt market trends, including changes in our market capitalization, and changes in our regulatory and political landscape, among other factors. The Company performed a qualitative assessment in 2017, which also included consideration of a fair value appraisal performed for tax purposes in the beginning of 2017 as of a December 31, 2016 valuation date (the "Appraisal"). After consideration of the qualitative factors in 2017, including the results of the Appraisal, the Company concluded that it is more likely than not that the fair value of the franchise assets in each unit of accounting exceeds the carrying value of such assets and therefore did not perform a quantitative analysis at the assessment date. Periodically, the Company will elect to perform a quantitative analysis for impairment testing. If the Company elects or is required to perform a quantitative analysis to test its franchise assets for impairment, the methodology described below is utilized.



If a quantitative analysis is performed, the estimated fair value of franchises is determined utilizing an income approach model based on the present value of the estimated discrete future cash flows attributable to each of the intangible assets identified assuming a discount rate. The fair value of franchises is determined based on estimated discrete discounted future cash flows using assumptions consistent with internal forecasts. The franchise after-tax cash flow is calculated as the after-tax cash flow generated by the potential customers obtained. The sum of the present value of the franchises' after-tax cash flow in years 1 through 10 and the continuing value of the after-tax cash flow beyond year 10 yields the fair value of the franchises.

This approach makes use of unobservable factors such as projected revenues, expenses, capital expenditures, customer trends, and a discount rate applied to the estimated cash flows. The determination of the franchise discount rate is derived from the Company's weighted average cost of capital, which uses a market participant's cost of equity and after-tax cost of debt and reflects the risks inherent in the cash flows. The Company estimates discounted future cash flows using reasonable and appropriate assumptions including among others, penetration rates for video, Internet, and voice; revenue growth rates; operating margins; and capital expenditures. The assumptions are based on the Company's and its peers' historical operating performance adjusted for current and expected competitive and economic factors surrounding the cable industry. The estimates and assumptions made in the Company's valuations are inherently subject to significant uncertainties, many of which are beyond its control, and there is no assurance that these results can be achieved. The primary assumptions for which there is a reasonable possibility of the occurrence of a variation that would significantly affect the measurement value include the assumptions regarding revenue growth, programming expense growth rates, the amount and timing of capital expenditures, actual customer trends and the discount rate utilized.

The fair value of goodwill is determined using both an income approach and market approach. The Company's income approach model used for its goodwill valuation is consistent with that used for its franchise valuation noted above except that cash flows from the entire business enterprise are used for the goodwill valuation. The Company's market approach model estimates the fair value of the reporting unit based on market prices in actual precedent transactions of similar businesses and market valuations of guideline public companies. Goodwill is tested for impairment as of November 30 of each year, or more frequently as warranted by events or changes in circumstances. Accounting guidance also permits an optional qualitative assessment for goodwill to determine whether it is more likely than not that the carrying value of a reporting unit exceeds its fair value. If, after this qualitative assessment, the Company determines that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount then no further quantitative testing would be necessary. If the Company elects or is required to perform the two-step test under the accounting guidance, the first step involves a comparison of the estimated fair value of the reporting unit to its carrying amount. If the estimated fair value of the reporting unit exceeds its carrying amount, goodwill of the reporting unit is not considered impaired and the second step of the goodwill impairment is not necessary. If the carrying amount of a reporting unit exceeds its estimated fair value, then the second step of the goodwill impairment test must be performed, and a comparison of the implied fair value of the reporting unit's goodwill is compared to its carrying amount to determine the amount of impairment, if any. As with the Company's franchise impairment testing, in 2017 the Company elected to perform a qualitative goodwill impairment assessment, which incorporated the results of the Appraisal and consideration of the same qualitative factors relevant to the Company's franchise impairment testing. As a result of that assessment, the Company concluded that goodwill is not impaired.

Customer relationships are recorded at fair value as of the date acquired less accumulated amortization. Customer relationships, for valuation purposes, represent the value of the business relationship with existing customers, and are calculated by projecting the discrete future after-tax cash flows from these customers, including the right to deploy and market additional services to these customers. The present value of these after-tax cash flows yields the fair value of the customer relationships. The use of different valuation assumptions or definitions of franchises or customer relationships, such as our inclusion of the value of selling additional services to our current customers within customer relationships versus franchises, could significantly impact our valuations and any resulting impairment. Customer relationships are amortized on an accelerated sum of years' digits method over useful lives of 8-15 years based on the period over which current customers are expected to generate cash flows. The Company periodically evaluates the remaining useful lives of its customer relationships to determine whether events or circumstances warrant revision to the remaining periods of amortization. Customer relationships are evaluated for impairment upon the occurrence of events or changes in circumstances indicating that the carrying amount of an asset may not be recoverable. Customer relationships are deemed impaired when the carrying value exceeds the projected undiscounted future cash flows associated with the customer relationships. No impairment of customer relationships was recorded in the years ended December 31, 2017, 2016 or 2015.

The fair value of trademarks is determined using the relief-from-royalty method, a variation of the income approach, which applies a fair royalty rate to estimated revenue derived under the Company's trademarks. The fair value of the intangible

is estimated to be the present value of the royalty saved because the Company owns the trademarks. Royalty rates are estimated based on a review of market royalty rates in the communications and entertainment industries. As the Company expects to continue to use each trademark indefinitely, trademarks have been assigned an indefinite life and are tested annually for impairment using either a qualitative analysis or quantitative analysis as elected by management. As with the Company's franchise impairment testing, in 2017 the Company elected to perform a qualitative trademark impairment assessment and concluded that trademarks are not impaired.

As of December 31, 2017 and 2016, indefinite-lived and finite-lived intangible assets are presented in the following table:

	December 31,					
	2017			2016		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
<b>Indefinite-lived intangible assets:</b>						
Franchises	\$ 67,319	\$ —	\$ 67,319	\$ 67,316	\$ —	\$ 67,316
Goodwill	29,554	—	29,554	29,509	—	29,509
Trademarks	159	—	159	159	—	159
Other intangible assets	—	—	—	4	—	4
	<u>\$ 97,032</u>	<u>\$ —</u>	<u>\$ 97,032</u>	<u>\$ 96,988</u>	<u>\$ —</u>	<u>\$ 96,988</u>
<b>Finite-lived intangible assets:</b>						
Customer relationships	\$ 18,229	\$ (6,278)	\$ 11,951	\$ 18,226	\$ (3,618)	\$ 14,608
Other intangible assets	731	(201)	530	615	(128)	487
	<u>\$ 18,960</u>	<u>\$ (6,479)</u>	<u>\$ 12,481</u>	<u>\$ 18,841</u>	<u>\$ (3,746)</u>	<u>\$ 15,095</u>

Other intangible assets consist primarily of right-of-entry costs. Amortization expense related to customer relationships and other intangible assets for the years ended December 31, 2017, 2016 and 2015 was \$2.7 billion, \$1.9 billion and \$271 million, respectively.

The Company expects amortization expense on its finite-lived intangible assets will be as follows.

2018	\$ 2,478
2019	2,195
2020	1,903
2021	1,619
2022	1,342
Thereafter	2,944
	<u>\$ 12,481</u>

Actual amortization expense in future periods could differ from these estimates as a result of new intangible asset acquisitions or divestitures, changes in useful lives, impairments, adoption of new accounting standards and other relevant factors.

## 7. Investments

Investments consisted of the following as of December 31, 2017 and 2016:

	December 31,	
	2017	2016
Equity-method investments	482	519
Other investments	15	11
Total investments	<u>\$ 497</u>	<u>\$ 530</u>

The Company's investments include Active Video Networks ("AVN" - 35.0% owned) Sterling Entertainment Enterprises, LLC ("Sterling" - d/b/a SportsNet New York - 26.8% owned), MLB Network, LLC ("MLB Network" - 6.4% owned),

iN Demand L.L.C. ("iN Demand" - 39.5% owned) and National Cable Communications LLC ("NCC" - 20.0% owned), among other less significant equity-method and cost-method investments. Sterling and MLB Network are primarily engaged in the development of sports programming services. iN Demand provides programming on a video on demand, pay-per-view and subscription basis. NCC represents multi-video program distributors to advertisers.

The Company's equity-method investments balances reflected in the table above includes differences between the acquisition date fair value of certain investments acquired and the underlying equity in the net assets of the investee, referred to as a basis difference. This basis difference is amortized as a component of equity earnings. The remaining unamortized basis difference was \$407 million and \$436 million as of December 31, 2017 and 2016, respectively.

The Company applies the equity method of accounting to these and other less significant equity-method investments, all of which are recorded in other noncurrent assets in the consolidated balance sheets as of December 31, 2017 and 2016. For the years ended December 31, 2017, 2016 and 2015, net losses from equity-method investments were \$18 million, \$14 million and \$7 million, respectively, which were recorded in other expense, net in the consolidated statements of operations.

Real estate investments through variable interest entities ("VIEs") on the consolidated statement of cash flows for the year ended December 31, 2017 represents the acquisition of a defaulted mortgage loan issued to a single-asset, special purpose entity real estate lessor (the "SPE"). As the Company has determined the SPE is a VIE of which it is the primary beneficiary, the Company has consolidated the assets and liabilities of the SPE in its consolidated balance sheet as of December 31, 2017, which are primarily composed of the building securing the mortgage loan.

## 8. Accounts Payable and Accrued Liabilities

Accounts payable and accrued liabilities consist of the following as of December 31, 2017 and 2016:

	December 31,	
	2017	2016
Accounts payable – trade	\$ 740	\$ 454
Deferred revenue	395	352
Accrued liabilities:		
Programming costs	1,907	1,783
Compensation	1,109	1,111
Capital expenditures	1,935	1,107
Interest	1,054	958
Taxes and regulatory fees	556	538
Property and casualty	408	394
Other	941	847
	<u>\$ 9,045</u>	<u>\$ 7,544</u>

**9. Long-Term Debt**

Long-term debt consists of the following as of December 31, 2017 and 2016:

	December 31,			
	2017		2016	
	Principal Amount	Accreted Value	Principal Amount	Accreted Value
<b>CCO Holdings, LLC:</b>				
5.250% senior notes due March 15, 2021	\$ 500	\$ 497	\$ 500	\$ 496
6.625% senior notes due January 31, 2022	—	—	750	741
5.250% senior notes due September 30, 2022	1,250	1,235	1,250	1,232
5.125% senior notes due February 15, 2023	1,000	993	1,000	992
4.000% senior notes due March 1, 2023	500	495	—	—
5.125% senior notes due May 1, 2023	1,150	1,143	1,150	1,141
5.750% senior notes due September 1, 2023	500	496	500	496
5.750% senior notes due January 15, 2024	1,000	992	1,000	991
5.875% senior notes due April 1, 2024	1,700	1,687	1,700	1,685
5.375% senior notes due May 1, 2025	750	745	750	744
5.750% senior notes due February 15, 2026	2,500	2,464	2,500	2,460
5.500% senior notes due May 1, 2026	1,500	1,489	1,500	1,487
5.875% senior notes due May 1, 2027	800	794	800	794
5.125% senior notes due May 1, 2027	3,250	3,216	—	—
5.000% senior notes due February 1, 2028	2,500	2,462	—	—
<b>Charter Communications Operating, LLC:</b>				
3.579% senior notes due July 23, 2020	2,000	1,988	2,000	1,983
4.464% senior notes due July 23, 2022	3,000	2,977	3,000	2,973
4.908% senior notes due July 23, 2025	4,500	4,462	4,500	4,458
3.750% senior notes due February 15, 2028	1,000	985	—	—
4.200% senior notes due March 15, 2028	1,250	1,238	—	—
6.384% senior notes due October 23, 2035	2,000	1,981	2,000	1,980
6.484% senior notes due October 23, 2045	3,500	3,466	3,500	3,466
5.375% senior notes due May 1, 2047	2,500	2,506	—	—
6.834% senior notes due October 23, 2055	—	—	—	—
Credit facilities	500	495	500	495
	9,479	9,387	8,916	8,814
<b>Time Warner Cable, LLC:</b>				
5.850% senior notes due May 1, 2017	—	—	2,000	2,028
6.750% senior notes due July 1, 2018	2,000	2,045	2,000	2,135
8.750% senior notes due February 14, 2019	1,250	1,337	1,250	1,412
8.250% senior notes due April 1, 2019	2,000	2,148	2,000	2,264
5.000% senior notes due February 1, 2020	1,500	1,579	1,500	1,615
4.125% senior notes due February 15, 2021	700	730	700	739
4.000% senior notes due September 1, 2021	1,000	1,045	1,000	1,056
5.750% sterling senior notes due June 2, 2031 <sup>(a)</sup>	845	912	770	834
6.550% senior debentures due May 1, 2037	1,500	1,686	1,500	1,691
7.300% senior debentures due July 1, 2038	1,500	1,788	1,500	1,795
6.750% senior debentures due June 15, 2039	1,500	1,724	1,500	1,730
5.875% senior debentures due November 15, 2040	1,200	1,258	1,200	1,259
5.500% senior debentures due September 1, 2041	1,250	1,258	1,250	1,258
5.250% sterling senior notes due July 15, 2042 <sup>(b)</sup>	879	847	800	771
4.500% senior debentures due September 15, 2042	1,250	1,137	1,250	1,135
<b>Time Warner Cable Enterprises LLC:</b>				
8.375% senior debentures due March 15, 2023	1,000	1,232	1,000	1,273
8.375% senior debentures due July 15, 2033	1,000	1,312	1,000	1,324
<b>Total debt</b>	<b>69,003</b>	<b>70,231</b>	<b>60,036</b>	<b>61,747</b>
Less current portion:				
5.850% senior notes due May 1, 2017	—	—	(2,000)	(2,028)
6.750% senior notes due July 1, 2018	(2,000)	(2,045)	—	—
<b>Long-term debt</b>	<b>\$ 67,003</b>	<b>\$ 68,186</b>	<b>\$ 58,036</b>	<b>\$ 59,719</b>

(a) Principal amount includes £625 million valued at \$845 million and \$770 million as of December 31, 2017 and December 31, 2016, respectively, using the exchange rate at that date.

- (b) Principal amount includes £650 million valued at \$879 million and \$800 million as of December 31, 2017 and December 31, 2016, respectively, using the exchange rate at that date.

The accreted values presented in the table above represent the principal amount of the debt less the original issue discount at the time of sale, deferred financing costs, and, in regards to the Legacy TWC debt assumed, fair value premium adjustments as a result of applying acquisition accounting plus the accretion of those amounts to the balance sheet date. However, the amount that is currently payable if the debt becomes immediately due is equal to the principal amount of the debt. In regards to the fixed-rate British pound sterling denominated notes (the "Sterling Notes"), the principal amount of the debt and any premium or discount is remeasured into US dollars as of each balance sheet date. See Note 12. The Company has availability under the Charter Operating credit facilities of approximately \$3.6 billion as of December 31, 2017.

During 2015, CCO Holdings and CCO Holdings Capital closed on transactions in which they issued \$2.7 billion aggregate principal amount of senior unsecured notes with varying maturities and interest rates. The net proceeds were used to repurchase \$2.5 billion of various series of senior unsecured notes, as well as for general corporate purposes. These debt repurchases resulted in a loss on extinguishment of debt of \$123 million for the year ended December 31, 2015. The Company also recorded a loss on extinguishment of debt of approximately \$5 million for the year ended December 31, 2015 as a result of the repayment of debt upon termination of the proposed transactions with Comcast Corporation.

During 2016, CCO Holdings and CCO Holdings Capital closed on transactions in which they issued \$3.2 billion aggregate principal amount of senior unsecured notes with varying maturities and interest rates. The net proceeds were used to repurchase \$2.9 billion of various series of senior unsecured notes, as well as for general corporate purposes. These debt repurchases resulted in a loss on extinguishment of debt of \$110 million for the year ended December 31, 2016.

During 2016, Charter Operating entered into an amendment to its Amended and Restated Credit Agreement dated May 18, 2016 (the "Credit Agreement") decreasing the applicable LIBOR margin, eliminating the LIBOR floor and extending the maturities on certain term loans. The Company recorded a loss on extinguishment of debt of \$1 million for the year ended December 31, 2016 related to these transactions.

During 2017, CCO Holdings and CCO Holdings Capital closed on transactions in which they issued \$6.25 billion aggregate principal amount of senior unsecured notes with varying maturities and interest rates. The net proceeds were used to fund buybacks of Charter Class A common stock or Charter Holdings common units, repurchase \$2.75 billion of various series of senior secured and unsecured notes, as well as for general corporate purposes. These debt repurchases resulted in a loss on extinguishment of debt of \$34 million for the year ended December 31, 2017.

During 2017, Charter Operating and Charter Communications Operating Capital Corp. closed on transactions in which they issued \$4.75 billion aggregate principal amount of senior secured notes with varying maturities and interest rates. The net proceeds were used to fund buybacks of Charter Class A common stock or Charter Holdings common units, as well as for general corporate purposes.

During 2017, Charter Operating also entered into amendments to its Credit Agreement decreasing the applicable LIBOR margins, eliminating the LIBOR floor, increasing the capacity of the revolving loan, extending the maturities and repaying the E, F, H and I term loans with the issuance of a new term B loan. The Company recorded a loss on extinguishment of debt of \$6 million for the year ended December 31, 2017 related to these transactions. See "Charter Operating Credit Facilities" below for details on the Company's term loans as of December 31, 2017.

#### **CCO Holdings Notes**

The CCO Holdings notes are senior debt obligations of CCO Holdings and CCO Holdings Capital and rank equally with all other current and future unsecured, unsubordinated obligations of CCO Holdings and CCO Holdings Capital. They are structurally subordinated to all obligations of subsidiaries of CCO Holdings.

