



Crown Castle Int. (NYSE: CCI)

Real Estate

Current Price: \$140.47
Target Price: \$150 - \$160

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Investment Thesis

We recommend a **HOLD** rating for Crown Castle International. Crown Castle International will experience continued stable growth due to its long-term contracts with tenants and the rising demand and growth in fiber and 5G technology. However, this growth can be partially offset by not growing the number of tenants and the rising interest rates, which are trying to combat the current inflation in the United States.

DRIVERS OF THESIS

- **Long-term contracts with major telecommunication companies:** 45.00% of CCI's Total Revenues in 2021 came from leasing space from its cell towers to its three largest tenants: T-Mobile, AT&T, and Verizon Wireless. On top of that, CCI has long-term contracts with all three tenants. The circumstances CCI has with its tenants, especially them being major telecommunication companies in the United States, lead to stable cash flow.
- **Rising demand for 5G technology:** Demand and growth in 5G continue to grow as 5G becomes more available across the United States. The demand for 5G products allows CCI to innovate and grow, increasing its revenue. The passing of the Infrastructure Bill in 2021 leads to 5G network expansion in rural and suburban areas in the United States. The goal of growing 5G across the United States is possible and would be beneficial to CCI because it would increase the number of towers CCI owns by our assumed 0.05% and the Towers segment revenue by our assumed 8.00%.
- **Growth in fiber and small cell technology:** Our assumed growth rate of miles of fiber, 9.00%, and of Fiber segment revenue, 13.00%, are based on the fact that the fiber optic market is expected to grow 14.09%, which CCI will benefit from.

RISKS TO THESIS

- **Rising interest rates:** The Federal Reserve's 4 straight 75 basis point increases in interest rates will increase costs of capital for CCI because the company relies on borrowing money to finance growth. These drastic increases in interest rates decrease the demand to buy and invest in real estate. Rising interest rates decrease stock valuation because of the increase in the cost of capital, which also lowers the value of property.
- **Majority of revenue from three sources:** Even though CCI has long-term contracts with three major telecommunication companies, it can still be a potential risk for CCI in the future. CCI having two segments of Site Rental Revenues (Towers and Fiber) is a great start to diversify, but CCI should also be looking for more stable tenants to grow organically.

Snapshot

Valuation Methods

DCF/EP	\$150
DDM	\$179
P/FFO (2022)	\$122
P/E (2022)	\$161
Beta Value	0.87
(Average of 2, 3, 4, and 5Y Monthly)	

Stock Performance Highlights

52 Week High	\$209.87
52 Week Low	\$121.71
Beta Value	0.87

Company Statistics

Market Capitalization	\$58.89 B
Shares Outstanding	433 M
EPS (2022E)	\$5.90
P/E Ratio (2021)	28.40
Dividend Payout Ratio (2022E)	1.00
Dividend Yield	4.69%
Revenue (2021)	\$6.34 B

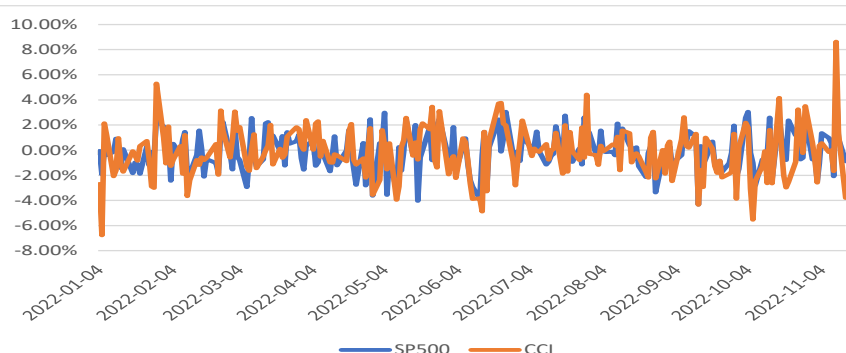
Financial Ratios (2022E)

Current Ratio	3.66
Debt to Equity	4.48
ROA	5.64%

Company Description

Crown Castle International (NYSE: CCI) is a REIT with a focus on wireless communication services in the United States. The company is comprised of two segments: towers and fiber. CCI owns, operates, and leases out space on cellular towers to major telecommunication companies. CCI also provides small cell networks and fiber solutions. CCI seeks to position itself as an industry leader in 5G solutions as 5G becomes more accessible and available in the United States. For the fiscal year ended 12/31/2021, total revenues rose 8.56% to \$6.34 billion.

CCI Stock vs S&P 500 YTD Performance



Source: Yahoo! [32], [33]

Executive Summary

We recommend a HOLD rating for Crown Castle International due to the rising interest rates, which lowers purchasing power for both consumers and companies like CCI. However, the rising demand for 5G technology will increase the number of CCI cell towers across the United States, which will help the company grow organically. This recommendation is derived from the company, industry, and economic analyses displayed below.

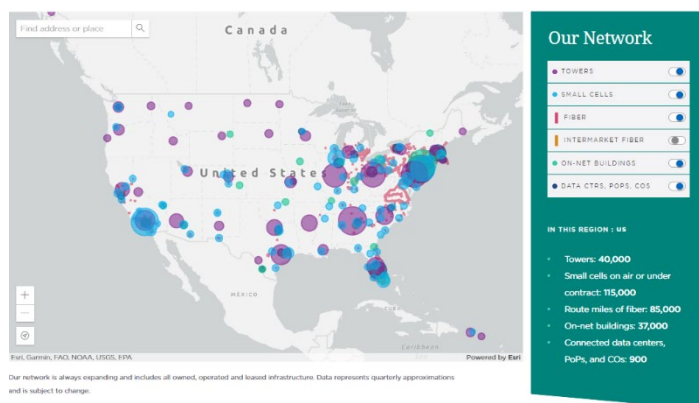
Company Analysis

Company Description

Crown Castle International (CCI) is a company headquartered in Houston, Texas that focuses on wireless communications services in the United States.ⁱ The company seeks to position itself as an industry leader in 5G solutions as 5G becomes more accessible and more available.

CCI currently owns, operates, and leases 40,000+ towers as well as provides 115,000+ small cells and 85,000+ miles of fiber, as shown on the map below.ⁱⁱ The company leases out space on cellular towers to its long-term tenants such as T-Mobile, AT&T, and Verizon Wireless.ⁱⁱⁱ The cell towers are positioned in densely populated areas of the United States. This is a great strategy to maintain stable cash flow for a long period of time and to look for new opportunities in investments and growth.

CCI's goals are to continue growing organically by leasing its existing portfolio of 40,000+ towers and 85,000+ miles of high-capacity fiber and to raise the dividend per share by 7.00 to 8.00% per year.^{iv}



Source: Crown Castle Infrastructure Solutions^v

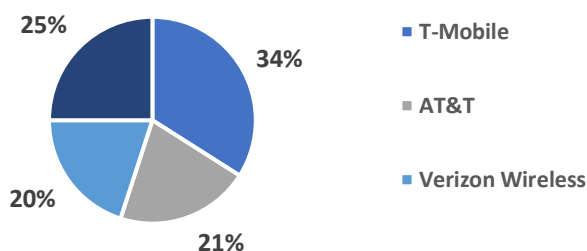
Revenue Analysis

CCI operates through two segments: Site Rental Revenues and Network Services and Other Revenues. 90.00% of 2021 Total Revenues is represented by Site Rental Revenues. Site Rental Revenues are recurring due to the long-term contracts with its tenants. Site Rental Revenues consist of two major segments: Towers and Fiber.

The Towers segment consists of leasing out space on cell towers to its long-term tenants like T-Mobile, AT&T, and Verizon Wireless.ⁱⁱ Towers are believed to be the most efficient and cost-effective way to provide coverage and capacity for wireless carrier networks. 67.00% of Site Rental Revenues were from the Towers segment. The three large tenants accounted for ~75.00% of the Towers segment. CCI pursues expanding coverage and capacity for wireless networks.

We assumed the growth rate of the number of towers to be 0.05% going forward. The demand for 5G technology in the United States is rising as it becomes more available and accessible by 5G carriers like T-Mobile, AT&T, and Verizon Wireless. The number of towers will grow as the demand for 5G grows. Because the number of towers will be growing, the Tower Site Rental Revenues will also be growing simultaneously. We assumed the growth rate of Site Rental Revenues in the Towers segment to be 8.00% going forward. Since the fiscal year end of 2018, the Site Rental Revenues of the Towers segment averaged 7.04%. However, we must note that 2020's revenue is an outlier due to the COVID-19 pandemic. To adjust for the outlier, the Site Rental Revenues of the Towers segment averaged 8.33%. With this average of recent historical years, we confidently assume that Crown Castle can grow its Tower Site Rental Revenues by 8.00% each year.

Towers Segment Revenues by Tenant 2021

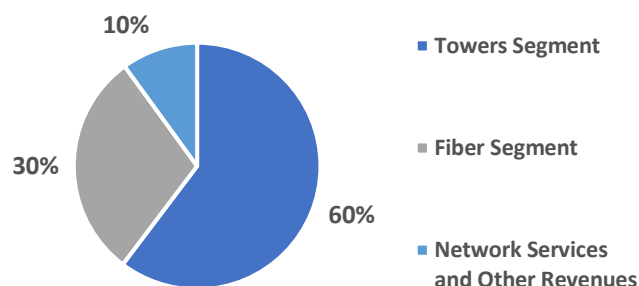


Source: CCI's 10-K Formⁱⁱⁱ

The Fiber segment consists of providing small cell networks and fiber solutions.ⁱⁱ The small cells offload data traffic from towers and bolster its tenants' network capacity where data demand is the greatest. Fiber solutions provide essential connections needed to create integrated networks. 33.00% of the Site Rental Revenues were from the Fiber segment. 69.00% of the Fiber segment was from fiber solutions, and the remaining 31.00% was from small cells. CCI pursues growth in cash flows and stockholder return by providing fiber for tenants of both small cells and fiber solutions.

Crown Castle began its Fiber segment in 2016. Every year until 2020, the company grew 55.86% on average. CCI's Fiber segment did not grow in 2020 and 2021 possibly due to the COVID-19 pandemic. As of now, the pandemic has lessened, which can let CCI grow its Fiber segment. We assumed the growth rate of miles of fiber to be 9.00% going forward. We also assumed the growth rate of the Site Rental Revenues in the Fiber segment to be 13.00% going forward. CCI plans on growing the company and its total revenues by investing more in the Fiber segment.

CCI Revenue Breakdown 2021



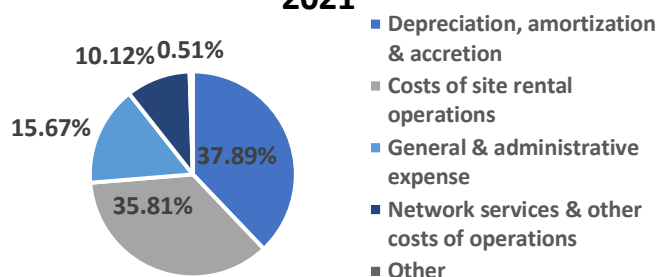
Source: CCI's 10-K Formⁱⁱⁱ

Expense Analysis

CCI's total operating expenses for the fiscal year end 2021 were reported at \$4.3 billion. This includes costs of operations, general and administration expenses, asset write-down charges, acquisition and integration costs, and depreciation, amortization, and accretion. Besides the depreciation, amortization, and accretion expense, the main portion of its operating expenses comes from its costs of operations. CCI's costs of operations consist of two segments: Site Rental and Services & Other. ~\$1.6 billion came from Site Rental costs, and ~\$0.4 billion came from Services and Other. Combined, the two segments account for 45.93% of total operating expenses. Compared to the fiscal year 2020, the two segments of costs of operations accounted for 45.38%, a small increase of 0.60% in 2021.

Approximately 53.00% of Crown Castle's towers are either leased, subleased, or operated and managed under master leases, subleases, or other agreements with AT&T and T-Mobile.ⁱⁱ

CCI Operating Expense Breakdown 2021



Source: CCI's 10-K Formⁱⁱⁱ

Profit Margin Analysis

At the fiscal year end 2021, Crown Castle's gross profit margin ratio was 68.56%. Measuring gross profit margin is important because it shows how effective CCI is in using its resources to create and lease its towers and fiber solutions to tenants.

We expect CCI's gross profit margins to increase slightly to ~70.00% and stay constant. Crown Castle can increase its gross profit margin by acquiring more land to build more towers and

increasing the number of tenants they lease to in each tower. Currently, the company has on average 2.3 tenants in each tower.ⁱⁱⁱ Any of these two approaches, specifically increasing the number of tenants per tower, will increase revenue organically without having to add any expenses related to leasing.

