

CROWN CASTLE INTERNATIONAL CORP
Form 10-K
February 22, 2017

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

FORM 10-K

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

For the fiscal year ended December 31, 2016

or

o 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 001-16441

CROWN CASTLE INTERNATIONAL CORP.
(Exact name of registrant as specified in its charter)

Delaware 76-0470458
(State or other jurisdiction (I.R.S. Employer
of incorporation or organization) Identification No.)

1220 Augusta Drive, Suite 600, Houston Texas
77057-2261
(Address of principal executive offices) (Zip Code)
(713) 570-3000

(Registrant's telephone number, including area code)

Securities Registered Pursuant to Name of Each Exchange
Section 12(b) of the Act on Which Registered
Common Stock, \$.01 par value New York Stock Exchange
Securities Registered Pursuant to Section 12(g) of the Act: NONE.

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

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

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 x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, 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 x No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K 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. o

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Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a small reporting company. See definitions of a "large accelerated filer," "accelerated filer" and "smaller reporting company" in rule 12B-2 of the Exchange Act. Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was approximately \$34.1 billion as of June 30, 2016, the last business day of the registrant's most recently completed second fiscal quarter, based on the New York Stock Exchange closing price on that day of \$101.43 per share.

Applicable Only to Corporate Registrants

As of February 15, 2017 there were 360,538,298 shares of common stock outstanding.

Documents Incorporated by Reference

The information required to be furnished pursuant to Part III of this Form 10-K will be set forth in, and incorporated by reference from, the registrant's definitive proxy statement for the annual meeting of stockholders (the "2017 Proxy Statement"), which will be filed with the Securities and Exchange Commission not later than 120 days after the end of the fiscal year ended December 31, 2016.

CROWN CASTLE INTERNATIONAL CORP.
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Cautionary Language Regarding Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements that are based on our management's expectations as of the filing date of this report with the Securities and Exchange Commission ("SEC"). Statements that are not historical facts are hereby identified as forward-looking statements. In addition, words such as "estimate," "anticipate," "project," "plan," "intend," "believe," "expect," "likely," "predicted," any variations of these words and similar expressions are intended to identify forward-looking statements. Such statements include plans, projections and estimates contained in "Item 1. Business," "Item 3. Legal Proceedings," "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" ("MD&A"), and "Item 7A. Quantitative and Qualitative Disclosures About Market Risk" herein. Such forward-looking statements include (1) expectations regarding anticipated growth in the wireless industry, carriers' investments in their networks, tenant additions, customer consolidation or ownership changes, or demand for our wireless infrastructure, (2) expectations regarding non-renewals of tenant leases (including the impact of our customers' decommissioning of the former Leap Wireless, MetroPCS and Clearwire networks), (3) availability and adequacy of cash flows and liquidity for, or plans regarding, future discretionary investments including capital expenditures, (4) potential benefits of our discretionary investments, (5) anticipated growth in our financial results, including future revenues, margins, Adjusted EBITDA, segment site

rental gross margin, segment network services and other gross margin, segment operating profit and operating cash flows, (6) expectations regarding our capital structure and the credit markets, our availability and cost of capital, or our ability to service our debt and comply with debt covenants and the benefits of any future refinancings, (7) expectations related to remaining qualified as a real estate investment trust ("REIT"), and the advantages, benefits or impact of, or opportunities created by, our REIT status, (8) the realization and utilization of our net operating loss carryforwards ("NOLs"), and (9) our dividend policy, and the timing, amount, growth or tax characterization of any dividends.

Such forward-looking statements should, therefore, be considered in light of various risks, uncertainties and assumptions, including prevailing market conditions, risk factors described under "Item 1A. Risk Factors" herein and other factors. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those expected. As used herein, the term "including," and any variation thereof, means "including without limitation." The use of the word "or" herein is not exclusive.

Unless this Form 10-K indicates otherwise or the context otherwise requires, the terms, "we," "our," "our company," "the company" or "us" as used in this Form 10-K refer to Crown Castle International Corp. and its predecessor (organized in 1995), as applicable, each a Delaware corporation (together, "CCIC"), and their subsidiaries.