CCO Holdings may redeem some or all of the CCO Holdings notes at any time at a premium. The optional redemption price declines to 100% of the respective series' principal amount, plus accrued and unpaid interest, if any, on or after varying dates in 2019 through 2025.

In addition, at any time prior to varying dates in 2018 through 2020, CCO Holdings may redeem up to 40% of the aggregate principal amount of certain notes at a premium plus accrued and unpaid interest to the redemption date, with the net cash proceeds of one or more equity offerings (as defined in the indenture); provided that certain conditions are met. In the event of specified change of control events, CCO Holdings must offer to purchase the outstanding CCO Holdings notes from the holders at a purchase price equal to 101% of the total principal amount of the notes, plus any accrued and unpaid interest.

***High-Yield Restrictive Covenants; Limitation on Indebtedness.***

The indentures governing the CCO Holdings notes contain certain covenants that restrict the ability of CCO Holdings, CCO Holdings Capital and all of their restricted subsidiaries to:

- incur additional debt;
- pay dividends on equity or repurchase equity;
- make investments;
- sell all or substantially all of their assets or merge with or into other companies;
- sell assets;
- in the case of restricted subsidiaries, create or permit to exist dividend or payment restrictions with respect to CCO Holdings, guarantee their parent companies debt, or issue specified equity interests;
- engage in certain transactions with affiliates; and
- grant liens.

The above limitations in certain circumstances regarding incurrence of debt, payment of dividends and making investments contained in the indentures of CCO Holdings permit CCO Holdings and its restricted subsidiaries to perform the above, so long as, after giving pro forma effect to the above, the leverage ratio would be below a specified level for the issuer. The leverage ratio under the indentures is 6.0 to 1.0.

**Charter Operating Notes**

The Charter Operating notes are guaranteed by CCO Holdings and substantially all of the operating subsidiaries of Charter Operating. In addition, the Charter Operating notes are secured by a perfected first priority security interest in substantially all of the assets of Charter Operating to the extent such liens can be perfected under the Uniform Commercial Code by the filing of a financing statement and the liens rank equally with the liens on the collateral securing obligations under the Charter Operating credit facilities. Charter Operating may redeem some or all of the Charter Operating notes at any time at a premium.

The Charter Operating notes are subject to the terms and conditions of the indenture governing the Charter Operating notes. The Charter Operating notes contain customary representations and warranties and affirmative covenants with limited negative covenants. The Charter Operating indenture also contains customary events of default.

**Charter Operating Credit Facilities**

The Charter Operating credit facilities have an outstanding principal amount of \$9.5 billion at December 31, 2017 as follows:

- term loan A-2 with a remaining principal amount of \$2.9 billion, which is repayable in quarterly installments and aggregating \$144 million in each loan year, with the remaining balance due at final maturity on March 31, 2023. Pricing on term loan A-2 is LIBOR plus 1.50%;
- term loan B with a remaining principal amount of approximately \$6.4 billion, which is repayable in equal quarterly installments and aggregating \$64 million in each loan year, with the remaining balance due at final maturity on April 30, 2025. Pricing on term loan B is LIBOR plus 2.00%; and

· revolving loan with an outstanding balance of \$254 million at December 31, 2017 and allowing for borrowings of up to \$4.0 billion, maturing on March 31, 2023. Pricing on the revolving loan is LIBOR plus 1.50% with a commitment fee of 0.30%. As of December 31, 2017, \$137 million of the revolving loan was utilized to collateralize a like principal amount of letters of credit out of \$291 million of letters of credit issued on the Company's behalf.

Amounts outstanding under the Charter Operating credit facilities bear interest, at Charter Operating's election, at a base rate or LIBOR (1.56% and 0.77% as of December 31, 2017 and December 31, 2016, respectively), as defined, plus an applicable margin.

The Charter Operating credit facilities also allow us to enter into incremental term loans in the future, with amortization as set forth in the notices establishing such term loans. Although the Charter Operating credit facilities allow for the incurrence of a certain amount of incremental term loans subject to pro forma compliance with its financial maintenance covenants, no assurance can be given that the Company could obtain additional incremental term loans in the future if Charter Operating sought to do so or what amount of incremental term loans would be allowable at any given time under the terms of the Charter Operating credit facilities.

The obligations of Charter Operating under the Charter Operating credit facilities are guaranteed by CCO Holdings and substantially all of the operating subsidiaries of Charter Operating. The obligations are also secured by (i) a lien on substantially all of the assets of Charter Operating and its subsidiaries, to the extent such lien can be perfected under the Uniform Commercial Code by the filing of a financing statement, and (ii) a pledge by CCO Holdings of the equity interests owned by it in any of Charter Operating's subsidiaries, as well as intercompany obligations owing to it by any of such entities.

### ***Restrictive Covenants***

The Charter Operating credit facilities contain representations and warranties, and affirmative and negative covenants customary for financings of this type. The financial covenants measure performance against standards set for leverage to be tested as of the end of each quarter. The Charter Operating credit facilities contain provisions requiring mandatory loan prepayments under specific circumstances, including in connection with certain sales of assets, so long as the proceeds have not been reinvested in the business. Additionally, the Charter Operating credit facilities provisions contain an allowance for restricted payments with certain limitations. The Charter Operating credit facilities permit Charter Operating and its subsidiaries to make distributions to pay interest on the currently outstanding subordinated and parent company indebtedness, provided that, among other things, no default has occurred and is continuing under the Charter Operating credit facilities. The Charter Operating credit facilities also contain customary events of default.

### ***TWC, LLC Senior Notes and Debentures***

The TWC, LLC senior notes and debentures are guaranteed by CCO Holdings and substantially all of the operating subsidiaries of Charter Operating and rank equally with the liens on the collateral securing obligations under the Charter Operating notes and credit facilities. Interest on each series of TWC, LLC senior notes and debentures is payable semi-annually (with the exception of the Sterling Notes, which is payable annually) in arrears.

The TWC, LLC indenture contains customary covenants relating to restrictions on the ability of TWC, LLC or any material subsidiary to create liens and on the ability of TWC, LLC and Time Warner Cable Enterprises LLC ("TWCE") to consolidate, merge or convey or transfer substantially all of their assets. The TWC, LLC indenture also contains customary events of default.

The TWC, LLC senior notes and debentures may be redeemed in whole or in part at any time at TWC, LLC's option at a redemption price equal to the greater of (i) all of the applicable principal amount being redeemed and (ii) the sum of the present values of the remaining scheduled payments on the applicable TWC, LLC senior notes and debentures discounted to the redemption date on a semi-annual basis (with the exception of the Sterling Notes, which are on an annual basis), at a comparable government bond rate plus a designated number of basis points as further described in the indenture and the applicable note or debenture, plus, in each case, accrued but unpaid interest to, but not including, the redemption date.

The Company may offer to redeem all, but not less than all, of the Sterling Notes in the event of certain changes in the tax laws of the U.S. (or any taxing authority in the U.S.). This redemption would be at a redemption price equal to 100% of the principal amount, together with accrued and unpaid interest on the Sterling Notes to, but not including, the redemption date.

#### ***TWCE Senior Debentures***

The TWCE senior debentures are guaranteed by CCO Holdings, substantially all of the operating subsidiaries of Charter Operating and TWC, LLC and rank equally with the liens on the collateral securing obligations under the Charter Operating notes and credit facilities. Interest on each series of TWCE senior debentures is payable semi-annually in arrears. The TWCE senior debentures are not redeemable before maturity.

The TWCE indenture contains customary covenants relating to restrictions on the ability of TWCE or any material subsidiary to create liens and on the ability of TWC, LLC and TWCE to consolidate, merge or convey or transfer substantially all of their assets. The TWCE indenture also contains customary events of default.

#### **Limitations on Distributions**

Distributions by the Company's subsidiaries to a parent company for payment of principal on parent company notes are restricted under the indentures and credit facilities discussed above, unless there is no default under the applicable indenture and credit facilities, and unless each applicable subsidiary's leverage ratio test is met at the time of such distribution. As of December 31, 2017, there was no default under any of these indentures or credit facilities and each subsidiary met its applicable leverage ratio tests based on December 31, 2017 financial results. There can be no assurance that they will satisfy these tests at the time of the contemplated distribution. Distributions by Charter Operating for payment of principal on parent company notes are further restricted by the covenants in its credit facilities.

However, without regard to leverage, during any calendar year or any portion thereof during which the borrower is a flow-through entity for tax purposes, and so long as no event of default exists, the borrower may make distributions to the equity interests of the borrower in an amount sufficient to make permitted tax payments.

In addition to the limitation on distributions under the various indentures, distributions by the Company's subsidiaries may be limited by applicable law, including the Delaware Limited Liability Company Act, under which the Company's subsidiaries may make distributions if they have "surplus" as defined in the act.

#### **Liquidity and Future Principal Payments**

The Company continues to have significant amounts of debt, and its business requires significant cash to fund principal and interest payments on its debt, capital expenditures and ongoing operations. As set forth below, the Company has significant future principal payments. The Company continues to monitor the capital markets, and it expects to undertake refinancing transactions and utilize free cash flow and cash on hand to further extend or reduce the maturities of its principal obligations. The timing and terms of any refinancing transactions will be subject to market conditions.

Based upon outstanding indebtedness as of December 31, 2017, the amortization of term loans, and the maturity dates for all senior and subordinated notes, total future principal payments on the total borrowings under all debt agreements are as follows:

<b>Year</b>	<b>Amount</b>
2018	\$ 2,207
2019	3,457
2020	3,707
2021	2,407
2022	4,457
Thereafter	52,768
	<u>\$ 69,003</u>



## 10. Common Stock

Charter's Class A common stock and Class B common stock are identical except with respect to certain voting, transfer and conversion rights. Holders of Class A common stock are entitled to one vote per share. Charter's Class B common stock represents the share issued to A/N in connection with the Bright House Transaction. One share of Charter's Class B common stock has a number of votes reflecting the voting power of the Charter Holdings common units and Charter Holdings convertible preferred units held by A/N as of the applicable record date on an if-converted, if-exchanged basis, and is generally intended to reflect A/N's economic interests in Charter Holdings.

The following table summarizes our shares outstanding for the three years ended December 31, 2017:

	Class A Common Stock	Class B Common Stock
BALANCE, December 31, 2014	111,999,687	—
Exercise of stock options	579,173	—
Restricted stock issuances, net of cancellations	6,920	—
Restricted stock unit vesting	98,831	—
Purchase of treasury stock	(245,783)	—
BALANCE, December 31, 2015	112,438,828	—
Reorganization of common stock	(10,771,404)	—
Issuance of shares in TWC Transaction	143,012,155	—
Issuance of shares to Liberty Broadband for cash	25,631,339	—
Issuance of share to A/N in Bright House Transaction	—	1
Exchange of Charter Holdings units held by A/N (see Note 11)	1,852,832	—
Exercise of stock options	1,014,664	—
Restricted stock issuances, net of cancellations	9,811	—
Restricted stock unit vesting	1,738,792	—
Purchase of treasury stock	(6,029,225)	—
BALANCE, December 31, 2016	268,897,792	1
Exchange of Charter Holdings units held by A/N (see Note 11)	1,263,497	—
Exercise of stock options	1,044,526	—
Restricted stock issuances, net of cancellations	9,517	—
Restricted stock unit vesting	1,159,083	—
Purchase of treasury stock	(33,868,356)	—
BALANCE, December 31, 2017	238,506,059	1

The shares outstanding balances shown above as of and prior to December 31, 2015 represent historical shares outstanding of Legacy Charter before applying the Parent Merger Exchange Ratio (as defined in the Merger Agreement). The 10.8 million shares associated with the reorganization of Charter Class A common stock represents the reduction to Legacy Charter Class A common shares outstanding as of the acquisition date as a result of applying the Parent Merger Exchange Ratio.

### Share Repurchases

The following represents the Company's purchase of Charter Class A common stock and the effect on the consolidated statements of cash flows during the years ended December 31, 2017, 2016 and 2015.

	Year Ended December 31,					
	2017		2016		2015	
	Shares	\$	Shares	\$	Shares	\$
Share buybacks	33,375,878	\$ 11,570	5,070,656	\$ 1,346	—	\$ —
Income tax withholding	447,455	145	908,066	216	177,696	38
Exercise cost	45,023		50,503		44,541	
	33,868,356	\$ 11,715	6,029,225	\$ 1,562	222,237	\$ 38

As of December 31, 2017, Charter had remaining board authority to purchase an additional \$1.1 billion of Charter's Class A common stock and/or Charter Holdings common units. See Note 19. The Company also withholds shares of its Class

A common stock in payment of income tax withholding owed by employees upon vesting of equity awards as well as exercise costs owed by employees upon exercise of stock options.

At the end of each fiscal year, Charter's board of directors approved the retirement of the then currently outstanding treasury stock and those shares were retired as of December 31, 2017 and 2016. The Company accounts for treasury stock using the cost method and includes treasury stock as a component of total shareholders' equity. Upon retirement, these treasury shares are allocated between additional paid-in capital and accumulated deficit based on the cost of original issue included in additional paid-in capital.

## 11. Noncontrolling Interests

Noncontrolling interests represents consolidated subsidiaries of which the Company owns less than 100%. The Company is a holding company whose principal asset is a controlling equity interest in Charter Holdings, the indirect owner of the Company's cable systems. Noncontrolling interests on the Company's balance sheet primarily includes A/N's equity interests in Charter Holdings, which is comprised of a common ownership interest and a convertible preferred ownership interest.

As of December 31, 2017, A/N held 22.3 million Charter Holdings common units which are exchangeable at any time into either Charter Class A common stock on a one-for-one basis, or, at Charter's option, cash, based on the then current market price of Charter Class A common stock. Net income (loss) of Charter Holdings attributable to A/N's common noncontrolling interest for financial reporting purposes is based on the weighted average effective common ownership interest of approximately 9% and 10% and was \$69 million and \$129 million for the years ended December 31, 2017 and 2016, respectively. Charter Holdings distributed \$3 million to A/N as a pro rata tax distribution on its common units during the years ended December 31, 2017 and 2016.

Pursuant to the letter agreement discussed in Note 19, Charter Holdings purchased 4.8 million Charter Holdings common units from A/N, at a price per unit of \$347.03, or \$1.7 billion during the year ended December 31, 2017, and 0.8 million Charter Holdings common units, at a price per unit of \$289.83, or \$218 million during the year ended December 31, 2016. The common units purchased during the year ended December 31, 2017 are reflected as a reduction in noncontrolling interest based on net carrying value of approximately \$1.2 billion with the remaining \$478 million recorded as reduction of additional paid-in-capital, net of \$183 million of deferred income taxes. The common units purchased during the year ended December 31, 2016 are reflected as a reduction in noncontrolling interest based on net carrying value of approximately \$187 million with the remaining \$31 million recorded as reduction of additional paid-in-capital, net of \$12 million of deferred income taxes.

In December 2017 and 2016, A/N exchanged 1.3 million and 1.9 million Charter Holdings common units, respectively, held by A/N for shares of Charter Class A common stock for an aggregate purchase price of \$400 million and \$537 million, respectively, pursuant to the letter agreement discussed in Note 19. The common units exchanged had a net carrying value in noncontrolling interest of approximately \$298 million and \$460 million as of December 31, 2017 and 2016, respectively. The exchange of A/N common units resulted in a step-up in the tax-basis of the assets of Charter Holdings which is further discussed in Note 17.

As of December 31, 2017, A/N also held 25 million Charter Holdings convertible preferred units with a face amount of \$2.5 billion that pays a 6% annual preferred dividend. The 6% annual preferred dividend is paid quarterly in cash, if and when declared, provided that, if dividends are suspended at any time, the dividends will accrue until they are paid. Net income (loss) of Charter Holdings attributable to the preferred noncontrolling interest for financial reporting purposes is based on the preferred dividend which was \$150 million and \$93 million for the years ended December 31, 2017 and 2016, respectively. Each convertible preferred unit is convertible into either 0.37334 of a Charter Holdings common unit (if then held by A/N) or 0.37334 of a share of Charter Class A common stock (if then held by a third party), representing a conversion price of \$267.85 per unit, based on a conversion feature as defined in the Limited Liability Company Agreement of Charter Holdings. After May 18, 2021, Charter may redeem the convertible preferred units if the price of Charter Class A common stock exceeds 130% of the conversion price. These Charter Holdings common and convertible preferred units held by A/N are recorded in noncontrolling interests as permanent equity in the consolidated balance sheet.

The common units and convertible preferred units issued to A/N as consideration for the Bright House Transaction were initially measured at their fair value of \$7.0 billion and \$3.2 billion, respectively, in accordance with acquisition accounting. However, upon formation of Charter Holdings and subsequent to the acquisition, the carrying amounts of the controlling and

noncontrolling interests were adjusted to reflect the relative effective common ownership interest in Charter Holdings. In addition to the common units purchased and exchanged with A/N as noted above, other changes in Charter Holdings' ownership resulted in an increase to noncontrolling interest of approximately \$589 million and a corresponding decrease to additional paid-in capital of \$589 million, net of \$225 million of deferred income taxes, for the year ended December 31, 2016. Noncontrolling interest and additional paid-in-capital were also adjusted during the year ended December 31, 2017 due to the changes in Charter Holdings' ownership. These adjustments resulted in a decrease to noncontrolling interest of approximately \$362 million and a corresponding increase to additional paid-in-capital of \$362 million, net of \$139 million of deferred income taxes, for the year ended December 31, 2017.