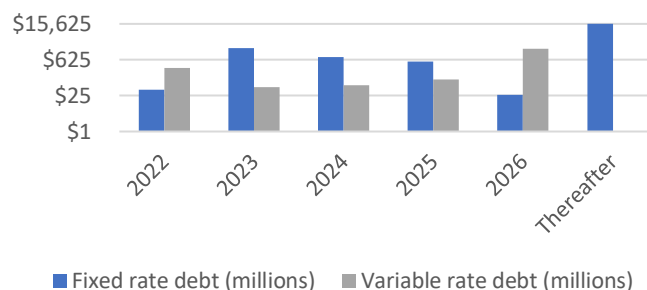
Capital Expenditures Analysis

As Crown Castle continues to roll out small cell nodes at a rate of 10,000 per year for 6 years, capital expenditures are expected to increase. Discretionary capital expenditures in 2023 are expected to be \$1.4 to \$1.5 billion, which is an increase from the expected \$1.2 billion in 2022^{vi}. One highly beneficial part of Crown Castle's model is that once communication infrastructure is built and operating, only roughly 2.00% of net revenues are required for maintenance or other expenses. Prepaid rent additions are expected to increase by 50.00% in 2023, going from \$300 million in 2022 to \$450 million in 2023. If a trend of increasing rent arises, Crown Castle's capital expenditure plans may be altered. In the 3rd quarter of 2022, capital expenditures were \$337 million, \$267 million of which was attributable to fiber. This shows that management is continuing to invest in and grow this part of the business. We expect that Crown Castle will continue to invest in the Fiber segment of the business and capital expenditures will continue to be primarily in that segment. Due to being classified as a REIT, Crown Castle pays ~90.00% of earnings as dividends, which forces the Company to be smart with its cash and invest in projects that properly align company and shareholder interest.

Capital Structure Analysis

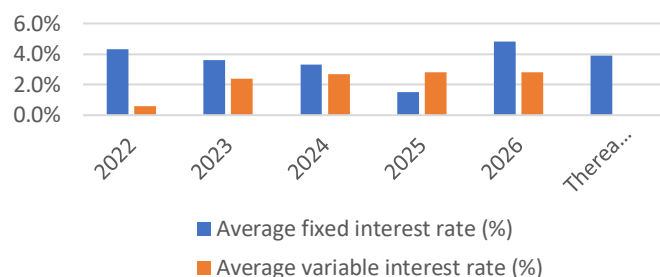
Crown Castle is comprised of roughly 33.00% debt including operating leases and 67.00% equity. The company does not have any significant debt becoming mature until 2023 and a large portion of Crown Castle's debt is fixed, so there is not significant interest rate risk in play. Crown Castle targets a leverage ratio of roughly 5 times adjusted EBITDA and seeks to maintain a capital structure that utilizes the WACC and ensures that projects with positive value are being invested in.ⁱⁱⁱ With growing the dividend yearly being an important goal of management, an efficient capital structure that is beneficial to shareholders allows Crown Castle to invest in projects that provide value to the business and increase cash flows.

CCI Fixed Rate vs Variable Rate Debt 2021



Source: CCI's 10-K Formⁱⁱⁱ

CCI Avg. Fixed Interest Rate vs Avg. Variable Interest Rate 2021



Source: CCI's 10-K Formⁱⁱⁱ

Payout Policy as a REIT

To maintain REIT status, a company must pay out at least 90.00% of taxable income in the form of dividends to investors. When paying out so much income, companies must make sure that there is enough cash flow to do so. One way that REITs do this is by using the predictable contractual cash flows from leases.^{vii} This is a good way to assess the predictability of the dividend because other companies are contractually obligated to pay to use Crown Castle's services and the cash flows won't necessarily be hindered as much by shifts in the broader economy. With the contracts that Crown Castle generally signs 5 to 15 years with multiple renewing periods, there are generally longer periods of predictability which helps eliminate some risks involved with cash flow.

Industry Analysis

Infrastructure REITs as an Industry

Real Estate Investment Trusts (REITs) are companies that invest in real estate. The eight sub-industries of equity REITs are diversified, industrial, retail, residential, health care, office, hotel and resort, and specialized.^{viii} Crown Castle International is a diversified REIT, which focuses on both infrastructure and communications.

Infrastructure REITs own and manage real estate in infrastructure and collect rent from tenants that use the property. Examples of property types within Infrastructure REITs are wireless infrastructure, telecommunication towers, energy pipelines, and fiber cables.^{viii} Examples of tenants within Infrastructure REITs are wireless service providers and broadcast and satellite television companies.

Tax Treatment for Investors

How REITs are taxed is important to understand when wanting to invest in these types of companies. To qualify as a REIT, 90.00% of its taxable income must be distributed to its shareholders.^{ix} Because of that, REITs do not pay corporate income taxes, but

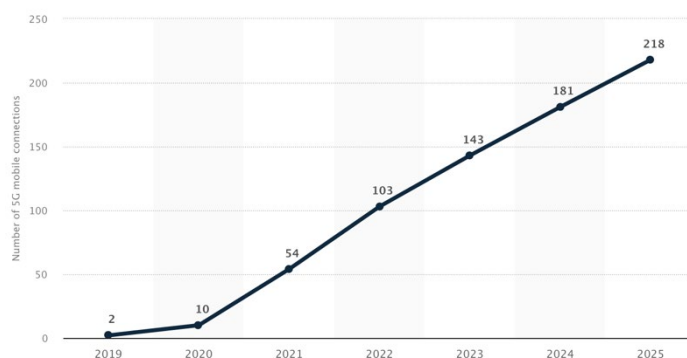
retained earnings are taxed at the corporate level. At least 75.00% of a REIT's assets in real estate and cash must be invested, and at least 75.00% of its gross income must come from rent and mortgage interest.^{ix}

The dividend payments investors receive can be taxed as ordinary income, capital gains, or a return on capital. The majority of dividends are treated as ordinary income, which would be taxed at the marginal tax rate.^{ix}

It is difficult for REITs to raise capital when they must distribute at least 90.00% of their taxable income. REITs do have two possible ways to raise capital given they have no reinvested earnings to finance expansion: debt financing and share offerings.^x Debt financing occurs when a company like Crown Castle sells debt instruments, such as loans and bonds. A share offering is selling shares of a company to the public, which is generally less preferred as it might signal to the market that the stock price is overvalued.

Growing Demand in 5G Technology

Demand and growth in 5G continue to grow as 5G carriers – T-Mobile, AT&T, and Verizon Wireless (all of which are Crown Castle's major tenants) - become more available across the United States. The demand for 5G products allows Infrastructure REITs like Crown Castle to innovate and grow. It is predicted that in 2022 there will be nearly 103 million connections using the 5G network, a ~100.00% increase from 2021.^{xi} From 2022 until 2025, there will be nearly 218 million connections using the 5G network, an additional ~112.00% increase from 2022.^{xi} This increase in demand will help increase revenue for Infrastructure REITs.



Source: Statista^{xi}

Government Involvement in 5G Technology

In 2021, the Infrastructure Investment and Jobs Act was passed. In this bill, \$65 billion of the \$1 trillion was allocated to increasing high-speed internet access across the United States, especially in under-served areas such as rural areas.^{xii} The government is attempting to ensure that this happens by auctioning off licenses in a spectrum band.^{xiii} In January 2022, AT&T led bidders in the 3.45 GHz spectrum auction winning \$9.4 trillion, and T-Mobile won \$2.9 billion, coming in third. The high-speed internet includes 5G wireless technology.^{xii} Although the government is

attempting to increase internet accessibility, there is a risk that comes with dealing with the government. There are multiple moving parts to a spectrum auction and if the government shuts down or faces disagreements within the auctions, it could hinder some deployment of licenses.

Increasing Rent Prices

With inflation on the rise, we can assume an increase in rent prices in the near future. According to the Dallas Federal Reserve, rent inflation is forecasted to increase to 3.00% from 1.9% by the end of 2022 and again increase to 6.90% by the end of 2023.^{xiv} This will help Infrastructure REITs like Crown Castle International. Crown Castle is currently growing its organic rental billings every year; therefore, the increase in rent prices should assist the company with an increase in revenue. However, Crown Castle might be hurt by these increases if there are escalation clauses tied to inflation within lease contracts.

The Effect of Rising Interest Rates

Due to the Federal Reserve's 4 straight 75 basis point increases in interest rates, Infrastructure REITs are expected to face increased costs of capital because they rely on borrowing money to finance growth.^{xv} These drastic increases in interest rates decrease the demand to buy and invest in real estate. Rising interest rates decrease stock valuation because of the increase in the cost of capital, which also lowers the value of property. It is expected for interest rates to stay constant or increase in the next 12 months to reduce inflation. Historically though, REITs outperformed inflation ~76.00% of the time.

Tenant Risk

Crown Castle has a moderately high tenant risk. The majority of the revenues are made up of three tenants: Verizon Wireless, AT&T, and T-Mobile.ⁱⁱⁱ Although these are some of the largest providers of communications in the United States, if any of these companies were to become insolvent, it would severely hurt Crown Castle. One way this risk is mitigated is by having a very high renewal rate of 98.00 to 99.00%.ⁱⁱⁱ Another risk of having a small number of tenants is merger or acquisition risk. This risk was exemplified when T-Mobile and Sprint merged in 2020, Crown Castle expects a higher non-renewal rate in 2025 with revenues being impacted by ~\$200 million from cancelled leases.ⁱⁱⁱ

Competitive Analysis						
Company	Market Cap	2021 Revenue	Number of Towers	Revenue per Tower	Dividend Yield	ROA (TTM)
CCI	\$56.38 B	\$6.34 B	40,000	\$0.0951 M	4.73%	3.81%
AMT	\$94.35 B	\$9.37 B	223,000	\$0.0409 M	2.87%	3.12%
SBAC	\$29.38 B	\$2.31 B	36,000	\$0.0584 M	1.05%	5.90%
UNIT	\$1.63 B	\$1.10 B	0	0	7.81%	7.38%

Source: Yahoo!

American Tower Corporation (AMT)

American Tower Corporation is an Infrastructure REIT focusing on leasing towers to wireless and broadcast communications companies as well as providing solutions for in-building systems and outdoor distributed antenna systems.^{xvi} Compared to CCI, AMT has a larger market capitalization, almost 2x the size of CCI. That can be explained by AMT's higher stock price and its international presence. Even though AMT has a larger market share and more towers, CCI has a larger revenue per tower amount and ROA, which can be seen as more useful in making decisions. ROA measures a company's efficiency in using its assets to generate profit. AMT has a ROA of 3.12%, while CCI has a ROA of 3.81%. The ROAs of both companies can be explained by revenue per tower amounts. CCI makes \$0.0951M per tower, while AMT makes \$0.0409M per tower. Based on these two metrics, CCI is more effective in converting its investments into net income.

SBA Communications (SBAC)

SBA Communications is an Infrastructure REIT focusing on leasing antenna space as well as assisting wireless service providers and operators through site development.^{xvii} Compared to CCI, SBAC has a smaller market capitalization, almost 1/2x the size of CCI's, even though SBAC has a higher stock price. The difference in the stock prices can be explained by SBAC's global presence. Even though CCI has a larger market share and revenue per tower, SBAC has a larger ROA. SBAC has a ROA of 5.90%, while CCI has a ROA of 3.81%. Based on this profitability ratio, SBAC was able to earn a higher net income with a smaller investment.

Uniti Group, Inc. (UNIT)

Uniti Group is a newer Infrastructure REIT focusing on the acquisition and construction of critical communications infrastructure as well as providing wireless infrastructure solutions.^{xviii} Compared to CCI, UNIT has a smaller market capitalization, almost 35x smaller. That can be explained by its smaller stock price. Even though CCI has a larger market share, UNIT has a larger ROA, which is a more important measure in investment decision-making. UNIT has a ROA of 7.38%, while CCI has a ROA of 3.81%. Based on this profitability ratio, UNIT's assets were more efficient in using them to generate profits.

Crown Castle's Competitive Advantage

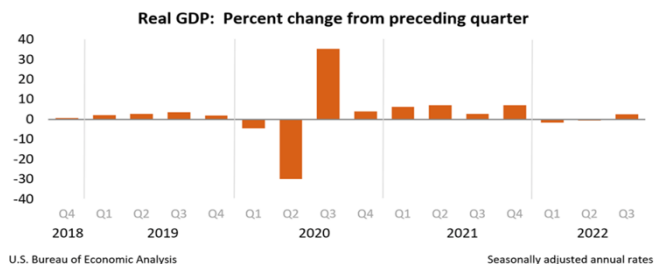
Crown Castle's major competitive advantage is having its towers and fiber only in the United States. The United States is considered to be a very safe market for communications and data usage as well as 5G growth. With being located only in the United States, Crown Castle does not have exposure to substantial political risk, exchange rate risk, or the risk of international real estate and interest rate risk. With AMT and SBA having these risks, it potentially is a hindrance to the firm's future profits and growth potential. Although AMT has an international presence,

the company still operates more towers in the United States than Crown Castle with roughly 3,100 more towers and about 180,000 more in total. However, CCI out of all its competitors has the highest revenue per tower amount. Crown Castle might need to consider establishing an international presence as other competitors are investing in riskier projects in developing markets that could lead to higher revenues.

