Market Analysis and
Economic Impact Analysis
for
375 M St and 425 M St, SW
Washington, DC

Prepared for:

Waterfront 375 M St, LLC
Waterfront 425 M St, LLC

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ZONING COMMISSION
District of Columbia
CASE NO.02-38I
EXHIBIT NO.13F

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Table of Contents

Executive Summary

Forest City Washington, Managing Member and developer of Waterfront 375 M St, LLC and Waterfront 425 M St, LLC, is asking the Zoning Commission to modify its approved Planned Unit Development to allow mixed-use development of 375 M and 425 M Street, SW for residential, retail and neighborhood office uses rather than for office and retail space. Partners for Economic Solutions has prepared this report to document the change in market demand, to analyze the effect on Town Center retail development and to estimate the incremental fiscal benefits to the District government as a result of mixed-use development of the two parcels.

Market Considerations

Over the past decade, development activity in the District and the region as a whole has shifted dramatically from its former focus on office development to much greater emphasis on multi-family residential development. Office market demand has slackened significantly as tenants make much more efficient use of space. Whereas office tenants leased an average of 225 square feet of space per employee a decade before, that allowance has now declined to 175 square feet per employee and is continuing to shrink. Several major law firms have moved to more efficient spaces, leasing 15 to 25 percent less space than before. Even as employment grew, the demand for office space has declined. U.S. General Services Administration (GSA) policies are pushing Federal tenants into Government-owned space and requiring agencies to improve their space efficiencies so as not to increase the amount of leased space. Over Fiscal Years 2013 to 2017, GSA submitted 24 District of Columbia lease prospectuses for Congressional approval; they called for leasing 10 percent less space than the existing leases.

The District now has a vacancy rate of 11.6 percent including an overhang of 5.6 million square feet of vacant office space in excess of the 8.0-percent vacancies needed for a healthy market – a 10.1-year supply relative to the pace of absorption over the last seven and a half years. An additional 6.2 million square feet of new space is currently under construction, an 11.4-year supply. Plans for another 58 office buildings have been approved or announced with 20.6 million square feet of space – 37.5 years of additional supply. The vacancy rate in Southwest and Capitol Riverfront is even higher at 14.0 percent.

If 375 M and 425 M Street, SW were to be developed for office space, they would be competing against 37 existing buildings and 11 buildings under construction each with a block of available space in excess of 100,000 square feet. They would compete against buildings situated in established office clusters in close proximity to multiple Federal agencies and Capitol Hill (e.g., Downtown and NoMa). Given the lagging demand, the existing overhang of vacant space, the fact that many companies have not yet consolidated into more efficient space, the continued movement of Federal tenants into Government-owned space and the potential shrinking of the Federal government, it is unlikely that the development of these two major office buildings would be feasible in less than 10 years.

Despite the extreme competition for large office tenants, the office market for smaller neighborhood-serving businesses is much stronger. The area's population growth is increasing the customer base, and the supply of small tenant spaces other than co-working space is relatively limited. Landlords focus primarily on larger half- to full-floor tenants. In contrast, the second-floor spaces in 375 M and 425 M Street, SW are specifically targeted and configured for small businesses that serve local residents.

The multi-family housing market is experiencing high levels of new construction with one important difference – strong demand that has supported rapid lease-up of properties added to the market over the last few years. Annual absorption for the last three and a half years has averaged 4,057 units in the District as a whole and 778 units in the Southwest/Capitol Riverfront submarket, which has emerged as a major competitive force. Seventeen developments with 4,943 units are currently under construction in the submarket, where recently-constructed buildings have leased quickly.

Residential units at 375 M and 425 M Street, SW likely would compete well for future tenants, given their advantages of a Metro location, mixed-use setting surrounded by about 150,000 square feet of adjacent retail space, quality design and finishes, extensive amenities, adjacency to Safeway and proximity to the Southwest Waterfront and Capitol Riverfront entertainment amenities. Based on evaluation of the two buildings' competitive advantages and disadvantages, construction is likely to begin within 18 to 24 months with delivery by 2021 and 2023 – at least eight years before an office development could occur.

Retail Impacts

The Waterfront Station community plan calls for creation of a Town Center environment that emphasizes neighborhood-serving retail to meet residents' day-to-day needs. Comparing the potential retail sales under the two development scenarios shows that the future residents and employees in the proposed mixed-use development would spend $2.8 million more with Waterfront Station retailers each year than would employees working in office buildings at 375 M and 425 M Street, SW.

The much-later timing of office development would significantly delay the ability of the Waterfront Station Town Center to attract new retailers, who would bypass Waterfront Station in favor of more densely developed locations, such as Capitol Riverfront and The Wharf. No new physical retail space would be added for more than 10 years, thus hindering the completion of the Town Center retail element. Waterfront Station also would suffer from the lack of an anchoring presence on its southern border. Without development of the vacant M Street lots and the Metro Plaza, the retail district would continue to struggle with an inadequate sense of place. The enhanced urban form provided by new buildings at 4th and M Streets and the Metro Plaza would encourage greater pedestrian activity by providing quality landscaping and street furniture, which would extend commercial activity outdoors and thus help to create the Town Center environment.

Fiscal Impacts

Residential development of 375 M and 425 M Street, SW would generate significantly greater return to the District government than would office development by virtue of the near-term timing of development. Construction-period tax revenues under the two development programs would total roughly $9.0 million spread over four years (expressed in constant 2017 dollars). During operations, the higher property tax rate for commercial property would generate greater revenues under the office/retail development as approved. Considering the total revenue from real and personal property taxes, income and sales taxes paid by residents and project employees, parking taxes and utility taxes, commercial development would generate $14.1 million in annual revenues as compared with $10.3 million generated by the proposed mixed-use development.

The comparison is reversed once the timing of development is considered. The additional eight years of tax revenues from the mixed-use development would outweigh the higher annual revenues from commercial development once you consider the time value of money. The $198.8 million net present value of future tax revenues from the proposed mixed-use development would be 8.0 percent higher than the present value of future revenues from the approved office/retail development. Therefore, benefit to the District would be greater under the proposed plan.

Total and Net Present Value of New Tax Revenues Generated over 20 Years of Development

Option	Total New Revenues[1]	Net Present Value of New Revenues[2]
	(In millions of dollars)	
Office/Retail as Approved	$322.3	$184.1
Mixed Uses as Proposed	$317.0	$198.8

Note: [1]Total revenues shown in constant 2017 dollars.

[2]Net present value based on a 2.0-percent annual inflation, a 5.0-percent discount rate and a 7.0-percent reversion value.

Source: Partners for Economic Solutions, 2017.

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I. Introduction

The Waterfront Station development was originally approved to include four office buildings and four residential buildings. Three properties remain – 375 M and 425 M Street, SW and the Northeast building under review. Since that original approval, the local and regional markets have changed significantly. Office demand has declined sharply as high levels of residential demand continue unabated. Forest City Washington, Managing Member and developer of Waterfront 375 M St, LLC and Waterfront 425 M St, LLC, is asking the Zoning Commission to modify its approved Planned Unit Development to allow mixed-use development of 375 M and 425 M Street, SW for residential, retail and neighborhood office uses rather than for office and retail space. Partners for Economic Solutions has prepared this report to document the change in market demand, to analyze the effect on Town Center retail development and to estimate the incremental fiscal benefits to the District government as a result of mixed-use development of the two parcels.