## 12. Accounting for Derivative Instruments and Hedging Activities

The Company uses derivative instruments to manage interest rate risk on variable debt and foreign exchange risk on the Sterling Notes, and does not hold or issue derivative instruments for speculative trading purposes.

Cross-currency derivative instruments are used to effectively convert £1.275 billion aggregate principal amount of fixed-rate British pound sterling denominated debt, including annual interest payments and the payment of principal at maturity, to fixed-rate U.S. dollar denominated debt. The cross-currency swaps have maturities of June 2031 and July 2042. The Company is required to post collateral on the cross-currency derivative instruments when the derivative contracts are in a liability position. In May 2016, the Company entered into a collateral holiday agreement for 80% of both the 2031 and 2042 cross-currency swaps, which eliminates the requirement to post collateral for three years. The fair value of the Company's cross-currency derivatives included in other long-term liabilities on the Company's consolidated balance sheets was \$25 million and \$251 million as of December 31, 2017 and 2016, respectively.

The Company's derivative instruments are not designated as hedges and are marked to fair value each period, with the impact recorded as a gain or loss on financial instruments, net in the consolidated statements of operations. While these derivative instruments are not designated as cash flow hedges for accounting purposes, management continues to believe such instruments are correlated with the respective debt, thus managing associated risk.

The effect of financial instruments on the consolidated statements of operations is presented in the table below.

	<u>Year Ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
<b>Gain (Loss) on Financial Instruments, Net:</b>			
Change in fair value of interest rate derivative instruments	\$ 5	\$ 8	\$ 5
Change in fair value of cross-currency derivative instruments	226	(179)	—
Foreign currency remeasurement of Sterling Notes to U.S. dollars	(157)	279	—
Loss on termination of interest rate derivative instruments	—	(11)	—
Loss reclassified from accumulated other comprehensive loss due to discontinuance of hedge accounting	(5)	(8)	(9)
	<u>\$ 69</u>	<u>\$ 89</u>	<u>\$ (4)</u>

Upon closing of the TWC Transaction, the Company acquired interest rate derivative instrument assets which were terminated and settled with their respective counterparties in the second quarter of 2016 with an \$88 million cash payment to the Company. The termination resulted in an \$11 million loss for the year ended December 31, 2016 which was recorded in gain (loss) on financial instruments, net in the consolidated statements of operations. All of the Company's interest rate derivatives were expired as of December 31, 2017.

## 13. Fair Value Measurements

The accounting guidance establishes a three-level hierarchy for disclosure of fair value measurements, based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date, as follows:

Level 1 – inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 – inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.

Level 3 – inputs to the valuation methodology are unobservable and significant to the fair value measurement.

**Financial Assets and Liabilities**

The Company has estimated the fair value of its financial instruments as of December 31, 2017 and 2016 using available market information or other appropriate valuation methodologies. Considerable judgment, however, is required in interpreting market data to develop the estimates of fair value. Accordingly, the estimates presented in the accompanying consolidated financial statements are not necessarily indicative of the amounts the Company would realize in a current market exchange.

The carrying amounts of cash and cash equivalents, receivables, payables and other current assets and liabilities approximate fair value because of the short maturity of those instruments.

A portion of the Company’s cash and cash equivalents as of December 31, 2017 and 2016 were invested in money market funds. The money market funds are valued at the closing price reported by the fund sponsor from an actively traded exchange which approximates fair value. The money market funds potentially subject the Company to concentration of credit risk. The amount invested within any one financial instrument did not exceed \$300 million and \$250 million as of December 31, 2017 and 2016, respectively. As of December 31, 2017 and 2016, there were no significant concentrations of financial instruments in a single investee, industry or geographic location.

The Company’s financial instruments that are accounted for at fair value on a recurring basis as of December 31, 2017 and 2016 are presented in the table below.

	December 31,			
	2017		2016	
	Level 1	Level 2	Level 1	Level 2
<b>Assets</b>				
Money market funds	\$ 291	\$ —	\$ 1,205	\$ —
<b>Liabilities</b>				
Cross-currency derivative instruments	\$ —	\$ 25	\$ —	\$ 251

A summary of the carrying value and fair value of the Company’s debt at December 31, 2017 and 2016 is as follows:

	December 31,			
	2017		2016	
	Carrying Value	Fair Value	Carrying Value	Fair Value
<b>Debt</b>				
Senior notes and debentures	\$ 60,844	\$ 63,443	\$ 52,933	\$ 55,203
Credit facilities	\$ 9,387	\$ 9,440	\$ 8,814	\$ 8,943

The estimated fair value of the Company’s senior notes and debentures as of December 31, 2017 and 2016 is based on quoted market prices in active markets and is classified within Level 1 of the valuation hierarchy, while the estimated fair value of the Company’s credit facilities is based on quoted market prices in inactive markets and is classified within Level 2.

**Non-financial Assets and Liabilities**

The Company’s nonfinancial assets such as equity-method investments, franchises, property, plant, and equipment, and other intangible assets are not measured at fair value on a recurring basis; however, they are subject to fair value adjustments in certain circumstances, such as upon a business combination and when there is evidence that an impairment may exist. No impairments were recorded in 2017, 2016 and 2015.

#### 14. Operating Costs and Expenses

Operating costs and expenses, exclusive of items shown separately in the consolidated statements of operations, consist of the following for the periods presented:

	Year Ended December 31,		
	2017	2016	2015
Programming	\$ 10,596	\$ 7,034	\$ 2,678
Regulatory, connectivity and produced content	2,064	1,467	435
Costs to service customers	7,780	5,654	1,880
Marketing	2,420	1,707	629
Transition costs	124	156	72
Other	3,557	2,637	732
	<u>\$ 26,541</u>	<u>\$ 18,655</u>	<u>\$ 6,426</u>

Programming costs consist primarily of costs paid to programmers for basic, premium, digital, video on demand, and pay-per-view programming. Regulatory, connectivity and produced content costs represent payments to franchise and regulatory authorities, costs directly related to providing video, Internet and voice services as well as payments for sports, local and news content produced by the Company. Included in regulatory, connectivity and produced content costs is content acquisition costs for the Los Angeles Lakers' basketball games and Los Angeles Dodgers' baseball games which are recorded as games are exhibited over the applicable season. Costs to service customers include costs related to field operations, network operations and customer care for the Company's residential and small and medium business customers, including internal and third-party labor for installations, service and repairs, maintenance, bad debt expense, billing and collection, occupancy and vehicle costs. Marketing costs represent the costs of marketing to current and potential commercial and residential customers including labor costs. Transition costs represent incremental costs incurred to integrate the TWC and Bright House operations and to increase the scale of the Company's business as a result of the Transactions. See Note 3. Other includes corporate overhead, advertising sales expenses, indirect costs associated with the Company's enterprise business customers and regional sports and news networks, property tax and insurance expense and stock compensation expense, among others.

#### 15. Other Operating Expenses, Net

Other operating expenses, net consist of the following for the years presented:

	Year Ended December 31,		
	2017	2016	2015
Merger and restructuring costs	\$ 351	\$ 970	\$ 70
Special charges, net	(21)	17	15
(Gain) loss on sale of assets, net	16	(2)	4
	<u>\$ 346</u>	<u>\$ 985</u>	<u>\$ 89</u>

##### *Merger and restructuring costs*

Merger and restructuring costs represent costs incurred in connection with merger and acquisition transactions and related restructuring, such as advisory, legal and accounting fees, employee retention costs, employee termination costs related to the Transactions and other exit costs. The Company expects to incur additional merger and restructuring costs in connection

with the Transactions. Changes in accruals for merger and restructuring costs from January 1, 2016 through December 31, 2017 are presented below:

	Employee Retention Costs	Employee Termination Costs	Transaction and Advisory Costs	Other Costs	Total
Liability, December 31, 2015	\$ —	\$ —	\$ 33	\$ —	\$ 33
Liability assumed in the Transactions	80	9	3	—	92
Costs incurred	26	337	318	41	722
Cash paid	(99)	(102)	(329)	(41)	(571)
Remaining liability, December 31, 2016	7	244	25	—	276
Costs incurred	4	226	4	68	302
Cash paid	(10)	(298)	(12)	(60)	(380)
Remaining liability, December 31, 2017	<u>\$ 1</u>	<u>\$ 172</u>	<u>\$ 17</u>	<u>\$ 8</u>	<u>\$ 198</u>

In addition to the costs indicated above, the Company recorded \$49 million and \$248 million of expense related to accelerated vesting of equity awards of terminated employees for the years ended December 31, 2017 and 2016, respectively.

***Special charges, net***

Special charges, net primarily includes employee termination costs not related to the Transactions and net amounts of litigation settlements. In 2017, special charges, net also includes a \$101 million benefit related to the remeasurement of the TRA liability as a result of the enactment of the Tax Cuts & Jobs Act (“Tax Reform”) in December 2017 (see Note 17) offset by an \$83 million charge related to the Company’s withdrawal liability from a multiemployer pension plan.

***(Gain) loss on sale of assets, net***

(Gain) loss on sale of assets, net represents the net (gain) loss recognized on the sales and disposals of fixed assets and cable systems.

**16. Stock Compensation Plans**

Charter’s 2009 Stock Incentive Plan provides for grants of nonqualified stock options, incentive stock options, stock appreciation rights, dividend equivalent rights, performance units and performance shares, share awards, phantom stock, restricted stock units and restricted stock. Directors, officers and other employees of the Company and its subsidiaries, as well as others performing consulting services for the Company, are eligible for grants under the 2009 Stock Incentive Plan. The 2009 Stock Incentive Plan allows for the issuance of up to 21 million shares of Charter Class A common stock (or units convertible into Charter Class A common stock).

At the closing of the TWC Transaction, Legacy TWC employee equity awards were converted into Charter Class A common stock equity awards on the same terms and conditions as were applicable under the Legacy TWC equity awards, except that the number of shares covered by each award and the option exercise prices were adjusted for the Stock Award Exchange Ratio (as defined in the Merger Agreement) such that the intrinsic value of the converted TWC awards was approximately equal to that of the original awards at the closing of the Transactions. The converted TWC awards continue to be subject to the terms of the Legacy TWC equity plans. The Parent Merger Exchange Ratio was also applied to outstanding Legacy Charter equity awards and option exercise prices; however, the terms of the equity awards did not change as a result of the Transactions.

Charter Stock options and restricted stock units cliff vest upon the three year anniversary of each grant. Certain stock options and restricted stock units vest based on achievement of stock price hurdles. Stock options generally expire ten years from the grant date and restricted stock units have no voting rights. Restricted stock generally vests one year from the date of grant. Legacy TWC restricted stock units that were converted into Charter restricted stock units generally vest 50% on each of the third and fourth anniversary of the grant date.

As of December 31, 2017, total unrecognized compensation remaining to be recognized in future periods totaled \$211 million for stock options, \$1 million for restricted stock and \$173 million for restricted stock units and the weighted average period over which they are expected to be recognized is 3 years for stock options, 4 months for restricted stock and 2 years for restricted stock units. The Company recorded \$261 million, \$244 million and \$78 million of stock compensation expense for the years ended December 31, 2017, 2016 and 2015, respectively, which is included in operating costs and expenses. The Company also recorded \$49 million and \$248 million of expense for the years ended December 31, 2017 and 2016, respectively, related to accelerated vesting of equity awards of terminated employees which is recorded in merger and restructuring costs.

A summary of the activity for the Company's stock options (after applying the Parent Merger Exchange Ratio) for the years ended December 31, 2017, 2016 and 2015, is as follows (shares in thousands, except per share data):

	Year Ended December 31,								
	2017			2016			2015		
	Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value	Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value	Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value
Outstanding, beginning of period	9,592	\$ 181.39		3,923	\$ 122.03		3,336	\$ 95.42	
Granted	1,175	\$ 302.87		5,999	\$ 218.91		1,176	\$ 177.14	
Converted TWC awards	—	\$ —		839	\$ 86.46		—	\$ —	
Exercised	(1,044)	\$ 124.32	\$ 219	(1,015)	\$ 96.33	\$ 146	(524)	\$ 72.27	\$ 68
Canceled	(74)	\$ 251.63		(154)	\$ 173.98		(65)	\$ 155.23	
Outstanding, end of period	<u>9,649</u>	\$ 201.83	\$ 1,295	<u>9,592</u>	\$ 181.39		<u>3,923</u>	\$ 122.03	
Weighted average remaining contractual life	8 years			8 years			7 years		
Options exercisable, end of period	<u>1,734</u>	\$ 90.56	\$ 425	<u>1,665</u>	\$ 71.71		<u>1,224</u>	\$ 61.88	
Options expected to vest, end of period	<u>7,915</u>	\$ 226.20	\$ 869						
Weighted average fair value of options granted	<u>\$ 73.67</u>			<u>\$ 47.42</u>			<u>\$ 66.20</u>		

A summary of the activity for the Company's restricted stock (after applying the Parent Merger Exchange Ratio) for the years ended December 31, 2017, 2016 and 2015, is as follows (shares in thousands, except per share data):

	Year Ended December 31,					
	2017		2016		2015	
	Shares	Weighted Average Grant Price	Shares	Weighted Average Grant Price	Shares	Weighted Average Grant Price
Outstanding, beginning of period	10	\$ 231.81	197	\$ 65.79	390	\$ 63.30
Granted	10	\$ 343.10	10	\$ 231.83	6	\$ 201.34
Vested	(10)	\$ 231.81	(197)	\$ 65.79	(199)	\$ 65.16
Canceled	—	\$ —	—	\$ —	—	\$ —
Outstanding, end of period	<u>10</u>	\$ 343.10	<u>10</u>	\$ 231.81	<u>197</u>	\$ 65.79

A summary of the activity for the Company's restricted stock units (after applying the Parent Merger Exchange Ratio) for the years ended December 31, 2017, 2016 and 2015, is as follows (shares in thousands, except per share data):

	Year Ended December 31,					
	2017		2016		2015	
	Shares	Weighted Average Grant Price	Shares	Weighted Average Grant Price	Shares	Weighted Average Grant Price
Outstanding, beginning of period	3,313	\$ 192.41	337	\$ 150.96	294	\$ 115.01
Granted	285	\$ 302.76	895	\$ 213.09	148	\$ 179.17
Converted TWC awards	—	\$ —	4,162	\$ 224.90	—	\$ —
Vested	(1,159)	\$ 216.21	(1,739)	\$ 219.60	(90)	\$ 78.65
Canceled	(48)	\$ 234.99	(342)	\$ 219.91	(15)	\$ 155.43
Outstanding, end of period	<u>2,391</u>	\$ 192.96	<u>3,313</u>	\$ 192.41	<u>337</u>	\$ 150.96

## 17. Income Taxes

Substantially all of the Company's operations are held through Charter Holdings and its direct and indirect subsidiaries. Charter Holdings and the majority of its subsidiaries are generally limited liability companies that are not subject to income tax. However, certain of these limited liability companies are subject to state income tax. In addition, the subsidiaries that are corporations are subject to income tax. Generally, the taxable income, gains, losses, deductions and credits of Charter Holdings are passed through to its members, Charter and A/N. Charter is responsible for its share of taxable income or loss of Charter Holdings allocated to it in accordance with the Charter Holdings Limited Liability Company Agreement ("LLC Agreement") and partnership tax rules and regulations. As a result, Charter's primary deferred tax component recorded in the consolidated balance sheets relates to its excess financial reporting outside basis, excluding amounts attributable to nondeductible goodwill, over Charter's tax basis in the investment in Charter Holdings.

Charter Holdings, the indirect owner of the Company's cable systems, generally allocates its taxable income, gains, losses, deductions and credits proportionately according to the members' respective ownership interests, except for special allocations required under Section 704(c) of the Internal Revenue Code and the Treasury Regulations ("Section 704(c)"). Pursuant to Section 704(c) and the LLC Agreement, each item of income, gain, loss and deduction with respect to any property contributed to the capital of the partnership shall, solely for tax purposes, be allocated among the members so as to take into account any variation between the adjusted basis of such property to the partnership for U.S. federal income tax purposes and its initial gross asset value using the "traditional method" as described in the Treasury Regulations.

### Income Tax Benefit

For the years ended December 31, 2017, 2016, and 2015, the Company recorded deferred income tax benefit as shown below. The tax provision in future periods will vary based on current and future temporary differences, as well as future operating results.

	Year Ended December 31,		
	2017	2016	2015
Current expense:			
Federal income taxes	\$ (4)	\$ (4)	\$ (1)
State income taxes	(25)	(29)	(4)
Current income tax expense	<u>(29)</u>	<u>(33)</u>	<u>(5)</u>
Deferred benefit:			
Federal income taxes	9,082	2,549	53
State income taxes	34	409	12
Deferred income tax benefit	<u>9,116</u>	<u>2,958</u>	<u>65</u>
Income tax benefit	<u>\$ 9,087</u>	<u>\$ 2,925</u>	<u>\$ 60</u>



Income tax benefit for the year ended December 31, 2017 was recognized primarily as a result of the enactment of Tax Reform in December 2017. Among other things, the primary provisions of Tax Reform impacting us are the reductions to the U.S. corporate income tax rate from 35% to 21% and temporary 100% bonus depreciation for certain assets. The change in tax law required the Company to remeasure existing net deferred tax liabilities using the lower rate in the period of enactment resulting in an income tax benefit of approximately \$9.3 billion to reflect these changes in the year ended December 31, 2017. The Company has reported provisional amounts for the income tax effects of Tax Reform for which the accounting is incomplete but a reasonable estimate could be determined. There were no specific impacts of Tax Reform that could not be reasonably estimated which the Company accounted for under prior tax law. Based on a continued analysis of the estimates and further guidance on the application of the law, it is anticipated that additional revisions may occur throughout the allowable measurement period. Overall, the changes due to Tax Reform will favorably affect income tax expense on future U.S. earnings. Income tax benefit for the year ended December 31, 2017 was also increased by approximately \$88 million due to the recognition of excess tax benefits resulting from share based compensation as a component of the provision for income taxes following the prospective application of Accounting Standards Update (“ASU”) No. 2016-09, *Improvements to Employee Share-Based Payment Accounting* (“ASU 2016-09”) on January 1, 2017. See Note 22.

