

Economic Impact Statement

Office of Legislative Oversight

Bill 16-21

Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards – Amendments

SUMMARY

By establishing Building Energy Performance Standards (BEPS) for commercial and multifamily residential buildings, the Office of Legislative Oversight (OLO) anticipates that Bill 16-21 would have negative economic impacts for owners and tenants of these buildings in the short-term. In contrast, the bill would positively impact local businesses that provide services related to energy conservation and efficiency. Overall, OLO anticipates that the bill would have a negative impact on local economic conditions in the short-term because, in part, it would increase the cost of business and weaken the competitiveness of the County's commercial and multifamily building sector relative to surrounding jurisdictions. The long-term economic impacts, as well as more precise estimates of the short-term costs and benefits, of enacting Bill 16-21 are indeterminate because key parameters of the BEPS policy would be established in regulation and because of other uncertainties.

BACKGROUND

Bill Description

In response to the climate emergency, the County has committed to an 80% reduction in greenhouse gas (GHG) emissions by 2027 and 100% elimination by 2035.¹ One of the top three sources of local GHG emissions comes from commercial buildings, which accounted for 26% of emissions in the County in 2018.² Consistent with the County's ambitious climate goals, the objective of Bill 16-21 is to reduce GHG emissions from the building environment.³ To achieve this objective, Bill 16-21 would make two changes to County law regarding environmental sustainability:

- (1) expand the number of buildings covered by the County's current energy benchmarking program; and
- (2) establish Building Energy Performance Standards (BEPS) for commercial and multifamily buildings with a gross floor area of 25,000 square feet and above.

¹ See Montgomery County Council, Resolution 18-974, Emergency Climate Mobilization, Adopted on December 5, 2017, <https://www.montgomerycountymd.gov/green/Resources/Files/climate/Montgomery-County-Climate-Action-Resolution.pdf>; and Montgomery County Climate Action Plan, Public Draft, <https://www.montgomerycountymd.gov/green/Resources/Files/climate/draft-climate-action-plan.pdf>.

² Transportation & Mobile Sources and Residential Energy were the other leading contributors. See Montgomery County Community Wide Greenhouse Gas Emissions Inventory, <https://www.montgomerycountymd.gov/green/climate/ghg-inventory.html>.

³ Montgomery County Council, Bill 16-21, Environmental Sustainability – Building Energy Use Benchmarking and Performance Standards – Amendments, Introduced on May 4, 2021. See Introduction Staff Report, https://apps.montgomerycountymd.gov/ccllims/DownloadFilePage?FileName=2707_1_14390_Bill_16-2021_Introduction_20210504.pdf.

Economic Impact Statement

Office of Legislative Oversight

Expand Building Energy Use Benchmarking: In April 2014, the Council enacted the first energy benchmarking law in the country.⁴ It requires County-owned and commercial buildings with gross floor areas 50,000 square feet and above to annually track and report building energy performance details to the County's Department of Environmental Protection (DEP).⁵ Bill 16-21 would expand the building energy use benchmarking program to include County-owned, commercial, and multifamily buildings with gross floor areas of 25,000 square feet and above.⁶ According to DEP, there are currently 795 buildings (114M sq. ft.) in the program. Bill 16-21 would add approximately 1,055 buildings to the program, bringing the total number of covered buildings to approximately 1,850 (247M sq. ft.).⁷

Establish BEPS: Building Energy Performance Standards refers to "a policy that sets a minimum required level of energy performance for covered buildings."⁸ Bill 16-21 would require DEP to "develop and implement" BEPS for covered buildings. These standards must do the following:

- "increase the energy efficiency of existing covered buildings";
- "use normalized net site EUI⁹ as a performance metric wherever feasible";
- "account for onsite solar generation in the performance metric";
- "use the benchmarking tool to report building energy performance to the County"; and
- "establish interim and final performance standards."

DEP would be required to calculate a performance baseline for each covered building that is based on average historical energy use. DEP would use interim and final performance standards to determine building compliance by comparing the performance metric (normalized net site EUI) against energy reduction targets.

The BEPS program would have a 12-year cycle. Once the cycle is initiated for a building, DEP will determine whether a building is meeting its energy reduction target every four years. Bill 16-21 would authorize DEP to "determine compliance by comparing the performance metric against the interim or final performance standards [emphasis added]." Thus, buildings would be required to meet total energy reduction targets every 12 years, not every four years. To illustrate, a building that falls below its interim performance standards may "catch up" with energy reductions and meet its final performance standards, thereby staying in compliance with the law.

Bill 16-21 would establish five groups that determine the start of the benchmarking and BEPS periods. The bill defines each group as follows:

⁴ Montgomery County Council, Bill 2-14 – Environmental Sustainability – Buildings – Benchmarking, Enacted on April 22, 2014, <https://apps.montgomerycountymd.gov/ccllms/BillDetailsPage?RecordId=887&fullTextSearch=%22energy%20benchmarking%22>.

⁵ Montgomery County Code, Article 6. Building Energy Use Benchmarking, https://codelibrary.amlegal.com/codes/montgomerycounty/latest/montgomeryco_md/0-0-0-97835.

⁶ Montgomery County Council, Bill 16-21.

⁷ Department of Environmental Protection, "Building Energy Performance Standards in Montgomery County," Presentation. See also Montgomerycountymd.gov, "Building Energy Performance Standards," <https://www.montgomerycountymd.gov/green/energy/beps.html>.

⁸ Montgomery County Council, Bill 16-21. All subsequent information in this section is drawn from the bill.

⁹ The bill defines *net site EUI* as "site energy use minus energy generated from onsite solar sources divided by the total gross floor area of the building expressed in kBtu/GSF" and *normalized net site EUI* as "the total normalized net site energy use consumed by a covered building in one year divided by the total gross floor area of the building expressed in kBtu/GSF."

