The Economic and Fiscal Impacts of the Proposed Adequate Public Facilities Ordinance on Howard County

PREPARED FOR THE HOWARD COUNTY ECONOMIC DEVELOPMENT AUTHORITY

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Introduction and Executive Summary

The Howard County Economic Development Authority (HCEDA) retained the team of the Jacob France Institute (JFI) and Valbridge Property Advisors (VPA) to prepare a *preliminary, high-level analysis* of the potential economic and fiscal impacts of the proposed Adequate Public Facilities Ordinance (APFO) legislation on Howard County, Maryland. It is important to note that this analysis was prepared on a quick turnaround basis to provide a *high-level, initial analysis* of the potential impacts of the proposed APFO legislation on the County in time for the County's review and assessment of the proposed legislation. This analysis was based on *preliminary data* on the impacts of the proposed APFO legislation on development activity provided by the County and analyzed by the JFI-VPA Team. The JFI-VPA Team combined input-output economic modeling and fiscal base assessment methodologies to assess the potential economic and fiscal impacts of the proposed legislation. As noted in each section of the report, critical simplifying assumptions were made in order to prepare this analysis in time for the County's consideration of this proposed legislation. This assessment will provide a *reasonable initial assessment* of the potential economic and fiscal ramifications of the proposed legislation, but does not substitute for the more thorough economic and fiscal impact analysis warranted by this potentially high impact legislative proposal that would be possible if more time was available.

The JFI-VPA Team prepared two analyses for this report:

1. The JFI prepared an analysis of the economic impacts of the proposed APFO legislation using the economic modeling technique of input-output analysis. This analysis was based on data on the number of planned housing units impacted by the APFO legislation and current housing unit sales prices provided by the Howard County Department of Planning and Zoning (HCDPZ), analyzed by the JFI using the IMPLAN input-output model for the County; and
2. VPA prepared an analysis of the net fiscal impacts of the APFO on the County in terms of both the tax and other government revenues and cost of providing government services associated with the 6,854 planned housing units whose development in the County could be halted as a result of the proposed APFO legislation. VPA used the FY 2018 Howard County Operating Budget as a current source for General Fund revenues and expenditures generated directly from development when it has been completed to full buildout.

<u>The core findings of the economic impact is analysis are as follows</u>:

Based on data from HCDPZ, the proposed APFO legislation effectively results in a moratorium on residential development in the County and will curtail the planned housing development in the County for the four year - 2022 through 2025 period, leading to a reduction of 6,854 housing units, consisting of 1,764 single family detached houses; 1,147 townhouse units; 659 condominiums; and 3,284 apartments over this four-year period. These impacts occur in the 2022-2025 period – because the proposed APFO legislation would take effect in 2019 and impact building activities starting three years later – in 2022 and would be in place for four years, which is the maximum length of time a development project can be on hold due to the APFO schools test. Based on estimates prepared by the JFI and VPA, construction activity will decline by total of $1.9 billion over the 2022-2025 period and total resident incomes will decline by a cumulative total of $733 million by 2025. These reductions in construction activity and resident incomes will reduce total economic activity in the County and the impacts of this reduction were estimated by the JFI using the IMPLAN input-output model for Howard County and, thus, the JFI prepared two analyses of the potential economic implications of the proposed APFO legislation:

1. Its ***residential construction impact*** on construction activity and employment in the County as a result of the 6,854 units not built during the 2022-2025 period. These impacts measure the impacts of the foregone residential construction spending on the County's economy in terms of lost County economic activity and jobs; and
2. Its ***residential income and spending impact*** on broad county economic activity resulting from the decrease in County household and population growth as a result of the 6,854 units not built during the 2022-2025 period. Fewer housing units developed means fewer residents in the County, with a corresponding decrease in the growth in household incomes. These impacts measure the impacts associated with the foregone incomes and spending by the County residents who would have occupied these housing units if they were developed and occupied.