PART I

Item 1. Business

Overview

We own, operate and lease shared wireless infrastructure that is geographically dispersed throughout the United States and Puerto Rico ("U.S."), including (1) approximately 40,000 towers and other structures, such as rooftops (collectively, "towers"), and (2) approximately 26,500 route miles of fiber (after giving effect to the FiberNet Acquisition, as defined below) primarily supporting small cell networks (collectively, "small cells," and together with towers, "wireless infrastructure"). Our core business is providing access, including space or capacity, to our shared wireless infrastructure via long-term contracts in various forms, including license, sublease and lease agreements (collectively, "leases"). We seek to increase our site rental revenues by adding more tenants on our shared wireless infrastructure, which we expect to result in significant incremental cash flows due to our low incremental operating costs.

Below is certain information concerning our business as of December 31, 2016:

We owned, leased or managed approximately 40,000 towers and 26,500 route miles of fiber (after giving effect to the FiberNet Acquisition, as defined in "Item 1. Business—2016 Industry Highlights and Company Developments—FiberNet Acquisition") in the U.S.

During the first quarter of 2016, we changed our operating segments to consist of towers and small cells. Our towers operating segment and small cells operating segment accounted for 88% and 12% of our 2016 site rental revenues, respectively. See "Item 7. MD&A—Change in Operating Segments" and note 16 to our consolidated financial statements.

Approximately 56% and 71% of our towers were located in the 50 and 100 largest U.S. basic trading areas ("BTAs"), respectively. Our towers had a significant presence in each of the top 100 BTAs.

Our small cells were (1) typically located outdoors and (2) often attached to public right-of-way infrastructure, including utility poles or street lights. Additionally, the majority of our fiber assets were located in major metropolitan areas.

We owned, including fee interests and perpetual easements, land and other property interests (collectively, "land") on which approximately one-third of our towers site rental gross margin is derived, and we leased, subleased, managed or licensed (collectively, "leased") the land interests on which approximately two-thirds of our towers site rental gross margin is derived.

The leases for the land interests under our towers had an average remaining life in excess of 30 years (including renewal terms at our option), weighted based on towers site rental gross margin.

We operated as a REIT for U.S. federal income tax purposes. See "Item 1. Business—2016 Industry Highlights and Company Developments—REIT Status" and note 11 to our consolidated financial statements.

Certain information concerning our customers and site rental leases as of and for the year ended December 31, 2016 is as follows:

Our customers include AT&T, T-Mobile, Verizon Wireless and Sprint, which collectively accounted for 90% of our 2016 site rental revenues.

Site rental revenues represented 82% of our 2016 consolidated net revenues and site rental gross margin represented 89% of our 2016 consolidated gross margin.

The vast majority of our site rental revenues are of a recurring nature, and typically in excess of 90% have been contracted for in a prior year.

Our site rental revenues typically result from long-term leases with (1) initial terms of five to 15 years, (2) multiple renewal periods at the option of the tenant of five to ten years each, (3) limited termination rights for our tenants, and (4) contractual escalations of the rental price.

Exclusive of renewals at the tenants' option, our tenant leases have a weighted-average remaining life of approximately six years and represent \$19 billion of expected future cash inflows.

As part of our effort to provide comprehensive wireless infrastructure solutions, we also offer certain network services relating to our wireless infrastructure, consisting of (1) site development services relating to existing or new tenant equipment installations on our wireless infrastructure, including: site acquisition, architectural and engineering, or zoning and permitting (collectively, "site development services") and (2) tenant equipment installation or subsequent augmentations (collectively, "installation services").

