

ATTACHMENTS

Downtown Bethesda Demographic Change Analysis	2
Demographic Change Analysis, 2012 to 2022.....	2
Demographic Change Analysis, 2017 to 2022.....	3
Master Plan Adequacy Test Inputs and Results.....	5
Climate Assessment	9
Economic Studies performed for the MMPA by PES Consulting.....	10
Schools Enrollment Impact Estimate	11
Engagement and Outreach Materials.....	12

Downtown Bethesda Demographic Change Analysis

Demographic Change Analysis, 2012 to 2022

Some bullet points on the characteristics of Bethesda and changes from 2012 to 2022, with some comparisons with the wider Bethesda area (“Bethesda CDP”) and Montgomery County:

- Downtown Bethesda population increased by 24%, which is related to the 26% increase in housing units and is a much larger population increase than Bethesda CDP (11%) or the county as a whole (8%).
- The vast majority of new housing in Downtown Bethesda are multifamily buildings with 20 or more units. Unlike the rest of the county, this area added practically no single-family detached housing.
- Downtown Bethesda is aging – the largest gain was among those ages 65+. Compared to Bethesda CDP and the county, this area has a smaller share of school-aged children and older adults ages 45+ as well as a larger share of young adults ages 18-34.
- Asians are the largest group among people of color in Downtown Bethesda and Bethesda CDP; both areas have less racial diversity than the county as a whole. The population has become more diversified over time – people of color increased from about a quarter to about a third of the population in both Downtown Bethesda and Bethesda CDP.
- Downtown Bethesda and Bethesda CDP has a much more educated adult population than the county that is also increasing – more than 80% have a bachelor’s degree or higher in 2012 and 88% in 2022 (compared to the county at 57% and 60% for each respective year).
- Downtown Bethesda’s household income distribution and average household income roughly mirrors the county’s figures. Bethesda CDP is much wealthier than both areas, and its average household income increased by 38%, at a faster rate than Downtown Bethesda (26%) or the county (33%).
- About one-third of Downtown Bethesda’s households live in owner-occupied housing and about two-thirds in renter-occupied housing. These numbers are reversed for Bethesda CDP and the county.
- Nearly half of Downtown Bethesda’s households are one-person households, significantly more than Bethesda CDP or the county, which have predominantly family households.

- In Downtown Bethesda, average monthly housing costs for homeowners with a mortgage increased by 33%, and average monthly rent increased by 32%. The increase for homeowners was especially significant, given that countywide, the increase was only 11%. However, many more renters have become more housing cost burdened than homeowners.

Demographic Change Analysis, 2017 to 2022

Some bullet points on the characteristics of Bethesda and changes from 2017 to 2022, with some comparisons with the wider Bethesda area (“Bethesda CDP”) and Montgomery County:

- Downtown Bethesda population increased by 17%, which is related to the 20% increase in housing units and is a much larger population increase than Bethesda CDP (5%) or the county as a whole (2%).
- The vast majority of new housing in Downtown Bethesda are multifamily buildings with 20 or more units. Unlike the rest of the county, this area added practically no single-family detached housing.
- Downtown Bethesda is aging – the largest gain was among those ages 65+. Compared to Bethesda CDP and the county, this area has a smaller share of school-aged children and older adults ages 45+ as well as a larger share of young adults ages 18-34.
- Asians are the largest group among people of color in Downtown Bethesda and Bethesda CDP; both areas have less racial diversity than the county as a whole. The population has become more diversified over time – people of color increased from about a quarter to about a third of the population in both Downtown Bethesda and Bethesda CDP.
- Downtown Bethesda and Bethesda CDP has a much more educated adult population than the county that is also increasing – about 83% have a bachelor’s degree or higher in 2017 and 88% in 2022 (compared to the county at 58% and 60% for each respective year).
- Downtown Bethesda’s household income distribution and average household income roughly mirrors the county’s figures. Bethesda CDP is much wealthier than both areas, with an average household income that is higher by about 60%. Average household income increased by about the same percentage across all three areas.
- About one-third of Downtown Bethesda’s households live in owner-occupied housing and about two-thirds in renter-occupied housing. These numbers are reversed for Bethesda CDP and the county.

- Nearly half of Downtown Bethesda's households are one-person households, significantly more than Bethesda CDP or the county, which have predominantly family households.
- In Downtown Bethesda, average monthly housing costs for homeowners with a mortgage barely increased, but average monthly rent increased by 23%. This trend may be related to the increasing percentage of renters who are housing cost burdened.

Master Plan Adequacy Test Inputs and Results

Staff developed three testing scenarios, corresponding to additional development beyond the 32.4 million square feet currently included in the Plan:

- Scenario 1: 11 million square feet
- Scenario 2: 16 million square feet
- Scenario 3: 21 million square feet.

The overall density in each scenario was assigned to commercial or residential development based on the existing proportion, modified by growth factors developed by the Research and Strategic Projects team. The model assumed no increase in single-family dwelling units and 1,000 square feet per multi-family dwelling unit. The overall density in each scenario was then distributed between the six Traffic Analysis Zones (TAZs) covering downtown Bethesda, shown in Figure 1 below.

The inputs in table 1 below use the following abbreviations:

HH	Households
HHPOP	Household Population
TOTEMP	Total Employment
INDEMP	Industrial Employment
RETEMP	Retail Employment
OFFEMP	Office Employment
OTHEMP	Other Employment

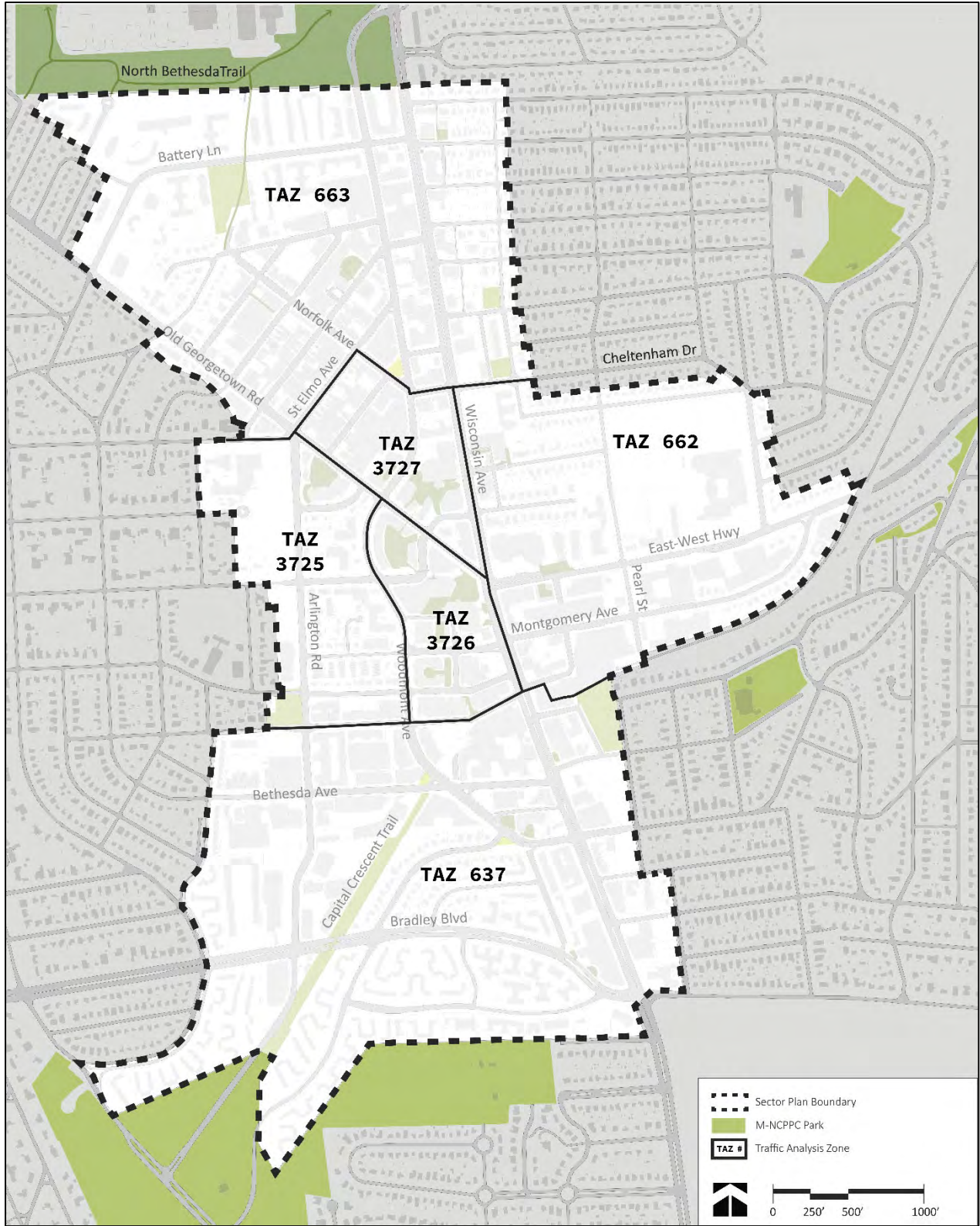


Figure 1. MPA Plan Area TAZs

Table 1. MWCOG Model Inputs

2025 - Bethesda MMA Modeling Numbers							
TAZ	HH	HHPOP	TOTEMP	INDEMP	RETEMP	OFFEMP	OTHEMP
637	3,029	5,311	7,416	687	2,646	3,420	663
3725	1,130	1,857	2,785	1,467	138	890	290
3726	316	520	5,743	0	41	5,677	25
3727	742	1,220	3,787	0	127	3,660	0
662	957	1,572	13,337	0	1,643	9,231	2,464
663	3,474	5,699	5,194	349	1,437	2,276	1,132

Test Scenario 1							
TAZ	HH	HHPOP	TOTEMP	INDEMP	RETEMP	OFFEMP	OTHEMP
637	3,979	7,131	11,816	687	3,256	6,510	1,363
3725	1,730	3,007	3,329	1,471	238	1,240	380
3726	436	750	6,008	0	71	5,902	35
3727	1,232	2,160	4,032	0	227	3,805	0
662	1,407	2,432	15,693	0	2,873	9,597	3,224
663	5,384	9,359	6,263	351	2,087	2,483	1,342

Test Scenario 2							
TAZ	HH	HHPOP	TOTEMP	INDEMP	RETEMP	OFFEMP	OTHEMP
637	4,454	8,041	14,016	687	3,561	8,055	1,713
3725	2,030	3,582	3,601	1,473	288	1,415	425
3726	496	865	7,153	0	86	7,027	40
3727	1,477	2,630	4,807	0	277	4,530	0
662	1,632	2,862	18,518	0	3,488	11,427	3,604
663	6,339	11,189	7,729	352	2,412	3,518	1,447

Test Scenario 3							
TAZ	HH	HHPOP	TOTEMP	INDEMP	RETEMP	OFFEMP	OTHEMP
637	4,929	8,951	16,216	687	3,866	9,600	2,063
3725	2,330	4,157	3,873	1,475	338	1,590	470
3726	556	980	8,298	0	101	8,152	45
3727	1,722	3,100	5,582	0	327	5,255	0
662	1,857	3,292	21,343	0	4,103	13,257	3,984
663	7,294	13,019	9,195	353	2,737	4,553	1,552

The results of the five-metric analysis of the output from the MWCOG model are in Table 2.