Income tax benefit for the year ended December 31, 2016 was recognized primarily through the reversal of approximately \$3.3 billion of valuation allowance (see further discussion below), net of tax effect of permanent differences, a decrease to the anticipated blended state rate applied to Legacy Charter deferred tax balances as a result of the Transactions, a change in a state tax law, and prior to the closing of the Transactions, increases (decreases) in deferred tax liabilities related to Charter’s franchises which are characterized as indefinite-lived for book financial reporting purposes.

Prior to July 2, 2015, Charter Communications Holding Company, LLC (“Charter Holdco”) was treated as a partnership for tax purposes. Effective on July 2, 2015, Charter elected to treat two of its wholly owned subsidiaries as disregarded entities for federal and state income tax purposes (the “Election”). The subsidiaries that made the Election were two of the three partners in Charter Holdco. This Election resulted in a deemed liquidation of Charter Holdco into Charter solely for federal and state income tax purposes, and resulted in a net increase of \$638 million to the tax basis of Charter Holdco’s amortizable and depreciable assets. After the Election, all taxable income, gains, losses, deductions and credits of Charter Holdco and its indirect limited liability company subsidiaries were treated as income of Charter. In addition, the indirect subsidiaries of Charter Holdco that are corporations joined the Charter consolidated group. The impact of the Election to the Charter income tax provision, net of valuation allowance, was \$187 million of income tax benefit recorded as a discrete tax event during the year ended December 31, 2015.

The Company’s effective tax rate differs from that derived by applying the applicable federal income tax rate of 35% for the years ended December 31, 2017, 2016, and 2015, respectively, as follows:

	<b>Year Ended December 31,</b>		
	<b>2017</b>	<b>2016</b>	<b>2015</b>
Statutory federal income taxes	\$ (360)	\$ (288)	\$ 116
Statutory state income taxes, net	(34)	(36)	(4)
Nondeductible expenses	(21)	(62)	(12)
Net income attributable to noncontrolling interest	84	78	—
Change in valuation allowance	14	3,171	(250)
Excess stock compensation	88	—	—
Organizational restructuring	—	—	187
Federal tax credits	21	16	18
Tax rate changes	9,293	65	4
Other	2	(19)	1
<b>Income tax benefit</b>	<b>\$ 9,087</b>	<b>\$ 2,925</b>	<b>\$ 60</b>

The change in the valuation allowance above differs from the change between the beginning and ending valuation allowance below due to a change in certain deferred tax assets and the corresponding establishment of a valuation allowance which results in no impact to the consolidated statements of operations.

**Deferred Tax Assets (Liabilities)**

The tax effects of these temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities at December 31, 2017 and 2016 are presented below.

	December 31,	
	2017	2016
Deferred tax assets:		
Loss carryforwards	\$ 2,657	\$ 4,127
Accrued and other	287	243
Total gross deferred tax assets	2,944	4,370
Less: valuation allowance	(137)	(200)
Deferred tax assets	<u>\$ 2,807</u>	<u>\$ 4,170</u>
Deferred tax liabilities:		
Investment in partnership	\$ (20,107)	\$ (30,832)
Accrued and other	(14)	(3)
Deferred tax liabilities	<u>(20,121)</u>	<u>(30,835)</u>
Net deferred tax liabilities	<u>\$ (17,314)</u>	<u>\$ (26,665)</u>

The deferred tax liabilities on the investment in partnership above includes approximately \$32 million and \$25 million net deferred tax liabilities relating to certain indirect subsidiaries that file separate state income tax returns at December 31, 2017 and 2016, respectively.

**Valuation Allowance**

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will be realized. In evaluating the need for a valuation allowance, management takes into account various factors, including the expected level of future taxable income, available tax planning strategies and reversals of existing taxable temporary differences. Due to Legacy Charter's history of losses, Legacy Charter was historically unable to assume future taxable income in its analysis and accordingly valuation allowances were established against the deferred tax assets, net of deferred tax liabilities, from definite-lived assets for book accounting purposes. However, as a result of the TWC Transaction, deferred tax liabilities resulting from the book fair value adjustment increased significantly and future taxable income that will result from the reversal of existing temporary differences for which deferred tax liabilities are recognized, is sufficient to conclude it is more likely than not that the Company will realize substantially all of its deferred tax assets. As a result, Charter reversed approximately \$3.3 billion of its valuation allowance and recognized a corresponding income tax benefit in the consolidated statements of operations for the year ended December 31, 2016. As of December 31, 2017 and 2016, approximately \$87 million and \$145 million, respectively, of the valuation allowance is associated with federal tax net operating loss carryforwards acquired in the TWC Transaction and approximately \$50 million and \$55 million, respectively, of the valuation allowance is associated with state tax loss carryforwards and tax credits.

**Net Operating Loss Carryforwards**

As of December 31, 2017, Charter had approximately \$10.9 billion of federal tax net operating loss carryforwards resulting in a gross deferred tax asset of approximately \$2.3 billion. Federal tax net operating loss carryforwards expire in the years 2018 through 2035. These losses resulted from the operations of Charter Holdco and its subsidiaries. In addition, as of December 31, 2017, Charter had state tax net operating loss carryforwards, resulting in a gross deferred tax asset (net of federal tax benefit) of approximately \$359 million. State tax net operating loss carryforwards generally expire in the years 2018 through 2037.

Upon closing of the TWC Transaction, Charter experienced a third "ownership change" as defined in Section 382 of the Internal Revenue Code; resulting in a third set of limitations on Charter's use of its existing federal and state net operating losses, capital losses, and tax credit carryforwards. Both the first ownership change limitations that applied as a result of Legacy Charter's emergence from bankruptcy in 2009 and second ownership change limitations that applied as a result of Liberty Media Corporation's purchase in 2013 of a 27% beneficial interest in Legacy Charter will also continue to apply. As of December 31,

2017, all of Charter's federal tax loss carryforwards are subject to Section 382 and other restrictions. Pursuant to these restrictions, Charter estimates that approximately \$8.7 billion in 2018, \$654 million in 2019 and an additional \$226 million annually over each of the next five years of federal tax loss carryforwards should become unrestricted and available for Charter's use. An additional \$415 million is currently subject to a valuation allowance. Since the limitation amounts accumulate for future use to the extent they are not utilized in any given year, Charter believes its loss carryforwards should become fully available to offset future taxable income. Charter's state loss carryforwards are subject to similar, but varying, limitations on their future use. If Charter was to experience another "ownership change" in the future, its ability to use its loss carryforwards could be subject to further limitations.

#### ***Tax Receivable Agreement***

Under the LLC Agreement, A/N has rights to: (1) convert at any time some or all of its preferred units in Charter Holdings for common units in Charter Holdings, and (2) exchange at any time some or all of its common units in Charter Holdings for Charter's Class A common stock or cash, at Charter's option. Pursuant to a Tax Receivable Agreement ("TRA") between Charter and A/N, Charter must pay to A/N 50% of the tax benefit when realized by Charter from the step-up in tax basis resulting from any future exchange or sale of the preferred and common units. Charter did not record a liability for this obligation as of the acquisition date since the tax benefit is dependent on uncertain future events that are outside of Charter's control, such as the timing of a conversion or exchange. A future exchange or sale is not based on a fixed and determinable date and the exchange or sale is not certain to occur. If all of A/N's partnership units were to be exchanged or sold in the future, the undiscounted value of the obligation is currently estimated to be in the range of zero to \$3 billion depending on measurement of the tax step-up in the future and Charter's ability to realize the tax benefit in the periods following the exchange or sale. Factors impacting these calculations include, but are not limited to, the fair value of the equity at the time of the exchange and the effective tax rates when the benefits are realized.

In connection with the Letter Agreement between Charter and A/N (see Note 19) whereby 1.3 million and 1.9 million Charter Holdings common units held by A/N during the year ended December 31, 2017 and 2016, respectively, were exchanged for shares of Charter Class A common stock for an aggregate purchase price of \$400 million and \$537 million, respectively, an immediate step-up of \$487 million and \$580 million, respectively, in the tax basis of the assets of Charter Holdings occurred. As it relates to the exchange and tax step-up, a net deferred tax asset of approximately \$85 million and \$82 million, respectively, was recorded and a resulting TRA liability owed to A/N of \$118 million and \$137 million, respectively, which, as a transaction with a shareholder, was recorded directly to additional paid in capital, net of tax during the year ended December 31, 2017 and 2016. The TRA liability is recorded on an iterative, undiscounted basis. The TRA liability was remeasured as a result of the enactment of Tax Reform resulting in a \$101 million benefit recorded to other operating expenses, net. See Note 15. Following such remeasurement, the TRA liability of \$154 million is reflected in other long-term liabilities on the consolidated balance sheets as of December 31, 2017 and 2016.

#### ***Uncertain Tax Positions***

In connection with the TWC Transaction, the Company assumed \$181 million of gross unrecognized tax benefits, exclusive of interest and penalties, which are recorded within other long-term liabilities. The net amount of the unrecognized tax benefits recorded as of December 31, 2017 that could impact the effective tax rate is \$171 million. The Company has determined that it is reasonably possible that its existing reserve for uncertain tax positions as of December 31, 2017 could decrease by approximately \$58 million during the year ended December 31, 2018 related to various ongoing audits, settlement discussions and expiration of statute of limitations with various state and local agencies; however, various events could cause the Company's current expectations to change in the future. These uncertain tax positions, if ever recognized in the financial statements, would be recorded in the consolidated statements of operations as part of the income tax provision. A reconciliation of the beginning

and ending amount of unrecognized tax benefits, exclusive of interest and penalties, included in other long-term liabilities on the accompanying consolidated balance sheets of the Company is as follows:

BALANCE, December 31, 2015	\$ 5
Additions on prior year tax positions	1
Additions on current year tax positions	7
Additions on tax positions assumed in the TWC Transaction	181
Reductions on settlements and expirations with taxing authorities	<u>(22)</u>
BALANCE, December 31, 2016	\$ 172
Additions on prior year tax positions	1
Additions on current year tax positions	12
Reductions on settlements and expirations with taxing authorities	<u>(21)</u>
BALANCE, December 31, 2017	<u>\$ 164</u>

The Company recognizes interest and penalties accrued on uncertain income tax positions as part of the income tax provision. Interest and penalties included in other long-term liabilities on the accompanying consolidated balance sheets of the Company were \$39 million and \$34 million as of December 31, 2017 and 2016, respectively.

No tax years for Charter, Charter Holdings, or Charter Communications Holding Company, LLC for income tax purposes, are currently under examination by the Internal Revenue Service ("IRS"). Charter and Charter Holdings' 2016 and 2017 tax years remain open for examination and assessment. Legacy Charter's tax years ending 2014 through the short period return dated May 17, 2016 remain subject to examination and assessment. Years prior to 2014 remain open solely for purposes of examination of Legacy Charter's loss and credit carryforwards. The IRS is currently examining Legacy TWC's income tax returns for 2011 through 2014. Legacy TWC's tax year 2015 remains subject to examination and assessment. Prior to Legacy TWC's separation from Time Warner Inc. ("Time Warner") in March 2009 (the "Separation"), Legacy TWC was included in the consolidated U.S. federal and certain state income tax returns of Time Warner. The IRS is currently examining Time Warner's 2008 through 2010 income tax returns. Time Warner's income tax returns for 2005 to 2007, which are periods prior to the Separation, were settled with the exception of an immaterial item that has been referred to the IRS Appeals Division. The Company does not anticipate that these examinations will have a material impact on the Company's consolidated financial position or results of operations. In addition, the Company is also subject to ongoing examinations of the Company's tax returns by state and local tax authorities for various periods. Activity related to these state and local examinations did not have a material impact on the Company's consolidated financial position or results of operations during the year ended December 31, 2017, nor does the Company anticipate a material impact in the future.

#### 18. Earnings (Loss) Per Share

Basic earnings (loss) per common share is computed by dividing net income (loss) attributable to Charter shareholders by the weighted average number of shares of common stock outstanding during the period. Diluted earnings per common share considers the impact of potentially dilutive securities using the treasury stock and if-converted methods and is based on the weighted average number of shares used for the basic earnings per share calculation, adjusted for the dilutive effect of stock options, restricted stock, restricted stock units, equity awards with market conditions and Charter Holdings convertible preferred units and common units. Basic loss per common share equaled diluted loss per common share for the year ended December 31,

2015 because the Company incurred a net loss during those periods. The following is the computation of diluted earnings per common share for the years presented.

	Year Ended December 31,	
	2017	2016
<b>Numerator:</b>		
Net income attributable to Charter shareholders	\$ 9,895	\$ 3,522
<b>Effect of dilutive securities:</b>		
Charter Holdings common units	69	129
Charter Holdings convertible preferred units	150	93
Net income attributable to Charter shareholders after assumed conversions	<u>\$ 10,114</u>	<u>\$ 3,744</u>
<b>Denominator:</b>		
Weighted average common shares outstanding, basic	256,720,715	206,539,100
<b>Effect of dilutive securities:</b>		
Assumed exercise or issuance of shares relating to stock plans	4,012,145	3,088,871
Weighted average Charter Holdings common units	26,637,596	19,333,227
Weighted average Charter Holdings convertible preferred units	9,333,500	5,830,241
Weighted average common shares outstanding, diluted	<u>296,703,956</u>	<u>234,791,439</u>
Basic earnings per common share attributable to Charter shareholders	\$ 38.55	\$ 17.05
Diluted earnings per common share attributable to Charter shareholders	\$ 34.09	\$ 15.94

## 19. Related Party Transactions

The following sets forth certain transactions in which the Company and the directors, executive officers, and affiliates of the Company are involved or, in the case of the management arrangements, subsidiaries that are debt issuers that pay certain of their parent companies for services.

Charter is a party to management arrangements with Spectrum Management Holding Company, LLC ("Spectrum Management") and certain of their subsidiaries. Under these agreements, Charter, Spectrum Management and Charter Holdco provide management services for the cable systems owned or operated by their subsidiaries. Costs associated with providing these services are charged directly to the Company's operating subsidiaries. All other costs incurred on behalf of Charter's operating subsidiaries are considered a part of the management fee. These costs are recorded as a component of operating costs and expenses, in the accompanying consolidated financial statements. The management fee charged to the Company's operating subsidiaries approximated the expenses incurred by Spectrum Management, Charter Holdco and Charter on behalf of the Company's operating subsidiaries in 2017, 2016 and 2015.

### *Liberty Broadband and A/N*

On May 23, 2015, in connection with the execution of the Merger Agreement and the amendment of the Contribution Agreement, Charter entered into the Amended and Restated Stockholders Agreement with Liberty Broadband, A/N and Legacy Charter (the "Stockholders Agreement") and the LLC Agreement with Liberty Broadband and A/N. As of the closing of the Merger Agreement and the Contribution Agreement on May 18, 2016, the Stockholders Agreement replaced Legacy Charter's existing stockholders agreement with Liberty Broadband, dated September 29, 2014, and superseded the amended and restated stockholders agreement among Legacy Charter, Charter, Liberty Broadband and A/N, dated March 31, 2015.

Under the terms of the Stockholders Agreement, the number of Charter's directors is fixed at 13, and includes its CEO. Upon the closing of the Bright House Transaction, two designees selected by A/N became members of the board of directors of Charter and three designees selected by Liberty Broadband continued as members of the board of directors of Charter. The remaining eight directors are not affiliated with either A/N or Liberty Broadband. Each of A/N and Liberty Broadband is entitled to nominate at least one director to each of the committees of Charter's board of directors, subject to applicable stock exchange listing rules and certain specified voting or equity ownership thresholds for each of A/N and Liberty Broadband, and provided that the Nominating and Corporate Governance Committee and the Compensation and Benefit Committee each have at least a

majority of directors independent from A/N, Liberty Broadband and the Company (referred to as the “unaffiliated directors”). Each of the Nominating and Corporate Governance Committee and the Compensation and Benefits Committee is currently comprised of three unaffiliated directors and one designee of each of A/N and Liberty Broadband. A/N and Liberty Broadband also have certain other committee designation and other governance rights. Upon the closing of the Bright House Transaction, Mr. Thomas Rutledge, the Company’s CEO, became the chairman of the board of Charter.

In December 2016, Charter and A/N entered into a letter agreement (the “Letter Agreement”) that requires A/N to sell to Charter or to Charter Holdings, on a monthly basis, a number of shares of Charter Class A common stock or Charter Holdings common units that represents a pro rata participation by A/N and its affiliates in any repurchases of shares of Charter Class A common stock from persons other than A/N effected by Charter during the immediately preceding calendar month, at a purchase price equal to the average price paid by Charter for the shares repurchased from persons other than A/N during such immediately preceding calendar month. A/N and Charter both have the right to terminate or suspend the pro rata repurchase arrangement on a prospective basis once Charter or Charter Holdings have repurchased shares of Class A common stock or Charter Holdings common units from A/N and its affiliates for an aggregate purchase price of \$537 million, which threshold has been met. On December 21, 2017, Charter and A/N entered into an amendment to the Letter Agreement resetting the aggregate purchase price to \$400 million. See Note 11. Pursuant to the TRA between Charter and A/N, Charter must pay to A/N 50% of the tax benefit when realized by Charter from the step-up in tax basis resulting from any future exchange or sale of the preferred and common units. See Note 17 for more information.