These two buildings and the Northeast building would complete the Waterfront Station development, which now includes office buildings at 1100 and 1101 4th Street, SW, the East and West residential buildings completed in 2013, and the new Eliot on 4th apartment building opened in April 2017. Safeway and CVS Pharmacy have stores in the 1100 4th Street building. The District controls the Northeast building site on 4th Street at I Street that PN Hoffman has proposed for an apartment house with ground-floor retail space. The Bernstein Companies are currently developing a 187-unit residential development at 301 M Street, SW. The Mill Creek Residential development between 425 M Street, SW and Arena Stage anticipates 276 residential units split between the two available lots.

As now proposed, the two new buildings flanking the Metro station would include retail space and residential amenities on the first floors, neighborhood office space on the second floor, 10 1/2 floors of residential apartments and rooftop amenities. A total of 604 apartments would be developed, including 48 units[1] affordable to households with incomes up to 60 percent of the area median family income. Table 1 provides the building program by use.

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[1] 8.0 percent of gross floor area

Table 1. 375 M/425 M Street Development Program		
	Office/Retail As Approved	Mixed Uses As Proposed
Development Program		
Apartments		
Market Rate	-	556
60% AMI	-	48
Total	-	604
Residential (gross square feet)	-	581,110
Office Space (gross square feet)	620,730	38,110
Retail Space (gross square feet)	41,870	41,870
Gross Square Feet	662,600	661,090
Parking Spaces	363	363

Source: Forest City Washington, 2017; Partners for Economic Solutions, 2017.

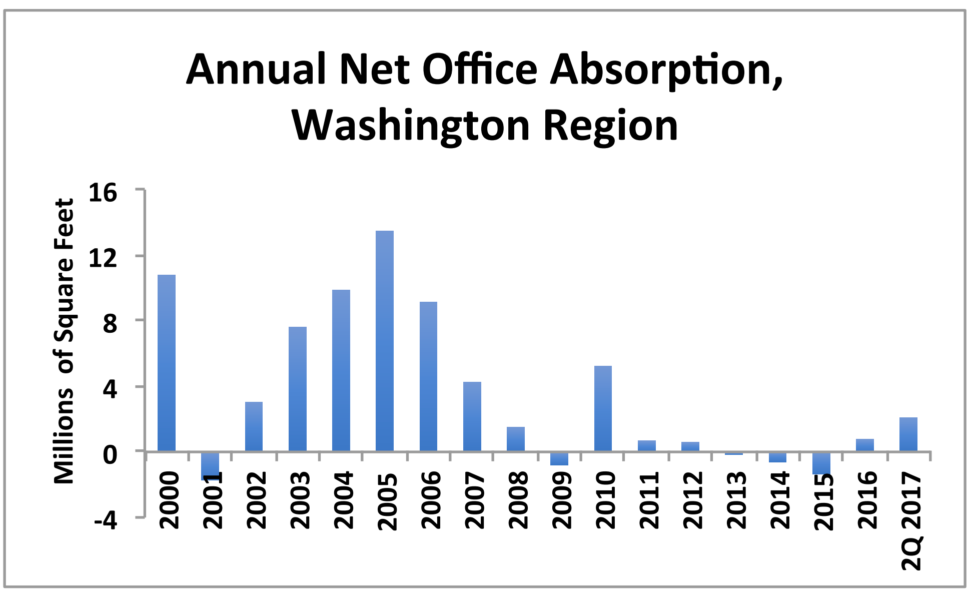
Development is proposed to take place over an approximately four-year period with a development budget of roughly $247 million, excluding land.

II. Market Considerations

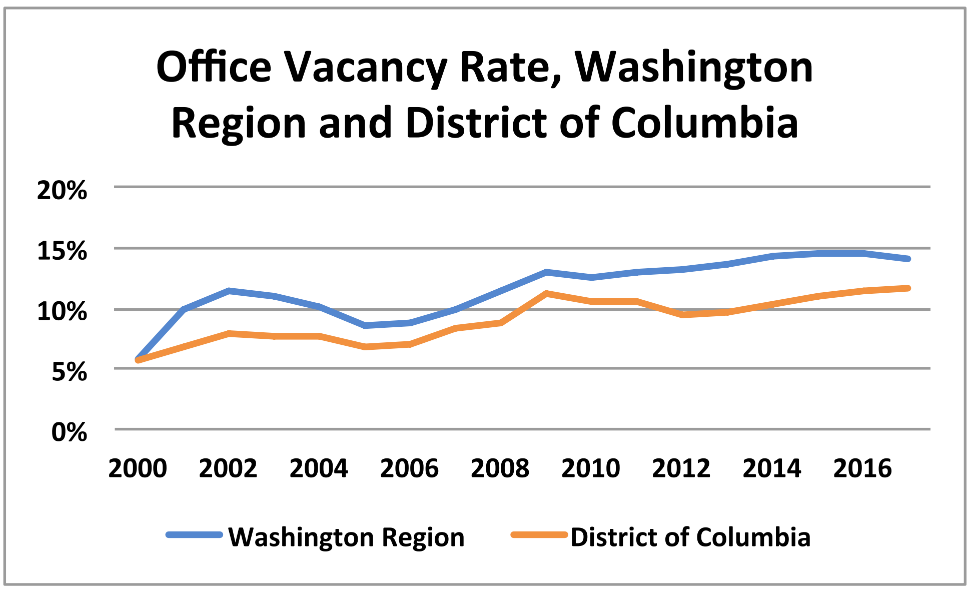
Over the past decade, development activity in the District and the region as a whole has shifted dramatically from its former focus on office development to much greater emphasis on multi-family residential development. Several factors have driven these shifts – demographic forces that have generated greater interest in urban living, public place-making investments that have improved the quality of urban life, increased availability of financing for multi-family development and higher office efficiencies with less space per worker.

Office Market

Washington's regional office market is experiencing major changes related to technology, economic shifts, U.S. General Services Administration (GSA) policies and worker preferences. Market demand has slackened significantly as tenants make much more efficient use of space. The total amount of occupied office space grew somewhat regionally during the recessionary years from 2008 through 2012. Then sequestration and the slowing of the local economy led to negative absorption and a 0.3-percent decline in the amount of occupied office space from 2012 through 2016. Only this year has occupied space rebounded to exceed its 2012 level, based on CoStar data.



Despite slow and then negative absorption, development of new office space continued at high levels, delivering 22.3 million square feet of new space from 2009 through 2016. The regional office vacancy rate rose from 10.0 percent in 2007 to peak at 14.6 percent in 2015 and 2016, a sharp contrast with the 8-percent vacancies typical of a healthy market. The District market followed a similar pattern with vacancies starting at 7.7 percent in 2007 and growing at 11.6 percent by the end of the second quarter of 2017. The District now has 17.9 million square feet of vacant office space or 11.6 percent of total space. That represents a 10.1-year supply of available space in excess of what is needed for a healthy market. The combined vacancy rate in the Southwest and Capitol Riverfront submarkets is even higher at 14.0 percent, further inhibiting office development at Waterfront Station.



