

AMAZON HQ2
BOSTON *BOUND* →



**GEOG 4230
PHASE 2 REPORT
GROUP 8**

TABLE OF CONTENTS

ABSTRACT.....3

INTRODUCTION.....3-4

METHODOLOGY.....4-7

RESULTS.....8-15

CONCLUSION/RECOMMENDATION.....16-18

WORK CITED.....19

ABSTRACT

Invesco, an individual investment management firm, is interested in where Amazon is considering to locate their second headquarters. Potential profit could be made from investing in and around the site that eventually lands Amazons HQ2. This analysis examines four potential sites within the City of Boston to give insight to Invesco about where potential investments should be made to stay ahead of the curve. Analysis are based upon preferences listed in Amazons RFP and the City of Boston’s response to the RFP. Real estate trends and specifically, trends in Seattle and Boston, are examined to help predict the impact of HQ2 on the City of Boston and its real estate. An overall real estate recommendation on the City of Boston is provided as well as recommendations for each site based upon several metrics.

INTRODUCTION

Amazon, the “everything store,” may not need an introduction. The “titan of e-commerce, logistics, payments, hardware, data storage, and media” has its humble roots as an online book store (Gergshgorn et al, 2017). As the headquarters from the onset, Seattle has benefited from Amazons growth. Relocating to downtown Seattle in 2007, the company now owns 8.1 million square feet of office space utilized for their Headquarters (Rosenberg, 2017). That square footage represents 19 percent of all prime office space in the city (Rosenberg, 2017). Amazon is now looking for a second headquarters or HQ2;

“Amazon HQ2 will be Amazon’s second headquarters in North America. We expect to invest over \$5 billion in construction and grow this second headquarters to include as many as 50,000 high-paying jobs – it will be a full equal to our current campus in Seattle. In addition to Amazon’s direct hiring and investment, construction and ongoing

operation of Amazon HQ2 is expected to create tens of thousands of additional jobs and tens of billions of dollars in additional investment in the surrounding community.”

Beginning with the assumption that Amazon has selected The City of Boston as its new location for HQ2, analysis was conducted on the sites that Boston has proposed to Amazon. Four sites were analyzed with Seattle current headquarters as a control group.

However, the purpose of this analysis is two-fold. In evaluating the change Amazon has created in Seattle and its real estate climate, implications can be made as to the impact HQ2 will have on its potential landing spot. This is especially relevant for Invesco, an individual investment management firm. As the client for this analysis, Invesco’s goals are to identify the kinds of places that appeal to a change agent like Amazon and identify the effects that entry of a major change agent like Amazon have on a location. The question is, “Where will Amazon HQ2 land in Boston, and what is the impact on investment real estate in the greater Boston area?”

METHODOLOGY

This section should survey (1) your data options and choices, and (2) your methodological options and choices. In both cases, discuss the possibilities that were open to you and discuss how you came to your final selections for your implementation. *Data:* give an idea of the kinds of data (providers, specific databases) that you found that broadly related to our project focus this semester, and explain how you came to choose the database(s) that you actually incorporated in your analysis. *Methods/Models:* describe the kind(s) of analytical options that you are familiar with through this and other courses, and explain the methods/models that you actually chose for your project work. This section should be approximately two typed pages (double spaced) in length (approximately 400 words), not including any maps or other illustrations you may wish to include.

The analysis of an HQ2 site, required countless factors were deliberated. Considering the questions outlined above, a distinction was made between site selection comparison and site implications. For the former, site selection came down to several dynamics. Of the four sites proposed by the City of Boston, a comparison was done with Seattle's own South Lake Union as a baseline. The implication existing that Amazon will land wherever a similar climate exists.

The City of Boston published an extensive request for proposal response, which determined the four potential sites; Suffolk Downs, South Boston Waterfront/Downtown, South End, Back Bay, Roxbury, and Widett Circle (SBRW), and Allston / Brighton to South Station. A determination was made to use these proposed sites, as the knowledge of the City of Boston on its own real estate options are significantly superior to any data found otherwise.