Economic Analysis

Real Gross Domestic Product (Real GDP)

Percentage changes in real GDP show whether and how fast the US economy is growing or shrinking. US residents have seen two consecutive quarters in 2022 decline in Real GDP, Q1 by 1.60% and Q2 by 0.60%.^{xi} This would indicate a recession, a reduction in economic activity. However, in Q3, real GDP increased by 2.60%.^{xi} Slow growth or recessions can reduce consumer spending, harming the prospects of REITs that specialize in retail space. However, the increase in real GDP was partly due to the steady rise in consumer spending. It is uncertain in the short term if real GDP will grow or shrink due to the rising interest rates, which can potentially reduce consumer spending.



Source: U.S. Bureau of Economic Analysis^{xi}

House Price Index

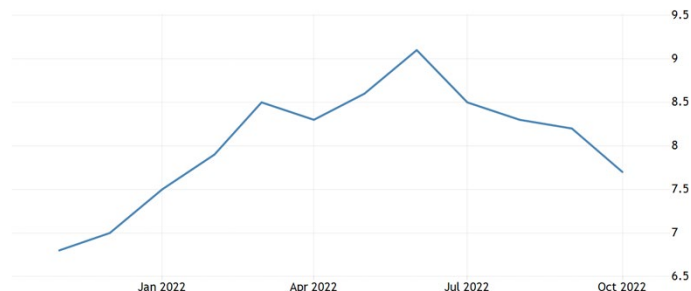
The FHFA (Federal Housing Finance Agency) House Price Index measures monthly changes in the average prices of single-family houses. It typically reflects the health of the residential market. The August 2022 HPI was reported at 392, a 0.70% decrease from July 2022 at 394.6.^{xx} The July 2022 HPI also reported a reduction of 0.60% from the previous month.^{xx} Two consecutive months of decline in HPI was last seen in March 2011. Declining house prices indicate a decrease in demand for single-family houses. It can be expected for the House Price Index to steadily decrease as interest rates rise. This could be an issue for Infrastructure REITs. A lower demand for single-family homes correlates to a lower demand for offices, towers, and other fixed assets that help grow a company because purchasing power is lower from inflation and rising interest rates.



Source: Trading Economics^{xx}

Inflation

As of September 2022, inflation has been reported at 8.20%, the lowest since February 2022 at 7.90%.^{xxi} It decreased by 0.10% from August 2022's reporting of the inflation rate. An increasing inflation rate decreases purchasing power because it becomes more expensive to borrow, which reduces the number of buyers in the market. It makes buying property less desirable for potential buyers.



Source: Trading Economics^{xxi}

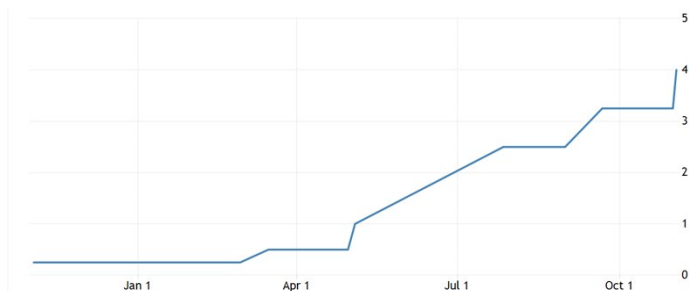
Historically though, real estate has always been considered a strong inflation hedge. Between 1978 and 2011, REIT dividend increases averaged 7.71% per year, while the inflation rate averaged 3.92% per year.^{xxii} Also, REIT dividend income outperformed inflation in 306 of the 404 months.^{xxii} During this time, REIT returns kept their purchasing power.

It is more likely than not that inflation will start decreasing in the next 6-12 months due to rising interest rates. Once inflation is not a major issue in the US economy, REITs like Crown Castle can expect to invest in new properties.

Interest Rates

In September 2022, the Federal Reserve increased the interest rate by 75 basis points to 3.25% to combat inflation.^{xv} In November 2022, the Federal Reserve increased the interest rate by another 75 points to 4.00%.^{xv} These two increases make it the third and fourth straight 75 basis point increase, pushing borrowing costs to the highest since the Financial Crisis of 2008. These drastic changes in interest rates negatively influence a company's ability to purchase property. This will decrease the demand to buy and invest in real estate. Rising interest rates increase the cost of capital because of the increase in the risk-free rate. The increased cost of capital lowers property value.

Because REITs are required to pay out dividends to their shareholders, they have higher dividend yields.^{xxiii} Because REITs like CCI use debt financing, the costs of debt financing increase. This makes REITs sensitive to changes in interest rates. These changes in interest rates negatively affect the profitability and the dividend payout of a company.^{xxiii} Rising interest rates overall reduce stock valuation. However, when companies use debt financing, the cost of debt capital is the interest rate the company charges on the borrowed funds, which makes its interest payments tax-deductible.^{xxiv} Nevertheless, it is expected for interest rates to stay constant or increase in the next 12 months to reduce inflation.



Source: Trading Economics^{xv}

Vacancy Rates

The vacancy rate is a ratio of unleased space to total available space. Vacancy rates in retail^{xxv}, office^{xxvi}, multi-family^{xxvii}, and other rental properties^{xxviii} have been slowly decreasing since the Financial Crisis of 2008 until the start of the COVID-19 pandemic in March 2020, when a majority of employees were forced to work from home. This led to an increase in the vacancy rate in work environments like retail spaces, offices, and other rental spaces. Since the slowdown of COVID-19 in 2021, employees started working in pre-pandemic conditions. This has led to a small decrease in vacancy rates, which REITs from all sub-industries benefitted from because of new organic revenue coming in. Now, because of rising interest rates, it will be more difficult for companies to uphold their leases or rent more spaces to sustain company output. This will be a possible loss for REITs because revenues will slowly decline and therefore more expensive for REITs to keep their portfolio of properties from falling. All in all, it is expected for vacancy rates to slowly decline due to more people working out of the house.

Valuation Analysis

Overview

In constructing the valuation model, we considered the historical growth of the company, management guidance, and the future expectations for the 5G and telecommunications industries. We expect Crown Castle to continue to invest in positive net present value projects and continue to raise the dividend at 7.00 to 8.00% a year. As the company continues to deploy small-cell nodes, it will be able to gain more tenants per tower, increase margins and increase profitability per tower. However, we do not believe that Crown Castle will be acquiring a substantial number of new towers as the fiber business continues to grow but will continue growing revenue by adding tenants.

Revenue Decomposition

Crown Castle's revenues mainly come from leasing out its portfolio of towers. In 2021, the revenue from tower rentals consisted of 60.00% of the company's total revenue. The second largest portion of Crown Castle's revenues at 30.00% came from fiber site rental, with network services covering the remaining

10.00% of revenue. This distribution of revenues has been roughly the same with no more than a 3.00% change in any segment since 2018. Crown Castle has a portfolio of 40,000 towers, all of which are in the United States and 71.00% are in the top 100 Basic Trading Areas (BTAs).ⁱⁱⁱ Crown Castle focuses on the United States as the main target market due to its low-risk profile, high growth potential, and extensive data consumption per person. Crown Castle expects \$250 million in additional straight-lined revenues in 2022 from the T-Mobile Agreement that was entered.

Leasing out tower space for major carriers is the largest part of Crown Castle's business. The company is very well positioned geographically with 71% of towers being in the top 100 BTAs.ⁱⁱⁱ BTAs are areas that are designated for 800MHz cellular licenses to mobile service providers^{xxix}, the main uses consist of cell phone usage, text messaging, and mobile data usage.^{xxx} As more consumers adopt smartphones, the need for towers and wireless solutions will continue to increase. It is forecasted that by 2025 87.08% of Americans will have adopted a smartphone, coupling this with the population increasing results in more users needing access to data.^{xxxi} Although these towers are well positioned, it appears that Crown Castle is comfortable with the number of towers that are currently owned and operated. The company has a strong tower presence on the East coast, and it dwindles down towards the Midwest and picks back up on the West coast, predominately in California. As of August 2022, there were 2.4 tenants per tower, which results in an asset yield of high single digits.ⁱⁱⁱ CCI generally receives monthly payments from the contracted towers and contracts are generally negotiated on 5 to 15-year terms with a fixed escalation.ⁱⁱⁱ Contracts also include multiple renewal periods; this type of contract structure leads to a retention rate of 98.00% to 99.00% a year.

Crown Castle has been growing the fiber rental business since the company introduced the service in 2015. Fiber was 15.00% of revenue in 2015 then dropped to 10% in 2016 before jumping to 18.00% in 2017, the same year Crown Castle acquired Lightower. This acquisition more than doubled the miles of fiber the company was operating, as miles went from 26,500 in 2016 to 60,000 in 2017, or a 126.42% increase. In 2020, activist investor Elliot Management purchased \$1 billion worth of Crown Castle stock and pressured the company to run the fiber business more effectively. In Q2 2020, Crown Castle announced the departure of the Chief Operating Officer (COO) of the fiber business, an executive who did not have prior experience in the fiber business and hired current COO, Chris Levandos. This change to someone who has previous fiber experience is crucial for Crown Castle to continue growing this part of the business. In 2020, there were approximately 10 million connections to 5G in North America; this number is expected to skyrocket to 218 million in 2025. Crown Castle is perfectly positioned to take advantage of this huge growth by continuing to deploy fiber and small-cell nodes in large cities. In Q3 2022, CCI had capital expenditures of \$337 million with \$267 million, or roughly 80.00%, attributable to fiber. Only 12.00%, or \$42 million, was attributable to towers, which shows that the company wants to continue aggressively investing in fiber to take advantage of the growing market. As of right now, fiber miles are predominately clustered in the Eastern United States, with some in the South and not very many miles in the Midwest and West. As the company continues to move into

those markets, revenue from the fiber segment can be expected to increase.

WACC (Weighted Average Cost of Capital):

Our calculated WACC value for Crown Castle is 7.90%. To correctly determine Crown Castle's WACC, we needed to calculate the cost of equity and the cost of debt as well as the market values of equity and debt. The current market value of equity was found by multiplying the stock price by total shares outstanding and the weight of equity was 66.97%. The value of equity was found by adding short-term debt, the current portion of long-term debt, long-term debt, and the present value of operating leases, we found the weight of debt to be 33.03%. Crown Castle currently has no preferred stock in the capital structure.

Cost of Equity

In the WACC estimation, we found the cost of equity using the CAPM to be 8.80%. The cost of equity is higher than expected due to a higher risk-free rate and a higher risk premium. The risk-free used was 4.21%, the yield on a 10-year bond. As the Fed continues to raise rates, the WACC will also likely increase. The equity risk premium assumed was from Aswath Damodaran's estimated risk premium on October 1st. We believed that the 5.30% was a fair value that reflected the current market. The Beta estimate was 0.87, which comes from the average of the 2, 3, 4, and 5-year monthly betas.

Cost of Debt

In the after-tax cost of debt calculation, we found the value to be 6.07%. The assumptions that we used were a risk-free rate of 4.21%, which is the yield on the 10-year Treasury Bond, a 1.95% default premium, a marginal tax rate of 1.44%, and a 6.16% pre-tax cost of debt which represents the yield-to-maturity on a bond that matures on January 15th, 2051.

Valuation Models:

Discounted Cash Flow Model (DCF) and Economic Profit (EP)

Both the discounted cash flow (DCF) and economic profit (EP) models were calculated with a 10-year timeline and all cash flows were discounted by the Weighted Cost of Capital (WACC), which is 7.90%. For the DCF, we found the present value of the operating assets to be \$98,954.19, which was calculated by discounting the free cash flows and continuing value by the WACC. For the EP model, we found the present value of EP to be \$75,459.56, and we added invested capital from 2021 to arrive at \$98,954.19. We then adjusted both of these figures to add restricted cash and subtract total debt, the present value of operating leases, and the present value of employee stock option plans (ESOP) to arrive at the total value of equity, which was

\$62,559.52. After dividing this number by the number of shares outstanding, we arrived at a price of \$149.69.

Dividend Discount Model (DDM)

We believe that the DDM is a more effective way to value Crown Castle. Dividends are a key reason that investors invest in these companies, and when 90.00% of taxable income must be paid as a dividend, there are consistent high cash flows. Another reason we believe the DDM to be a better model in Crown Castle's case is that management has explicitly said that a key goal is to grow the dividend by 7.00 to 8.00% a year, allowing for consistency within the model. The key assumptions we used in the dividend discount model were a CV growth of EPS of 2.50%, a CV year return on equity (ROE) of 48.36%, and a cost of equity of 8.80%. The dividends used were the projected dividends from the income statement and reflect management's goal of raising the dividend at 7.00 to 8.00% a year. The CV price was found by multiplying the P/E in 2031E by the EPS in 2031E. The P/E multiple we arrived at was 15.05 and the EPS was \$17.80. When multiplying these values together, we found a future stock price of \$267.90. After discounting this price and the subsequent dividends appropriately by the cost of equity, we found an implied price of \$179.33 (after adjusting for the elapsed part of the year). This price is 27.66% lower than the closing price on November 14th. We believe that as markets begin to exit bear market territory and management raises dividends as they plan to, Crown Castle's stock price will show consistent gains as well as provide a reliable cash flow.

