

Redesign, Redeploy, and Re-envision Urban Corporate Headquarters: Amazon's Seattle Campus Case Study

by

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B.S. in Urban and Regional Planning
California Polytechnic State University, 2012

Submitted to the Department of Urban Studies and Planning and the Center for Real Estate in
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ABSTRACT

Corporate headquarters have tremendous impacts on cities and the built environment. As companies expand, downsize, and adapt through the business cycles and industry transformations, the size of corporate workforce and real estate holdings are in constant flux, resulting in a dynamic urban system that continues to shape and reshape physical planning and urban morphologies of cities.

This thesis focuses on corporate headquarters in an urban environment where the main campus is physically located in the downtown core or near the central business district. Using Amazon campus in Seattle as a case study, the research investigates past experiences in adaptive reuse of signature corporate headquarters in the US, explores Amazon growth and its impacts on urbanism, and develops a custom-built app that visualizes Amazon-occupied office space in Seattle to inform re-tenant and real estate disposition strategies in a futuristic scenario where Amazon shifts the activity center away from the downtown area. Local and regional planning agencies could potentially use this research as a framework for future economic resilience planning initiatives and dialogues.

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*To cities big and small —
from the past, in the present, of the future.*



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INTRODUCTION







Unlike suburban office parks that are nestled in the languid landscape at urban periphery — often with a single winding road leading to a striking “architected” office compound — an urban corporate headquarters exerts its presence at the heart of the city. General Motors’ iconic Renaissance Center complex in Downtown Detroit, built in 1977, shapes the skyline of the Motor City to present day. In Boston, the 60-story John Hancock Tower, completed in 1976, adds Modernist accent to the mid-rise residential neighborhood of Back Bay abutting the central business district. Similarly, the 52-story Devon Energy Tower in Downtown Oklahoma City, built in 2012, forms a dramatic axis with the landscape of the Great Plains, asserting the political and economic prowess of the oil and energy industries in America’s revered boom town. At \$1.1 billion, the gleaming Salesforce Tower by Pelli Clarke Pelli Architects, delivered in 2018, usurps the center of gravity amid San Francisco’s bombastic tech and startup ecosystem.

Whether they are designed as single-purpose skyscrapers to reach symbolic heights; or as well-defined campuses occupying a few city blocks; or as multiple mixed-use structures comingled and integrated into the local urban fabric, **corporate headquarters are incredibly dynamic in terms of the constant flux in space occupancy, utilization, and the ability to redeploy space to future**

tenants in an event of corporate transition.

A transition or a shift occurs naturally when the company outgrows the existing space, builds a new campus, downsizes to a smaller footprint, changes leadership and strategy, moves to another location, merges and consolidates real estate assets with another firm, or simply ceases operation.

One company currently in a veritable growth mode is Amazon. Since 2010, the Seattle-based tech juggernaut has acquired, disposed, leased, subleased, and developed properties in the Downtown Seattle area at a meteoric rate. Whether Amazon’s approach to real estate development and expansion plan appears strategic or ad hoc to outsiders, the company now has several purpose-built structures in possession (**FIGURE 1.1**).¹ While some of these character buildings certainly have Instagram-worthy architecture that projects the Amazon brand and corporate image, they may be more challenging to dispose or repurpose to other building typologies in the future compared to generic office space.

Past experiences of corporate headquarters life cycle prove the inevitability of space turnover. Whether a shift in the company’s real estate holdings is prompted by the normal

¹ *The Seattle Times*.



FIGURE 1.1 Designed by NBBJ, the bespoke “Amazon Spheres” building was completed in 2018.

business cycle (e.g. growth periods, plateaus, contractions) or a more profound change through disruption in the industry (e.g. WeWork and coworking for office; Airbnb for hotel; automation for retail and warehouses), **sooner or later every corporation will eventually need to dispose office space.**

If property disposition is foreseeable and anticipated, can Amazon easily redeploy over 14 million square feet of office space currently sitting on its real estate ledger, particularly the purpose-built structures?

As the company matures, one can entertain a scenario where CEO Jeff Bezos decides to enlist a starchitect to design an Apple-like campus in the suburb outside of Seattle — a shift in corporate real estate strategy that would require Amazon to consolidate and dispose most of office space it currently occupied in the downtown area (**FIGURE 1.2**).²

To understand Amazon growth pattern and evaluate the adaptability of Amazon’s urban corporate headquarters in Seattle, the following research questions are considered:

1. How much office space has Amazon acquired (i.e. owns and leases) in Seattle as of 2019 Q1?
2. Where are Amazon-occupied office space and buildings located in the downtown area?
3. Are these spaces easily disposed to new office tenants and / or converted to other uses?

This thesis is organized into six chapters that respond to the three research questions above:

CHAPTER 1: Introduction provides the scope of the research, explains why the topic is important, identifies research questions, and lays out the content of this thesis.

²Wikipedia.

CHAPTER 2: Urban Corporate Headquarters contains the literature review on corporate campuses and profiles five architecturally significant corporate headquarters around the US that have been adaptively reused over the years under different market conditions. This chapter also features a case study on the campus planning process, design considerations, and workplace strategy behind the new ExxonMobil headquarters in Spring, TX (North Houston), as well as the current redevelopment vision for the vacated campus in Fairfax County, VA (west of Washington, DC).

CHAPTER 3: Case Study on Amazon's Urban Corporate Headquarters in Seattle goes over the methodology for this research and gives an overview of Amazon and the City of Seattle. The second section provides a high level quantitative analysis of the office market in the Downtown Seattle area and contextualizes historical trends with the rising Amazon growth since the company moved to South Lake Union neighborhood in 2010.

The third section illustrates the transformative impacts of Amazon growth on South Lake Union and the Downtown Seattle area through a series of before-and-after maps and images to show what urban change looks like from above and on the ground.

The last section goes over the company's history and explains Amazon's approach to campus planning, real estate development, and urbanism. A custom-built app is used as data visualization tool to map known Amazon-occupied space in Seattle as of 2019 Q1.

CHAPTER 4: Redeploying Amazon Campus explores the retenant and adaptive reuse strategies. The former uses the interactive app to identify Amazon properties that are suitable to three prototype tenants' space requirements and provides a high level discussion on key site selection criteria for corporate tenants based on the conversation with a seasoned commercial real estate executive. The latter draws from the conversation with a local architect and a building engineer to discuss the evaluation criteria for adaptive reuse of Amazon-occupied space.

CHAPTER 5: Conclusion examines the broader implications of Amazon growth and explores potential design strategies and policy tools that could influence corporate behavior and mitigate the negative impacts of bespoke office buildings that may be difficult to dispose. The thesis ends with personal reflection on the research process and identifies areas for further studies.

CHAPTER 6: Appendices.



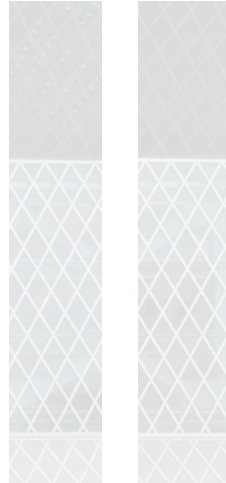
FIGURE 1.2 Unlike Amazon's urban campus in Downtown Seattle, Apple HQ is a monolithic, single-use office park in suburban Cupertino, CA (west of San Jose) that neither expands nor contracts easily.

URBAN CORPORATE HEADQUARTERS

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This chapter is divided into three sections:

2.1 Literature Review explores any relevant reports, studies, and existing literature on disciplines related to campus planning and corporate headquarters, including real estate development, design and architecture, and public policy addressing urban tech.

2.2 Corporate Icons profiles five architecturally significant corporate headquarters around the US that have been adaptively reused over the years under different market conditions.

2.3 Case Study: ExxonMobil Headquarters Relocation details the planning process, design considerations, and workplace strategy behind the new headquarters in Spring, TX (North Houston), as well as the current redevelopment vision for the vacated campus in Fairfax County, VA (west of Washington, DC).

2.1 / LITERATURE REVIEW

Four distinct but interrelated themes in the built environment emerged from the literature review on urban corporate headquarters:

- Corporate real estate as a specialized field in real estate development;

- Design and architecture of headquarters offices;
- Modern workplace strategy; and
- Public policy addressing urban tech.

CORPORATE REAL ESTATE

The literature on real estate development, specifically corporate real estate, reveals meaningful insights on corporate headquarters. First, it is important to note the distinction between commercial and corporate real estate. In commercial real estate, the business itself is a commercial property generating income or rent (e.g. hotel, retail strip mall, office building) and thus represents the supply side. On the other hand, **corporate real estate supports the business functions of non-real estate firms (e.g. Citibank, Blue Cross Blue Shield, Amazon) and thus represents the end-user or the demand side.**¹

Today, the role of corporate real estate has evolved from mainly property management (i.e. acquiring, maintaining, and disposing real estate assets) to developing workplace strategy and using real estate to “drive value for an organization.” CoreNet Global, a nonprofit association of corporate real estate professionals, identifies **four key factors that**

¹ *The Essential Guide to Corporate Real Estate*. CoreNet Global, 2015.

influence corporate real estate structure of a company:

1. The corporation's business model and philosophy (e.g. Amazon opts for an urban campus instead of building a suburban office park like Apple);
2. The corporation's position in the industry (e.g. Amazon is a market leader);
3. The corporation's life cycle stage (e.g. Amazon is in high growth stage); and
4. The size and complexity of the corporation's real estate portfolio (e.g. Amazon owns and leases millions of square feet of office space, data centers, and warehouses for logistics).²

Understanding the goals and motivations of nontraditional investors in real estate (e.g. life insurance companies) that underwrite large-scale development projects and the influence that these outside entities have on the design of urban office complexes is also instructive to this research. Sara Stevens writes, "Real estate developers believed they held the keys to a prosperous future of American cities [...] Developers play a central role, not only in the financing, but in the conception, programming, and design of projects."³ Built in 1952, the original Gateway Center complex in Downtown Pittsburgh, features three office towers with stainless steel exterior (the fourth tower was completed in 1960). As the underwriter of Gateway Center, the Equitable Life Assurance Society — a life insurance company based in New York City — also operated as the developer on this project. The Gateway Center "continued practices pioneered by Met Life and shows how the financialization of real estate development resulted in buildings that met generic criteria and downplayed connections to their local context." She continues, "The design for Gateway Center was calculated

as a real estate investment first, as an urban amenity second, and as a design exercise last." **Today, tech companies like Facebook, Google, and Amazon make up the new frontier of nontraditional real estate investors.**

DESIGN AND ARCHITECTURE

The second theme that emerged from the literature review addresses physical design and architectural elements of corporate headquarters. In her scholarship of suburban office parks and corporate estates of the post-war period, Louise Mozingo probes why corporations of the Midcentury era seek "campus-like atmosphere" and "impeccable landscaping" in their quest for the idealized workplace.⁴ Mozingo identifies "managerial hierarchy" as one of the reasons for this phenomenon in the architecture of corporate office: "As corporations had reinvented production factories in the suburbs in the first half of the 20th century to accommodate a new scale of manufacturing, so too would they reinvent management facilities in the suburbs in the second half to accommodate the new scale and scope of management." **This thesis builds on Mozingo's seminal research, but reinterprets the topic in the context of an urban environment and uses Amazon's urban campus in Seattle as a case study.**

The literature review on the design of corporate campuses would be incomplete without highlighting the work of a leading architecture firm Skidmore, Owings & Merrill (SOM) that produces "some of the most important design achievements of the 20th and 21st centuries."⁵ One of SOM's architectural masterpieces — Lever House building at 390 Park Avenue in Midtown Manhattan — was the corporate headquarters of Lever Brothers Company, the

² *The Essential Guide to Corporate Real Estate*. CoreNet Global, 2015.

³ Stevens, Sara. *Developing Expertise: Architecture and Real Estate in Metropolitan America*. Yale University Press, 2016.

⁴ Mozingo, Louise. *Pastoral Capitalism: A History of Suburban Corporate Landscapes*. MIT Press, 2011.

⁵ SOM. May 18, 2019. //www.som.com/about

manufacturer of household products.⁶ Lever House was revolutionary for many reasons. The design introduced the “glass curtain wall” style of skyscrapers, a departure from masonry high rises from that era (FIGURE 2.1).⁷ In real estate, Lever House ushered in corporate office buildings to Park Avenue’s crowded residential cluster at the heart of Manhattan. Lastly, in urban planning, the city allowed the 21-story structure to be built with no setbacks because the tower sits on the elevated horizontal massing and only occupied a quarter of the parcel. Few planning and design firms use architecture to display full ethos of companies and C-suite aspirations as successfully as SOM.

WORKPLACE STRATEGY

More than ever, office development and corporate campus planning are informed by workplace strategy. Many “future of work” trends such as the new demographics of office workers, shrinking square footage of required office space per employee (e.g. below 200 square feet per worker), workplace amenities, and changing preference in the work environment (e.g. open floor plans and coworking space over cubicle farms and private offices) influence the location strategy, design vision, and space configuration of modern office buildings. The 2019 US Workplace Survey, conducted by Gensler Research Institute, shows that “Millennials have become the largest contingent of the US workforce and Generation Z’s integration has already begun. Younger workers tend to pursue organizations that hold the same values as they do, provide a healthy work / life balance, and include the right amenities in the workplace. These shifts are driving [companies] to increasingly compete on experience and purpose.”⁸ As a

⁶ Skidmore, Owings & Merrill. *Architecture of Skidmore, Owings & Merrill Series, 1950-1962*. Monacelli Press, 2009.

⁷ Ken Smith Workshop. “Lever House Landscape Restoration.” August 4, 2019. [//kensmithworkshop.com/lever-house.html](http://kensmithworkshop.com/lever-house.html)

⁸ Gensler. March 31, 2019. [//www.gensler.com/research-insight/workplace-surveys/us/2019](http://www.gensler.com/research-insight/workplace-surveys/us/2019)



FIGURE 2.1 Lever House building was the corporate headquarters of Lever Brothers Company.

result, **modern office has become more than just a passive space where employees go sit at their desks five days a week, but a thoughtful, flexible, and active “ecosystem [...] built on variety, choice, and autonomy.”**⁹

The survey also finds that the right mix of amenities are crucial in workplace experience and workspaces that provide variety and encourage “in-office mobility” have higher effectiveness and experience scores. These variables play an important role in shaping the real estate strategy of corporations like Amazon that has over 45,000 employees in Seattle alone.

Seattle is ranked No. 8 among top 10 office markets that are ready to embrace flex space in 2019 and beyond, according to a 2019 report by a global real estate services firm JLL: “A strong tech presence makes the Emerald City a flex gem: Seattle’s population and economic growth have been among the fastest of any large US city in recent years. Its rapidly growing tech sector has powered 9.2 million square feet of new office construction, with coworking operators growing to meet the demand for interim space solutions. Despite labor shortages, public policy conflicts and high housing costs, Seattle is projected to see continued flex space growth.”¹⁰ Corporations and developers building office space in Seattle carefully consider these flexible space trends in their real estate projects.

URBAN TECH AND PUBLIC POLICY

Like cities in the Bay Area and Boston, the Seattle region is dominated by the booming tech industry. For the purposes of urban planning and public policy, a real estate and economic development consulting firm HR&A Advisors

reinterprets the “tech industry” using a cross-cutting term “tech ecosystem” to truly capture the local and regional economic performance.¹¹ HR&A defines the city’s tech ecosystem as “the employment within tech and non-tech industries that are distributed amongst all sectors of the economy.”¹² By this definition, Seattle’s tech ecosystem constitutes three components: tech jobs in tech industries (e.g. computer software engineers at Amazon), non-tech jobs in tech industries (e.g. accountants and legal at Amazon), and tech jobs in non-tech industries (e.g. web developers at Costco).

A 2017 study by a global real estate services and investments firm CBRE Group reveals that tech talent growth in the US reached 1 million employees between 2011 and 2017. As a result, the **tech industry was the top driver of office leasing activity during the 5-year period and its share of major leasing activity nationwide went from 11% in 2011 to nearly 20% in 2017.**¹³ “Significant demand for office space in top markets added tens of thousands of workers [...] raised rents to their highest levels and pushed down vacancy rates to their lowest levels,” the study shows.¹⁴

What are the longer term consequences of cities and regions that are increasingly dominated by one industry or, in the case of Seattle, a single corporation and thus becoming a company town of the 21st century? Looking into the history of legacy Rust Belt cities like Detroit, Cleveland, and Pittsburgh proves to be instructive. After stating his observation that “shrinking cities” have the tendency to focus more on demolition than construction strategies, Brent Ryan proposes five design and planning principles

⁹ Gensler. March 31, 2019. //www.gensler.com/research-insight/workplace-surveys/us/2019

¹⁰ JLL. Flexing Their Muscles: Markets to Watch in 2019. February 24, 2019. //www.us.jll.com/en/newsroom/flexible-space-office-markets-2019

¹¹ HR&A Advisors. The New York City Tech Ecosystem Study Update. 2017.

¹² Ibid.

¹³ CBRE Group. Scoring Tech Talent in North America. June 10, 2019. //www.cbre.us/research-and-reports/Scoring-Tech-Talent-2017

¹⁴ Ibid.

for “shrinking-city rebuilding.”¹⁵ At first glance, these policy ideas may not seem applicable to a prosperous city like Seattle replete with development activities and skyrocketing housing costs, but certain components and the essence of Ryan’s “palliative planning, interventionist policy, democratic decision making, projective design, and patchwork urbanism” may be useful in a forward-looking scenario for Seattle.¹⁶ For instance, **one could make a compelling case that a bold “interventionist policy” Seattle could implement today is to develop a contingency plan for change that safeguards and ensures economic resilience of the city in the longer term.** After all, “cities in general will always be incomplete, always in flux, yet always moving toward the future.”¹⁷

2.2 / CORPORATE ICONS

The design, siting, space planning, and programmatic elements of headquarters campuses can be indicative of company culture and corporate ethos. Is the headquarters an open campus or a closely monitored compound masquerades its openness with architecture? Are skyscrapers competing to be the tallest and shiniest objects of desire in the city or is the focus more on the surrounding neighborhoods at human scale? **This section appeals to the beauty, design, and architecture of corporate offices, featuring brief profiles of five iconic properties in the US that are still in operation today, but have been adaptively reused under different market conditions.** With the exception of Bell Labs in suburban New Jersey, these headquarters are located within one mile of city center in an urban setting like Amazon campus in Seattle:

1. **MetLife Building** (New York, NY) by Emery Roth & Sons, Pietro Belluschi, and Walter Gropius
2. **One Court Square** (New York, NY) by Skidmore, Owings & Merrill
3. **GMRENCEN** (Detroit, MI) by John Portman
4. **Bell Works** (Holmdel Township, NJ) by Eero Saarinen
5. **The Bon Marché Building** (Seattle, WA) by John Graham

These five properties are partly selected from the list provided by Louise Mozingo. The Bon Marché Building was added to provide local context of Seattle since Amazon has recently moved in as anchor tenant.

¹⁵ Ryan, Brent. *Design After Decline: How American Cities Rebuild Shrinking Cities*. University of Pennsylvania Press, 2012.

¹⁶ Ibid.

¹⁷ Ibid.

1 MetLife Building (Former Pan Am Building)

Location: Midtown Manhattan, New York City
 Architect: Emery Roth & Sons, Pietro Belluschi, and Walter Gropius
 Address: 200 Park Avenue

Sitting at one of the most prominent addresses in Manhattan, the octagonal, 808-foot, 59-story MetLife Building was home to Pan American Airways for two decades when it opened in 1960 (FIGURES 2.2-2.3).¹⁸ The original name for the project, Grand Central City Building, was changed to Pan Am after the airlines leased 15 floors for over \$115 million and became anchor tenant. The slender Pirelli Tower in Milan by architects Gio Ponti and Pier Luigi Nervi served as an inspiration for the design of MetLife (FIGURE 2.4).¹⁹ While it is certainly a local landmark, the Brutalist and bulky features has its critics; The New York Times called the building “gigantically second-rate”.²⁰ In 2015, Metals in Construction Magazine held a design competition to re-envision MetLife Building and six winning entries were selected (FIGURE 2.5).²¹

Today, the building’s 2.8 million square feet house a number of major corporations, including CBRE, LendLease, Blackstone Group, and Bank of America.²² Despite the

dated aesthetics from the bygone era, **MetLife Building has been generally successful in finding new trophy tenants due to a strong real estate market in New York City**, the axial location above Grand Central Station in Midtown Manhattan, and the landmark status of the building itself.



FIGURE 2.2 MetLife Building at Grand Central Station in Midtown Manhattan.

¹⁸ Wikipedia; 6sqft. August 4, 2019. //www.6sqft.com/great-game-changers-how-the-metlife-building-redefined-midtowns-architecture/

¹⁹ Wikipedia; De8 Architetti. August 4, 2019. //deotto.studio.com/portfolio/new-belvedere-pirelli/?lang=en

²⁰ 6sqft. August 4, 2019. //www.6sqft.com/great-game-changers-how-the-metlife-building-redefined-midtowns-architecture/

²¹ Bustler. August 4, 2019. //bustler.net/news/4725/how-would-you-reimagine-nyc-s-metlife-building-these-top-architects-share-their-winning-ideas

²² Compstak. August 4, 2019. //property.compstak.com/200-Park-Avenue-New-York/p/1736



FIGURE 2.3 MetLife Building was occupied by Pan Am Airlines. Pan Am removed the rooftop heliport after a fatal accident in 1977.



FIGURE 2.4 A sleeker Pirelli Tower in Milan was the inspiration for MetLife Building.

TIMELINE

▲ denotes a key date

- 1910 Project was conceived as Grand Central City
- 1960 Pan American Airways signed a 25-year lease for \$115.5 million to occupy 15 floors (613,000 square feet); name change to Pan Am Building ▲
- 1963 Building opened on March 7 ▲
- 1977 Heliport on the roof was no longer in use after a fatal accident
- 1981 Metropolitan Life Insurance Company (MetLife) acquired the building for \$400 million
- 1987 Lobby renovation
- 1991 Pan Am moved headquarters to Miami, reducing presence to four floors ▲
- 1992 MetLife removed Pan Am sign on the building
- 2002 Street entrance renovation (FIGURE 2).
- 2005 MetLife sold building for \$1.72 billion to a joint venture of Tishman Speyer Properties, the New York City Employees' Retirement System, and the New York City Teachers' Retirement System; MetLife sign remains
- 2015 Irvine Company owned 97.3% of the building
- 2016 Metals in Construction Magazine's design competition for recladding the building
- 2017 MetLife sign was changed from neon to LED light



FIGURE 2.5 Select winning entries from a 2015 design competition proposed modernizing the MetLife Building with creative lighting (LemayLAB, Ecosystem, and Sefaira, left); new addition (AECOM, center); and new façade treatment (SHoP Architects, right).

2 One Court Square (aka Citigroup Building)

Location: Long Island City in Queens Borough, New York City
 Architect: SOM
 Address: 2501 Jackson Avenue



FIGURE 2.6 One Court Square is located in Long Island City across the East River from Midtown Manhattan.

At 50 stories and 658 feet, One Court Square (aka Citigroup Building) is the tallest building in New York outside of Manhattan.²³ The building features a distinctive green-tinted glass exterior with Citi sign on all four sides and sits atop the Court Square subway station. Citigroup has been the anchor tenant since

1990 when One Court Square was built and Queens Public Library occupies 3,200 square feet on the ground floor.²⁴ Today, Citigroup has 3,000 workers onsite and 500 more at Two Court Square across the street. After announcing Long Island City as one of two HQ2 locations in November 2018, Amazon

²³ Commercial Property Executive. August 4, 2019. // www.cpexecutive.com/post/life-after-amazon-for-lics-one-court-square-office-tower/

²⁴ Curbed New York. May 1, 2019. // ny.curbed.com/2019/5/1/18525349/queens-public-library-one-court-square-long-island-city-amazon

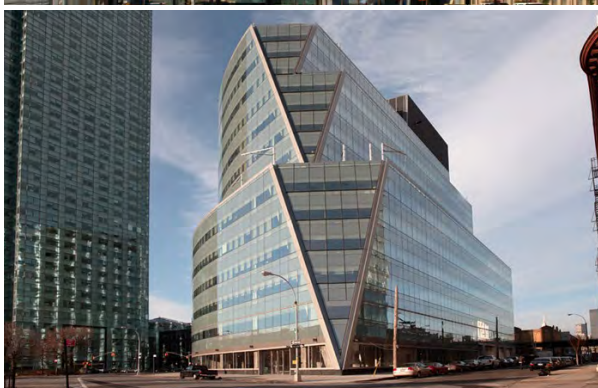


FIGURE 2.7 Citigroup is the anchor tenant at One Court Square and now moved into Two Court Square across the street (bottom image).

was going to lease 1 million square feet at One Court Square during the construction of the planned HQ2 campus at Anable Basin site nearby (**FIGURE 2.8**).²⁵ To accommodate Amazon's needs for space, Citigroup was planning to move some of its employees to Two Court Square.