Residential Construction Impacts: As a result of the projected reduction in development activity occurring in the County as a result of the proposed APFO legislation, construction activity in Howard County will decline by between a low of $461.2 million in 2024 and a high of $487.5 million in 2023 and this will reduce economic activity in the County by between $723.4 million with an employment decline of 4,442 jobs in 2024 to a high of $765.5 million in economic activity and 4,698 jobs in 2023.[1] This reduction in construction activity will reduce County government revenues by approximately $14 million each year over the four year growth moratorium period for a cumulative estimated $56 million in lost County revenues over the four year period.

Residential Income and Spending Impact: The reduction in County residential development activity caused by the proposed APFO legislation will curtail both population and household income growth in the County. This reduction in household income growth will reduce both economic activity in the County, as a result in the "lost" spending by these households, and County government revenues, as result of both the reduction in household income growth as well as from the lower levels of resident spending and its impact on County businesses and employment. The core findings of this analysis are that County household income will fall by $184.2 million starting in 2022, leading to a reduction in potential County economic activity of $145.4 million, with the cumulative losses of income by 2025 increasing to $732.9 million by 2025, reducing potential economic activity in the County by $578.7 million and reducing employment by 3,779 jobs as a result of the foregone development activity in the County resulting from the APFO legislation. This reduction in household incomes will cause County revenues to fall by a cumulative total of as much as $32.2 million in 2025. To put this in context, this represents almost 3 percent of County FY2017 General Fund Revenues of just over $1 billion.

The construction and residential income and spending are cumulative. As presented in Figure ES-1 below, the proposed APFO legislation could decrease County employment by 5,532 jobs starting in 2022 and growing to 8,305 jobs in 2025.[2] Similarly the IMPLAN estimated fiscal impacts would be cumulative starting with $22.1 million in potential lost County revenues in 2022 growing to $46.0 million in 2025.

It is important to note that there are a host of other potential non-economic and fiscal impacts of the APFO legislation induced growth moratorium in the County, including reductions in housing affordability and diversity; reputational effects, as well as impacts on local economic development to consider as well.

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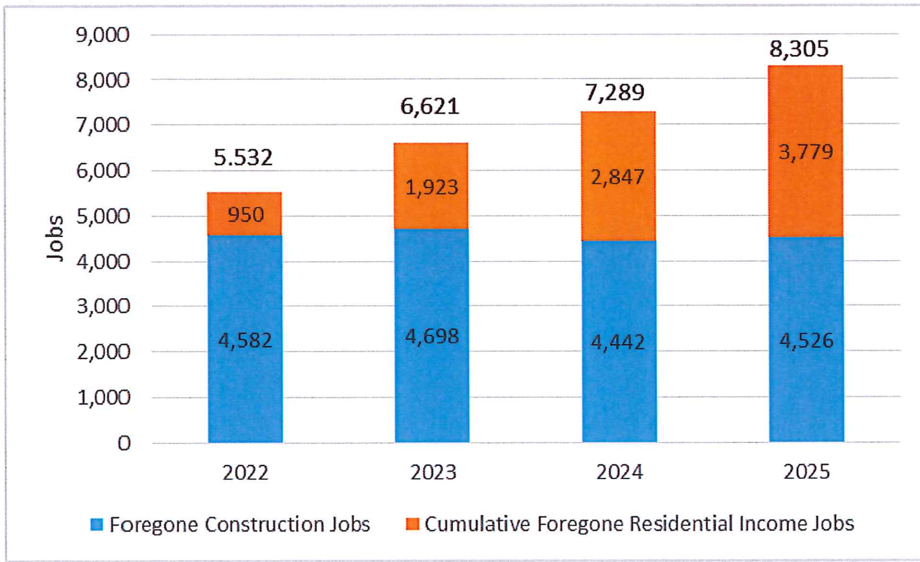
[1] Unless otherwise noted, all economic figures in this report are in 2017 $s.

[2] There is some potential double counting between the construction and residential income ad spending impacts – in terms of if the construction impacted jobs would also be among the purchasers of the housing units foregone; however, this impact is likely to be negligible.