The Company is aware that Dr. John Malone may be deemed to have a 39.2% voting interest in Liberty Interactive and is Chairman of the board of directors, an executive officer position, of Liberty Interactive. Liberty Interactive wholly owns HSN, Inc. (“HSN”) and QVC, Inc. (“QVC”). The Company has programming relationships with HSN and QVC which pre-date the transaction with Liberty Media Corporation. For the years ended December 31, 2017, 2016 and 2015, the Company recorded revenue in aggregate of approximately \$77 million, \$53 million and \$17 million, respectively, from HSN and QVC as part of channel carriage fees and revenue sharing arrangements for home shopping sales made to customers in the Company’s footprint.

Dr. Malone and Mr. Steven Miron, each a member of Charter’s board of directors, also serve on the board of directors of Discovery Communications, Inc., (“Discovery”). The Company is aware that Dr. Malone owns 93.6% of the series B common stock of Discovery, 6% of the series C common stock of Discovery and has a 28.1% voting interest in Discovery for the election of directors. The Company is aware that Advance/Newhouse Programming Partnership (“A/N PP”), an affiliate of A/N and in which Mr. Miron is the CEO, owns 100% of the Series A preferred stock of Discovery and 100% of the Series C preferred stock of Discovery and has a 31.1% voting interest for the election of directors. A/N PP has the right to appoint three directors out of a total of eleven directors to Discovery’s board to be elected by the holders of Discovery’s Series A preferred stock. In addition, Dr. Malone is a member of the board of directors of Lions Gate Entertainment Corp. (“Lions Gate,” parent company of Starz, Inc.) and owns approximately 5.5% in the aggregate of the common stock of Lions Gate and has 7.9% of the voting power, pursuant to his ownership of Lions Gate Class A voting shares. The Company purchases programming from both Discovery and Lions Gate pursuant to agreements entered into prior to Dr. Malone and Mr. Miron joining Charter’s board of directors. Based on publicly available information, the Company does not believe that either Discovery or Lions Gate would currently be considered related parties. The amounts paid in the aggregate to Discovery and Lions Gate represent less than 3% of total operating costs and expenses for the years ended December 31, 2017, 2016 and 2015.

#### ***Equity Investments***

The Company has agreements with certain equity-method investees (see Note 7) pursuant to which the Company has made or received related party transaction payments. The Company recorded payments to equity-method investees totaling \$317 million, \$171 million and \$28 million during the years ended December 31, 2017, 2016 and 2015, respectively. The Company recorded advertising revenues from transactions with equity-method investees totaling \$9 million and \$7 million during the years ended December 31, 2017 and 2016, respectively. There were no advertising revenues received in 2015.

## 20. Commitments and Contingencies

### Commitments

The following table summarizes the Company's payment obligations as of December 31, 2017 for its contractual obligations.

	Total	2018	2019	2020	2021	2022	Thereafter
Capital and Operating Lease Obligations <sup>(a)</sup>	\$ 1,512	\$ 286	\$ 235	\$ 199	\$ 165	\$ 132	\$ 495
Programming Minimum Commitments <sup>(b)</sup>	164	103	39	22	—	—	—
Other <sup>(c)</sup>	13,626	1,917	1,031	839	653	499	8,687
	<u>\$ 15,302</u>	<u>\$ 2,306</u>	<u>\$ 1,305</u>	<u>\$ 1,060</u>	<u>\$ 818</u>	<u>\$ 631</u>	<u>\$ 9,182</u>

- (a) The Company leases certain facilities and equipment under non-cancelable capital and operating leases. Capital lease obligations represented \$123 million of total capital and operating lease obligations as of December 31, 2017. Leases and rental costs charged to expense for the years ended December 31, 2017, 2016 and 2015 were \$321 million, \$215 million, \$49 million, respectively.
- (b) The Company pays programming fees under multi-year contracts ranging from three to ten years, typically based on a flat fee per customer, which may be fixed for the term, or may in some cases escalate over the term. Programming costs included in the statement of operations were \$10.6 billion, \$7.0 billion and \$2.7 billion for the years ended December 31, 2017, 2016 and 2015 respectively. Certain of the Company's programming agreements are based on a flat fee per month or have guaranteed minimum payments. The table sets forth the aggregate guaranteed minimum commitments under the Company's programming contracts.
- (c) "Other" represents other guaranteed minimum commitments, including rights negotiated directly with content owners for distribution on company-owned channels or networks, commitments related to our role as an advertising and distribution sales agent for third party-owned channels or networks, commitments to our customer premise equipment vendors and contractual obligations related to third-party network augmentation.

The following items are not included in the contractual obligation table due to various factors discussed below. However, the Company incurs these costs as part of its operations:

- The Company rents utility poles used in its operations. Generally, pole rentals are cancelable on short notice, but the Company anticipates that such rentals will recur. Rent expense incurred for pole rental attachments for the years ended December 31, 2017, 2016 and 2015 was \$167 million, \$115 million and \$53 million, respectively.
- The Company pays franchise fees under multi-year franchise agreements based on a percentage of revenues generated from video service per year. The Company also pays other franchise related costs, such as public education grants, under multi-year agreements. Franchise fees and other franchise-related costs included in the accompanying statement of operations were \$705 million, \$534 million and \$212 million for the years ended December 31, 2017, 2016 and 2015 respectively.
- The Company has \$291 million in letters of credit, of which \$137 million is secured under the Charter Operating credit facility, primarily to its various casualty carriers as collateral for reimbursement of workers' compensation, auto liability and general liability claims.
- Minimum pension funding requirements have not been presented in the table above as such amounts have not been determined beyond 2017. The Company made no cash contributions to the qualified pension plans in 2017; however, the Company is permitted to make discretionary cash contributions to the qualified pension plans in 2018. For the nonqualified pension plan, the Company contributed \$18 million during 2017 and will continue to make contributions in 2018 to the extent benefits are paid.

### Legal Proceedings

In August 2015, a purported stockholder of Charter, Matthew Sciabacucchi, filed a lawsuit in the Delaware Court of Chancery, on behalf of a putative class of Charter stockholders, challenging the transactions between Charter, TWC, A/N, and Liberty Broadband announced by Charter on May 26, 2015. The lawsuit names as defendants Liberty Broadband, Legacy Charter,

the board of directors of Charter, and Charter. Plaintiff alleges that the Liberty Transactions improperly benefit Liberty Broadband at the expense of other Charter shareholders. Charter filed a motion to dismiss this litigation. The Court of Chancery has not yet made a final ruling on the motion to dismiss. Charter denies any liability, believes that it has substantial defenses, and intends to vigorously defend this suit. Although Charter is unable to predict the outcome of this lawsuit, it does not expect the outcome will have a material effect on its operations, financial condition or cash flows.

The California Attorney General and the Alameda County, California District Attorney are investigating whether certain of Legacy Charter's waste disposal policies, procedures and practices are in violation of the California Business and Professions Code and the California Health and Safety Code. That investigation was commenced in January 2014. A similar investigation involving Legacy TWC was initiated in February 2012. Charter is cooperating with these investigations. While the Company is unable to predict the outcome of these investigations, it does not expect that the outcome will have a material effect on its operations, financial condition, or cash flows.

On December 19, 2011, Sprint Communications Company L.P. ("Sprint") filed a complaint in the U.S. District Court for the District of Kansas alleging that Legacy TWC infringed certain U.S. patents purportedly relating to Voice over Internet Protocol ("VoIP") services. A trial began on February 13, 2017. On March 3, 2017 the jury returned a verdict of \$140 million against Legacy TWC and further concluded that Legacy TWC had willfully infringed Sprint's patents. The court subsequently declined to enhance the damage award as a result of the purported willful infringement and awarded Sprint an additional \$6 million, representing pre-judgment interest on the damages award. The Company has appealed the case to the United States Court of Appeals for the Federal Circuit. In addition to its appeal, the Company continues to pursue indemnity from one of its vendors. The impact of the verdict was reflected in the measurement period adjustments to net current liabilities as described in Note 3. The Company does not expect that the outcome of this litigation will have a material adverse effect on its operations or financial condition. The ultimate outcome of this litigation or the pursuit of indemnity against the Company's vendor cannot be predicted.

Subsequently, on December 2, 2017, Sprint filed suit against Charter in the United States District Court for the District of Delaware. The new suit alleges infringement of 15 patents related to the Company's provision of voice services (ten of which were already asserted against Legacy TWC in the matter described above). Charter is investigating the allegations and will vigorously defend this case. While the Company is unable to predict the outcome of its investigations, it does not expect that this litigation will have a material effect on its operations, financial condition, or cash flows.

On October 23, 2015, the New York Office of the Attorney General (the "NY AG") began an investigation of Legacy TWC's advertised Internet speeds and other Internet product advertising. On February 1, 2017, the NY AG filed suit in the Supreme Court for the State of New York alleging that Legacy TWC's advertising of Internet speeds was false and misleading. The suit seeks restitution and injunctive relief. The Company has moved to dismiss the NY AG's complaint and the Company intends to defend itself vigorously. Although no assurances can be made that such defenses would ultimately be successful, the Company does not expect that the outcome of this litigation will have a material adverse effect on its operations, financial condition or cash flows.

The Company is a defendant or co-defendant in several additional lawsuits involving alleged infringement of various patents relating to various aspects of its businesses. Other industry participants are also defendants in certain of these cases. In the event that a court ultimately determines that the Company infringes on any intellectual property rights, the Company may be subject to substantial damages and/or an injunction that could require the Company or its vendors to modify certain products and services the Company offers to its subscribers, as well as negotiate royalty or license agreements with respect to the patents at issue. While the Company believes the lawsuits are without merit and intends to defend the actions vigorously, no assurance can be given that any adverse outcome would not be material to the Company's consolidated financial condition, results of operations, or liquidity. The Company cannot predict the outcome of any such claims nor can it reasonably estimate a range of possible loss.

The Company is party to lawsuits, claims and regulatory inquiries that arise in the ordinary course of conducting its business. The ultimate outcome of these other legal matters pending against the Company cannot be predicted, and although such lawsuits and claims are not expected individually to have a material adverse effect on the Company's consolidated financial condition, results of operations or liquidity, such lawsuits could have, in the aggregate, a material adverse effect on the Company's consolidated financial condition, results of operations or liquidity. Whether or not the Company ultimately prevails in any particular lawsuit or claim, litigation can be time consuming and costly and injure the Company's reputation.



## 21. Employee Benefit Plans

### Pension Plans

The Company sponsors two qualified defined benefit pension plans, the TWC Pension Plan and the TWC Union Pension Plan, that provide pension benefits to a majority of Legacy TWC employees. The Company also provides a nonqualified defined benefit pension plan for certain employees under the TWC Excess Pension Plan.

Changes in the projected benefit obligation, fair value of plan assets and funded status of the pension plans from January 1 through December 31 are presented below:

	2017	2016
Projected benefit obligation at beginning of year	\$ 3,260	\$ —
Benefit obligation assumed in the TWC Transaction	—	4,009
Service cost	—	86
Interest cost	133	87
Curtailed amendment	—	(675)
Actuarial (gain) loss	406	(149)
Settlement	(185)	—
Benefits paid	(45)	(98)
Projected benefit obligation at end of year	<u>\$ 3,569</u>	<u>\$ 3,260</u>
Accumulated benefit obligation at end of year	<u>\$ 3,569</u>	<u>\$ 3,260</u>
Fair value of plan assets at beginning of year	\$ 2,946	\$ —
Fair value of plan assets acquired in the TWC Transaction	—	2,877
Actual return on plan assets	539	162
Employer contributions	18	5
Settlement	(185)	—
Benefits paid	(45)	(98)
Fair value of plan assets at end of year	<u>\$ 3,273</u>	<u>\$ 2,946</u>
Funded status	<u>\$ (296)</u>	<u>\$ (314)</u>

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for the qualified pension plans and the nonqualified pension plan as of December 31, 2017 and 2016 consisted of the following:

	Qualified Pension Plans		Nonqualified Pension Plan	
	December 31,		December 31,	
	2017	2016	2017	2016
Projected benefit obligation	\$ 3,528	\$ 3,204	\$ 41	\$ 56
Accumulated benefit obligation	\$ 3,528	\$ 3,204	\$ 41	\$ 56
Fair value of plan assets	\$ 3,273	\$ 2,946	\$ —	\$ —

Pretax amounts recognized in the consolidated balance sheet as of December 31, 2017 and 2016 consisted of the following:

	December 31,	
	2017	2016
Noncurrent asset	\$ 1	\$ 1
Current liability	(5)	(6)
Long-term liability	(292)	(309)
Net amounts recognized in consolidated balance sheet	<u>\$ (296)</u>	<u>\$ (314)</u>

The components of net periodic benefit costs for the years ended December 31, 2017 and 2016 consisted of the following:

	Year Ended December 31,	
	2017	2016
Service cost	\$ —	\$ 86
Interest cost	133	87
Expected return on plan assets	(189)	(116)
Pension curtailment gain	—	(675)
Remeasurement (gain) loss	55	(195)
Net periodic pension (benefit) cost	<u>\$ (1)</u>	<u>\$ (813)</u>

During the year ended December 31, 2017, lump-sum distributions to qualified and nonqualified pension plan participants exceeded the estimated annual interest cost of the plans resulting in a settlement for accounting purposes. As a result, the pension liability and pension asset values were reassessed as of September 30, 2017 utilizing remeasurement date assumptions in accordance with the Company's mark-to-market pension accounting policy to record gains and losses in the period in which a remeasurement event occurs. The \$55 million remeasurement loss recorded during the year ended December 31, 2017 was primarily driven by the adoption of the revised lump sum conversion mortality tables published by the IRS effective January 1, 2018 and the effects of a decrease of the discount rate from 4.20% at December 31, 2016 to 3.68% at December 31, 2017, partially offset by an actuarial gain on pension asset actual returns. Approximately \$30 million of the remeasurement loss was recorded for the interim remeasurement event as of September 30, 2017 and \$25 million was recorded for the annual remeasurement as of December 31, 2017.

The \$195 million remeasurement gain recorded during the year ended December 31, 2016 was primarily driven by the effects of an increase of the discount rate from 3.99% at the closing date of the TWC Transaction to 4.20% at December 31, 2016 and a gain to record pension assets at December 31, 2016 fair values.

The discount rates used to determine benefit obligations as of December 31, 2017 and 2016 were 3.68% and 4.20%, respectively. The Company utilized the RP 2015/MP2015 mortality tables published by the Society of Actuaries to measure the benefit obligations as of December 31, 2017 and 2016.

Weighted average assumptions used to determine net periodic benefit costs for the years ended December 31, 2017 and 2016 consisted of the following:

	Year ended December 31,	
	2017	2016
Expected long-term rate of return on plan assets	6.50 %	6.50 %
Discount rate <sup>(a)</sup>	3.88 %	3.72 %
Rate of compensation increase <sup>(b)</sup>	— %	— %

- (a) The discount rate used to determine net periodic pension benefit was 4.20% from January 1, 2017 through remeasurement date (September 30, 2017), and was 3.88% from remeasurement date through December 31, 2017. The discount rate used to determine net periodic pension benefit was 3.99% from the closing date of the TWC Transaction through remeasurement date (June 30, 2016), and was 3.72% from remeasurement date through December 31, 2016.
- (b) The rate of compensation increase used to determine net periodic pension benefit was 4.25% from the closing date of the TWC Transaction through remeasurement date (June 30, 2016), and 0% thereafter. See "Pension Plan Curtailment Amendment" below for further discussion.

In developing the expected long-term rate of return on plan assets, the Company considered the pension portfolio's composition, past average rate of earnings and the Company's future asset allocation targets. The weighted average expected long-term rate of return on plan assets and discount rate used to determine net periodic pension benefit for the year ended December 31, 2018 are expected to be 6.50% and 3.68%, respectively. The Company determined the discount rates used to determine benefit obligations and net periodic pension benefit based on the yield of a large population of high quality corporate bonds with cash flows sufficient in timing and amount to settle projected future defined benefit payments.

***Pension Plan Curtailment Amendment***

Following the closing of the TWC Transaction, Charter amended the pension plans to freeze future benefit accruals to current active plan participants as of August 31, 2016. Effective September 1, 2016, no future compensation increases or future service will be credited to participants of the pension plans and new hires are not eligible to participate in the plans. Upon announcement and approval of the plan amendment, the assumptions underlying the pension liability and pension asset values were reassessed utilizing remeasurement date assumptions in accordance with Charter’s mark-to-market pension accounting policy to record gains and losses in the period in which a remeasurement event occurs. The \$675 million curtailment gain recorded during the year ended December 31, 2016 was primarily driven by the reduction of the compensation rate assumption to 0% in accordance with the terms of the plan amendment, reflecting the pension liability at its accumulated benefit obligation instead of its projected benefit obligation at the remeasurement date.