However, the escalating public fallout between Amazon and HQ2 opposition groups over the \$2.8 billion economic development incentive package reached a political impasse and the deal fell apart in February 2019 on Valentine's Day.²⁶ With or without Amazon, Citigroup is moving: "[O]ur long-term plans to relocate most of our current employees in Long Island City to other New York metropolitan area locations have not changed."²⁷

Now that the Amazon deal is off the table and the anchor tenant's lease expiring in 2020 without renewal, One Court Square faces an uncertain future. **With spillover development pressure from Manhattan across the East River and intensifying gentrification in Brooklyn a few blocks away, the local real estate market in Long Island City may be strong enough to attract new trophy tenants and ensure future adaptive reuse of One Court Square's office space.**

²⁵ @BestAerialPhoto. Twitter Post. May 5, 2017, 9:19 AM. //twitter.com/bestaerialphoto/status/860529444318064640; Curbed New York. May 1, 2019. //ny.curbed.com/2019/5/1/18525349/queens-public-library-one-court-square-long-island-city-amazon; The Skyscraper Center. August 4, 2019. //www.skyscrapercenter.com/building/one-court-square/1651; Turner. August 4, 2019. //www.turnerconstruction.com/experience/project/F95/citigroup-at-two-court-square; *The New York Times*. November 22, 2018. //www.nytimes.com/2018/11/22/realestate/what-amazon-means-for-long-island-city.html

²⁶ Curbed New York. February 14, 2019. //ny.curbed.com/2018/11/16/18098589/amazon-hq2-nyc-queens-long-island-city-explained

²⁷ QNS. February 15, 2019. //qns.com/story/2019/02/15/most-of-iconic-long-island-city-tower-may-be-empty-for-months-now-that-amazon-bailed-out/

3

GMRENCEN (aka Renaissance Center)

Location: Downtown Detroit
 Architect: John Portman
 Address: 1 Renaissance Center

Located on the riverfront in the actively revitalizing and rebranding Downtown Detroit, the GMRENCEN (formerly Renaissance Center Complex) comprises seven hotel and office towers totaling 5.5 million square feet:²⁸

- **Tower 1** (1977) at the center is a 73-story, all-hotel skyscraper. Built as Detroit Plaza Hotel then changed hands to become Westin Hotel Renaissance Center and now Detroit Marriott, Tower 1 is one of the tallest all-hotel skyscrapers in the Western Hemisphere.²⁹
- **Towers 100-400** (1976) are 39 stories and sit above a renovated 5-story podium. The buildings house GM headquarters and other major tenants.
- **Towers 500 and 600** (1981) are 21 stories. Blue Cross Blue Shield of Michigan signed the lease in 2010 and relocated 3,000 employees to this location.

Completed in two phases under separate ventures, GMRENCEN epitomizes a vertical office park model in an urban setting. For better or worse, the complex bears striking resemblance — in concept, siting, and form — to the Hudson Yards development in Manhattan built 40 years later although many would argue that GMRENCEN's form is more elegant and pure.

²⁸ The Skyscraper Center. August 4, 2019. //www.skyscrapercenter.com/complex/487

²⁹ GMRENCEN. August 4, 2019. //gmrencen.com/about-the-ren-cen/

A few rounds of renovation over the decades added structural and urban design improvements to the property such as the enclosed Wintergarden atrium with riverwalk access and GM Plaza (**FIGURE 2.11**).³⁰ The Detroit People Mover, an elevated train loop serving downtown, maintains a station at Tower 200 since 1987.³¹ Today, GMRENCEN is home to 5,000 GM workers and 6,000 tenant employees, including BCBSM, Deloitte, OnStar, Urban Science, and Consulate General of Japan and Canada.³²

Secure as it may appear at the moment, a number of internal and external factors raise legitimate concerns about the fate of this landmark in the medium to long term.

While the conditions in some pockets of the city have improved over recent years, Detroit's real estate market is still weak at best, which makes it susceptible to the slightest impacts of the overdue economic downturn. In November 2018, GMRENCEN's anchor tenant, General Motors, announced another major corporate restructuring and four plant closures that “would cut 8,000 US salaried and contract jobs, representing a 15% reduction in its workforce.”³³

³⁰ @neumannsmith. Twitter Post; //gmrencen.com/gm-world/; ewiworldwide.com; //a1roll.co; //www.embarch.com/detroit-gm-renaissance-center

³¹ //www.thepeoplemover.com/station-guide/renaissance-center

³² //gmrencen.com/leasing/

³³ //www.cnn.com/2019/03/04/business/general-motors-lordstown/index.html

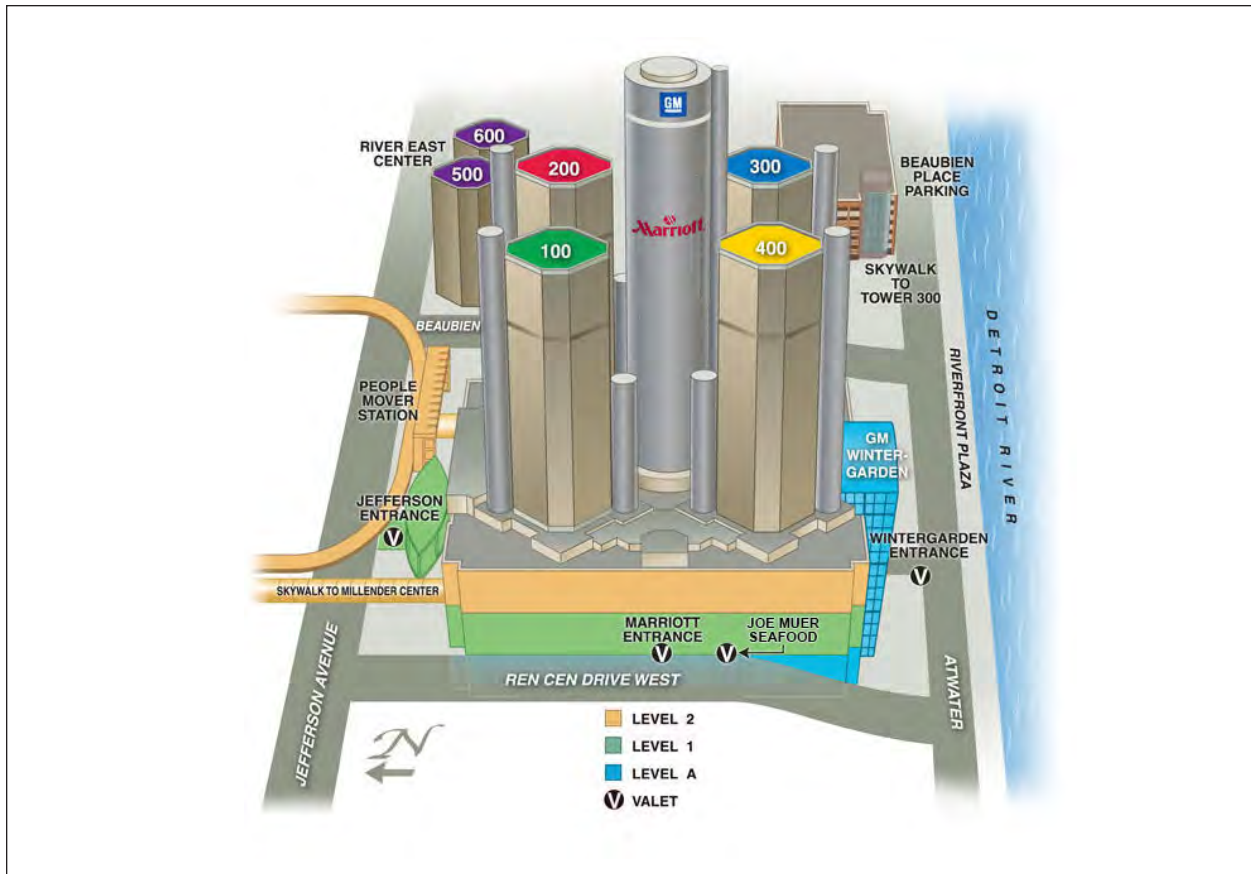


FIGURE 2.9 GMRENCEN complex features five towers on the podium.

Architecturally, the bespoke design of the GMRENCEN complex makes it difficult and costly for adaptive reuse. But the biggest cautionary tale stands four miles north of the site at Cadillac Place (FIGURE 2.12).³⁴ Since GM had downsized and vacated the building in 2001, the beautiful-but-beleaguered Cadillac Place faces ongoing challenges to fill and / or repurpose 1.4 million square feet in a weak market and at a location farther away from city center. While the building is now partially occupied by the State of Michigan's office workers, vacant ground floor spaces await new tenants to bring Cadillac Place back to life.



FIGURE 2.10 GMRENCEN complex is a riverfront site in Downtown Detroit.

³⁴ Google Maps; Pinterest. //www.pinterest.com/pin/560416747365266744/



FIGURE 2.11 Renovations by SOM and Gensler included glass walkways and Wintergarden atrium (bottom left) that provides access to the riverfront overlooking Windsor, Canada.

TIMELINE

▲ denotes a key date

- 1970 Henry Ford II announced the Renaissance Center Complex development
- 1977 Towers 1, 100, 200, 300, 400 completed (Phase I) ▲
Detroit Plaza Hotel opened
- 1981 Towers 500, 600 (Phase II) completed under a separate venture ▲
- 1986 Hotel rebranded as Westin Hotel Renaissance Center Detroit
- 1987 Detroit People Mover began operation with a station at Tower 200
- 1996 General Motors (GM) acquired the complex for \$626 million ▲
- 2001 GM vacated former headquarters at Cadillac Place ▲
Addition of an enclosed, 5-story Wintergarden atrium
- 2004 \$500-million renovation by SOM and Gensler included riverfront access
- 2009 GM filed for Chapter 11 bankruptcy protection in June at the height of the Great Recession ▲
- 2010 Blue Cross Blue Shield of Michigan (BCBSM) leased Towers 500 and 600 and moved 3,000 workers to this location
- 2011 GM added blue LED lighting on the towers
- 2015 Rebranded as “GMRENCEN” to reflect new Detroit
- 2017 40th anniversary of GMRENCEN



FIGURE 2.12 Cadillac Place is the former HQ of General Motors before the company relocated to the GMRENCEN complex.

4

Bell Works (Former Bell Labs Holmdel)

Location: Suburban Holmdel Township, NJ (population 17,000)
 Architect: Eero Saarinen
 Address: 101 Crawfords Corner Road

Located in the quaint countryside of suburban New Jersey, Bell Works (formerly Bell Labs Holmdel Complex) sits at the center of the landscaped site shaped like an elliptical. It is here in this Modernist R&D facility, designed by starchitect Eero Saarinen, where physicist and former US Secretary of Energy Steven Chu (Rick Perry's predecessor) conducted research on the "cooling and trapping of atoms with laser light" that led to his Nobel Prize in physics.³⁵

Bell Labs was a research arm of AT&T. At its peak, the facility housed over 6,000 engineers, scientists, and researchers working on cutting edge lasers and telephone technology.³⁶ The

second renovation in 1982 expanded the property to 2 million square feet comprising four structures built around a large, 70-foot-tall atrium (FIGURE 2.14).³⁷ The site was left vacant when Bell Labs moved out in 2007.³⁸

The first attempt to convert the facility from a laboratory to residential use by Preferred Real Estate Investments in mid-2000s was met with strong opposition by locals, former employees, and preservationist group.³⁹ Consequently, the plan fizzled out and the property was listed on the National Register for Historic Places in 2017.

³⁵ Wikipedia. August 4, 2019. //en.wikipedia.org/wiki/Steven_Chu

³⁶ Wikipedia. August 4, 2019. //en.wikipedia.org/wiki/Bell_Labs_Holmdel_Complex

³⁷ Wikipedia. August 4, 2019. //en.wikipedia.org/wiki/Bell_Labs_Holmdel_Complex#cite_note-Holmdel_Township-23

³⁸ NJ Advance Media. September 16, 2013. //www.nj.com/business/2013/09/bell_labs_sites_new_owner_outl.html

³⁹ Wikipedia. August 4, 2019. //en.wikipedia.org/wiki/Bell_Labs_Holmdel_Complex



FIGURE 2.13 In pure Modernist expression, the exterior of Bell Labs Holmdel Complex resembles a large mirror box.

Somerset Development has successfully acquired and rebranded Bell Labs as Bell Works “metrourb” — described on the company’s website as “a self-contained metropolis in a livable and accessible suburban location.”⁴⁰ Office space was redesigned into multiple configurations to accommodate tenants of all sizes ranging from mature corporations to small start-ups (FIGURE 2.15-2.16).⁴¹ While the use and interior of this signature building have been reprogrammed, the Modernist architecture is preserved. However, the green estate around the site is being developed into residential subdivisions by Toll Brothers.

Ironically, being in a weak real estate market outside of a major urban center made adaptive reuse of Bell Works possible. Located within an hour drive of Manhattan, Bell Works offers competitive rents and tech ecosystem for start-ups compared to New York City.

⁴⁰ Somerset Development. August 4, 2019. //www.sdnj.com/

⁴¹ Bell Works Facebook page. August 4, 2019. //www.facebook.com/BellWorks/

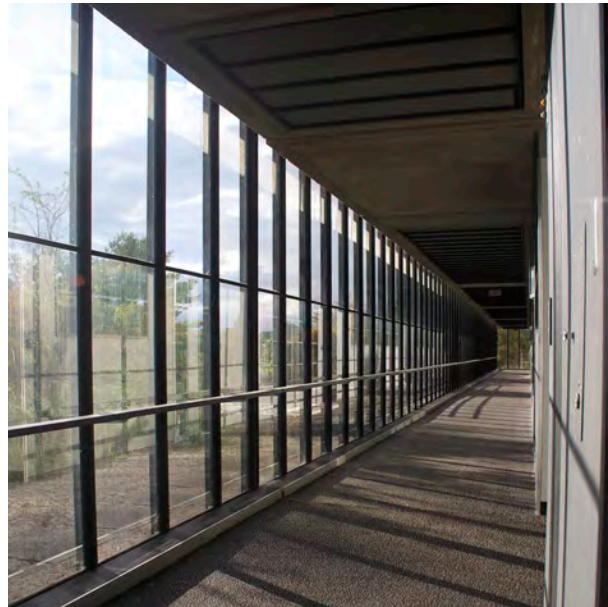


FIGURE 2.14 Bell Labs vacated the suburban site in 2007.

TIMELINE

▲ denotes a key date

- 1957 AT&T initiated the master planning process for a research facility in suburban New Jersey
- 1962 Construction of Bell Labs completed ▲
- 1966 First expansion
- 1982 Second expansion to 2 million square feet in main structure surrounded by 472 acres of parking and green space
- 2006 Public outcry against the redevelopment plan to rezone the site for residential use by Preferred Real Estate Investments
- 2007 Bell Labs vacated the facility leaving the site vacant ▲
- 2012 Township adopted a redevelopment plan for the site
- 2013 Somerset Development bought the property for \$27 million from Alcatel-Lucent
Adaptive reuse of the facility into mixed-use by Alexander Gorlin Architects
Rebranded as Bell Works (“microburb” concept) ▲
- 2016 Software company iCIMS moved in as anchor tenant with 500 employees
- 2017 Listed on the National Register of Historic Places
- 2018 Guardian Life Insurance Company signed a 15-year lease for 90,000 square feet



FIGURE 2.15 Rebranded as a “microburb,” Bell Works is now home to over 40 companies of all sizes.



FIGURE 2.16 Located within an hour drive of Manhattan, Bell Works offers attractive rents and tech ecosystem for start-ups in the New York-New Jersey region.



Macy's Building (Former The Bon Marché)

Location: Seattle, WA
 Architect: John Graham
 Address: 300 Pine Street

The modern day Macy's Building in Downtown Seattle was built in 1929 as a flagship store of The Bon Marché, a local retail establishment founded at the turn of the 19th century by Edward Nordhoff. It is the first full-block development in Seattle and features Modernist architectural elements on a retail building. The structure was carefully conceived using façade treatment and pedestrian access to make the massing look "imposing without being intimidating."⁴²

After a major renovation in 1950 that included a skybridge to the parking garage on the adjacent block and a 3-story addition, Macy's Building received a landmark designation from Seattle's Landmarks Preservation Board in 1988 for "a significant milestone in marketing, in the development of a home grown business into a major Northwest retailing establishment, and in the solid grounding of the downtown commercial district in the Pike / Pine corridor."⁴³

Faced with plummeting sales, relentless online competition, and losing appeal of shopping malls, **Macy's announced 100 store closures nationwide in August 2016.**⁴⁴ A year later, an

investment firm Starwood Capital acquired six upper floors of Macy's Building and converted retail space to office for Amazon.⁴⁵ **If seeing online retail replacing and cannibalizing traditional brick-and-mortar business is alarming, seeing two generations of retail titans now co-locate in the same building makes the arrangement even more peculiar:** "Amazon's arrival at [Macy's Building] effectively turns the building into a symbol of the past and future of retail."

Benefiting from a strong real estate market in Seattle and a prime location in downtown, the historic Macy's Building was able to scale back the retail operation while maintaining some presence on the first two levels and repurposed the upper floors to office space for its biggest competitor: Amazon (FIGURE 2.17).⁴⁶

⁴² The City of Seattle. April 11, 1988. //www.seattle.gov/Documents/Departments/Neighborhoods/HistoricPreservation/Landmarks/RelatedDocuments/bonmarche-designation.pdf

⁴³ Ibid.

⁴⁴ CNN. April 11, 2016. //money.cnn.com/2016/08/11/investing/macys-closes-100-stores/index.html

⁴⁵ GeekWire. October 16, 2017. //www.geekwire.com/2017/amazon-will-move-macys-building-landmark-seattle-real-estate-deal/

⁴⁶ UrbanAsh. August 4, 2019. //www.urbanash.com/



FIGURE 2.17 The Bon Maché before 1950 addition of three stories (top) is now home to “Amazon Blueshift” office space on the upper six floors.

TIMELINE

▲ denotes a key date

- 1890 Edward Nordhoff founded The Bon Marché at 1st Avenue / Cedar Street in Belltown
- 1896 Moved to a new location at 2nd / Pike
- 1929 Opened flagship store at 4th / Pine ▲
- 1950 Renovation included 3-story addition, parking garage on west side of 3rd Avenue, and a skybridge
- 1976 Rebranded for the first time as The Bon
- 1988 Received Seattle landmark designation
- 2003 Rebranded for the second time as Bon-Macy's
- 2004 Rebranded for the third time as Macy's ▲
- 2015 Sold upper four floors to investment firm Starwood Capital for \$65 million
- 2017 Sold additional two floors to Starwood Capital
- 2018 Amazon moved in the upper six floors and Macy's occupies the first two levels and basement ▲



FIGURE 2.18 The historic Macy's Building now has a rooftop for Amazon workers.

2.3/ CASE STUDY: EXXONMOBIL HQ RELOCATION

NEW NORTH HOUSTON CAMPUS

When ExxonMobil vacated the 117-acre campus in Fairfax County, VA in 2012, the global energy, oil, and gas corporation was in the process of relocating 2,000 employees from Fairfax to the new headquarters in Spring, TX (**FIGURE 2.19**).⁴⁷ The move was part of ExxonMobil's real estate strategy that would consolidate 25 outposts scattered around the Greater Houston region to one central location off I-45. Located approximately 30 miles north of Downtown Houston and 20 minutes away from the George Bush international airport (IAH), the new 385-acre suburban campus will be home to 10,000 workers at full buildout and integration.

How to plan and develop a new corporate headquarters from scratch for one of the world's oldest and most powerful companies with market cap upwards of \$340 billion? In 2019, ExxonMobil was ranked No. 11 on Forbes' "Global 2000" list — ahead of AT&T, Citigroup, Toyota, Microsoft, and Amazon.⁴⁸ Then-CEO Rex Tillerson's vision for Houston campus was eloquent in its brevity: "It's about people."

Through rigorous and iterative design process executed by project manager Paul Donovan and his team that grew from four people to a cavalry of a thousand, Tillerson's laconic vision was translated into the framework of eight corporate campus attributes: collaboration, efficiency, mobility, modularity, pride, safety, security, and sustainability. Steadfast to these guiding design principles, the project broke ground at the height of the Great Recession in 2010 and continued relentlessly for five years until completion in 2015. All 180 acres of the master plan was developed and the remainder of

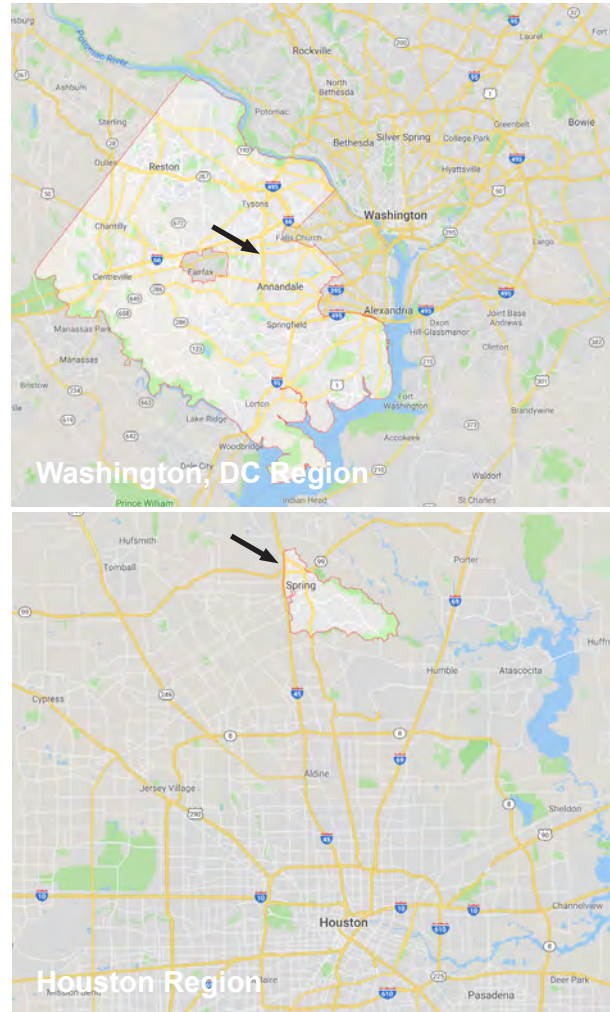


FIGURE 2.19 ExxonMobil vacated Fairfax campus just outside of Washington, DC (top) and built a new suburban HQ in Spring, TX located 30 miles north of Downtown Houston (bottom).

the 385-acre site is kept as open space for recreation, natural habitat, and potential future expansion (**FIGURE 2.20**).⁴⁹ **The list of planning and design firms that worked on the high profile project reads like a who's who of the A&E industry.** Gensler was architect of record in collaboration with Pickard

⁴⁷ Google Maps.

⁴⁸ Forbes. August 4, 2019. [//www.forbes.com/global2000/list/#tab:overall](http://www.forbes.com/global2000/list/#tab:overall)

⁴⁹ Google Maps; Hargreaves Associates. August 4, 2019. [//www.hargreaves.com/work/exxonmobil-master-plan/](http://www.hargreaves.com/work/exxonmobil-master-plan/)

Chilton and Hargreaves. A Houston-based firm PDR prepared the master plan and completed the interiors. Key highlights of the master plan include:

- 14 Class A office buildings that can hold up to 700 employees per building;
- Buildings are connected by pathways with HVAC to protect employees from the Gulf Coast's frequent torrential downpour and sweltering humidity;
- The pedestrian network provides 7-minute connections where workers can go anywhere on campus within seven minutes;
- Buildings have southeast orientation to take advantage of the prevailing wind for passive cooling;
- Three big parking garages with painted green roof;
- State-of-the-art, multi-story wellness center with access to running trails;
- Active building design that encourages people to use the stairs; and
- Large cafeteria and restaurants with food options at different price points.

Two spaces are especially notable. **The bespoke Energy Center at the main entrance on the east resembles a minimalist spaceship in the form of a rectangular prism (FIGURE 2.21-2.22).**⁵⁰ The “floating” glass cuboid is retractable for up to two feet and hovers above the edge of two buildings: the employee training center on the west and the auditorium with reception space on the east. From the Energy Center, the pedestrian corridor leads to the central green space called The Commons. Designed as public square, The Commons is raised by 30 feet and features well maintained landscaping and water elements all around the courtyard.

The North Houston campus embodies best practices in safety and sustainable design. The

⁵⁰ Hargreaves Associates. August 4, 2019. //www.hargreaves.com/work/exxonmobil-master-plan/; Google Maps; PDR. August 4, 2019. //www.pdrcorp.com/exxonmobil-1



FIGURE 2.20 The 180-acre, master planned campus sits in the ring road just west of I-45 and has 14 office buildings and three parking garages with painted green roof.

site boasts myriad tree species from different parts of the world, underlining the global reach of ExxonMobil. Green infrastructure elements large and small are seen throughout the site from tiny interventions that capture rain water to a big lake on the west side that filters drainage and features bioswales. A team of specialists collects, studies, and preserves native vegetation and animals around the site to protect biodiversity of the woodlands.

Impeccably designed, perfectly maintained, and carefully monitored, ExxonMobil's suburban headquarters operates more like a science laboratory than a real city. Currently, there is no residential use (e.g. corporate housing) in the master plan, a missing component that could make the pristine campus feels less corporate and more organic. Perhaps the campus will get better with age as the trees mature and buildings are lived in.