Figure ES-1: Total Job Impacts of Proposed APFO Legislation



<u>The core findings of the fiscal impact analysis are as follows</u>:

- The Howard County General Fund is not all inclusive of revenues and expenditures (allocations), in that there are approximately $483 million gap between the General Fund revenues and All Fund revenues. The gap is supplied from a variety of external sources that are combined with other funds and programs. The impact of unconventional funding on the County budget warrants an in-depth study to determine the full breadth of fiscal impact of new housing on the budget.
- The development that would not be built if the legislation passes would have generated approximately $14.4 million in total tax revenue (property, income and fire) in 2022. The overall weighted average revenue per dwelling unit is $8,396. Single family homes in the Rural West planning area are prime properties that generate a far greater fair share of tax revenue than all other housing types.
- The General Fund is scaled to allocate funds at a rate of $9,689 per household, whereas the computed average estimated contribution to the budget by full development would be short by approximately $1,300 per household in 2022. This model test does not fully analyze other sources of revenue and other fees that are generated by new construction or the economic activity associated with new residents analyzed in the economic impact analysis, which may very well offset the shortfall.
- These per unit short falls are likely to be at least partially recovered by some one-time fees outside of the General Fund – such as Special Revenue Funds (e.g. Agricultural Preservation fees, Community Renewal, TIF District), and Enterprise Funds (e.g. Shared Septic Systems, Water & Sewer Operations, etc.)- associated with this development activity. While there was insufficient information available at this time to prepare a full analysis of the impact fees associated with the foregone construction activity, VPA prepared a rough estimate of the fees associated with recordation and transfer taxes, school surcharge and road excise taxes which equates to a weighted average of $12,872 per housing unit, indicating that the net fiscal impacts of this development activity is likely to be positive during the 2022-2025 impact period.

- The perceived shortfall in revenue to allocation is very likely absorbed in the other revenue sources and fund allocations. Some programs and services would likely be impacted without a revenue stream from new construction.

The proposed APFO legislation has significant economic and fiscal costs. Based on data from HCDPZ, the proposed APFO legislation will effectively result in a moratorium on residential development in the County. The JFI estimates that this will reduce construction activity in the County by almost $1.9 billion, reducing County employment by between 4,400 and 4,700 jobs per year and reducing County government revenues by $56 million over the four year period. The JFI estimates that the resulting cumulative loss of $732.9 million in resident household income by 2025 from the four year moratorium on growth could reduce County employment by as much as 3,779 jobs and County revenues by as much as $32.2 million in 2025 as result of the foregone development activity. VPA estimates that based on the General Fund alone, new development creates a shortfall of approximately $1,200 per unit on average, for a total of approximately $2.1 million in 2022. Although it would appear that the restriction of development would create a net-positive affect on the County budget, there are too many untested variables to validate that hypothesis. For example, VPA estimates that the one-time revenues associated with the foregone construction activity totals approximately $22 million a year for each of the four years impacted by the proposed APFO legislation, which surpasses the perceived shortfall in the revenue pool. This also illustrates that the distribution of construction revenue in the General Fund is unequal, and that programs funded by construction activity may not have a revenue deficit, when the context of the fund and allocation streams are detailed. The reduction in economic vitality coupled with the restriction of inputs into capital programming by development impact fees and maintenance fees would severely impact other functions of government and public service.

Economic Modeling-Based Assessment of the Impact of the Proposed APFO Legislation on the Howard County, Maryland Economy

The Howard County Economic Development Authority (HCEDA) retained the JFI to prepare an analysis of the economic impacts of the proposed APFO legislation using the IMPLAN input-output (I/O) model for Howard County. This I/O analysis models the flow of funds that are associated with the estimated ***construction activity*** and ***household income*** associated with the housing development activity in the County impacted by the proposed APFO legislation on the County's economy and the ongoing ripple (multiplier) effect of these impacted expenditures. I/O analysis represents the "gold standard" for measurement of economic impacts and is the generally accepted methodology for measuring the economic impact associated with projects, companies, or of entire industries.