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Strategy

Our strategy is to create long-term stockholder value via a combination of (1) growing cash flows generated from our portfolio of wireless infrastructure, (2) returning a meaningful portion of our cash provided by operating activities to our stockholders in the form of dividends and (3) investing capital efficiently to grow cash flows and long-term dividends per share. We measure our efforts to create "long-term stockholder value" by the combined payment of dividends to stockholders and growth in our per share results. The key elements of our strategy are to:

Grow cash flows from our wireless infrastructure. We seek to maximize our site rental cash flows by working with our customers to provide them quick access to our wireless infrastructure and entering into associated long-term leases. Tenant additions or modifications of existing tenant equipment (collectively, "tenant additions") enable our customers to expand coverage and capacity in order to meet increasing demand for wireless connectivity, while generating high incremental returns for our business. We believe our product offerings of towers and small cells provide a comprehensive solution to our customers' growing connectivity needs through our shared wireless infrastructure model, which is an efficient and cost effective way to serve our customers. We also believe that there will be considerable future demand for our wireless infrastructure based on the location of our wireless infrastructure and the rapid growth in wireless connectivity, which will lead to future growth in the wireless industry.

Return cash provided by operating activities to stockholders in the form of dividends. We believe that distributing a meaningful portion of our cash provided by operating activities appropriately provides stockholders with increased certainty for a portion of expected long-term stockholder value while still retaining sufficient flexibility to invest in our business and deliver growth. We believe this decision reflects the translation of the high-quality, long-term contractual cash flows of our business into stable capital returns to stockholders.

Invest capital efficiently to grow cash flows and long-term dividends per share. We seek to invest our available capital, including the net cash provided by our operating activities and external financing sources, in a manner that will increase long-term stockholder value on a risk-adjusted basis. Our historical investments have included the following (in no particular order):

- purchases of shares of our common stock from time to time;
- acquisitions or construction of wireless infrastructure;
- acquisitions of land interests under towers;
- improvements and structural enhancements to our existing wireless infrastructure; or
- purchases, repayments or redemptions of our debt.

Our strategy to create long-term stockholder value is based on our belief that additional demand for our wireless infrastructure will be created by the expected continued growth in the demand for wireless connectivity. We believe that such demand for our wireless infrastructure will continue, will result in growth of our cash flows due to tenant additions on our existing wireless infrastructure, and will create other growth opportunities for us, such as demand for new wireless infrastructure.

2016 Industry Highlights and Company Developments

See "Item 1. Business—Overview," "Item 1. Business—The Company," "Item 7. MD&A" and our consolidated financial statements for a discussion of certain recent developments and activities, including (1) the increase in our quarterly common stock dividend, (2) our recent debt and equity financing activities, and (3) our change in operating segments during 2016.

FiberNet Acquisition. On November 1, 2016, we announced a definitive agreement to acquire FPL FiberNet Holdings, LLC and certain other subsidiaries of NextEra Energy, Inc. (collectively, "FiberNet") for approximately \$1.5 billion in cash, subject to certain limited adjustments ("FiberNet Acquisition"). FiberNet is a fiber services provider in Florida and Texas that owns or has rights to approximately 11,500 route miles of fiber installed and under construction, inclusive of approximately 6,000 route miles in top metro markets. We believe that the FiberNet assets will further support the demand for our wireless infrastructure. On January 17, 2017, we closed on the FiberNet Acquisition, which was financed using proceeds from our November 2016 common stock offering ("November 2016 Equity Offering") and borrowings under our revolving credit facility ("2016 Revolver").

REIT Status. We commenced operating as a REIT for U.S. federal income tax purposes effective January 1, 2014. As a REIT, we are generally entitled to a deduction for dividends that we pay and therefore are not subject to U.S. federal corporate income tax on our net taxable income that is currently distributed to our stockholders. We also may be

subject to certain federal, state, local, and foreign taxes on our income or assets, including (1) alternative minimum taxes, (2) taxes on any undistributed income, (3) taxes related to our taxable REIT subsidiaries ("TRSs"), (4) certain state, local, or foreign income taxes, (5) franchise taxes, (6) property taxes and (7) transfer taxes. In addition, we could in certain circumstances be required to pay an excise or

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penalty tax, which could be significant in amount, in order to utilize one or more relief provisions under the Internal Revenue Code of 1986, as amended ("Code") to maintain qualification for taxation as a REIT.