Relative Valuation

For relative valuation, we used the P/E and P/FFO ratios. We found the P/E ratio in 2022 to be 23.5 and it was calculated by dividing the stock price on November 14th by the estimated EPS in 2022 from the income statement. To find the target price using the relative P/E ratio, we took an average of AMT, SBA, and UNIT 2022 P/E ratios and multiplied it by CCI's 2022 EPS to arrive at a price of \$164.09. We used the same method for the P/FFO (funds from operations) and arrived at a stock price of \$122.40. In this calculation, we removed UNIT because it was an outlier.

Sensitivity Analysis

Beta and Equity Risk Premium

Over the past 5 years, CCI has on average, a 0.87 beta, which is relatively low. When increasing the beta by 0.08 and the equity risk premium by 0.10%, the stock price is negatively impacted, as expected. If Crown Castle were to go through a volatile period that increases beta while the equity risk premium is also increasing, the stock would suffer greatly. Being a REIT, CCI will generally have a lower beta than other stocks, but the Company could still face volatility in the future.

Equity Risk Premium	Beta							
	149.69	0.63	0.71	0.79	0.87	0.95	1.03	1.11
	5.00%	212.33	192.09	174.26	158.44	144.31	131.60	120.11
	5.10%	208.96	188.76	170.99	155.24	141.17	128.53	117.11
	5.20%	205.66	185.51	167.80	152.11	138.11	125.54	114.19
	5.30%	202.43	182.32	164.67	149.05	135.12	122.62	111.35
	5.40%	199.27	179.21	161.62	146.06	132.20	119.78	108.58
	5.50%	196.17	176.16	158.63	143.14	129.36	117.00	105.87
	5.60%	193.13	173.18	155.71	140.29	126.58	114.30	103.23

Risk-Free Rate and CV Growth of NOPLAT

In this scenario, we have the CV growth of NOPLAT at 3.00% and the risk-free rate at 4.21%. The variables are changing by 0.20% each way. We believe this reflects the upcoming hurdles CCI might face. If the Federal Reserve continues raising rates, the risk-free rate will continue to increase and the growth of the economy and CCI might slow down. If there is a recession in the upcoming year and slower subsequent growth, Crown Castle might be impacted as their customers are forced to slow down capital expenditures into the 5G markets, however, they might not have to.

CV Growth of NOPLAT	Risk-Free Rate							
	149.69	3.61%	3.81%	4.01%	4.21%	4.41%	4.61%	4.81%
	2.40%	153.36	146.65	140.26	134.19	128.40	122.88	117.61
	2.60%	159.22	152.11	145.37	138.97	132.88	127.08	121.55
	2.80%	165.58	158.03	150.89	144.12	137.70	131.59	125.78
	3.00%	172.50	164.46	156.87	149.69	142.90	136.45	130.32
	3.20%	180.07	171.47	163.38	155.74	148.53	141.70	135.22
	3.40%	188.37	179.14	170.48	162.33	154.64	147.38	140.52
	3.60%	197.53	187.58	178.26	169.52	161.31	153.57	146.27

Fiber Revenue Growth and Network Services Revenue Growth

Growing fiber revenue is one of the biggest drivers for Crown Castle's future growth. With the large growth that is expected to be seen in the space, the stock price of Crown Castle can be reasonably expected to experience appreciation. When adjusting the growth rate of fiber revenue by 2.00%, there are large changes each way in the stock price. When testing against the growth in network service revenues, there is not as much of a change per each 1.00% change. This is important because it is showing that future growth in CCI's stock price is more dependent on fiber growth rather than network services growth. This can allow the Company to focus on more strategic projects that are attributable to fiber.

Network Services Revenue Growth	Fiber Revenue Growth							
	149.69	7.00%	9.00%	11.00%	13.00%	15.00%	17.00%	19.00%
	2.00%	106.73	118.77	132.86	149.31	168.49	190.79	216.68
	3.00%	106.85	118.89	132.97	149.43	168.60	190.91	216.80
	4.00%	106.98	119.01	133.10	149.55	168.73	191.03	216.92
	5.00%	107.12	119.15	133.24	149.69	168.87	191.17	217.06
	6.00%	107.27	119.31	133.39	149.85	169.02	191.33	217.22
	7.00%	107.44	119.48	133.56	150.02	169.19	191.50	217.39
	8.00%	107.62	119.66	133.75	150.20	169.38	191.68	217.57

Pre-Tax Cost of Debt and Return on Equity

The yield-to-maturity on a bond maturing in January 2051 is 6.16%, which we estimated as our pre-tax cost of debt. The cost

on equity was found using the CAPM and was also used in the WACC calculation, and it was found to be 8.80%. If Crown Castle retires bonds and issues new bonds, the company might have to offer a higher yield as the yield on the 10-year treasury increases and investors need a bigger spread to compensate for the risk. If this is the case, the cost of equity and cost of debt will increase which would cause the stock price to fall.

Return on Equity	Pre-Tax Cost of Debt							
	149.69	5.26%	5.56%	5.86%	6.16%	6.46%	6.76%	7.06%
	7.60%	221.23	213.75	206.63	199.87	193.42	187.28	181.41
	8.00%	199.71	193.22	187.03	181.13	175.49	170.10	164.94
	8.40%	180.84	175.16	169.74	164.55	159.59	154.82	150.26
	8.80%	164.15	159.15	154.37	149.78	145.37	141.14	137.07
	9.20%	149.29	144.86	140.61	136.53	132.60	128.82	125.18
	9.60%	135.96	132.02	128.22	124.57	121.05	117.65	114.38
	10.00%	123.95	120.42	117.01	113.73	110.56	107.50	104.54

Cost of Site Rental Operations % of Sales and G&A Expense as % of Sales

Site rentals are the largest part of Crown Castle's business, accounting for 90.00% of revenues. Due to this, it is imperative that the company keeps this cost as low as possible. Currently, we have the percentage as 26% of sales, which is found by taking the average costs of rental operations from the last four years and dividing it by rental revenues in 2021. It could be a fair assumption that the costs of operation rise because the cash operating expenses generally rise at around the rate of inflation. The general and administrative expenses as a percentage of sales was calculated in the same way as the cost of rental operations. In the data table, we increased both the cost of operations and general and administrative expenses by 1.00%. As expected, if the company were to cut down on these costs, the stock price would see a sizable increase. As these costs continue to rise, which may be the case in the next few years, the stock price would be negatively impacted. These costs might rise in the next few years due to the escalation clauses in the contracts that Crown Castle enters into, which is worth watching.

G&A Expenses % of Sales	Cost of Site Rental Operations % of Sales							
	149.69	23.00%	24.00%	25.00%	26.00%	27.00%	28.00%	29.00%
	7.00%	180.15	175.25	170.35	165.45	160.55	155.65	150.76
	8.00%	174.88	169.98	165.08	160.19	155.29	150.39	145.49
	9.00%	169.62	164.72	159.82	154.92	150.02	145.12	140.23
	10.00%	164.35	159.45	154.55	149.66	144.76	139.86	134.96
	11.00%	159.09	154.19	149.29	144.39	139.49	134.59	129.70
	12.00%	153.82	148.92	144.03	139.13	134.23	129.33	124.43
	13.00%	148.56	143.66	138.76	133.86	128.96	124.06	119.17

Important Disclaimer

This report was created by students enrolled in the Security Analysis (6F:112) class at the University of Iowa. The report was originally created to offer an internal investment recommendation for the University of Iowa Krause Fund and its advisory board. The report also provides potential employers and other interested parties an example of the students' skills, knowledge and abilities. Members of the Krause Fund are not registered investment advisors, brokers or officially licensed financial professionals. The investment advice contained in this report does not represent an offer or solicitation to buy or sell any of the securities mentioned. Unless otherwise noted, facts and figures included in this report are from publicly available sources. This report is not a complete compilation of data, and its accuracy is not guaranteed. From time to time, the University of Iowa, its faculty, staff, students, or the Krause Fund may hold a financial interest in the companies mentioned in this report.

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Crown Castle International Corp.
Key Assumptions of Valuation Model

Ticker Symbol	 CROWN CASTLE INC. (XNYS:CCI)
Current Share Price	140.47
Current Model Date	11/14/2022
FY End (month/day)	Dec. 31
Last FYE Date	12/31/2021
Next FYE Date	12/31/2022
Pre-Tax Cost of Debt	6.16%
Beta	0.87
Risk-Free Rate	4.21%
Equity Risk Premium	5.30%
CV Growth of NOPLAT	3.00%
CV Growth of EPS	2.50%
Current Dividend Yield	4.69%
Forecasted Marginal Tax Rate	1.44%
Forecasted Effective Tax Rate	25.00%
Cost of Equity	8.80%
WACC	7.90%
Normal Cash Estimate (% sales)	2.00%
Inflation Rate	3.00%

Forecasting Growth Rate

Towers Site Rentals Revenues	8.00%
Fiber Site Rentals Revenues	13.00%
Network Services and Other Revenue:	5.00%
Number of Towers	0.05%
Miles of Fiber	9.00%
Revenue Growth	8.56%
Cost of Site Rental Operations	26.00%
G&A Expense as a % of sales	10.00%

Crown Castle International Corp.
Sensitivity Tables

		Beta							
		149.69	0.63	0.71	0.79	0.87	0.95	1.03	1.11
Equity Risk Premium	5.00%	212.33	192.09	174.26	158.44	144.31	131.60	120.11	110.11
	5.10%	208.96	188.76	170.99	155.24	141.17	128.53	117.11	107.11
	5.20%	205.66	185.51	167.80	152.11	138.11	125.54	114.11	104.11
	5.30%	202.43	182.32	164.67	149.05	135.12	122.62	111.31	101.11
	5.40%	199.27	179.21	161.62	146.06	132.20	119.78	108.51	99.11
	5.50%	196.17	176.16	158.63	143.14	129.36	117.00	105.81	96.11
	5.60%	193.13	173.18	155.71	140.29	126.58	114.30	103.21	93.11
		Risk-Free Rate							
		149.69	3.61%	3.81%	4.01%	4.21%	4.41%	4.61%	4.81%
CV Growth of NOPLAT	2.40%	153.36	146.65	140.26	134.19	128.40	122.88	117.61	112.55
	2.60%	159.22	152.11	145.37	138.97	132.88	127.08	121.53	116.22
	2.80%	165.58	158.03	150.89	144.12	137.70	131.59	125.78	120.33
	3.00%	172.50	164.46	156.87	149.69	142.90	136.45	130.33	124.55
	3.20%	180.07	171.47	163.38	155.74	148.53	141.70	135.22	129.33
	3.40%	188.37	179.14	170.48	162.33	154.64	147.38	140.52	134.55
	3.60%	197.53	187.58	178.26	169.52	161.31	153.57	146.27	139.55

Pre-Tax Cost of Debt								
Return on Equity	149.69	5.26%	5.56%	5.86%	6.16%	6.46%	6.76%	7.06%
	7.60%	221.23	213.75	206.63	199.87	193.42	187.28	181.41
	8.00%	199.71	193.22	187.03	181.13	175.49	170.10	164.94
	8.40%	180.84	175.16	169.74	164.55	159.59	154.82	150.26
	8.80%	164.15	159.15	154.37	149.78	145.37	141.14	137.07
	9.20%	149.29	144.86	140.61	136.53	132.60	128.82	125.18
	9.60%	135.96	132.02	128.22	124.57	121.05	117.65	114.38
	10.00%	123.95	120.42	117.01	113.73	110.56	107.50	104.54

Cost of Site Rental Operations % of Sales								
G&A Expense % of Sales	149.69	23.00%	24.00%	25.00%	26.00%	27.00%	28.00%	29.00%
	7.00%	180.15	175.25	170.35	165.45	160.55	155.65	150.76
	8.00%	174.88	169.98	165.08	160.19	155.29	150.39	145.49
	9.00%	169.62	164.72	159.82	154.92	150.02	145.12	140.23
	10.00%	164.35	159.45	154.55	149.66	144.76	139.86	134.96
	11.00%	159.09	154.19	149.29	144.39	139.49	134.59	129.70
	12.00%	153.82	148.92	144.03	139.13	134.23	129.33	124.43
	13.00%	148.56	143.66	138.76	133.86	128.96	124.06	119.17

Fiber Revenue Growth								
Network Services Revenue Growth	149.69	7.00%	9.00%	11.00%	13.00%	15.00%	17.00%	19.00%
	2.00%	106.73	118.77	132.86	149.31	168.49	190.79	216.68
	3.00%	106.85	118.89	132.97	149.43	168.60	190.91	216.80
	4.00%	106.98	119.01	133.10	149.55	168.73	191.03	216.92
	5.00%	107.12	119.15	133.24	149.69	168.87	191.17	217.06
	6.00%	107.27	119.31	133.39	149.85	169.02	191.33	217.22
	7.00%	107.44	119.48	133.56	150.02	169.19	191.50	217.39
	8.00%	107.62	119.66	133.75	150.20	169.38	191.68	217.57

Crown Castle International Corp.
Revenue Decomposition

[illegible]