Site Selection Comparison:

Several suitability analyses were conducted in ESRI's Business Analyst Online (BAO). Each suitability analysis had a different focus in mind. Specifically, the analysis broke down the individual aspects of where a successful HQ2 will land. Most analysis were conducted with a 30 minute walk time as the defined analysis area. This was determined to be the most effective area around each site to analyze because of the proximity of each site to each other. Not only proximity but also culture. As per Amazon's website in reference to their Seattle HQ; "In fact, about 15% live in the same zip code as their office and about 20% walk to work. This is one of the many advantages of having an urban campus."

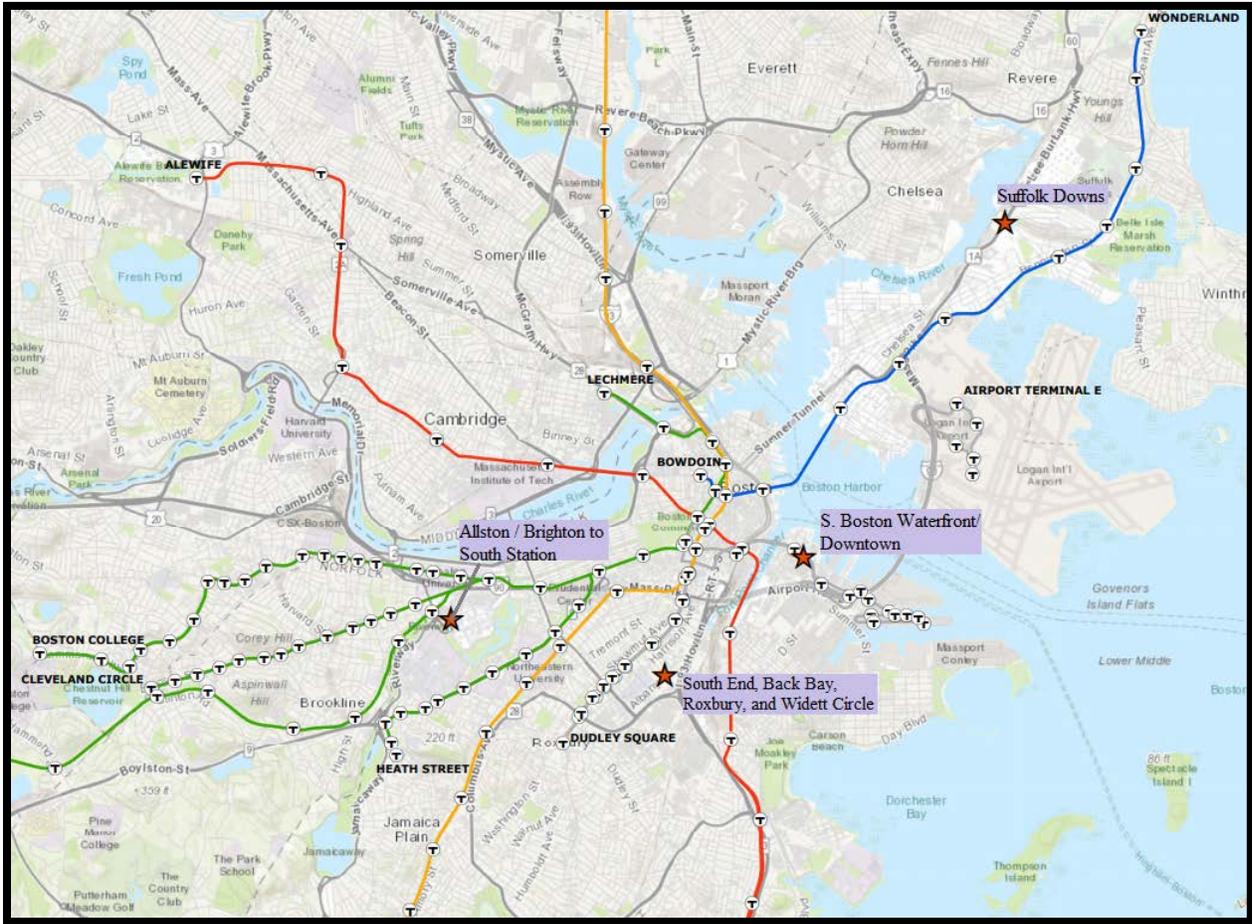


Figure 1. Data from MassGIS Data: MBTA Rapid Transit

Next, transit was examined to determine the suitability of each site. Walkscore.com for each site was compared to the South Lake Union Headquarters. A map of Boston’s subway system was also analyzed with proximity to potential site in mind. Map displayed above.