***Pension Plan Assets***

The assets of the qualified pension plans are held in a master trust in which the qualified pension plans are the only participating plans (the “Master Trust”). The investment policy for the qualified pension plans is to manage the assets of the Master Trust with the objective to provide for pension liabilities to be met, maintaining retirement income security for the participants of the plans and their beneficiaries. The investment portfolio is a mix of pooled funds invested in fixed income and equity securities with the objective of matching plan liability performance, diversifying risk and achieving a target investment return. The pension plan’s Investment Committee establishes risk mitigation policies and regularly monitors investment performance, investment allocation policies, and the execution of these strategies. The Investment Committee engages a third-party investment firm with responsibility of executing the directives of the Investment Committee, monitoring the performance of individual investment managers of the Master Trust, and making adjustments and changes within defined parameters when necessary. On a periodic basis, the Investment Committee conducts a broad strategic review of its portfolio construction and investment allocation policies. Neither the Company, the Investment Committee, nor the third-party investment firm manages any assets internally or directly utilizes derivative instruments or hedging; however, the investment mandate of some investment managers allows the use of derivatives as components of their standard portfolio management strategies. Pension assets are managed in a balanced portfolio comprised of two major components: a return-seeking portion and a liability-matching portion. The expected role of return-seeking investments is to achieve a reasonable long-term growth of pension assets with a prudent level of risk using asset diversity in order to balance return and volatility, while the role of liability-matching investments is to provide a partial economic hedge against liability performance associated with changes in interest rates.

The Company adopted an investment strategy referred to as a de-risking glide path to increase the fixed income allocation as the funded status of the qualified pension plans improves. As the qualified pension plans reach set funded status milestones, the assets will be rebalanced to shift more assets from equity to fixed income. Based on the progress with this strategy, the target investment allocation for pension fund assets is permitted to vary within specified ranges subject to Investment Committee approval for return-seeking securities and liability-matching securities. The target and actual investment allocation of the qualified pension plans by asset category as of December 31, 2017 and 2016 consisted of the following:

	Target Allocation	Actual Allocation	
		December 31,	
		2017	2016
Return-seeking securities	75.0 %	73.1 %	64.4 %
Liability-matching securities	25.0 %	26.7 %	35.4 %
Other investments	— %	0.2 %	0.2 %

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The following table sets forth the investment assets of the qualified pension plans, which exclude accrued investment income and investments with a fair value measured at net asset value per share as a practical expedient, by level within the fair value hierarchy as of December 31, 2017:

	December 31, 2017			
	Fair Value	Level 1	Level 2	Level 3
Cash	\$ 3	\$ 3	\$ —	\$ —
Commingled equity funds <sup>(a)</sup>	2,368	—	2,368	—
Corporate debt securities <sup>(b)</sup>	1	—	1	—
Commingled bond funds <sup>(a)</sup>	795	—	795	—
Collective trust funds <sup>(c)</sup>	68	—	68	—
Total investment assets	<u>3,235</u>	<u>\$ 3</u>	<u>\$ 3,232</u>	<u>\$ —</u>
Accrued investment income and other receivables <sup>(d)</sup>	34			
Investments measured at net asset value <sup>(e)</sup>	4			
Fair value of plan assets	<u>\$ 3,273</u>			

- (a) Commingled funds primarily include global equity index, corporate bond, and U.S. treasury securities. The funds are valued using the net asset value provided by the administrator of the fund. The fair value of each fund is based on the fair value of securities in the portfolio, which represents the amount that the fund might reasonably expect to receive for the securities upon a sale, less liabilities, and then divided by the number of units outstanding. These funds are valued using observable inputs on either a daily or weekly basis and the resulting value serves as a basis for current transactions.
- (b) Corporate debt securities are valued based on observable prices from the new issue market, benchmark quotes, secondary trading and dealer quotes. An option adjusted spread model is incorporated to adjust spreads of issues that have early redemption features and final spreads are added to the U.S. Treasury curve.
- (c) Collective trust funds primarily consist of short-term investment strategies comprised of instruments issued or fully guaranteed by the U.S. government and/or its agencies and are valued using the net asset value provided by the administrator of the fund. The net asset value is based on the readily determinable value of the underlying assets owned by the fund, less liabilities, and then divided by the number of units outstanding.
- (d) Accrued investment income includes dividends and interest receivable.
- (e) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. These investments primarily consist of hedge funds, which includes hard to value or illiquid securities. The fair value of each fund is based on the fair value of assets in the portfolio, which represents the amount that the fund might reasonably expect to receive for the assets upon a sale, less liabilities, and then divided by the number of units outstanding. Certain hedge funds report net asset value per share on a quarter lag. Shares of the funds are not redeemable and the underlying assets are anticipated to be liquidated and distributed to investors in the near term. There are no material unfunded commitments with respect to these investments. The fair value amounts presented in this table are intended to permit the reconciliation of the fair value hierarchy to the total fair value of plan assets discussed throughout this footnote.

The following table sets forth the investment assets of the qualified pension plans, which exclude accrued investment income and other receivables, accrued liabilities, and investments with a fair value measured at net asset value per share as a practical expedient, by level within the fair value hierarchy as of December 31, 2016:

	December 31, 2016			
	Fair Value	Level 1	Level 2	Level 3
Cash	\$ 2	\$ 2	\$ —	\$ —
Common stocks:				
Domestic <sup>(a)</sup>	1,065	1,065	—	—
International <sup>(a)</sup>	391	391	—	—
Commingled equity funds <sup>(b)</sup>	348	—	348	—
Other equity securities <sup>(c)</sup>	3	3	—	—
Corporate debt securities <sup>(d)</sup>	394	—	394	—
Commingled bond funds <sup>(b)</sup>	273	—	273	—
U.S. Treasury debt securities <sup>(a)</sup>	260	260	—	—
Collective trust funds <sup>(e)</sup>	75	—	75	—
U.S. government agency asset-backed debt securities <sup>(f)</sup>	53	—	53	—
Corporate asset-backed debt securities <sup>(g)</sup>	2	—	2	—
Other fixed-income securities <sup>(h)</sup>	89	—	89	—
Total investment assets	2,955	\$ 1,721	\$ 1,234	\$ —
Accrued investment income and other receivables <sup>(i)</sup>	107			
Accrued liabilities <sup>(i)</sup>	(120)			
Investments measured at net asset value <sup>(j)</sup>	4			
Fair value of plan assets	\$ 2,946			

- (a) Common stocks, mutual funds and U.S. Treasury debt securities are valued at the closing price reported on the active market on which the individual securities are traded. No single industry comprised a significant portion of common stock held by the qualified pension plan as of December 31, 2016.
- (b) Commingled equity funds and commingled bond funds are valued using the net asset value provided by the administrator of the fund. The fair value of each fund is based on the fair value of securities in the portfolio, which represents the amount that the fund might reasonably expect to receive for the securities upon a sale, less liabilities, and then divided by the number of units outstanding. These funds are valued using observable inputs on either a daily or weekly basis and the resulting value serves as a basis for current transactions.
- (c) Other equity securities consist of preferred stocks, which are valued at the closing price reported on the active market on which the individual securities are traded.
- (d) Corporate debt securities are valued based on observable prices from the new issue market, benchmark quotes, secondary trading and dealer quotes. An option adjusted spread model is incorporated to adjust spreads of issues that have early redemption features and final spreads are added to the U.S. Treasury curve.
- (e) Collective trust funds primarily consist of short-term investment strategies comprised of instruments issued or fully guaranteed by the U.S. government and/or its agencies and are valued using the net asset value provided by the administrator of the fund. The net asset value is based on the readily determinable value of the underlying assets owned by the fund, less liabilities, and then divided by the number of units outstanding.
- (f) U.S. government agency asset-backed debt securities consist of pass-through mortgage-backed securities issued by the Federal Home Loan Mortgage Corporation and the Federal National Mortgage Association valued using available trade information, dealer quotes, market indices and research reports, spreads, bids and offers.
- (g) Corporate asset-backed debt securities primarily consist of pass-through mortgage-backed securities issued by U.S. and foreign corporations valued using available trade information, dealer quotes, market indices and research reports, spreads, bids and offers.

- (h) Other fixed-income securities consist of foreign government debt securities, municipal bonds and U.S. government agency debt securities, which are valued based on observable prices from the new issue market, benchmark quotes, secondary trading and dealer quotes. An option adjusted spread model is incorporated to adjust spreads of issues that have early redemption features and final spreads are added to the U.S. Treasury curve.
- (i) Accrued investment income and other receivables includes amounts receivable under foreign exchange contracts of \$70 million as of December 31, 2016. Accrued liabilities includes amounts accrued under foreign exchange contracts of \$71 million as of December 31, 2016. The fair value of the assets and liabilities associated with these foreign exchange contracts are presented on a gross basis and are valued using the exchange rates in effect for the applicable currencies as of the valuation date (a Level 1 fair value measurement).
- (j) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. These investments primarily consist of hedge funds valued utilizing net asset value provided by the administrator of the fund, which is based on the value of the underlying assets owned by the fund, less liabilities, and then divided by the number of units outstanding. Shares of the fund are not redeemable and the underlying assets are anticipated to be liquidated and distributed to investors in the near term. There are no material unfunded commitments with respect to these investments. The fair value amounts presented in this table are intended to permit the reconciliation of the fair value hierarchy to the total fair value of plan assets discussed throughout this footnote.

#### ***Pension Plan Contributions***

The Company made no cash contributions to the qualified pension plans during the years ended December 31, 2017 and 2016; however, the Company may make discretionary cash contributions to the qualified pension plans in the future. Such contributions will be dependent on a variety of factors, including current and expected interest rates, asset performance, the funded status of the qualified pension plans and management's judgment. For the nonqualified unfunded pension plan, the Company will continue to make contributions during 2018 to the extent benefits are paid.

Benefit payments for the pension plans are expected to be \$186 million in 2018, \$188 million in 2019, \$191 million in 2020, \$192 million in 2021, \$193 million in 2022 and \$944 million in 2023 to 2027.

#### ***Multiemployer Plans***

The Company contributes to a number of multiemployer plans under the terms of collective-bargaining agreements that cover its union-represented employees. Such multiemployer plans provide medical, pension and retirement savings benefits to active employees and retirees. The Company made contributions to multiemployer plans of \$18 million and \$31 million for the years ended December 31, 2017 and 2016, respectively.

The risks of participating in multiemployer pension plans are different from single-employer pension plans in the following aspects: (a) assets contributed to a multiemployer pension plan by one employer may be used to provide benefits to employees of other participating employers, (b) if a participating employer stops contributing to the multiemployer pension plan, the unfunded obligations of the plan may be borne by the remaining participating employers and (c) if the Company chooses to stop participating in any of the multiemployer pension plans, it may be required to pay those plans an amount based on the underfunded status of the plan, referred to as a withdrawal liability. The Company records withdrawal liabilities as other long-term liabilities in the consolidated balance sheets. As of December 31, 2017, other long-term liabilities includes approximately \$83 million related to the Company's withdrawal from a multiemployer pension plan.

The multiemployer pension plans to which the Company has contributed each received a Pension Protection Act "green" zone status in 2016. The zone status is based on the most recent information the Company received from the plan and is certified by the plan's actuary. Among other factors, plans in the green zone are at least 80% funded.

### **Defined Contribution Benefit Plans**

The Company's employees may participate in the Charter Communications, Inc. 401(k) Plan (the "401(k) Plan"). Employees that qualify for participation can contribute up to 50% of their salary, on a pre-tax basis, subject to a maximum contribution limit as determined by the Internal Revenue Service. The Company's matching contribution is discretionary and is equal to 100% of the amount of the salary reduction the participant elects to defer (up to 6% of the participant's eligible compensation), excluding any catch-up contributions and is paid by the Company on a per pay period basis. The Company made contributions to the 401(k) plan totaling \$274 million, \$147 million and \$23 million for the years ended December 31, 2017, 2016 and 2015, respectively.

For employees who are not eligible to participate in the Company's long-term incentive plan and who are not covered by a collective bargaining agreement, the Company offers a contribution to the new Retirement Accumulation Plan ("RAP"), equal to 3% of eligible pay. The Company made contributions to the RAP totaling \$139 million and \$48 million for the years ended December 31, 2017 and 2016, respectively.

## **22. Recently Issued Accounting Standards**

### **Accounting Standards Adopted January 1, 2017**

In March 2016, the Financial Accounting Standards Board ("FASB") issued ASU No. 2016-09, *Improvements to Employee Share-Based Payment Accounting*, which includes multiple provisions intended to simplify various aspects of the accounting for share-based payments. The new standard (1) requires all excess tax benefits and deficiencies to be recognized as income tax expense or benefit in the income statement in the period in which they occur regardless of whether the benefit reduces taxes payable in the current period, (2) requires classification of excess tax benefits as an operating activity on the statements of cash flows, (3) allows an entity to make an entity-wide accounting policy election to either estimate the number of awards that are expected to vest or account for forfeitures when they occur and (4) causes the threshold under which employee share-based awards partially settled in cash can qualify for equity classification to increase to the maximum statutory tax rates in the applicable jurisdiction. The new standard generally requires a modified retrospective transition through a cumulative-effect adjustment as of the beginning of the period of adoption, with certain provisions requiring either a prospective or retrospective transition. The Company adopted ASU 2016-09 on January 1, 2017. Upon adoption of ASU 2016-09, the Company recognized excess tax benefits in deferred tax assets that were previously not recognized in a cumulative-effect adjustment to retained earnings. The Company will prospectively record a deferred tax benefit or expense associated with the difference between book and tax for stock compensation expense. On January 1, 2017, the Company also established an accounting policy election to assume zero forfeitures for stock award grants and account for forfeitures when they occur which prospectively impacts stock compensation expense. The total impact to shareholders' equity was a \$131 million increase to retained earnings, a \$9 million increase to additional paid-in capital and a \$140 million decrease to net deferred tax liabilities.

In March 2017, the FASB issued ASU No. 2017-07, *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost* ("ASU 2017-07"), which requires employers to report the service cost component of net periodic pension cost in the same line item as other compensation costs arising from services rendered during the period. The standard also requires the other components of net periodic cost be presented in the income statement separately from the service cost component and outside of a subtotal of income from operations. ASU 2017-07 will be effective for annual periods beginning after December 15, 2017, and early adoption is permitted. The new standard requires retrospective application and allows a practical expedient that permits an employer to use the amounts disclosed in its pension plan footnote for the prior comparative periods as the estimation basis for applying the retrospective presentation. The Company early adopted ASU 2017-07 on January 1, 2017 and utilized the practical expedient to estimate the impact on the prior comparative period information presented in interim and annual financial statements. The Company previously recorded service cost with other compensation costs in operating costs and expenses in the consolidated statements of operations, and recorded other pension costs (benefits), in other operating expenses, net. Adoption of the standard results in the reclassification of other pension costs (benefits) to other expenses, net (non-operating). Adopting the standard reduced 2016 income from operations presented for comparative purposes in the 2017 annual financial statements by \$899 million with a corresponding decrease to other expenses of \$899 million, with no impact to net income. ASU 2017-07 does not impact the consolidated balance sheets or statements of cash flows.

### **Accounting Standards Adopted January 1, 2018**

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (“ASU 2014-09”), which is a comprehensive revenue recognition standard that will supersede nearly all existing revenue recognition guidance under U.S. GAAP. The new standard provides a single principles-based, five-step model to be applied to all contracts with customers, which steps are to (1) identify the contract(s) with the customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract and (5) recognize revenue when each performance obligation is satisfied. Charter adopted ASU 2014-09 as of the January 1, 2018 using the modified retrospective transition method with a cumulative-effect adjustment to equity as will be fully presented in the Company’s Quarterly Report on Form 10-Q for the three months ended March 31, 2018. The adoption of the new standard did not have a material impact on the Company’s financial position or results of operation. Previously reported results will not be restated under this transition method. The Company has implemented new processes and internal controls to enable the preparation of financial information on adoption. The adoption results in the deferral of residential installation revenues and enterprise commission expenses over a period of time instead of recognized immediately and the reclassification to operating costs and expenses the amortization of up-front fees paid to market and serve customers who reside in residential MDUs instead of amortized as an intangible to depreciation and amortization expense. The adoption of ASU 2014-09 will also result in additional disclosures around nature and timing of the Company’s performance obligations, deferred revenue contract liabilities, deferred contract cost assets, as well as significant judgments and practical expedients used by the Company in applying the five-step revenue model.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments* (“ASU 2016-15”), which clarifies how entities should classify cash receipts and cash payments related to eight specific cash flow matters on the statement of cash flows, with the objective of reducing existing diversity in practice. The Company adopted ASU 2016-15 on January 1, 2018. The adoption of ASU 2016-15 did not have a material impact to the Company’s consolidated financial statements.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash* (“ASU 2016-18”) which requires that amounts generally described as restricted cash to be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. ASU 2016-18 does not provide a definition of restricted cash or restricted cash equivalents. The Company adopted ASU 2016-18 on January 1, 2018. The new guidance will only be applicable to amounts described by the Company as restricted cash. The Company currently does not have amounts described as restricted cash; however, the Company’s consolidated statement of cash flows for the year ended December 31, 2016 will be recast to present \$22.3 billion of restricted cash as beginning of period cash and cash equivalents.

In May 2017, the FASB issued ASU No. 2017-09, *Scope of Modification Accounting* (“ASU 2017-09”), which amends the scope of modification accounting for share-based payment arrangements. The ASU provides guidance on the types of changes to the terms or conditions of share-based payment awards to which an entity would be required to apply modification accounting. ASU 2017-09 is applied prospectively to awards modified on or after the effective date. The Company adopted ASU 2017-09 on January 1, 2018. The adoption of ASU 2017-09 did not have a material impact to the Company’s consolidated financial statements.