Crown Castle International Corp.
Income Statement

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Net revenues	5763.0	5840.0	6340.0	7,174.3	7,566.9	8,274.0	9,052.5	9,910.2	10,855.6	11,898.4	13,049.4	14,320.3	15,724.7
Site rental revenues	5093.0	5320.0	5719.0	6,272.3	6,882.2	7,555.1	8,297.7	9,117.6	10,023.4	11,024.6	12,131.9	13,357.0	14,713.1
Network services & other revenues	670.0	520.0	621.0	652.1	684.7	718.9	754.8	792.6	832.2	873.8	917.5	963.4	1,011.5
Total operating expenses	4204.0	4339.0	4339.0	4,604.8	4,775.6	5,010.3	5,285.2	5,602.1	5,963.4	6,371.8	6,830.7	7,343.9	7,915.8
Costs of site rental operations	1462.0	1521.0	1554.0	1,630.6	1,789.2	1,964.1	2,157.1	2,370.3	2,605.8	2,866.0	3,153.9	3,472.4	3,824.9
Network services & other costs of operations	524.0	448.0	439.0	485.1	509.4	534.8	561.6	589.6	619.1	650.1	682.6	716.7	752.5
General & administrative expense	614.0	678.0	680.0	717.1	756.4	827.1	904.9	990.6	1,085.1	1,189.4	1,304.4	1,431.5	1,571.8
Asset write-down charges	19.0	74.0	21.0	21.1	21.3	21.4	21.5	21.6	21.8	21.9	22.0	22.2	22.3
Acquisition & integration costs	13.0	10.0	1.0	-	-	-	-	-	-	-	-	-	-
Depreciation, amortization & accretion	1572.0	1608.0	1644.0	1,750.8	1,699.5	1,662.9	1,640.1	1,629.9	1,631.6	1,644.4	1,667.8	1,701.2	1,744.2
Other operating expense (income)	0.0	-362.0	0.0	-	-	-	-	-	-	-	-	-	-
Operating income (loss)	1559.0	1863.0	2001.0	2,569.5	2,791.3	3,263.7	3,767.3	4,308.0	4,892.2	5,526.6	6,218.7	6,976.5	7,808.9
Interest expense & amortization of deferred financing costs	683.0	689.0	657.0	1,270.7	1,654.9	1,738.4	1,696.5	1,714.8	1,820.7	1,863.0	1,900.8	1,991.3	2,061.5
Gains (losses) on retirement of long-term obligations	-2.0	-95.0	-145.0	-	-	-	-	-	-	-	-	-	-
Interest income	6.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1
Other income (expense)	1.0	-5.0	-21.0	-	-	-	-	-	-	-	-	-	-
Income (loss) before income taxes	881.0	1076.0	1179.0	1,299.8	1,137.4	1,526.3	2,071.8	2,594.2	3,072.5	3,664.7	4,319.0	4,986.2	5,748.5
Provision (benefit) for income taxes	21.0	20.0	21.0	18.7	16.4	22.0	29.9	37.4	44.3	52.8	62.3	71.9	82.9
Income (loss) from continuing operations	-	-	1158.0	2,551.8	2,775.9	3,242.7	3,738.5	4,271.7	4,848.9	5,474.8	6,157.5	6,905.6	7,727.1
Less: net income (loss) attributable to the noncontrolling interest	0.0	0.0	0.0	-	-	-	-	-	-	-	-	-	-
Net income (loss) attributable to Crown Castle International Corp. stockholders	0.0	0.0	1096.0	2,551.8	2,775.9	3,242.7	3,738.5	4,271.7	4,848.9	5,474.8	6,157.5	6,905.6	7,727.1
Dividends or distributions on preferred stock	113.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income (loss) attributable to Crown Castle International Corp. common stockhol	747.0	999.0	1096.0	2,551.8	2,775.9	3,242.7	3,738.5	4,271.7	4,848.9	5,474.8	6,157.5	6,905.6	7,727.1
Net income (loss)	860.0	1056.0	1096.0	2,551.8	2,775.9	3,242.7	3,738.5	4,271.7	4,848.9	5,474.8	6,157.5	6,905.6	7,727.1
Weighted-average common shares outstanding:													
Basic	416.0	423.0	432.0	432.9	433.7	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0
Basic EPS	\$ 1.80	\$ 2.36	\$ 2.54	\$ 5.90	\$ 6.40	\$ 7.47	\$ 8.61	\$ 9.84	\$ 11.17	\$ 12.61	\$ 14.19	\$ 15.91	\$ 17.80
Dividends per Share	\$ 4.58	\$ 4.93	\$ 5.46	\$ 5.91	\$ 6.39	\$ 6.91	\$ 7.48	\$ 8.09	\$ 8.75	\$ 9.47	\$ 10.24	\$ 11.08	\$ 11.99
Total Dividends Paid	1,889.48	2,050.88	2,309.58	2,551.74	2,766.10	2,998.47	3,245.78	3,511.39	3,798.73	4,109.58	4,445.87	4,809.68	5,203.26

Crown Castle International Corp.
Balance Sheet

<i>Fiscal Years Ending Dec. 31</i>	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Cash & cash equivalents	196.0	232.0	292.0	7253.4	9493.8	9686.4	10969.2	13828.2	15887.9	18087.0	21388.8	24645.6	29920.4
Restricted cash	137.0	144.0	169.0	322.8	340.5	372.3	407.4	446.0	488.5	535.4	587.2	644.4	707.6
Receivables, net	596.0	431.0	543.0	585.9	617.9	675.7	739.3	809.3	886.5	971.7	1065.7	1169.5	1284.1
Prepaid expenses	107.0	95.0	105.0	135.5	142.9	156.3	171.0	187.2	205.0	224.7	246.5	270.5	297.0
Other current assets	168.0	202.0	145.0	187.6	197.8	216.3	236.7	259.1	283.8	311.1	341.2	374.4	411.1
Total current assets	1204.0	1104.0	1254.0	8485.2	10793.0	11107.0	12523.5	15529.7	17751.7	20130.0	23629.4	27104.4	32620.3
Deferred site rental receivables	1424.0	1408.0	1588.0	1636.9	1726.4	1887.7	2065.4	2261.0	2476.8	2714.7	2977.3	3267.2	3587.7
Property & equipment, net	14666.0	15162.0	15269.0	14820.9	14502.4	14303.2	14214.7	14229.4	14341.2	14544.7	14835.7	15211.0	15667.7
Operating lease right-of-use assets	6133.0	6464.0	6682.0	6485.91	6346.50	6259.34	6220.61	6227.06	6275.96	6365.02	6492.40	6656.60	6856.49
Goodwill	10078.0	10078.0	10078.0	10078.0	10078.0	10078.0	10078.0	10078.0	10078.0	10078.0	10078.0	10078.0	10078.0
Site rental contracts, tenant relationships, and other intangibles, net	4836.0	4433.0	4046.0	3599.0	3154.0	2758.0	2384.0	2014.0	1597.6	1184.4	775.6	372.2	0.0
Long-term prepaid rent & other assets, net	116.0	119.0	123.0	135.0	142.4	155.7	170.4	186.5	204.3	224.0	245.6	269.5	296.0
Total assets	38457.0	38768.0	39040.0	45240.9	46742.7	46549.0	47656.6	50525.8	52725.5	55240.7	59033.9	62958.9	69106.1
Accounts payable	334.0	230.0	246.0	317.7	335.1	366.4	400.9	438.8	480.7	526.9	577.9	634.1	696.3
Accrued interest	169.0	199.0	182.0	59.0	62.2	68.1	74.5	81.5	89.3	97.9	107.3	117.8	129.3
Deferred revenues	657.0	704.0	776.0	856.6	945.6	1043.9	1152.4	1272.1	1404.3	1550.2	1711.2	1889.0	2085.3
Other accrued liabilities	361.0	378.0	401.0	421.8	444.9	486.5	532.2	582.7	638.2	699.5	767.2	841.9	924.5
Current maturities of debt & other obligations	100.0	129.0	72.0	338.0	1841.0	844.0	637.0	1659.0	1491.0	992.0	1138.0	738.0	1830.0
Current portion of operating lease liabilities	299.0	329.0	349.0	328.4	321.3	316.9	314.9	315.3	317.7	322.2	328.7	337.0	347.1
Total current liabilities	1920.0	1969.0	2026.0	2321.5	3950.1	3125.7	3111.8	4349.4	4421.2	4188.7	4630.3	4557.9	6012.6
Debt & other long-term obligations	18021.0	19151.0	20557.0	26527.9	26380.2	26696.8	27201.3	27898.1	28752.5	29864.7	31188.3	32727.7	34489.1
Operating lease liabilities	5511.0	5808.0	6031.0	5836.6	5711.2	5632.7	5597.9	5603.7	5647.7	5727.8	5842.4	5990.2	6170.1
Other long-term liabilities	2516.0	2379.0	2168.0	2301.0	2442.3	2592.1	2751.2	2920.0	3099.2	3289.4	3491.3	3705.5	3932.9
Total liabilities	27968.0	29307.0	30782.0	36987.1	38483.8	38047.4	38662.2	40771.2	41920.7	43070.6	45152.3	46981.3	50604.7
Common equity	17859.0	17937.0	18015.0	18015.9	18016.7	18017.0	18017.0	18017.0	18017.0	18017.0	18017.0	18017.0	18017.0
Accumulated other comprehensive income (loss)	-5.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Dividends or distributions in excess of earnings	-7365.0	-8472.0	-9753.0	-9758.1	-9753.8	-9511.4	-9018.7	-8258.4	-7208.2	-5842.9	-4131.4	-2035.4	488.4
Total equity	10489.0	9461.0	8258.0	8253.8	8258.9	8501.6	8994.3	9754.6	10804.8	12170.1	13881.6	15977.6	18501.4
Total liabilities and equity	38457.0	38768.0	39040.0	45240.9	46742.7	46549.0	47656.6	50525.8	52725.5	55240.7	59033.9	62958.9	69106.1

Crown Castle International Corp.
Common Size Income Statement

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Net revenues	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Site rental revenues	88.37%	91.10%	90.21%	87.43%	90.95%	91.31%	91.66%	92.00%	92.33%	92.66%	92.97%	93.27%	93.57%
Network services & other revenues	11.63%	8.90%	9.79%	9.09%	9.05%	8.69%	8.34%	8.00%	7.67%	7.34%	7.03%	6.73%	6.43%
Total operating expenses	72.95%	74.30%	68.44%	64.18%	63.11%	60.55%	58.38%	56.53%	54.93%	53.55%	52.35%	51.28%	50.34%
Costs of site rental operations	25.37%	26.04%	24.51%	22.73%	23.64%	23.74%	23.83%	23.92%	24.00%	24.09%	24.17%	24.25%	24.32%
Network services & other costs of operations	9.09%	7.67%	6.92%	6.76%	6.73%	6.46%	6.20%	5.95%	5.70%	5.46%	5.23%	5.00%	4.79%
General & administrative expense	10.65%	11.61%	10.73%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Asset write-down charges	0.33%	1.27%	0.33%	0.29%	0.28%	0.26%	0.24%	0.22%	0.20%	0.18%	0.17%	0.15%	0.14%
Acquisition & integration costs	0.23%	0.17%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation, amortization & accretion	27.28%	27.53%	25.93%	24.40%	22.46%	20.10%	18.12%	16.45%	15.03%	13.82%	12.78%	11.88%	11.09%
Other operating expense (income)	0.00%	-6.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Operating income (loss)	27.05%	31.90%	31.56%	35.82%	36.89%	39.45%	41.62%	43.47%	45.07%	46.45%	47.65%	48.72%	49.66%
Interest expense & amortization of deferred financing costs	11.85%	11.80%	10.36%	17.71%	21.87%	21.01%	18.74%	17.30%	16.77%	15.66%	14.57%	13.91%	13.11%
Gains (losses) on retirement of long-term obligations	-0.03%	-1.63%	-2.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Interest income	0.10%	0.03%	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Other income (expense)	0.02%	-0.09%	-0.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Income (loss) before income taxes	15.29%	18.42%	18.60%	18.12%	15.03%	18.45%	22.89%	26.18%	28.30%	30.80%	33.10%	34.82%	36.56%
Provision (benefit) for income taxes	0.36%	0.34%	0.33%	0.26%	0.22%	0.27%	0.33%	0.38%	0.41%	0.44%	0.48%	0.50%	0.53%
Income (loss) from continuing operations	0.00%	0.00%	18.26%	35.57%	36.68%	39.19%	41.30%	43.10%	44.67%	46.01%	47.19%	48.22%	49.14%
Net income (loss) attributable to Crown Castle International Corp. stockholders	0.00%	0.00%	17.29%	35.57%	36.68%	39.19%	41.30%	43.10%	44.67%	46.01%	47.19%	48.22%	49.14%
Dividends on preferred stock & losses on purchases of preferred stock	1.96%	0.98%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net income (loss) attributable to Crown Castle International Corp. common stockholders	12.96%	17.11%	17.29%	35.57%	36.68%	39.19%	41.30%	43.10%	44.67%	46.01%	47.19%	48.22%	49.14%
Net income (loss)	14.92%	18.08%	17.29%	35.57%	36.68%	39.19%	41.30%	43.10%	44.67%	46.01%	47.19%	48.22%	49.14%