Addresses from each building within each site were inputted into the Massachusetts Bay Transportation Website to average overall proximity to bus and subway stops for each site.

Each site was then examined to determine the potential investment opportunities for Invesco. As a result of the difference in the aforementioned dynamics, each site had slightly different demographics, business climate, and culture. After extensive research on the impact of

Amazon's Headquarters' move to downtown Seattle, forecasts on the influence of HQ2 on Boston were made.

Site Implications:

To look at the potential implications for Invesco depending upon where HQ2 lands, South Lake Union was examined. The purpose of this examination is to predict how the potential HQ2, as a change agent, will affect the City of Boston in terms of investments, mainly the real estate variety. A Tapestry Area Segmentation Profile was conducted using the 30 minute walk times. For this analysis, the assumption that the Dominant Tapestry Profiles in Seattle would grow exponentially at the site where HQ2 lands. With that in mind, the housing and spending habits of the Dominant Tapestry Profiles were taken into account to support the overall recommendation to Invesco.

Research was also conducted on specifically how return on investment can be made in real estate. Trends in Real Estate investment were analyzed, and focus was made on the types of real estate likely to be most successful with the Tapestry Segmentation Profile most likely to grow in and around the site Amazon selects.

RESULTS

Site Descriptions *(see figure 1 above for locations)*

1. Suffolk Downs

Strategically located within the urban area of East Boston and Revere, the Suffolk Downs site offers the thriving, healthy and viable environment that Amazon is seeking. As one of the largest development sites in the Northeast, Suffolk Downs enjoys the advantage



Figure 2. Suffolk Downs. Photo from the City of Boston RFP response

of providing a blank canvas for the HQ2 development—this area has the flexibility to not only meet and exceed Amazon’s current goals, it will also be able to evolve with the ever-changing needs of the company. (Boston Amazon HQ2, 2018)



Figure 3. South Boston Waterfront and Downtown. Photo from the City of Boston RFP response

2. South Boston Waterfront / Downtown

Downtown Boston and the South Boston Waterfront offer a unique opportunity for Amazon to exist in the midst of the bustling downtown area, just minutes away from Logan

International Airport. This area

presents an opportunity for Amazon to plan for additional growth. Directly adjacent to Downtown, the South Boston Waterfront has emerged as one of the nation’s most dynamic neighborhoods, growing by more than 7.2 million square feet since 2010. It is home to numerous headquarters including Vertex, LogMeIn, GE, Autodesk, Reebok, and Gillette and anchor tenants including PWC and Goodwin-Proctor. Other important anchors include District Hall, the nation’s first public innovation center, and MassChallenge, a global non-profit accelerator. (Boston Amazon HQ2, 2018)

3. South End, Back Bay, Roxbury, and Widett Circle

One of Boston’s most eclectic neighborhoods, the South End’s Harrison Albany Corridor was rezoned in 2012 following a community planning process that envisioned the former industrial area as a mixed-use neighborhood. The historic neighborhood of Back Bay is situated along the Charles River, and is adjacent to Downtown and the Public Garden. Today Back Bay is known for its elegant architecture and bustling commercial streets. (Boston Amazon HQ2, 2018)



Figure 4. South End, Back Bay, Roxbury, Widett Circle. Photo from the City of Boston RFP response

4. Allston / Brighton to South Station



Figure 5. Allston/Brighton to South Station. Photo from the City of Boston RFP response

Allston/Brighton is one of the city’s most energetic and diverse neighborhoods.