Data Inputs

The proposed APFO legislation will effectively act as a four year moratorium on growth in nearly all of the County. As a result, both construction activity and resident household incomes will be lower in the County, as this development activity is diverted to other jurisdictions in the region. The JFI estimated the economic impacts on the County in two areas associated with the proposed APFO legislation:

1. The economic impacts associated with the reduction in County ***construction activity*** as a result of the residential construction activity foregone as development activities are reduced; and
2. The economic impacts associated with the reduction in County ***household income*** – in terms of the residents who would have, in the absence of the APFO legislation, moved into the County if this development activity were permitted to move forward. These residents would spend money locally and their incomes would be taxed and provide a source of revenues for the Howard County government.

Three main data elements were required to analyze the economic impacts of the proposed APFO legislation on the County. These include: the number of impacted residential units; the construction costs of these units (to estimate the foregone construction activity); and the incomes of the occupants of the residential units (to estimate the loss in County household income resulting from these units not being built). These data were derived as follows:

1. **The number of housing units impacted by the APFO**. The Howard County Department of Planning and Zoning (HCDPZ) provided the number of units likely to be impacted by the APFO. Based on conversations with HCDPZ, these impacts occur in the 2022-2025 period – because the proposed APFO legislation would take effect in 2019 and impact building activities starting three years later – in 2022 and would be in place for four years, which is the maximum length of time a development project can be on hold due to the APFO schools test. Based on the County's analysis, more than 90 percent of the County will be impacted by one or more of the criteria under the proposed APFO legislation, and thus, they estimate that all of the units planned for construction in 2022 through 2025 would be prohibited under the proposed legislation. Because of differences in housing price and resident incomes by region and by type of dwelling, HCDPZ provided the number of impacted residential units, by type for each of the County's five planning districts. These data are presented by year in Table 1, with the estimated number of impacted units totaling 6,854 residential units that would not be developed in the County over the four-year, 2022-2025 period, with most being apartments - with 3,284 units and accounting for 48 percent of impacted units.
2. **The cost of construction for the impacted residential units**. In order to estimate the impact of the foregone construction activity associated with the residential development activity forgone as a

result of the proposed APFO legislation, the JFI needed to estimate the construction costs associated with the impacted units. The JFI estimated the construction cost of these units as follows:

a. For for-sale units (single family detached, townhomes, and condominiums), construction costs were estimated based on the sales price of comparable units, by planning region, by type. HCDPZ provided data on the sales price of new homes sold by type, by planning region. These sales prices were converted in to estimated construction costs based on data from the National Association of Homebuilders that construction costs represent 55.6 percent of the final sales price of a new home[3]; and
b. For apartments, the construction costs were estimated based on an average unit size of 1,000 feet[4] multiplied by the national average cost of construction of $192 per square foot for a multitenant building from Fannie Mae.[5]

The estimated construction cost per residential unit was multiplied by the number of units to yield the projected decrease on Howard County residential construction activity.

3. **<u>The household incomes of the occupants of the impacted residential units</u>**. In order to estimate the reduction in Howard County household incomes that will result of from the reduction in housing development activity, the JFI-VPA Team estimated the level of income required to purchase or rent the housing unit. For *for-sale residential units*, the resident household income was estimated using the mortgage underwriting "rule of thumb" that PITI (Principal, Interest, Taxes, and Insurance) payments not exceed 28 percent of income. The JFO-VPA Team used the average sales price data for each planning area provided by the Department of Planning, and assumed 20 percent down payment, with taxes and insurance estimated based on County data. For the rental units, income was estimated based on the HUD 30-percent rule — that a household should spend no more than 30 percent of its income on housing costs, using data on County rents from the U.S. Bureau of the Census.

The input to the analysis of the economic impact of the foregone construction activity resulting from the proposed APFO legislation was the number of impacted units multiplied by the estimated construction cost of the units, and as presented in Table 2 – residential construction activity will decline by between a low of $461.2 million in 2024 to a high of $487.5 million in 2023, with a cumulative decline of almost $1.9 billion over the four-year, 2022 to 2025 period. The input to the analysis of the economic impact of the "lost" household income resulting from lower County residential development activity was the estimated incomes of the residents who would have moved into the County in the absence of the APFO induced moratorium. To estimate this, the number of impacted units multiplied by the estimated household incomes associated with the units. Estimated household income by housing cost, type and region is presented in Table 3; with the County loss in household income presented in Table 4, starting at $184.2 million in 2023 and growing to a cumulative loss of $732.9 million in 2025.