### **Accounting Standards Not Yet Adopted**

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (“ASU 2016-02”), which requires lessees to recognize almost all leases on their balance sheet as a right-of-use asset and a lease liability. Lessees are allowed to account for short-term leases (i.e., leases with a term of 12 months or less) off-balance sheet, consistent with current operating lease accounting. For income statement purposes, the FASB retained a dual model, requiring leases to be classified as either operating or finance. Classification will be based on criteria that are largely similar to those applied in current lease accounting, but without explicit bright lines. ASU 2016-02 will be effective for interim and annual periods beginning after December 15, 2018 (January 1, 2019 for the Company). The new standard currently requires a modified retrospective transition through a cumulative-effect adjustment as of the beginning of the earliest period presented in the financial statements, although an option for transition relief to not restate or make required disclosures under the new standard in comparative periods in the period of adoption was recently exposed by the FASB for public comment. The Company is currently in the process of evaluating the impact that the adoption of ASU 2016-02 will have on its consolidated financial statements including identifying the population of leases, evaluating technology solutions and collecting lease data. The Company expects its leases designated as operating leases in Note 20 will be reported on the consolidated balance sheets upon adoption. The Company is currently evaluating the impact to its consolidated financial statements as it relates to other embedded lease arrangements of the business.



In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment* (“ASU 2017-04”), which eliminates step two from the goodwill impairment test. Under the new standard, to the extent the carrying amount of a reporting unit exceeds the fair value, the Company will record an impairment charge equal to the difference. The impairment charge recognized should not exceed the total amount of goodwill allocated to the reporting unit. ASU 2017-04 will be effective for interim and annual periods beginning after December 15, 2019 (January 1, 2020 for the Company). Early adoption is permitted for interim or annual goodwill impairment tests performed after January 1, 2017. The Company is currently in the process of evaluating the impact that the adoption of ASU 2017-04 will have on its consolidated financial statements.

### 23. Unaudited Quarterly Financial Data

The following table presents quarterly data for the periods presented in the consolidated statement of operations:

	Year Ended December 31, 2017			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenues	\$ 10,164	\$ 10,357	\$ 10,458	\$ 10,602
Income from operations	\$ 941	\$ 1,052	\$ 909	\$ 1,204
Net income attributable to Charter shareholders	\$ 155	\$ 139	\$ 48	\$ 9,553
Earnings per common share attributable to Charter shareholders:				
Basic	\$ 0.58	\$ 0.53	\$ 0.19	\$ 39.66
Diluted	\$ 0.57	\$ 0.52	\$ 0.19	\$ 34.56
Weighted average common share outstanding:				
Basic	269,004,817	263,460,911	253,923,805	240,833,636
Diluted	273,199,509	267,309,261	258,341,851	278,257,245
	Year Ended December 31, 2016			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenues	\$ 2,530	\$ 6,161	\$ 10,037	\$ 10,275
Income from operations	\$ 302	\$ 170	\$ 911	\$ 1,073
Net income (loss) attributable to Charter shareholders	\$ (188)	\$ 3,067	\$ 189	\$ 454
Earnings (loss) per common share attributable to Charter shareholders:				
Basic	\$ (1.86)	\$ 16.73	\$ 0.70	\$ 1.69
Diluted	\$ (1.86)	\$ 15.17	\$ 0.69	\$ 1.67
Weighted average common share outstanding:				
Basic	101,552,093	183,362,776	271,263,259	268,584,368
Diluted	101,552,093	205,214,266	275,373,202	272,624,270

### 24. Consolidating Schedules

Each of Charter Operating, TWC, LLC, TWCE, CCO Holdings and certain subsidiaries jointly, severally, fully and unconditionally guarantee the outstanding debt securities of the others (other than the CCO Holdings notes) on an unsecured senior basis and the condensed consolidating financial information has been prepared and presented pursuant to SEC Regulation S-X Rule 3-10, *Financial Statements of Guarantors and Issuers of Guaranteed Securities Registered or Being Registered*. Certain Charter Operating subsidiaries that are regulated telephone entities only become guarantor subsidiaries upon approval by regulators. This information is not intended to present the financial position, results of operations and cash flows of the individual companies or groups of companies in accordance with generally accepted accounting principles.

The "Intermediate Holding Companies" column includes the assets and liabilities of the captive insurance company, a company wholly-owned by Charter outside of Charter Holdings and not one of the holding companies that directly or indirectly own Charter Holdings. The "Charter Operating and Restricted Subsidiaries" column is presented to comply with the terms of the Credit Agreement.

The "Safari Escrow Entities" column included in the condensed consolidating financial statements for the year ended December 31, 2015 consists of CCOH Safari, CCO Safari II and CCO Safari III. CCOH Safari, CCO Safari II and CCO Safari III issued the CCOH Safari notes, CCO Safari II notes and the CCO Safari III credit facilities, respectively. Upon closing of the TWC Transaction, the CCOH Safari notes became obligations of CCO Holdings and CCO Holdings Capital and the CCO Safari II notes and CCO Safari III credit facilities became obligations of Charter Operating and Charter Communications Operating Capital Corp. CCOH Safari merged into CCO Holdings and CCO Safari II and CCO Safari III merged into Charter Operating.

The "Unrestricted Subsidiary" column included in the condensed consolidating financial statements for the year ended December 31, 2015 consists of CCO Safari which was a non-recourse subsidiary under the Credit Agreement and held the CCO Safari Term G Loans that were repaid in April 2015.

Condensed consolidating financial statements as of December 31, 2017 and 2016 and for the years ended December 31, 2017, 2016 and 2015 follow.

**Charter Communications, Inc.**  
**Condensed Consolidating Balance Sheet**  
**As of December 31, 2017**

	Non-Guarantor Subsidiaries		Guarantor Subsidiaries			Charter Consolidated
	Charter	Intermediate Holding Companies	CCO Holdings	Charter Operating And Restricted Subsidiaries	Eliminations	
<b>ASSETS</b>						
<b>CURRENT ASSETS:</b>						
Cash and cash equivalents	\$ —	\$ 291	\$ —	\$ 330	\$ —	\$ 621
Accounts receivable, net	—	24	—	1,611	—	1,635
Receivables from related party	22	613	55	—	(690)	—
Prepaid expenses and other current assets	22	34	—	243	—	299
Total current assets	<u>44</u>	<u>962</u>	<u>55</u>	<u>2,184</u>	<u>(690)</u>	<u>2,555</u>
<b>INVESTMENT IN CABLE PROPERTIES:</b>						
Property, plant and equipment, net	—	336	—	33,552	—	33,888
Customer relationships, net	—	—	—	11,951	—	11,951
Franchises	—	—	—	67,319	—	67,319
Goodwill	—	—	—	29,554	—	29,554
Total investment in cable properties, net	<u>—</u>	<u>336</u>	<u>—</u>	<u>142,376</u>	<u>—</u>	<u>142,712</u>
INVESTMENT IN SUBSIDIARIES	56,263	63,558	81,980	—	(201,801)	—
LOANS RECEIVABLE – RELATED PARTY	233	655	511	—	(1,399)	—
OTHER NONCURRENT ASSETS	—	223	—	1,133	—	1,356
Total assets	<u>\$ 56,540</u>	<u>\$ 65,734</u>	<u>\$ 82,546</u>	<u>\$ 145,693</u>	<u>\$ (203,890)</u>	<u>\$ 146,623</u>
<b>LIABILITIES AND SHAREHOLDERS'/MEMBER'S EQUITY</b>						
<b>CURRENT LIABILITIES:</b>						
Accounts payable and accrued liabilities	\$ 4	\$ 900	\$ 280	\$ 7,861	\$ —	\$ 9,045
Payables to related party	—	—	—	690	(690)	—
Current portion of long-term debt	—	—	—	2,045	—	2,045
Total current liabilities	<u>4</u>	<u>900</u>	<u>280</u>	<u>10,596</u>	<u>(690)</u>	<u>11,090</u>
LONG-TERM DEBT	—	—	18,708	49,478	—	68,186
LOANS PAYABLE – RELATED PARTY	—	—	—	1,399	(1,399)	—
DEFERRED INCOME TAXES	17,268	14	—	32	—	17,314
OTHER LONG-TERM LIABILITIES	184	134	—	2,184	—	2,502
<b>SHAREHOLDERS'/MEMBER'S EQUITY</b>						
Controlling interest	39,084	56,263	63,558	81,980	(201,801)	39,084
Noncontrolling interests	—	8,423	—	24	—	8,447
Total shareholders'/member's equity	<u>39,084</u>	<u>64,686</u>	<u>63,558</u>	<u>82,004</u>	<u>(201,801)</u>	<u>47,531</u>
Total liabilities and shareholders'/member's equity	<u>\$ 56,540</u>	<u>\$ 65,734</u>	<u>\$ 82,546</u>	<u>\$ 145,693</u>	<u>\$ (203,890)</u>	<u>\$ 146,623</u>

**Charter Communications, Inc.**  
**Condensed Consolidating Balance Sheet**  
**As of December 31, 2016**

	Non-Guarantor Subsidiaries		Guarantor Subsidiaries			Charter Consolidated
	Charter	Intermediate Holding Companies	CCO Holdings	Charter Operating And Restricted Subsidiaries	Eliminations	
<b>ASSETS</b>						
<b>CURRENT ASSETS:</b>						
Cash and cash equivalents	\$ 57	\$ 154	\$ —	\$ 1,324	\$ —	\$ 1,535
Accounts receivable, net	34	11	—	1,387	—	1,432
Receivables from related party	170	451	62	—	(683)	—
Prepaid expenses and other current assets	—	33	—	300	—	333
Total current assets	261	649	62	3,011	(683)	3,300
<b>INVESTMENT IN CABLE PROPERTIES:</b>						
Property, plant and equipment, net	—	245	—	32,718	—	32,963
Customer relationships, net	—	—	—	14,608	—	14,608
Franchises	—	—	—	67,316	—	67,316
Goodwill	—	—	—	29,509	—	29,509
Total investment in cable properties, net	—	245	—	144,151	—	144,396
<b>INVESTMENT IN SUBSIDIARIES</b>	66,692	75,838	88,760	—	(231,290)	—
<b>LOANS RECEIVABLE – RELATED PARTY</b>	—	640	494	—	(1,134)	—
<b>OTHER NONCURRENT ASSETS</b>	—	214	—	1,157	—	1,371
Total assets	\$ 66,953	\$ 77,586	\$ 89,316	\$ 148,319	\$ (233,107)	\$ 149,067
<b>LIABILITIES AND SHAREHOLDERS'/MEMBER'S EQUITY</b>						
<b>CURRENT LIABILITIES:</b>						
Accounts payable and accrued liabilities	\$ 22	\$ 625	\$ 219	\$ 6,678	\$ —	\$ 7,544
Payables to related party	—	—	—	683	(683)	—
Current portion of long-term debt	—	—	—	2,028	—	2,028
Total current liabilities	22	625	219	9,389	(683)	9,572
<b>LONG-TERM DEBT</b>	—	—	13,259	46,460	—	59,719
<b>LOANS PAYABLE – RELATED PARTY</b>	—	—	—	1,134	(1,134)	—
<b>DEFERRED INCOME TAXES</b>	26,637	3	—	25	—	26,665
<b>OTHER LONG-TERM LIABILITIES</b>	155	64	—	2,526	—	2,745
<b>SHAREHOLDERS'/MEMBER'S EQUITY</b>						
Controlling interest	40,139	66,692	75,838	88,760	(231,290)	40,139
Noncontrolling interests	—	10,202	—	25	—	10,227
Total shareholders'/member's equity	40,139	76,894	75,838	88,785	(231,290)	50,366
Total liabilities and shareholders'/member's equity	\$ 66,953	\$ 77,586	\$ 89,316	\$ 148,319	\$ (233,107)	\$ 149,067

**Charter Communications, Inc.**  
**Condensed Consolidating Statement of Operations**  
**For the year ended December 31, 2017**

	Non-Guarantor Subsidiaries		Guarantor Subsidiaries			
	Charter	Intermediate Holding Companies	CCO Holdings	Charter Operating and Restricted Subsidiaries	Eliminations	Charter Consolidated
REVENUES	\$ 90	\$ 1,186	\$ —	\$ 41,578	\$ (1,273)	\$ 41,581
<b>COSTS AND EXPENSES:</b>						
Operating costs and expenses (exclusive of items shown separately below)	90	1,164	—	26,560	(1,273)	26,541
Depreciation and amortization	—	9	—	10,579	—	10,588
Other operating (income) expenses, net	(101)	3	—	444	—	346
	(11)	1,176	—	37,583	(1,273)	37,475
Income from operations	101	10	—	3,995	—	4,106
<b>OTHER INCOME (EXPENSES):</b>						
Interest income (expense), net	5	20	(883)	(2,232)	—	(3,090)
Loss on extinguishment of debt	—	—	(34)	(6)	—	(40)
Gain on financial instruments, net	—	—	—	69	—	69
Other pension benefits	—	—	—	1	—	1
Other expense, net	—	(14)	—	(4)	—	(18)
Equity in income of subsidiaries	680	882	1,799	—	(3,361)	—
	685	888	882	(2,172)	(3,361)	(3,078)
Income before income taxes	786	898	882	1,823	(3,361)	1,028
INCOME TAX BENEFIT (EXPENSE)	9,109	1	—	(23)	—	9,087
Consolidated net income	9,895	899	882	1,800	(3,361)	10,115
Less: Net income – noncontrolling interests	—	(219)	—	(1)	—	(220)
Net income	\$ 9,895	\$ 680	\$ 882	\$ 1,799	\$ (3,361)	\$ 9,895

**Charter Communications, Inc.**  
**Condensed Consolidating Statement of Operations**  
**For the year ended December 31, 2016**

	<u>Non-Guarantor Subsidiaries</u>			<u>Guarantor Subsidiaries</u>			<u>Charter Consolidated</u>
	<u>Charter</u>	<u>Intermediate Holding Companies</u>	<u>Safari Escrow Entities</u>	<u>CCO Holdings</u>	<u>Charter Operating and Restricted Subsidiaries</u>	<u>Eliminations</u>	
REVENUES	\$ 251	\$ 1,004	\$ —	\$ —	\$ 29,003	\$ (1,255)	\$ 29,003
<b>COSTS AND EXPENSES:</b>							
Operating costs and expenses (exclusive of items shown separately below)	251	989	—	—	18,670	(1,255)	18,655
Depreciation and amortization	—	5	—	—	6,902	—	6,907
Other operating expenses, net	262	1	—	—	722	—	985
	<u>513</u>	<u>995</u>	<u>—</u>	<u>—</u>	<u>26,294</u>	<u>(1,255)</u>	<u>26,547</u>
Income (loss) from operations	<u>(262)</u>	<u>9</u>	<u>—</u>	<u>—</u>	<u>2,709</u>	<u>—</u>	<u>2,456</u>
<b>OTHER INCOME (EXPENSES):</b>							
Interest income (expense), net	—	14	(390)	(727)	(1,396)	—	(2,499)
Loss on extinguishment of debt	—	—	—	(110)	(1)	—	(111)
Gain on financial instruments, net	—	—	—	—	89	—	89
Other pension benefits	—	—	—	—	899	—	899
Other expense, net	—	(11)	—	—	(3)	—	(14)
Equity in income of subsidiaries	851	1,066	—	2,293	—	(4,210)	—
	<u>851</u>	<u>1,069</u>	<u>(390)</u>	<u>1,456</u>	<u>(412)</u>	<u>(4,210)</u>	<u>(1,636)</u>
Income (loss) before income taxes	589	1,078	(390)	1,456	2,297	(4,210)	820
<b>INCOME TAX BENEFIT (EXPENSE)</b>	<u>2,933</u>	<u>(5)</u>	<u>—</u>	<u>—</u>	<u>(3)</u>	<u>—</u>	<u>2,925</u>
Consolidated net income (loss)	3,522	1,073	(390)	1,456	2,294	(4,210)	3,745
Less: Net income – noncontrolling interest	—	(222)	—	—	(1)	—	(223)
Net income (loss)	<u>\$ 3,522</u>	<u>\$ 851</u>	<u>\$ (390)</u>	<u>\$ 1,456</u>	<u>\$ 2,293</u>	<u>\$ (4,210)</u>	<u>\$ 3,522</u>

**Charter Communications, Inc.**  
**Condensed Consolidating Statement of Operations**  
**For the year ended December 31, 2015**

	<u>Non-Guarantor Subsidiaries</u>		<u>Guarantor Subsidiaries</u>				Eliminations	Charter Consolidated
	Charter	Intermediate Holding Companies	Safari Escrow Entities	CCO Holdings	Charter Operating and Restricted Subsidiaries	Unrestricted Subsidiary		
REVENUES	\$ 25	\$ 299	\$ —	\$ —	\$ 9,754	\$ —	\$ (324)	\$ 9,754
<b>COSTS AND EXPENSES:</b>								
Operating costs and expenses (exclusive of items shown separately below)	25	299	—	—	6,426	—	(324)	6,426
Depreciation and amortization	—	—	—	—	2,125	—	—	2,125
Other operating expenses, net	—	—	—	—	89	—	—	89
	<u>25</u>	<u>299</u>	<u>—</u>	<u>—</u>	<u>8,640</u>	<u>—</u>	<u>(324)</u>	<u>8,640</u>
Income from operations	—	—	—	—	1,114	—	—	1,114
<b>OTHER INCOME (EXPENSES):</b>								
Interest income (expense), net	—	8	(474)	(642)	(151)	(47)	—	(1,306)
Loss on extinguishment of debt	—	—	(2)	(123)	—	(3)	—	(128)
Loss on financial instruments, net	—	—	—	—	(4)	—	—	(4)
Other expense, net	—	(7)	—	—	—	—	—	(7)
Equity in income (loss) of subsidiaries	(121)	(168)	—	1,073	(50)	—	(734)	—
	<u>(121)</u>	<u>(167)</u>	<u>(476)</u>	<u>308</u>	<u>(205)</u>	<u>(50)</u>	<u>(734)</u>	<u>(1,445)</u>
Income (loss) before income taxes	(121)	(167)	(476)	308	909	(50)	(734)	(331)
<b>INCOME TAX BENEFIT (EXPENSE)</b>	<b>(150)</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>210</b>	<b>—</b>	<b>—</b>	<b>60</b>
Consolidated net income (loss)	(271)	(167)	(476)	308	1,119	(50)	(734)	(271)
Less: Net (income) loss – noncontrolling interest	—	46	—	—	(46)	—	—	—
Net income (loss)	<u>\$ (271)</u>	<u>\$ (121)</u>	<u>\$ (476)</u>	<u>\$ 308</u>	<u>\$ 1,073</u>	<u>\$ (50)</u>	<u>\$ (734)</u>	<u>\$ (271)</u>