Table 2. Master Plan Adequacy Metrics Results

		Auto Accessibility	Transit Accessibility	VHT (minute)	PHT (minute)	VMT Per Capita	NADMS (work trips)	Low Stress Bicycling
2015 Existing*	County	1,326,404	119,012	16.21	51.81	13.67	31.67%	10.5%
	Policy/Plan Area	2,410,678	802,820	21.63	51.98	13.03	52.62%	16.0%
2045 Baseline	County	1,329,422	201,120	18.26	51.16	13.90	35.73%	78.7%
	Policy/Plan Area	2,528,537	944,422	23.66	48.67	11.66	60.09%	78.8%
2045 Scenario 1	County	1,341,065	200,368	18.33	51.20	13.89	35.86%	78.6%
	Policy/Plan Area	2,607,122	955,180	25.41	49.64	12.11	59.56%	76.1%
2045 Scenario 2	County	1,343,382	205,641	18.39	51.27	13.86	36.21%	78.6%
	Policy/Plan Area	2,626,016	961,754	25.64	49.94	11.75	59.68%	76.4%
2045 Scenario 3	County	1,354,347	210,927	18.44	51.29	13.84	36.51%	78.6%
	Policy/Plan Area	2,657,092	968,481	25.98	50.21	11.50	59.83%	76.4%
Numerical difference between 2045 Scenarios and 2045 Baseline								
		Auto Accessibility	Transit Accessibility	VHT (minute)	PHT (minute)	VMT Per Capita	NADMS (work trips)	Low Stress Bicycling
2045 Scenario 1	County	11,643	-752	0.06	0.04	0.00	0.1%	-0.1%
	Policy/Plan Area	78,586	10,758	1.74	0.97	0.45	-0.5%	-2.7%
2045 Scenario 2	County	13,960	4,521	0.13	0.11	-0.04	0.5%	-0.1%
	Policy/Plan Area	97,479	17,332	1.98	1.27	0.08	-0.4%	-2.4%
2045 Scenario 3	County	24,925	9,807	0.18	0.13	-0.05	0.8%	-0.1%
	Policy/Plan Area	128,555	24,060	2.32	1.55	-0.17	-0.3%	-2.4%
Percent difference between 2045 Scenarios and 2045 Baseline								
		Auto Accessibility	Transit Accessibility	VHT (minute)	PHT (minute)	VMT Per Capita	NADMS (work trips)	Low Stress Bicycling
2045 Scenario 1	County	0.9%	-0.4%	0.4%	0.1%	0.0%	0.1%	-0.1%
	Policy/Plan Area	3.1%	1.1%	7.4%	2.0%	3.8%	-0.5%	-2.7%
2045 Scenario 2	County	1.1%	2.2%	0.7%	0.2%	-0.3%	0.5%	-0.1%
	Policy/Plan Area	3.9%	1.8%	8.4%	2.6%	0.7%	-0.4%	-2.4%
2045 Scenario 3	County	1.9%	4.9%	1.0%	0.3%	-0.4%	0.8%	-0.1%
	Policy/Plan Area	5.1%	2.5%	9.8%	3.2%	-1.4%	-0.3%	-2.4%
* Existing conditions for the low-stress bicycling test represent conditions in Jan 2023.								

Climate Assessment

Signed into law by the Montgomery County Council on July 25, 2022, Bill 3-22, “Climate Assessments” requires the Office of Legislative Oversight to conduct climate assessment of introduced county bills starting January 1, 2023, and the Planning Board to conduct climate assessment of proposed ZTAs, and master plans and master plan amendments (collectively called master plans) starting March 1, 2023. On December 8, 2022, Montgomery County Planning Board approved a methodology and a template for Montgomery Planning staff to conduct climate assessment of Zoning Text Amendments (ZTAs) and master plans as required by Bill 3-22.

The goal of Bill 3-22 is to enhance the County Council’s understanding of the potential impacts of proposed legislation on climate change. Climate assessments for ZTAs and master plans are required to be submitted to the County Council at least seven days prior to their hearing. This approach will allow planners to develop master plan recommendations to support implementation of the county’s [Climate Action Plan](#) and [Thrive Montgomery 2050](#), the new General Plan for the county adopted in 2022. Policies and strategies in both plans support eliminating greenhouse gas emissions and making land use and infrastructure more resilient and sustainable.



CLIMATE ASSESSMENT FOR BETHESDA DOWNTOWN MINOR MASTER PLAN AMENDMENT WORKING DRAFT

PURPOSE OF CLIMATE ASSESSMENTS

The Climate Action Plan (CAP) is Montgomery County’s strategic plan to cut greenhouse gas (GHG) emissions 80% by 2027 and 100% by 2035, compared to 2005 levels. To meet this mission, in July 2022, the County Council approved the Climate Assessment Bill (3-22) to better understand the anticipated impacts of proposed legislation and land-use recommendations on the county’s GHG emissions. This bill requires planning staff to assess the GHG/climate impacts of each master and sector plan, as well as of zoning text amendments.

In compliance with the Climate Assessment Bill, this Climate Assessment evaluates the anticipated impacts of the Working Draft of the Bethesda Downtown Minor Master Plan Amendment (Amendment) on the county’s GHG emissions and reductions. The assessment describes the potential GHG emissions, climate impacts, and the implications of three different density scenario increases compared to the existing Bethesda Master Plan (2017) at full build out for the projected year, 2045. The 3-density increase proposals are Scenario 1 (11 million additional square feet of development, Scenario 2 (16 million additional sq/ft), and Scenario 3 (21 million additional square feet).

This assessment is focused on the GHG emissions and sequestration effects of the 3 scenarios on land-use, transportation, and nature-based climate solutions. While the Amendment recommendations offer many co-benefits, such as economic development, increased housing and office space, and affordable housing, these are not the subjects of this report.

The Climate Assessment was conducted in accordance with the *Climate Assessment Recommendations for Master Plans and Zoning Text Amendments in Montgomery County*, December 1, 2022, prepared by ICF International, Inc. It offers an approach based on national and international available data for conducting a Climate Assessment either for a master plan (quantitative) or for a proposed zoning text amendment (qualitative).

SUMMARY

The Greenhouse Gas Quantification Tool (Quant Tool) used for the assessment is an updated version of a prior model used by Montgomery Planning. The original model was developed by King County, Washington, in 2007. It was revised in 2023 by ICF, using similar methodology with updated building

lifetime assumptions (2020), the inclusion of life cycle/upstream emissions associated with fuel combusted production and transportation, and future electric vehicle penetration and fuel mix rates.

The model assesses emissions from four categories: lifetime embodied building emissions, total lifetime building energy emissions, total lifetime building waste emissions, and total lifetime transportation emissions. For each category, the assessment uses the proposed number of buildings or units, the types of buildings, and the total commercial square footage. Sequestration is not an emissions category, rather, it's based on existing and proposed land cover for forests, non-forest tree cover, wetland/meadow, grasslands, and green roofs. The model compares base GHG emissions and sequestration levels for the existing master plan at full build-out with the 3 proposed density increases in the Amendment at full-build out.

The Bethesda Downtown Plan (2017) has a building density cap of 32.4 million square feet, about 1.8 million square feet of which remains. However, some of the objectives of the 2017 Plan for additional parks, certain transportation improvements, and a new recreation center have not been realized. To accomplish these goals, the Planning Department is proposing an increase in density using these 3 different density scenarios. Building density increases will simultaneously require additional developer funding to be used to meet the Bethesda Downtown Plan goals outlined above.

A greenhouse gas carbon assessment has been done for each of the three proposed density increase scenarios determine the level of greenhouse gas increases or decreases for each quantifiable emissions category. The assessment assumes full build out by 2024 for each scenario (every rezoned property is torn down and redeveloped at maximum allowance). The overall GHG emissions increase for **Scenario 1** (11 million additional sq/ft) will be approximately 34%. GHG emissions increase for **Scenario 2** (16 million additional sq/ft) will be 53.58%. GHG emissions for **Scenario 3** (21 million additional sq/ft) will be 73.50%.

The overall increases in total GHG emissions increases are linked to the projected population increase with each scenario from 16,179 people to 24,839 (11 million additional sq/ft), to 29,169 (16 million additional sq/ft), and 33,499 (21 million additional sq/ft). GHG increases in each of the four emissions categories are generated from the following:

- 1. Lifetime Embodied Building GHG Emissions:** Based on building type, residents/daily occupancy of building, square footage, lifespan of building, embodied emissions associated with building pavement, and upstream fuel and end-of-life emissions associated with production, transportation, and disposal of different types of materials used for construction.
- 2. Total Lifetime Building Energy GHG Emissions:** Based on building type, projected floorspace, carbon coefficient, energy consumption, and lifespan to develop a lifespan estimate of energy-related emissions per thousand square feet.
- 3. Total Lifetime Building Waste:** Based on material waste produced, waste management, landfill waste generation, combustion of solid waste, and trash generated within the building type. Includes waste from deconstruction and disposal of materials, the transportation of waste, processing, recycling, and/or disposal of materials.

4. **Total Lifetime Transportation:** Based on transportation according to building type, occupancy in the unit or building, square footage, building life, Maryland state vehicle related GHG emissions, life cycle/upstream emissions associated with fuel combusted, estimated building residents or daily occupants, emissions by transportation mode and vehicle type, EV penetration, and fuel mix rates.

Table 1: Results of 3 Scenario Greenhouse Gas Emissions Assessment (in metric tons of carbon dioxide*)							
	Existing Master Plan (EMP) 2017	Additional 11 Million Sq/Ft	Percent Increase above EMP	Additional 16 Million Sq/Ft	Percent Increase above EMP	Additional 21 Million Sq/Ft	Percent Increase above EMP
Total Lifetime Embodied Building GHG Emissions	1,179,011	1,501,250	27.33%	1,669,943	41.64%	1,838,642	55.95%
<i>Lifetime Residential Emissions per residential unit</i>	23.6	21.77	-7.79%	21.67	-8.25%	21.58	-8.60%
<i>Lifetime Commercial Emissions per commercial sq/ft</i>	0.05	0.05	0.19%	0.05	0.23%	0.05	0.26%
Total Lifetime Building Energy GHG Emissions	5,947,418	7,926,450	33.28%	9,025,751	51.76%	10,125,056	70.24%
<i>Lifetime Residential Emissions per residential unit</i>	249.39	228.49	-8.38%	225.88	-9.43%	223.92	-10.22%
<i>Lifetime Commercial Emissions per commercial sq/ft</i>	0.23	0.23	0.04%	0.23	0.12%	0.23	0.24%
Total Lifetime Building Waste GHG Emissions	930,370	1,272,218	36.74%	1,478,993	58.97%	1,685,767	81.19%
<i>Annual Total Building Waster Emissions</i>	8,985.31	13,654.23	36.74%	15,873.46	58.97%	18,092.69	81.19%
<i>Lifetime Residential Emissions per residential unit</i>	88.71	86.54	-2.44%	86.47	-2.53%	86.41	-2.59%
<i>Lifetime Commercial Emissions per commercial sq/ft</i>	0	0	-1.77%	0	-2.12%	0	-2.40%
Total Lifetime Transportation GHG Emissions	19,225,523	4,642,287	36.86%	5,410,087	59.50%	6,215,377	83.24%
Land Cover & Management Ecosystems Emissions		-1,414	N/A	-1,503	N/A	-1,594	N/A
Total GHG Emissions	11,448,774	15,340,791	34.00%	17,583,270	53.58%	19,863,249	73.50%

* MTCO2e is calculated by multiplying the amount of a gas by its global warming potential (GWP). The GWP of a gas measures its potential to cause global warming.

At the same time, its noteworthy that while the model projects an overall increase in GHG emissions for each scenario at full build-out, per-capita residential and per-square foot commercial emissions are projected to be reduced in the following four categories: Lifetime Embodied Building Emissions per residential unit; Lifetime Embodied Building Energy Emissions per residential unit; Lifetime Building Waste for Residential Emissions per residential unit; and Lifetime Building Waste for Commercial Emissions per commercial sq/ft.

GHG Decreases			
	Percent GHG decrease for additional 11,000 Sq/ft	Percent GHG decrease for additional 16,000 Sq/ft	Percent GHG decrease for additional 21,000 Sq/ft
<i>Lifetime Embodied Building Emissions per residential unit</i>	-7.79%	-8.25%	-8.60%
<i>Lifetime Embodied Building Energy Emissions per residential unit</i>	-8.38%	-9.43%	-10.22%
<i>Lifetime Building Waste for Residential Emissions per residential unit</i>	-2.44%	-2.53%	-2.59%
<i>Lifetime Building Waste for Commercial Emissions per commercial sq/ft</i>	-1.77%	-2.12%	-2.40%

The Quant Tool is limited and many potential factors could reduce the projected GHG emissions, such as rapid acceleration in electric vehicle adoption that results in market penetration sooner than the model forecasts, expanded use of alternative modes of transportation, less than full redevelopment, building requirements for new buildings to meet net zero or net positive standards, use of waste materials on-site, improvements in composting, and a reduced waste footprint through waste stream reductions.

It's important to outline that all new or changed development leads to additional GHG emissions. Providing increased density in an already dense areas may reduce county sprawl into greenfields, concentrating development where infrastructure such as metro lines, shops, community centers, and schools already exist.