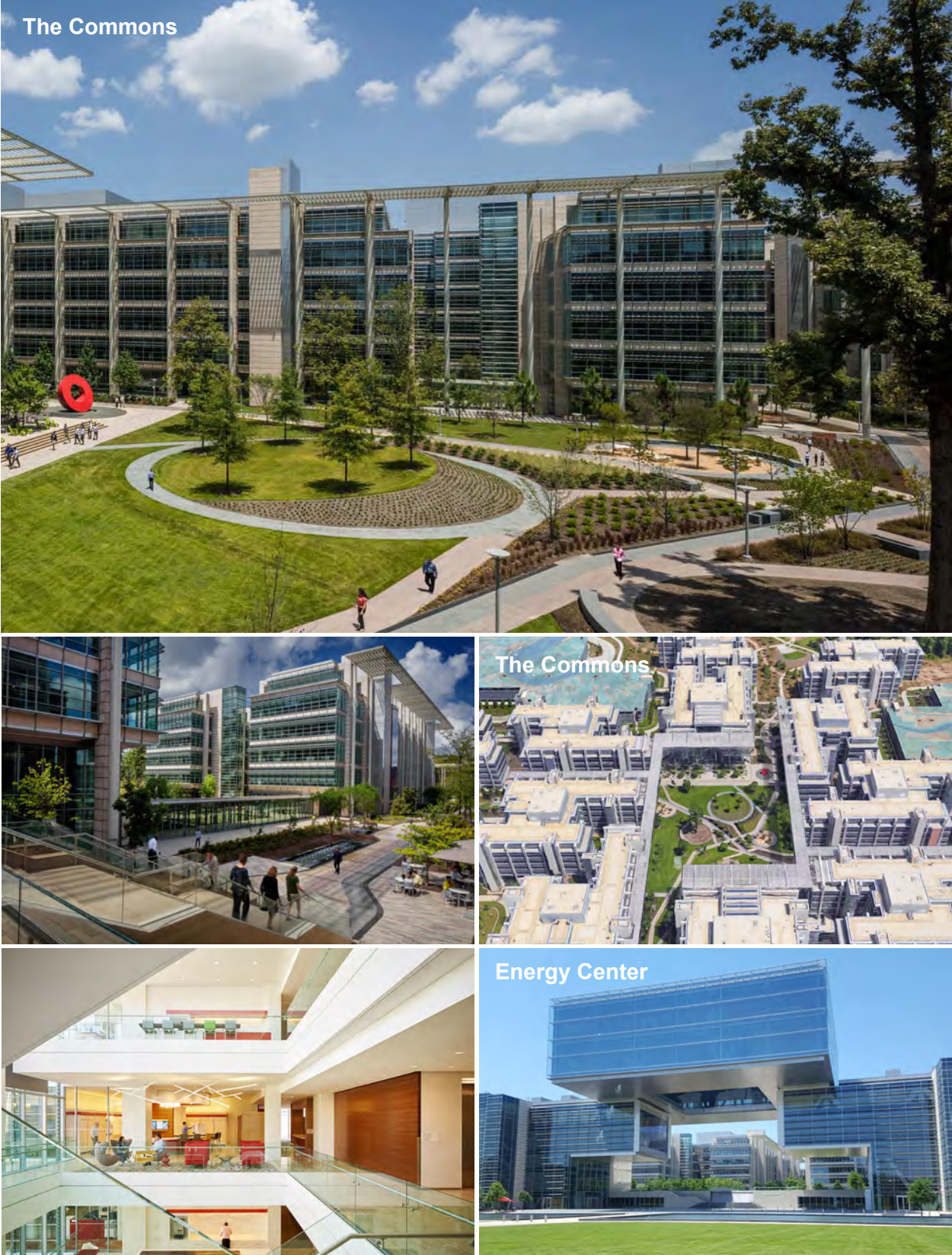


FIGURE 2.21 The Common (top and center right) is the central courtyard open space with manicured landscaping. The Energy Center (bottom right) features a “floating” glass cuboid structure.

TIMELINE OF NORTH HOUSTON CAMPUS

▲ denotes a key date

1990s	Early conversation about a new campus
1999	Exxon merged with Mobil in \$73 billion acquisition and became ExxonMobil ▲
2006	Rex Tillerson became CEO
2007-09	Site selection and planning phase
2009-11	Design phase
2009-19	Ongoing integration
2010-15	Broke ground, development phase ▲
2011	Officially announced a new Houston campus
2012	Vacated Fairfax campus (former Mobil headquarters)
2015	Houston campus opened ▲
2017	Rex Tillerson left ExxonMobil to join the Trump Administration



FIGURE 2.22 The Energy Center is located at the east entrance of the campus.

OLD FAIRFAX CAMPUS

What happened to Fairfax campus that was left behind? Nestled in 92 acres of undeveloped land and wooded areas, the 117-acre campus is situated at the southwest corner of I-495 (Capital Beltway Outer Loop) and Arlington Boulevard (Route 50), approximately 15 miles west of Washington, DC (FIGURE 2.23).⁵¹ The property was built in 1979 as Mobil headquarters before the acquisition by Exxon 20 years later. After the merger, the site continued to operate as under ExxonMobil until 2012. **Across from the site is Fairfax Hospital, one of five hospitals under Inova Health System that would unexpectedly play an instrumental role in adaptive reuse of the defunct ExxonMobil property and bring the office complex back to life.**

When Inova acquired Fairfax campus from ExxonMobil in 2015 for \$180 million, the plan was to convert the neighboring site into an “innovation and research hub” called Inova Center for Personalized Health (ICPH). The vision of former CEO Knox Singleton that gets amplified under his successor Stephen Jones relies on a similar strategy as ExxonMobil’s Houston headquarters: building a campus with “an eye on talent recruitment.” For the healthcare behemoth, this means leveraging the redevelopment to focus on a surge in partnerships, expansion of cancer and surgical care, a more cohesive health system, and a bigger investment in outpatient services.⁵²

The initial long-range expansion plan included 15 million square feet of development, but Inova is currently focusing on the first phase per recommendations of Fairfax County planners and a citizen task force. **Of the total 5 million square feet in the first phase, 3.8 million square feet will be new construction and the remaining 1.2 million square feet will be adaptive reuse.** The existing complex features

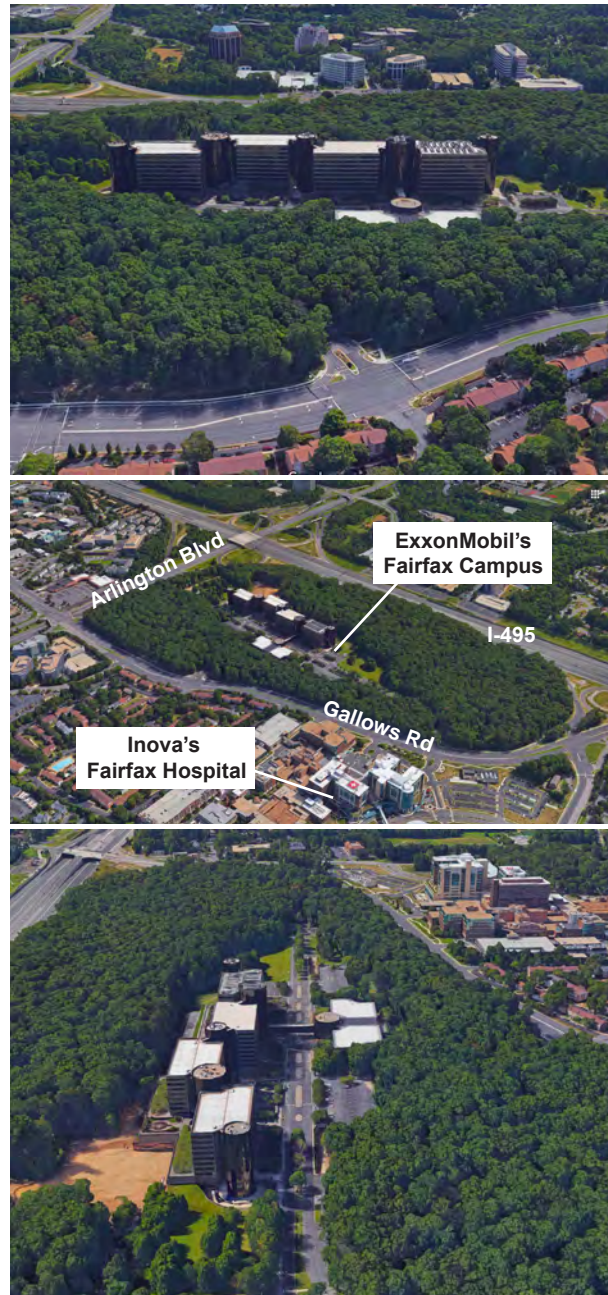


FIGURE 2.23 Inova's flagship Fairfax Hospital is across from ExxonMobil's Fairfax campus (center).

⁵¹ Google Maps.

⁵² Gilgore, Sara. "The Surgeon General." *Washington Business Journal*. March 15, 2019.

60 conference rooms, a 736-seat cafeteria, a gym, a swimming pool, a large corporate board room, and over 2,500 below-grade parking spaces.60 conference rooms, a 736-seat cafeteria, a gym, a swimming pool, a large corporate board room, and over 2,500 below-grade parking spaces (FIGURE 2.24).⁵³

from the Commonwealth of Virginia and seeks strategic partnerships with multiple higher education institutions to bring their presence and research teams onsite, including Virginia Commonwealth University (VCU), the University of Virginia (UVA), George Mason University (GMU), and Virginia Tech.

Working with the renowned architecture firm HOK (known for sports stadiums and entertainment complexes), Inova will repurpose the existing five structures into:

- Inova Clinic;
- Inova Schar Cancer Institute;
- Genomics and Bioinformatics Research Institute;
- Personalized Health Accelerator and Inova Strategic Investments; and
- Inova Sports Medicine and Center for Healthy Living.

Not only did Fairfax campus benefit from having a committed anchor institution with a clear vision for the site, one could argue that the real windfall was having an industry and company in growth mode located across the street. Inova Health System leverages economic development subsidies

⁵³ Inova. June 23, 2019. //www.inova.org/inova-center-for-personalized-health/progress



FIGURE 2.25 The proposed plan breaks the 117-acre site into seven new development blocks on the south side.

TIMELINE OF FAIRFAX CAMPUS

▲ denotes a key date

1958 Construction of Inova Fairfax Hospital began

1979 Mobil completed Phase I of Fairfax headquarters

1989 Mobil completed Phase II of Fairfax headquarters

1999 Exxon merged with Mobil in \$73B acquisition and became ExxonMobil ▲

2012 ExxonMobil vacated Fairfax campus ▲

2015 Inova acquired Fairfax campus from ExxonMobil for \$180 million in February ▲

2017 Knox Singleton announced retirement as CEO in September

2018 Stephen Jones became CEO in April



FIGURE 2.26 Rendering of the renovated building by HDR.

CONCLUDING THOUGHTS

Whether they serve as the physical address of a major airlines, an automaker, a national retailer, a research lab, or a global financial institution, corporate headquarters are remarkably dynamic and complex. More so than their suburban office counterparts that often appear to be frozen in time, urban campuses feed on the kinetic energy of city life while lending themselves to the vibrancy of the surrounding neighborhoods.

This chapter establishes the underlying framework for approaching urban corporate headquarters as a topic for the research. The literature review identifies key disciplines and emerging trends in the built environment, workplace strategy, and urban policy that influence how companies of all sizes are building, leasing, renovating, disposing, and reusing corporate real estate.

Understanding how market conditions play a critical role in shaping the outcomes of five HQ campuses around the country provides valuable insights on subsequent chapters. A close look at one corporation's ambitious plan to relocate and build a new headquarters highlights key challenges and opportunities of maintaining corporate brand and culture through planning and design. Conversely, learning about the afterlife of the vacated campus engenders hope and vision for similar properties.

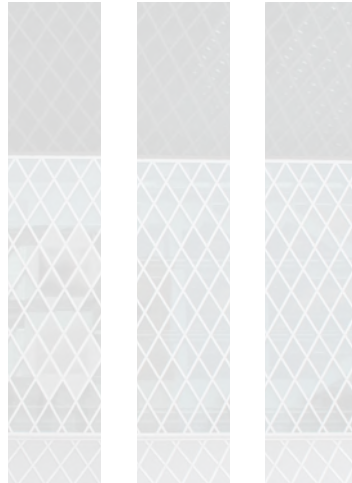
Chapter 3 builds on the foundation laid out in this chapter and zeroes in on Amazon's urban campus in Seattle as a case study. By approaching Amazon headquarters research from a diverse perspective, the chapter ultimately gets at the first two research questions on how much office space Amazon has acquired and where they are located in the Downtown Seattle area.

CASE STUDY: AMAZON HQ IN SEATTLE

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3.6	App: Visualizing Amazon-Occupied Space	79







This chapter is divided into six sections:

3.1 Dynamic Seattle gives an overview of the City of Seattle and downtown neighborhoods in the study area.

3.2 Methodology describes the approach to the research, data collection, and analysis.

3.3 Amazon Urbanism provides the history of Amazon, timeline, and a list of Amazon-occupied space in the city as of 2019 Q1.

3.4 Visualizing Urban Change illustrates the transformative impacts of Amazon growth in South Lake Union neighborhood and the Downtown Seattle area through a series of before-and-after maps and images to show what urban change looks like from above and on the ground.

3.5 Office Market Analysis provides a high level quantitative analysis of the office market in the Downtown Seattle area and contextualizes historical trends with the rising Amazon growth since the company committed to South Lake Union as its home base in 2007.

3.6 Interactive App: Visualizing Amazon-Occupied Space synthesizes data on Amazon spaces and buildings collected from multiple

sources for this research to develop a custom-built app that visualizes known Amazon-occupied space in Seattle as of 2019 Q1.

3.1 / DYNAMIC SEATTLE

Located in the verdant Pacific Northwest, Seattle is the largest city in Washington state with population reaching 730,000 in the city proper; 2.2 million in King County; and 3.9 million in the Metro region.¹ Seattle's phenomenal population growth rate of 19% since 2010 is the highest among big cities in the US.²

The Downtown Seattle area spans approximately 11 blocks west of I-5 to the waterfront — an inlet of the Pacific Ocean called Elliott Bay. The downtown core is roughly bounded by South Lake Union and Denny Triangle neighborhoods to the north, and by Pioneer Square and International District to the

¹ *The Seattle Times*. May 24, 2018. [//www.seattletimes.com/seattle-news/data/114000-more-people-seattle-now-this-decades-fastest-growing-big-city-in-all-of-united-states/](http://www.seattletimes.com/seattle-news/data/114000-more-people-seattle-now-this-decades-fastest-growing-big-city-in-all-of-united-states/); April 18, 2019. [//www.seattletimes.com/seattle-news/data/king-county-population-growth-hits-decade-low-census-data-shows/](http://www.seattletimes.com/seattle-news/data/king-county-population-growth-hits-decade-low-census-data-shows/); March 27, 2018. [//www.seattletimes.com/seattle-news/data/seattle-just-one-of-5-big-metros-last-year-that-had-more-people-move-here-than-leave-census-data-show/](http://www.seattletimes.com/seattle-news/data/seattle-just-one-of-5-big-metros-last-year-that-had-more-people-move-here-than-leave-census-data-show/)

² *Ibid.*



FIGURE 3.1 The Downtown Seattle area is highlighted in dark blue whereas the study area is highlighted in dark blue and orange. The Space Needle, Amazon Spheres, and Columbia Tower are landmarks from different eras.

south (**FIGURE 3.1**). Today, the downtown area boasts approximately 70,000 residents and 281,000 workers.³ The list of major companies, tech startups, and global corporations located in the city and the Greater Seattle region runs as long as the Burke-Gilman Trail that meanders through vibrant neighborhoods along Lake Washington: Boeing, Microsoft, Amazon, Starbucks, Alaska Airlines, Expedia, Nordstrom, Costco, Weyerhaeuser, T-Mobile, Tableau, and Eddie Bauer.⁴

³ Downtown Seattle Association. February 22, 2018. [//downtownseattle.org/2018/02/downtown-seattle-associations-state-downtown-reveals-heightened-awareness-around-housing-affordability/](https://downtownseattle.org/2018/02/downtown-seattle-associations-state-downtown-reveals-heightened-awareness-around-housing-affordability/)

⁴ Wikipedia.

Aside from iconic local landmarks that populate social media feeds and #hashtags (e.g. Space Needle, Pike Place Market, the original Starbucks), several architectural gems in the downtown area include the Seattle Central Library by Rem Koolhaas, Seattle Art Museum renovation by Robert Venturi, Olympic Sculptural Park by Weiss / Manfredi, Museum of Pop Culture by Frank Gehry, and, most recently, Amazon Spheres by NBBJ.

In early 2019, two marquee urban design projects in Seattle reached important milestones. On the west side of downtown, the Alaskan Way Viaduct — an obsolete double decker freeway built in the 1950s — was shut down and demolished, unlocking some 20 acres of open space that will reconnect the city

to the waterfront (**FIGURE 3.2**). On the east side of downtown, consultants are preparing the technical feasibility study for “Lid I-5” project that will put a cap above the freeway trench, reconnecting neighborhoods and repairing the urban fabric (**FIGURE 3.3**).

The study area of this research encompasses four neighborhoods:

- **South Lake Union (SLU)** — Home to Amazon campus since 2010, SLU is bounded by Lake Union to the north, I-5 to the east, Denny Way to the south, and Aurora Avenue (Highway 99) to the west.
- **Denny Triangle and Belltown** — Wedged between South Lake Union and Downtown, the area is bounded by Denny Way to the north, I-5 to the east, and Olive Way to the south. Many locals simply refer to the area as “Denny Regrade” as an homage to a major demolition project in the first decade of the 20th century that removed a steep

hill for early urban settlement. With active expansion of Amazon campus since 2011, Denny Triangle has virtually become an extension of downtown distinguishable not by the high rises and commercial activities, but by the rotated street grid.

- **Downtown** — The historic downtown core spans approximately 10 blocks from Olive Way on the north to James Street on the south, and from I-5 to the waterfront. The retail district is bookended by Denny Triangle and Pioneer Square.
- **Pioneer Square** — As the southern gateway to downtown, the area is home to many notable historic structures, civic buildings (e.g. old and new City Halls, King County Courthouse), and prominent Seattle landmarks (e.g. Smith Tower). Pioneer Square is a challenged part of town with high concentration of social services and street-dependent population.



FIGURE 3.2 A striking scene of people taking over the Alaskan Way Viaduct the day after its permanent closure in January 2019 gives a glimpse into the future of Seattle waterfront designed around people, not just cars. (Sources: The Seattle Times; original image; <https://durkan.seattle.gov/2019/01/mayor-durkan-announces-she-will-transmit-legislation-to-advance-seattles-new-waterfront-for-all/>)



FIGURE 3.3 Conceptual renderings of “Lid I-5” freeway capping project. (Sources: <https://www.theurbanist.org/2018/12/14/want-to-build-a-freeway-lid-over-i-5-in-seattle/>; <https://lidi5.org/chtc/>)

3.2 / METHODOLOGY

This thesis is inspired and motivated by several factors. The author's long-standing obsession and experience working with American cities, design and architecture, urban systems, and campus planning serve as the cornerstone of the research. A more recent fascination — combined with a healthy dose of skepticism in the rise of Big Tech and the powerful sector's influence in shaping public policy — help sharpen the focus of this work.

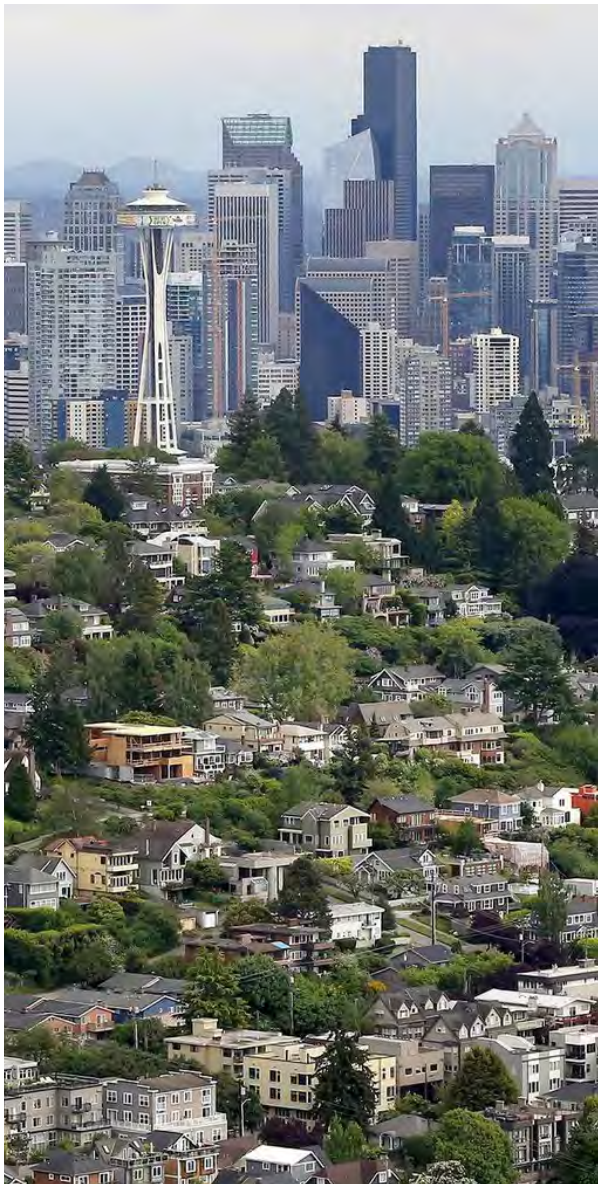


FIGURE 3.4 The Space Needle is a Seattle landmark. (Source: The Seattle Times)

Having closely followed the media coverage on the bombastic bidding process for Amazon's second corporate headquarters (HQ2) throughout 2018; wrote a research paper on rationalizing incentive package for a public policy course at Harvard Kennedy School in spring; and worked on the actual HQ2 fiscal and economic impact assessment at a consulting firm in the summer, Amazon became the most logical and compelling choice among tech companies to develop the case study.

For local context of Seattle, Amazon growth, and urban morphologies of South Lake Union and downtown neighborhoods, the author job shadowed the planning director of Seattle for four weeks in January 2019. Field work during this period included talking to city planners, local design and development professionals, and area residents, as well as going on two guided walking tours of downtown and South Lake Union organized by the Seattle Architectural Foundation. Additionally, the author also attended the Downtown Seattle Association's State of Downtown conference in February 2019.

For real estate data and insights, the author interviewed local real estate brokers specialized in commercial buildings to determine office building typologies that are attractive to tenants. Access to real estate transaction data from CoStar used in the office market analysis (Chapter 3.5) was provided by the consulting firm HR&A Advisors. For the interactive app that visualizes Amazon-occupied space in Seattle, the author utilized resources at MIT to write the code for the app.

Combined with desktop research, incisive guidance of thesis advisor Brent Ryan, and support from countless individuals, these interactions and engagements provided leads, sparked ideas, and inspired confidence in the research.

3.3 / AMAZON URBANISM

Before Amazon became a global corporate powerhouse with over 640,000 employees worldwide, the company was an internet startup selling books online with a scrappy brick-and-mortar operation in a garage.⁵ Twenty-five years later, **Amazon reported \$59.7 billion in net sales, \$3.6 billion in profits, and market cap of over \$937 billion.**⁶ While the tech giant's business model for online retail — rooted in the obsession with customer service — is now a case study staple for MBA programs everywhere, Amazon's unique approach to real estate development, corporate architecture, and urbanism also deserves a closer look.

The online bookstore that Jeff Bezos, then 30, founded in 1994 occupied five office spaces in the downtown area before picking South Lake Union as the permanent address for its current headquarters (FIGURE 3.6):⁷

- Chromer Building in downtown;
- Pacific Medical Tower on Beacon Hill;
- Two buildings at Union Station development in International District; and
- Office space at Columbia Tower in Pioneer Square.⁸

The game changer took place in 2007 — notably in the months leading to the Great Recession — when Amazon announced the plan for an urban campus in South Lake Union, then a moribund part of town replete with industrial warehouses for backend uses such as dry cleaners for downtown department stores and hotels. **When Amazon physically moved into a collection of 11 leased office buildings in South Lake Union in 2010, a complete transformation of land use and neighborhood character ensued.** Industrial properties, vacant blocks, empty warehouses, and marginal land use

⁵ *The Seattle Times*. April 26, 2019. //www.seattletimes.com/business/amazon/amazon-posts-3-6-billion-quarterly-profit-outrunning-expectations/

⁶ Ibid.

⁷ Urban Visions, Amazon, The Opus Group.

⁸ *The Seattle Times*. December 22, 2007. //www.seattletimes.com/business/amazon-to-make-giant-move-to-south-lake-union/



FIGURE 3.5 Amazon has catalyzed the area-wide revitalization of South Lake Union and adjacent neighborhoods since 2010. (Source: Vulcan)



FIGURE 3.6 Amazon occupied several buildings in the Downtown Seattle area before building an urban campus.

that populated underutilized lots have been actively redeveloped into Class A office space and high-quality housing stock that are parts of a thriving, large-scale urban neighborhood today that becomes an extension of Downtown Seattle (**FIGURE 3.5**).

That Amazon chose a downtown campus and embraced urbanism over the suburban office park paradigm of the post-war period was no accident. Rather, it was a “very conscious decision” by Jeff Bezos.⁹ When the company worked on the expansion plan in 2005, “his only condition was to stay in downtown,” said the company’s Director of Real Estate John Schoettler.¹⁰

As of 2019 Q1, Amazon occupied at least 42 office spaces (owned and leased) in South Lake Union and the Downtown Seattle area with additional six spaces or more under construction and pre-leased. This represents over 14 million square feet of prime real estate

in city center occupied by a single corporation and approximately 20% of all office supply in

Seattle.¹¹ The actual undisclosed numbers are likely to be higher as Amazon is a WeWork tenant and may have a few satellite offices elsewhere in the city for logistics purposes.

According to the RFP solicitation for the second corporate headquarters (“HQ2”) issued in September 2017, the company disclosed that **between 2010 and June 2017 Amazon spent \$3.7 billion on capital investment in 33 buildings and infrastructure; \$1.4 billion on operations and maintenance; and \$25.7 billion on employee compensation.¹²**

These remarkable statistics on the meteoric growth rate, economic development, and real estate investments — all taken place in less than a decade — make Amazon campus and the City of Seattle an aptly timed case study for urban corporate headquarters research.

⁹ *The Seattle Times*. November 30, 2017. //www.seattletimes.com/business/amazon/thanks-to-amazon-seattle-is-now-americas-biggest-company-town/

¹⁰ Ibid.

¹¹ The estimate includes 722,000 square feet pre-leased space at Rainier Square Tower. Amazon backed out of the lease in February 2019 and is planning to sublease all 722,000 square feet.

¹² See Appendix A for a copy of Amazon HQ2 RFP.