Part of this major imbalance can be attributed to the impacts of technology. With laptop computers and the Internet, workers are no longer shackled to their desks and can work from home, clients' offices or even coffee shops. Computerization also has reduced the need for file storage space, law libraries and space to accommodate clerical support personnel. At the same time, companies began shifting from traditional office space with individual offices and/or cubicles to open floor plan designs. Spaces at large tables replaced the cubicle with multiple conference rooms to facilitate collaboration and teamwork. These designs had the additional advantage of significantly reducing the square feet of space provided for each employee and the overall lease cost. Businesses were able to lease new space in better locations at roughly the same total lease cost as for their less flexible and modern space because they were leasing less space. Now in many workplaces, employees arrive in the morning, retrieve their work materials and choose an available table space – "hoteling" – as the share of employees working in the office on any particular day is much smaller than in the past.

Whereas office tenants leased an average of 225 square feet of space per employee a decade before, that allowance has now declined to 175 square feet per employee. Many offices provide as little as 100 square feet per employee. Several major law firms have moved to more efficient spaces, leasing 15 to 25 percent less space than before. Even as employment has grown, the demand for office space has declined.

The Federal government chose to emulate this trend, and GSA instituted the Freeze the Footprint program in 2013 whereby each department had to demonstrate that it was using no more office space than it had in 2012. As major agencies moved to consolidate their space needs, several existing office spaces were vacated in favor of new space that could accommodate open floor plans and greatly reduce Federal leasing of private office space. From 2013 through 2017, the 24 GSA lease prospectuses submitted to Congress for new leases in the District called for 10 percent less space than the agencies currently occupied, as summarized in Table 2 and detailed in Appendix Table A-1. At the same time, GSA policies were guiding agencies out of private leased space into Government-owned buildings and improving the efficiency of those buildings. For example, at the GSA Headquarters, the agency brought back employees out of leased space, increasing the number of employees from 2,200 to 3,300 in the same amount of space following renovations.

Table 2. Major New General Services Administration Leases Proposed for the District of Columbia, Fiscal Years 2013-2017[1]

Number of Leases	26
Total Space Currently Occupied	6,840,000
Space Authorized for Future Leases	6,140,000
Future Space as a Percent of Current Space	90%

Note :[1]Excludes lease extensions.
Space is measured in rentable square feet.
Source: General Services Administration, 2013-2017; Partners for Economic Solutions, 2017.

The prevailing high vacancy rates and slow absorption pace have delayed a number of planned and proposed office developments, creating a significant backlog of potential office projects. Across the District, CoStar reports 22 buildings with 6.2 million square feet of office space under construction (shown in Appendix Table A-2). Based on the absorption pace of the last seven years, this new inventory represents an 11-year supply of office space. Total planned or proposed office buildings could add up to 20.6 million square feet of new space to the District's office inventory, equivalent to an additional 37-year supply.

Table 3. Office Pipeline

Building Status	District of Columbia	Southwest/ Capitol Riverfront
Recent Annual Absorption		
2012-July 2017	- 44,927	68,391
2010-July 2017	521,558	227,405
2000-2009	1,325,490	290,867
Office Space Under Construction		
Number of Buildings	22	6
Rentable Square Feet	6,242,000	1,121,000
Years of Supply[1]	11.4	4.7
Office Space Planned or Proposed		
Number of Buildings	58	16
Rentable Square Feet	20,579,000	4,619,000
Years of Supply[1]	37.5	19.3

Note: [1]Years of supply calculated based on average annual absorption since 2010, allowing for 5.0-percent frictional vacancies.
Source: CoStar, 2017; Partners for Economic Solutions, 2017.

Currently, six office projects with 1.1 million square feet of space are under construction in the Southwest and Capitol Riverfront submarkets, with roughly 537,000 square feet of available space not already pre-leased. Appendix Table A-2 lists 16 office developments planned or proposed for Southwest and Capitol Riverfront with potential for an additional 4.6 million square feet of new office space.

Some new construction has proceeded with space designed to facilitate open floor plans, attracting tenants away from older office buildings. The market timing for 375 M and 425 M Street, SW office development would depend on its ability to compete with other new and existing office buildings for major tenants. While these buildings would offer immediate access to Metro, The Wharf and The Yards developments offer waterfront locations and extensive amenities. Other competitors such as L'Enfant Plaza have the advantage of established office clusters in close proximity to multiple Federal agencies and Capitol Hill. The buildings also would compete with buildings in Downtown Washington, NoMa and elsewhere in the District.

Historically, large office buildings such as 375 M and 425 M in Southwest would have been leased to major government agencies. To secure such agency leases in Fiscal Year 2017, these buildings would be competing for 2.7 million square feet of proposed GSA leases against existing buildings with 37 existing buildings and 11 buildings under construction that have at least 100,000 vacant square feet as well as many of the 58 proposed buildings. Many existing buildings, including the buildings where the agencies are currently located, could deliver space at lower rents than those required for new construction. In future years, White House and Congressional budget proposals to reduce the size of the Federal government could constrain the amount of private space GSA will seek to lease. Continued moves of Federal employees into Government-owned buildings also will reduce GSA's leasing. In Fiscal Year 2017 alone, GSA extended leases for 1.14 million square feet for Department of Homeland Security operations prior to its planned moves to St. Elizabeths.

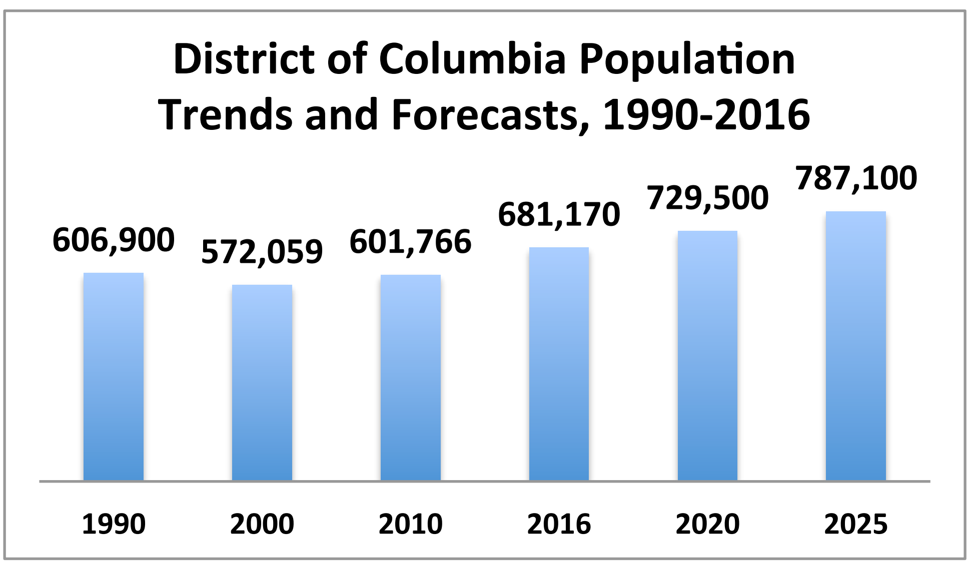
Amenities of The Wharf and Capitol Riverfront are attracting a variety of future tenants including associations, lobbying firms, corporate headquarters, law firms and co-working spaces. To fill a 300,000 square-foot building with such tenants in a market with so much available space existing or under construction, the developer would need to begin building speculatively with no more than half the building pre-leased. Multiple anchors would likely be required. However, few anchor tenants are willing and able to wait for a developer to attract another one or two other major tenants before starting construction, which makes it difficult to pre-lease the buildings at all. Moreover, lenders require that any office building must be at least 50-percent pre-leased before funds can be committed. Forest City Washington does not build speculative office space. Therefore, because Forest City cannot get to 50-percent pre-leased due to low demand for office space and extensive competition, they also cannot get funding to begin construction.