New stormwater management regulations will require stormwater treatment where there presently is none. Cumulatively, will reduce stormwater runoff pollutants and improve water quality. The green cover requirements in the 2017 Master Plan will be applied. If development continues, by 2035 there could be an increased green roof coverage of 10.2 acres. By 2040, an increase in 15.3 acres of green roofs, and by 2045, 20.4 acres. Quantifiably, these roofs could draw down carbon (sequester) approximately 1,594 metric tons of carbon.

Metric Tons of Carbon Sequestration			
	Percent GHG decrease for additional 11,000 Sq/ft	Percent GHG decrease for additional 16,000 Sq/ft	Percent GHG decrease for additional 21,000 Sq/ft
<i>Land Cover & Management Ecosystems Emissions</i>	1,414 metric tons	1,503 metric tons	1,594 metric tons

BACKGROUND AND PURPOSE OF DENSITY AMENDMENT

Bethesda's most recent success was made possible by the innovative 2017 *Bethesda Downtown Sector Plan*. Following years of community collaboration, the plan defined a 20-year vision for a truly sustainable urban community by balancing additional building height and density with a new Park Impact Payment to help address the high cost of park development in the downtown, in addition to all the other public amenity, transportation, and school infrastructure improvements paid for by private development.

Beyond the standard measures used all over the county to ensure that public facilities and infrastructure will be in place to serve new development, the plan included several measures to track the implementation of plan recommendations for development, parks, transportation, and more. These included a cap on total development in downtown Bethesda of 32.4 million square feet, including existing and approved new development, based on a transportation analysis conducted at the time the plan was being developed. Once total development came within 2 million square feet (approximately 10 200-unit apartment buildings) of the cap, the plan recommended that the Planning Department and Planning Board check in with the County Council to see if additional recommendations are needed to help implementation of public amenity and infrastructure recommendations like new parks and transportation-related improvements.

In fall 2023, total development in downtown Bethesda reached the 2 million square-foot checkpoint. After public engagement and comment, Planning staff and the Planning Board recommended that the County Council authorize the development of a Minor Master Plan Amendment (MMPA). The amendment includes increasing the density cap. This model measures the greenhouse gas emissions associated with the additional square footage of new construction for the three different building scenarios: 11 million additional square feet; 16 million additional square feet; and 21 million additional square feet.

VARIABLES THAT COULD AFFECT THE ASSESSMENT

The following climate-related variables were used or considered in the assessment of the proposed increases in density. Climate-related variables include GHG reduction, sequestration, resilience, and adaptive capacity activities as outlined in the qualitative checklists (Tables 1 and 8) within the *Climate Assessment Recommendations for Master Plans and Zoning Text Amendments in Montgomery County*.

Greenhouse Data Entry–Related Variables:

Transportation: Vehicle Miles Traveled (VMT), number of trips, non-vehicle modes of transportation, public transportation use, electric vehicle infrastructure.

Building Embodied Emissions: Building certifications, building square footage, building lifespan, pavement infrastructure, material waste produced, use of green building materials.

Energy-related: Electricity usage, stationary fuel usage, electricity efficiency, stationary fuel efficiency.

Land Cover Change & Management: Retention and/or removal of forest, non-forest tree cover, and green space; proposed Nature-Based Solutions.

Resilience-Related Variables:

Exposure-Related Factors: Activity in flood areas and Urban Heat Islands

Sensitivity-Related Factors: Changes to forest and non-tree canopy cover, quality of green cover, green roofs, perviousness, stormwater treatments, heat sources (pavements, AC, roofs, etc.), reduced urban heat, and improved air and water quality.

Adaptive Capacity-Related Variables: Changes to accessibility of community and public spaces, access to transportation, accessibility to local food sources, change in economic and financial resources, and change in community connectivity.

ANTICIPATED IMPACTS

The Master Plan (2017) has strong environmental recommendations to improve Bethesda's climate resiliency, energy consumption through high performance buildings, carbon sequestration capacity, water and air quality. These are also goals set forth within the Climate Action Plan and Thrive Montgomery 2050. The increased density proposed within the Beltway will consolidate populations to reduce sprawl and protect greenfields. New construction will be required to meet today's energy efficiency standards, as well as provide Nature-Based Climate Solutions such as green roofs and tree plantings on each new development project, resulting in an increase in trees, green roofs, and vegetated stormwater management. These features can enhance a community's climate resiliency by reducing runoff and building emissions and improve biodiversity by planting native species. Concurrently, building demolition, construction, and increased transportation demands will increase GHG emissions in all four categories: Lifetime Embodied Building Emissions per residential unit; Lifetime Embodied Building Energy Emissions per residential unit; Lifetime Building Waste for Residential Emissions per residential unit; and Lifetime Building Waste for Commercial Emissions per commercial sq/ft.

The following section describes the Plan's positive or negative impacts for each climate activity variable associated with GHG emissions, sequestration, community resilience, and adaptive capacity category.

GREENHOUSE GAS EMISSIONS, CARBON SEQUESTRATION/DRAWDOWN

Transportation Activities Related to Total Lifetime Transportation GHG Emissions

- Vehicle miles traveled by type (personal vehicles, commercial trucks or vehicles, rideshare, school buses, motorcycles). **Negative Impact.** Transportation Planning staff modeled an overall increase in vehicle miles traveled (VMT) within the transit area due to the projected increase in population from 16,179 to 33,499 people. This increase will result in a greater traffic and congestion to adjacent neighborhoods, shopping areas, work, and other regional communities which will impact VMT throughout the plan area.
- Number of trips (including single occupancy and carpool trips). **Negative Impact.** The number of trips per person is expected to increase due to population increases. At the same time, Bethesda is a walkable city with access to most daily necessities and services such as work, shopping centers, schools, healthcare, grocery stores, entertainment, restaurants, and more. The

proposed vehicle miles travelled per person decreases while the overall number of miles travelled increases due to population increases.

- Non-vehicle modes of transportation (scooters, bikes, walking). **Positive Impact.** It is anticipated that non-vehicle modes of transportation will increase due to the proximity to the Bethesda metro station, bus stops, increased bike-share stations, and improved sidewalks and pedestrian network.
- Public transportation use (public bus and Metrorail). **No Impact.** It is not anticipated that public transit trips will increase with the proposed increases in density.
- Electric vehicle infrastructure access (i.e., charging stations). **Positive Impact.** It is anticipated that electric vehicle use will increase within the next few decades due to national and local incentives, policies, and increased affordability. The number of electric vehicle charging stations is based on the number of units within a building. Therefore, increased density will result in increased charging stations.

Building Activities Related to Total Lifetime Embodied Building GHG Emissions

- Building Certifications. **Positive Impact.** There is a correlation between green building certification and lower emissions. While the master plan cannot dictate actual design and engineering of a building, the recommendations encourage all development to exceed the county's minimum energy standards and strive to meet net zero, net positive, and/or Living Building standards. New buildings will also be required to meet the county's energy standards and codes.
- Building square footage. **Negative Impact.** It is anticipated that there will be an increase in the overall square footage of large buildings. An increase in building square footage will increase material use for building construction (embodied energy), construction activities, and additional energy use in buildings, all of which will increase emissions. While many green building certification standards require materials to be sustainable or sourced within a certain distance, it is not possible to know whether this requirement will apply to new construction projects.
- Building lifespan. **Negative Impact.** A shorter building lifespan results in greater turnover of emissions associated with building demolition and the construction of new buildings. In contrast, a longer building lifetime results in lower overall embodied emissions. The increased density will increase embodied building GHG emissions by approximately 27.33% for **Scenario 1** (11 million additional sq/ft), 41.64% for **Scenario 2** (16 million additional sq/ft), 55.95% for **Scenario 3** (21 million additional sq/ft). To reduce embodied energy emissions, it is recommended to reuse building material during construction.
- Pavement infrastructure. **No Impact.** The manufacturing and use of pavements to create roadways, walkways, and buildings causes GHG emissions. None of the density scenarios propose additional surface area.
- Use of green building materials. **Positive Impact.** It is not possible to know what materials will be used for future building; however, the Master Plan (2017) provides incentives for high

performance buildings. While not required, the county's green building codes and standards provides benefit points for the use of green construction materials.

Energy Activities Related to Total Lifetime Building Energy GHG Emissions

- Electricity usage. **Negative Impact**. Due to the density recommendations and the population increases, the overall use of electricity is expected to increase even with the construction of energy efficient, high performing buildings.
- Stationary fuel usage. **Positive Impact**. Stationary fuel usage refers to combustion equipment for generating steam or providing useful heat or energy. Stationary fuel usage results in direct GHG emissions. Montgomery County has moved from fossil fuel use to alternative energy sources thereby reducing stationary fuel usage. Fossil fuel is anticipated to further decline in the future.
- Electricity efficiency (per square foot). **Positive Impact**. While there is an average increase in energy consumption due to density and population increases, the average embodied energy emissions per residential unit declines by 8.38%, for **Scenario 1** (11 million additional sq/ft), 9.43%, for **Scenario 2** (16 million additional sq/ft), 10.22% for **Scenario 3** (21 million additional sq/ft).
- Stationary fuel efficiency (BTU per square foot). **Negative Impacts**. Stationary fuel efficiency capabilities refers to retrofitting existing buildings to improve fuel efficiencies. The proposed density increases will not result in the retrofitting of existing buildings.

Waste Activities Related to Total Lifetime Building Waste GHG Emissions

- Material waste produced. **Negative Impact**. Material waste is sent to a combination of recycling, landfilling, and waste combusting facilities, which can increase GHG emissions. Although the Plan recommends salvaging building materials during demolition (steel, wood, brick, glass, asphalt, and concrete), most of the property proposed for redevelopment and zoning changes will generate waste material and embodied emissions increasing the overall Building Waste GHG Emissions. However, lifetime residential and commercial building waste per unit for residential and commercial will decrease.

Land Cover Change & Management Activities Related to Land Cover & Management Ecosystems Carbon Stock (Sequestration)

- Area of forest. **No Impact**. No forests will be affected.
- Area of non-forest tree canopy. **Positive Impact**. It is intended that no trees will be lost due to increased density. The Master Plan (2017) proposes an increase in street and open space canopy cover.
- Area of green cover. **Positive Impact**. Green cover in the form of green roofs, trees, shrubs, and/or herbaceous cover can sequester and store carbon as biomass, restore and build soils, and provide food and habitat for coevolved species. Green cover is especially important in urbanized areas with high levels of impervious surfaces, as it helps reduce the heat island effect and cools streetscapes, walkways, roads, and open space. The Master Plan (2017) requires all new

development to achieve a minimum of 35% green cover by planting native canopy trees, installing a green roof, or doing both. If growth continues at its current rate, it is anticipated that there may be as much as 20.4 acres of green roofs at full building out in 2024 (21 million additional square feet).

- Implementation of Nature-Based Climate Solutions. **No Impact**. Nature-Based Climate Solutions are a broad range of actions to restore and mitigate lost natural systems and functions to enhance climate adaptation and sequestration capacities, biodiversity, water and air quality, and human health. Increasing density will not change the implementation of Nature-Based Climate Solutions.

COMMUNITY RESILIENCE AND ADAPTIVE CAPACITY

Urban resilience is the inverse of vulnerability. It is the capacity to function so that people who are living and working in the area, particularly those who are lower income or otherwise vulnerable, can survive and thrive no matter what stresses or shocks they encounter. This section addresses the Plan's Resiliency and Adaptive Capacity for three core vulnerability areas: Exposure (the level of contact that people, systems, and assets have with climate hazards); Sensitivity factors (an increase or decrease in the severity of impacts to people, systems, and assets from a climate hazard); and Adaptive capacity (factors that increase or decrease people or society's ability to cope with adverse impacts). Each vulnerability area has several potential impact factors that increase or decrease resiliency. The worksheet associated with this category requires a broad yes-or-no impact and positive-or-negative determination. Positive impacts will not happen quickly. They are uncertain and dependent on the rate of redevelopment, transportation funding and implementation, and city/county initiatives.

Exposure-Related Factors

- Activity in flood risk areas. **No Impact**. There are no flood zones or flood plains within the Plan area.
- Activity in urban heat island. **No Impact**. Any density changes will not affect urban heat island temperatures as its expected buildings will increase in height rather than width.
- Exposure to other hazards (e.g., storms, wind, drought). **No Impact**. Severe storms and wind can negatively affect public safety and cause damage and disruptions to critical infrastructure (e.g., loss of power, damage to buildings). High winds can discourage sustainable forms of transportation such as biking and walking. The density recommendations will have no impact on exposure to these hazards.