FIGURE 3.7 South Lake Union neighborhood in the 2000s before Amazon moved in. (Source: The Seattle Times)

AMAZON TIMELINE + MILESTONES

▲ denotes a key date

1994 Jeff Bezos, then 30, founded Amazon at a garage in Bellevue, WA

1995 Amazon.com went live on July 16 ▲

1997 Company went public with an IPO (initial public offering) of \$18 per share ▲

1990s Leased two floors at Chromer Building in Downtown

Leased two spaces at Union Station development in International District

Leased space at Columbia Tower in Downtown

1997 One-millionth customer placed an order in October

1998 Leased Pacific Medical Tower in Beacon Hill neighborhood

2005 Introduced Amazon Prime with free 2-day shipping

2006 Introduced Amazon Web Services (AWS) ▲

2009 Rufus, Amazon's beloved mascot Corgi, passed away in May

2010 Vacated Pacific Medical Tower

Moved to South Lake Union urban campus comprising 11 buildings ▲



FIGURE 3.8 As the company expands, Amazon's corporate architecture becomes taller and bolder like this Amazon Spheres building completed in 2018 by NBBJ. (Source: Benjamin Benschneider)

- 2011 Started leasing spaces in Denny Triangle area
 Vacated both spaces at Union Station development
- 2012 Acquired South Lake Union campus for \$1.16 billion ▲
 Acquired three blocks in Denny Triangle to build high-rise office towers ▲
- 2016 Introduced Amazon Go, a convenience store concept with no cash registers
- 2017 Acquired Whole Foods chain for \$13.7 billion
 Issued RFP for second headquarters (HQ2) in September and received 238 bids from interested cities across North America ▲
- 2018 Announced 20 finalists for HQ2 in January
 Rejected Seattle City Council’s proposed \$275-per-employee “head tax” on large corporations to pay for affordable housing and homeless services in June
 Jeff Bezos’ net worth exceeded \$150 billion, making him the richest man in the world in July
 Achieved \$1 trillion valuation in September ▲
 Selected Crystal City (in Arlington County, Northern Virginia) and Long Island City (in Queens Borough, NYC) as two HQ2 locations in November ▲
- 2019 Backed out of Long Island City HQ2 commitment on Valentine’s Day ▲
 Backed out of Rainier Square Tower lease (722,000 square feet) in Downtown
 Signaled the plan to shift the activity center away from Seattle by moving the Worldwide Operations Team (a key division) to Bellevue, WA ▲



FIGURE 3.9 Amazon has updated its corporate logo three times in 1995-98 (left), 1998-2000 (center), and 2000-Present (right).



FIGURE 3.10 Rendering of Amazon skyscrapers and Amazon Spheres at Denny Triangle. (Source: NBBJ)

LIST OF KNOWN AMAZON-OCCUPIED SPACE IN THE DOWNTOWN SEATTLE AREA AS OF 2019 Q1

- | | | | |
|-----|----------------------|-----|-----------------------|
| 1. | Amazon Alexandria | 25. | Amazon Lowflyinghawk |
| 2. | Amazon Amelia | 26. | Amazon Mayday |
| 3. | Amazon Apollo | 27. | Amazon Meeting Center |
| 4. | Amazon Arizona | 28. | Amazon Nessie |
| 5. | Amazon Atlas | 29. | Amazon Obidos |
| 6. | Amazon Bigfoot | 30. | Amazon Oscar |
| 7. | Amazon Blackfoot | 31. | Amazon Otter |
| 8. | Amazon Blizzard | 32. | Amazon Port 99 |
| 9. | Amazon Blueshift | 33. | Amazon Prime |
| 10. | Amazon Brazil | 34. | Amazon Roxanne |
| 11. | Amazon Coral | 35. | Amazon Ruby |
| 12. | Amazon Cricket | 36. | Amazon Rufus |
| 13. | Amazon Dawson | 37. | Amazon Stackhouse |
| 14. | Amazon Day 1 | 38. | Amazon Spheres |
| 15. | Amazon Delight | 39. | Amazon Toaster |
| 16. | Amazon Doppler | 40. | Amazon Triumph East |
| 17. | Amazon Fiona | 41. | Amazon Triumph West |
| 18. | Amazon Galaxy | 42. | Amazon Unicorn |
| 19. | Amazon Gatsby | 43. | Amazon Van Vorst |
| 20. | Amazon Houdini North | 44. | Amazon Varzea |
| 21. | Amazon Houdini South | 45. | Amazon Wanwright |
| 22. | Amazon Houston | 46. | “Block 18” |
| 23. | Amazon Invictus | 47. | “Block 20” |
| 24. | Amazon Kumo | 48. | “Block 21” |

Note: Amazon is also a WeWork tenant and has a few co-working spaces in Seattle that are not on the list.



As of 2019 Q1, Amazon occupied at least 42 office spaces (owned and leased) in South Lake Union and the Downtown Seattle area with additional six spaces or more under construction and pre-leased.

This represents over 14 million square feet of prime real estate in city center occupied by a single corporation and approximately 20% of all office supply in Seattle.”



FIGURE 3.11 Rendering of Amazon skyscrapers and Amazon Spheres at Denny Triangle. (Source: NBBJ)

3.4 / VISUALIZING URBAN CHANGE

Amazon announced the plan for South Lake Union in 2007 and physically occupied the new campus comprising 1.6 million square feet across 11 buildings in 2010.¹³ As South Lake Union headquarters got build out to the height limits of 240 feet in general areas and Amazon started to outgrow the neighborhood, the e-commerce giant expanded south of Denny Way into Denny Triangle area and eventually reaching the downtown core (FIGURE 3.13). In that process, Amazon started to take bolder approach to architecture and development, building each new office tower taller than the last and erecting a symbolic bespoke structure called the Amazon Spheres.

At the rate that Amazon was expanding, many parts of Seattle's neighborhoods and skyline have been actively transformed — both directly as a result of Amazon growth and indirectly through induced development pressure. This section illustrates the transformative impacts of Amazon growth in South Lake Union neighborhood and the Downtown Seattle area through a series of before-and-after maps and images to show what urban change looks like from above and on the ground.

Two illustrations of the Elephant Car Wash billboard (a local landmark) — completed ten years apart in 2009 and 2019 by Gabriel Campanario — capture the essence of urban change (FIGURE 3.12). The 2009 image on the left shows the Space Needle, two cranes, low-rise buildings, and the silhouette of a mid-rise structure in the background whereas the 2019 version on the right illustrates a hyper-urban backdrop with high density, tall buildings, skyscrapers, and a crane. “But despite all the transformation, the good old pink elephant keeps grinning and spinning, perhaps reminding us to keep a good attitude in the face of so much change,” Campanario muses.

¹³ *The Seattle Times*. December 22, 2007. //www.seattletimes.com/business/amazon-to-make-giant-move-to-south-lake-union/

2009



2019



FIGURE 3.12 Illustrations of the Elephant Car Wash billboard in Denny Triangle capture urban change from 2009 and 2019. (Source: The Seattle Times)

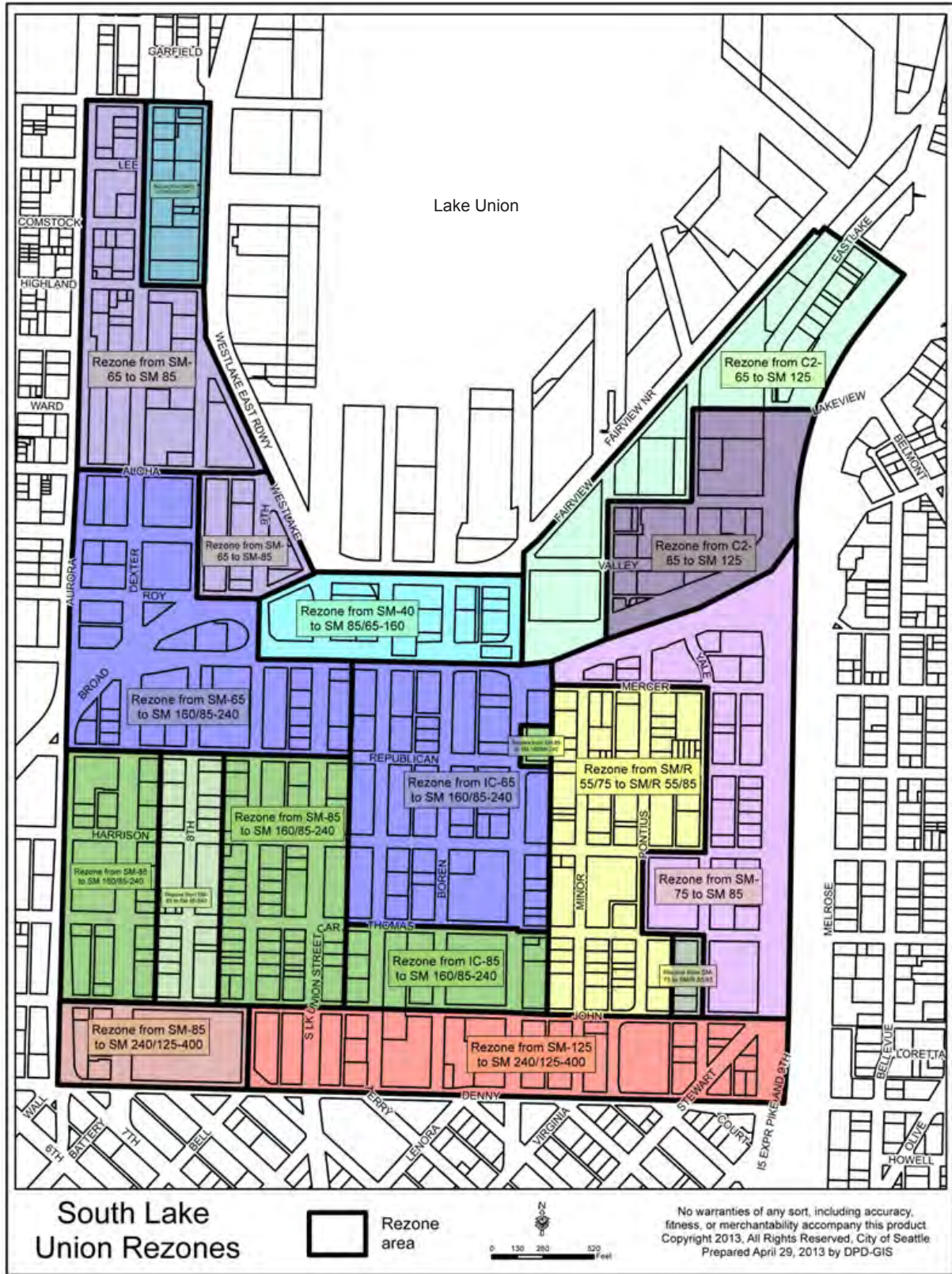


FIGURE 3.13 South Lake Union was upzoned in 2013 to 240 feet height limits in general areas and up to 400 feet along Denny Way. (Source: City of Seattle)

Urban Change from Above: Aerials of South Lake Union from 2002 to 2019

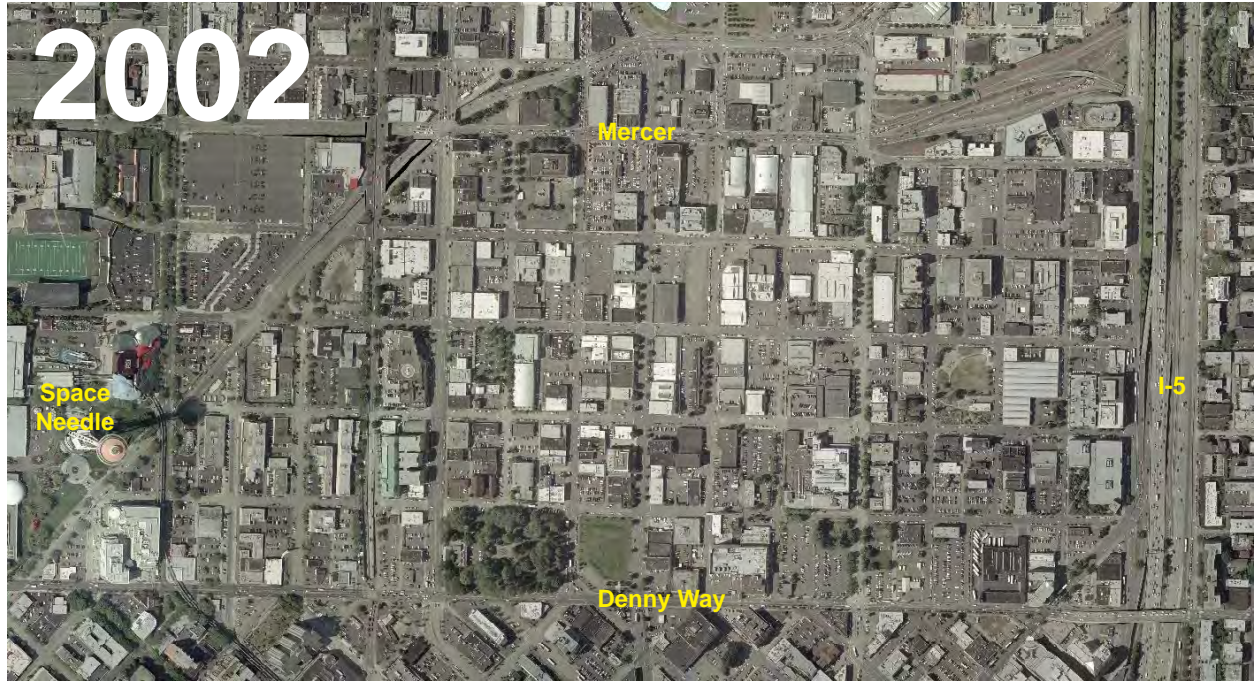


FIGURE 3.14 GIS aerials were taken from the City of Seattle's SDCI Geocortex.



FIGURE 3.15 GIS aerials were taken from the City of Seattle's SDCI Geocortex. 2015 was the latest update of the city's aerial database.

Now directly comparing 2007 and 2019 aerials:

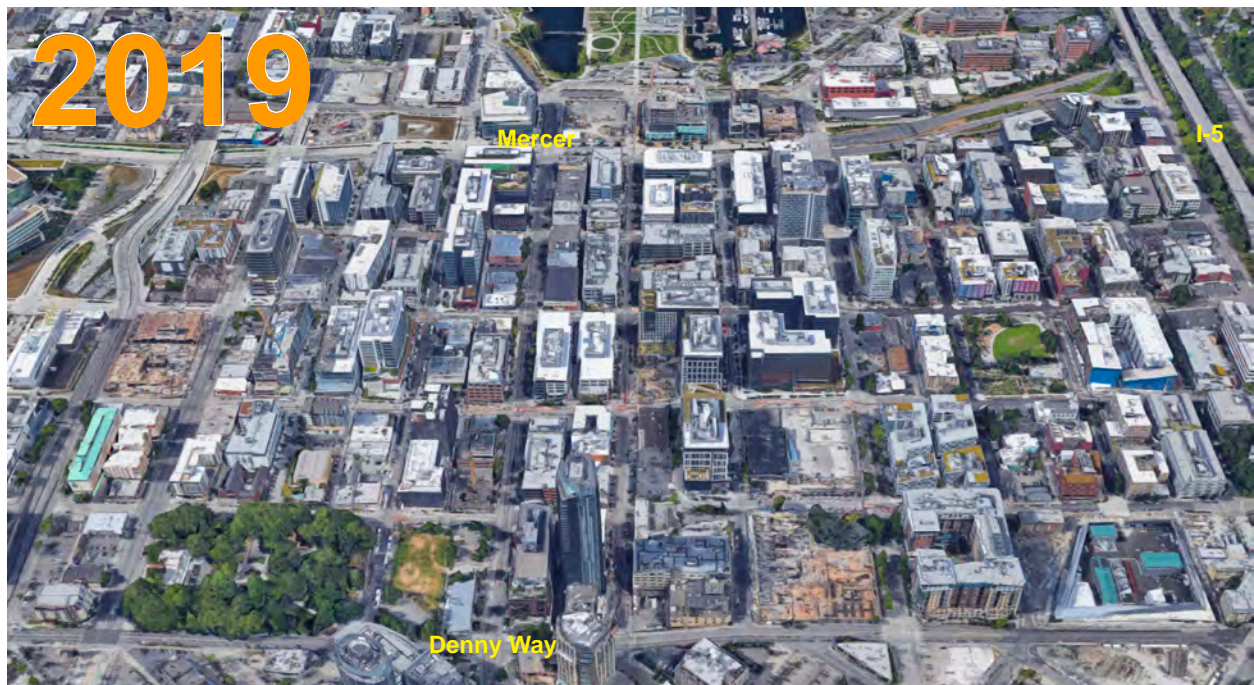
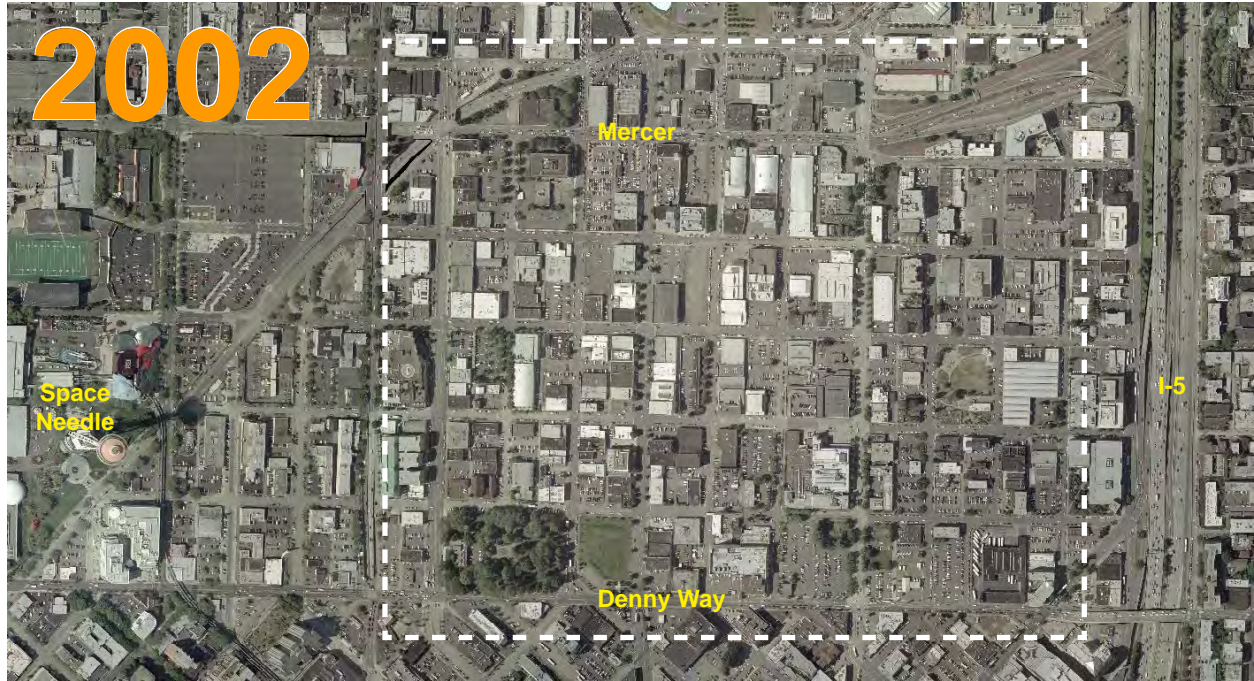
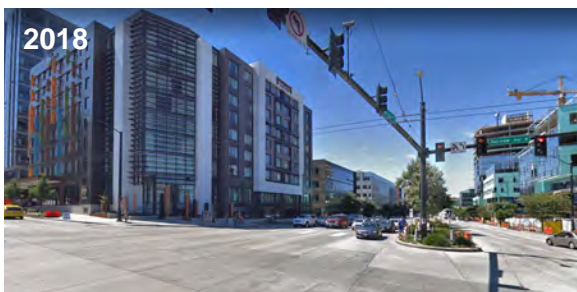
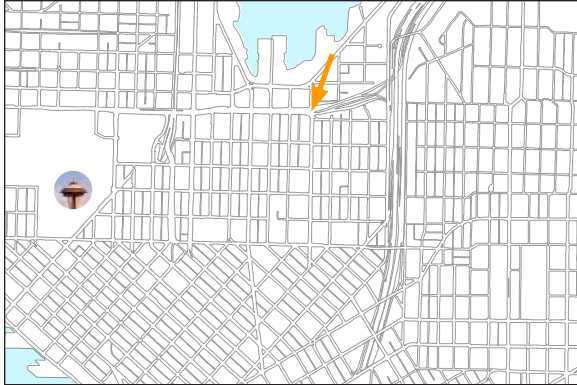


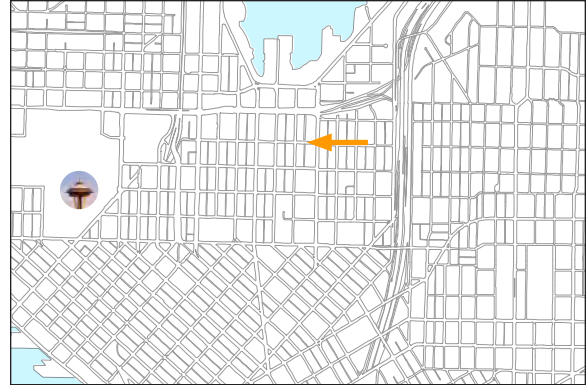
FIGURE 3.16 2002 aerial was taken from the City of Seattle's SDCI Geocortex. 2019 aerial was taken from Google Maps.

Urban Change on the Ground: Street Views from 2007 to circa 2019

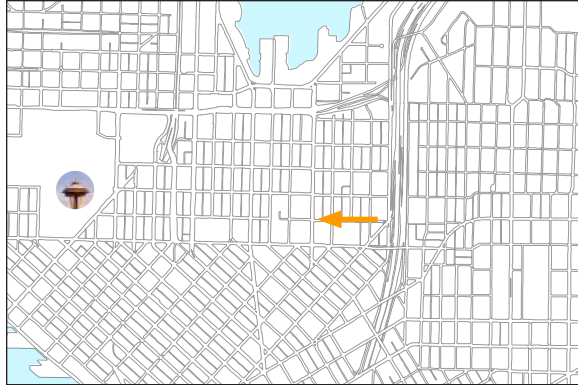
Fairview & Mercer looking south



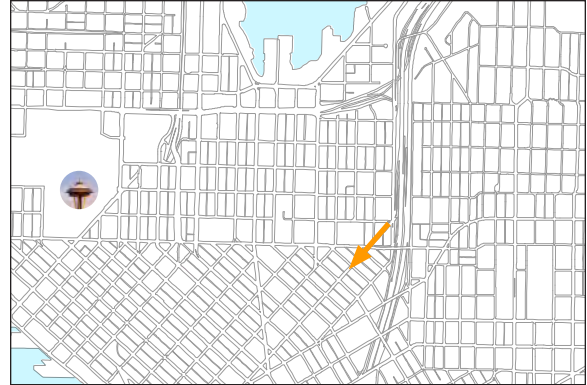
Republican & Boren looking west



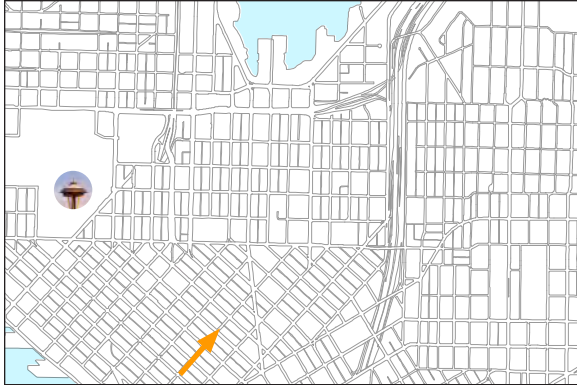
Fairview & Thomas looking west



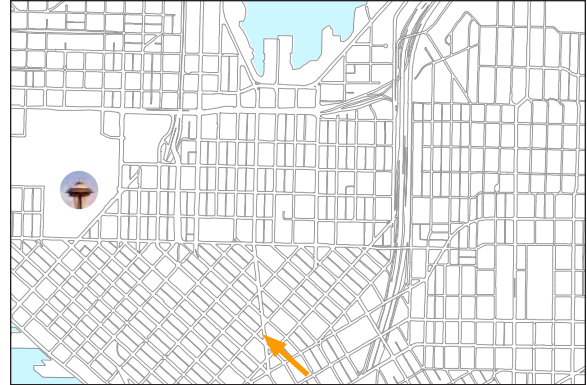
Boren & Stewart looking southwest



6th & Lenora at Amazon Spheres block



6th & Westlake looking northwest



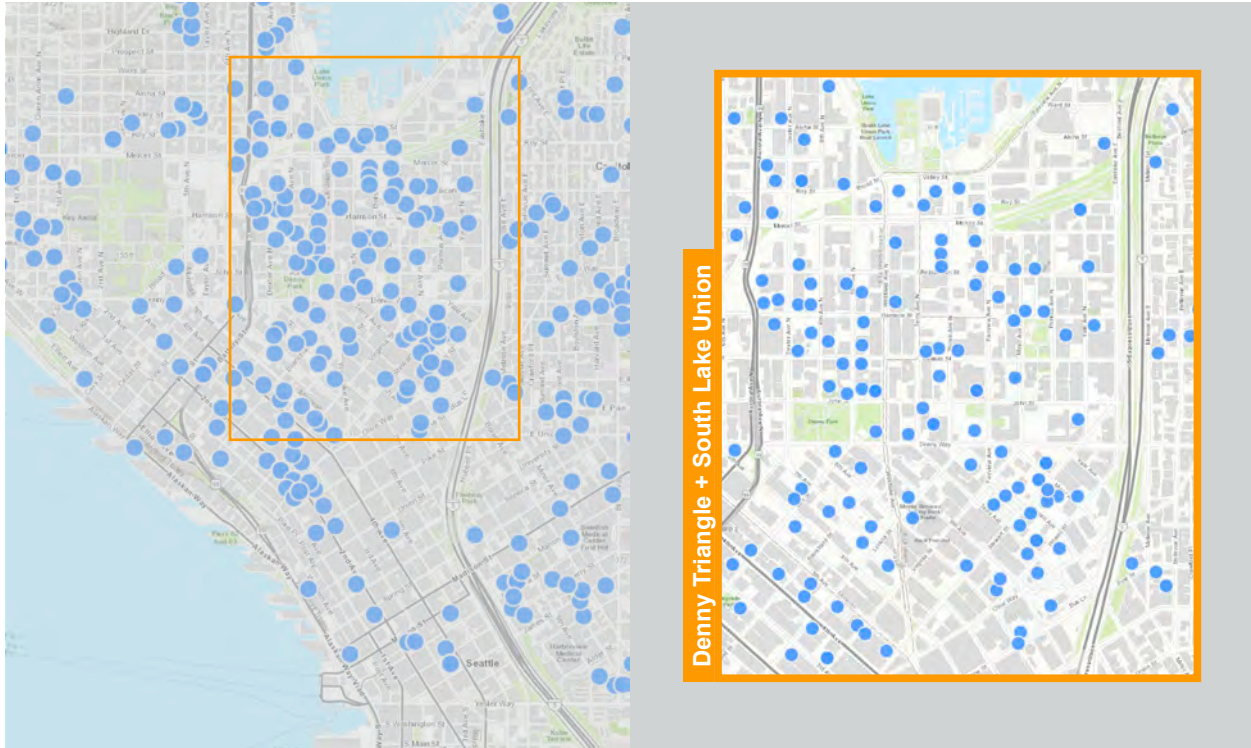


FIGURE 3.17 Active development projects in the study area as of April 2019. (Source: City of Seattle)

3.5 / OFFICE MARKET ANALYSIS

Seattle is experiencing a supercharged and sustained construction boom that started in the last decade. **Development activities have been so remarkable that at one point in 2018 as many as 65 construction cranes dotted the Emerald City’s skyline — more than New York City (20) and Los Angeles (36) combined from the same period.**¹⁴ The meteoric growth rate of the past decade may be fueled by Amazon growth and the agglomeration effects of companies wanting to locate near Amazon. Building an urban campus instead of a suburban headquarters was “a decision that sparked massive change all around Seattle and turned the company’s [South Lake Union] neighborhood into one of the most booming tech scenes in the country.”¹⁵

¹⁴ *The Seattle Times*. July 18, 2018. //www.seattletimes.com/business/real-estate/seattle-tops-the-nation-in-tower-cranes-for-third-straight-year-as-construction-reaches-new-peak/

¹⁵ GeekWire. December 14, 2015. //www.geekwire.com/2015/amazon-launches-new-era-with-opening-first-tower-at-new-seattle-campus/

Each blue dot in **FIGURE 3.17** represents an active project in the study area as of April 2019. The inset map shows development activities in South Lake Union and Denny Triangle neighborhoods.