Home to Harvard University’s expanding campus, this neighborhood includes a strong small

business market as well as

Genzyme and New Balance headquarters. Commonwealth, Brighton, and Harvard Avenues feature hip bars and unique ethnic restaurants, creating hubs of activity throughout the community. Harvard, which owns more land in Boston than in Cambridge, is a major anchor of the neighborhood. Brighton is home to a vibrant mix of old and new, residential and commercial. Families who have called Brighton home for generations share the neighborhood with recent immigrants, students from nearby colleges, and young professionals

Building Infrastructure Comparisons: *South Boston Waterfront*

Site	# of Properties	Sq. Ft
Suffolk Downs	1	8,000,000
South Boston Waterfront and Downtown Boston	13	14,400,920
South End, Back Bay, Roxbury, and Widett Circle	14	6,403,500
Allston / Brighton to South Station	7	4,262,000

Figure 6. Number of properties and square footage drawn from The City of Boston’s RFP response

As you can see in figure 6, South Boston Waterfront and Downtown has the greatest amount of office space available, but that square footage is spread across 13 places. While important to note, Amazon has shown it has no qualms about having multiple buildings, per their HQ in South Lake Union. Suffolk Downs will likely have multiple buildings but all within the one parcel and it meets Amazons total square footage requirement by 2027.

Proximity: *Suffolk Downs*

Site	Avg. Time to Logan by Car	Avg. Time to Logan by Transit	Avg. Closest Bus Stop	Avg. Closest Subway Station
Suffolk Downs	5 min	5 min	432 ft.	3168 ft.
South Boston Waterfront and Downtown Boston	9.8 min	16.5 min	238.5 ft.	2852.2 ft.
South End, Back Bay, Roxbury, and Widett Circle	12.7 min	28.1 min	374.7 ft.	2186.1 ft.
Allston / Brighton to South Station	15 min	26.7 min	418.1 ft.	2240.4 ft.

Figure 7. Data for distance to bus stop and subway station from the Massachusetts Bay Transit Authority. Time to Logan International Airport drawn from The City of Boston’s RFP response and averaged for each site.

Proximity is an important factor for Amazon; proximity to population center, international airport, major highways and mass transit are core preferences listed. All sites are well within 30 miles of the population center, as well 1-2 miles to the multiple major highways. Suffolk downs has the closest proximity to Logan International airport. For the sake of argument it also has the longest walk to the closet bus and subway stops, though by an easily surmountable measurement. About 200 feet and 1000 feet, respectively, gap between Suffolk down and the leader in

proximity. Walking less than an extra quarter mile is not a deciding factor in this analysis. The gap in proximity to airport holds more weight.

Culture: South End, Back Bay, Roxbury and Widett Circle

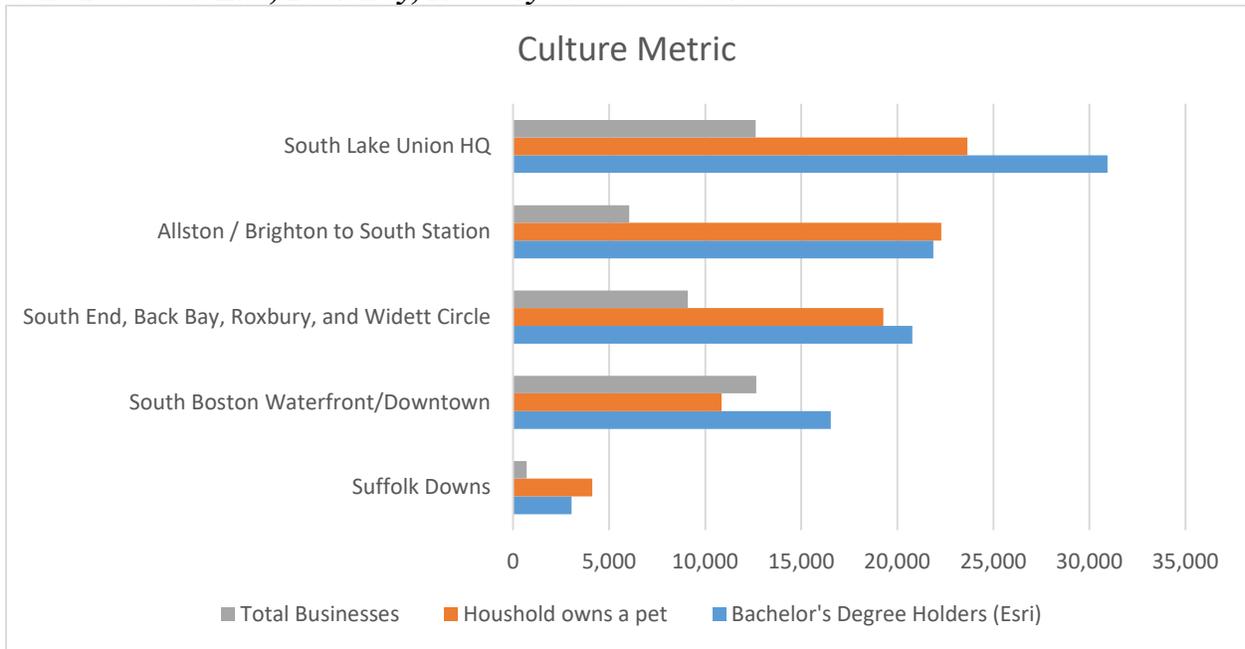


Figure 8. Data from ESRI BAO.