Sensitivity-Related Factors

- Change to forest cover. **No Impact**. There are no forests within the area where density is proposed to increase.
- Area of non-forest tree canopy. **No Impact**. Non-forest trees, especially in urbanized areas, provide multiple ecological and human benefits, including cooling streetscapes, providing microclimates, reducing urban heat island temperatures, sequestering GHG, reducing energy

demand (3 to 30%¹), and providing wildlife habitat, food, and pollinators. Increasing density should not change non-forest tree canopy cover.

- Change to quality or quantity of other green areas (meadows, green roofs, planting beds, etc.). **Positive Impact.** Adding and mitigating green areas, especially where there are impervious surfaces, will improve community resilience by aiding in temperature reduction and reducing the impacts of extreme heat on human health. Green cover can also add stormwater treatment capacity by converting impervious surfaces into green cover with soils and vegetation to filter and absorb stormwater. Increasing density will facilitate development which in turn, requires funding for the purchasing of additional parks and open space. Green roof construction is anticipated with new development.
- Change impacts of heat (e.g., cool pavements, cool roofs, air conditioning, energy efficiency improvements). **Positive Impact.** Temperatures are expected to increase in Montgomery County, posing a growing threat to human and animal health, natural resources, and infrastructure. The addition of green roofs and trees will slightly reduce heat island effect from impervious surfaces. In turn, this will reduce heat to those directly adjacent to the property.
- Change in perviousness. **No Impact.** Increasing density will not affect pervious surfaces.
- Change in stormwater management system treatments. **No Impact.** Changes in density will not affect stormwater management treatment above what will be anticipated with all new development.
- Change to water quality or quantity. **No Impact.** Changes in density will not affect stormwater management treatment above what will be anticipated with all new development.
- Change to air quality. **Negative Impact.** Increases in density will increase overall GHG emissions which reduce air quality. While alternative energy and the burning of fossil fuels are not sourced within the county, increased density and its construction impacts adds to overall emissions.
- Infrastructure design decisions. **Unknown Impacts.** Infrastructure design can have a bearing on climate resiliency. Increased density does may affect infrastructure design decisions such as culverts or drainage sizing. This is in the purview of other county agencies.

Adaptive Capacity Factors

- Change to accessibility or prevalence of community and public spaces (e.g., libraries, air-conditioned cooling centers). **Positive Impact.** The proposed density increases are anticipated to aid in the funding of additional parks and open space resulting in an increase in community and public open spaces.
- Change to emergency response and recovery capabilities. **No Impact.** Expanding emergency response and recovery capabilities is generally associated with increased community resilience and adaptive capacity. For example, if there are more emergency responders available during a

¹ Climate Assessment Recommendations for Zoning Text Amendments and Master Plans in Montgomery County

flood event or storm, more people can be dispatched to check on vulnerable residents and residents will be more likely to receive the help they need. The Plan does not address this factor.

- Change in access to transportation. **No Impact.** The increase in density will have no impact on the transportation network, bicycle or pedestrian ways, bus shelters, etc.
- Change to accessibility or prevalence of local food sources and other goods. **Positive Impact.** Expanding the accessibility and prevalence of local food sources enhances community resilience by reducing reliance on distant travel. It is possible that new development will result in additional food stores and restaurants reducing travel demand for these necessities.
- Change in availability or distribution of economic and financial resources (i.e., to what extent the master plan will influence the accessibility or distribution of economic and financial resources). **Potential Impact.** Added density could encourage mixed uses which could increase the local labor force, creating jobs and increasing income. This effect is not guaranteed, as mixed use is optional in the master plan and does not guarantee an increase in local jobs.
- Change to community connectivity (e.g., social connections, sense of place, belonging). **Positive Impact.** Studies show that social cohesion and community connectivity are directly linked with resilience and often help strengthen a community, especially in post-disaster recovery situations. Community connectivity can also reduce mental health challenges and post-traumatic stress for individuals who are impacted by natural disasters. The proposed density increases may improve community connectivity by enhancing public gathering spaces and parks, which provide opportunities to make social connections.
- Change in distribution of resources and support (influencing the equitable distribution of resources and providing policies, institutional knowledge, training, and resources). **No Impact.** The density changes does not directly make recommendations to provide additional resources and support in this category.

RELATIONSHIP TO GREENHOUSE GAS REDUCTION AND SEQUESTRATION ACTIONS CONTAINED IN THE MONTGOMERY COUNTY CLIMATE ACTION PLAN (CAP)

The CAP details the effects of a changing climate on Montgomery County and includes interagency strategies to reduce greenhouse gas emissions and climate-related risks to the county's residents, businesses, and the built and natural environment.

The CAP includes 86 climate actions as a pathway to meet the county's ambitious climate goals while building a healthy, equitable, and resilient community. Each county department has responsibilities for specific climate actions that are relevant to the work of that department. The following section provides a list of the CAP action items relevant to Montgomery Planning Department. While it is not possible to know the rate or type of development, each action item was rated high, medium, or low for its potential to reduce GHG gasses or sequester carbon.

Clean Energy Actions

- E-3: Promote Private Solar Photovoltaic Systems. **Medium**. It's possible that developers will incorporate photovoltaics into their development projects, but it is not absolute.

Building Actions

- B-7: Net Zero Energy Building Code for New Construction. **Medium**. All new construction is encouraged to exceed the county's energy standard and reach net zero, net positive, and/or Living Building standards. However, it is not possible to know if these techniques will be applied.

Transportation Actions

- T-1: Expand Public Transit. **Low**. There are no transportation recommendations associated with the density increases proposed.
- T-2: Expand Active Transportation and Micro-mobility Network. **No**. There are no recommendations to construct bicycle lanes, improve sidewalks, and increase access, stations, and frequency of public transit.
- T-4: Constrain Cars in Urban Areas, Limit Major New Road Construction. **Low**. There are no recommendations to address car constraints.
- T-7: Expand the Electric Vehicle Charging Network. **High**. The number of charging stations is dependent on the number of units per building. Increased density will result in increased charging stations.
- T-8: Transportation Demand Management. **Low**. There are no recommendations to address transportation demand management.

Carbon Sequestration Actions

- S-1: Retain and Increase Forests. **Low** (for forest retention), **Low** (for increase in forest). There are no forests within the properties proposed for increased density.
- S-2: Retain and Increase Tree Canopy. **Low**. There are no recommendations for tree canopy changes with the proposed density increases.
- S-5: Restore Soil Fertility, Microbial Activity, and Moisture-Holding Capacity. **Low**. There are no recommendations for in this category with the proposed density increases.

Climate Adaptation Actions.

- A-18: Expanded Community Gardens. **Low**. There are no recommendations for in this category with the proposed density increases.
- A-7: Green Public Spaces. **High**. As noted, the proposed increases in density will increase developer funding to be used for purchasing parks and open space.
- A-10: Green Infrastructure. **Medium**. Green infrastructure is not directly recommended but there will be an increase in parks and green roofs with development.
- A-13: Ban Stormwater Management Requirement Waivers. **Low**. There are no recommendations for in this category with the proposed density increases.

SOURCES OF INFORMATION, ASSUMPTIONS, AND METHODOLOGIES USED

The climate assessment for the for the proposed 3 density scenarios was prepared using the methodology for master plans contained within the *Climate Assessment Recommendations for Master Plans and Zoning Text Amendments in Montgomery County*, December 1, 2022.

The approach for modeling greenhouse gas emissions from existing and future (2045) land use and transportation growth was done using a GHG quantification spreadsheet (Quant Tool). The spreadsheet provides totals emissions by type, including lifetime embodied building GHG emissions, lifetime building energy GHG emissions, lifetime building waste GHG emissions, lifetime transportation GHG emissions, and sequestration rates for land cover and management. The original model was developed in 2007 by King County, Washington, using national averages for transportation, and estimates emissions factors for the lifetime of buildings associated with the master plan’s development. The model was revised in 2022 by ICF consultants, using similar methodology with updated building lifetime assumptions (2020), the inclusion of life cycle/upstream emissions associated with fossil fuel production and transportation, and future electric vehicle penetration and fuel mix rates.

Sources of Information

- *Climate Assessment Recommendations for Master Plans and Zoning Text Amendments in Montgomery County*, December 2022
- *Montgomery County Climate Action Plan*, June 2021
- *Thrive Montgomery 2050*, October 2022
- GHG Quant Tool inputs:
 - **Land Use**—Master Plan Parcel GIS (land use attributes from county parcel layer); residential units and commercial floor area values adjusted for the Existing Policy and Master Plan scenarios (based on theoretical maximum possible build-out for each scenario’s zoning allowances)
 - **Pavement/Impervious Surfaces**—Montgomery County Planimetric GIS, 2020 (coverage values adjusted for projected Master Plan build-out)
 - **Transportation (VMT)**—Montgomery County Planning transportation staff modeling program, March 2023
 - **Land Cover**—Montgomery County Tree, non-forest, turf, and soil cover (Montgomery County GIS, 2015)

GHG Quant Tool Assumptions

- The model calculates the GHG emissions for the maximum build-out by 2045 of land-use development (i.e., residential units and commercial building area) and resulting vehicle miles traveled consistent with the existing allowable development potential for current zoning districts. The model was run for all 3 density increase scenarios.
- The assessment calculates GHG emissions for a theoretical maximum possible build-out by 2045 of land use development (i.e., residential units and commercial building area) and resulting vehicle miles traveled consistent with the theoretical maximum build-out for zoning districts as recommended by the Master Plan.

- The Quant tool assumes an electric vehicle market penetration rate in the GHG Quant Tool of 90% by the year 2035. This estimate is consistent with Montgomery County’s goal for transitioning vehicles to 100% electric by 2035, adjusted down by 10% to allow for a possible slower market uptake. However, electric vehicle use could increase at a faster rate than the penetration rate projects.
- The model was run assuming a 35% increase in green cover for all new development based on the proposed requirement. Green cover can be tree canopy cover, green roofs, or both.

Economic Studies performed for the MMPA by PES Consulting

Downtown Bethesda
Financial Analysis

Prepared for:

Montgomery County
Planning Department

September 30, 2024



Table of Contents

Development Context 2

Structure of Financial Pro Formas..... 4

Rental Apartment Analysis..... 5

Residential Condominium Analysis..... 8

Office Financial Analysis..... 11

Hotel Financial Analysis 13



Downtown Bethesda Financial Analysis

The Montgomery County Planning Department is currently preparing a Minor Master Plan Amendment to the Downtown Bethesda Master Plan adopted in 2017. One of the policy considerations relates to funding the major park improvements envisioned in the plan. The Bethesda Overlay Zone (BOZ) imposed Park Impact Payments (PIPs) on new development seeking to exceed the previous by-right zoning and height limits. BOZ density is calculated for each development and purchased with a PIP based on then prevailing rates. The PIP rate started at \$10.00 per square foot and now stands at \$12.49 per square foot.

In evaluating an increase in development fees, it is appropriate to test whether the new development can absorb that additional cost or whether a higher fee might render new developments infeasible. Partners for Economic Solutions has prepared four pro forma analyses – residential apartments, residential condominiums, office and hotel – to test the financial feasibility of development in Downtown Bethesda.

Development Context

For each of the four land uses tested, this is a difficult time to be initiating development. Following a decade on unprecedented low interest rates, ready availability of funding and strong demand, we are now facing much different circumstances that undermine development feasibility. The Covid pandemic accelerated and exacerbated real estate trends. Most obvious were the impacts on hotels and office space. Travel largely shut down for more than a year and has only recently regained much of its pre-pandemic momentum. Zoom and other tele-conferencing tools have reduced the need for face-to-face meetings and collaborations, reducing the demand for business and conference travel.