This market analysis reflects office building data in five real estate submarkets as defined by CoStar at yearend 2018:¹⁶

- South Lake Union¹⁷
- Denny Triangle / Belltown
- Downtown
- Pioneer Square
- Waterfront

¹⁶ CoStar data was retrieved on March 28, 2019.

¹⁷ South Lake Union boundaries were drawn manually using the polygon tool in CoStar: Aloha Street and Lake Union to the north, I-5 to the east, Denny Way to the south, and Aurora Avenue to the west.

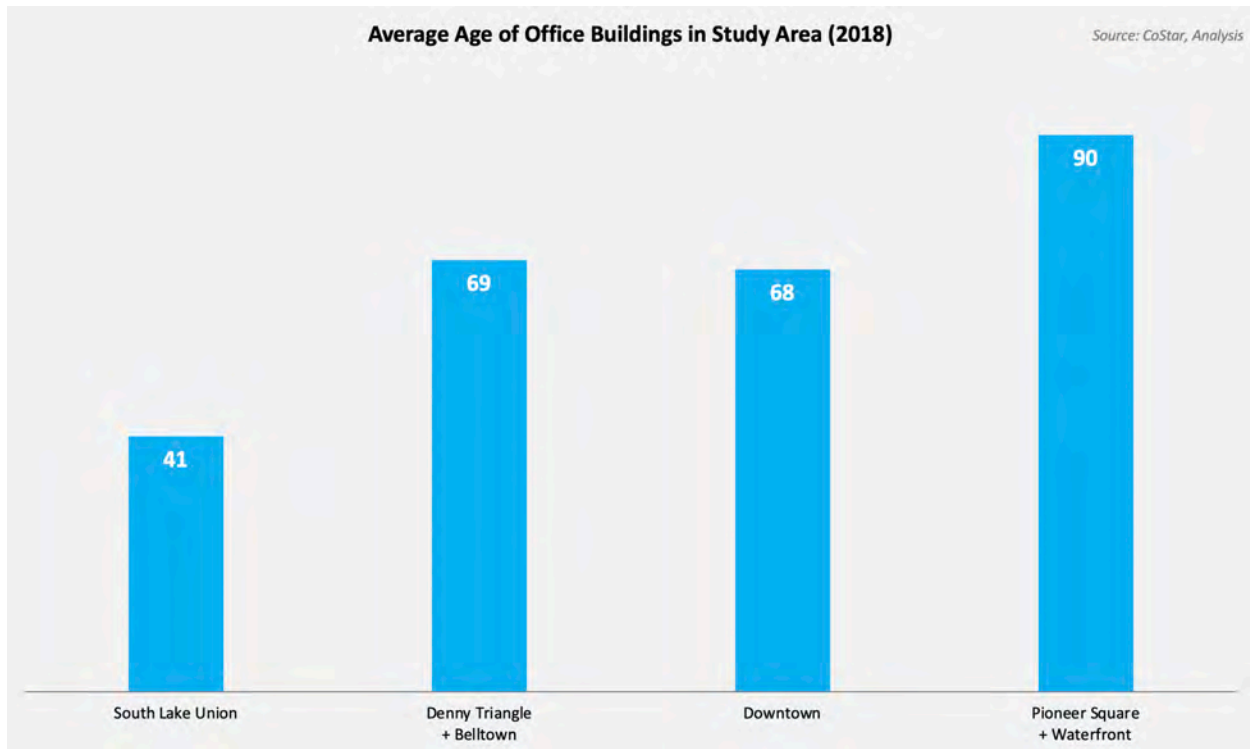


FIGURE 3.18 Office buildings in South Lake Union are nearly 30 years newer on average.

OFFICE INVENTORY

Of 435 office buildings in the study area, 78 are located in South Lake Union. On average, office buildings in South Lake Union are nearly 30 years newer when compared to buildings in other areas (**FIGURE 3.18**).

Since the neighborhood has newer building stock, South Lake Union naturally contains the most Class A office space — more than other areas combined (**FIGURE 3.19**). This number is going to be even higher when the projects under construction are delivered in 2019, bringing Class A office space in South Lake Union to 8.7 million square feet. **While Downtown has 3.7 times more office space than South Lake Union overall, only 12% of the stock is Class A compared to nearly 75% in South Lake Union.** Despite a substantial number of pipeline projects, Class A office in Downtown will only increase to 5.4 million square feet total because 60% of projects under construction are Class A, which is 8% less than South Lake Union.

Since moving to South Lake Union, Amazon's presence in the neighborhood has grown significantly from 1.6 million square feet in 2010 to over 4.8 million square feet at yearend 2018 (**FIGURE 3.20**). This makes Amazon the dominant office tenant in South Lake Union at over 52% share. Similarly, the tech giant has strong presence in Denny Triangle with the delivery of two 36-story office towers that sandwiched the bespoke Amazon Spheres structure. The third tower on the next block will be completed in 2019, adding another 1.1 million square feet to the inventory.

In Downtown, Amazon leases the top six floors of the historic Macy's Building (profiled in the previous chapter). Additionally, the company will be subleasing 722,000 square feet at Rainier Square Tower after backing out of the lease in February 2019.

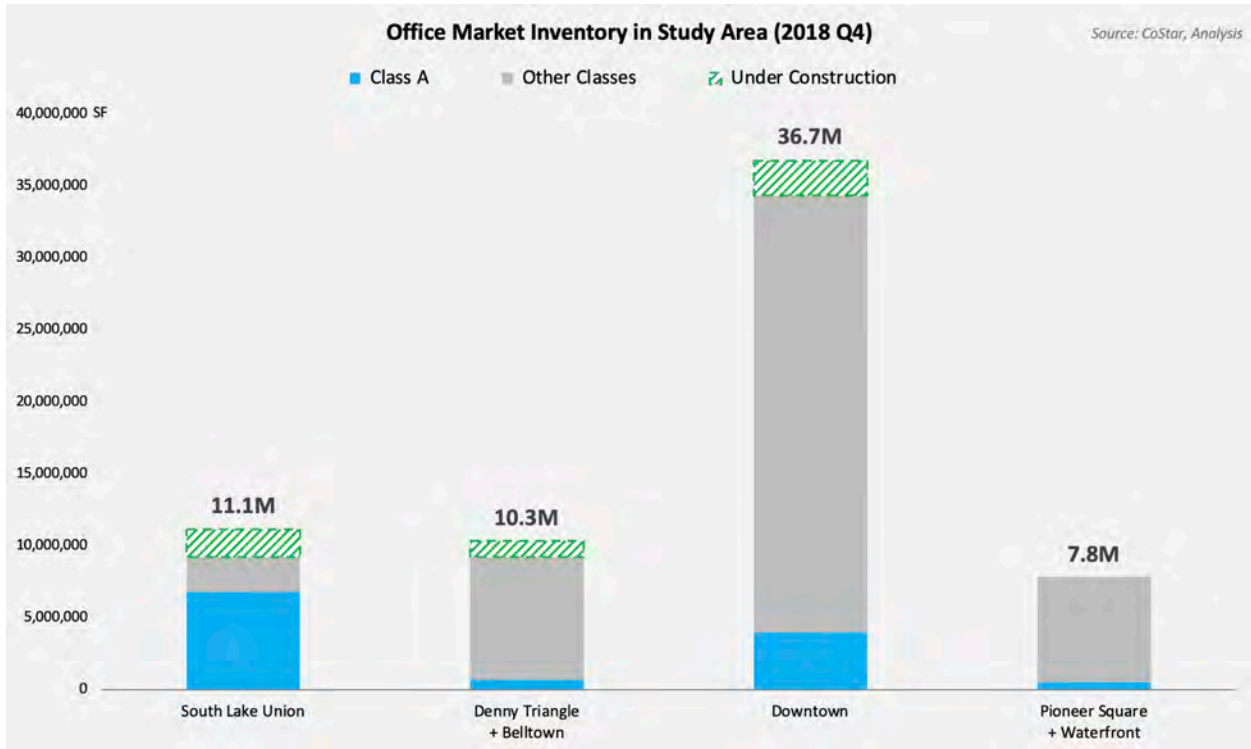


FIGURE 3.19 South Lake Union has more Class A office space than other areas combined.

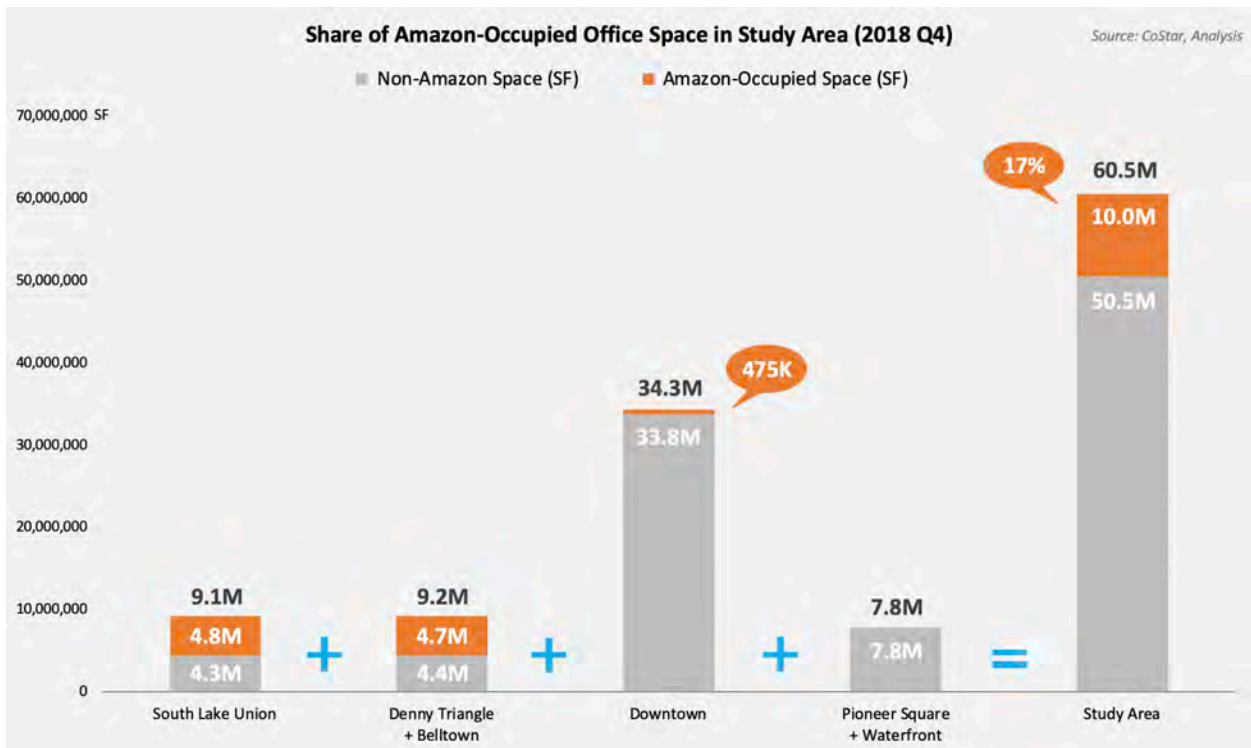


FIGURE 3.20 Amazon accounts for 17% of office space in Seattle as of yearend 2018.

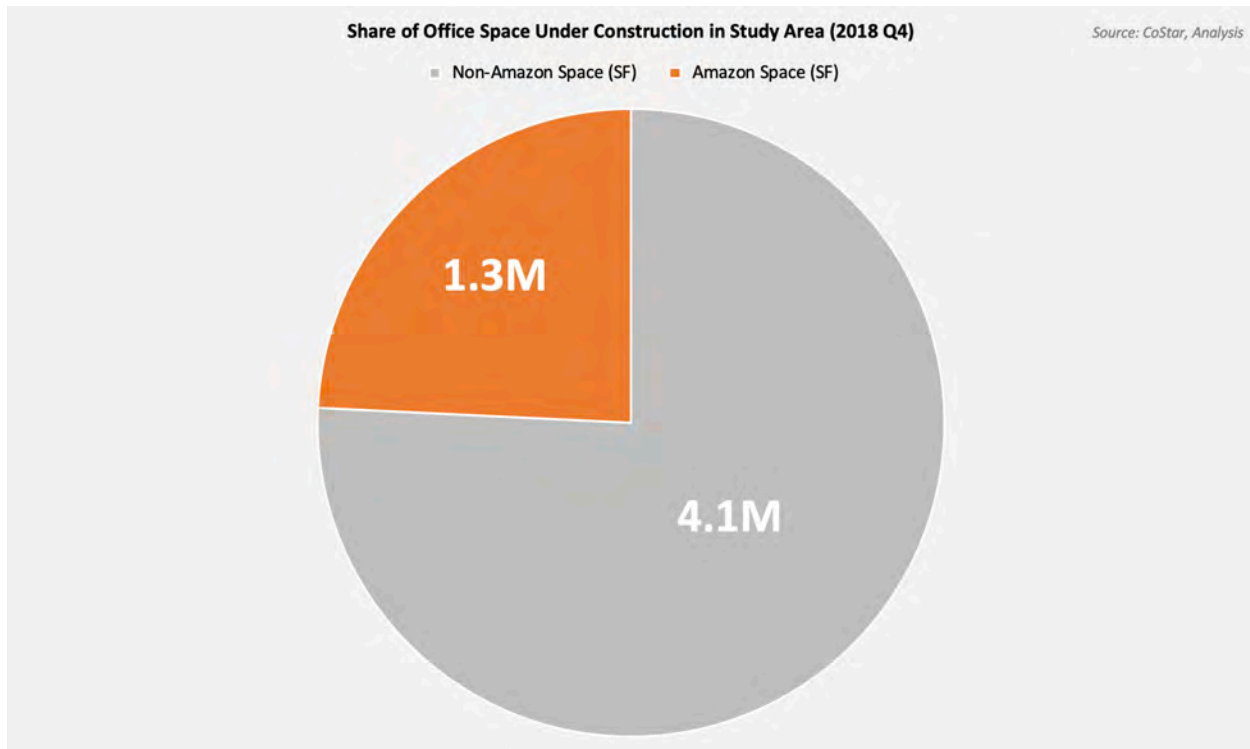


FIGURE 3.21 Amazon accounts for nearly 25% of all office space under construction in 2018 Q4.

NET ABSORPTION AND VACANCY

As a key measurement of supply and demand in the space market, net absorption is the total amount of space that tenants physically moved into (i.e. demand) minus the total amount of vacated space (i.e. supply). When the vacated space is greater than newly occupied space, net absorption is negative. It should be noted that pre-leasing activity is not included in net absorption calculations because pre-leasing does not involve any change in actual occupancy (i.e. tenant still operates in the old office after signing the lease and has not physically moved into new space).

In Downtown Area, excluding South Lake Union, the annualized net absorption fluctuated between positive and negative from 2000 to 2010 (**FIGURE 3.22**).¹⁸ During the Great Recession, the demise of Washington Mutual — then the largest office tenant in Downtown Seattle — exacerbated negative net absorption in 2009 by adding significant vacant space to the market. From 2010 to 2014, net absorption was positive with the average of 490,416 square feet and did not exceed 640,000 square feet. From 2015 to 2018, the average went up to 1.7 million square feet. The fourth quarter vacancy rate during this period skyrocketed at the height of the Great Recession in 2009 and slowly declined with a slight uptick in 2017. As of yearend 2018, the office vacancy rate in the Downtown Area was 7%.

¹⁸ JLL. October 18, 2010. //bostonblog.jll.com/2010/10/18/how-is-net-absorption-calculated/; Hanford Freund & Company. August 4, 2019. //www.hanfordfreund.com/real-estate-glossary-new/179-net-absorption

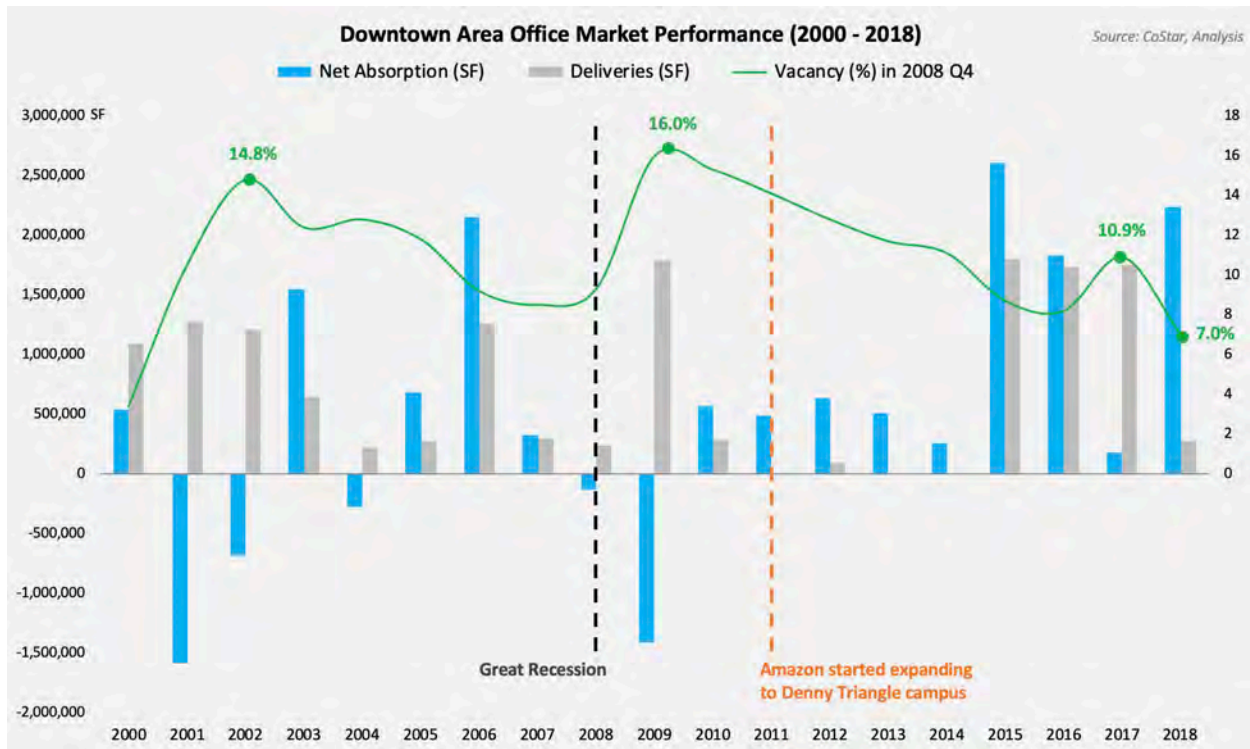


FIGURE 3.22 Since Amazon's expansion in Denny Triangle in 2011, Downtown Area has no negative net absorption.

Unlike Downtown Area, South Lake Union maintained positive net absorption between 2000 and 2018 (FIGURE 3.23). However, prior to Amazon's arrival in 2010, net absorption was approximately 143,000 square feet on average and did not exceed 340,000 square feet. **Once Amazon occupied the campus in 2010, the average net absorption increased 275% to 539,313 square feet and exceeded 867,000 square feet in 2017.**

That Amazon announced the plan for South Lake Union in 2007 right before the Great Recession may have some moderating effects on net absorption in the neighborhood. Still, fourth quarter vacancy increased by 5.8% between 2008 and 2010. After Amazon moved in, however, vacancy rate plummeted 5% between 2010 and 2012. At yearend 2018, office vacancy in South Lake Union was recorded at 2.2%.

OFFICE RENT

According to local real estate experts, Amazon pays \$200 million a year in office rent. Gross office rent in Downtown Area increased dramatically after the market recovered from the Great Recession and Amazon's presence in Denny Triangle (FIGURE 3.24). After a precipitous decline of 21% during the downturn from \$34.53 per square foot (PSF) in 2008 to \$27.31 PSF in 2012, gross office rent in Downtown Area has been on the upswing, reaching \$43.16 PSF in 2018. This equates to 58% rent increase over six years compared to 48% increase during the last real estate boom between 2005 and 2008.

Office rent in South Lake Union followed a similar pattern as Downtown Area but displayed more variability (FIGURE 3.25). After a peak of \$36.16 PSF in 2007, rent bottomed out at \$25.17 PSF in 2012 — a decline of 30%. A slight uptick for three quarters in 2010 when Amazon moved in the neighborhood was

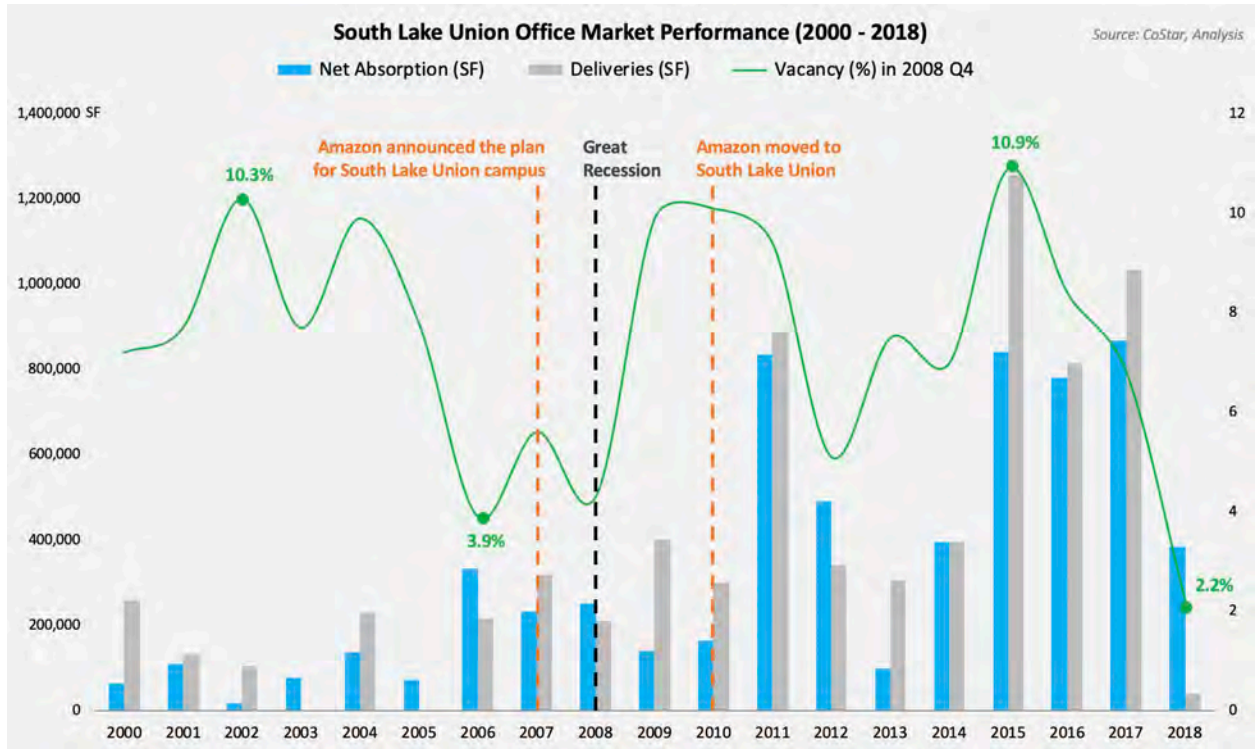


FIGURE 3.23 Once Amazon occupied South Lake Union campus in 2010, the average net absorption increased 275% from 143,000 square feet to 539,000 square feet.