There is no clear winner in terms of culture. Amazon mentioned requiring the presence and support of a diverse population, excellent institutions of higher education, and a stable and consistent business climate is important to Amazon. South Boston Waterfront/Downtown has the most total businesses, a proxy for business climate.

Site	Diversity Index (Esri)
Suffolk Downs	80.8
South Boston Waterfront/Downtown	50.2
South End, Back Bay, Roxbury, and Widett Circle	76.9
Allston / Brighton to South Station	66.2
South Lake Union HQ	54.7

Figure 9. Data from ESRI BAO.

In regards to as Diversity Index, according to ESRI’s metrics, every site has a higher diversity except South Boston Waterfront/Downtown. Combined with the other culture metrics, South End, Back Bay, Roxbury and Widett Circle has the highest combined culture metrics.

Site Implications:

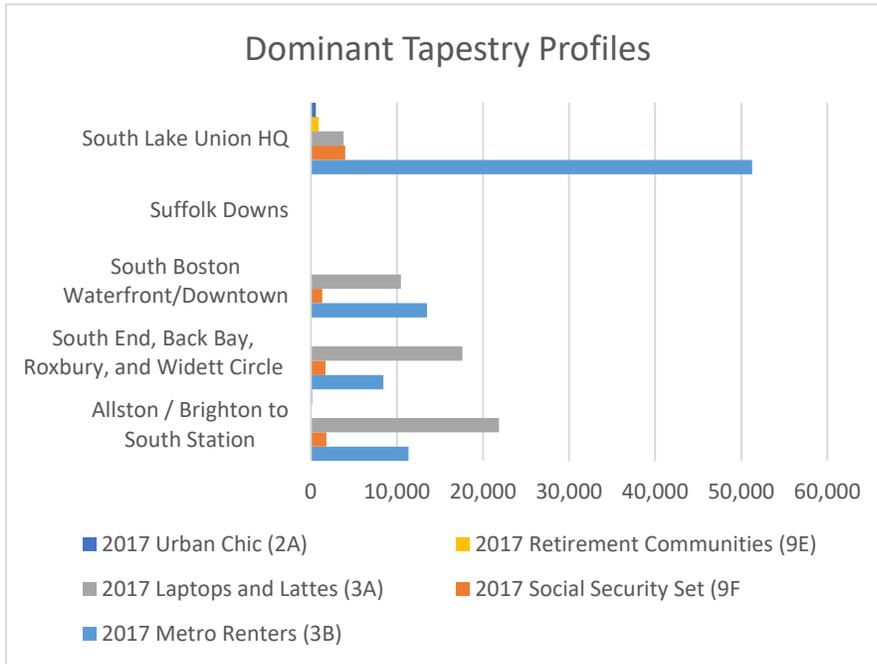


Figure 10. Data from ESRI BOA

Using the real estate trends in Seattle to predict the trends in Boston are imperative for Invesco. Emerging Trends in Real Estate® survey respondents have selected Seattle as the top-ranked market in this year’s survey (Kelley, H. F.,

Warren, A., & Kramer, A, 2018). If Seattle is the indicator, Boston will soon follow in a few years. Boston is already ranked number ten by this same survey. The urbanization trend has been beneficial to the Northeast region; Boston cites the influx of not just millennials, but highly educated millennials, as driving recent growth. This will continue as workers migrate as evidenced below in in Figure 10. South Lake Union and the surrounding 30 minute walk time have a large amount of Metro Renters profiles. The neighborhoods Metro Renters live in feature 20+ unit apartment buildings, typically surrounded by offices and businesses (ESRI, 2018). Almost 80 percent of these profiles rent, an important metric for Invesco.