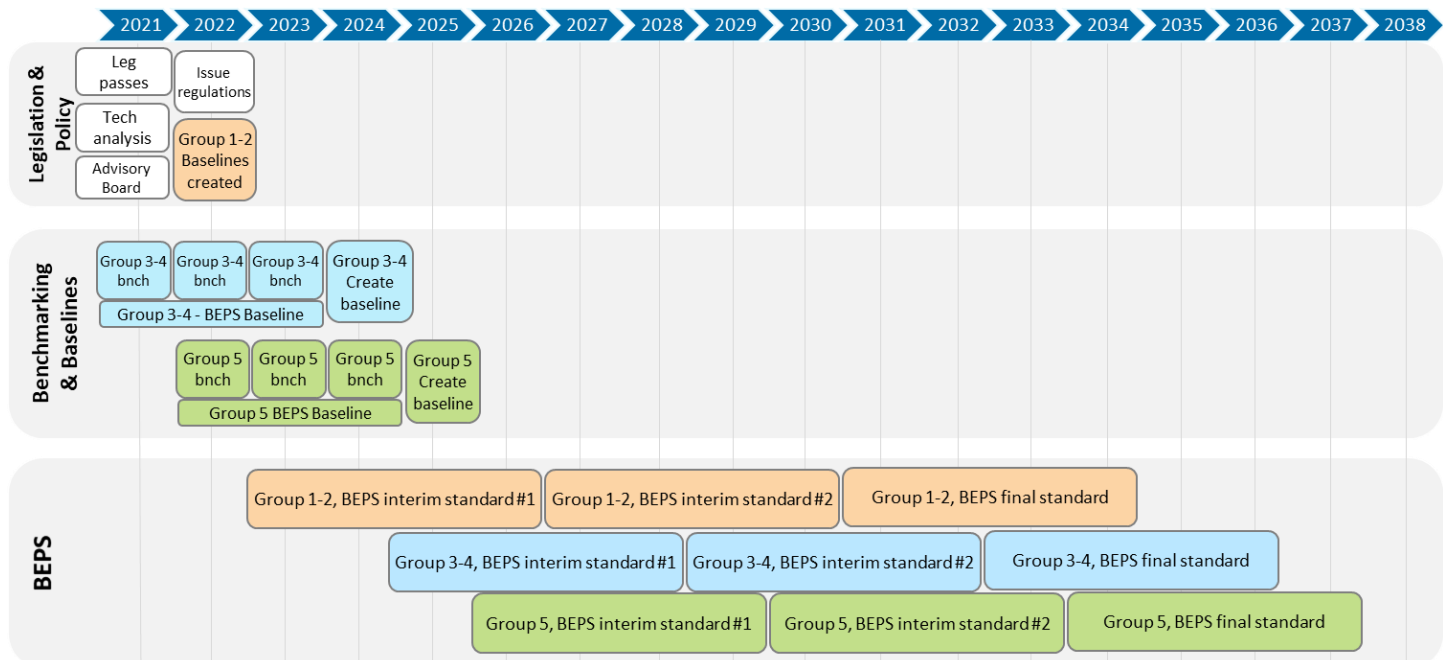
Economic Impact Statement

Office of Legislative Oversight

Group	Building Class	Gross Floor Area (sq ft)
1	Nonresidential	Greater than or equal to 250K
2	Nonresidential	Greater than or equal to 50K & less than 250K
3	Nonresidential	Greater than or equal to 25K & less than 50K
4	Multifamily or mixed-use	Greater than or equal to 250K
5	Multifamily or mixed-use	Greater than or equal to 25K & less than 250K

Figure 1 visualizes the proposed BEPS timelines for each group.

Figure 1. Proposed BEPS Timeline



Source: Department of Environmental Protection, Montgomery County.

As part of the BEPS program, Bill 16-21 would also establish a Building Performance Improvement Plan. The plan would offer a compliance option for owners of covered buildings who “cannot reasonably meet one or more of the applicable interim or final performance standards due to economic infeasibility or other circumstances beyond the owner’s control.” The owner would need to submit a plan to DEP that documents the following:

- why the performance standards cannot be met,
- potential improvement measures,
- a plan and timeline for achieving cost-effective energy improvements “based on guidelines established by regulation”, and
- procedures for correcting noncompliance from the plan.

Economic Impact Statement

Office of Legislative Oversight

If approved by DEP, the owner would be required to fulfill the terms of the building performance improvement plan within the specified timeline.

Bill 16-21 would also establish a Building Improvement Performance Board. The board would consist of 15-members appointed by the County Executive. According to the bill, the board “should include” representatives of the following stakeholder groups:

- local electricity or natural gas utilities;
- providers of energy efficiency, building resilience and/or renewable energy services or consulting;
- owners or managers of nonresidential buildings, affordable housing, and/or multifamily residential buildings containing market-rate units;
- technical building design or operations professionals;
- providers of facilities, mechanical, or similar engineering services;
- commercial or multi-family residential construction finance or investment professionals; and
- representatives of nonprofit organizations dedicated to climate action, resiliency, public health, green building, economic development, building decarbonization, racial equity, or environmental justice.

Bill 16-21 would not apply to buildings in which 50% or more of the total gross floor area is used for:

- a) “public assembly in a building without walls;
- b) industrial uses where the majority of energy is consumed for manufacturing, the generation of electric power or district thermal energy to be consumed offsite, or for other process loads; or
- c) transportation, communications, or utility infrastructure.”

Nor would the bill apply to buildings in municipalities that have not accepted and adopted the County Environmental Sustainability Law.

Peer Jurisdictions: BEPS Policies

In the United States, the jurisdictions that have pursued BEPS policies are Washington DC, New York City, Washington State, and St. Louis, Missouri. Washington, DC was the first city in the country to adopt energy performance standards for existing buildings. So far, it is the only jurisdiction in the Washington, DC metropolitan area (hereinafter “metropolitan area”) that has established a BEPS policy.

Washington, DC’s BEPS policy was set forth in Title III of the Clean Energy DC Omnibus Act of 2018. The program distinguishes among property types based on the U.S. Environmental Protection Agency’s ENERGY STAR Portfolio Manager and sets standards for building types which are no lower than the median ENERGY STAR score (or equivalent) by building type. The program currently has three periods that are broken into 5-year compliance cycles. While the program applies to city-owned buildings with greater than or equal to 10,000 square feet for all periods, privately-owned buildings are phased into the program based on their size.¹⁰ See **Table 1**.

¹⁰ For details on the program, see Section 8-1772.21. Establishment of a Building Energy Performance Standard Program, <https://code.dccouncil.us/dc/council/code/sections/8-1772.21.html#>; and Guide to the 2021 Building Energy Performance Standards, <https://doee.dc.gov/node/1507996>.

Economic Impact Statement

Office of Legislative Oversight

Table 1. Periods of DC's BEPS Program

Period	Compliance Period	Covered Private Buildings
1	2021-2026 (6 years) ¹¹	Buildings ≥ 50,000 sq. ft
2	2027-2031 (5 years)	Buildings ≥ 25,000 sq. ft
3	2033-2037 (5 years)	Buildings ≥ 10,000 sq. ft.

Source: Doee.dc.gov, Building Energy Performance Standards (BEPS), Department of Energy & Environment, <https://doee.dc.gov/service/building-energy-performance-standards-beps>

Table 2 compares Montgomery County with Fairfax County and Washington, DC in terms of their climate change goals and status of benchmarking and BEPS policies. There are two differences that are noteworthy in terms of the economic impacts of Montgomery County's BEPS policy:

- Montgomery County's BEPS policy would offer a significantly longer compliance cycle (12 years) compared to Washington, DC's policy (5 years). The longer compliance cycle would give property owners in the County more flexibility in their capital planning cycles.
- Not only do Arlington and Fairfax Counties not have benchmarking and BEPS policies, they lack the legal authority to enact these policies. These jurisdictions are required to enforce the Virginia Uniform Statewide Building Code.

¹¹ The figure-year compliance cycle was extended for the first period due to the COVID-19 pandemic disruptions.