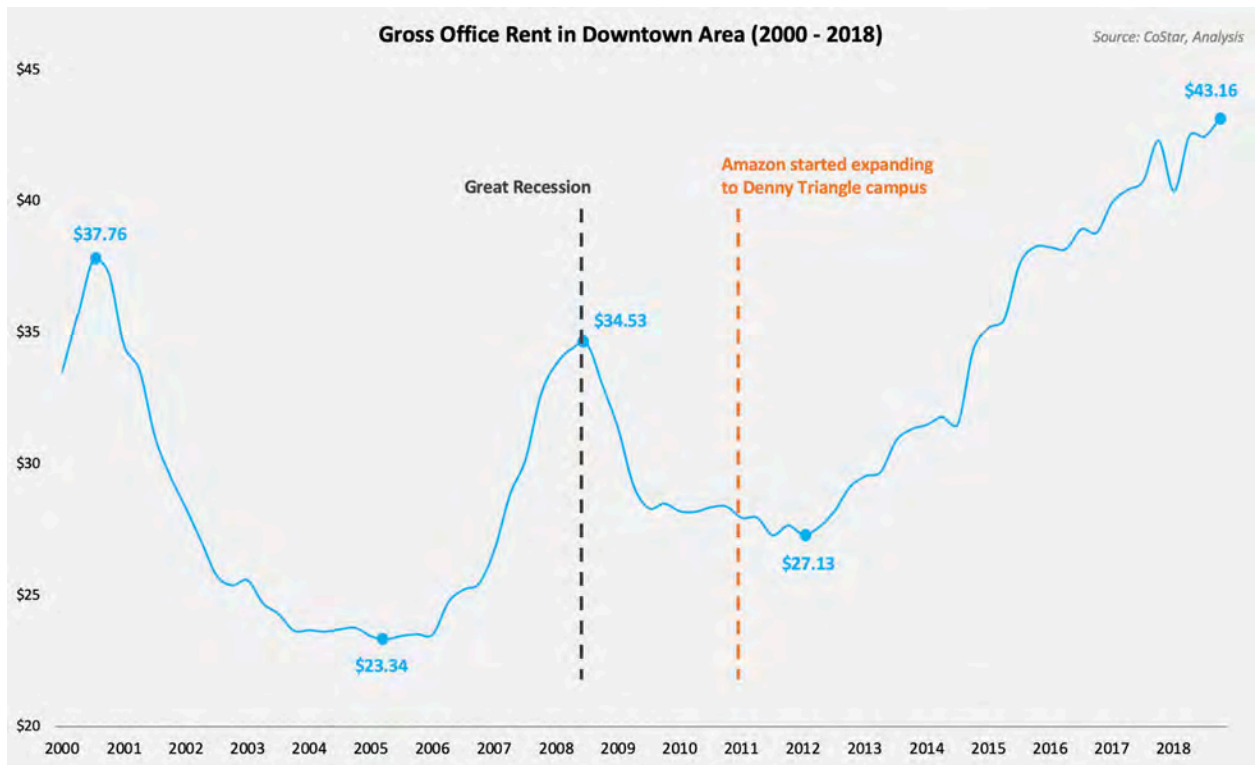


FIGURE 3.24 Gross office rent in Downtown Area increased 58% between 2012 and 2018.

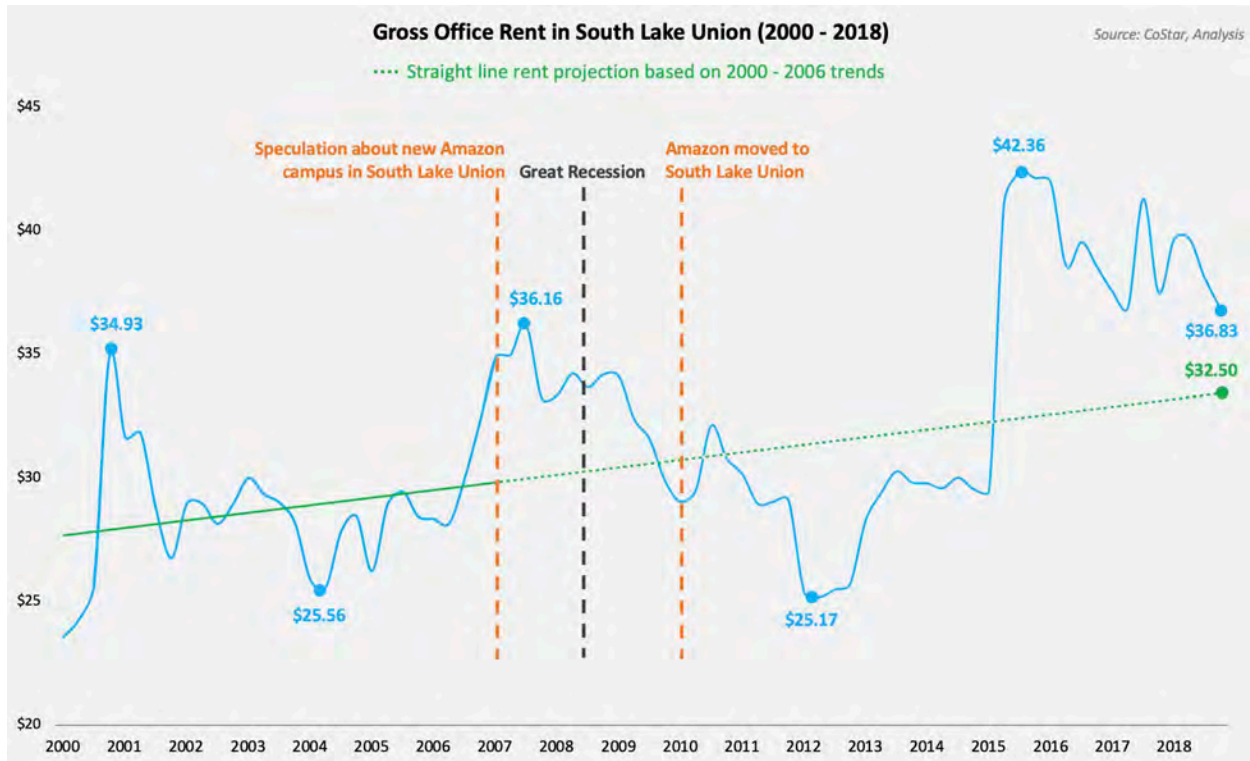


FIGURE 3.25 The green dotted line shows a straight line rent projection based on 2000 to 2006 rents. Had Amazon did not announce the new campus in South Lake Union, office rent in the neighborhood could be \$32.50 PSF in 2018 or \$4.30 PSF lower than actual rent recorded.

followed by a sharp decline. Between 2012 and 2016, office rent rebounded to a record level at \$42.36 PSF in 2016 equating to 67% increase. Unlike rent in Downtown Area that kept growing after 2016, however, gross office rent in South Lake Union went down to \$36.80 PSF in 2018.

The green dotted line on the graph shows a straight line rent projection based on 2000 to 2006 rents. Had Amazon did not announce the new headquarters plan in South Lake Union in 2007, it is possible that office rent in the neighborhood could end up at \$32.50 PSF in 2018 based on historical trends, which is \$4.30 PSF lower than actual rent recorded.

3.6 / INTERACTIVE APP: VISUALIZING AMAZON-OCCUPIED SPACE

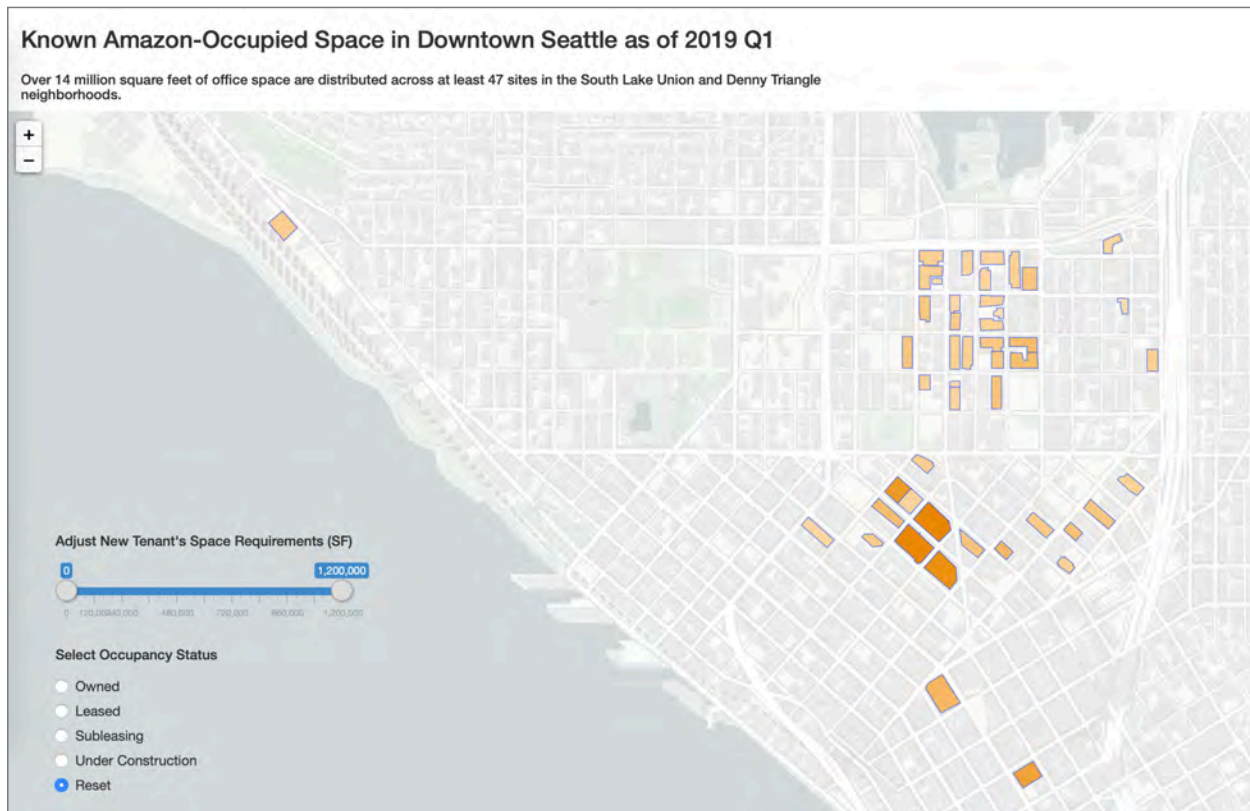
This section synthesizes data on Amazon spaces and buildings collected from multiple sources for this research to develop a custom-built app that visualizes known Amazon-occupied space in Seattle as of 2019 Q1. Because the app is interactive and is currently hosted locally (it could be uploaded on a server), screenshots for each scenario are provided in the following pages instead.

Recall from Section 3.3 that as of 2019 Q1, Amazon occupied at least 42 office spaces (owned and leased) in South Lake Union and the Downtown Seattle area with additional six spaces or more under construction and pre-leased. This represents over 14 million square feet of prime real estate in city

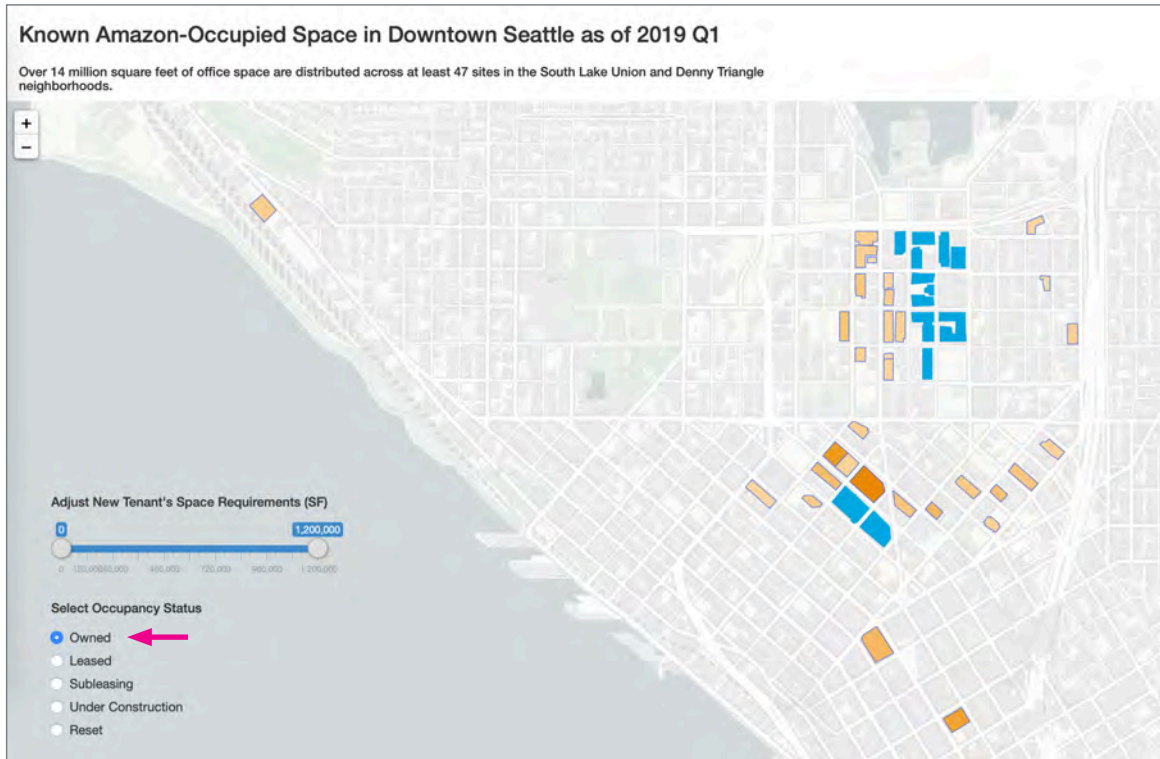
center occupied by a single corporation and approximately 20% of all office supply in Seattle.¹⁹ The actual undisclosed numbers are likely to be higher as Amazon is a WeWork tenant and may have a few satellite offices elsewhere in the city for logistics purposes.

¹⁹ The estimate includes 722,000 square feet pre-leased space at Rainier Square Tower. Amazon backed out of the lease in February 2019 and is planning to sublease all 722,000 square feet.

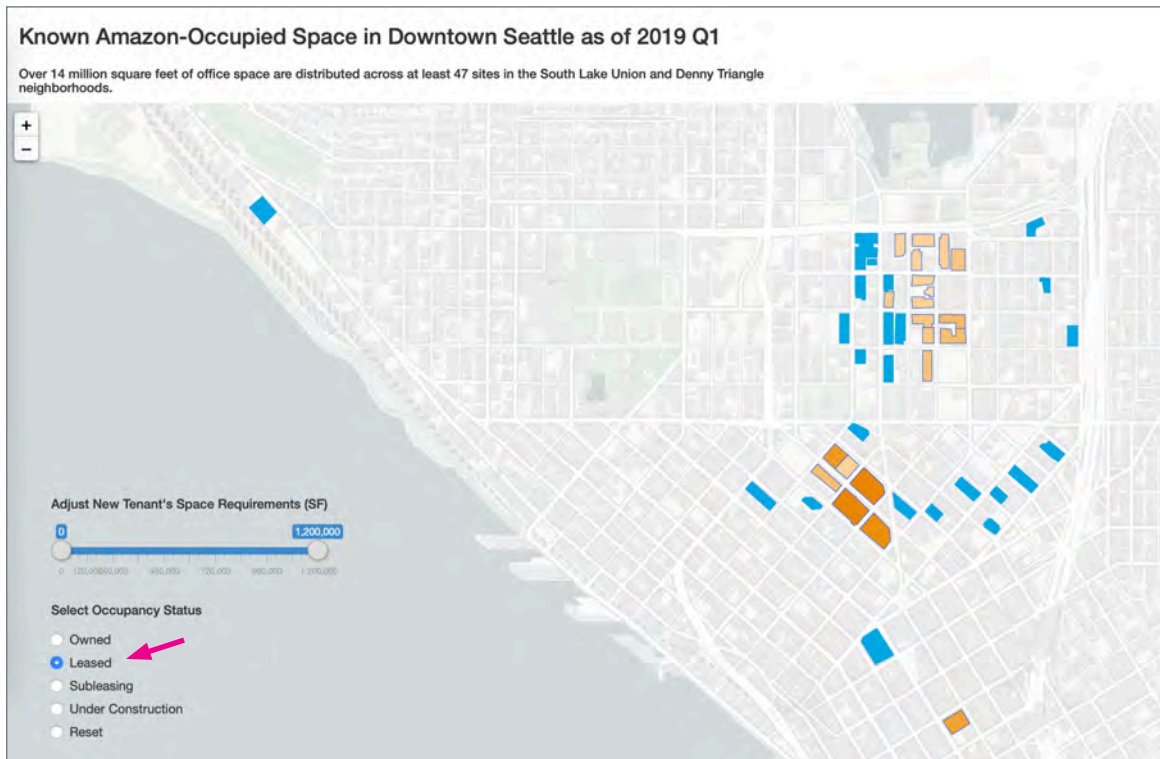
Default option showing all Amazon-occupied spaces



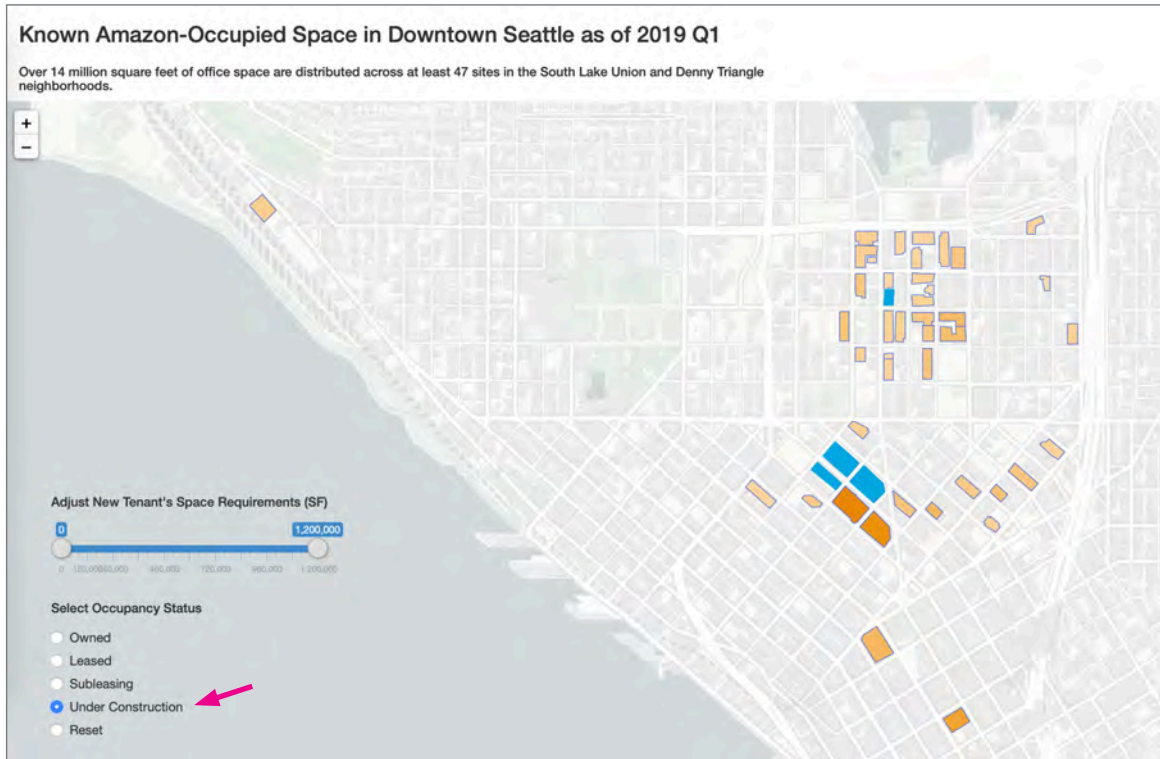
Default option showing Amazon-owned spaces in blue



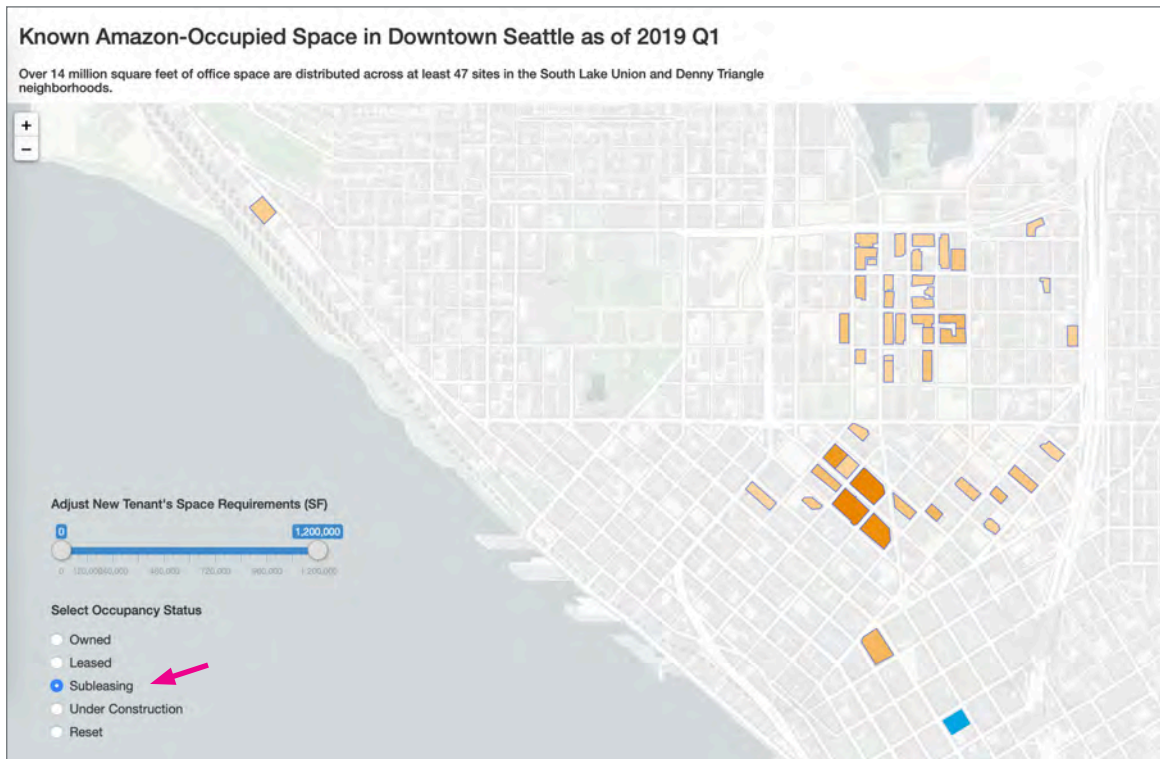
Default option showing Amazon-leased spaces in blue



Default option showing Amazon space under construction in blue



Default option showing sublease space in blue



AUTHOR'S NOTE: A LIVE TOPIC

Recognizing that Amazon is a live topic and important new development that unfolds almost on a daily basis affects the company's real estate holdings, all data and analysis presented in this research is as of 2019 Q1 unless noted otherwise.

On Valentine's Day of 2019, for instance, Amazon publicly "broke up" with New York City and rescinded the commitment to build HQ2 in Long Island City, an industrial neighborhood in Queens Borough. In April 2019, Amazon announced the plan to relocate the Worldwide Operations Team (a key division) from Seattle campus to Bellevue (a suburb 10 miles east of Seattle), a move that will redistribute Amazon properties across the region as the company is acquiring more space outside of Seattle.

CONCLUDING THOUGHTS

It is astonishing to learn and see that Amazon's overnight success story only took 25 years in the making. Even more astounding is the story of Seattle where Amazon built an urban campus less than ten years ago in 2010.

This chapter probes several instances where Amazon growth has catalyzed, accelerated, and sustained Seattle's urban transformation, including the ever expansive campus footprint and growth pattern, rising office rents, nation-leading construction boom and leasing activities, fairy-tale neighborhood revitalization story, and economic development stimulus that now put Seattle in the same league as first-tier US cities. Through intensive research, data collection, and analysis, this chapter also responds to the first two research questions on how much office space Amazon has acquired in Seattle and where these properties are located around the Downtown area.

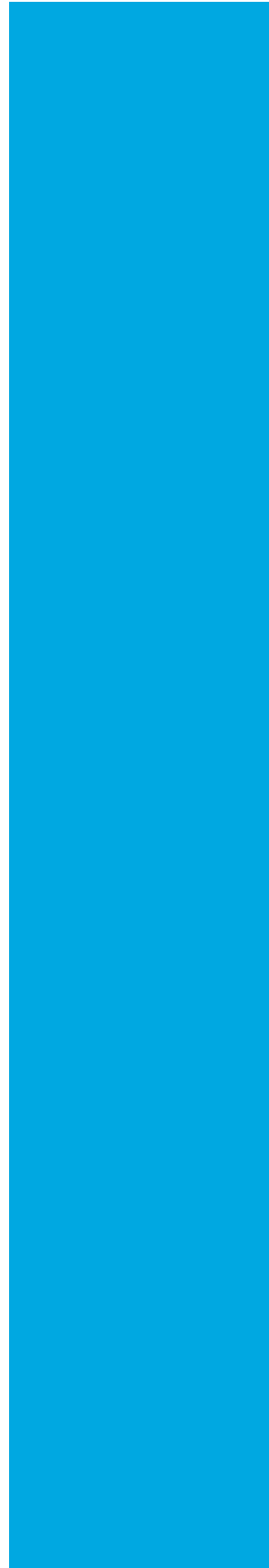
Chapter 4 shifts gear and looks to the future by posing the inevitable question that Amazon will eventually have to address: **Are the office spaces sitting on the company's real estate ledger easily disposed to new office tenants and / or converted to non-office uses?**



FIGURE 3.26 Amazon growth has fueled construction activities around Seattle. (Source: Elaine Thompson)

REDEPLOYING AMAZON CAMPUS

4.1	Development Classification	87
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This chapter is divided into three sections:

4.1 Development Classification describes three generations of Amazon buildings that show the design evolution of the site plan, architecture, and treatment of public space.

4.2 Retenant Strategy discusses key site selection criteria for corporate tenants today according to a seasoned commercial real estate executive then evaluate Amazon-occupied space using the criteria. This section also uses the app to identify Amazon properties that are suitable to three prototype tenants' space requirements.