Several further simplifying assumptions were made in order to facilitate the implementation of this analysis. These include:

- Construction is projected to be started and completed in the calendar year in which it is allocated;
- Because the timing of purchase/rental of each residential unit is unknown, it is assumed that each unit is completed and occupied in the year in which it was planned/built; and

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[3] http://www.nahbclassic.org/generic.aspx?sectionID=734&genericContentID=260013&channelID=311.
[4] This is a conservative estimate – the average size of an apartment built in 2016 in the northeast was 1,101 sq. ft. https://www.census.gov/construction/chars/mfu.html.
[5] This is a conservative estimate as construction costs in Maryland are likely to be slightly higher than the national average – see http://www.fanniemae.com/resources/file/research/emma/pdf/MF_Market_Commentary_031517.pdf

- In reality, the timing of these construction and occupancy of the impacted units would be spread out over a longer time period. Thus, this analysis measures the total construction value and household income potential of the impacted development activity in the year in which it is planed/completed.

It is important to note several caveats associated with this economic impact analysis. At the time of this analysis, the proposed APFO restrictions cover nearly all of the County, and thus, it was assumed that all planned development would be impacted. As a result, all planned residential units were considered to be impacted by the analysis. This analysis is also based on the number of residential units planned for the County. Market conditions may lead to more or less than planned development in a given year. Because the construction costs of the impacted units and their associated purchase price were unknown; these were estimated by the JFI-VPA Team using what they consider reasonable methodologies. Actual construction costs and sales prices may vary from this estimate. Furthermore, the loss in household associated with the foregone units was estimated based on meeting standard income assumptions, such as not spending more than 28 percent in income on PITI for homeowners and not more than 30 percent on rent. Actual resident incomes could be lower or higher. Nevertheless, and noting these caveats, this analysis provides an *initial, high level estimate* of the potential economic impacts associated with the proposed APFO legislation. Given the potentially wide-ranging impacts of the proposed legislation, a more thorough assessment of its potential impacts is warranted.

Table 1: Reduction in Housing Unit Development Activity under the Proposed APFO Legislation

Planning Area/Unit Type/Year	2022	2023	2024	2025	Total
Total Housing Units	**1,711**	**1,784**	**1,672**	**1,687**	**6,854**
Single Family Detached	**440**	**437**	**427**	**460**	**1,764**
Townhouse	**298**	**301**	**298**	**250**	**1,147**
Condominium	**155**	**172**	**164**	**168**	**659**
Rental Apartment	**818**	**874**	**783**	**809**	**3,284**
Columbia	**484**	**540**	**424**	**625**	**2,073**
Single Family Detached	42	46	36	54	178
Townhouse	10	12	9	13	44
Condominium	43	48	38	56	185
Rental Apartment	389	434	341	502	1,666
Elkridge	**282**	**388**	**408**	**296**	**1,374**
Single Family Detached	15	39	43	45	142
Townhouse	69	94	98	70	331
Condominium	34	54	58	47	193
Rental Apartment	164	201	209	134	708
Ellicott City	**425**	**358**	**367**	**310**	**1,460**
Single Family Detached	198	167	171	144	680
Townhouse	123	104	106	90	423
Condominium	31	26	27	23	107
Rental Apartment	73	61	63	53	250
Rural West	**100**	**100**	**100**	**100**	**400**
Single Family Detached	100	100	100	100	400
Southeast	**420**	**398**	**373**	**356**	**1,547**
Single Family Detached	85	85	77	117	364
Townhouse	96	91	85	77	349
Condominium	47	44	41	42	174
Rental Apartment	192	178	170	120	660

Source: Howard County Planning Department

Table 2: Estimated Decrease in Construction Activity as a Result of Proposed APFO Legislation