Economic Impact Statement

Office of Legislative Oversight

Table 2. BEPS Peer Jurisdiction Comparison

	Climate Change Goals	Benchmarking Policy	BEPS Policy	Minimum Threshold Performance	Covered Buildings	Compliance Cycle
Fairfax County	Carbon neutrality by 2050 (draft Community-wide Energy and Climate Action Plan)	Lacks legal authority	Lacks legal authority	NA	NA	NA
Montgomery County	<ul style="list-style-type: none"> 80% reduction in GHG emissions by 2027 100% elimination by 2035 	<ul style="list-style-type: none"> Enacted 2014 Implemented for private buildings in 2015 	Legislation introduced in 2021	To be set in Executive Regulation. Based on site EUI	Commercial and multifamily > 25K sq. ft.	12-year target with 4-year interim check ins
Washington, DC	<ul style="list-style-type: none"> 50% reduction in GHG emissions by 2032 Carbon neutrality by 2050 	<ul style="list-style-type: none"> Enacted 2008 Implemented in 2013 	<ul style="list-style-type: none"> Enacted 2018 Established standards on January 1, 2021 First reporting requirement on April 1, 2023 	Standards set no lower than median ENERGY STAR score (or equivalent) by building type	Commercial and multifamily > 10K sq. ft (square footage ratchets down over time)	5 years

established
 proposed
 not proposed

Sources: Conversations with personnel in Washington, DC's DOEE and Fairfax County's Office of Environmental and Energy Coordination; D.C. Law 22-257, CleanEnergy DC Omnibus Amendment Act of 2018; Doee.dc.gov, Guide to the 2021 BEPS; Fairfax County Community-Wide Energy and Climate Action Plan, draft.

Peer Jurisdictions: Office, Retail, and Multifamily Real Estate Markets¹²

Office Market: The office markets in Montgomery County, Fairfax County, and Washington, DC have all been significantly harmed by the COVID-19 pandemic and economic recession. **Table 3** shows the impact of these crises on the office markets by comparing average quarterly indicators for the four quarters since the start of the pandemic (2020Q3 - 2021Q2) to the previous four quarters (2019Q3 – 2020Q2). As shown in the table, since the onset of the pandemic all jurisdictions have experienced:

- increases in vacancy rates (i.e., rates of unoccupied space),
- sharp declines in the net absorption rates (i.e., the net amount of vacant space that becomes occupied within a defined time period), and
- stagnant gross rents (i.e., total rent to the owner, including all fees).

¹² Tables A1, A2, and A3 in the Appendix present office, retail, and multifamily market data, respectively, from the first quarter of 2019 through the second quarter of 2021.

Economic Impact Statement

Office of Legislative Oversight

Relative to its peer jurisdictions, Montgomery County entered the crisis with a weaker office market. In the four quarters before the pandemic, Montgomery County averaged lower quarterly gross rents and deliveries, and it was the only jurisdiction to average a negative net absorption rate. While the average quarterly vacancy rate in Montgomery County (12.2%) was lower than the rate in Fairfax County (15.1%) prior to the pandemic, this difference is partly a function of Montgomery County's lower relative office space growth. **Figure 2** shows that annual deliveries of office space in the County have been consistently lower than Fairfax County, as well as Washington, DC. In fact, from 2010 to 2021Q2, almost 3,700,000 sq. ft. of more office space has been delivered in Fairfax County than Montgomery County. And almost 12,700,000 sq. ft. of more office space has been delivered in Washington, DC than Montgomery County. See **Table 4**.

Table 3. Office Market Data for Peer Jurisdictions

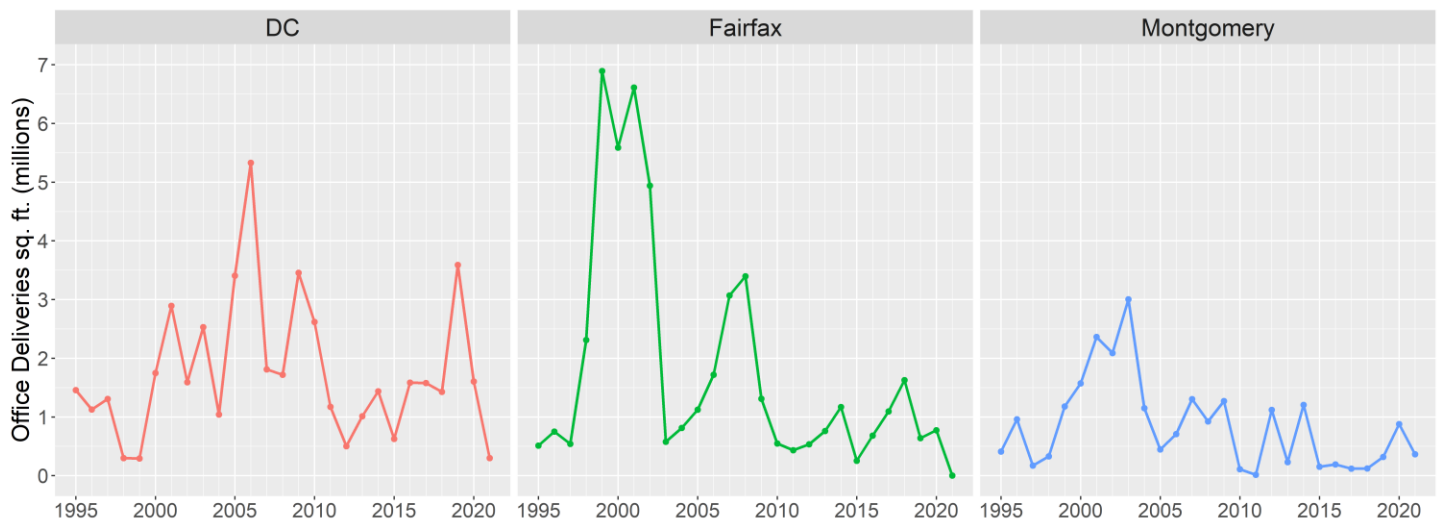
	2019Q3 - 2020Q2	2020Q3 - 2021Q2	Change
Average Quarterly Net Absorption Total (sq. ft.)			
Montgomery	(42,874)	(224,455)	(181,582)
Fairfax	192,426	(632,709)	(825,136)
DC	129,806	(858,340)	(988,145)
Average Quarterly Deliveries (sq. ft.)			
Montgomery	115,104	267,372	152,268
Fairfax	243,400	0	(243,400)
DC	632,591	81,115	(551,476)
Average Quarterly Vacancy Total (%)			
Montgomery	12.2%	14.3%	2.1%
Fairfax	15.1%	16.7%	1.6%
DC	11.3%	13.0%	1.7%
Average Quarterly Office Gross Rent Overall (\$)			
Montgomery	\$29.61	\$29.86	\$0.26
Fairfax	\$31.00	\$31.32	\$0.32
DC	\$51.80	\$51.79	(\$0.01)

Data Source: Costar; Montgomery Planning; Stephen Roblin

Economic Impact Statement

Office of Legislative Oversight

Figure 2. Annual Deliveries of Office Space (1995 – 2021Q2)



Data Source: Costar; Montgomery Planning; Stephen Roblin

Table 4. Total Office Deliveries by Jurisdiction (2010 - 2021Q2)

	Office Deliveries Sq Ft	Difference Between Montgomery and Peer Jurisdiction
Montgomery	4,811,239	
Fairfax	8,507,648	(3,696,409)
DC	17,447,048	(12,635,809)

Data Source: Costar; Montgomery Planning; Stephen Roblin

Retail Market: Like the office markets, the retail markets in Montgomery County, Fairfax County, and Washington, DC have all been significantly harmed by the COVID-19 pandemic and economic recession. As shown in **Table 5**, since the onset of the pandemic all jurisdictions have experienced:

- slight increases in vacancy rates,
- negative net absorption rates, and
- decreased rents.