4.3 Adaptive Reuse Strategy draws from the conversation with a local architect familiar with South Lake Union and an experienced building engineer who has worked on Amazon properties to discuss the evaluation criteria for adaptive reuse of Amazon-occupied space.

4.1 / DEVELOPMENT CLASSIFICATION

Before going into the retenant and adaptive reuse discussion in Sections 4.2 and 4.3, it can be instructive to interpret the design evolution of Amazon's office buildings. This research observes three generations of development approach that are distinct in design intentions,

particularly the treatment of public realm and open space activation. By and large, Amazon's office development would fall into one of these categories with a few exceptions:

- **First Generation** buildings comprise 11 structures that Amazon first moved into when the company relocated to South Lake Union in 2010. These buildings were not purpose-built for Amazon, but were designed for the biotech industry during the biotech renaissance that fizzled out in the early 2000s. The buildings are typically anchored by a traditional courtyard at the center of the block (**FIGURE 4.1**).
- **Second Generation** buildings usually have a pocket park with public art on the edge or at street corners. Some of these pocket parks are more successful than others depending on building location and the surrounding land use (**FIGURE 4.2**).
- **Third Generation** buildings feature striking midblock alleys that serve as pedestrian connections, office entrances, and ground floor retail. The design is often bold and incorporates a lot of stairs to address steep topography. These midblock crossings function as POPS (privately owned public space) and are closely monitored by Amazon's security team (**FIGURE 4.3**).



FIGURE 4.1 Typical of a first-generation development scheme, Amazon Cricket, Amazon Invictus, and Amazon Von Vorst buildings form a courtyard facing Terry Avenue. The primitive design of the central courtyard is somewhat ameliorated by movable tables and chairs for area workers, a Community Banana Stand provided by Amazon, outdoor seating for Starbucks and a restaurant, programming such as farmers market on Thursday afternoon, and occasional events on the weekend.

(Sources: Google Maps; City of Seattle)

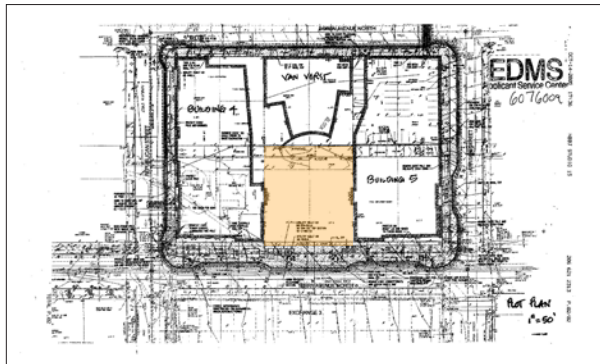




FIGURE 4.2 Second-generation development scheme moves the courtyard from midblock to street corners. Amazon Brazil building on 9th Avenue and Harrison Street features a pocket park with light installation called “Nebulous” by artist Dan Corson. The whimsical sculpture represents the cloud — as an homage to cloud-based computing system — that hovers above a small but thoughtfully designed open space.

Abutting the pocket park is Sam’s Tavern, a local dive bar that helps activate the park with outdoor seating. Amazon brought Sam’s Tavern to the site by providing rental subsidy.

(Sources: Google Maps; City of Seattle; <http://dancorson.com/nebulous>)

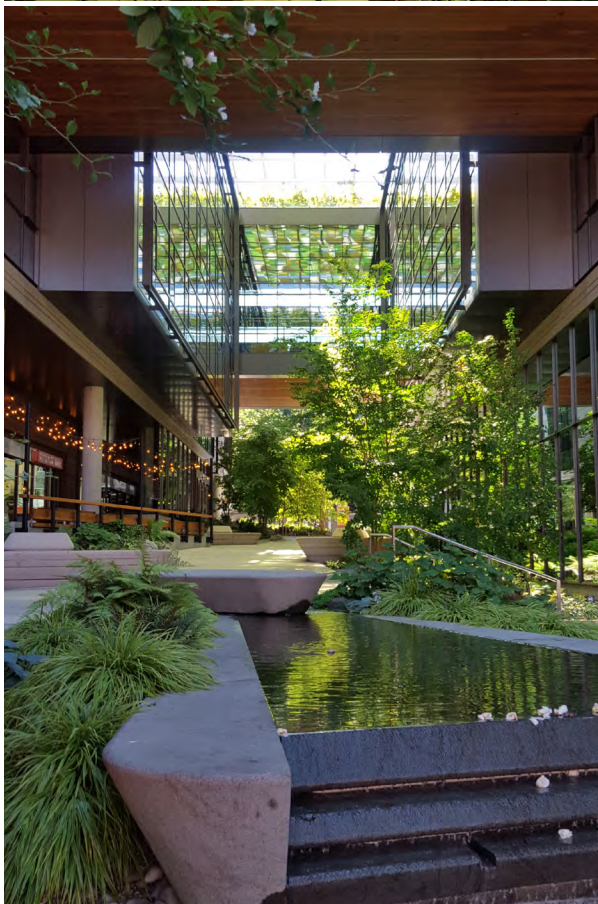
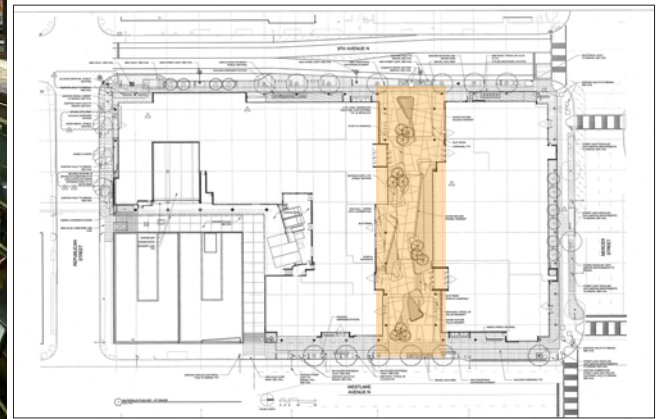
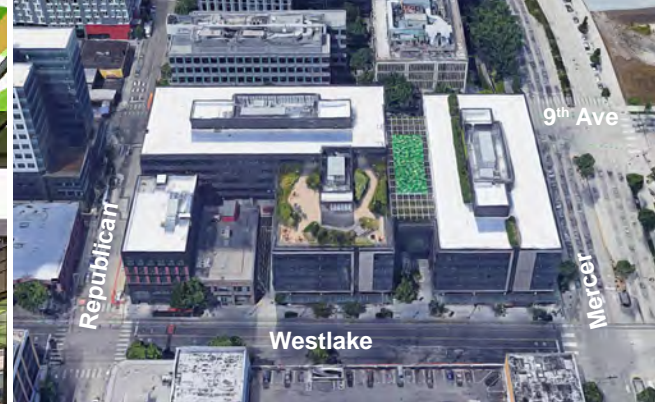


FIGURE 4.3 Third-generation development scheme incorporates a pedestrian connection across the block, usually below a skybridge linking two office buildings.

Amazon Bigfoot building on Westlake Avenue and Mercer Street features a stunning midblock alley that exemplifies a corporate interpretation of an urban oasis. Because the site is located near Lake Union, the landscape design showcases water elements as well.

(Sources: Google Maps, City of Seattle)

4.2 / RETENANT STRATEGY

According to a seasoned commercial real estate executive, three key factors influence corporate tenants' decision before signing the office lease:

- **Talent** — The availability of talent is the main driver in occupier's decision making today. Choosing Arlington County in Northern Virginia as the site of HQ2 was a strategic decision by Amazon to tap into the educated and cosmopolitan workforce in the Washington, DC region. (The site of HQ2 is located across the Potomac River from the nation's capital.) Instead of luring and chasing after talent with compensation packages or by building state-of-the-art campuses, many corporations are now bringing the office to where talent already exists and where talent is flocking to.
- **Location** — The corporate workforce is increasingly dominated by knowledge workers that are mobile. This means corporate campus becomes less of a factor as the location will determine where talent wants to go. Companies will likely choose to locate the office in places that employees would move to and in parts of the country where workers and their families want to live in. They seek locations that offer an ecosystem of amenities, livability, and quality of life for employees to be a part of whether it is at a neighborhood level, a city scale, or in the broader regional context. Some speculate that Amazon did not choose Atlanta and Texas cities for HQ2 because state laws on civil rights are not in line with the company's values.

- **Workplace Strategy** — Corporations are starting to embrace “activity-based office space” concept that uses the office as one would use different rooms in a house. In the past, office space was treated as either a private space or an open public area. Under the activity-based concept, office space is divided into four main areas:

- Space to do work and focus;
- Space for collaboration;
- Space for private conversation; and
- Space for socialization.

The new reality is a lot of people work outside the office and many workers are more productive when they are not in the office environment. Companies want to move into spaces that offer a variety of space configurations that meet different working styles of their employees or they will customize and build their own space.

Financial factors such as rent and construction costs are certainly important, however, for many corporations today the delta between \$42 PSF and \$45 PSF becomes less meaningful if the tradeoff is access to the talent pool of skilled and educated workforce that can perform and deliver business solutions to their clients. In turn, real estate represents only a small portion of what corporate tenants are paying for whereas talent is 90% the cost equation. Similarly, while a building's landmark status or prominence can still influence occupier's decision, the appeal may have less impact today than it did in the past. Fulton Market in Chicago and Seaport in Boston, for instance,



Real estate represents only a small portion of what corporate tenants are paying for whereas talent is 90% the cost equation.”

do not have landmark status, but they offer an ecosystem and synergies that are in high demand among office tenants. These districts are “new cities within cities” that have flourished into attractive submarkets.

Moreover, landlords today are more involved, deliberate, and responsive to the needs of tenants to stay competitive in the leasing market. **Until recently, property owners would only seek tenants with the longest lease terms and highest credit ratings.** The landscape has changed considerably with the rise of services and amenities that make the office building more attractive. As a result, landlords take a proactive approach by providing amenities such as lobby upgrades, exterior renovations, modern kitchen area and conference room facility, rooftop space, and gym with lockers and showers. Building technology like flat screen TVs, transit kiosks, and smart elevators are also common offerings (**FIGURE 4.4**).

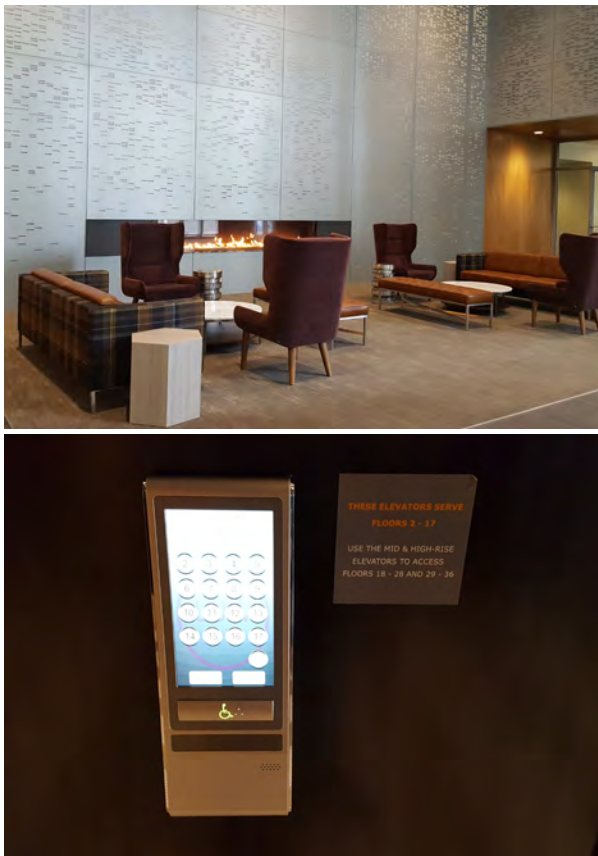


FIGURE 4.4 Modern lobby and smart elevator system.

Based on the three criteria and other variables discussed above, **finding a new office tenant to move into Amazon’s office space would be easy for two main reasons:**

- With the exception of a few historic structures protected under local ordinance and bespoke buildings, the majority of Amazon’s office space is generic, which makes it relatively inexpensive for new office tenants to customize the interior space to suit their needs and reflect the unique corporate culture.
- Apple, Google, and Facebook are moving to new development sites in South Lake Union. Having a full suit of Big Tech’s presence will not only intensify real estate value in the neighborhood, but also compound South Lake Union’s status as a major tech hub north of Bay Area. Many companies would want to locate in or near the neighborhood vicinity to tap into the talent pool of tech workers. If Amazon leaves it would not be challenging to find new tenants for the vacated space.

REDEPLOYING AMAZON SPACE

Using the slider tool in the app can help identify Amazon-occupied spaces that meet three prototype tenants’ unique space requirements:

- **Tenant A** is a global corporation seeking office space in a single building for the engineering division with at least 635,000 square feet and room for future expansion (**FIGURE 4.5**).
- **Tenant B** is a mid-sized software company looking for office space between 200,000-400,000 square feet in one building with no long-term expansion plan (**FIGURE 4.6**).
- **Tenant C** is a local law firm looking to occupy up to 150,000 square feet in a few smaller buildings around South Lake Union and Denny Triangle (**FIGURE 4.7**).



FIGURE 4.5 Tenant A requires at least 635,000 square feet with room to grow in one building.



FIGURE 4.6 Tenant B requires between 200,000-400,000 square feet in one building.



FIGURE 4.7 Tenant C requires up to 150,000 square feet in a few smaller buildings.

4.3 / ADAPTIVE REUSE STRATEGY

If finding a new tenant for Amazon's office space is relatively straightforward, repurposing the building from office use into another typology can be challenging, cost prohibitive, and infeasible. Structurally, not every office building can be converted to non-office uses such as rental housing, condo, hotel, medical office, research lab, or industrial use. Historic buildings and bespoke structures with irregular floor plates add to the complexity of adaptive reuse.

According to a local architect familiar with South Lake Union and an experienced building engineer who has worked on Amazon properties, key factors that can affect the reusability of commercial buildings include:

- **Building Material** — Steel buildings are easier to repurpose than precast concrete.
- **Dimension from the Core to Curtain Wall** — The depth of floor plates could limit certain adaptive reuse opportunities.
- **Floor Plates** — Floor plates with more irregularities (e.g. number of corners, shape, size) are more challenging for adaptive reuse.
- **Plumbing** — Residential and hotel require more extensive plumbing and infrastructure systems to serve individual units and guest rooms than office buildings.

Based on the criteria provided by two experts and information on Amazon-occupied space, **it would be moderately challenging to convert or repurpose the existing Amazon offices to non-office uses.**

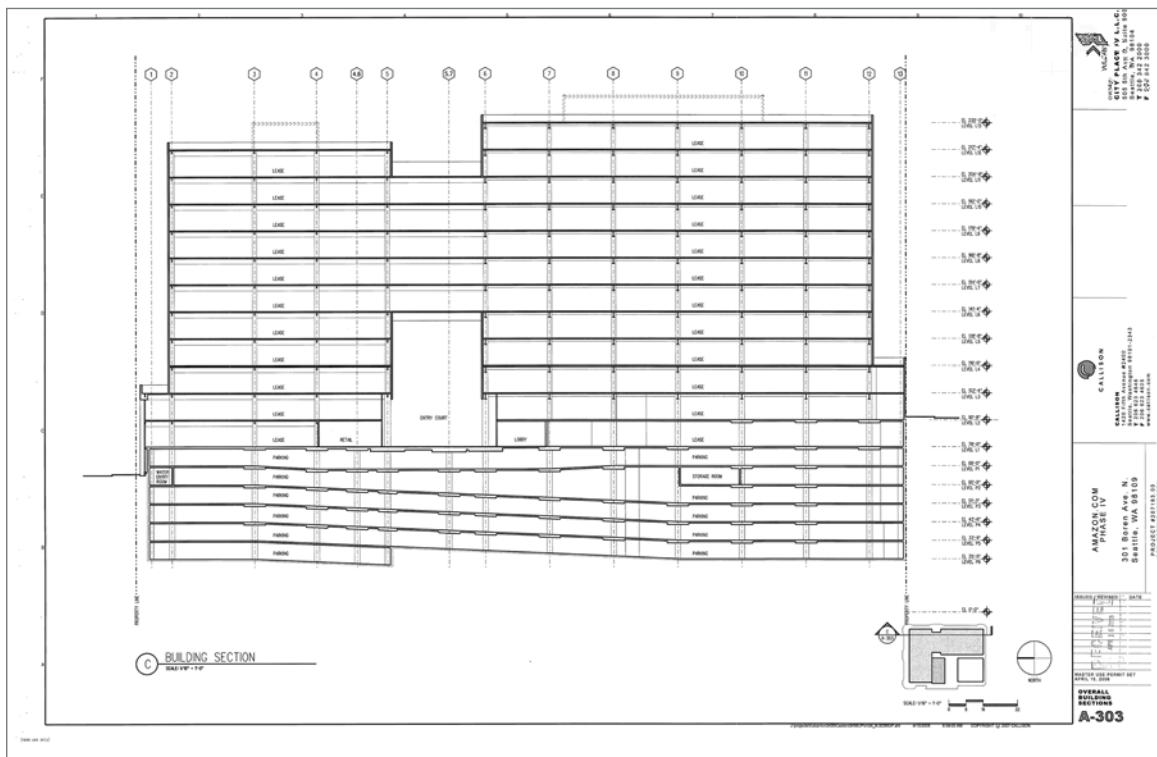
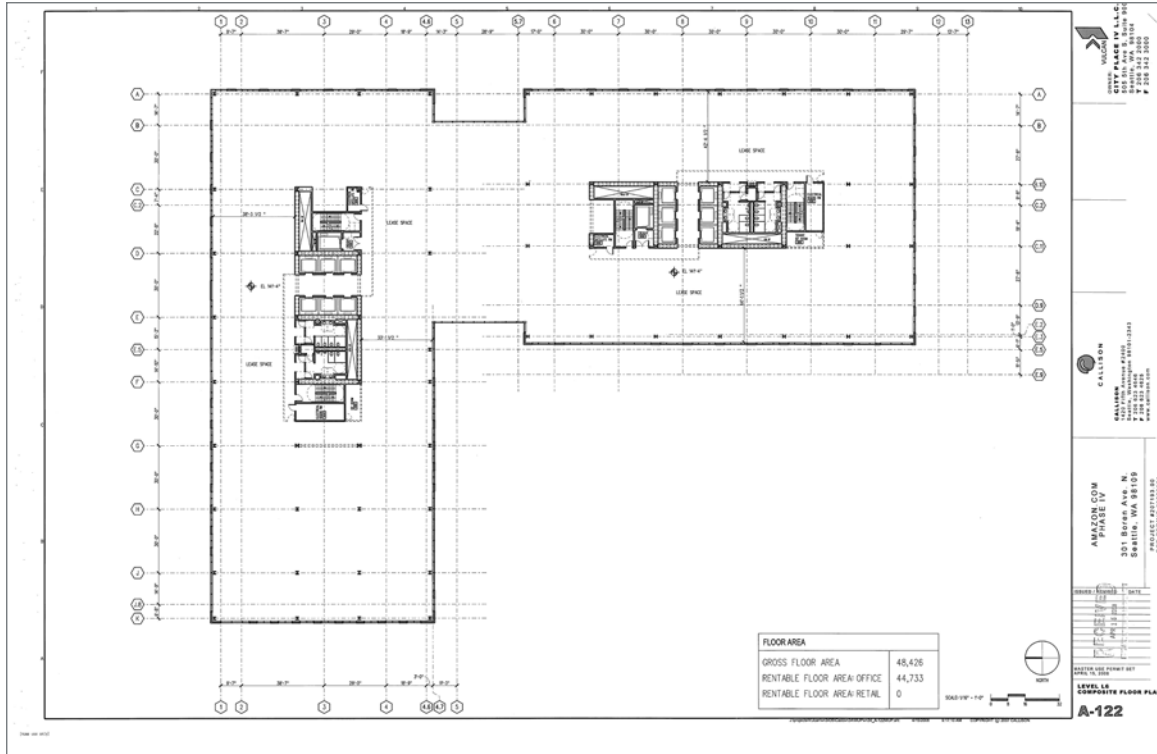
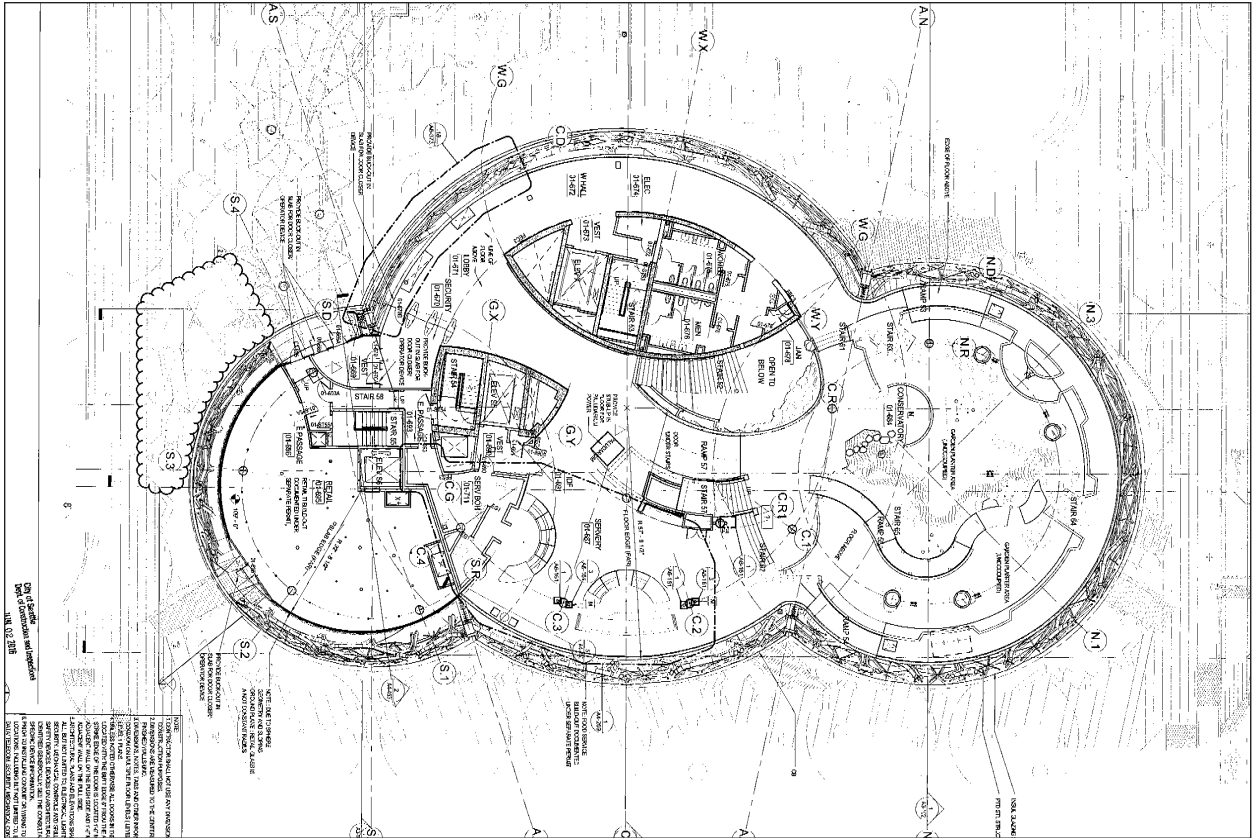
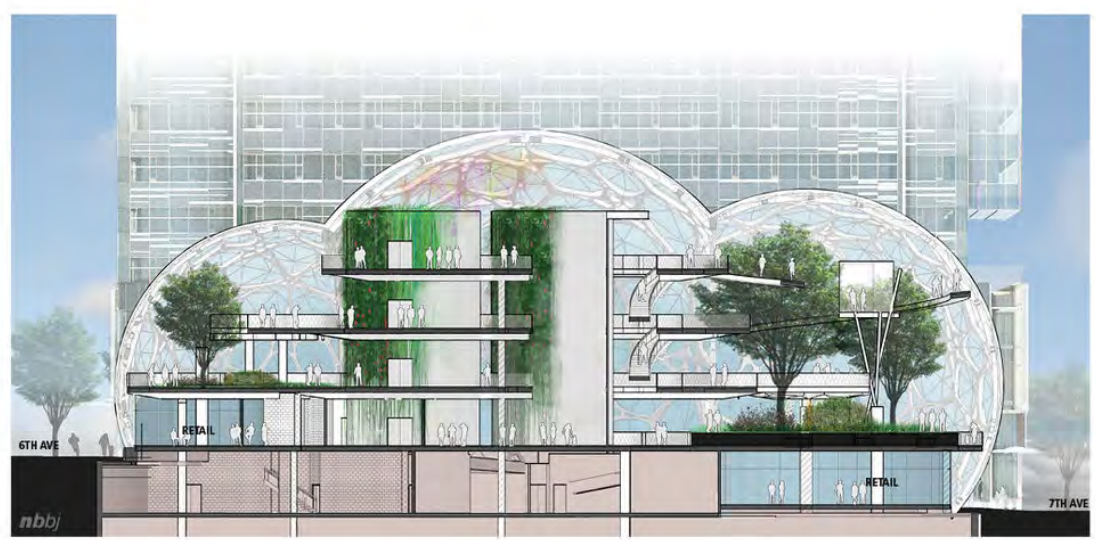


FIGURE 4.8 Most Amazon buildings with generic office space and floor plates, like Amazon Dawson above, are less challenging to repurpose into other typologies. (Source: City of Seattle)