Planning Area/Unit Type/Year	Estimated Cost of Construction[1 2]	2022	2023	2024	2025	Total
Total Housing Units		**$475,802,000**	**$487,493,000**	**$461,245,000**	**$469,914,000**	**$1,894,454,000**
Single Family Detached		**$200,106,000**	**$196,470,000**	**$190,682,000**	**$206,452,000**	**$793,710,000**
Townhouse		**$87,225,000**	**$86,899,000**	**$85,464,000**	**$72,644,000**	**$332,232,000**
Condominium		**$31,415,000**	**$36,316,000**	**$34,763,000**	**$35,490,000**	**$137,984,000**
Rental Apartment		**$157,056,000**	**$167,808,000**	**$150,336,000**	**$155,328,000**	**$630,528,000**
Columbia		$109,672,000	$122,172,000	$95,849,000	$141,569,000	$469,262,000
Single Family Detached	$528,000	$22,176,000	$24,288,000	$19,008,000	$28,512,000	$93,984,000
Townhouse	$309,000	$3,090,000	$3,708,000	$2,781,000	$4,017,000	$13,596,000
Condominium[3]	$226,000	$9,718,000	$10,848,000	$8,588,000	$12,656,000	$41,810,000
Rental Apartment[4]	$192,000	$74,688,000	$83,328,000	$65,472,000	$96,384,000	$319,872,000
Elkridge		$61,573,000	$87,169,000	$91,917,000	$68,475,000	$309,134,000
Single Family Detached	$303,000	$4,545,000	$11,817,000	$13,029,000	$13,635,000	$43,026,000
Townhouse	$244,000	$16,836,000	$22,936,000	$23,912,000	$17,080,000	$80,764,000
Condominium	$256,000	$8,704,000	$13,824,000	$14,848,000	$12,032,000	$49,408,000
Rental Apartment[4]	$192,000	$31,488,000	$38,592,000	$40,128,000	$25,728,000	$135,936,000
Ellicott City		$137,071,000	$115,548,000	$118,346,000	$99,902,000	$470,867,000
Single Family Detached	$420,000	$83,160,000	$70,140,000	$71,820,000	$60,480,000	$285,600,000
Townhouse	$281,000	$34,563,000	$29,224,000	$29,786,000	$25,290,000	$118,863,000
Condominium	$172,000	$5,332,000	$4,472,000	$4,644,000	$3,956,000	$18,404,000
Rental Apartment[4]	$192,000	$14,016,000	$11,712,000	$12,096,000	$10,176,000	$48,000,000
Rural West		$54,100,000	$54,100,000	$54,100,000	$54,100,000	$216,400,000
Single Family Detached	$541,000	$54,100,000	$54,100,000	$54,100,000	$54,100,000	$216,400,000
Southeast		$113,386,000	$108,504,000	$101,033,000	$105,868,000	$428,791,000
Single Family Detached	$425,000	$36,125,000	$36,125,000	$32,725,000	$49,725,000	$154,700,000
Townhouse	$341,000	$32,736,000	$31,031,000	$28,985,000	$26,257,000	$119,009,000
Condominium	$163,000	$7,661,000	$7,172,000	$6,683,000	$6,846,000	$28,362,000
Rental Apartment[4]	$192,000	$36,864,000	$34,176,000	$32,640,000	$23,040,000	$126,720,000

(1) All values expressed in 2017 $s

(2) Data on Estimated Cost of Construction for Single Family Detached, Townhouse, and Condominium Units based on data on recent sales of new homes provided by the Howard County Planning Department converted into estimated Construction Coast based on data from the National Association of Homebuilders (NAHB) According to NAHB - construction costs represent 55.6% of the Sales Price of a new home.

(3) No data were available on Columbia Condominiums - Sales price and estimated construction costs were estimated based on the MuniCap Study for Downt

(4) Cost per unit of Apartments based on $192 per square foot - from Fannie Mae Multifamily Market Commentary and an estimated 1,000 square feet per unit.