Given the major shifts happening in the office market, no one can know with certainty when the market would be able to support new office space at 375 M and 425 M Street, SW. Partners for Economic Solutions judges that the existing and proposed competition in the market will preclude near-term development of the two buildings as office space. Based on absorption over the last seven years, the existing overhang of vacant space, the fact that many companies have not yet consolidated into more efficient space, the continued movement of Federal tenants into Government-owned space and the potential shrinking of the Federal government, it is unlikely that the development of these two major office buildings would be feasible in less than 10 years.

Despite the extreme competition for large office tenants, the office market for smaller neighborhood-serving businesses is much stronger. The area's population growth is increasing the customer base, and the supply of small tenant spaces other than co-working space is relatively limited. Landlords focus primarily on larger half- to full-floor tenants given the greater revenues associated with each large lease. Small tenants typically are accommodated in "left-over" space not required by the large tenants. In contrast, the second-floor spaces in 375 M and 425 M Street, SW are specifically targeted and configured for small businesses that serve local residents.

Multi-Family Residential Market

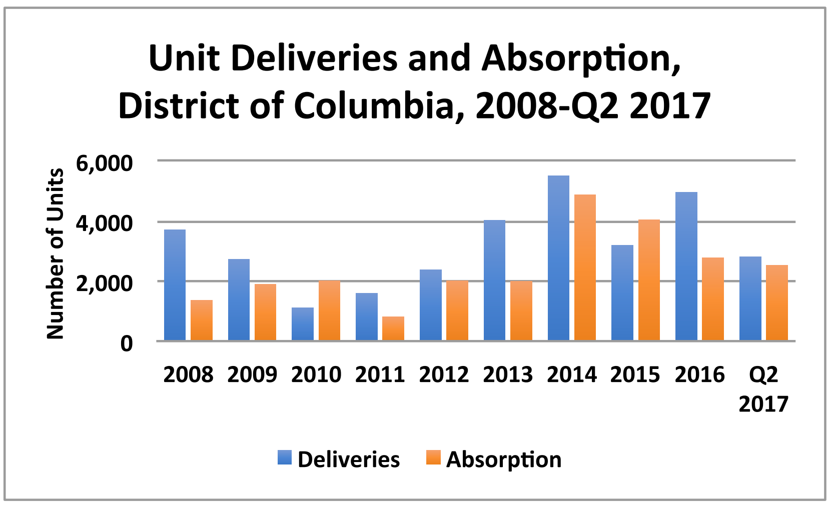
Over the past decade, the District of Columbia has reversed its long-term trend of population losses to a period of rapid growth. In 2011, the District added an average of 1,275 residents each month. Since then, the rate of growth has slowed somewhat, but still averaged 900 new residents per month in 2016.



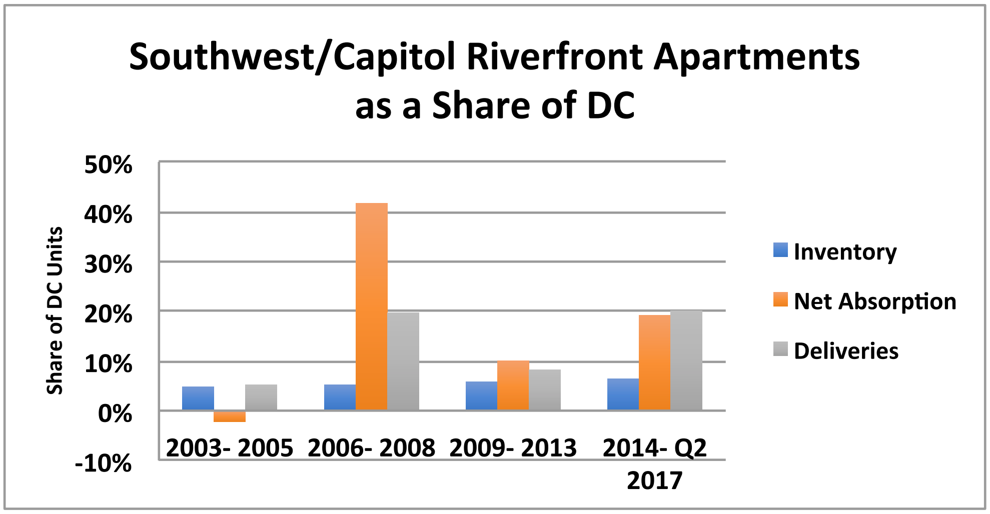
The Metropolitan Washington Council of Governments' Cooperative Forecasts (Round 9.0) predict that the District's population will continue to grow to 729,500 in 2020 and 787,100 in 2025. These population forecasts translate into an average of 11,500 new residents and 4,380 new households annually to 2025. Given vacancy rates and the need to replace demolished units, this forecast would suggest an average demand for development of 4,640 new units annually.

Nationally, there is some evidence that household creation rates are beginning to pick up following the recession as young adults move out of "Mom's basement" and roommates form separate households. Though always susceptible to economic pressures during recessions, these trends suggest a continued level of significant demand for District housing, particularly multi-family rental units.

Since 2013, citywide deliveries and absorption of multi-family units have sustained high levels. Absorption has averaged 4,057 units annually over the past three and a half years.



During the same period, the Southwest/Capitol Riverfront market has emerged as a major force, absorbing an average of 778 units annually for 19.2 percent of the District total. In the first six months of 2017, the Southwest/Capitol Riverfront market absorbed 1,037 units – 41.1 percent of the District total.



The market has responded very well to new offerings in these submarkets. Forest City's most recent multi-family developments have leased very rapidly. Arris at 1331 4th Street, SE in The Yards leased up its 327 units in just 15 months. Twelve12 at 1212 4th Street, SE, also in The Yards, met with similar success, leasing up 218 units within 12 months. Opened in April, Eliot on 4th at Waterfront Station has already leased 146 units, 40 percent of its total inventory for a pace of 36 units per month. The Ruben Companies' One Hill South project at 28 K Street, SE opened its 383 units in March and is already 80-percent leased. F1RST, Grosvenor Americas' 325-unit development adjacent to the Nationals Park opened in April 2017 and is more than half leased in only four months. Park Chelsea, W.C. Smith's 429-unit development at 880 New Jersey Avenue, SE, was recognized by Delta Associates as the region's fastest-leasing development in 2016.