In August 2014, we received a favorable private letter ruling from the Internal Revenue Service ("IRS"), which provides that the real property portion of our small cells business and the related rents qualify as real property and rents from real property, respectively, under the rules governing REITs. During the fourth quarter of 2015, we completed the necessary steps to include our small cells that were previously included in one or more wholly-owned TRSs in the REIT effective January 2016.

Substantially all of our revenues are in the REIT. Additionally, we have included in TRSs certain other assets and operations. Those TRS assets and operations will continue to be subject, as applicable, to federal and state corporate income taxes or to foreign taxes in the jurisdictions in which such assets and operations are located. Our foreign assets and operations (including our tower operations in Puerto Rico) most likely will be subject to foreign income taxes in the jurisdictions in which such assets and operations are located, regardless of whether they are included in a TRS or not.

To remain qualified and be taxed as a REIT, we will generally be required to distribute at least 90% of our REIT taxable income, after the utilization of our NOLs, (determined without regard to the dividends paid deduction and excluding net capital gain) each year to our stockholders (see notes 2 and 11 to our consolidated financial statements). Our quarterly common stock dividend will delay the utilization of our NOLs and may cause certain of the NOLs to expire without utilization.

Industry Update. During 2016, consumer demand for wireless connectivity continued to grow due to increases in wireless data consumption and increased penetration of bandwidth intensive devices. This growth in wireless consumption is driven by the increased usage of wireless applications, including (1) mobile entertainment (such as mobile video, mobile applications, and social networking), (2) mobile internet usage (such as email and web browsing) and (3) machine-to-machine applications (also known as "the Internet of Things"). As a result, consumer wireless devices are trending toward bandwidth-intensive devices, including smartphones, laptops, tablets and other emerging devices.

We expect the following anticipated factors to contribute to potential demand for our wireless infrastructure:

Consumers' growing wireless consumption likely resulting in major wireless carriers continuing to upgrade and enhance their networks, including through the use of both towers and small cells, in an effort to improve network quality and capacity and customer retention or satisfaction;

Prior and future potential spectrum auctioned, licensed or made available by the Federal Communications Commission ("FCC") enabling additional wireless carrier network development (such as FirstNet); and

Next generation technologies and new uses for wireless communications may potentially result in new entrants or increased demand in the wireless industry, which may include companies involved in the continued evolution and deployment of the Internet of Things (such as connected cars).

The Company

Virtually all of our operations are located in the U.S. Our operating segments consist of towers and small cells. For more information about our operating segments, see note 16 to our consolidated financial statements and "Item 7.

MD&A—Change in Operating Segments."

Our core business is providing access, including space or capacity, to our shared wireless infrastructure in the U.S, which predominately consists of towers and small cells. We predominately provide access to wireless carriers under long-term leases for their antennas which transmit a variety of signals related to wireless connectivity. We believe our wireless infrastructure is integral to our customers' networks and their ability to serve their customers. See "Item 1.

Business—Strategy."

We believe towers are the most efficient and cost-effective solution for wireless carrier network deployments. We acquired ownership interests or exclusive rights to the majority of our towers from the four largest wireless carriers (or their predecessors) through transactions consummated since 1999, including transactions with (1) AT&T in 2013 ("AT&T Acquisition"), (2) T-Mobile in 2012 ("T-Mobile Acquisition"), (3) Global Signal Inc. in 2007 ("Global Signal Acquisition"), which had originally acquired the majority of its towers from Sprint, (4) companies now part of Verizon Wireless during 1999 and 2000, and (5) companies now part of AT&T during 1999 and 2000.

More recently, wireless carriers have been utilizing small cell networks to augment the capacity provided by towers and add capacity to their networks. Our small cells are typically located outdoors and are often attached to public right-of-way infrastructure, including utility poles or street lights. We also offer fiber based solutions to businesses with high bandwidth demands, such as enterprise, government, education and wholesale customers.

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Our small cells assets include those acquired from (1) NextG Networks, Inc. in 2012 ("NextG Acquisition"), (2) the Sunesys Acquisition in 2015 ("Sunesys Acquisition"), and (3) the FiberNet Acquisition in January 2017.