Source: JFI Analysis of Howard County Planning Department Data

Table 3: Estimated Home Owner or Apartment Tenant Income

Planning Area/Unit Type/Year	Estimated Housing Sale Price[1] or Monthly Rent[2]	Estimated Homeowner[3] or Rental Tenant[4] Household Income
Columbia		
Single Family Detached	$949,000	$215,606
Townhouse	$555,000	$126,148
Condominium[5]	$406,195	$92,337
Rental Apartment[6]	$1,627	$65,067
Elkridge		
Single Family Detached	$545,000	$123,907
Townhouse	$438,000	$99,580
Condominium	$460,000	$104,458
Rental Apartment[7]	$1,673	$66,912
Ellicott City		
Single Family Detached	$756,000	$171,826
Townhouse	$506,000	$115,089
Condominium	$310,000	$70,516
Rental Apartment[6]	$1,618	$64,739
Rural West		
Single Family Detached	$973,000	$221,107
Southeast		
Single Family Detached	$764,000	$173,585
Townhouse	$614,000	$139,615
Condominium	$294,000	$66,915
Rental Apartment[7]	$1,673	$66,912

(1) Data on Housing Sale Price was based on an analysis recent sales of new homes provided by the Howard County Planning Department and converted into 2017$s.

(2) Data on rent is from the U.S. Bureau of the Census - American Community Survey - converted in 2017$ using an inflation rate of 2.5%.

(3) Data on Estimated Homeowner Income based on the standard "rule of thumb" that mortgage PITI should not exceed 28% of income.

(4) Renter household income based on assumption that housing costs should not exceed 30% of Income - based on HUD analysis of housing "cost burdened" households.

(5) No data were available on Columbia Condominiums - Sales price and estimated construction costs were estimated based on the MuniCap Study for Downtown.

(6) Source = Median Rent from U.S. Bureau of the Census - American Community Survey for Columbia and Ellicott City

(7) Source = Median Rent from U.S. Bureau of the Census - American Community Survey for Howard County as a whole.

Source: JFI analysis of Howard County Planning Department Data

Table 4: Estimated Decrease in County Resident Incomes as a Result of Proposed APFO Legislation

Planning Area/Unit Type/Year	Estimated Homeowner/ Rental Tenant Household Income	2022	2023	2024	2025	Cumulative Resident Income Loss
Total Housing Units		**$184,203,278**	**$188,257,528**	**$178,750,561**	**$181,703,679**	**$732,915,046**
Single Family Detached		**$81,801,105**	**$80,310,688**	**$77,948,878**	**$84,381,700**	**$324,442,372**
Townhouse		**$35,691,436**	**$35,548,460**	**$34,960,821**	**$29,718,844**	**$135,919,560**
Condominium		**$12,853,055**	**$14,850,575**	**$14,214,810**	**$14,512,687**	**$56,431,126**
Rental Apartment		**$53,857,682**	**$57,547,805**	**$51,626,052**	**$53,090,449**	**$216,121,988**
Columbia		**$39,598,498**	**$44,102,919**	**$34,593,811**	**$51,117,170**	**$169,412,398**
Single Family Detached	$215,606	$9,055,469	$9,917,894	$7,761,830	$11,642,746	$38,377,939
Townhouse	$126,148	$1,261,478	$1,513,773	$1,135,330	$1,639,921	$5,550,501
Condominium	$92,337	$3,970,489	$4,432,174	$3,508,804	$5,170,869	$17,082,336
Rental Apartment	$65,067	$25,311,063	$28,239,078	$22,187,847	$32,663,634	$108,401,622
Elkridge		**$23,254,742**	**$33,282,912**	**$35,129,988**	**$26,422,137**	**$118,089,779**
Single Family Detached	$123,907	$1,858,610	$4,832,387	$5,328,017	$5,575,831	$17,594,846
Townhouse	$99,580	$6,870,990	$9,360,480	$9,758,798	$6,970,570	$32,960,838
Condominium	$104,458	$3,551,573	$5,640,734	$6,058,566	$4,909,528	$20,160,400
Rental Apartment	$66,912	$10,973,568	$13,449,312	$13,984,608	$8,966,208	$47,373,696
Ellicott City		**$55,089,484**	**$46,446,732**	**$47,564,209**	**$40,154,022**	**$189,254,447**
Single Family Detached	$171,826	$34,021,634	$28,695,015	$29,382,320	$24,743,007	$116,841,976
Townhouse	$115,089	$14,155,902	$11,969,218	$12,199,395	$10,357,977	$48,682,493
Condominium	$70,516	$2,186,001	$1,833,420	$1,903,936	$1,621,871	$7,545,228
Rental Apartment	$64,739	$4,725,947	$3,949,079	$4,078,557	$3,431,167	$16,184,750
Rural West		**$22,110,654**	**$22,110,654**	**$22,110,654**	**$22,110,654**	**$88,442,617**
Single Family Detached	$221,107	$22,110,654	$22,110,654	$22,110,654	$22,110,654	$88,442,617
Southeast		**$44,149,900**	**$42,314,311**	**$39,351,898**	**$41,899,697**	**$167,715,805**
Single Family Detached	$173,585	$14,754,738	$14,754,738	$13,366,056	$20,309,462	$63,184,994
Townhouse	$139,615	$13,403,066	$12,704,989	$11,867,298	$10,750,376	$48,725,729
Condominium	$66,915	$3,144,992	$2,944,248	$2,743,504	$2,810,418	$11,643,162
Rental Apartment	$66,912	$12,847,104	$11,910,336	$11,375,040	$8,029,440	$44,161,920