Working from home became the only option for many office-based businesses, and the pandemic proved to many employers that working in the office was not the only productive option. Workers benefited from greater flexibility working from home and were able to cut the money and time costs of daily commuting. Now office occupancy varies significantly by the day of the week with most offices adopting a hybrid schedule with employees in the office two to four days per week. The level of in-office work now stands at roughly 60 percent of the number of employees who worked in the office pre-Covid. Working from home and other locations was already a growing trend that, coupled with open office floor plans, had led to significant decreases in the amount of office space per employee. Office vacancy rates were rising, and the pandemic hastened the emptying of older office buildings and slowed the lease-up of new office space. The result is a significant over-hang of vacant space (14 percent of all Downtown Bethesda office space) with competition driving down rents in existing office buildings. Modern, well-located office space is available in large supply at rents well below the rents needed to justify new construction.



Construction costs were increasing rapidly – from 2015 through 2019, **Engineering News-Record** reported that construction costs in the Washington region were increasing an average of 4.98 percent annually in response to high demand for labor and materials both nationally and internationally. This compared with 1.8-percent annual inflation during the same period. The pandemic disrupted supply chains, stretching out construction schedules and increasing construction costs even more rapidly. Though most of the supply chain issues have been resolved, construction costs are now estimated to be 40 percent above those in 2019.

Inflationary pressures exacerbated by the pandemic and the Federal Reserve's tightening of the money supply in response have resulted in high interest rates not seen in more than a decade. Loans that had been pricing at 3 to 5 percent are now pricing at 7 to 8 percent if they are available at all. Rising delinquency and foreclosure rates in commercial real estate have left banks with less money to lend and a much lower tolerance for risk. Construction loans that had been available for 65 to 70 percent of costs are now limited to 50 to 55 percent of costs, requiring much greater equity from developers and investors. Capitalization rates, which relate the value of a real estate property to the net revenue it generates, increased from as low as 4.5 percent to 5.75 percent or higher depending on the use and the local market.¹ Higher capitalization rates reduced real estate values. With high interest rates, borrowing costs have risen sharply, further impacting the cost of development. The recent Federal Reserve decision to reduce its benchmark interest rate by half a percentage point (50 basis points) has set the stage for borrowing costs that are lower than prevailing rates before September, but still higher than those that prevailed before the pandemic.

Land costs in Downtown Bethesda had reached \$100 to \$110 per FAR square foot, that is, \$100 to \$110 for every square foot of new above-ground development. Economic theory and logic both suggest that land prices should adjust to reflect these changes in the underlying economics. Land is only worth what the developer can pay and still make the rate of return required to attract investors and compensate for the risks of development. When costs go up without a commensurate increase in revenues, land prices should fall. In reality, real estate markets and land prices can be much stickier. As with individual homeowners, if you are not compelled to sell and current market conditions would require you to lower your price, many homeowners will simply hold on to their property until the market recovers and the high price is once more available. Of course, those high prices may not come again, but it can take a long time for owners to become more realistic and adjust their expectations. In that interim period, land may not change hands at any price. Most developers interviewed for this analysis opined that residential land is worth \$60 to \$65 per FAR square foot.

Complicating that process of land price adjustments in Downtown Bethesda is the fact that development typically requires demolition of existing buildings to create new sites. Those

¹ Value is calculated by dividing the net operating income by the capitalization rate.



existing buildings are likely occupied with an on-going stream of rental income, which allows the owners to hold on longer even as it becomes clear that the buildings have out-lived their economic viability. For those who lose their buildings to bankruptcy, their lenders are typically more willing to sell at a market price in order to get the properties off their books.

On the residential side, average Downtown Bethesda apartment rents have escalated – growing 5.0 percent from 2019 to 2024 to a current average effective rent of \$3,506 per unit according to CoStar – much slower than the 40-percent increase in construction costs. There are likely limits on the market’s ability to continue to pushing up rents. Due to the high development costs, new Bethesda apartments are geared to the high-end market, a market that is not unlimited in size.

In this context, few developments now “pencil out.” Many developers are now sitting on the sidelines hoping for cuts in interest rates and an increase in the availability of financing. Until the four residential buildings currently under construction are completed and well along the way to full lease-up, residential developers and investors will be reluctant to enter the market. It may be three years or more before Downtown Bethesda sees major new residential projects. No one anticipates new office development at least until vacancy rates fall below 8 to 10 percent.

None of the following pro formas for rental housing, condominium or office development show the financial ability to support higher construction costs, land costs, development impact fees or Park Impact Payments. Each shows a continuing financial gap between the costs of development and the private investment justified by the project’s future revenues. The hotel pro forma indicates financial feasibility with the ability to absorb a higher Park Impact Payment.

Structure of Financial Pro Formas

The financial feasibility of development is measured by comparing the costs of development to the value of the development once complete and fully leased (or the sales price). Investors and developers have target rates of return that guide whether they invest or not. To account for the Federal Reserve’s recent move, the analysis assumes improved financing conditions, including lower financing costs (in the soft costs) and required returns.

The pro forma starts with defining the site size and the development program. The supportable **building program** is a function of the site size, building height, building Floor Area Ratio (FAR) and the parking ratio. The gross building area is then reduced to the rentable building area, which excludes common areas, stairways, elevator shafts and entrances to the underground parking garage. For residential buildings, the rentable area is divided into units with a mix of sizes and configurations and may include first-floor commercial spaces. The amount of parking is largely a function of the market and the developer’s expectations about the marketability of units or office space without associated



parking spaces. The number of floors of parking depends on the efficiency of the building footprint and how well parking spaces can be laid out in that footprint. The building's parking depth is impacted by how deeply one can excavate without hitting rock with much higher excavation costs.

Development costs are broken into:

- land acquisition;
- “hard costs” (e.g., brick and mortar costs) of site preparation, underground parking and the above-ground structure;
- “soft costs” such as architectural and engineering fees, legal and accounting fees, insurance, permits, financing, taxes, development impact fees and developer fees;
- tenant improvement costs for finishing out commercial tenant spaces; and
- Park Impact Payments.

Operating income is estimated based on achievable rents that reflect current lease rates in buildings of comparable location, quality and age. The BOZ requires that residential buildings include 15 percent Moderately Priced Dwelling Units (MPDUs). The rents (and condominium sales prices) are set to be affordable by households with incomes up to 70 percent of Area Median Income (AMI). Gross rents (including utilities) and payments are limited to 25 percent of household income.

Gross rental income is reduced by 5.0 percent for vacancies between tenants and/or collection losses. Also deducted are operating costs paid by the landlord and real estate taxes and payments to the replacement reserve to get to **Net Operating Income (NOI)**.

The NOI is divided by the capitalization rate to estimate the **Value** of the development upon completion. That value is compared to the sum of the Total Development Costs and the **Required Return** (calculated by multiplying development costs by the target rate of return for rental projects or by multiplying gross sales price by the target rate of return for condominiums). If the Value is greater than the development costs plus required return, the project has a Financial Surplus and is considered to be a feasible project. A Value less than the development costs plus required return has a Financial Deficit and is not feasible without higher revenues and/or lower costs.

Each pro forma is based on a recent or proposed development in Downtown Bethesda to ensure that the examples are appropriate to the market.

Rental Apartment Analysis

As shown in Table 1, the prototypical residential apartment development has 276 units on 22 floors with the following characteristics:

- Site size: 0.59 acres



- Average unit size: 903 square feet including multiple penthouse units
- Average rent: \$4,400 per market-rate unit
- Average MPDU rent: \$1,414

Table 1. Downtown Bethesda Prototypical Apartment Development

Table 1. Downtown Bethesda Prototypical Apartment Development				
Characteristics of Project				
Site Size (Acres)	0.59			
Height (Feet)/Stories	230/22	Parking Ratio (Spaces per Unit)		0.82
Site Coverage Ratio	74%	Below-Ground Parking Spaces		225
Future FAR	12.9	Total Residential Rentable Sq. Ft.		210,354
BOZ Density (Square Feet)	162,012	First-Floor Retail Space		6,000
Base Project Size (Units)	276	Common Area		113,646
Market-Rate Units	234	Total Gross Square Feet		330,000
Affordable Units	42	Average Unit Size (Square Feet)		903
Unit Mix	Sq. Ft.	Mix	Units	Rent
Market-Rate Units				
Efficiency	516	7%	18	\$2,750
1 BR	701	50%	117	\$3,440
2 BR	1,076	32%	74	\$4,750
3 BR	1,577	11%	25	\$9,030
Average Market-Rate Monthly Rent	\$4,398			
Affordable Units				
Efficiency	516	7%	2	\$1,215
1 BR	701	50%	21	\$1,292
2 BR	1,076	32%	14	\$1,523
3 BR	1,577	11%	5	\$1,702
Average Affordable Monthly Rent	\$1,414			
Average Monthly Rent	\$3,944			
Monthly Parking Rate	\$250			
First-Floor Commercial Rent	\$50			
Operating Expense per Rentable Square Foot	\$13.56			
Development Costs				
Land Acquisition, Assuming Vacant Land	\$21,450,000			
Construction Costs	\$123,750,000			
Site Improvement/Infrastructure Costs	\$3,824,000			
Parking Construction Costs	\$22,500,000			
Soft Costs	\$42,021,000			
Park Impact Payment	\$2,024,000			
Commercial Tenant Improv. Costs	\$120,000			
Total Development Costs	\$215,689,000			
<i>Total Development Costs/Unit</i>	<i>\$781,500</i>			
Development Feasibility				
Gross Rent (100% Occupancy)	\$14,038,500			
Vacancy and Collection Loss	5.0%			
Gross Scheduled Rent	\$13,336,600			
Operating Expenses	\$2,852,000			
Replacement Reserves	\$97,000			
Net Operating Income	\$10,387,600			
Capitalized Value	\$207,750,000			
Required Return on Investment	\$12,400,000			
Financial Surplus/(Deficit)	-\$20,339,000			



- Total Development Costs: \$216 million or \$781,500 per unit
- Total Value at Completion: \$208 million or \$752,700 per unit
- Financial Surplus/(Deficit): **(\$20 million)**

Table 2 summarizes the model inputs based on projections of improved conditions following the cutting of the Federal Reserve’s benchmark interest rate.

Table 2. Rental Apartment Financial Model Input Assumptions		
	Projected Improved Conditions	
Developer Targeted Return	5.75%	of total costs
Vacancy and Collection Loss	5%	% of revenues
Building Efficiency (Leaseable/Gross S.F.)	77%	percent
Residential Parking Spaces	0.8	per unit
Monthly Parking Fees	\$250	per space
Percent MPDUs	15%	of total units
Development Cost Assumptions		
Infrastructure & Site Improvements	\$6,500,000	per acre
Land Cost	\$65	per building g.s.f.
Hard Costs (Including General Conditions)		
7+ Stories	\$375	per g.s.f.
Below-Grade Parking Costs	\$100,000	per space
Soft Costs (Incl. Const. Fin.)	28%	of hard costs
Park Impact Payment	\$12.49	per BOZ Density s.f.
Tenant Improvements		
Retail	\$20	per square foot
Replacement Reserves	\$350	per unit
Residential Operating Costs (Excluding Utilities and Taxes)	\$9.00	per r.s.f.
Real Estate Taxes	\$4.56	per g.s.f.
Capitalization Rate	5.00%	
Property Tax Rate	0.011155	

Source: Kramer Consulting Services, PC, 2024; Partners for Economic Solutions, 2024.

Residential Condominium Analysis

Table 3 analyzes a small prototypical residential condominium development with 49 units on seven floors with the following characteristics:

- Site size: 0.41 acres
- Average unit size: 1,373 square feet
- Average sales price: \$1,199,000 per market-rate unit
- Alternative MPDU Payment: \$1,763,000



- Total Development Costs: \$62 million or \$1,260,000 per unit
- Total Net Sales Proceeds: \$58 million or \$1,191,500 per unit
- Financial Surplus/(Deficit): (\$9 million)

Under Section 25A-5A of the Montgomery County Code, the Director of the Department of Housing and Community Affairs may authorize an Alternative Payment to the Housing Initiative Fund rather than requiring that the MPDUs be developed on site if “an indivisible package of services and facilities available to all residents of the proposed subdivision would cost MPDU buyers so much that it is likely to make the MPDUs effectively unaffordable by eligible buyers.” Given typical condominium fees in the Bethesda market, this is a likely situation. The Alternative Payment is calculated at 3.0 percent of the sale price of each market-rate unit if no MPDUs are provided on site. Based on the anticipated prices, this Alternative Payment would total \$1,763,000.