The current pipeline of new multi-family development in Southwest and Capitol Riverfront includes 17 buildings with 4,943 units, as shown in Table 4 and detailed in Appendix Table A-3. An additional 21 buildings (including 375 M Street, SW) with 5,721 units are proposed for delivery by 2021. Beyond 2021, the Greenleaf Gardens redevelopment is planned to replace 493 public housing units and build an additional 1,374 market-rate units; these units were not included in Table 4. Given demographic trends, recent absorption rates are likely to continue over the next few years. Based on those absorption rates, the projects under construction represent a 3.9-year supply. Residential units in both 375 M and 425 M Street, SW would be absorbed given the high absorption rate anticipated in the future.

Table 4. Multi-Family Residential Pipeline		
Building Status	District of Columbia	Southwest/ Capitol Riverfront
Recent Annual Absorption		
2016-Q2 2017	3,529	1,191
Units Under Construction		
Number of Buildings	96	17
Number of Units	14,507	4,943
Years of Supply[1]	3.9	3.9
Units Planned or Proposed for Delivery by 2021		
Number of Buildings[2]	176	21
Number of Units	34,312	5,721
Years of Supply[1]	9.1	4.5

Note: [1]Years of supply calculated based on average annual absorption since 2010, allowing for 5.0-percent vacancies and 1.0 percent for unit replacements.
[2]Includes 375 M Street, SW.
Source: CoStar, 2017; Partners for Economic Solutions, 2017.

Residential units at 375 M and 425 M Street, SW likely would compete well for future tenants, given their advantages:

- location at the Waterfront Metro station;
- mixed-use setting surrounded by about 150,000 square feet of adjacent retail space;
- quality design and finishes;
- proposed rooftop pools, fitness centers, dog runs, courtyards and terraces, business centers and club rooms;
- adjacency to Safeway; and
- proximity to the Southwest Waterfront and Capitol Riverfront entertainment amenities.

Based on evaluation of the two buildings' competitive advantages and disadvantages, construction is likely to begin within 18 to 24 months with delivery by 2021 and 2023.

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III. Effects on Town Center Retail

The Waterfront Station community plan calls for creation of a Town Center environment that emphasizes neighborhood-serving retail. Residents are seeking additional restaurants and services that meet their day-to-day needs. A concern voiced by the ANC 6D relates to the impact of the development change on the potential to achieve that vision for Town Center retail.

Employee Spending

Office workers' spending has been analyzed by the International Council of Shopping Centers[2] based on detailed survey data about spending near the workplace before work, at lunch or directly after work. Office worker spending focuses primarily on eating and drinking, groceries and drugstore items with average annual spending as follows:

Retail/Service Type	Average Annual Expenditures
Full-Service Restaurants	$1,010
Fast Food/Deli/Lunch Eateries	$894
Drugstore	$502
Grocery Store	$991
Personal Services	$259
Other Services	$174
Office Suppliers/Stationery/Gifts	$519
Other Goods (florists, non-food)	$215

These spending estimates reflect workers in locations with ample shopping opportunities. General merchandise (e.g., department stores), apparel, furniture and other related stores (GAFO) tend to cluster in high-density locations, such as shopping malls or F Street, NW, where shoppers can visit several stores and comparison shop. They are unlikely to locate in the Waterfront Station Town Center, which is relatively small in scale and focused on convenience goods and services needed by residents in their day-to-day lives. Without nearby supply, workers will not purchase such GAFO goods close to work.

[2] Niemira, Michael P. and John Connolly, **Office-Worker Retail Spending in a Digital Age**. International Council of Shopping Centers, 2012.

Approved Office/Retail Development

Office development of 375 M and 425 M St, SW would create 662,600 gross square feet of space with 10 of 11 floors devoted to office space – 542,200 net rentable square feet. With the declining amount of space per employee (now estimated at 175 square feet) and a 95-percent occupancy, the development would support 2,943 office workers once fully leased. The changing commuting patterns made possible by technology suggest that 75 percent of those employees would be on site on any particular day. Waterfront Station retailers and restaurants are projected to capture 50 to 100 percent of these workers' expenditures by type of retail, excluding those spent with food trucks and retailers at The Wharf. Resulting Waterfront Station sales estimates attributable to office development of 375 M and 425 M Street, SW total $7.3 million annually (expressed in constant 2017 dollars), as shown in Appendix Table A-4.

Proposed Mixed-Use Development

On average, office workers in the 36,200 rentable square feet of second-floor neighborhood-serving offices in the proposed mixed-use development would occupy an estimated 200 square feet per employee with a higher share (85 percent) of employees in the office on a daily basis. Their annual Waterfront Station retail sales are estimated at $494,000. (See Appendix Table A-5.)

Residents

In comparison to worker spending, a resident is likely to spend much more buying groceries and other convenience goods, eating out and securing services near home than is an office worker near work. Future residents' spending will be affected by incomes, the shares of income spent by retail type and the share of their spending captured by Waterfront Station retailers. Future incomes and spending were estimated based on the average for residents in the area around Waterfront Station (I to M Street and 3rd Street to the river) and in the northwestern portion of Capitol Riverfront from South Capitol Street to 5th Street, Southeast, north of L Street and south of I-695 – both areas (census block groups) characterized by recent, mid-rise multi-family rental buildings. Esri, a national demographic data provider, estimates the mean household income at $134,100. The shares of income spent by retail type range from 6.0 percent in grocery stores and 5.0 percent in restaurants and other eating places down to 0.2 percent spent in book, periodical and music stores. These expenditures include all spending regardless of where the money is spent. Waterfront Station retailers will capture a share of those overall expenditures. The presence of a supermarket and drugstore will allow Waterfront Station to capture 80 to 85 percent of that spending as shoppers primarily value convenience in deciding where to shop for groceries and other sundries. A local hardware store could capture a small share of residents' dollars based on its convenient location, but most hardware dollars would continue to be spent in Home Depot or Lowe's due to their greater selection and lower pricing. Restaurants and drinking places are expected to capture 15 percent of residents' spending given the competition developing at The Wharf and in Capitol Riverfront as well as the tendency to buy lunch near work. Shown in Appendix Table A-6, residents in the mixed-use development are projected to spend $9.6 million in Waterfront Station annually (constant 2017 dollars).

Conclusions

Comparing the potential retail sales under the two development scenarios shows that the future residents and employees in the proposed mixed-use development would spend $2.8 million more with Waterfront Station retailers each year than would employees working in office buildings at 375 M and 425 M Street, SW. If the buildings were developed for office use, the larger number of workers in the office buildings and their greater spending on lunches near work would generate higher sales in restaurants and fast food eateries than would the greater per-household spending of residents. However, the residents' spending would extend into evenings and weekends, providing a better flow of restaurant patrons over a few hours as compared with the crush of the lunchtime trade.