Boston's investment market is already quite high, as well as availability of capital due to the strength of the market (Kelley, H. F., Warren, A., & Kramer, A, 2018). As demand grows, rent trends and as a result, profit will continue to rise. Current rent trends are shown below. Again, using Seattle as an indicator, Boston's rents should become more stable and continue to rise.

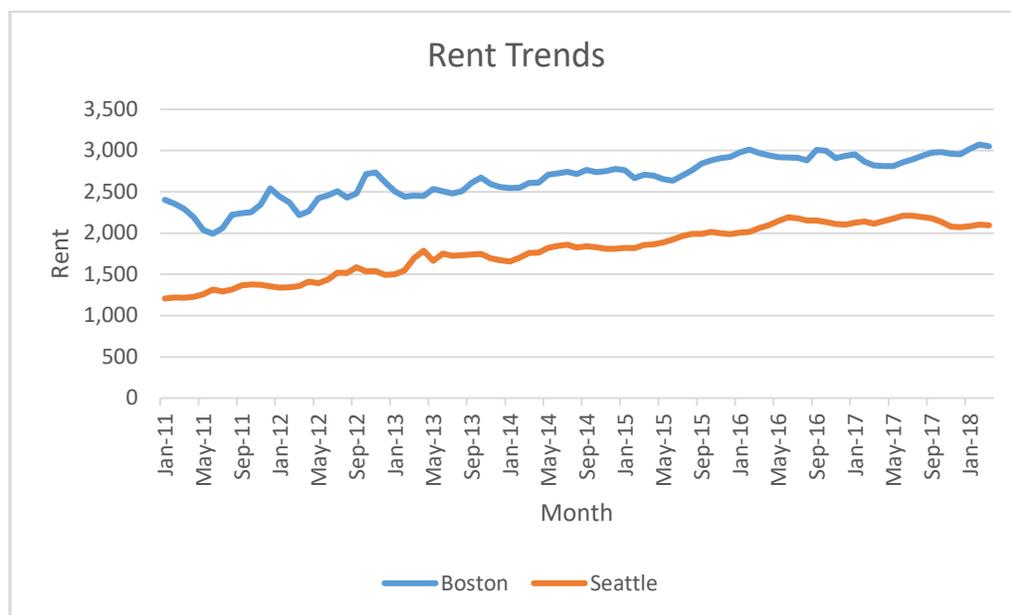


Figure 11. Data from rentjungle.com

Exhibit 4-1 Prospects for Major Commercial Property Types, 2018 versus 2017



Figure 12. Source: Emerging Trends in Real Estate surveys.

A delve into the specific property types to invest in based upon both overall investment prospects and specifically for the City of Boston, it is clear single family housing, multifamily housing and industrial are all have high outlook. Jumping into this market now will only increase potential profit, as

HQ2's location will bring an increased use value to the area. Office space will also be a sector to consider (see figure 13).

Exhibit 3-27 Northeast: Sector and Local Outlook Scores

Overall rank		Investment prospect scores, by sector						Local outlook score*
		Office	Retail	Industrial	Multifamily	Hotel	Housing	
10	Boston	3.69	3.20	3.77	3.79	3.33	3.92	4.05
26	Pittsburgh	3.42	3.62	3.00	3.94	3.13	3.75	3.69
28	Philadelphia	3.16	3.14	3.66	3.55	3.41	3.83	3.66
30	New York–Brooklyn	3.27	3.17	3.55	3.40	3.33	3.75	3.88
33	Northern New Jersey	2.69	3.05	4.18	3.49	2.78	3.60	3.47
40	New York–other boroughs	3.17	3.38	3.00	3.59	2.71	3.50	3.79
44	Long Island	2.90	3.00	3.00	3.71	3.00	3.00	3.47
46	New York–Manhattan	3.43	3.07	3.44	3.36	3.15	3.33	3.96
50	Westchester, NY/Fairfield, CT	2.89	3.33	3.33	3.50	3.00	4.00	3.30
58	Baltimore	2.62	2.73	3.63	3.41	3.00	3.30	3.20
59	Portland, ME	3.00	3.00	3.00	3.29	3.33	2.50	3.12
68	Providence	2.29	2.33	3.25	3.18	3.00	4.00	3.29
69	Hartford	2.56	2.50	3.00	3.08	3.00	—	2.66
77	Buffalo	3.00	2.50	—	3.29	3.00	—	3.24
Northeast average		3.01	3.00	3.37	3.47	3.08	3.54	3.49

Source: *Emerging Trends in Real Estate 2018* survey.
 *Average score of local market participants' opinions on strength of local economy, investor demand, capital availability, development and redevelopment opportunities, public/private investments, and local development community.