As in the case of the office market, Montgomery County entered the crisis with a weaker retail market relative to its peer jurisdictions. In the four quarters before the pandemic, Montgomery County had the lowest rents and deliveries and was outperformed by Fairfax County in net absorption and vacancy. **Figure 3** shows that annual deliveries of retail space in the County have tended to be lower than Fairfax County, as well as Washington, DC. **Table 6** indicates that from 2010 to 2021Q2, 1,271,820 sq. ft. of more retail space has been delivered in Fairfax County and 761,406 sq. ft. of more retail space has been delivered in Washington, DC than Montgomery County.

Economic Impact Statement

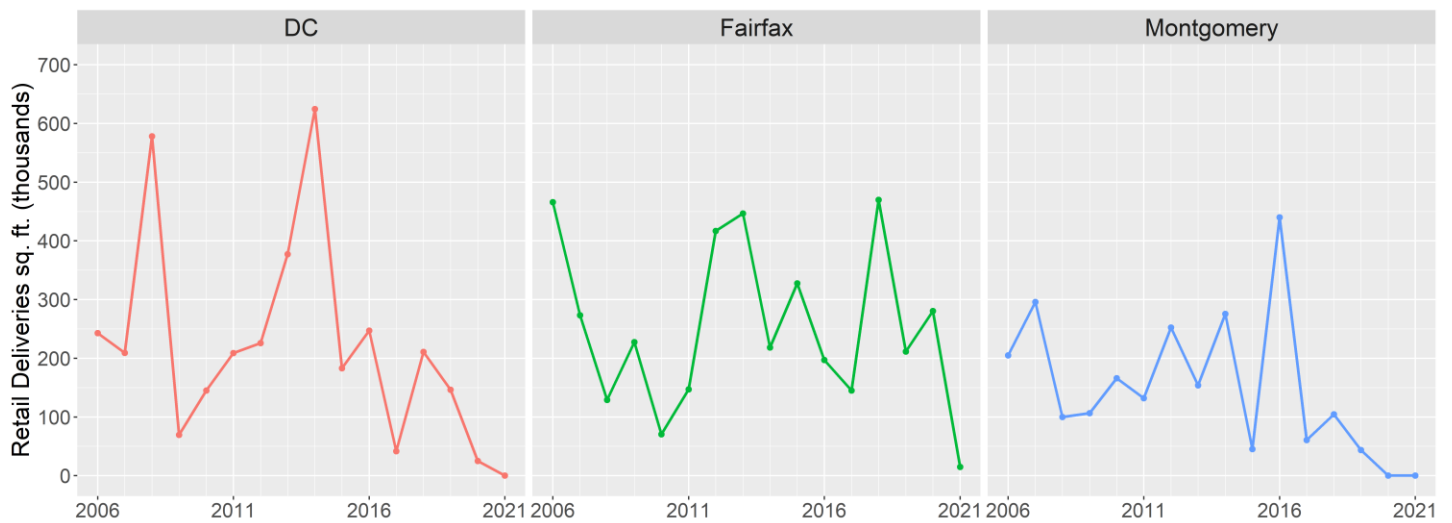
Office of Legislative Oversight

Table 5. Retail Market Data for Peer Jurisdictions

	2019Q3 - 2020Q2	2020Q3 - 2021Q2	Change
Average Quarterly Net Absorption Total (sq. ft.)			
Montgomery	7,744	(26,440)	(34,184)
Fairfax	50,451	(24,826)	(75,277)
DC	4,272	(31,369)	(35,641)
Average Quarterly Deliveries (sq. ft.)			
Montgomery	8,874	0	(8,874)
Fairfax	77,810	23,690	(54,120)
DC	37,931	1,401	(36,530)
Average Quarterly Vacancy Total (%)			
Montgomery	4.7%	5.3%	0.6%
Fairfax	2.8%	3.3%	0.6%
DC	5.4%	6.3%	0.9%
Average Quarterly NNN Rent Overall (\$)			
Montgomery	\$29.89	\$28.19	(\$1.70)
Fairfax	\$30.78	\$29.88	(\$0.91)
DC	\$41.93	\$40.32	(\$1.61)

Data Source: Costar; Montgomery Planning; Stephen Roblin

Figure 3. Annual Deliveries of Retail Space (1995 – 2021Q2)



Data Source: Costar; Montgomery Planning; Stephen Roblin

Economic Impact Statement

Office of Legislative Oversight

Table 6. Total Retail Deliveries by Jurisdiction (2010 - 2021Q2)

	Retail Deliveries Sq Ft	Difference Between Montgomery and Peer Jurisdiction
Montgomery	1,673,572	
Fairfax	2,945,392	(1,271,820)
DC	2,434,978	(761,406)

Data Source: Costar; Montgomery Planning; Stephen Roblin

Multifamily Market: The COVID-19 pandemic and economic recession have also impacted the multifamily markets in the peer jurisdictions. As shown in **Table 7**, since the onset of the pandemic Montgomery and Fairfax Counties have experienced:

- slight increases in vacancy rates, and
- decreased effective rents.

Washington, DC, has experienced greater increases in the vacancy rate and declines in effective rents.

Unlike the office and retail markets, Montgomery County entered the crisis in the middle of the pack. While Washington, DC's multifamily market is significantly stronger than its peer, Montgomery County's market had outperformed Fairfax County in several key indicators. In the four quarters before the pandemic, Montgomery County had more deliveries, lower vacancy, and greater effective rents than Fairfax County (though the latter had marginally higher effective rents per sq. ft.). **Figure 4 and 5** show that annual deliveries of multifamily units and buildings in the County have tended to be higher than Fairfax County. In fact, from 2010 to 2021Q2, there were 34 more multifamily buildings and 3,019 more multifamily units delivered in Montgomery County than in Fairfax County. See **Table 8**.