We generally receive monthly rental payments from our towers and small cells tenants, payable under long-term leases. We have existing master lease agreements with most wireless carriers, including AT&T, T-Mobile, Verizon Wireless and Sprint; such agreements provide certain terms (including economic terms) that govern leases on our wireless infrastructure entered into by such carriers during the term of their master lease agreements. We generally negotiate initial contract terms of five to 15 years, with multiple renewal periods at the option of the tenant of five to ten years each, and our leases typically include fixed escalations. We continue to endeavor to negotiate with our existing customer base for longer contractual terms, which often contain fixed escalation rates.

Our tenant leases have historically had a high renewal rate. With limited exceptions, our tenant leases may not be terminated prior to the end of their current term, and non-renewals have averaged approximately 2% of site rental revenues over the last five years. See "Item 1A. Risk Factors" regarding future anticipated non-renewals as a result of the decommissioning, at least in part, of the former Leap Wireless, MetroPCS and Clearwire networks ("Acquired Networks"). In general, each tenant lease which is renewable will automatically renew at the end of its term unless the tenant provides prior notice of its intent not to renew. See note 15 to our consolidated financial statements for a tabular presentation of the minimum rental cash payments due to us by tenants pursuant to tenant agreements without consideration of tenant renewal options.

The average monthly rental payment of a new tenant added to wireless infrastructure can vary based on (1) aggregate tenant volume, (2) the different regions in the U.S., or (3) the physical size, weight and shape of the antenna installation or related equipment. With respect to our small cells, the amount of the monthly payments can also be influenced by the amount or cost of (1) construction for initial and subsequent tenants, (2) fiber strands, (3) equipment at the site, or (4) any upfront payments received. We also routinely receive rental payment increases in connection with lease amendments, pursuant to which our tenants add additional antennas or other equipment to wireless infrastructure on which they already have equipment pursuant to preexisting leases.

Approximately two-thirds of our direct site operating expenses consist of lease expenses, and the remainder includes property taxes, repairs and maintenance, employee compensation or related benefit costs, and utilities. Assuming current leasing activity levels, our cash operating expenses generally tend to escalate at approximately the rate of inflation. The addition of new tenants is achieved at a low incremental operating cost, delivering high incremental returns to our business. Our wireless infrastructure portfolio requires minimal sustaining capital expenditures, including maintenance or other non-discretionary capital expenditures, and are typically approximately 2% of net revenues. See note 15 to our consolidated financial statements for a tabular presentation of the rental cash payments owed by us to landlords pursuant to our contractual agreements.

As part of our effort to provide comprehensive wireless infrastructure solutions, we also offer certain network services relating to our wireless infrastructure, predominately consisting of (1) site development services and (2) installation services. The vast majority of our network service and other revenues relate to our towers segment. For 2016, approximately 60% of our network services and other revenues related to installation services, and the remainder predominately related to site development services. We seek to grow our network service and other revenues by capitalizing on increased volumes that may result from carrier network upgrades, promoting site development services, expanding the scope of our services, and focusing on customer service and deployment speed. We have the capability and expertise to install, with the assistance of our network of subcontractors, equipment or antenna systems for our customers. We do not always provide the installation services or site development services for our customers on our wireless infrastructure as third parties also provide these services (see also "—Competition" below). These activities are typically non-recurring and highly competitive, with a number of local competitors in most markets. Typically, our installation services are billed on a cost-plus profit basis and site development services are billed on a fixed fee basis.

Customers. Our towers customers are primarily comprised of large wireless carriers that operate national networks, from whom we derive the vast majority of our towers segment revenues.

Our small cells customers are generally large wireless carriers and businesses with high bandwidth demands, such as enterprise, government, education and wholesale customers.

Our four largest customers for both towers and small cells are AT&T, T-Mobile, Verizon Wireless and Sprint. Collectively, these four customers accounted for 90% of our 2016 site rental revenues. See "Item 1A. Risk Factors" and note 16 to our consolidated financial statements.