Table 3. Downtown Bethesda Prototypical Condominium Development

Characteristics of Project				
Site Size (Acres)	0.41			
Height (Feet)/Stories	70/7	Parking Ratio (Spaces per Unit)		1.10
Site Coverage Ratio	67%	Below-Ground Parking Spaces		54
Future FAR	4.6	Total Residential Rentable Sq. Ft.		67,154
Future Project Density (DU/AC)	668	Common Area		14,846
BOZ Density (Square Feet)	50,913	Total Gross Square Feet		82,000
Base Project Size (Units)	49	Average Unit Size (Square Feet)		1,373
Market-Rate Units	49			
Affordable Units	-			
Unit Mix	Sq. Ft.	Mix	Units	Price
Market-Rate Units				
1 BR	803	14%	7	\$550,000
2 BR	1,252	45%	22	\$1,041,000
3 BR	1,700	41%	20	\$1,599,000
Average Price	\$1,199,000			
Parking Sales Price	\$75,000			
Development Costs				
Land Acquisition	\$6,232,000			
Construction Costs	\$35,506,000			
Site Improvement/Infrastructure Costs	\$2,271,000			
Parking Construction Costs	\$5,400,000			
Soft Costs	\$9,931,000			
Alternative Payment for Off-Site MPDUs	\$1,763,000			
Park Impact Payment	\$636,000			
Total Development Costs	\$61,739,000			
<i>Total Development Costs/Unit</i>	<i>\$1,260,000</i>			
Development Feasibility				
Gross Sales	\$62,782,000			
Cost of Sales, Including Transfer Tax	\$4,400,000			
Net Proceeds	\$58,382,000			
Required Return on Investment	\$5,960,000			
Financial Surplus/(Deficit)	-\$9,317,000			

Source: Partners for Economic Solutions, 2024.

Table 4 shows key assumptions under projected improved conditions, including a reduction in mortgage interest rates to 5.75 percent.

Table 4. Residential Condominium Financial Model Input Assumptions

	Projected Improved Conditions	
Developer Targeted Return	9.5%	of total costs
Site Coverage Ratio	67%	of land sq. ft.
Building Efficiency (Leaseable/Gross S.F.)	80%	percent
Residential Parking Spaces	1.1	per unit
Parking Price	\$75,000	per space
Cost of Sale, Including Transfer Tax	7%	of sale price
Mortgage Interest Rate	5.75%	
Development Cost Assumptions		
Infrastructure & Site Improvements	\$5,500,000	per acre
Land Cost	\$76	per g.s.f.
Hard Costs (Including General Conditions)		
7+ Stories	\$433	per g.s.f.
Below-Grade Parking Costs	\$100,000	per space
Soft Costs (Incl. Const. Fin.)	23%	of hard costs
Alternative Payment for Off-Site MPDUs	3%	of total sales prices
Park Impact Payment	\$12.49	per BOZ Density s.f.

Source: Kramer Consulting Services, PC, 2024; Partners for Economic Solutions, 2024.

To cover the development costs and provide an adequate return on investment under these optimistic assumptions, the sales prices would need a 20-percent premium over market prices to reach \$1,250,000 for a two-bedroom unit and \$1,918,000 for a three-bedroom unit even under improved financial and real estate market conditions.

Office Financial Analysis

The prototypical office development includes 340,000 square feet of office and retail space on 17 floors with the following characteristics:

- Site size: 0.7 acres
- Assumed rent: \$60 full service, per rentable square foot
- Total Development Costs: \$213 million or \$697 per gross square foot
- Total Value at Completion: \$190 million or \$560 per gross square foot
- Financial Surplus/(Deficit): **(\$42 million)**

This analysis, however, is a hypothetical effort given the state of the office market, as discussed above. There is very little leasing activity in the market, so the \$60 rent per square foot is largely speculative. Also lacking are lenders and investors willing to support new office development. Development of a new office building in Downtown Bethesda in the foreseeable future is highly unlikely.

Table 5. Downtown Bethesda Prototypical Office Development	
Characteristics of Project	
Site Size (Acres)	0.70
Height (Feet)	175
Site Coverage	95%
Future FAR	11.2
BOZ Density	86,706
Gross Square Feet	340,000
Parking Ratio (Spaces per 1,000 Gross Sq. Ft.)	0.91
Below-Ground Parking Spaces	310
Total Rentable Square Feet	306,000
Office	296,000
Retail	10,000
Operating Inputs	
Office Rent (FS)	\$60.00
Retail Rent (NNN)	\$50.00
Monthly Parking Rate	\$200
Office Operating Expense per Sq. Ft.	\$16.00
Development Costs	
Land Acquisition	\$34,000,000
Construction Costs	\$86,360,000
Site Improvement/Infrastructure Costs	\$4,060,000
Parking Construction Costs	\$31,000,000
Soft Costs	\$33,998,000
Park Impact Payment	\$1,083,000
Tenant Improvement Costs	\$22,700,000
Total Development Costs	\$213,201,000
<i>Total Development Costs/Rentable Sq. Ft.</i>	<i>\$697</i>
Development Feasibility	
Gross Rent (100% Occupancy)	\$19,004,000
Vacancy and Collection Loss	5.0%
Gross Scheduled Rent	\$18,053,800
Operating Expenses	\$4,736,000
Net Operating Income	\$13,317,800
Capitalized Value	\$190,254,000
Required Return on Investment	\$18,655,000
Financial Surplus/(Deficit)	-\$41,602,000
Source: Partners for Economic Solutions, 2024.	

Table 6 summarizes the model inputs.

Table 6. Office Financial Model Input Assumptions

	Projected Improved Conditions	
Developer Targeted Return	8.75%	of total costs
Vacancy and Collection Loss	5%	% of revenues
Building Efficiency (Leaseable/Gross S.F.)	90%	percent
Residential Parking Spaces (Minimum)	NA	per unit
Commercial Parking Spaces	0.94	per 1,000 g.s.f.
Monthly Parking Fees	\$200	per space
Development Cost Assumptions		
Land Acquisition Cost	\$100	per g.s.f.
Infrastructure & Site Improvements	\$5,800,000	per acre
Hard Costs (Including General Conditions)		
7+ Stories	\$254	per g.s.f.
Below-Grade Parking Costs	\$100,000	per space
Soft Costs (Incl. Const. Fin.)	28%	of hard costs
Park Impact Payment	\$12.49	per BOZ density s.f.
Tenant Improvements		
Office	\$75	
Retail	\$50	
Replacement Reserves	NA	per unit
Operating Costs	\$16.00	per r.s.f.
Operating	\$9.00	
Taxes	\$7.00	
Capitalization Rate	7.0%	
Property Tax Rate	0.011155	

Source: Kramer Consulting Services, PC; Partners for Economic Solutions, 2024.

Hotel Financial Analysis

The prototypical hotel analysis involves a 225-room hotel on 18 floors with the following characteristics:

- Site size: 0.52 acres
- Average Daily Rate: \$250 per night
- Total Development Costs: \$94 million or \$418,000 per room
- Total Value at Completion: \$102 million or \$452,900 per room
- Financial Surplus/(Deficit): \$1 million

The pro forma shows a financially feasible development.

Table 7. Downtown Bethesda Prototypical Hotel Development	
Characteristics of Project	
Site Size (Acres)	0.52
Height (Stories)	18
Future FAR	4.3
Gross Square Feet	98,072
Hotel Keys	225
On-Site Parking Ratio (Spaces per Room)	0.3
Below-Ground Parking Spaces	75
Operating Inputs	
Hotel Occupancy	67%
Average Daily Rate	\$250
Hotel Operating Exp. % of Gross Sales	45%
Retail Rent (NNN)	-
Monthly Parking Rate	\$40
Development Costs	
Land Acquisition	\$9,807,000
Construction Costs	\$50,409,000
Site Improvement/Infrastructure Costs	\$3,099,000
Parking Construction Costs	\$7,500,000
Soft Costs	\$17,082,000
Furniture, Fixtures & Equipment	\$5,625,000
Parks Impact Payment	\$517,000
Total Development Costs	\$94,039,000
<i>Total Development Costs/Room</i>	<i>\$417,951</i>
Development Feasibility	
Annual Gross Room Revenue	\$13,756,000
Annual Parking Revenue	\$1,095,000
Hotel Operating Expenses	\$6,190,000
Net Hotel Operating Income	\$8,661,000
Return on Investment (Cash-on-Cash)	9.2%
Capitalized Value	\$101,894,000
Required Return on Investment	\$6,820,000
Financial Surplus/(Deficit)	\$1,035,000
Source: Partners for Economic Solutions, 2024.	

Table 8 lists key model assumptions.

Table 8. Hotel Input Assumptions

	Projected Improved Conditions	
Developer Return	7.25%	of total costs
Building Efficiency (Leaseable/Gross S.F.)	90%	of rentable building area
BOZ Density	41,368	square feet
Size of Below-Ground Parking Space	420	square feet
Commercial Parking Spaces	0.3	per room
Daily Parking Fees	\$40	per space
Development Cost Assumptions		
Land Acquisition	\$100	per FAR s.f.
Site Improvement/Infrastructure	\$5,960,000	per land s.f.
Hard Costs (Including General Conditions)		
7+ Stories	\$514	per g.s.f.
Furniture, Fixtures & Equipment	\$25,000	per room
Below-Ground Parking Costs	\$100,000	per space
Soft Costs (Including Const. Financing)	28%	of hard costs
Park Impact Payment	\$12.49	per BOZ square foot
Operating Costs	45%	percent of revenues
Property Tax Rate	0.011155	
Capitalization Rate	7.75%	

Source: Kramer Consulting Services, PC, 2024; Partners for Economic Solutions, 2024.

|

349 Cedar Street, NW
Washington, DC 20012
www.PESconsult.com

Schools Enrollment Impact Estimate

The Bethesda Plan Area is classified as an Infill Impact Area by the 2020 Growth and Infrastructure Policy. Based on the FY 2024-2025 student generation rates for an Infill Impact Area, the estimated enrollment impact from each of this Plan’s build-out scenario is as listed below:

	ES	MS	HS
Scenario 1	147	60	68
Scenario 2	214	88	99
Scenario 3	281	115	130

This estimated enrollment impact should not be translated as an immediate demand for additional school capacity.

According to MCPS’s FY2025 CIP projections, the Bethesda-Chevy Chase cluster is expected to have approximately 580 surplus seats available collectively at the elementary school level in the 2029 school year. The middle schools and high school are also expected to have approximately 375 and 130 surplus seats respectively, but these projections and the school service area boundaries are subject to change in the near future as MCPS undergoes a boundary change process within the Bethesda-Chevy Chase, Downcounty Consortium, Walter Johnson, and Whitman clusters.

Furthermore, the enrollment trend of surrounding single family residential neighborhoods will likely change throughout the coming years depending on the amount of turnover activity, and the surplus capacity available at existing school facilities when the housing visions are being realized may look different from what is currently projected. Therefore, adequacy evaluations of new residential development occur by each project individually at the time of their approval.