While most residents will not be in Waterfront Station during weekday lunchtimes, the growing trend of people working at home for part or all of the week will generate entrepreneurs, freelancers and telecommuters who venture out for a break at the local coffee shop or eatery. Also valuable will be the individuals drawn to the buildings on weekdays to frequent the professionals and service providers in the second-floor offices of the two mixed-use buildings, including Waterfront Station residents and those from elsewhere in Southwest and Southeast. Furthermore, the existing offices at 1100 and 1101 4th Street, SW already attract a steady flow of architects, builders, attorneys, business owners and homeowners during the day who support the lunchtime food trucks and retailers. Those are the same retailers that also would be supported by office employees at 375 M and 425 M Street, SW. In contrast, the proposed mix of uses at 375 M and 425 M Street, SW would simultaneously (i) support daytime retailers via the neighborhood-serving office uses that will draw customers and clients on a regular basis, who would shop and/or eat at Waterfront Station; and (ii) support new evening restaurants and retailers via the residential use that would draw significant numbers of residents into the Waterfront Station town center during the day and into the evenings and weekends.

Table 5. Differential Retail Sales in Waterfront Station Between Office and Mixed-Use Development of 375 M and 425 M St, SW

	Office/Retail as Approved	Mixed Uses as Proposed			
Retail Type	Employees	Residents	Employees	Total	Difference
Full-Service Restaurants	$1,116,000	$573,000	$76,000	$716,000	$1,388,000
Fast Food/Deli/Lunch Eateries	$988,000		$67,000		
Drugstore	$1,109,000	$2,090,000	$75,000	$2,165,000	$1,056,000
Grocery Store	$2,190,000	$3,942,000	$149,000	$4,091,000	$1,901,000
Liquor/Beer/Wine, Specialty Food	N/A	$391,000	N/A	$391,000	$391,000
Personal Services	$372,000	$1,375,000	$25,000	$1,400,000	$1,028,000
Other Services	$288,000	$650,000	$20,000	$670,000	$382,000
Office Suppliers/Stationery/Gifts	$860,000	$109,000	$58,000	$167,000	$693,000
Other Goods (florists, non-food)	$356,000	$119,000	$24,000	$143,000	$213,000
Building Material & Supplies	N/A	$364,000	N/A	$364,000	$364,000
Total Sales	**$7,279,000**	**$9,613,000**	**$494,000**	**$10,107,000**	**$2,828,000**

Note: Sales in constant 2017 dollars.

Source: International Council of Shopping Centers, **Office-Worker Retail Spending in a Digital Age**, 2012; Esri, 2017; Partners for Economic Solutions, 2017.

The much-later timing of office development would significantly delay the ability of the Waterfront Station Town Center to attract new retailers. In the wait of 10 or more years for development of the two office buildings, retailers would bypass Waterfront Station in favor of more densely developed locations, such as Capitol Riverfront and The Wharf. No new physical retail space would be added for more than 10 years, thus hindering the completion of the Town Center retail element.

Beyond the issue of not having the office workers' spending during the years before development is completed, Waterfront Station also would suffer from the lack of an anchoring presence on its southern border. Without development of the vacant M Street lots, the retail district would continue to struggle with an inadequate sense of place. The enhanced urban form provided by the new buildings at 4th and M Streets and the Metro Plaza would help complete the setting. The Metro Plaza would encourage greater pedestrian activity and interaction by providing quality landscaping and street furniture, which would extend commercial activity outdoors and thus help to create the Town Center environment.

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IV. Fiscal Impacts

Residential development of 375 M and 425 M Street, SW would generate significantly greater return to the District government than would office development by virtue of the near-term timing of development. Construction-period tax revenues under the two development programs would total roughly $9.0 million spread over four years (expressed in constant 2017 dollars). During operations, the higher property tax rate for commercial property would generate greater revenues under the office/retail development as approved. Considering the total revenue from real and personal property taxes, income and sales taxes paid by residents and project employees, parking taxes and utility taxes, commercial development would generate $14.1 million in annual revenues as compared with $10.3 million generated by the proposed mixed-use development, as shown in Table 6. Tax rates and other inputs to the fiscal impact analysis are listed in Appendix Table A-7.

Table 6. Annual District Government Revenues Associated with 375 M/425 M Street, SW Development

	Office/Retail as Approved	Mixed Uses as Proposed
Annual On-Going Revenues		
Real Property Tax	$ 5,625,000	$ 2,955,000
Personal Property Tax	627,500	92,600
Income Tax Paid by Project Residents	-	4,877,300
Income Tax Paid by Project Employees	4,859,900	363,900
Sales Tax Paid by Project Retailers	1,235,000	1,235,000
Sales Tax Paid by Project Residents	-	532,300
Sales Tax Paid by Project Employees	1,566,800	119,400
Parking Tax	119,200	37,900
Utility Tax	115,000	113,600
Total Annual On-Going Revenues	**$ 14,148,400**	**$ 10,327,000**
One-Time Construction-Period Revenues		
Sales and Use Tax	$ 3,933,000	$ 4,802,400
Recordation Tax	2,648,300	2,588,300
Property Tax	1,538,100	714,900
Income Tax Paid by Construction Employees	653,000	697,800
Sales Tax Paid by Construction Employees	156,500	152,200
Total One-Time Revenues	**$ 8,928,900**	**$ 8,955,600**

Note: Revenues in constant 2017 dollars based on Fiscal Year 2017 tax rates.
Source: Partners for Economic Solutions, 2017.

The comparison is reversed once the timing of development is considered. As discussed in Section II, the office development would be unlikely to begin in less than 10 years while the residential development could commence in two years. The additional eight years of tax revenues from the mixed-use development would outweigh the higher annual revenues from commercial development once you consider the time value of money. The net present value discounts future years' revenues to estimate the current equivalent value today because a dollar received eight years from now is much less valuable than one received today. As shown in Table 7, the $198.8 million net present value of future tax revenues from the proposed mixed-use development would be 8.0 percent higher than the present value of future revenues from the approved office/retail development. Therefore, benefit to the District would be greater under the proposed plan.

Table 7. Total and Net Present Value of New Tax Revenues Generated over 20 Years of Development

Option	Total New Revenues[1]	Net Present Value of New Revenues[2]
	(In millions of dollars)	
Office/Retail as Approved	$322.3	$184.1
Mixed Uses as Proposed	$317.0	$198.8

Note: [1]Total revenues shown in constant 2017 dollars.

[2]Net present value based on a 2.0-percent annual inflation, a 5.0-percent discount rate and a 7.0-percent reversion value.

Source: Partners for Economic Solutions, 2017.