**Charter Communications, Inc.**  
**Condensed Consolidating Statement of Comprehensive Income**  
**For the year ended December 31, 2017**

	<u>Non-Guarantor Subsidiaries</u>		<u>Guarantor Subsidiaries</u>				Eliminations	Charter Consolidated
	Charter	Intermediate Holding Companies	CCO Holdings	Charter Operating and Restricted Subsidiaries	Unrestricted Subsidiary			
Consolidated net income	\$ 9,895	\$ 899	\$ 882	\$ 1,800	\$ (3,361)	\$ 10,115		
Net impact of interest rate derivative instruments	5	5	5	5	(15)	5		
Foreign currency translation adjustment	1	1	1	1	(3)	1		
Consolidated comprehensive income	9,901	905	888	1,806	(3,379)	10,121		
Less: Comprehensive income attributable to noncontrolling interests	—	(219)	—	(1)	—	(220)		
Comprehensive income	<u>\$ 9,901</u>	<u>\$ 686</u>	<u>\$ 888</u>	<u>\$ 1,805</u>	<u>\$ (3,379)</u>	<u>\$ 9,901</u>		

**Charter Communications, Inc.**  
**Condensed Consolidating Statement of Comprehensive Income (Loss)**  
**For the year ended December 31, 2016**

	<u>Non-Guarantor Subsidiaries</u>			<u>Guarantor Subsidiaries</u>				<u>Charter Consolidated</u>
	<u>Charter</u>	<u>Intermediate Holding Companies</u>	<u>Safari Escrow Entities</u>	<u>CCO Holdings</u>	<u>Charter Operating and Restricted Subsidiaries</u>	<u>Unrestricted Subsidiary</u>	<u>Eliminations</u>	
Consolidated net income (loss)	\$ 3,522	\$ 1,073	\$ (390)	\$ 1,456	\$ 2,294	\$ (4,210)	\$ 3,745	
Net impact of interest rate derivative instruments	8	8	—	8	8	(24)	8	
Foreign currency translation adjustment	(2)	(2)	—	(2)	(2)	6	(2)	
Consolidated comprehensive income (loss)	3,528	1,079	(390)	1,462	2,300	(4,228)	3,751	
Less: Comprehensive income attributable to noncontrolling interests	—	(222)	—	—	(1)	—	(223)	
Comprehensive income (loss)	<u>\$ 3,528</u>	<u>\$ 857</u>	<u>\$ (390)</u>	<u>\$ 1,462</u>	<u>\$ 2,299</u>	<u>\$ (4,228)</u>	<u>\$ 3,528</u>	

**Charter Communications, Inc.**  
**Condensed Consolidating Statement of Comprehensive Income (Loss)**  
**For the year ended December 31, 2015**

	<u>Non-Guarantor Subsidiaries</u>			<u>Guarantor Subsidiaries</u>				<u>Charter Consolidated</u>
	<u>Charter</u>	<u>Intermediate Holding Companies</u>	<u>Safari Escrow Entities</u>	<u>CCO Holdings</u>	<u>Charter Operating and Restricted Subsidiaries</u>	<u>Unrestricted Subsidiary</u>	<u>Eliminations</u>	
Consolidated net income (loss)	\$ (271)	\$ (167)	\$ (476)	\$ 308	\$ 1,119	\$ (50)	\$ (734)	\$ (271)
Net impact of interest rate derivative instruments	9	9	—	9	9	—	(27)	9
Consolidated comprehensive income (loss)	(262)	(158)	(476)	317	1,128	(50)	(761)	(262)
Less: Comprehensive (income) loss attributable to noncontrolling interests	—	46	—	—	(46)	—	—	—
Comprehensive income (loss)	<u>\$ (262)</u>	<u>\$ (112)</u>	<u>\$ (476)</u>	<u>\$ 317</u>	<u>\$ 1,082</u>	<u>\$ (50)</u>	<u>\$ (761)</u>	<u>\$ (262)</u>



**Charter Communications, Inc.**  
**Condensed Consolidating Statement of Cash Flows**  
**For the year ended December 31, 2017**

	<u>Non-Guarantor Subsidiaries</u>		<u>Guarantor Subsidiaries</u>			
	<u>Charter</u>	<u>Intermediate Holding Companies</u>	<u>CCO Holdings</u>	<u>Charter Operating and Restricted Subsidiaries</u>	<u>Eliminations</u>	<u>Charter Consolidated</u>
<b>NET CASH FLOWS FROM OPERATING ACTIVITIES</b>	\$ 159	\$ 187	\$ (814)	\$ 12,422	\$ —	\$ 11,954
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>						
Purchases of property, plant and equipment	—	—	—	(8,681)	—	(8,681)
Change in accrued expenses related to capital expenditures	—	—	—	820	—	820
Purchases of cable systems, net	—	—	—	(9)	—	(9)
Real estate investments through variable interest entities	—	(105)	—	—	—	(105)
Contribution to subsidiaries	(115)	—	(693)	—	808	—
Distributions from subsidiaries	11,732	13,488	9,598	—	(34,818)	—
Other, net	—	—	—	(123)	—	(123)
Net cash flows from investing activities	<u>11,617</u>	<u>13,383</u>	<u>8,905</u>	<u>(7,993)</u>	<u>(34,010)</u>	<u>(8,098)</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>						
Borrowings of long-term debt	—	—	6,231	19,045	—	25,276
Repayments of long-term debt	—	—	(775)	(15,732)	—	(16,507)
Borrowings (repayments) loans payable - related parties	(234)	—	—	234	—	—
Payment for debt issuance costs	—	—	(59)	(52)	—	(111)
Purchase of treasury stock	(11,715)	—	—	—	—	(11,715)
Proceeds from exercise of stock options	116	—	—	—	—	116
Purchase of noncontrolling interest	—	(1,665)	—	—	—	(1,665)
Distributions to noncontrolling interest	—	(151)	—	(2)	—	(153)
Contributions from parent	—	115	—	693	(808)	—
Distributions to parent	—	(11,732)	(13,488)	(9,598)	34,818	—
Other, net	—	—	—	(11)	—	(11)
Net cash flows from financing activities	<u>(11,833)</u>	<u>(13,433)</u>	<u>(8,091)</u>	<u>(5,423)</u>	<u>34,010</u>	<u>(4,770)</u>
<b>NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>						
	(57)	137	—	(994)	—	(914)
CASH AND CASH EQUIVALENTS, beginning of period	57	154	—	1,324	—	1,535
CASH AND CASH EQUIVALENTS, end of period	<u>\$ —</u>	<u>\$ 291</u>	<u>\$ —</u>	<u>\$ 330</u>	<u>\$ —</u>	<u>\$ 621</u>

**Charter Communications, Inc.**  
**Condensed Consolidating Statement of Cash Flows**  
**For the year ended December 31, 2016**

	Non-Guarantor Subsidiaries		Guarantor Subsidiaries				Eliminations	Charter Consolidated
	Charter	Intermediate Holding Companies	Safari Escrow Entities	CCO Holdings	Charter Operating And Restricted Subsidiaries	Charter		
NET CASH FLOWS FROM OPERATING ACTIVITIES	\$ (225)	\$ (36)	\$ (463)	\$ (711)	\$ 9,476	\$ —	\$ 8,041	
CASH FLOWS FROM INVESTING ACTIVITIES:								
Purchases of property, plant and equipment	—	—	—	—	(5,325)	—	(5,325)	
Change in accrued expenses related to capital expenditures	—	—	—	—	603	—	603	
Purchases of cable systems, net	(26,781)	(2,022)	—	—	(7)	—	(28,810)	
Contribution to subsidiaries	(1,013)	(478)	—	(437)	—	1,928	—	
Distributions from subsidiaries	24,552	26,899	—	5,096	—	(56,547)	—	
Change in restricted cash and cash equivalents	—	—	22,264	—	—	—	22,264	
Other, net	—	—	—	—	(22)	—	(22)	
Net cash flows from investing activities	(3,242)	24,399	22,264	4,659	(4,751)	(54,619)	(11,290)	
CASH FLOWS FROM FINANCING ACTIVITIES:								
Borrowings of long-term debt	—	—	—	3,201	9,143	—	12,344	
Repayments of long-term debt	—	—	—	(2,937)	(7,584)	—	(10,521)	
Borrowings (repayments) loans payable - related parties	—	(300)	553	(71)	(182)	—	—	
Payment for debt issuance costs	—	—	—	(73)	(211)	—	(284)	
Issuance of equity	5,000	—	—	—	—	—	5,000	
Purchase of treasury stock	(1,562)	—	—	—	—	—	(1,562)	
Proceeds from exercise of stock options	86	—	—	—	—	—	86	
Settlement of restricted stock units	—	(59)	—	—	—	—	(59)	
Purchase of noncontrolling interest	—	(218)	—	—	—	—	(218)	
Distributions to noncontrolling interest	—	(96)	—	—	—	—	(96)	
Proceeds from termination of interest rate derivatives	—	—	—	—	88	—	88	
Contributions from parent	—	1,013	—	478	437	(1,928)	—	
Distributions to parent	—	(24,552)	(22,353)	(4,546)	(5,096)	56,547	—	
Other, net	—	3	(1)	—	(1)	—	1	
Net cash flows from financing activities	3,524	(24,209)	(21,801)	(3,948)	(3,406)	54,619	4,779	
NET INCREASE IN CASH AND CASH EQUIVALENTS	57	154	—	—	1,319	—	1,530	
CASH AND CASH EQUIVALENTS, beginning of period	—	—	—	—	5	—	5	
CASH AND CASH EQUIVALENTS, end of period	\$ 57	\$ 154	\$ —	\$ —	\$ 1,324	\$ —	\$ 1,535	

**Charter Communications, Inc.**  
**Condensed Consolidating Statement of Cash Flows**  
**For the year ended December 31, 2015**

	Non-Guarantor Subsidiaries			Guarantor Subsidiaries				Charter Consolidated
	Charter	Intermediate Holding Companies	Safari Escrow Entities	CCO Holdings	Charter Operating And Restricted Subsidiaries	Unrestricted Subsidiary	Eliminations	
NET CASH FLOWS FROM OPERATING ACTIVITIES:	\$ (1)	\$ (5)	\$ (192)	\$ (663)	\$ 3,275	\$ (55)	\$ —	\$ 2,359
CASH FLOWS FROM INVESTING ACTIVITIES:								
Purchases of property, plant and equipment	—	—	—	—	(1,840)	—	—	(1,840)
Change in accrued expenses related to capital expenditures	—	—	—	—	28	—	—	28
Contribution to subsidiaries	(20)	(90)	—	(46)	(24)	—	180	—
Distributions from subsidiaries	26	376	—	715	—	—	(1,117)	—
Change in restricted cash and cash equivalents	—	—	(18,667)	—	—	3,514	—	(15,153)
Other, net	—	(55)	—	—	(12)	—	—	(67)
Net cash flows from investing activities	6	231	(18,667)	669	(1,848)	3,514	(937)	(17,032)
CASH FLOWS FROM FINANCING ACTIVITIES:								
Borrowings of long-term debt	—	—	21,790	2,700	1,555	—	—	26,045
Repayments of long-term debt	—	—	(3,500)	(2,598)	(1,745)	(3,483)	—	(11,326)
Borrowings (repayments) loans payable - related parties	—	—	581	(18)	(563)	—	—	—
Payment for debt issuance costs	—	—	(12)	(24)	—	—	—	(36)
Purchase of treasury stock	(38)	—	—	—	—	—	—	(38)
Proceeds from exercise of options and warrants	30	—	—	—	—	—	—	30
Contributions from parent	—	95	—	15	46	24	(180)	—
Distributions to parent	—	(321)	—	(81)	(715)	—	1,117	—
Net cash flows from financing activities	(8)	(226)	18,859	(6)	(1,422)	(3,459)	937	14,675
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS								
	(3)	—	—	—	5	—	—	2
CASH AND CASH EQUIVALENTS, beginning of period								
	3	—	—	—	—	—	—	3
CASH AND CASH EQUIVALENTS, end of period								
	\$ —	\$ —	\$ —	\$ —	\$ 5	\$ —	\$ —	\$ 5



As of December 31, 2017

A table of subsidiaries of Liberty Broadband Corporation is set forth below, indicating as to each the state or jurisdiction of organization and the names under which such subsidiaries do business. Subsidiaries not included in the table are inactive or, considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary.

Entity Name	Domicile
Communication Capital, LLC	DE
JJCK, LLC	TX
LBC Cheetah 1, LLC	DE
LBC Cheetah 5, LLC	DE
LBC Cheetah 6, LLC	DE
LMC Cheetah 1, LLC	DE
LMC Cheetah 4, LLC	DE
Skyhook Holding, Inc. (fka True Position, Inc.)	DE
Skyhook Software Services Ltd.	China
Skyhook Wireless, Inc.	DE
TP Israel, LLC	DE
TP Nigeria, LLC	DE
TPRT, LLC	DE
TP UK, LLC	DE

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**Consent of Independent Registered Public Accounting Firm**

The Board of Directors  
Liberty Broadband Corporation:

We consent to the incorporation by reference in the following registration statements of Liberty Broadband Corporation of our reports dated February 9, 2018, with respect to the consolidated balance sheets of Liberty Broadband Corporation as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive earnings (loss), cash flows, and equity for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the “consolidated financial statements”), and the effectiveness of internal control over financial reporting as of December 31, 2017, which reports appear in the December 31, 2017 annual report on Form 10-K of Liberty Broadband Corporation.

<b>Description</b>	<b>Registration Statement No.</b>	<b>Description</b>
S-8	333-200436	Liberty Broadband Corporation Transitional Stock Adjustment Plan
S-8	333-200438	Liberty Broadband Corporation 2014 Omnibus Incentive Plan
S-3ASR	333-211518	Liberty Broadband Series C Common Stock Offered by the Selling Stockholders

/s/ KPMG LLP

Denver, Colorado  
February 9, 2018

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**Consent of Independent Registered Public Accounting Firm**

The Board of Directors  
Charter Communications, Inc.:

We consent to the incorporation by reference in the registration statement Nos. 333-200436 and 333-200438 on Form S-8 and No. 333-211518 on Form S-3 of Liberty Broadband Corporation of our report dated February 1, 2018, with respect to the consolidated balance sheets of Charter Communications, Inc. and subsidiaries as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive income (loss), change in shareholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the "consolidated financial statements") which report appears in the December 31, 2017 annual report on Form 10-K of Liberty Broadband Corporation.

/s/ KPMG LLP

St. Louis, Missouri  
February 9, 2018

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## CERTIFICATION

I, Gregory B. Maffei, certify that:

1. I have reviewed this annual report on Form 10-K of Liberty Broadband Corporation, Inc.;
2. Based on my knowledge, this annual 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 annual report;
3. Based on my knowledge, the financial statements and other financial information included in this annual 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 annual report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls 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 we 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 annual 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 annual report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by this annual report based on such evaluation; and
  - d) disclosed in this annual 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 officers 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 function):
  - 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 9, 2018

/s/ GREGORY B. MAFFEI

Gregory B. Maffei  
President and Chief Executive Officer

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## CERTIFICATION

I, Mark D. Carleton, certify that:

1. I have reviewed this annual report on Form 10-K of Liberty Broadband Corporation, Inc.;
2. Based on my knowledge, this annual 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 annual report;
3. Based on my knowledge, the financial statements and other financial information included in this annual 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 annual report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls 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 we 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 annual 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 annual report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by this annual report based on such evaluation; and
  - d) disclosed in this annual 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 officers 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 function):
  - 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 9, 2018

/s/ MARK D. CARLETON

Mark D. Carleton  
Chief Financial Officer

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## Certification

**Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002  
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)**

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Liberty Broadband Corporation, a Delaware corporation (the "Company"), does hereby certify, to such officer's knowledge, that:

The Annual Report on Form 10-K for the period ended December 31, 2017 (the "Form 10-K") of the Company fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 9, 2018

\_\_\_\_\_  
/s/ GREGORY B. MAFFEI

Gregory B. Maffei  
*President and Chief Executive Officer*

Dated: February 9, 2018

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/s/ MARK D. CARLETON

Mark D. Carleton  
*Chief Financial Officer*  
*(Principal Financial Officer and Principal Accounting Officer)*

The foregoing certification is being furnished solely pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code) and is not being filed as part of the Form 10-K or as a separate disclosure document.

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