Economic Impact Statement

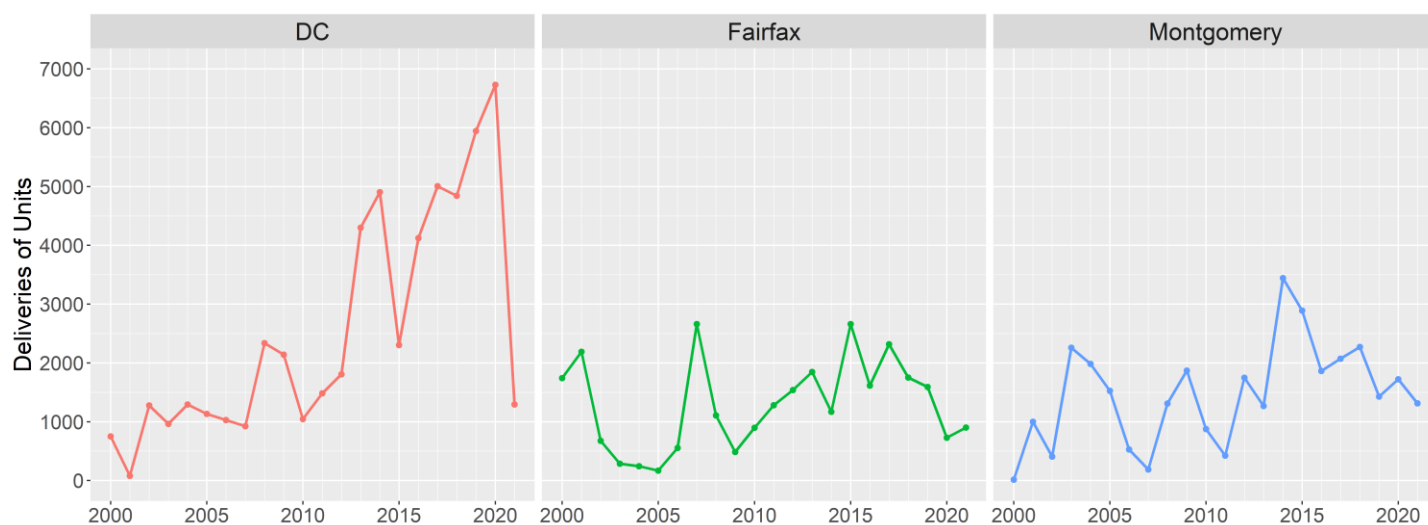
Office of Legislative Oversight

Table 7. Multifamily Market Data for Peer Jurisdictions

	2019Q3 - 2020Q2	2020Q3 - 2021Q2	Change
Average Quarterly Deliveries (units)			
Montgomery	337	757	420
Fairfax	580	225	(354)
DC	1,143	1,465	322
Average Quarterly Vacancy Total (%)			
Montgomery	5.4%	6.2%	0.7%
Fairfax	6.0%	6.5%	0.5%
DC	7.5%	11.5%	4.0%
Average Quarterly Effective Rent (per sq. ft.)			
Montgomery	\$1.89	\$1.86	(\$0.03)
Fairfax	\$1.92	\$1.87	(\$0.05)
DC	\$2.64	\$2.48	(\$0.16)
Average Quarterly Effective Rent Growth/Year (%)			
Montgomery	2.0%	-1.6%	-3.6%
Fairfax	1.5%	-2.8%	-4.3%
DC	1.4%	-6.1%	-7.5%

Data Source: Costar; Montgomery Planning; Stephen Roblin

Figure 4. Annual Deliveries of Multifamily Units (1995 – 2021Q2)

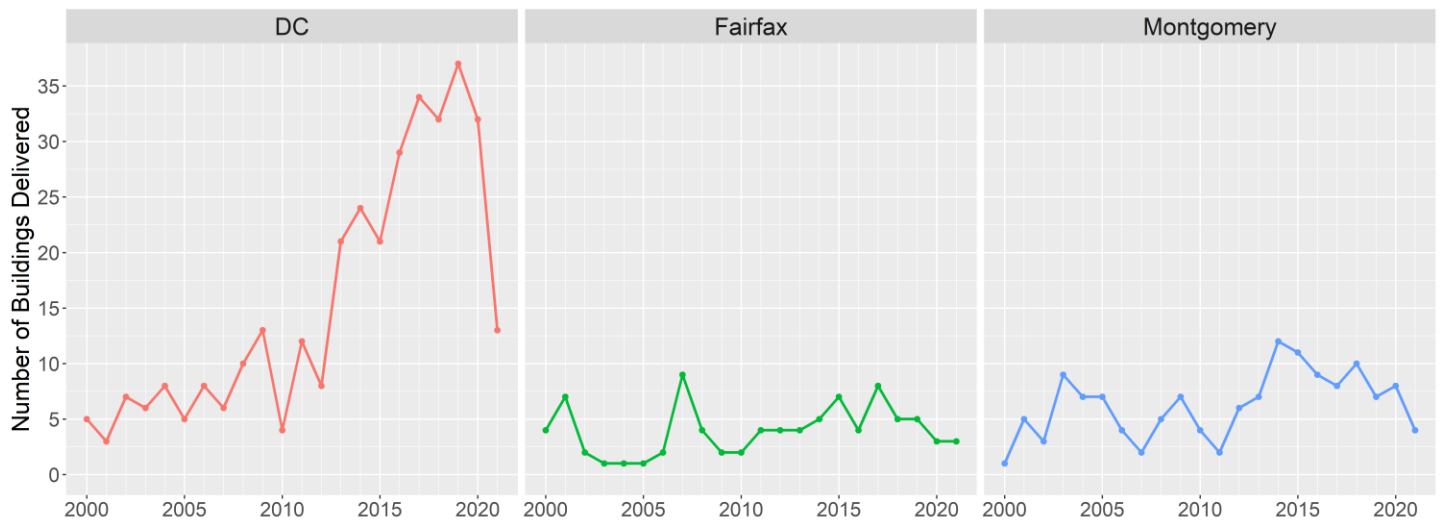


Data Source: Costar; Montgomery Planning; Stephen Roblin

Economic Impact Statement

Office of Legislative Oversight

Figure 5. Annual Deliveries of Multifamily *Buildings* (1995 – 2021Q2)



Data Source: Costar; Montgomery Planning; Stephen Roblin

Table 8. Total Multifamily Deliveries by Jurisdiction (2010 - 2021Q2)

	Number of Deliveries		Difference Between Montgomery and Peer Jurisdiction	
	Buildings	Units	Buildings	Units
Montgomery	88	21,310		
Fairfax	54	18,291	34	3,019
DC	267	43,780	(179)	(22,470)

Data Source: Costar; Montgomery Planning; Stephen Roblin

Economic Impact Statement

Office of Legislative Oversight

METHODOLOGIES, ASSUMPTIONS, AND UNCERTAINTIES

By requiring certain buildings to improve their energy performance, the economic impacts of Bill 16-21 would primarily affect owners, property managers and/or tenants of commercial and multifamily residential buildings and businesses that provide energy conservation and efficiency services (hereinafter “energy efficiency service providers”). The analysis in subsequent sections is based on two assumptions.

Assumption 1: For buildings that would require energy performance improvements, owners would experience significant increases in capital, operating, and administrative costs in the short-term.

Assumption 2: There would be an increase in short-term demand for energy efficiency service providers based in the County.

Here, “short-term” is defined within the context of building capital planning cycles. As previously stated, building owners would be subject to a 12-year compliance period under Bill 16-21. “Short-term” refers to the time in which owners make significant capital and other expenditures for building energy improvements. In contrast, “long-term” refers to the lifecycle of energy efficiency/conservation equipment and technology and beyond.

Importantly, the magnitude and distribution of these short-term economic impacts, in addition to the long-term impacts on economic conditions in the County, are indeterminate for several reasons.

First, key parameters that would undoubtedly affect the magnitude of the economic costs and benefits of the BEPS policy, as well as the distribution of these costs and benefits across different building types and other building specifications (i.e., building size and age), are not established in Bill 16-21.¹³ These parameters are the following:

1. the building types for every covered building,
2. the final performance standards for each building,
3. the guidelines for approval of the Building Performance Improvement Plan, and
4. the guidelines for approval of an extension or adjustment to a performance standard.

In terms of parameters 1 and 2, all covered buildings within each type would be subject to the same performance standard. The County Executive would need to establish these parameters by June 1, 2022. Parameters 3 and 4 would also be established through regulation. The Director of DEP would have the authority to approve extensions and adjustments to performance standards, and to place buildings on the improvement plan in the case of owners who would be unable to meet the building energy performance standards. Gaining clarity on these guidelines would require definitions of “economic infeasibility” and “circumstances beyond the owner’s control,” which Bill 16-21 describes as necessary conditions for approval of these alternative paths.