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Appendix Tables

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Table A-1. Major New General Services Administration Leases Proposed to Congress, Fiscal Years 2013-2017[1]					
			Rentable Square Feet		Future % of Current
Fiscal Year	Agency	Current Address	Current	Future	
2013	Bureau of Economic Analysis	1441 L St, NW	147,960	135,000	91%
2013	Health and Human Services, Administration for Children and Families	901 D St, SW; 1250 Maryland Ave, SW	241,980	214,000	88%
2013	Homeland Security Office of Inspector General	1120 Vermont Ave, NW	123,976	110,000	89%
2013	National Labor Relations Board	1099 14th St, NW	247,219	155,000	63%
2014	Justice, Federal Bureau of Investigation	1025 F St, NW	151,910	157,000	103%
2014	Corporation for National and Community Service	1201-1225 New York Ave, NW	111,159	105,000	94%
2014	Homeland Security, Customs and Border Protection	1400 L St, NW	140,560	109,000	78%
2014	Housing and Urban Development	550 12th St, SW	78,006	86,000	110%
2014	Justice	600 E St, NW	1,045,230	839,000	80%
2015	Education	550 12th St, SW; 555 New Jersey Ave, NW; 1990 K St, NW	502,329	290,000	58%
2015	Justice	555 4th St, NW; 501 3rd St, NW	415,684	382,000	92%
2015	Justice, Bureau of Prisons	500 1st St, NW	129,035	114,000	88%
2015	Justice, Civil Division	1100 L St, NW; 20 Massachusetts Ave, NW	255,972	217,000	85%
2016	Federal Election Commission	999 E St, NW	136,957	105,000	77%
2016	State	2121 Virginia Ave, NW	110,294	115,000	104%
2016	Veterans Affairs	801 I St, NW	86,927	97,000	112%
2016	US International Trade Commission	500 E St, NW	207,000	207,000	100%
2017	Pension Benefit Guaranty Corporation	1200 K St, NW; 1225 I St, NW; 1275 K St, NW	467,160	431,800	92%
2017	Agency for International Development	400 C St, NW; 2100, 2733 Crystal Dr, Arlington	355,617	355,000	100%
2017	State	515 22nd St, NW	95,999	101,000	105%
2017	State	2200 C St, NW	189,008	198,000	105%
2017	Equal Employment Opportunity Commission	131 M St, NE	160,995	170,000	106%
2017	Peace Corps	1111 20th St, NW	161,725	173,000	107%
2017	Securities and Exchange Commission	100 F St, NE; 600 2nd St, NE; 700 2nd St, NW	1,273,090	1,274,000	100%
	Total		**6,835,792**	**6,139,800**	**90%**

Note: [1]Excludes lease extensions.

Source: U.S. General Services Administration; Partners for Economic Solutions, 2017.

Table A-2. Southwest/Capitol Riverfront Office Pipeline, 2017				
Building Address	Building Name	Building Park	Rentable Building Area	Developer Name
Under Construction				
500 L'Enfant Plaza SW			220,000	The JBG Companies
800 Maine Ave SW		The Wharf	241,450	Hoffman-Madison Waterfront
1000 Maine Ave SW		The Wharf	267,560	Hoffman-Madison Waterfront
600 Water St SW	Pier 4		28,000	Hoffman-Madison Waterfront
1 M St SE	One M		130,000	Monument Realty LLC
99 M St SE			234,000	SCD Acquisitions LLC
Total Under Construction			**1,121,010**	
Proposed				
1301 Maryland Ave SW	The Portals Phase IV	The Portals	490,000	Liberty Property Trust
870 L'Enfant Plaza, SW			350,000	
555 E St SW	555 E Street		30,000	E Street Development Group
125 O St, SE		DC Water HQ	151,300	DC Water
1000 M St, SE	Humane Rescue Alliance		95,000	
1 1/2 1st St SE	1½ Street Works	The Yards	285,000	Forest City Washington
M St SE @ 1 St	The Yards	The Yards	285,000	Forest City Washington
111 M St SE		The Yards	285,000	Forest City Washington
1201 New Jersey Ave SE		The Yards	300,000	Forest City Washington
New Jersey Ave at N St, SE		The Yards	250,000	Forest City Washington
N St at 1st St, SE		The Yards	155,000	Forest City Washington
250 M St SE	250 M Street at Canal Park		227,950	WC Smith
25 M St SE			245,987	Akridge
1100 S Capitol St SE			353,300	Lawrence Ruben Company, Inc.
Maine Ave, SW	The Wharf, Parcel 6 & 7		539,000	Hoffman-Madison Waterfront
Water St, SW	The Wharf, Parcel 10		76,300	Hoffman-Madison Waterfront
600 M St SE		Arthur Capper/ Carrollsburg	500,000	DHCA/Forest City Washington/Urban Atlantic
Total Proposed			**4,618,837**	

Source: CoStar; Southwest Business Improvement District; Capitol Riverfront District; Washington DC Economic Partnership; Partners for Economic Solutions, 2017.

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Table A-3. Residential Pipeline Developments in Southwest and Capitol Riverfront, July 2017			
Building Address	Building Name	Number of Units	Developer Name
Under Construction			
301 M St SW		187	The Bernstein Companies
770 Maine Ave	Incanto	148	PN Hoffman, Inc.
950 Maine Ave SW	The Channel	488	PN Hoffman, Inc.
690 Water St SW	The Wharf Apartments - Parcel 2	320	PN Hoffman, Inc.
800 New Jersey Ave SE	Agora	334	WC Smith
1100 6th St SW	The View at Waterfront - Phase II	276	Mill Creek Residential Trust
680 Eye St SW	Riverside Baptist Church Redevelopment	173	PN Hoffman
222 M St SW	St. Matthew's Residences	221	Trammell Crow Residential Co.
2 Eye St SE	Crescent Capitol View	558	RCP Development Company
201 K St SE	Square 769N	179	DCHA/Urban Atlantic/Forest City Washington
201 L St SE	Arthur Capper Carrollsburg Redevelopment	171	Bozzuto Development Company
1300 4th St SE	The Bower	138	PN Hoffman, Inc.
1201-1221 Half St SW	West Half	465	The JBG Companies
1221 Van St		290	The JBG Companies
1399 Maryland Ave SW	Portals V	365	Republic Properties Corporation
1346 4th St SE	Parcel O2 Apartments	191	Forest City Washington
1250 Half St SE	1250	439	Jair Lynch Real Estate Partners
Total Under Construction		**4,943**	
Proposed for Delivery by 2021			
375 M St SW	375 M St	308	Forest City Washington
65 Eye St SW	Randall School Project	485	Telesis Corporation
501 Eye St SW	The Bard	105	Erkiletian
2100 2nd St SW	Riverpoint	450	Akridge/Western/Redbrick
200 L St SE	Arthur Capper Carrollsburg	295	Urban Atlantic
801 Virginia Ave SE		20	The Bozzuto Group
1542-1550 1st St SW		76	TM Associates Limited Partnership
301 G St SW		295	Urban Investment Partners
41 L St SE	(condo)	144	MRP Realty, Inc.
99 I St SE		400	Tishman Speyer
10 Van St SE	Ten Van	171	Monument Realty LLC
1000 4th St SW	Waterfront Station II	443	PN Hoffman, Inc.
150 I St SE	The Garrett	375	WC Smith
1900 Half St SW		462	Douglas Development Corporation
37 L St, SE	(Condo)	72	Red Ace-DBT LLC
2 I St, SE	2 Eye Phase II	355	RCP/Crescent Communities
Half St @ L St, SE	Parc Riverside Phase II	308	Toll Brothers
300 7th St SW		370	Urban Atlantic
Parcel L-2 Apartments		270	Forest City Washington
Water St, SW	The Wharf Apartments - Parcel 8	235	PN Hoffman, Inc.
Water St, SW	The Wharf Condos - Parcel 9	82	PN Hoffman, Inc.
Total Proposed		**5,721**	

Source: CoStar; Southwest Business Improvement District; Capitol Riverfront Business Improvement District; Washington DC Economic Partnership; dc.UrbanTurf.com; Partners for Economic Solutions, 2017.