Figure 13

Across all potential sites, total housing is lower than South Lake Union even in areas where population is higher (see figure 14). Herein lies the investment prospects. With or without HQ2 there is room to invest in the housing in these areas, as demand is high and supply is low which drives up rent prices.

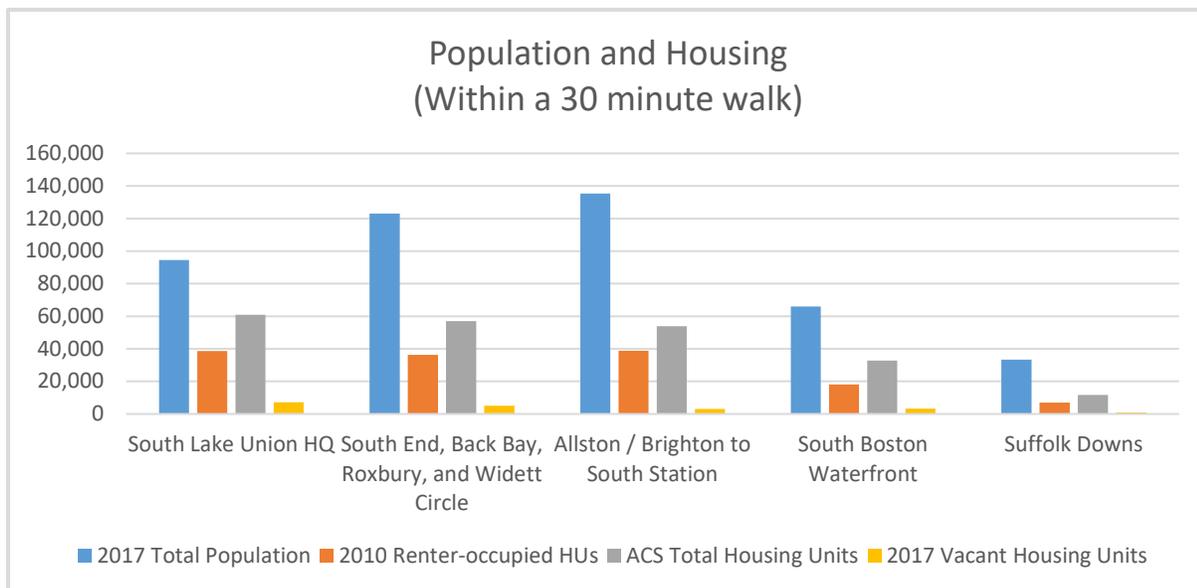
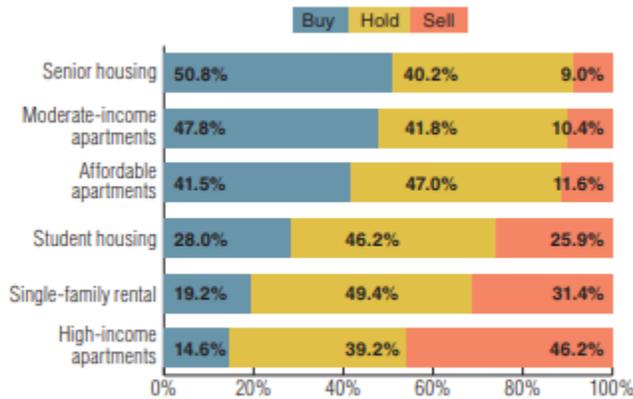


Figure 14. Data from BOA

RECOMMENDATION

A recommendation have been made for each sector outlined; Multifamily, Industrial, and Office as these are the sectors with the best outlook that Invesco historically invests in. Were HQ2 to locate in Boston, these sectors would only grow more.

Apartment Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2018* survey.
 Note: Based on U.S. respondents only.