Second, BEPS policies in Washington, DC and other jurisdictions are in the early stages of development and implementation. There are no descriptive analyses of the long-term economic impacts in these cases. In addition, both Washington, DC and Montgomery County have contracted with Steven Winter Associates, a research firm that focuses on commercial, residential, and multifamily buildings, to perform cost-benefit analyses of their respective BEPS programs.

¹³ It is noteworthy that the Lawrence Berkeley National Laboratory study found a strong association between building size and energy savings, but not building age.

Economic Impact Statement

Office of Legislative Oversight

These studies have not yet been released.¹⁴ The analysis on Montgomery County's BEPS policy will be completed this summer.¹⁵

Third, BEPS policies can improve energy efficiency and thus reduce energy costs in buildings.¹⁶ However, it is indeterminate whether the average long-term energy savings at the building-level from the BEPS policy specified in Bill 16-21 would outweigh the cost of energy performance improvements that otherwise would not have occurred in the absence of enacting the bill. A primary challenge in modeling both the long-term energy savings and the short-term costs to building owners and managers is the absence of key parameters of the BEPS policy in Bill 16-21.

Finally, increasing building energy efficiency and reducing CO2 and other pollutants can generate long-term employment growth in the energy efficiency sector and other direct and indirect economic benefits.¹⁷ While a full accounting of the long-term economic impacts of Bill 16-21 would account for these benefits, it is beyond the scope of this analysis to weigh them against the (indeterminate) short-term costs and benefits to private organizations and residents in the County that are the focus of this report.

VARIABLES

The primary variables that would affect the economic impacts of Bill 16-21 are:

- administrative cost to property owners;
- capital costs to property owners;
- ability of property owners to pass down costs to property managers and business and multifamily tenants;
- percentage of property owners based outside the County;
- revenues for local building energy efficiency service providers;
- long-term energy savings for building owners and tenants;
- effect of BEPS policies on commercial and multifamily building development in peer jurisdictions;
- timing of the implementation of the BEPS policy; and
- definition of key regulations (building types, performance standards, guidelines for extensions, adjustments, and Building Performance Improvement Plan).

¹⁴ Swinter.com, "Steven Winter Associates Selected to Implement Ambitious Plan to Reduce DC Building Emissions," November 11, 2020, <https://www.swinter.com/about-us/news/news-item/steven-winter-associates-selected-to-implement-ambitious-plan-to-reduce-dc-building-emissions/>.

¹⁵ Marc Elrich, County Executive to Tom Hucker, Council President, Memorandum, April 1, 2021. See memo in Introduction Staff Report for Bill 16-21.

¹⁶ A predictive study conducted by the Lawrence Berkeley National Laboratory found that Washington, DC's BEPS policy will significantly reduce CO2 emissions. See Katie Bergfeld, et al, "Making Data-Driven Policy Decisions for the Nation's First Building Energy Performance Standards," August 2020, <https://escholarship.org/content/qt05m741q3/qt05m741q3.pdf>.

¹⁷ For more on the economics of building energy efficiency, see MorganStanley.com, "Green Buildings Power Savings & Returns," Morgan Stanley, June 2017, <https://www.morganstanley.com/ideas/green-buildings-energy-efficiency-real-estate-growth>; and Bianca Majumder and Luke Bassett, "Energy-Efficient Buildings Are Central to Modernizing U.S. Infrastructure," Center for American Progress, January 29, 2019, <https://www.americanprogress.org/issues/green/news/2019/01/29/465520/energy-efficient-buildings-central-modernizing-u-s-infrastructure/>.

Economic Impact Statement

Office of Legislative Oversight

IMPACTS

WORKFORCE ■ TAXATION POLICY ■ PROPERTY VALUES ■ INCOMES ■ OPERATING COSTS ■ PRIVATE SECTOR CAPITAL INVESTMENT ■ ECONOMIC DEVELOPMENT ■ COMPETITIVENESS¹⁸

Businesses, Non-Profits, Other Private Organization

OLO anticipates that Bill 16-21 would have a net negative economic impact on private organizations in the short-term. The economic impacts of the bill would primarily affect owners and tenants of commercial and multifamily residential buildings and providers of building energy efficiency services.

Property Owners: Enacting Bill 16-21 would require certain property owners to make capital investments in their properties to achieve sufficient reductions in energy use. Complying with the BEPS requirements would also increase administrative and operating costs for certain owners. For example, property owners/managers would need to allocate building workforce hours related to the installation and maintenance of new equipment and technologies and to meet reporting requirements that otherwise would not be necessary in the absence of enacting the bill. Owners would likely recoup a portion of these costs through energy savings and higher rents.

However, it is worth noting that it could be difficult for certain owners to increase rents to recoup costs they incur as a result of the BEPS policy. As indicated in **Figures 2-5** and **Tables 3-8** above, the pandemic has significantly harmed the real estate markets in retail and office space in the County, with increased vacancy rates and declining rents. The outlook for the office market over the next several years is particularly concerning. Analysts anticipate that overall demand for office space to be depressed due to widespread telework for office workers and the potential for out-migration of these workers to smaller, lesser expensive metropolitan areas. These and other factors may prevent vacancy rates from lowering to pre-pandemic levels, particularly for buildings and submarkets that have substandard amenities. If the poor conditions in the office and retail markets linger, owners may face pressure to maintain lower rents to attract and retain tenants, thereby making it difficult to recoup costs by passing them onto tenants.¹⁹

For these reasons, OLO anticipates that certain building owners would experience net income losses in the short-term.

¹⁸ For the Council's priority indicators, see Montgomery County Code, Sec. 2-81B. Economic Impact Statements, https://codelibrary.amlegal.com/codes/montgomerycounty/latest/montgomeryco_md/0-0-0-80894.

¹⁹ For recent analyses on Montgomery County's office market, see Jacob Sesker, "Office Vacancies: Not Just the Owner's Problem," Harpswell Strategies, May 4, 2021, <https://harpswellstrategies.com/office-vacancies-not-just-the-owners-problem/>; Todd Fawley-King and Atul Sharma, "Future of the office market, Part 1: What will the post-pandemic office market mean to growth and redevelopment of Montgomery County?" The Third Place, November 23, 2020, https://montgomeryplanning.org/blog-design/2020/11/future-of-the-office-market-part-1-what-will-the-post-pandemic-office-market-mean-to-the-growth-and-redevelopment-of-montgomery-county/#_ednref1; Todd Fawley-King, "Future of the office market, Part 2: Which of Montgomery County's office districts are best positioned to win the region's post-COVID office space race?" The Third Place, December 21, 2020, <https://montgomeryplanning.org/blog-design/2020/12/future-of-the-office-market-part-2-which-of-montgomery-countys-office-districts-are-best-positioned-to-win-the-regions-post-covid-office-space-race/>; and Todd Fawley-King, "The future of the office market, Part 3: Attracting office users post-COVID," The Third Place, January 13, 2021, <https://montgomeryplanning.org/blog-design/2021/01/the-future-of-the-montgomery-county-office-market-part-3-attracting-office-users-post-covid/>.