Engagement and Outreach Materials



Montgomery Planning Downcounty Planning

Bethesda Minor Master Plan Amendment

How the Master Plan Vision is Built



Agenda

- Plans are a Public/Private Partnership
- Checks and Balance: Master Plan Adequacy
- Building the Vision
- Focus on...
- Coming up next

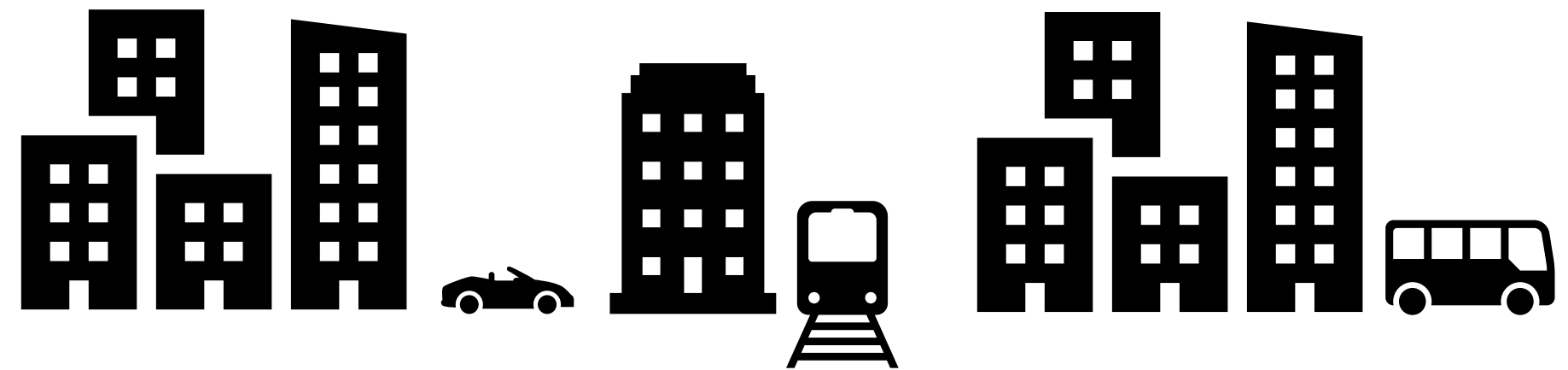
Plans are a Public/Private Partnership

- Master Plans are the result of an **extensive public process**
- **A 20-year Vision**
 - **Private and public participation in creation**
 - **Private and public participation in implementation**
- **Balance growth, infrastructure, & amenities**

Checks and Balance: Master Plan Adequacy

Master Plan Adequacy

- Master plan process includes an **assessment of how the transportation network supporting the Plan area will accommodate anticipated new development**
- Five metrics: **Improvement in how people can and do get to work, shop, and play in their community and beyond: walking, biking, car, transit**



Building the Vision

Building the Vision

- **Private development and public investment**
- **Overall economic health, real estate development market and capital budget determine pace**
- Tools for building
 - Indirect
 - Direct

Indirect Tools

- Development Impact taxes for transportation and school improvements
- Property, business, income, sales, & other taxes that fund capital improvements more generally



Direct Tools

- Project-specific
- Private development
- Public Capital Budget & Capital Improvement Program



Private Development

- Adequate Public Facilities assessment (APF)



Private Development

- Adequate Public Facilities assessment (APF)
- Improvements recommended in master/sector plan



Private Development

- Adequate Public Facilities assessment (APF)
- Improvements recommended in master/sector plan
- Affordable Housing



Private Development

- Adequate Public Facilities assessment (APF)
- Improvements recommended in master/sector plan
- Affordable Housing
- Public/Private Partnerships (P3)



Public Investment

- Capital Budget + Capital Improvements Program (CIP)
- Public schools, street maintenance, parks, etc
- 6-year program; updated every 2 years



Focus on: Parks

How are parks created?

- Recommended in a master plan
- **Private:** As part of a new development, the developer
 - Designs park with Parks, and/or
 - Builds park, and/or
 - Dedicates park land to Parks for public access



How are parks created?

- **Public:** Parks Department uses capital budget (or other funding sources) to purchase and develop property into a park



How are parks created?

- Additional tools:
 - Park Impact Payment (PIP) in Bethesda
 - In Bethesda and Silver Spring, Open Space fee-in-lieu payment



Focus on: **Transportation**

What are transportation improvements?

- New or wider sidewalks
- Street trees
- Bicycle lanes
- Bus shelters
- Crosswalks
- Curb extensions
- Signals and flashing beacons
- ADA ramps
- Through-block connections
- New streets
- In Bethesda:
 - Purple Line Station
 - Bethesda Metro Station South
 - Capital Crescent Trail Tunnel



Who makes transportation improvements

- **Private:**
 - Developers construct new sidewalks, bike lanes, etc. along the site edges (frontages)
 - Includes street trees, street lights, utility undergrounding and more



Who makes transportation improvements

- **Private:**
 - Local Area Transportation Review (LATR)
 - Off-site construction projects
 - Fee-in-lieu of construction



Who makes transportation improvements

- **Public Sector:**
 - Capital Improvement Program (CIP)
 - Specific master plan improvements: bike, transit, bridge, etc.
 - General countywide improvements: lighting, crosswalks, ADA, etc.

Focus on: **Schools**

How are schools built & improved?

- **Private:**

- **School Impact Tax:** Developers pay per new residential unit
- **Utilization Premium Payment (UPP):** Developers make additional payment for residential projects in overutilized school service areas
- **Dedicate land/funding for schools:** If master plan recommends new school site on private land, as part of overall redevelopment

How are schools built & improved?

- **Public:**

- MCPS Capital Budget & CIP
- Impact Taxes and UPPs pay for school capital projects that add capacity (new schools, additions, modernization to add classrooms)
- UPP must be used for capital projects that add capacity in order to alleviate overutilization in the school service area

Focus on: **Affordable Housing**

Who builds affordable housing

- **Private:**
 - County law requires at least 12.5% (15% in Bethesda/SS) of new residential units to be Moderately Priced Dwelling Units (MPDUs)
 - Additional density and height for providing affordable housing beyond the requirement



Who builds affordable housing

- **Private:**
 - Partner with Affordable Housing Providers like Housing Opportunities Commission or MHP



Who builds affordable housing

- **Public:**
 - Public/Private Partnerships leverage County-owned land for projects that will deliver high % of affordable units
 - Department of Housing and Community Affairs regulates affordable units; does not build.



Focus on: Recreation Center

Recreation Center

- Private:
 - Public/Private Partnership with County Department of General Services (DGS), Department of Recreation



Recreation Center

- **Private:**
 - Public/Private Partnership with County Department of General Services (DGS), Department of Recreation
 - Include as an amenity in new development and dedicate to County



Recreation Center

- **Public:** County uses capital budget (or other funding sources) to purchase and develop property into a recreation center



Takeaways

- **Master Plans address many interconnected pieces of the built environment**
- **Implementation requires many partners, many tools**
- **Plan visions are for 20 years, but built project by project**
- **Markets guide the pace of development and public investment**
- **The MMPA is looking at ways to make the tools work better for downtown Bethesda**

Coming up next

June 2024	Scope of Work at Planning Board
Summer 2024	Public workshops on tools to implement recommendations
September 2024	Preliminary Recommendations
October 2024	Draft MMPA
November 2024	Planning Board Public Hearing
December 2024- January 2025	Planning Board Worksessions & Planning Board Draft to County Council
Winter 2025	County Council Public Hearing, County Executive review & County Council review and approval

Staying Connected and Involved

- <https://montgomeryplanning.org/bethesda-mmpa>
- E-Letter
- Lead Planner

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Montgomery Planning Downcounty Planning

Bethesda Minor Master Plan Amendment

Preliminary Recommendations



Agenda

- Introduction and Background
- What is the BMMPA?
- Implementation Questions
- What We've Heard
- Preliminary Recommendations
- Next Steps



Introduction and Background

Bethesda **Wow!**

- **Thriving urban center**
- **Economic engine for the county**
- **One of MoCo's most desirable communities**

17,000 residents

33,000 jobs

Parks, shops, the arts,
movies and more

Excellent transit,
pedestrian and bike
networks

2017 Bethesda Downtown Plan

- 4-year collaboration between residents, property owners, staff, Planning Board, and County Council
- 20-year vision of sustainability, accessibility, equity and innovation:
 - Affordable housing near jobs, shopping, and recreation
 - Safe tree-lined sidewalks, bikeways, & streets
 - New parks and open spaces



Bethesda
Downtown Plan



Approved and Adopted May 2017
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Implementation progress

- **Planning Board approved over 7M sf of development, over 3M sf built**
 - Office: 1.25M sf
 - Retail: 320,000 sf
 - 2,800 residential units
 - Over 400 MPDUs



Implementation progress

- Parks progress: Civic Greens, Eastern Greenway, Montgomery Avenue
- New bikeways and pedestrian improvements
- Traffic and schools operating within standards



So, where are we now?

- Plan **capped total development at 32.4M sf**, based on 2016 assessment of transportation infrastructure capacity
- Plan recommends **check-in at 30.4 million sf**
- Since 2017, completed many new buildings, but **not as many new public amenities**
- \$15M in PIP payments; no new parks complete

→ **Bethesda Minor Master Plan Amendment (BMMPA)**

What is the BMMMPA?

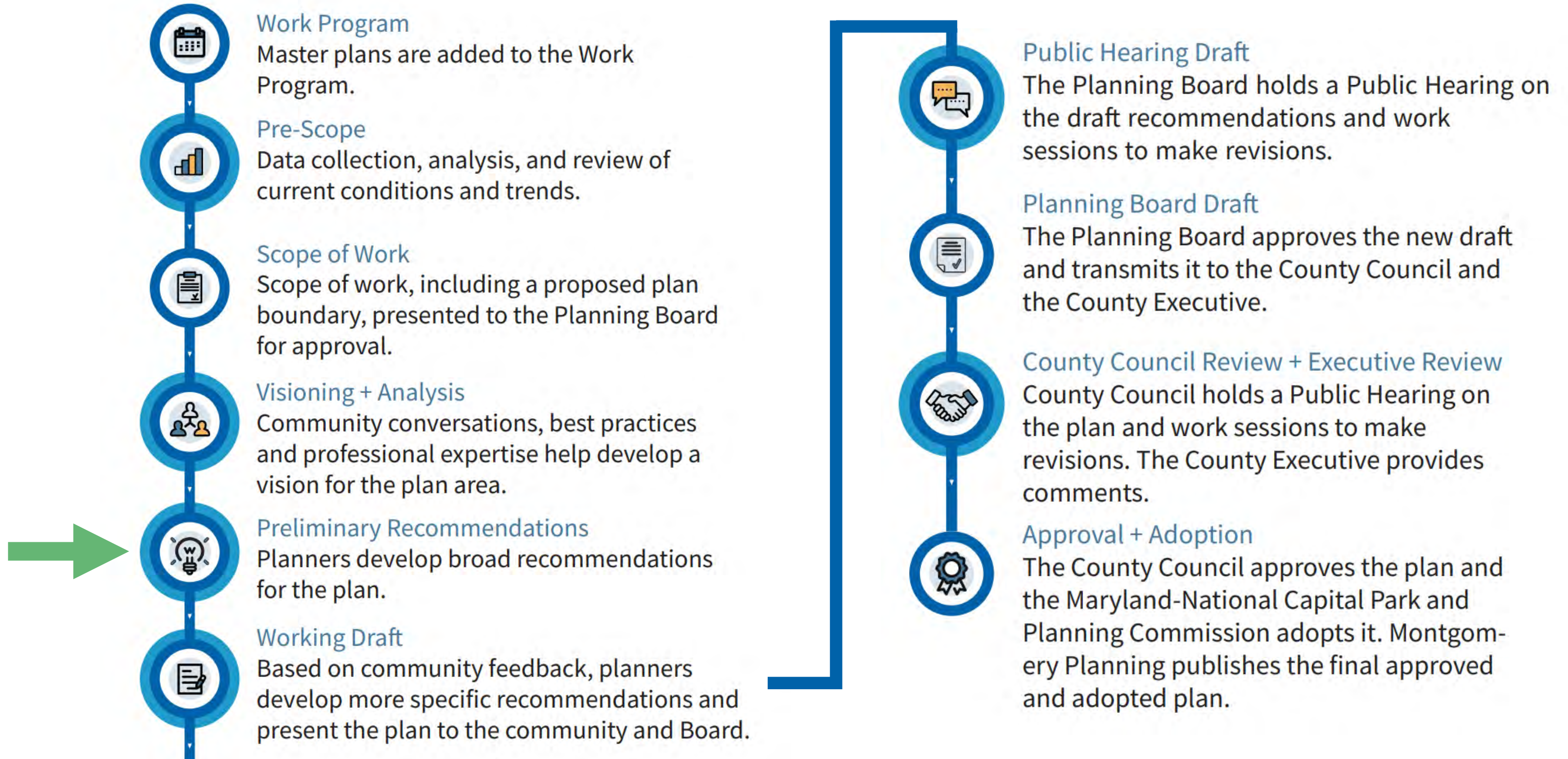
Scope of Work

- Same Plan Area as Bethesda Downtown Plan
- **Focus solely on implementing current recommendations**
- No changes to specific zoning, park, or other recommendations
- Follows Master Plan Process



Master Plan Process

○ MASTER PLAN MILESTONE ○ COMMUNITY ENGAGEMENT



Implementation areas to explore

- Economic development
- Park development
- Transportation improvement
- Schools
- Affordable housing
- Community recreation center



Implementation Questions

BMMPA: Questions considered

- Is a **development cap necessary** in downtown Bethesda?
 - If so, does it need to be raised?
 - Are there **alternative approaches** that would work better?
- How do we ensure that public infrastructure can **support future growth**?
- What are the **top-priority public improvements** recommended in the Plan, and does the MMPA need to provide additional incentives to realize them?