Table A-4. Retail Spending by Office Workers, Office/Retail Development Scenario			
	Total Expenditures	**In Waterfront Station**	
Retail/Service Type		**Share**	**Sales**
Full-Service Restaurants	$2,232,100	50%	$1,116,000
Fast Food/Deli/Lunch Eateries	$1,975,700	50%	$988,000
Drugstore	$1,109,400	100%	$1,109,000
Grocery Store	$2,190,100	100%	$2,190,000
Personal Services	$572,400	65%	$372,000
Other Services	$384,500	75%	$288,000
Office Suppliers/Stationery/Gifts	$1,147,000	75%	$860,000
Other Goods (florists, non-food)	$475,200	75%	$356,000
Total	**$10,086,400**		**$7,279,000**

Note: Expenditures and sales in constant 2017 dollars.
Source: International Council of Shopping Centers, **Office-Worker Retail Spending in a Digital Age**, 2012; Partners for Economic Solutions, 2017.

Table A-5. Retail Spending by Office Workers, Mixed-Use Development Scenario			
	Total Expenditures	**In Waterfront Station**	
Retail/Service Type		**Share**	**Sales**
Full-Service Restaurants	$151,500	50%	$76,000
Fast Food/Deli/Lunch Eateries	$134,100	50%	$67,000
Drugstore	$75,300	100%	$75,000
Grocery Store	$148,700	100%	$149,000
Personal Services	$38,900	65%	$25,000
Other Services	$26,100	75%	$20,000
Office Suppliers/Stationery/Gifts	$77,900	75%	$58,000
Other Goods (florists, non-food)	$32,300	75%	$24,000
Total	**$684,800**		**$494,000**

Note: Expenditures and sales in constant 2017 dollars.
Source: International Council of Shopping Centers, **Office-Worker Retail Spending in a Digital Age**, 2012; Partners for Economic Solutions, 2017.

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Table A-6. Retail Spending by Future Residents, Mixed-Use Development Scenario			
		In Waterfront Station	
Retail/Service Type	Total Expenditures	Share	Sales
Restaurants/Other Eating Places	$3,581,800	15%	$537,000
Drinking Places	$180,800	20%	$36,000
Specialty Food Stores	$331,200	30%	$99,000
Beer/Wine/Liquor Stores	$584,300	50%	$292,000
Building Material & Supplies	$1,212,600	30%	$364,000
Personal Services	$1,833,000	75%	$1,375,000
Other Services	$6,504,000	10%	$650,000
Office Suppliers/Stationery/Gifts	$436,800	25%	$109,000
Miscellaneous Store Retailers	$396,100	30%	$119,000
Health & Personal Care Stores	$2,612,600	80%	$2,090,000
Grocery Store	$4,637,300	85%	$3,942,000
Total	**$22,310,500**		**$9,613,000**

Note: Expenditures and sales in constant 2017 dollars.
Source: Esri, 2017; Partners for Economic Solutions, 2017.

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Table A-7. Fiscal Year 2017 Tax Rates and Assumptions		
Employee Densities		
Retail	400	sq. ft./employee
Residential	18.75	d.u./employee
Average Salaries		
Office	$83,800	2016 BLS Median + 1% to 2017 dollars
Retail	$33,500	2016 BLS Median + 1% to 2017 dollars
Residential	$41,900	Forest City comparable property staffing
Real Property Tax		
Residential	$0.85	per $100 of assessed value
Commercial - First $3 Million	$1.65	per $100 of assessed value
Commercial - Above $3 Million	$1.85	per $100 of assessed value
Homestead Exemption	$71,700	
Personal Property Tax		
Personal Property	$3.40	per $100 of assessed value
Sales and Use Tax		
Groceries, Drugs	Exempt	
Retail Goods	5.75%	
Eating and Drinking	9.0%	+1% for WCCA
Construction Materials	5.75%	
Blended Sales Tax Rate		
Construction Workers	5.0%	30% E&D; 40% other retail; 30% non-taxable
Residents	5.1%	25% E&D; 50% other retail; 25% non-taxable
On-Site Non-Grocery Retailers	7.5%	70% E&D; 20% other retail; 10% non-taxable
Project Employees	5.5%	35% E&D; 40% other retail; 25% non-taxable
Parking	18.0%	
Share of Hard Construction Cost to Materials	60%	
Construction Worker Spending in DC	$1,500	
Retail and Residential Employee Spending in DC	$1,500	
Office Employee Spending in DC	$5,400	
Percent of Employees' DC Spending Outside Project	75%	
Retail Sales		
Sales per Square Foot		
Retail Space	$460	
Retail Vacancy Rate	5%	
Share of Residents' Income to Retail Sales	32%	BLS Consumer Expenditure Survey
Share of Residents' Retail Spending in DC	50%	
Share of Residents' DC Spending Outside the Project	90%	

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Table A-7. Fiscal Year 2017 Tax Rates and Assumptions (Continued)		
Income Tax		
Personal Exemption, Standard Deduction	$5,775	
Base Over $10,000	$400	
Percent From $10,000 to $40,000	6.0%	
Base Over $40,000	$2,200	
Percent Over $40,000	6.5%	
Base Over $60,000	$3,500	
Percent Over $60,000	8.5%	
Base Over $350,000	$28,150	
Percent Over $350,000	8.75%	
Average Construction Worker Wages	$26.64	2016 BLS Median + 1% to 2017 dollars
Construction Worker Salaries as Percent of Cost	75%	
FTE Construction Worker Income	$55,400	
Average Soft-Cost Worker Wages	$87,400	
Soft-Cost Worker Salaries as Percent of Cost	50%	
Average Construction Worker Income Taxes	$2,826	
Average Soft-Cost Worker Income Taxes	$5,338	
Average Retail Worker Income Taxes	$1,464	
Average Residential Worker Income Taxes	$1,948	
Percent of Construction Workers Living in DC	25%	
Percent of Soft-Cost Workers Living in DC	30%	
Percent of Project Employees Living in DC	30%	
Utility Tax		
Residential	10.0%	
Commercial	11.0%	
Transfer and Recordation Taxes		
Transfer Tax	1.45%	
Recordation Tax	1.45%	
Sources: District of Columbia Office of Tax and Revenue, 2017; Partners for Economic Solutions, 2017.		

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