Sales and Marketing. Our sales organization markets both our towers and small cells with the objective of providing access to existing wireless infrastructure or to new wireless infrastructure prior to construction. We seek to become the critical partner and preferred independent wireless infrastructure provider for our customers and increase customer satisfaction relative to our

peers by leveraging our (1) existing wireless infrastructure footprint, (2) customer relationships, (3) process-centric approach, (4) technological tools and (5) construction capabilities and expertise.

A team of national account directors maintains our relationships with our largest customers. These directors work to develop wireless infrastructure leasing, as well as to ensure that customers' wireless infrastructure needs are efficiently translated into new leases on our wireless infrastructure. Sales personnel in our area offices develop and maintain local relationships with our customers that are expanding their networks, entering new markets, bringing new technologies to market or requiring maintenance or add-on business. In addition to our full-time sales or marketing staff, a number of senior managers and officers spend a significant portion of their time on sales and marketing activities and call on existing or prospective customers.

Competition. We face competition for site rental tenants from various sources, including (1) other independent wireless infrastructure owners or operators, including competitors that own, operate, or manage towers, rooftops, broadcast towers, utility poles, fiber or small cells, or (2) new alternative deployment methods in the wireless industry. Some of the larger companies with which we compete for towers business include American Tower Corporation and SBA Communications Corporation. Some of the larger companies with which we compete for small cells business include other owners of fiber, as well as new entrants into small cells. We believe that location, deployment speed, quality of service, capacity and price have been and will continue to be the most significant competitive factors affecting the leasing of wireless infrastructure. See "Item 1A. Risk Factors."

Competitors to our network services offering include site acquisition consultants, zoning consultants, real estate firms, right-of-way consulting firms, construction companies, tower owners or managers, radio frequency engineering consultants, telecommunications equipment vendors who can provide turnkey site development services through multiple subcontractors, or our customers' internal staff. We believe that our customers base their decisions on the outsourcing of network services on criteria such as a company's experience, track record, local reputation, price, or time for completion of a project.

Employees

At January 31, 2017, we employed approximately 3,200 people. We are not a party to any collective bargaining agreements. We have not experienced any strikes or work stoppages, and management believes that our employee relations are satisfactory.

Regulatory and Environmental Matters

We are required to comply with a variety of federal, state, and local regulations and laws in the U.S., including FCC and Federal Aviation Administration ("FAA") regulations and those discussed under "—Environmental" below. To date, we have not incurred any material fines or penalties or experienced any material adverse effects to our business as a result of any domestic or international regulations. The summary below is based on regulations currently in effect, and such regulations are subject to review or modification by the applicable governmental authority from time to time. If we fail to comply with applicable laws and regulations, we may be fined or even lose our rights to conduct some of our business.

Federal Regulations. Both the FCC and the FAA regulate towers used for wireless communications, radio, or television broadcasting. Such regulations control the siting, lighting, or marking of towers and may, depending on the characteristics of particular towers, require the registration of tower facilities with the FCC and the issuance of determinations confirming no hazard to air traffic. Wireless communications devices operating on towers are separately regulated and independently licensed based upon the particular frequency used. In addition, the FCC and the FAA have developed standards to consider proposals for new or modified tower or antenna structures based upon the height or location, including proximity to airports. Proposals to construct or to modify existing tower or antenna structures above certain heights are reviewed by the FAA to ensure the structure will not present a hazard to aviation, which determination may be conditioned upon compliance with lighting or marking requirements. The FCC requires its licensees to operate communications devices only on towers that comply with FAA rules and are registered with the FCC, if required by its regulations. Where tower lighting is required by FAA regulation, tower owners bear the responsibility of notifying the FAA of any tower lighting outage and ensuring the timely restoration of such outages. Failure to comply with the applicable requirements may lead to civil penalties.

Local Regulations. The U.S. Telecommunications Act of 1996 amended the Communications Act of 1934 to preserve state and local zoning authorities' jurisdiction over the siting of communications towers and small cells. The law,

however, limits local zoning authority by prohibiting actions by local authorities that discriminate between different service providers of wireless communications or ban altogether the provision of wireless communications.

Additionally, the law prohibits state and local restrictions based on the environmental effects of radio frequency emissions to the extent the facilities comply with FCC regulations.