Economic Impact Statement

Office of Legislative Oversight

Building Tenants: Bill 16-21 would have indirect economic impacts on tenants of commercial and multifamily residential buildings. The BEPS policy would likely affect tenants through owners passing down the costs to tenants, in the form of higher rents, incurred from building energy improvements that otherwise would not have occurred. Doing so would increase operating costs for business tenants, thereby reducing net income (holding all else equal). However, as previously discussed, it may be difficult for building owners, particularly in the office market, to increase rents, in which case tenants would be somewhat buffered from the negative, indirect effects of the bill. Moreover, energy savings may offset the costs passed down from property owners to certain tenants. However, these savings would likely accrue to tenants whose utility bills are not included their rents.

Building Energy Efficiency Service Providers: The short-term, positive economic impacts of Bill 16-21 would primarily benefit building energy efficiency service providers in the County. By requiring certain building owners to make energy efficiency improvements to their properties, the bill would likely increase demand for local businesses that specialize in this area. Increased demand would result in income gains for these businesses.

Overall Short-Term Impact: OLO anticipates that the overall short-term impact of Bill 16-21 to private organizations in the County would be negative for several reasons.

OLO expects that the total transfer from owners to energy efficiency service providers would result in a net outflow from the County for several reasons. The first concerns imported goods and services.²⁰ A significant portion of the costs that owners incur would be from imported equipment and technology (e.g., HVAC systems, water heaters). Owners and property managers may also rely on some providers based outside the County. The second concerns building owners who are based outside the County. They would likely pass down a portion of the costs to business and multifamily tenants in the form of higher rents. (However, if high vacancy rates persist, owners may face market pressure to keep rents low to attract tenants.) In addition, if most leases include energy utilities, then these owners would likely accrue benefits from long-term energy savings.

In addition, OLO expects that enacting Bill 16-21 may reduce the County's competitiveness in the office, retail, and/or multifamily markets vis-à-vis peer jurisdictions, particularly Fairfax County. As shown in **Table 2**, Montgomery County would join Washington, DC as the only peer jurisdiction in the metropolitan area to have established BEPS policies. Fairfax and other northern Virginia jurisdictions currently lack the legal authority to establish their own. Holding all else equal, establishing a BEPS policy in Montgomery County would increase average capital, administrative, and operating costs for buildings vis-à-vis those in surrounding jurisdictions. In addition to increasing the cost of doing business in the short-term, establishing a BEPS policy may also undermine perceptions of the business-friendliness of the County among investors, developers, and other economic actors. These effects could, in turn, reduce investment in the office, retail and/or multifamily building markets, as Fairfax and other nearby jurisdictions appear relatively more attractive. Given the weakness of the office market in the County relative to Fairfax and Washington, DC, it is possible that this market would be impacted the most. If enacting Bill 16-21 would result in decreased investment in the office, retail, or multifamily markets, Montgomery County would experience economic development losses (i.e., foregone jobs from building infrastructure projects).

²⁰ Goods and service imports constitute "leakages," i.e., "[m]oney that no longer circulates in an economy because of savings, taxes, or imports." U.S. Bureau of Economic Analysis, *RIMS II: An Essential Tool for Regional Developers and Planners*, December 2013, https://www.bea.gov/sites/default/files/methodologies/RIMSII_User_Guide.pdf.

Economic Impact Statement

Office of Legislative Oversight

Residents

The residents who would be primarily impacted by Bill 16-21 are the owners and workforces of commercial and multifamily residential buildings, business tenants, and local energy efficiency service providers, as well as residential tenants of multifamily buildings. As previously discussed, residents who own commercial and multifamily units would experience income losses due to increased capital and operating costs in the short-term. Residents who own and work for energy efficiency service providers would experience income gains. Non-salaried building staff may also benefit from increased work hours. In addition, it is possible that expenditures related to building energy improvements that otherwise would not have occurred in the absence of enacting Bill 16-21 may create new jobs in the building management and support sectors and the energy efficiency sector. Any additional employment may benefit residents.

The long-term economic impacts of Bill 16-21 on residents are beyond the scope of this analysis.

DISCUSSION ITEMS

Based on conversations with representatives of the commercial and multifamily residential building sector, OLO believes that Councilmembers may want to consider the following discussion items:

The first item concerns the timing in which the benchmarking and BEPS requirements would be implemented. (See **Figure 1** for the timeline.) As previously discussed, the COVID-19 pandemic has significantly harmed the office, retail, and multifamily building markets. Owners have lost revenues due to loss of rent and incurred new costs associated with meeting public health standards for buildings. As the economy continues to open, owners of commercial buildings will incur more costs to make buildings safe for occupancy. Importantly, it is likely that the goals of meeting public health standards and reducing energy would come into conflict. For example, many building managers have been implementing new standards for ventilation and air-filtration, in addition to meeting other guidelines.²¹ Councilmembers may want to consider whether the timeline of the benchmarking and/or BEPS policy could be adjusted to accommodate the cost and market conditions due to the pandemic, without undermining the environmental goals of the policy and the County's GGE reduction goals.

The second item concerns building owners' and managers' responsibility for tenants' energy-use. Some tenants may face challenges in reducing energy (i.e., due to the nature of their business operations) or be unwilling to change their poor energy management behaviors. The latter is of particular concern when utilities are included in rents. Councilmembers may want to consider how to modify the bill to directly incentivize tenant energy-use behavior.

The final item concerns establishing energy-use baselines for the BEPS. Due to the closure and reopening of the economy, building energy-use has been atypical since the start of the pandemic. Councilmembers may want to consider the

²¹ Reportedly, new electricity demands due to public health standards, in addition to lease structures and poor energy management practices, explain why electricity-use for offices are returning to pre-pandemic levels. See Nate Berg, "Empty office buildings are still devouring energy. Why?" Fast Company, January 20, 2021, <https://www.fastcompany.com/90595577/empty-office-buildings-are-still-devouring-energy-why>. See also Ashrae.org, "Coronavirus (COVID-19) Response Resources from ASHRAE and others," <https://www.ashrae.org/technical-resources/resources>.

Economic Impact Statement

Office of Legislative Oversight

economic implications of using 2020-2022 data to establish baselines for certain buildings and evaluating buildings' future energy-use based on this atypical period.

Should the Council desire better data points about actual costs or how this bill may impact Montgomery County's competitiveness against neighboring jurisdictions, a more detailed analysis should be requested.

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Economic Impact Statement

Office of Legislative Oversight

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CAVEATS

Two caveats to the economic analysis performed here should be noted. First, predicting the economic impacts of legislation is a challenging analytical endeavor due to data limitations, the multitude of causes of economic outcomes, economic shocks, uncertainty, and other factors. Second, the analysis performed here is intended to *inform* the legislative process, not determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO’s endorsement of, or objection to, the bill under consideration.

CONTRIBUTIONS

Stephen Roblin (OLO) prepared this report.