Crown Castle International Corp.
Common Size Balance Sheet

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Cash & cash equivalents	3.40%	3.97%	4.61%	101.10%	125.46%	117.07%	121.17%	139.54%	146.36%	152.01%	163.91%	172.10%	190.28%
Restricted cash	2.38%	2.47%	2.67%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Receivables, net	10.34%	7.38%	8.56%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%
Prepaid expenses	1.86%	1.63%	1.66%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%
Other current assets	2.92%	3.46%	2.29%	2.61%	2.61%	2.61%	2.61%	2.61%	2.61%	2.61%	2.61%	2.61%	2.61%
Total current assets	20.89%	18.90%	19.78%	118.27%	142.63%	134.24%	138.34%	156.71%	163.53%	169.18%	181.08%	189.27%	207.45%
Deferred site rental receivables	24.71%	24.11%	25.05%	22.82%	22.82%	22.82%	22.82%	22.82%	22.82%	22.82%	22.82%	22.82%	22.82%
Property & equipment, net	254.49%	259.62%	240.84%	206.58%	191.66%	172.87%	157.03%	143.58%	132.11%	122.24%	113.69%	106.22%	99.64%
Operating lease right-of-use assets	106.42%	110.68%	105.39%	90.40%	83.87%	75.65%	68.72%	62.84%	57.81%	53.49%	49.75%	46.48%	43.60%
Goodwill	174.87%	172.57%	158.96%	140.47%	133.19%	121.80%	111.33%	101.69%	92.84%	84.70%	77.23%	70.38%	64.09%
Site rental contracts & tenant relationships, and other intangibles, net	83.91%	75.91%	63.82%	50.17%	41.68%	33.33%	26.34%	20.32%	14.72%	9.95%	5.94%	2.60%	0.00%
Long-term prepaid rent & other assets, net	2.01%	2.04%	1.94%	1.88%	1.88%	1.88%	1.88%	1.88%	1.88%	1.88%	1.88%	1.88%	1.88%
Total assets	667.31%	663.84%	615.77%	630.59%	617.73%	562.59%	526.45%	509.84%	485.70%	464.27%	452.39%	439.65%	439.48%
Accounts payable	5.80%	3.94%	3.88%	4.43%	4.43%	4.43%	4.43%	4.43%	4.43%	4.43%	4.43%	4.43%	4.43%
Accrued interest	2.93%	3.41%	2.87%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%	0.82%
Deferred revenues	11.40%	12.05%	12.24%	11.94%	12.50%	12.62%	12.73%	12.84%	12.94%	13.03%	13.11%	13.19%	13.26%
Other accrued liabilities	6.26%	6.47%	6.32%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Current maturities of debt & other obligations	1.74%	2.21%	1.14%	4.71%	24.33%	10.20%	7.04%	16.74%	13.73%	8.34%	8.72%	5.15%	11.64%
Current portion of operating lease liabilities	5.19%	5.63%	5.50%	4.58%	4.25%	3.83%	3.48%	3.18%	2.93%	2.71%	2.52%	2.35%	2.21%
Total current liabilities	33.32%	33.72%	31.96%	32.36%	52.20%	37.78%	34.38%	43.89%	40.73%	35.20%	35.48%	31.83%	38.24%
Debt & other long-term obligations	312.70%	327.93%	324.24%	369.76%	348.63%	322.66%	300.48%	281.51%	264.86%	251.00%	239.00%	228.54%	219.33%
Operating lease liabilities	95.63%	99.45%	95.13%	81.35%	75.48%	68.08%	61.84%	56.54%	52.03%	48.14%	44.77%	41.83%	39.24%
Other long-term liabilities	43.66%	40.74%	34.20%	32.07%	32.28%	31.33%	30.39%	29.46%	28.55%	27.65%	26.75%	25.88%	25.01%
Total liabilities	485.30%	501.83%	485.52%	515.55%	508.58%	459.84%	427.09%	411.41%	386.17%	361.99%	346.01%	328.07%	321.82%
Common equity	309.89%	307.14%	284.15%	251.12%	238.10%	217.76%	199.03%	181.80%	165.97%	151.42%	138.07%	125.81%	114.58%
Accumulated other comprehensive income (loss)	-0.09%	-0.07%	-0.06%	-0.06%	-0.05%	-0.05%	-0.04%	-0.04%	-0.04%	-0.03%	-0.03%	-0.03%	-0.03%
Dividends or distributions in excess of earnings	-127.80%	-145.07%	-153.83%	-136.01%	-128.90%	-114.96%	-99.63%	-83.33%	-66.40%	-49.11%	-31.66%	-14.21%	3.11%
Total equity	182.01%	162.00%	130.25%	115.05%	109.15%	102.75%	99.36%	98.43%	99.53%	102.28%	106.38%	111.57%	117.66%
Total liabilities and equity	667.31%	663.84%	615.77%	630.59%	617.73%	562.59%	526.45%	509.84%	485.70%	464.27%	452.39%	439.65%	439.48%

Crown Castle International Corp.
Historical Cash Flow Statement

Fiscal Years Ending Dec. 31	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Cash flows from operating activities:										
Net income (loss) from continuing operations	200.9	93.9	398.8	525.3	357.0	444.6	671.0	860.0	1056.0	1158.0
Adjustments to reconcile income (loss) from continuing operations to net cash provided by (used for) operating activities:										
Depreciation, amortization & accretion	622.6	774.2	1013.1	1036.2	1108.6	1242.4	1528.0	1572.0	1608.0	1644.0
Losses (gains) on retirement of long-term obligations	132.0	37.1	44.6	4.2	52.3	3.5	106.0	2.0	95.0	145.0
Amortization of deferred financing costs & other non-cash interest, net	109.4	99.2	80.9	37.1	14.3	9.4	7.0	1.0	6.0	13.0
Stock-based compensation expense	41.9	39.0	51.5	60.8	79.3	91.6	103.0	117.0	138.0	129.0
Asset write-down charges	15.5	14.9	15.0	33.5	34.5	17.3	26.0	19.0	74.0	21.0
Deferred income tax provision (benefit)	-110.4	180.3	-25.6	-60.6	8.6	14.9	2.0	2.0	3.0	4.0
Other non-cash adjustments, net	0.6	3.0	-25.8	-8.9	2.5	-1.6	2.0	-2.0	5.0	21.0
Accrued interest	-13.5	13.0	1.4	0.0	30.0	34.8	16.0	21.0	31.0	-17.0
Accounts payable	34.5	28.7	10.3	-5.3	10.6	-34.1	37.0	19.0	-77.0	15.0
Other liabilities	98.7	242.5	401.3	325.9	196.0	175.5	223.0	254.0	-65.0	-118.0
Receivables	-98.6	-60.2	-77.3	12.7	-58.7	60.9	-105.0	-96.0	166.0	-113.0
Other assets	-261.1	-227.9	-222.1	-112.2	-55.3	-15.3	-114.0	-71.0	15.0	-113.0
Net cash flows from operating activities	772.6	1237.7	1666.1	1794.0	1782.3	2044.2	2502.0	2698.0	3055.0	2789.0
Cash flows from investing activities:										
Capital expenditures	-441.4	-567.8	-780.1	-908.9	-873.9	-1228.1	-1741.0	-2057.0	-1624.0	-1229.0
Payments for acquisitions, net of cash acquired	-3759.5	-4960.4	-466.3	-1102.2	-556.9	-9260.1	-42.0	-17.0	-107.0	-111.0
Other investing activities, net	1.3	7.3	3.5	-3.1	12.4	-5.5	-12.0	-7.0	-10.0	8.0
Net cash flows from investing activities	-4199.6	-5521.0	-1242.9	-1959.7	-1410.2	-10494.0	-1795.0	-2081.0	-1741.0	-1332.0
Cash flows from financing activities:										
Proceeds from issuance of long-term debt	5250.0	1618.4	845.8	1000.0	5201.0	3092.3	2742.0	1894.0	3733.0	3985.0
Principal payments on debt & other long-term obligations	-80.8	-101.3	-116.4	-102.9	-95.8	-118.9	-105.0	-86.0	-105.0	-1076.0
Purchases & redemptions of long-term debt	-1978.7	-763.0	-836.9	-1069.3	-4044.8	-	-2346.0	-12.0	-2490.0	-2089.0
Borrowings under revolving credit facility	1253.0	976.0	1019.0	1790.0	3440.0	2820.0	1820.0	2110.0	2430.0	1245.0
Payments under revolving credit facility	-251.0	-1855.0	-698.0	-1360.0	-4565.0	-1840.0	-1725.0	-2660.0	-2665.0	-870.0
Net issuances (repayments) under commercial paper program	-	-	-	-	-	-	-	155.0	130.0	-20.0
Payments for financing costs	-78.6	-30.0	-15.9	-19.6	-41.5	-29.2	-31.0	-24.0	-38.0	-42.0
Net proceeds from issuance of common stock	0.3	2980.6	-	-	1325.9	4221.3	841.0	-	-	-
Net proceeds from issuance of preferred stock	-	-	-	-	-	1607.8	-	-	-	-
Purchases of common stock	-36.0	-99.5	-21.9	-29.7	-24.9	-23.3	-34.0	-44.0	-76.0	-70.0
Dividends & distributions paid on common stock	-	0.0	-624.3	-1116.4	-1239.2	-1508.7	-1782.0	-1912.0	-2105.0	-2373.0
Dividends & distributions paid on preferred stock	-2.5	0.0	-44.4	-44.0	-44.0	-29.9	-113.0	-113.0	-85.0	-
Net (increase) decrease in restricted cash	-288.8	386.0	30.0	16.5	-7.9	3.8	-	-	-	-
Net cash flows from (used in) financing activities	3786.8	4063.1	-463.0	-935.5	-96.3	8195.2	-733.0	-692.0	-1271.0	-1310.0
Net increase (decrease) in cash, cash equivalents, & restricted cash from continuing operations	-	-	-	-1101.2	275.7	-254.7	-26.0	-75.0	43.0	147.0
Net increase (decrease) in cash, cash equivalents, & restricted cash - discontinued operations	-	-	-	-	-	-	0.0	0.0	0.0	-62.0
Effect of exchange rate changes on cash	1.5	2.2	-8.0	-	-	-	0.0	0.0	0.0	0.0
Net cash flows from discontinued operations - operating activities	-	-	-	2.7	-	-	0.0	0.0	0.0	0.0
Net cash flows from discontinued operations - investing activities	-	-	-	1103.6	113.2	-	0.0	0.0	0.0	0.0
Net increase (decrease) in cash & cash equivalents - discontinued operations	-	-	-	1106.3	113.2	-	0.0	0.0	0.0	0.0
Net increase (decrease) in cash and cash equivalents	361.2	-218.0	-47.8	-	-	-	0.0	0.0	0.0	0.0
Effect of exchange rate changes on cash	-	-	-	-1.9	-0.1	1.2	-1.0	0.0	0.0	0.0
Cash, cash equivalents, & restricted cash at beginning of period	80.1	441.4	223.4	175.6	178.8	567.6	440.0	413.0	338.0	381.0
Cash, cash equivalents, & restricted cash at end of period	441.4	223.4	175.6	178.8	567.6	314.1	413.0	338.0	381.0	466.0