Local regulations include city and other local ordinances (including subdivision and zoning ordinances), approvals for construction, modification and removal of towers and small cells, and restrictive covenants imposed by community developers.

These regulations vary greatly, but typically require us to obtain approval from local officials prior to tower construction. Local zoning authorities may render decisions that prevent the construction or modification of towers or place conditions on such construction or modifications that are responsive to community residents' concerns regarding the height, visibility, or other characteristics of the towers. Over the last several years, there have been several developments related to FCC regulations and legislation that assist in expediting and streamlining the deployment of wireless networks, including establishing timeframes for reviews by local and state governments. Notwithstanding such legislative and FCC actions, decisions of local zoning authorities may also adversely affect the timing or cost of wireless infrastructure construction or modification.

Certain of our small cells related subsidiaries hold authorizations to provide intrastate telecommunication services as competitive local exchange carriers ("CLEC") in numerous states and to provide domestic interstate telecommunication services as authorized by the FCC. These small cells subsidiaries are primarily regulated by state public service commissions. CLEC status, in certain cases, helps promote access to public rights-of-way, which is beneficial to the deployment of our small cells on a timely basis. Status as a CLEC often allows us to deploy our small cells in locations where zoning restrictions might otherwise delay, restrict, or prevent building or expanding traditional wireless tower sites or traditional wireless rooftop sites. See "Item 1A. Risk Factors."

Environmental. We are required to comply with a variety of federal, state, and local environmental laws and regulations protecting environmental quality, including air and water quality and wildlife protection. To date, we have not incurred any material fines or penalties or experienced any material adverse effects to our business as a result of any domestic or international environmental regulations or matters. See "Item 1A. Risk Factors."

The construction of new towers or, in some cases, the modification of existing towers in the U.S. may be subject to environmental review under the National Environmental Policy Act of 1969, as amended ("NEPA"), which requires federal agencies to evaluate the environmental impact of major federal actions. The FCC has promulgated regulations implementing NEPA which require applicants to investigate the potential environmental impact of the proposed tower construction. Should the proposed tower construction present a significant environmental impact, the FCC must prepare an environmental impact statement, subject to public comment. If the proposed construction or modification of a tower may have a significant impact on the environment, the FCC's approval of the construction or modification could be significantly delayed.

Our operations are subject to federal, state, and local laws and regulations relating to the management, use, storage, disposal, emission, or remediation of, or exposure to, hazardous or non-hazardous substances, materials, or wastes. As an owner, lessee, or operator of real property, we are subject to certain environmental laws that impose strict, joint-and-several liability for the cleanup of on-site or off-site contamination relating to existing or historical operations; or we could also be subject to personal injury or property damage claims relating to such contamination. In general, our customer contracts prohibit our customers from using or storing any hazardous substances on our tower sites in violation of applicable environmental laws and require our customers to provide notice of certain environmental conditions caused by them.

As licensees and wireless infrastructure owners, we are also subject to regulations and guidelines that impose a variety of operational requirements relating to radio frequency emissions. As employers, we are subject to Occupational Safety and Health Administration and similar guidelines regarding employee protection from radio frequency exposure. The potential connection between radio frequency emissions and certain negative health effects, including some forms of cancer, has been the subject of substantial study by the scientific community in recent years.

We have compliance programs and monitoring projects to help assure that we are in substantial compliance with applicable environmental laws. Nevertheless, there can be no assurance that the costs of compliance with existing or future environmental laws will not have a material adverse effect on us.

Other Regulations. We hold, through certain of our subsidiaries, licenses for common carrier microwave service, which are subject to additional regulation by the FCC. We also hold a nationwide FCC license relating to the 1670-1675 MHz spectrum ("Spectrum"), which we have leased to a third party through 2023, subject to the lessee's option to purchase the Spectrum.

Item 1A. Risk Factors

You should carefully consider all of the risks described below, as well as the other information contained in this document, when evaluating your investment in our securities.