2

Block 19
North / South Section Along Lenora Street



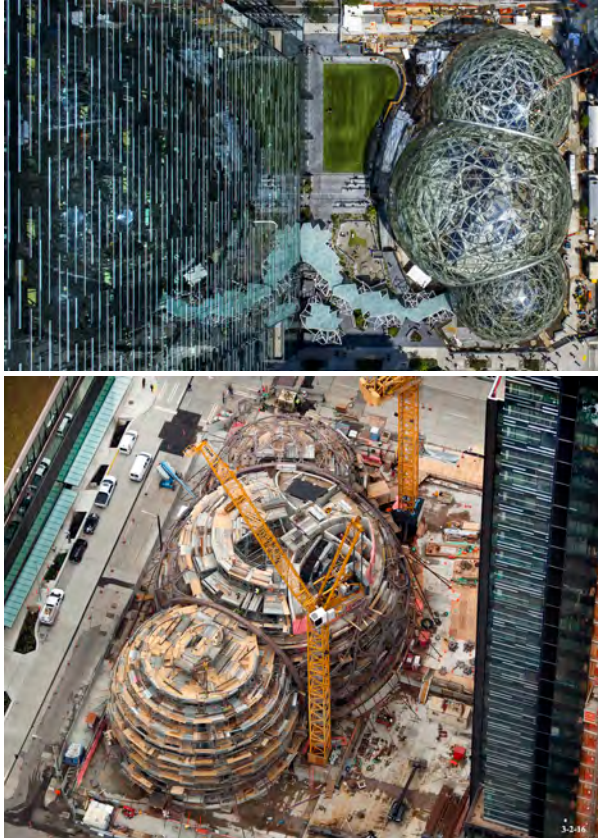


FIGURE 4.9 With many “irregularities” in design and floor plates, Amazon Spheres will be more difficult to reuse than most Amazon buildings with generic office space. (Sources: City of Seattle; The Seattle Times; Soundview Aerial Photography)

CONCLUDING THOUGHTS

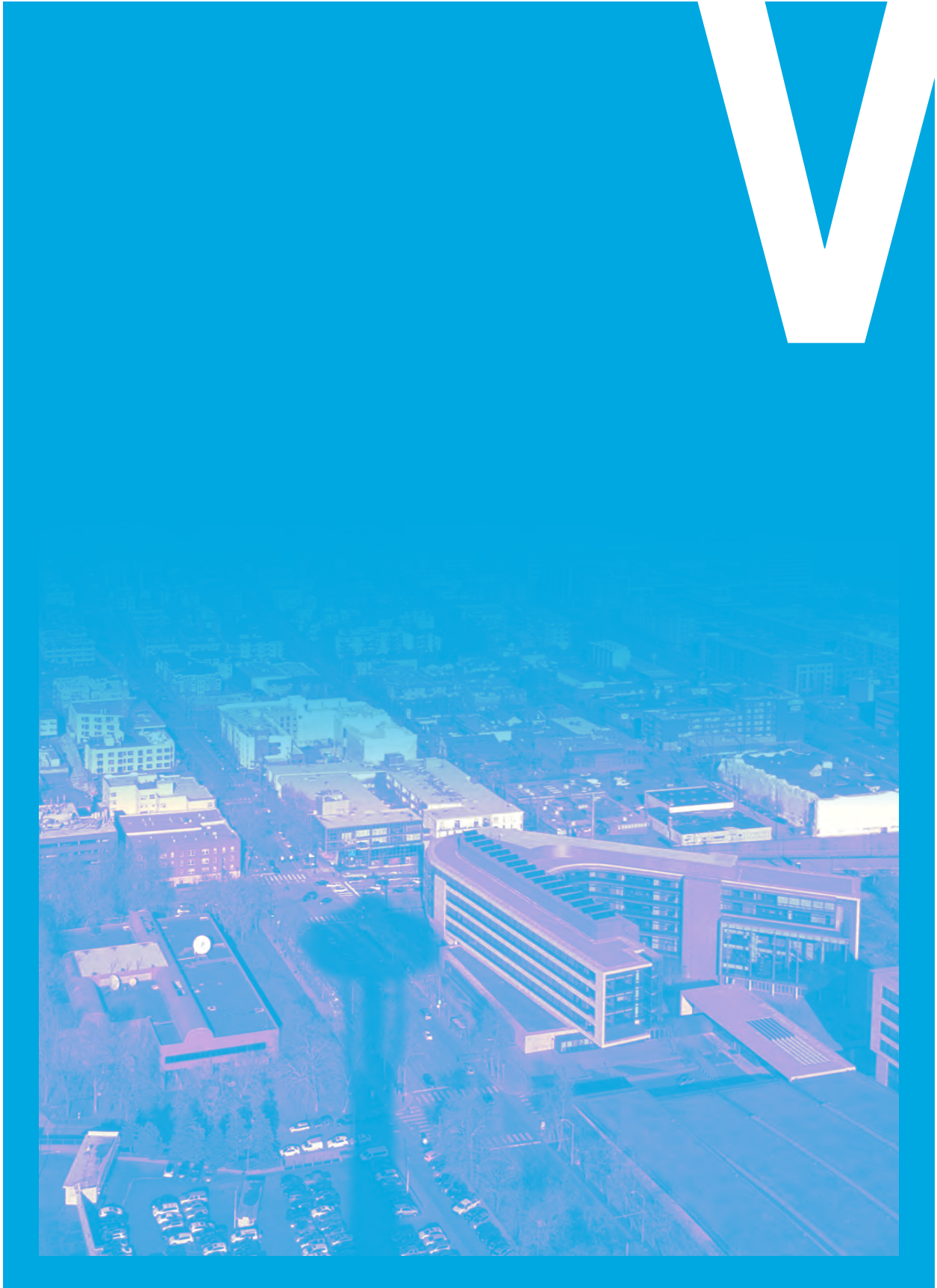
The insights from a commercial real estate professional, a local architect, and a building engineer at Amazon summarized in this chapter provide the basic framework to address the final research question of this research: If property disposition is foreseeable and anticipated, can Amazon easily redeploy over 14 million square feet of office space currently sitting on its real estate ledger?

Based on the criteria provided by the experts, a high level evaluation of Amazon’s office portfolio in Seattle as of 2019 Q1 concludes that (1) it would be relatively easy to find new office tenants to move into the existing Amazon-occupied space should the company vacate Seattle campus; and (2) it would be less challenging to repurpose Amazon’s generic office buildings to other typologies than to adaptively reuse bespoke structures like Amazon Spheres building.

Chapter 5 will examine the broader implications of Amazon growth and explore potential design strategies and policy tools that could influence corporate behavior and mitigate the negative impacts of bespoke office buildings that may be difficult to dispose. The thesis ends with personal reflection on the research process and identifies areas for further studies.

CONCLUSION







Using the experience and lessons learned from the development of Amazon's urban corporate headquarters in Seattle over the last decade, companies can grow and manage real estate assets strategically today to facilitate the advent of property disposition in the future. As this thesis has shown, corporate headquarters are incredibly dynamic and even more so when they are located in urban areas. Ultimately, every corporation with real estate holdings will face the decision to redeploy office space to future tenants.

In the previous four chapters, this research has responded to the following questions about Amazon growth and the adaptive reuse potential of Amazon's office space should the e-commerce giant decide to shift its real estate strategy to the suburban office park model:

1. How much office space has Amazon acquired (i.e. owns and leases) in Seattle as of 2019 Q1?
2. Where are Amazon-occupied office space and buildings located in the downtown area?
3. Are these spaces easily disposed to new office tenants and / or converted to other uses?

The findings of this research show that generic office space provide greater flexibility in real estate proposition compared to purpose-

built structures and character buildings. This is important because "flexibility will allow companies to adapt as needs change, use space more efficiently, and reduce the risk of financial burden from outdated, underutilized properties."¹ Leasing the office instead of owning the space outright is another way to enhance flexibility and diversify the real estate portfolio. By signing the lease, a corporation can expand or contract the space based on the business cycle.

Increasing adaptive reuse potential of headquarters campuses also benefits the city therefore it behooves policymakers to encourage corporations and the development community to build office spaces that are easy to reuse. For growing cities like Seattle where housing affordability may seem like an insurmountable issue, having the flexibility to convert vacated office buildings into residential use can increase the housing supply. Similarly, having the flexibility to repurpose office space to other uses such as tech incubators for start-ups and live-work space for artists helps promote economic development and support local innovation. Lastly, adaptive reuse helps advance sustainability goals by reducing energy use associated with construction activities and building materials.

¹ CoreNet Global. *The Essential Guide to Corporate Real Estate*. 2015.

THESIS REFLECTION

This research offers only the slightest glimpse into Amazon's history, real estate holdings, and business operations. However, it creates the space for the author to explore the symbiotic associations between corporate campuses and urbanism, as well as Amazon and Seattle.

One big takeaway (or lingering question) is whether *space* will be the next frontier for Amazon. The outer limits of Jeff Bezos' ambition may not be on the Eastside in Bellevue or on the East Coast in Northern Virginia. After all, Jeff Bezos has been siphoning billions of dollars to Blue Origin, his private space company that sets out to commercialize space travel in competition with Elon Musk's SpaceX program.

If a company that started off as an online book retailer could singlehandedly disrupt the retail industry, e-commerce, RFP process, and web services, the sky's the limit for Amazon.



FIGURE 5.1 Amazon's moonshot? Jeff Bezos standing on top of Amazon Spheres in 2019 looks remarkably similar to the iconic Man on the Moon image in 1969. (Sources: @jeffbezos, nasa.gov)



AREAS FOR FURTHER RESEARCH

With no access to confidential lease terms on Amazon's office space, it is difficult to make educated conjectures about Amazon's real estate strategy. Information on when the office leases in Seattle will expire can shed some light on the company's plan for the next phase of the real estate portfolio. If access to data is obtained and the scope of research can be expanded, several areas could benefit from further study:

- Expand the office market analysis of the Downtown Seattle area to citywide and also include residential market assessment;
- Fine tune the app by adding more functions such as a scale for floor plate dimensions and the index for "irregularities" (e.g. number of corners, shape, size);
- Make the app live on a website instead of hosting it locally on a personal computer;
- Interview Amazon's core real estate team; and
- Interview the architects and developers of Amazon buildings.

APPENDICES

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Appendix B	App Code	115



VI



APPENDIX A

Amazon HQ2 RFP

INSTRUCTIONS TO RESPONDENTS

Amazon invites you to submit a response to this Request for Proposal (“RFP”) in conjunction with and on behalf of your metropolitan statistical area (MSA), state/province, county, city and the relevant localities therein. Amazon is performing a competitive site selection process and is considering metro regions in North America for its second corporate headquarters. We encourage states, provinces and metro areas to coordinate with relevant jurisdictions to submit one (1) RFP for your MSA. The RFP may contain multiple real estate sites in more than one jurisdiction, but we do encourage you to submit your best sites to meet or exceed the needs of our Project described in this RFP. Any questions regarding the information or items requested in this document can be submitted using the email below. We encourage you to go through the process as outlined in the RFP and ask questions of the team using the email provided below.

PROPOSAL REQUIREMENTS

Please provide an electronic copy and five (5) hard copies of your responses by **October 19, 2017** to amazonhq2@amazon.com. Please send hard copies marked “confidential” between the dates of October 16th – 19th to:

Amazon
Office of Economic Development
c/o Site Manager Golden
2121 7th Ave
Seattle, WA 98121

For electronic submittals, please send a password-protected website URL or a USB only. If using a password-protected website, the submitting agency should also submit written responses to the RFP questions (Information Requested section).

TIMELINE

September 7, 2017	RFP Phase I Available
October 19, 2017	RFP Phase I Response Deadline
2018	Final Site Selection and Announcement

OVERVIEW

Background: The purpose of this RFP is to describe the Project and provide a framework for soliciting specific information that will allow Amazon to determine the ideal location for our Project.

The Project is a second corporate headquarters (HQ2), at which Amazon will hire as many as fifty thousand (50,000) new full-time employees with an average annual total compensation exceeding one hundred thousand dollars (\$100,000) over the next ten to fifteen years, following commencement of operations. The Project is expected to have over \$5 billion in capital expenditures as described in more detail in this RFP.

Amazon is a publicly traded U.S. corporation and is a leading internet retailer and technology company. Amazon is guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. The Company presently maintains more than 380,000 employees at multiple facilities in North America and throughout the world. Due to the successful growth of the Company, it now requires a second corporate headquarters in North America.

Amazon's current headquarters is located in downtown Seattle, Washington. This urban campus employs tens of thousands of employees. Amazon has been a catalyst for development in downtown Seattle with an abundance of restaurants, services, coffee shops, and for the redevelopment of South Lake Union and Denny Triangle with its sustainable buildings and open spaces. In 2017, Amazon was awarded the "City Maker" award by the Downtown Seattle Association.

Amazon estimates its investments in Seattle from 2010 through 2016 resulted in an additional \$38 billion to the city's economy – every dollar invested by Amazon in Seattle generated an additional \$1.4 for the city's economy overall. Find more information at: www.amazon.com/amazonHQ2.

We look forward to working with you and your team to find a suitable site and establish a cost structure with a stable business climate for growth and innovation that would encourage Amazon to locate this high-profile Project in your community.

In choosing the location for HQ2, Amazon has a preference for:

- Metropolitan areas with more than one million people
- A stable and business-friendly environment
- Urban or suburban locations with the potential to attract and retain strong technical talent
- Communities that think big and creatively when considering locations and real estate options

HQ2 could be, but does not have to be:

- An urban or downtown campus
- A similar layout to Amazon's Seattle campus
- A development-prepped site. We want to encourage states/provinces and communities to think creatively for viable real estate options, while not negatively affecting our preferred timeline

PROJECT FACTS

Employment: The Project is expected to create as many as fifty thousand (50,000) new full-time jobs with an average annual compensation exceeding one hundred thousand dollars (\$100,000) per employee. We will begin sourcing for talent at Amazon HQ2 upon final site selection. Please note that the actual average wage rate may vary from the projected wage rate depending upon prevailing rates at the final location. Amazon also provides a highly competitive benefits package including a retirement plan, health insurance, and maternity/paternity leave, featuring Amazon’s [Leave Share and Ramp Back](#) program. All job numbers, categories, and salaries contained herein are estimates/projections and are subject to change. The jobs will likely be broken down into the following categories: executive/management, engineering with a preference for software development engineers (SDE), legal, accounting, and administrative. Amazon is an equal opportunity employer.

Building/Site Requirements: Amazon is considering greenfield sites, infill sites, existing buildings, or a combination for the Project. If existing buildings are available that can be retrofitted/expanded within an acceptable budget and time schedule, Amazon may consider this option; however, the company acknowledges that existing buildings may not be available to meet its requirements. As such, Amazon will prioritize certified or shovel-ready greenfield sites and infill opportunities with appropriate infrastructure and ability to meet the Project’s timeline and development demands, as set forth below.

The following is a summary of the Project’s ideal site and building requirements:

<u>Core Preferences</u>	<u>Quantity</u>	<u>Units</u>	<u>Description</u>
Site Requirements			
Proximity to population center	30	Miles	
Proximity to International airport	Within approx. 45	Minutes	
Proximity to major highways and arterial roads	Not more than 1-2	Miles	Close to major arterial roads to provide optimal access
Access to mass transit	At site		Direct access to rail, train, subway/metro, bus routes
Building Requirements			
Initial Square Foot Requirement	500,000+	Sq. Ft.	Phase I (2019)
Total Square Foot Requirement	Up to 8,000,000	Sq. Ft.	Beyond 2027

Details of Amazon’s Seattle headquarters:

Amazon Seattle HQ		
Direct ¹	Number of buildings	33
	Square feet	8.1 million
	Local retail within Amazon headquarters	24 restaurants/cafes + 8 other services
	Amazon Employees	40,000+
	Capital investment (buildings & infrastructure)	\$3.7 billion
	Operational expenditures (utilities & maintenance)	\$1.4 billion
	Compensation to employees	\$25.7 billion
	Number of annual hotel nights by visiting Amazonians and guests	233,000 (2016)
	Amount paid into the city’s public transportation system as employees’ transportation benefit	\$43 million
Indirect ²	Additional jobs created in the city as a result of Amazon’s direct investments	53,000
	Additional investments in the local economy as a result of Amazon’s direct investments	\$38 billion
	Increase in personal income by non-Amazon employees as a result of Amazon’s direct investments	\$17 billion
	Increase in Fortune 500 companies with engineering/R&D centers in Seattle	From 7 in 2010 to 31 in 2017

¹From 2010 (when Amazon moved its headquarters to downtown Seattle) to June 2017.

²From 2010-2016. Calculated using Input-Output methodology and multipliers developed by the U.S. Bureau of Economic Analysis.

Priority for Consideration (in no particular order):

Amazon will consider the following site/building categories for the Project:

1. Existing buildings of at least 500,000+ sq. ft., meeting the core requirements described above and that are expandable or have additional options for development nearby.
2. A greenfield site of approximately 100 acres certified or pad ready, with utility infrastructure in place. The sites do not have to be contiguous, but should be in proximity to each other to foster a sense of place and be pedestrian-friendly.
3. Other infill, existing buildings, including opportunities for renovation/redevelopment and greenfield sites, meeting the proximity and logistics requirements of the Project. This can also be a combination of the above.

4. Please also consider the overall proximity of the buildings at full build-out as you are making recommendations.

Capital Investment: The Project could be over \$5 billion in capital investment over the initial 15-17 years of the Project. Please note the capital investment required to acquire and retrofit an existing building is dependent upon the condition and nature of that building. As such, the following capital investment estimates will vary depending upon site requirements and actual construction costs, particularly with respect to an existing building.

<u>Building Phase</u>	<u>Estimated Capital Investment</u>
Phase I Building (500,000-1,000,000 sf)	\$300,000,000-\$600,000,000
Phase II Building (1,000,000-2,000,000 sf)	\$600,000,000-\$1,260,000,000
Phase III Building (2,000,000-3,000,000 sf)	\$1,260,000,000-\$1,985,000,000

Phase IV and beyond will grow organically. At full build-out, the campus or park may exceed 8 million square feet and over \$5 billion in total capital investment. Amazon will continue to invest in its facilities to ensure we offer a state-of-the-art workplace for our employees. States, provinces and metro economic development organizations should consider this as they suggest potential sites. Be sure to include opportunities to cultivate local culture and creativity into the Amazon HQ2 site. Also, include connectivity options: sidewalks, bike lanes, trams, metro, bus, light rail, train, and additional creative options to foster connectivity between buildings/facilities.

Additional Information:

Sustainability: Amazon is committed to sustainability efforts. Amazon’s buildings in its current Seattle campus are sustainable and energy-efficient. The buildings’ interiors feature salvaged and locally sourced woods, energy-efficient lighting, composting and recycling alternatives as well as public plazas and pockets of green space. Twenty of the buildings in our Seattle campus were built using LEED standards. Additionally, Amazon’s newest buildings use a ‘District Energy’ system that utilizes recycled heat from a nearby non-Amazon data center to heat millions of square feet of office space – a system that is about 4x more efficient than traditional heating. This system is designed to allow Amazon to warm just over 4 million square feet of office space on Amazon’s four-block campus, saving 80 million kilowatt-hours over 20 years, or about 4 million kilowatt-hours a year. We also invest in large solar and wind operations and were the largest corporate purchaser of renewable energy in the U.S. in 2016. Amazon will develop HQ2 with a dedication to sustainability.

Connectivity: Ensuring optimal fiber connectivity is paramount at our HQ2 location. Please demonstrate the fiber connectivity on all submitted sites. Also, demonstrate multiple cellular phone coverage maps to ensure optimal service.

KEY PREFERENCES AND DECISION DRIVERS

The below are our preferences and are not in a ranking order. We want to encourage you to think big and be creative as you are collaborating to respond. Please address the drivers discussed below in your RFP submittals.

Site/Building – As described herein, finding suitable buildings/sites is of paramount importance. Amazon HQ2 is a transformational Project, and we must ensure we have the best real estate options available whether this be a redevelopment opportunity, a partnership with the state, province, local government, or new buildings. All options are under consideration.

Capital and Operating Costs – A stable and business-friendly environment and tax structure will be high-priority considerations for the Project. Incentives offered by the state/province and local communities to offset initial capital outlay and ongoing operational costs will be significant factors in the decision-making process.

Incentives – Identify incentive programs available for the Project at the state/province and local levels. Outline the type of incentive (i.e. land, site preparation, tax credits/exemptions, relocation grants, workforce grants, utility incentives/grants, permitting, and fee reductions) and the amount. The initial cost and ongoing cost of doing business are critical decision drivers.

Labor Force – The Project includes significant employment requirements at the threshold compensation levels described herein and with corresponding educational attainment of the available workforce. The Project must be sufficiently close to a significant population center, such that it can fill the 50,000 estimated jobs that will be required over multiple years. A highly educated labor pool is critical and a strong university system is required.

Logistics – Personnel travel and logistics needs, both from population centers to the Project site, as well as between company facilities, are critically important. As such, travel time to a major highway corridor and arterial roadway capacity potential are key factors. The highway corridors must provide direct access to significant population centers with eligible employment pools. Travel time to an international airport with daily direct flights to Seattle, New York, San Francisco/Bay Area, and Washington, D.C. is also an important consideration.

Time to Operations – The Project requires an expeditious timetable for the location decision and the commencement of construction. Given this, sites with the requisite access, utility infrastructure, and zoning are critical. Please outline the permitting process and estimated timetable to initiate Phase I of our operations.

Cultural Community Fit – The Project requires a compatible cultural and community environment for its long-term success. This includes the presence and support of a diverse population, excellent institutions of higher education, local government structure and elected officials eager and willing to work with the company, among other attributes. A stable and consistent business climate is important to Amazon. Please demonstrate characteristics of this in your response. We encourage testimonials from other large companies.

Community/Quality of Life – The Project requires a significant number of employees. We want to invest in a community where our employees will enjoy living, recreational opportunities, educational opportunities, and an overall high quality of life. Tell us what is unique about your community.

INFORMATION REQUESTED

1. Please provide information regarding potential buildings/sites that meet the criteria described herein. Along with general site information, please provide the current ownership structure of the property, whether the state/province, or local governments control the property, the current zoning of the site, and the utility infrastructure present at the site.
2. Please provide a summary of total incentives offered for the Project by the state/province and local community. In this summary, please provide a brief description of the incentive item, the timing of incentive payment/realization, and a calculation of the incentive amount. Please describe any specific or unique eligibility requirements mandated by each incentive item. With respect to tax credits, please indicate whether credits are refundable, transferable, or may be carried forward for a specific period of time. If the incentive includes free or reduced land costs, include the mechanism and approvals that will be required. Please also include all timelines associated with the approvals of each incentive. We acknowledge a Project of this magnitude may require special incentive legislation in order for the state/province to achieve a competitive incentive proposal. As such, please indicate if any incentives or programs will require legislation or other approval methods. Ideally, your submittal includes a total value of incentives, including the specified benefit time period.
3. If any of the programs or incentives described in the summary of total incentives are uncertain or not guaranteed, please explain the factors that contribute to such uncertainty and estimate the approximate level of certainty. Please also describe any applicable claw backs or recapture provisions required for each incentive item.
4. Please provide a timetable for incentive approvals at the state/province and local levels, including any legislative approvals that may be required.
5. Please provide labor and wage rate information in the general job categories described. Please provide relevant labor pool information and your ability to attract talent regionally. Also, include specific opportunities to hire software development engineers and recurring sourcing opportunities for this type of employment. Please include all levels of talent available in the MSA, including executive talent and the ability to recruit talent to the area.
6. Please include programs/partnerships currently available and potential creative programs with higher education institutions in the region in your response. Please also include a list of universities and community colleges with relevant degrees and the number of students graduating with those degrees over the last three years. Additionally, include information on your local/regional K-12 education programs related to computer science.
7. Please provide highway, airport, and related travel and logistics information for all proposed sites. Please also include transit and transportation options for commuting employees living in the region. For each proposed site in your region, identify all transit options, including bike lanes and pedestrian access to the site(s). Also, list the ranking of traffic congestion for your community and/or region during peak commuting times.

8. Please include information on your community with respect to daily living, recreational opportunities, diversity of housing options, availability of housing near potential sites for HQ2, and pricing, among other information. Please also include relevant crime data and cost of living data.
9. Please use your response as an opportunity to present any additional items and intangible considerations with respect to your state/province and community that Amazon should include in its analysis.

While the existence of the Project is not confidential, certain aspects of the Project and details regarding the company are confidential, proprietary, and constitute trade secrets. Amazon will deliver a Confidentiality and Non-Disclosure Agreement for execution at the appropriate time.

Conclusion: As this is a competitive Project, Amazon welcomes the opportunity to engage with you in the creation of an incentive package, real estate opportunities, and cost structure to encourage the company's location of the Project in your state/province. Please contact amazonhq2@amazon.com for questions while responding to this RFP.

This RFP is only an invitation for proposals, the substance of which may be memorialized in a binding, definitive agreement or agreements if any proposal is selected. Amazon may select one or more proposals and negotiate with the parties submitting such proposals before making an award decision, or it may select no proposals and enter into no agreement.

APPENDIX B

App Code

```

output$map <- renderLeaflet({
  leaflet() %>% addProviderTiles(providers$CartoDB.PositronNoLabels)%>%
  setView(lng = -122.35,lat = 47.6165, zoom = 15)

})

observe({
  output$slider <- renderPrint({ input$slider })

  dat = subset(dat, OccSF>input$slider[1] & OccSF<input$slider[2])
  status = subset(dat, Status==input$radio)

  leafletProxy("map", data = dat) %>%
  clearMarkers %>%
  clearGroup('one')%>%
  addPolygons(color = '#a7a9ab',
    weight = 1,
    fillOpacity = 1,
    popup = ~paste(sep='<br/>', '<b>', dat$CombName, '</b>',
      paste(sep='<br/>', prettyNum(dat$OccSF, big.mark=","),
        dat$Status,
        dat$OccYear,
        dat$Location)
    )
  ) %>%
  addPolygons(fillColor = ~pal(OccSF),
    weight = 1,
    fillOpacity = 1,
    popup = ~paste(sep='<br/>', '<b>', dat$CombName, '</b>',
      prettyNum(dat$OccSF, big.mark=","),
      dat$Status,
      dat$OccYear,
      dat$Location),
    group='one'
  ) %>%
  addPolygons(data = status,
    color = '#00a8e1',
    weight = 1,
    opacity = 1,
    fillOpacity = 1,
    group = 'one'
  )
})

```