Crown Castle International Corp.
Forecasted Cash Flow Statement

Fiscal Years Ending Dec. 31	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Cash flows from operating activities:										
Net Income	2,551.8	2,775.9	3,242.7	3,738.5	4,271.7	4,848.9	5,474.8	6,157.5	6,905.6	7,727.1
Operating Activities:										
Depreciation, amortization & accretion	1,750.8	1,699.5	1,662.9	1,640.1	1,629.9	1,631.6	1,644.4	1,667.8	1,701.2	1,744.2
Restricted cash	(153.8)	(17.7)	(31.8)	(35.0)	(38.6)	(42.5)	(46.9)	(51.8)	(57.2)	(63.2)
Receivables, net	(42.9)	(32.1)	(57.7)	(63.6)	(70.0)	(77.2)	(85.2)	(94.0)	(103.8)	(114.7)
Prepaid expenses	(30.5)	(7.4)	(13.4)	(14.7)	(16.2)	(17.9)	(19.7)	(21.7)	(24.0)	(26.5)
Other current assets	(42.6)	(10.3)	(18.5)	(20.4)	(22.4)	(24.7)	(27.3)	(30.1)	(33.2)	(36.7)
Deferred site rental receivables	(48.9)	(89.6)	(161.3)	(177.6)	(195.7)	(215.7)	(237.9)	(262.6)	(290.0)	(320.4)
Long-term prepaid rent and other assets, net	(12.0)	(7.4)	(13.3)	(14.7)	(16.1)	(17.8)	(19.6)	(21.7)	(23.9)	(26.4)
Accounts payable	71.7	17.4	31.3	34.5	38.0	41.9	46.2	51.0	56.3	62.2
Accrued interest	(123.0)	3.2	5.8	6.4	7.1	7.8	8.6	9.5	10.5	11.6
Deferred revenues	80.6	89.0	98.3	108.5	119.7	132.2	145.9	161.1	177.8	196.3
Other accrued liabilities	20.8	23.1	41.6	45.8	50.4	55.6	61.3	67.7	74.7	82.6
Net cash flows from operating activities	4,022.1	4,443.7	4,786.6	5,247.7	5,757.7	6,322.1	6,944.6	7,632.5	8,393.9	9,235.9
Cash flows from investing activities:										
Site rental contracts, tenant relationships, and other intangibles, net	447.0	445.0	396.0	374.0	370.0	416.4	413.2	408.8	403.3	372.2
Operating lease right-of-use assets	196.1	139.4	87.2	38.7	(6.5)	(48.9)	(89.1)	(127.4)	(164.2)	(199.9)
Operating lease liabilities	(194.4)	(125.4)	(78.4)	(34.9)	5.8	44.0	80.1	114.6	147.8	179.9
Current portion of operating lease liabilities	(20.6)	(7.1)	(4.4)	(2.0)	0.3	2.5	4.5	6.4	8.3	10.1
Current maturities of debt & other obligations	266.0	1,503.0	(997.0)	(207.0)	1,022.0	(168.0)	(499.0)	146.0	(400.0)	1,092.0
Other long-term liabilities excluding deferred income tax liabilities	133.0	141.2	149.9	159.1	168.8	179.2	190.2	201.9	214.2	227.4
Capital expenditures	(1,302.7)	(1,380.9)	(1,463.8)	(1,551.6)	(1,644.7)	(1,743.4)	(1,848.0)	(1,958.8)	(2,076.4)	(2,201.0)
Net cash flows from investing activities	(475.6)	715.2	(1,910.6)	(1,223.6)	(84.2)	(1,318.2)	(1,748.0)	(1,208.5)	(1,866.9)	(519.2)
Cash flows from financing activities:										
Debt and other long-term obligations	5,970.9	(147.7)	316.6	504.5	696.8	854.4	1,112.1	1,323.6	1,539.4	1,761.4
Dividend distributions	(2,556.9)	(2,771.7)	(3,000.3)	(3,245.8)	(3,511.4)	(3,798.7)	(4,109.6)	(4,445.9)	(4,809.7)	(5,203.3)
Issuance of common stock	0.9	0.9	0.3	-	-	-	-	-	-	-
Net cash flows from (used in) financing activities	3,414.9	(2,918.5)	(2,683.4)	(2,741.3)	(2,814.6)	(2,944.3)	(2,997.5)	(3,122.3)	(3,270.2)	(3,441.9)
Reconciled Cash Balance	6,961.4	2,240.4	192.6	1,282.9	2,859.0	2,059.7	2,199.2	3,301.8	3,256.8	5,274.8
Beg Cash Balance	292.0	7253.4	9493.8	9686.4	10969.2	13828.2	15887.9	18087.0	21388.8	24645.6
End Cash Balance	7253.4	9493.8	9686.4	10969.2	13828.2	15887.9	18087.0	21388.8	24645.6	29920.4

Crown Castle International Corp.
Value Driver Estimation

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
NOPLAT:	1,934.14	1,949.25	2,401.60	2,695.73	3,156.09	3,616.64	4,110.87	4,644.41	5,223.33	5,854.20	6,544.21	7,301.25	8,134.00
NOPLAT Growth	32.65%	0.78%	23.21%	12.25%	17.08%	14.59%	13.67%	12.98%	12.46%	12.08%	11.79%	11.57%	11.41%
EBIT													
Site rental revenues	5,093.00	5,320.00	5,719.00	6,272.27	6,882.25	7,555.09	8,297.66	9,117.59	10,023.41	11,024.63	12,131.86	13,356.95	14,713.15
Add: Network services & other revenues	670.00	520.00	621.00	652.05	684.65	718.89	754.83	792.57	832.20	873.81	917.50	963.37	1,011.54
Less: Costs of site rental operations	1,462.00	1,521.00	1,554.00	1,630.58	1,789.16	1,964.07	2,157.12	2,370.27	2,605.75	2,866.04	3,153.88	3,472.36	3,824.93
Less: Network services & other costs of operations	524.00	448.00	439.00	485.10	509.36	534.82	561.56	589.64	619.12	650.08	682.58	716.71	752.55
Less: General & administrative expenses	614.00	678.00	680.00	717.15	756.39	827.07	904.89	990.63	1,085.13	1,189.37	1,304.42	1,431.47	1,571.85
Less: Depreciation, amortization & accretion	1,572.00	1,608.00	1,644.00	1,750.83	1,699.45	1,662.93	1,640.09	1,629.94	1,631.63	1,644.44	1,667.78	1,701.15	1,744.18
Less: Other operating expense (income)	-	-	-	-	-	-	-	-	-	-	-	-	-
Add: Implied Lease Interest	377.79	398.18	411.61	399.53	390.94	385.58	383.19	383.59	386.60	392.09	399.93	410.05	422.36
TOTAL EBIT	1,968.79	1,983.18	2,434.61	2,740.19	3,203.49	3,670.66	4,172.02	4,713.27	5,300.57	5,940.59	6,640.63	7,408.68	8,253.55
Adjusted Taxes													
Provision (benefit) for income taxes	21.00	20.00	21.00	18.74	16.40	22.01	29.87	37.41	44.30	52.84	62.28	71.90	82.89
Add: Tax shield on interest expense	9.85	9.93	9.47	18.32	23.86	25.07	24.46	24.73	26.25	26.86	27.41	28.71	29.72
Less: Tax on interest or investment income	0.09	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Less: Tax on other income	0.01	(0.07)	(0.30)	-	-	-	-	-	-	-	-	-	-
Add: Tax shield on asset write-down charges	0.27	1.07	0.30	0.30	0.31	0.31	0.31	0.31	0.31	0.32	0.32	0.32	0.32
Add: Tax shield on acquisition and integration costs	0.19	0.14	0.01	-	-	-	-	-	-	-	-	-	-
Add: Tax shield on operating lease interest	5.45	5.74	5.94	5.76	5.64	5.56	5.53	5.53	5.57	5.65	5.77	5.91	6.09
TOTAL Adjusted Taxes	36.66	36.93	37.01	43.12	46.19	52.93	60.16	67.96	76.43	85.66	95.75	106.83	119.01
TOTAL Change in Net Deferred Taxes	2.00	3.00	4.00	(1.34)	(1.21)	(1.10)	(0.99)	(0.90)	(0.81)	(0.73)	(0.66)	(0.60)	(0.54)
Invested Capital (IC):	24,160.00	23,851.62	23,494.62	23,215.46	23,132.12	23,706.92	24,394.01	25,206.74	26,076.85	27,202.23	28,484.52	29,922.93	31,516.36
Net Operating Working Capital													
Operating Current Assets:													
Normal Cash	196.00	198.62	215.62	244.00	257.35	281.40	307.88	337.05	369.20	404.67	443.81	487.04	534.80
Accounts Receivable	596.00	431.00	543.00	585.88	617.94	675.69	739.26	809.30	886.51	971.67	1,065.66	1,169.46	1,284.14
Prepaid Expenses	107.00	95.00	105.00	135.51	142.92	156.28	170.98	187.18	205.04	224.74	246.48	270.48	297.01
Other Current Assets	168.00	202.00	145.00	187.56	197.83	216.31	236.66	259.09	283.80	311.07	341.16	374.38	411.10
TOTAL Operating Current Assets	1,067.00	926.62	1,008.62	1,152.95	1,216.04	1,329.67	1,454.79	1,592.62	1,744.56	1,912.15	2,097.11	2,301.36	2,527.05
Operating Current Liabilities:													
Accounts Payable	334.00	230.00	246.00	317.70	335.08	366.39	400.87	438.84	480.71	526.89	577.86	634.14	696.33
Accrued Expenses	169.00	199.00	182.00	59.01	62.24	68.06	74.46	81.52	89.29	97.87	107.34	117.79	129.35
Deferred Revenue	657.00	704.00	776.00	856.63	945.64	1,043.89	1,152.36	1,272.09	1,404.26	1,550.17	1,711.24	1,889.05	2,085.33
Other Accrued Liabilities	361.00	378.00	401.00	421.80	444.88	486.46	532.23	582.65	638.24	699.55	767.22	841.94	924.51
TOTAL Operating Current Liabilities	1,521.00	1,511.00	1,605.00	1,655.14	1,787.84	1,964.80	2,159.91	2,375.10	2,612.51	2,874.49	3,163.65	3,482.92	3,835.51
TOTAL Net Operating Working Capital	(454.00)	(584.38)	(596.38)	(502.19)	(571.80)	(635.12)	(705.12)	(782.49)	(867.95)	(962.34)	(1,066.55)	(1,181.56)	(1,308.46)
Net Property, Plant, and Equipment	14,666.00	15,162.00	15,269.00	14,820.91	14,502.36	14,303.19	14,214.69	14,229.43	14,341.16	14,544.68	14,835.74	15,210.96	15,667.73
Net Other Operating Assets (net of depreciation or amortization)													
Net Intangible Assets (non-goodwill)	4,836.00	4,433.00	4,046.00	4,176.94	4,430.12	4,930.17	5,448.64	5,999.47	6,555.68	7,223.48	7,961.17	8,776.25	9,676.64
PV of Operating Leases	6,133.00	6,464.00	6,682.00	6,485.91	6,346.50	6,259.34	6,220.61	6,227.06	6,275.96	6,365.02	6,492.40	6,656.60	6,856.49
Deferred site rental receivables	1,424.00	1,408.00	1,588.00	1,636.85	1,726.42	1,887.75	2,065.37	2,261.05	2,476.76	2,714.68	2,977.27	3,267.25	3,587.66
Site rental contracts & tenant relationships, net	4,764.00	4,365.00	3,982.00	4,111.23	4,362.66	4,860.90	5,377.53	5,926.46	6,480.72	7,146.51	7,882.16	8,695.13	9,593.34
Long-term prepaid rent & other assets, net	116.00	119.00	123.00	135.04	142.43	155.74	170.39	186.53	204.33	223.96	245.62	269.54	295.97
TOTAL Net Other Operating Assets	17,273.00	16,789.00	16,421.00	16,545.97	17,008.14	18,093.90	19,282.55	20,600.57	21,993.45	23,673.65	25,558.61	27,664.77	30,010.11
Net Other Operating Liabilities													
Operating Lease Liabilities	5,511.00	5,808.00	6,031.00	5,836.60	5,711.16	5,632.72	5,597.87	5,603.67	5,647.67	5,727.82	5,842.44	5,990.21	6,170.09
Deferred Rental Revenue	1,814.00	1,707.00	1,568.00	1,812.63	2,095.42	2,422.32	2,800.23	3,237.10	3,742.13	4,325.94	5,000.84	5,781.03	6,682.93
TOTAL Net Other Operating Liabilities	7,325.00	7,515.00	7,599.00	7,649.23	7,806.57	8,055.05	8,398.10	8,840.78	9,389.80	10,053.76	10,843.28	11,771.23	12,853.02
Free Cash Flow (FCF):													
NOPLAT	\$ 1,934.14	\$ 1,949.25	\$ 2,401.60	\$ 2,695.73	\$ 3,156.09	\$ 3,616.64	\$ 4,110.87	\$ 4,644.41	\$ 5,223.33	\$ 5,854.20	\$ 6,544.21	\$ 7,301.25	\$ 8,134.00
Change in IC	\$ (379.83)	\$ (308.38)	\$ (356.99)	\$ (279.16)	\$ (83.34)	\$ 574.80	\$ 687.09	\$ 812.73	\$ 870.12	\$ 1,125.37	\$ 1,282.30	\$ 1,438.41	\$ 1,593.43
FCF	\$ 2,313.97	\$ 2,257.63	\$ 2,758.59	\$ 2,974.90	\$ 3,239.43	\$ 3,041.84	\$ 3,423.78	\$ 3,831.68	\$ 4,353.21	\$ 4,728.83	\$ 5,261.91	\$ 5,862.84	\$ 6,540.57
Return on Invested Capital (ROIC):													
NOPLAT	1934.14	1949.25	2401.60	2695.73	3156.09	3616.64	4110.87	4644.41	5223.33	5854.20	6544.21	7301.25	8134.00
Beginning IC	\$ 24,539.83	\$ 24,160.00	\$ 23,851.62	\$ 23,494.62	\$ 23,215.46	\$ 23,132.12	\$ 23,706.92	\$ 24,394.01	\$ 25,206.74	\$ 26,076.85	\$ 27,202.23	\$ 28,484.52	\$ 29,922.93
ROIC	7.88%	8.07%	10.07%	11.47%	13.59%	15.63%	17.34%	19.04%	20.72%	22.45%	24.06%	25.63%	27.18%
Economic Profit (EP):													
Beginning IC	\$ 24,539.83	\$ 24,160.00	\$ 23,851.62	\$ 23,494.62	\$ 23,215.46	\$ 23,132.12	\$ 23,706.92	\$ 24,394.01	\$ 25,206.74	\$ 26,076.85	\$ 27,202.23	\$ 28,484.52	\$ 29,922.93
x (ROIC - WACC)	-0.02%	0.17%	2.17%	3.57%	5.69%	7.73%	9.44%	11.14%	12.82%	14.55%	16.16%	17.73%	19.28%
EP	\$ (4.56)	\$ 40.56	\$ 517.27	\$ 839.61	\$ 1,322.02	\$ 1,789.15	\$ 2,237.97	\$ 2,717.23	\$ 3,231.94	\$ 3,794.07	\$ 4,395.18	\$ 5,050.91	\$ 5,770.02