Multifamily Apartments: *Moderate-income*

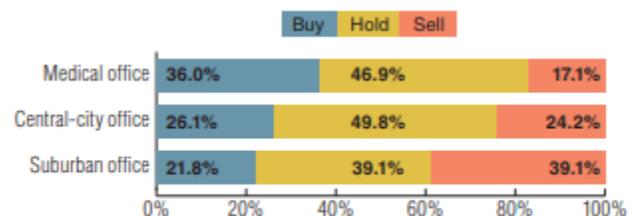
The dominant profile of Metro Renters will increase in Boston, and with it, a demand for multifamily apartments. Investors face both “known unknowns” and “unknown unknowns” that can weigh on both psychology and ultimate performance in long-haul multifamily investment in a big

way (Kelley, H. F., Warren, A., & Kramer, A, 2018). As the average income of the sites indicates, currently there is a moderate income, but with HQ2 there is room to invest in high-income apartments. With an influx of a higher earning population, high income apartments will be in more demand. Though the clear area to invest is Moderate-income apartments, High-income apartments should also be considered. If Amazon were to locate at Suffolk Downs, this recommendation would be even more pertinent such a low amount of housing, including multifamily.

Office: *Central-City Office*

If Amazon were to locate in Boston, office space would continue to have a high outlook, specifically central-city office space. While HQ2 could impact medical office space

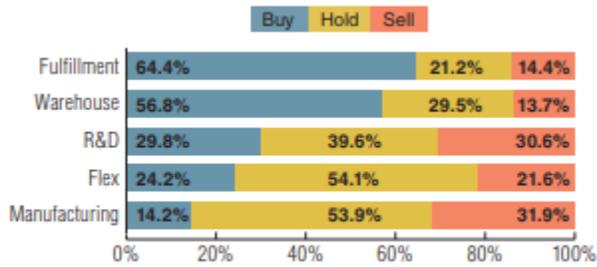
Office Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2018* survey.
 Note: Based on U.S. respondents only.

outlook, it's safe to assume it would affect central city office space considerably more. This is evidenced by CBD office prices raising 58 percent above their 2008 peak while suburban prices still lagging their 2007 peak by 4 percent in 2018. The Central Business District is the area to invest in.

Industrial/Distribution Buy/Hold/Sell Recommendations



Source: Emerging Trends in Real Estate 2018 survey.
 Note: Based on U.S. respondents only.

Industrial: *Research and Development*

Strong and continuing demand; industry growth follows from demographic trends.

Industrial real estate is poised to continue generating consistent, healthy demand in the year ahead. Considerable rent growth so far

in the expansion has translated to a record-wide gap between in-place and market rents (Kelley, H. F., Warren, A., & Kramer, A, 2018). R&D has the highest buy percentage at 56.8% that will be directly affected by HQ2 locating in the City of Boston. While fulfillment and warehouse will continue to have a strong buy percentage, they are not posed to increase in demand as other tech industries immerge in Boston as a result of HQ2.

Cite Dependent Recommendations:

Suffolk Downs: Locating in East Boston, a neighborhood was created by connecting several islands using land fill, will provide physical barriers to expansion. The 30 minute walk time area does not cover near as many square feet of land as other sites will provide. Space will be at a premium, and any real estate investment will be successful if Amazon locates HQ2 here, with the above recommendations being the strongest.

South Boston Waterfront and Downtown: With an already bustling business climate, industrial and office space already have high demand. This area has the highest amount of businesses

compared to the other prospective sites. Multifamily apartments stand to have the highest outlook in this area as it has the lowest amount of renter occupied housing units, not near enough to meet the demand if HQ2 were to locate here, compared to industrial or office, investment in development is considered by Invesco.

South End, Back Bay, Roxbury, and Widett Circle: Compared to the other prospective sites, this area is middle of the pack in most metrics. A general recommendation can be made to stick to the three sectors recommended above. Where this site stands out is its diversity index, which is not an effective indicator of any potential real estate decisions when compared to Seattle as its diversity index is lower than all sites considered.

Allston / Brighton to South Station: With the highest population of prospective sites, by almost fifteen thousand people, this is the densest site in terms of population. With that population density, there is only about two thousand more renter occupied housing units. As a result, multifamily housing will have the highest demand and return on investment at this site.

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