Economic Impact Statement

Office of Legislative Oversight

APPENDIX

Table A1. Office Market Data for Peer Jurisdictions (2019Q1 – 2021Q2)

Period	Vacant Percent % Total	Total Available Percent % Total	Net Absorption SF Total	Deliveries SF	Office Gross Rent Overall
Montgomery County Office Market					
2021 Q2 QTD	15.1%	18.1%	(373,980)	0	\$29.87
2021 Q1	14.6%	17.7%	(185,175)	362,643	\$30.02
2020 Q4	13.9%	17.5%	(297,438)	84,264	\$29.73
2020 Q3	13.4%	16.6%	(41,228)	622,579	\$29.83
2020 Q2	12.6%	15.9%	(99,996)	169,000	\$30.01
2020 Q1	12.3%	15.4%	(225,306)	0	\$30.02
2019 Q4	12.0%	15.8%	(14,222)	0	\$29.18
2019 Q3	11.9%	15.6%	168,030	291,414	\$29.21
2019 Q2	11.8%	15.8%	(321,701)	0	\$29.36
2019 Q1	11.4%	15.7%	(188,433)	27,600	\$29.04
Fairfax County Office of Market					
2021 Q2 QTD	17.5%	22.1%	(477,081)	0	\$31.57
2021 Q1	17.1%	21.6%	(1,057,873)	0	\$31.17
2020 Q4	16.2%	20.9%	(464,673)	0	\$31.12
2020 Q3	15.8%	20.3%	(531,210)	0	\$31.42
2020 Q2	15.4%	19.8%	394,653	372,957	\$31.16
2020 Q1	15.5%	19.5%	(534,369)	401,000	\$31.25
2019 Q4	14.7%	19.0%	170,802	88,000	\$30.95
2019 Q3	14.8%	18.9%	738,619	111,642	\$30.64
2019 Q2	15.3%	19.4%	177,002	0	\$30.27
2019 Q1	15.5%	19.3%	522,596	438,169	\$30.19
Washington, DC Office Market					
2021 Q2 QTD	13.9%	18.8%	(772,055)	38,191	\$51.96
2021 Q1	13.4%	18.2%	(1,151,885)	258,620	\$51.86
2020 Q4	12.5%	17.9%	(855,865)	0	\$51.63
2020 Q3	12.0%	16.8%	(653,554)	27,650	\$51.71
2020 Q2	11.6%	16.3%	419,075	557,129	\$51.87
2020 Q1	11.5%	15.8%	165,715	1,019,922	\$51.97
2019 Q4	11.1%	15.5%	91,622	271,433	\$51.70
2019 Q3	11.0%	15.8%	(157,190)	681,881	\$51.66
2019 Q2	10.5%	15.7%	1,297,460	1,280,550	\$51.91
2019 Q1	10.6%	15.1%	(152,161)	1,355,473	\$51.37

Data Source: Costar; Montgomery County Planning

Economic Impact Statement

Office of Legislative Oversight

Table A2. Retail Market Data for Peer Jurisdictions (2019Q1 – 2021Q2)

Period	Vacant Percent % Total	Total Available Percent % Total	Net Absorption SF Total	Deliveries SF	NNN Rent Overall
Montgomery County Retail Market					
2021 Q2 QTD	5.3%	7.1%	326	0	\$28.07
2021 Q1	5.3%	8.0%	(25,485)	0	\$27.89
2020 Q4	5.2%	7.9%	10,511	0	\$28.21
2020 Q3	5.3%	7.7%	(91,113)	0	\$28.59
2020 Q2	4.9%	7.2%	(83,408)	0	\$29.96
2020 Q1	4.6%	6.8%	1,300	0	\$29.47
2019 Q4	4.6%	6.8%	17,765	0	\$30.36
2019 Q3	4.7%	7.3%	95,317	35,496	\$29.75
2019 Q2	4.9%	7.6%	(35,443)	0	\$30.33
2019 Q1	4.8%	7.2%	29,789	7,999	\$30.16
Fairfax County Retail Market					
2021 Q2 QTD	3.5%	5.0%	(6,124)	0	\$29.16
2021 Q1	3.5%	5.1%	(118,704)	14,759	\$29.07
2020 Q4	3.2%	4.9%	64,006	80,000	\$30.65
2020 Q3	3.1%	4.6%	(38,482)	0	\$30.62
2020 Q2	3.1%	4.0%	(201,193)	0	\$30.52
2020 Q1	2.6%	3.5%	174,565	200,448	\$31.03
2019 Q4	2.6%	3.8%	152,841	100,677	\$30.68
2019 Q3	2.7%	3.8%	75,590	10,115	\$30.90
2019 Q2	2.8%	4.0%	(123,300)	80,885	\$31.07
2019 Q1	2.4%	3.9%	6,275	19,567	\$31.19
Washington, DC Retail Market					
2021 Q2 QTD	6.3%	7.3%	17,471	0	\$41.06
2021 Q1	6.4%	7.4%	(6,900)	0	\$40.26
2020 Q4	6.3%	7.6%	(9,398)	5,605	\$40.01
2020 Q3	6.3%	7.4%	(126,650)	0	\$39.96
2020 Q2	5.7%	6.9%	(126,557)	12,500	\$41.28
2020 Q1	5.1%	6.3%	70,047	6,886	\$41.43
2019 Q4	5.4%	6.0%	87,071	96,687	\$41.81
2019 Q3	5.4%	6.3%	(13,473)	35,650	\$43.19
2019 Q2	5.2%	6.7%	(48,492)	13,984	\$43.04
2019 Q1	4.9%	6.5%	66,260	0	\$42.36

Data Source: Costar; Montgomery County Planning

Economic Impact Statement

Office of Legislative Oversight

Table A3. Multifamily Market Data for Peer Jurisdictions (2019Q1 – 2021Q2)

Period	Vacancy Percent	Deliveries Units	Effective Rent Per SF	Effective Rent % Growth/Yr
Montgomery County Multifamily Market				
2021 Q2 QTD	6.5%	576	\$1.90	1.1%
2021 Q1	6.5%	736	\$1.86	(2.0%)
2020 Q4	6.3%	1,453	\$1.83	(2.9%)
2020 Q3	5.3%	263	\$1.86	(2.4%)
2020 Q2	5.4%	4	\$1.87	(1.0%)
2020 Q1	5.5%	0	\$1.90	2.5%
2019 Q4	5.8%	944	\$1.89	3.0%
2019 Q3	4.9%	399	\$1.90	3.5%
2019 Q2	4.9%	84	\$1.89	2.7%
2019 Q1	5.6%	0	\$1.85	2.4%
Fairfax County Multifamily Market				
2021 Q2 QTD	6.7%	407	\$1.94	1.8%
2021 Q1	6.6%	494	\$1.89	(2.6%)
2020 Q4	6.5%	0	\$1.83	(4.8%)
2020 Q3	6.3%	0	\$1.83	(5.7%)
2020 Q2	6.4%	468	\$1.88	(3.4%)
2020 Q1	5.6%	260	\$1.94	1.8%
2019 Q4	5.8%	6	\$1.92	3.5%
2019 Q3	6.3%	1,584	\$1.94	4.1%
2019 Q2	4.7%	0	\$1.94	3.3%
2019 Q1	5.4%	0	\$1.91	2.8%
Washington, DC Multifamily Market				
2021 Q2 QTD	11.4%	302	\$2.53	(3.3%)
2021 Q1	11.8%	991	\$2.47	(6.8%)
2020 Q4	12.0%	2,594	\$2.43	(8.1%)
2020 Q3	10.7%	1,971	\$2.48	(6.2%)
2020 Q2	8.7%	1,290	\$2.59	(1.6%)
2020 Q1	7.4%	874	\$2.65	2.0%
2019 Q4	6.9%	958	\$2.65	2.9%
2019 Q3	6.8%	1,450	\$2.65	2.4%
2019 Q2	7.1%	2,376	\$2.63	2.3%
2019 Q1	6.9%	1,162	\$2.60	2.8%

Data Source: Costar; Montgomery County Planning