Risks Relating to Our Business

Our business depends on the demand for our wireless infrastructure, driven primarily by demand for wireless connectivity, and we may be adversely affected by any slowdown in such demand. Additionally, a reduction in the amount or change in the mix of carrier network investment may materially and adversely affect our business (including reducing demand for tenant additions or network services).

Demand for our wireless infrastructure from our customers depends on the demand for wireless connectivity from their customers. The willingness of our customers to utilize our wireless infrastructure, or renew or extend existing leases on our wireless infrastructure, is affected by numerous factors, including:

- consumer demand for wireless connectivity;
- availability or capacity of our wireless infrastructure or associated land interests;
- location of our wireless infrastructure;
- financial condition of our customers, including their profitability and availability or cost of capital;
- willingness of our customers to maintain or increase their network investment or changes in their capital allocation strategy;
- availability and cost of spectrum for commercial use;
- increased use of network sharing, roaming, joint development, or resale agreements by our customers;
- mergers or consolidations by and among our customers;
- changes in, or success of, our customers' business models;
- governmental regulations, including local or state restrictions on the proliferation of wireless infrastructure;
- cost of constructing wireless infrastructure;
- our market competition;
- technological changes, including those (1) affecting the number or type of wireless infrastructure needed to provide wireless connectivity to a given geographic area or which may otherwise serve as substitute or alternative to our wireless infrastructure or (2) resulting in the obsolescence or decommissioning of certain existing wireless networks; or
- our ability to efficiently satisfy our customers' service requirements.

A slowdown in demand for wireless connectivity or our wireless infrastructure may negatively impact our growth or otherwise have a material adverse effect on us. If our customers or potential customers are unable to raise adequate capital to fund their business plans, as a result of disruptions in the financial and credit markets or otherwise, they may reduce their spending, which could adversely affect our anticipated growth or the demand for our wireless infrastructure or network services.

The amount, timing, and mix of our customers' network investment is variable and can be significantly impacted by the various matters described in these risk factors. Changes in carrier network investment typically impact the demand for our wireless infrastructure. As a result, changes in carrier plans such as delays in the implementation of new systems, new technologies (including small cells), or plans to expand coverage or capacity may reduce demand for our wireless infrastructure. Furthermore, the wireless industry could experience a slowdown or slowing growth rates as a result of numerous factors, including a reduction in consumer demand for wireless connectivity or general economic conditions. There can be no assurances that weakness or uncertainty in the economic environment will not adversely impact the wireless industry, which may materially and adversely affect our business, including by reducing demand for our wireless infrastructure or network services. In addition, a slowdown may increase competition for site rental customers or network services. A wireless industry slowdown or a reduction in carrier network investment may materially and adversely affect our business. For a further discussion of our risks relating to network services, see "—Our network services business has historically experienced significant volatility in demand, which reduces the predictability of our results" below.

A substantial portion of our revenues is derived from a small number of customers, and the loss, consolidation or financial instability of any of our limited number of customers may materially decrease revenues or reduce demand for our wireless infrastructure and network services.

For 2016, our site rental revenues by customer were as follows:

The loss of any one of our large customers as a result of consolidation, merger, bankruptcy, insolvency, network sharing, roaming, joint development, resale agreements by our customers or otherwise may result in (1) a material decrease in our revenues, (2) uncollectible account receivables, (3) an impairment of our deferred site rental receivables, wireless infrastructure assets, intangible assets, or (4) other adverse effects to our business. We cannot guarantee that leases with our major customers will not be terminated or that these customers will renew their leases with us. In addition to our four largest customers, we also derive a portion of our revenues and anticipated future growth from new entrants offering or contemplating offering wireless services; such customers may be smaller or have less financial resources than our four largest customers, have business models which may not be successful, or may require additional capital. See also "Item 1. Business—The Company" and note 16 to our consolidated financial statements.

Consolidation among our customers will likely result in duplicate or overlapping parts of networks, for example where they are co-residents on a tower, which may result in the termination or non-renewal of tenant leases and impact revenues from our wireless infrastructure. We expect that any termination of tenant leases as a result of this potential consolidation would be spread over multiple years. Such consolidation may result in a reduction