Crown Castle International Corp.*Weighted Average Cost of Capital (WACC) Estimation***Cost of Equity:**

Risk-Free Rate	4.21%
Beta	0.87
Equity Risk Premium	5.30%
Cost of Equity	8.80%

ASSUMPTIONS:

*10-Year Treasury Bond
Average of 2,3,4,5-year monthly
Damodaran ERP on 10/1*

Cost of Debt:

Risk-Free Rate	4.21%
Implied Default Premium	1.95%
Pre-Tax Cost of Debt	6.16%
Marginal Tax Rate	1.44%
After-Tax Cost of Debt	6.07%

10-Year Treasury Bond

YTM on CCI's 30-Year Corporate Bond

Market Value of Common Equity:

Total Shares Outstanding	433,040,000
Current Stock Price	\$140.47
MV of Equity	60,829,128,800.00

MV Weights

66.97%

Market Value of Debt:

Short-Term Debt	829,000,000
Current Portion of LTD	72,000,000
Long-Term Debt	28,756,000,000
PV of Operating Leases	349,000,000
MV of Total Debt	30,006,000,000.00

33.03%

Market Value of the Firm**90,835,128,800.00**

100.00%

Estimated WACC

7.90%

Crown Castle International Corp.*Dividend Discount Model (DDM) or Fundamental P/E Valuation Model*

Fiscal Years Ending Dec. 31	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
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EPS	\$	5.90	\$	6.40	\$	7.47	\$	8.61	\$	9.84	\$	11.17	\$	12.61	\$	14.19	\$	15.91	\$	17.80
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Key Assumptions

CV growth of EPS	2.50%
CV Year ROE	48.36%
Cost of Equity	8.80%

Future Cash Flows

P/E Multiple (CV Year)																				15.05
EPS (CV Year)																				\$ 17.80
Future Stock Price																				\$ 267.90
Dividends Per Share		5.91	6.39	6.91	7.48	8.09	8.75	9.47	10.24	11.08										
Discounted Cash Flows		5.43	5.40	5.37	5.34	5.31	5.28	5.25	5.22	5.19										\$ 125.38

Intrinsic Value as of Last FYE	\$	173.14
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Implied Price as of Today	\$	179.33
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Crown Castle International Corp.*Discounted Cash Flow (DCF) and Economic Profit (EP) Valuation Models*

Key Inputs:

CV Growth of NOPLAT	3.00%
CV Year ROIC	27.18%
WACC	7.90%
Cost of Equity	8.80%

Fiscal Years Ending Dec. 31	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
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DCF Model:

Free Cash Flow (FCF)	2974.9	3239.4	3041.8	3423.8	3831.7	4353.2	4728.8	5261.9	5862.8	6540.6
Continuing Value (CV)										147,673.24
PV of FCF	2,757.08	2,782.42	2,421.42	2,525.91	2,619.86	2,758.52	2,777.14	2,863.95	2,957.38	74,490.51

Value of Operating Assets:	98,954.19
Non-Operating Adjustments	
Add: Restricted Cash	322.84
Less: Total Debt	(30,006.00)
Less: PV of Operating Leases	(6,682.00)
Less: PV of ESOP	(29.51)
Value of Equity	62,559.52
Shares Outstanding	432.9
Intrinsic Value of Last FYE	\$ 144.52
Implied Price as of Today	\$ 149.69

EP Model:

Economic Profit (EP)	839.6	1322.0	1789.2	2238.0	2717.2	3231.9	3794.1	4395.2	5050.9	5770.0
Continuing Value (CV)										117750.3
PV of EP	778.13	1,135.51	1,424.23	1,651.07	1,857.87	2,048.00	2,228.17	2,392.20	2,547.82	59,396.55

Total PV of EP	75,459.56
Invested Capital (last FYE)	23,494.62
Value of Operating Assets:	98,954.19
Non-Operating Adjustments	
Add: Restricted Cash	322.84
Less: Total Debt	(30,006.00)
Less: PV of Operating Leases	(6,682.00)
Less: PV of ESOP	(29.51)
Value of Equity	62,559.52
Shares Outstanding	432.9
Intrinsic Value of Last FYE	\$ 144.52
Implied Price as of Today	\$ 149.69

Crown Castle International Corp.

Relative Valuation Models

Ticker	Company	Price	EPS 2022E	EPS 2023E	P/E 22	P/E 23	P/FFO 2022E	P/FFO 2023E
🏢 AMERICAN TOWER	American Tower Corporation	\$ 219.80	\$5.46	\$4.72	40.26	46.57	\$ 12.75	\$ 11.71
🏢 SBA	SBA Communications	\$ 296.02	\$4.19	\$4.50	70.65	65.78	\$ 12.19	\$ 12.64
🏢 UNITI GROUP INC.	Uniti Group	\$ 7.51	\$0.77	\$0.77	9.75	9.75	\$ 0.93	\$ 1.76
Average					27.58	25.68	12.47	12.18
🏢 CROWN CASTLE	Crown Castle International Corp.	\$140.47	\$5.90	\$6.40	23.8	21.9	\$ 9.81	\$ 10.05

Implied Relative Value:

P/E (EPS22)	\$ 162.60
P/E (EPS23)	\$ 164.35
PEG (EPS22)	\$ 467.40
PEG (EPS23)	\$ 478.31
P/B	\$ 21.71
P/Tangible BV	\$ 3.93
P/FFO 2022E	\$ 122.36
P/FFO 2023E	\$ 122.40

Crown Castle International Corp.
Key Management Ratios

Fiscal Years Ending Dec. 31	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Liquidity Ratios:																				
Current Ratio = Current Assets / Current Liabilities	1.28	1.18	1.04	1.15	1.38	0.88	0.87	0.63	0.56	0.62	3.66	2.73	3.55	4.02	3.57	4.02	4.81	5.10	5.95	5.43
Cash Ratio = Cash / Current Liabilities	0.36	0.30	0.20	0.21	0.59	0.24	0.20	0.10	0.12	0.14	3.12	2.40	3.10	3.52	3.18	3.59	4.32	4.62	5.41	4.98
Quick Ratio = (Current Assets - Prepaid Expenses) / Current Liabilities	1.19	1.01	0.86	0.99	1.24	0.75	0.75	0.57	0.51	0.57	3.60	2.70	3.50	3.97	3.53	3.97	4.75	5.05	5.89	5.38
Asset-Management Ratios:																				
Asset Turnover Ratio = Net Sales / Average Total Assets	0.15	0.16	0.18	0.17	0.18	0.16	0.17	0.16	0.15	0.16	0.17	0.16	0.18	0.19	0.20	0.21	0.22	0.23	0.23	0.24
Operating Ratio = Operating Expenses / Total Revenues	0.66	0.70	0.73	0.74	0.76	0.76	0.74	0.73	0.74	0.68	0.64	0.63	0.61	0.58	0.57	0.55	0.54	0.52	0.51	0.50
Receivables Ratio = Accounts Receivable / (Net Sales / 365)	28.93	30.18	32.57	31.21	34.77	33.32	33.72	37.75	26.94	31.26	29.81	29.81	29.81	29.81	29.81	29.81	29.81	29.81	29.81	29.81
Financial Leverage Ratios:																				
Debt to Assets Ratio = Total Liabilities / Total Assets	0.82	0.66	0.68	0.68	0.67	0.62	0.63	0.73	0.76	0.79	0.82	0.82	0.82	0.81	0.81	0.80	0.78	0.76	0.75	0.73
Debt to Equity Ratio = Total Liabilities / Total SH equity	4.45	1.97	2.14	2.11	2.00	1.61	1.72	2.67	3.10	3.73	4.48	4.66	4.48	4.30	4.18	3.88	3.54	3.25	2.94	2.74
Equity Multiplier = Total Assets / Total Equity	5.45	2.97	3.14	3.11	3.00	2.61	2.72	3.67	4.10	4.73	5.48	5.66	5.48	5.30	5.18	4.88	4.54	4.25	3.94	3.74
Profitability Ratios:																				
Gross Profit Margin = (Net Sales - COGS) / Net Sales	77.83%	65.37%	63.40%	63.93%	63.26%	64.10%	65.94%	65.54%	66.28%	68.56%	70.51%	69.62%	69.80%	69.97%	70.13%	70.29%	70.45%	70.60%	70.75%	70.89%
Return on Assets Ratio = Net Income / Total Assets	1.25%	0.46%	1.89%	6.92%	1.57%	1.38%	2.05%	2.24%	2.72%	2.81%	5.64%	5.94%	6.97%	7.84%	8.45%	9.20%	9.91%	10.43%	10.97%	11.18%
Return on Equity Ratio = Net Income / Beginning Total SH Equity	6.81%	3.18%	5.75%	22.63%	5.04%	5.88%	5.44%	7.15%	10.07%	11.58%	30.90%	33.63%	39.26%	43.97%	47.49%	49.71%	50.67%	50.60%	49.75%	48.36%
Payout Policy Ratios:																				
Dividend Payout Ratio = Dividends Per Share / EPS	0.00	0.00	1.75	0.75	3.79	3.85	3.16	2.55	2.09	2.15	1.00	1.00	0.93	0.87	0.82	0.78	0.75	0.72	0.70	0.67
EPS = (Net Income - Preferred Dividends) / Outstanding Common	0.69	0.28	1.07	4.45	0.95	1.01	1.35	1.80	2.36	2.54	5.90	6.40	7.47	8.61	9.84	11.17	12.61	14.19	15.91	17.80
Dividend Cover = EPS / Dividends Per Share	0.00	0.00	0.57	1.33	0.26	0.26	0.32	0.39	0.48	0.46	1.00	1.00	1.08	1.15	1.22	1.28	1.33	1.38	1.44	1.49

Crown Castle International Corp.*Present Value of Operating Lease Obligations*

Fiscal Years Ending Dec. 31	2012	2013	2014	2015	2016	2017	2018
Year 1	428.8	565.6	569.3	564.1	573.7	635.3	640.0
Year 2	430.3	573.1	574.7	571.3	577.6	632.8	631.0
Year 3	434.2	578.6	578.8	575.6	581.6	622.6	628.0
Year 4	437.7	582.2	580.2	579.4	579.2	618.0	623.0
Year 5	440.6	583.8	581.0	580.9	579.6	609.8	619.0
Thereafter	5761.4	7546.1	8067.1	7669.0	7741.7	7941.2	8054.0
Total Minimum Payments	7933.0	10429.4	10951.1	10540.3	10633.4	11059.7	11195.0
Less: Cumulative Interest	3235.9	4230.1	4588.6	4316.8	4370.7	4469.5	4529.1
PV of Minimum Payments	4697.1	6199.3	6362.5	6223.5	6262.7	6590.2	6665.9
Implied Interest in Year 1 Payment		289.3	381.9	391.9	383.4	385.8	406.0
Pre-Tax Cost of Debt	6.16%	6.16%	6.16%	6.16%	6.16%	6.16%	6.16%
Years Implied by Year 6 Payment	13.1	12.9	13.9	13.2	13.4	13.0	13.0
Expected Obligation in Year 6 & Beyond	440.6	583.8	581	580.9	579.6	609.8	619
Present Value of Lease Payments							
PV of Year 1	403.9	532.8	536.3	531.4	540.4	598.4	602.9
PV of Year 2	381.8	508.5	509.9	506.9	512.5	561.5	559.9
PV of Year 3	362.9	483.6	483.8	481.1	486.1	520.4	524.9
PV of Year 4	344.6	458.4	456.8	456.2	456.0	486.6	490.5
PV of Year 5	326.8	433.0	430.9	430.8	429.9	452.3	459.1
PV of 6 & beyond	2877.0	3783.0	3944.9	3817.1	3837.8	3971.1	4028.7
Capitalized PV of Payments	4697.1	6199.3	6362.5	6223.5	6262.7	6590.2	6665.9

Effects of ESOP Exercise and Share Repurchases on Common Stock Account and Number of Shares Outstanding

Current Average Strike Price:	\$ 140.78
Cost of Equity:	8.80%
Current Stock Price:	\$140.47

[illegible]

Crown Castle International Corp.*Valuation of Options Granted under ESOP*

Current Stock Price	\$140.47
Risk Free Rate	4.21%
Current Dividend Yield	4.69%
Annualized St. Dev. of Stock Returns	20.36%

Range of Outstanding Options	Number of Shares	Average Exercise Price	Average Remaining Life (yrs)	B-S Option Price	Value of Options Granted
Range 1	2,000,000	140.78	2.30	\$ 14.76	\$ 29,512,845
Total	2,000,000	\$ 140.78	2.30	\$ 22.57	\$ 29,512,845