BMMPA: Questions considered

- Is the **park implementation strategy** in the 2017 plan still the right one?
- Could any of the current implementation recommendations be **modified to better achieve the goals** of the plan?

What we've heard

Engagement

- On-going since May
- Farmers Market
- In-person and virtual meetings
 - Introduction & Invitation
 - How Plan Visions are Built
 - Preliminary Recommendations
- Talks with IAC, residents, developers



Top community priorities

- New parks
- New recreation center
- Improvements to existing pedestrian network
- Preserving naturally occurring affordable housing
- Expanding tree canopy



Resident comments

Bethesda is a growing urban center, but some are concerned development has been coming too fast.

The development cap should be tied to achieving public infrastructure and amenities

Religious & non-profit properties should be exempt from any development cap for modest improvements

Construction-related interruptions to the pedestrian network need to be better managed.





Resident comments

Bethesda needs more affordable housing at all income levels.

Loading and delivery management remains an issue.

Driving in Bethesda can be a challenge.

Development community comments

-  New development brings many benefits to Bethesda
-  Real estate market not expected to pick up in near future & development cap creates significant uncertainty
-  Front-loaded Park Impact Payment is a financing challenge
-  Implementation of new Civic Greens delayed not by lack of park funding but by Purple Line construction, multi-party contract negotiations, and property owners uninterested in selling

Preliminary Recommendations

Is a development cap
necessary in downtown
Bethesda?

Building the Master Plan vision

- Master Plans address many interconnected pieces of the built environment
- Implementation requires many partners, many tools
- Plan visions are for 20 years, but built project by project
- Markets guide the pace of development and public investment
- The MMPA is looking at ways to make the tools work better for downtown Bethesda, including density levels

Why and how Plans set density levels

- Master Plans use building height and density to **shape a vision for the built future of a community**
- Master Plans set density levels typically based on the recommended zoning “mapped” to each site
- Building height and densities allowed in downtown Bethesda balance high-rises on Wisconsin Avenue transitioning to lower buildings at the single-family-scale communities at the edges

Why and how Plans set density levels

- Master Plans also set density levels to **make sure the transportation and other support networks can accommodate the recommended growth** over the next 30 years
- Plans include recommendations to enhance and expand those networks, including transportation, schools, and other improvements

Density levels in Bethesda

- In 2017, the Plan capped development at a level based on projection of how long it would take car drivers to get through particular intersections in 2045
- Beginning in 2020, the measurement changed to **evaluate growth's larger impact on the surrounding areas broadly, increasing focus on non-motorized modes of travel and access to desired destinations**
- MMPA development level will be based on new measurement

Master Plan transportation impact: 5 metrics

- Projected impacts from Plan-recommended development are now reviewed against 5 metrics:
 - Auto and transit job accessibility within 45 minutes
 - Auto and transit travel times for any purpose
 - Vehicle miles traveled per capita
 - Percentage of trips not taken by single-occupant vehicle (“NADMS”)
 - Access to low-stress bicycle infrastructure

Measuring MMPA transportation impact

- **Every master plan has a measurable density limit, typically based on the recommended zoning “mapped” to each site**
- In downtown Bethesda, developers may purchase density above mapped zoning
- This makes it difficult to predict the likely new development in Bethesda over the 20-yr life of the Plan

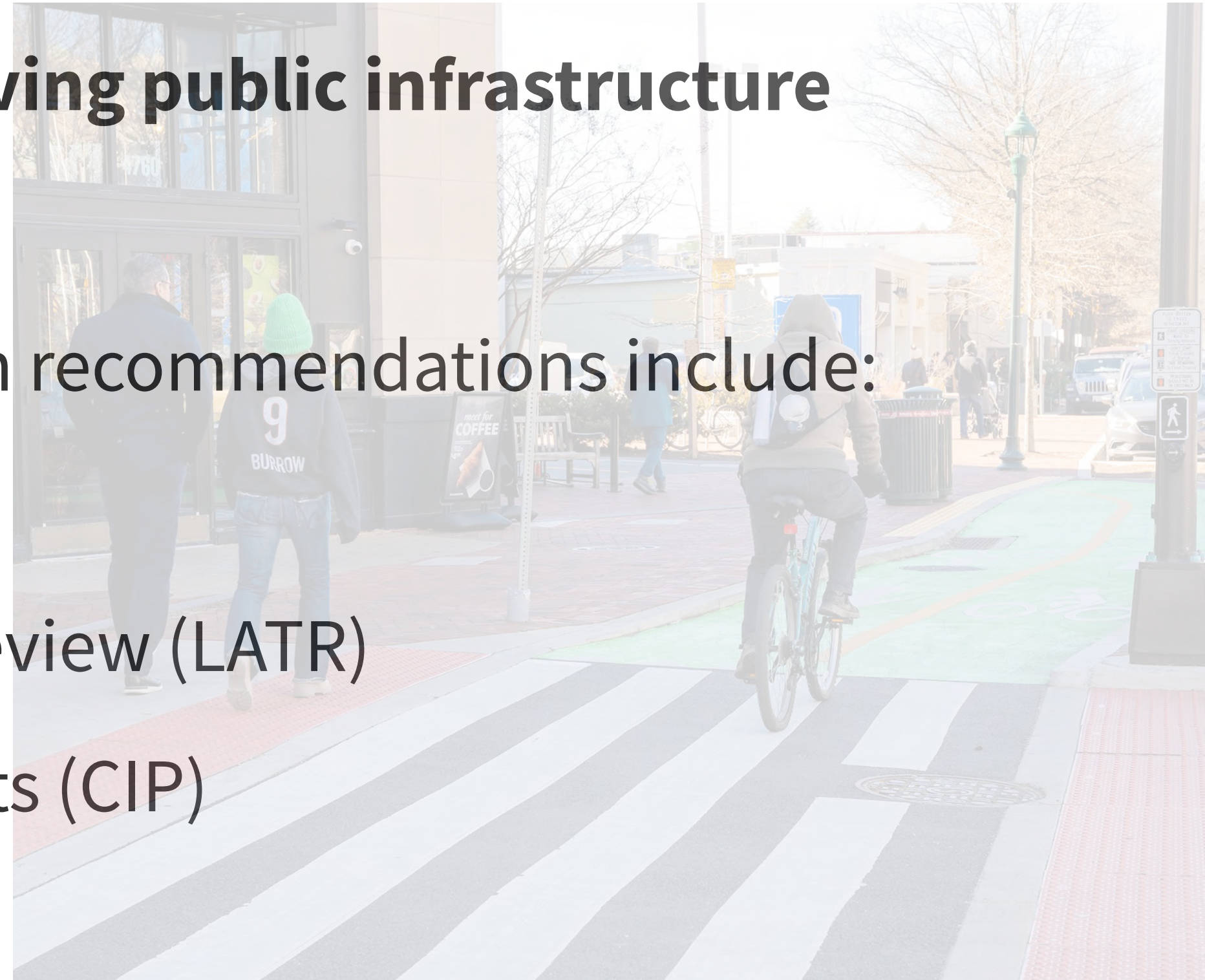
Density levels in Bethesda: MMPA

- Measure transportation impact based on density **absorption:** amount of density approved by Planning Board since 2017
- **Conservative estimate** very unlikely to be sustained over Plan life
- Staff is testing development scenarios **for the life of the Plan (2035-2045)**
- Will include and address potential schools impact

How do we ensure public infrastructure can support future growth?

Existing transportation implementation

- **Development is tied to achieving public infrastructure**
- Existing tools that achieve plan recommendations include:
 - Frontage improvements
 - Local Area Transportation Review (LATR)
 - Capital Improvement Projects (CIP)



Transportation improvements

- Continue LATR per Growth and Infrastructure Policy (GIP) to improve pedestrian, bike, and transit-related alternatives to driving
- Support implementation of Loading Management Districts recommended in *Urban Loading Study*
- Support Planning/DOT Curbside Management Study



Transportation improvements

- Support DPS/DOT management of construction-related sidewalk closures
- Support DOT study of enhanced transit service connecting downtown Bethesda to nearby centers
- Update priorities for CIP project completion



Incentivizing top-priority public improvements

New parks & park improvements

- Parks Department will:
 - Continue to work to implement the BDP parks recommendations
 - Refine implementation strategies as necessary to adapt to changing conditions
 - Continue to seek advice from the Bethesda IAC
- Update the PIP?



What a PIP! (the Park Impact Payment)

- In downtown Bethesda, developers can request density above the zoning mapped to their site: BOZ density
- At building permit, developers make Park Impact Payments to the Parks Department based on the amount of BOZ density they are approved for
- Parks department uses PIP funds to buy new land for a park recommended in the Plan or to build the new park

What a PIP! (the Park Impact Payment)

- In 2017, BOZ set the PIP rate at \$10/sf of BOZ density, with inflationary adjustment every 2 years; in 2023 to \$12.49/sf
- Consultant analyzing overall development costs in downtown Bethesda, including PIPs, and quantifying benefits locally and countywide
- Based on that analysis, the MMPA will consider updating implementation of the PIP

PIP update?

- Is the current PIP rate right? Would the benefits of a higher rate outweigh the cost?
- Are there other changes to the PIP that would make development more market-responsive and therefore more likely to happen and generate more PIPs?
- Changes to the structure and timing of the PIP could be coupled with increases to the PIP rate

New recreation center

- Incentivize public/private partnerships or developer amenity
- Provide PIP credit for area dedicated
- Designate as a “major public facility” for CR priority Public Benefit
- Allow additional building height to accommodate



Supporting more affordable housing

- Incentivize family-size units, deeper affordability
- Strive for no net loss of Naturally Occurring Affordable Housing (NOAH)
- Support codified standards for NOAH

Update the Bethesda
Overlay Zone (BOZ) to better
achieve the goals of the Plan

What is an “overlay zone”?

- Overlay zones are master plan-specific sections in the Zoning Ordinance that override the requirements of the underlying zone(s) of a given area
- They provide specific requirements and standards necessary to achieve the planning goals and objectives in a master plan
- **Many recommendations of the Bethesda Downtown Plan are implemented via the Bethesda Overlay Zone (BOZ).**

What does the BOZ say?

- BOZ density
- Development Cap
- Park Impact Payment (PIP)
- 15% MPDUs
- Public Benefit Points
- Public Open Space Fee-in-Lieu
- BOZ density: Use or Lose

Improving the BOZ: buying BOZ density

- CR zones set total maximum density and maximum proportion of commercial uses and residential uses
 - e.g., CR-5.0 C-4.0 R-4.75 H-175
- BOZ now requires using “all” mapped density before buying BOZ density
- Some CR-zoned properties are not able to be single-use (e.g., solely residential) and purchase BOZ density

Improving the BOZ: buying BOZ density

- To promote flexibility to meet market conditions, allow purchase of BOZ density for projects using all mapped commercial **or** residential FAR
- Results in higher Park Impact Payment

Improving the BOZ: “Use or Lose”

- To prevent hoarding of BOZ density, zone requires building permits within 4 years of approval or approval is revoked
- This reduces flexibility to respond to market conditions
- Subdivision Ordinance Adequate Public Facilities finding requires building permit in 5 years

Improving the BOZ: “Use or Lose”

- To promote flexibility to meet market conditions, remove duplicative “use-or-lose” provision

Improving the BOZ: Public Benefits?

- CR zone requires specific categories of Public Benefits
- 2017 Plan effort had significant discussion on Public Benefits
- BOZ has very specific language and requirements
- Planning Department is working on county-wide re-examination of Public Benefits: Incentive Zoning Update
- Address relationship between BOZ & Incentive Zoning Update

MMPA Schedule

June 2024	Scope of Work at Planning Board
Summer 2024	Public workshops on tools to implement recommendations
September 2024	Preliminary Recommendations Submit Comments!
October 2024	Draft MMPA
November 2024	Planning Board Public Hearing Testify!
December 2024- January 2025	Planning Board Worksessions & Planning Board Draft to County Council
Winter 2025	County Council Public Hearing, County Executive review & County Council review and approval Testify!

Staying Connected and Involved

- <https://montgomeryplanning.org/bethesda-mmpa>
- Sign up for e-Letter
- Lead Planner:
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