Source: JFI Analysis of Howard County Planning Department Data

Economic Impacts of Foregone Construction Activity

The proposed APFO legislation will reduce economic activity and County government revenues as a result of the reduction in construction activity. Total residential construction activity is projected to decline by: $475.8 million in 2022; $487.5 million in 2023; $461.2 million in 2024; and by $469.9 million in 2025. The economic impacts of these reduction is County economic activity by year are as follows:

- As a result of the $475.8 million reduction in County residential construction activity in 2022, total economic activity in the County would be $746.0 million lower than if the development were permitted to occur, County employment would be reduced by 4,582 jobs earning $287.9 million in labor income, and County government revenues would be reduced by an estimated $14.0 million;
- As a result of the $487.5 million reduction in County residential construction activity in 2023, total economic activity in the County would be $765.5 million lower than if the development were permitted to occur, County employment would be reduced by 4,698 jobs earning $295.4 million in labor income, and County government revenues would be reduced by an estimated $14.4 million;
- As a result of the $461.2 million reduction in County residential construction activity in 2024, total economic activity in the County would be $723.4 million lower than if the development were permitted to occur, County employment would be reduced by 4,442 jobs earning $279.2 million in labor income, and County government revenues would be reduced by an estimated $13.6 million; and
- As a result of the $469.9 million reduction in County residential construction activity in 2025, total economic activity in the County would be $737.2 million lower than if the development were permitted to occur, County employment would be reduced by 4,526 jobs earning $284.5 million in labor income, and County government revenues would be reduced by an estimated $13.9 million.

These figures represent the loss in County economic activity by year, as a result of the APFO induced moratorium on development activity in the County – over the four year moratorium period. This development activity would be permitted to occur after 2025, based on the four year limitation on reductions in construction activity under the APFO. On average, the County the APFO will reduce direct construction employment in the County by 2,763 over the four year period, representing 19 percent of 2016 construction sector jobs in the County.

Table 5: Estimated Annual Economic Impacts Associated with the Reduction of Construction Activity Associated with the Proposed APFO Legislation

Construction Impacts	2022	2023	2024	2025
Direct Impact	$475,802,000	$487,493,000	$461,245,000	$469,914,000
Output ($s)	$745,986,622	$765,474,880	$723,415,067	$737,246,950
Employment (Jobs)	4,582	4,698	4,442	4,526
Labor Income ($s)	$287,926,914	$295,409,444	$279,206,477	$284,536,991
Estimated County Revenues	$14,022,112	$14,371,323	$13,594,125	$13,850,573

Source: JFI and IMPLAN

Figure 2: Estimated Annual Economic Impacts Associated with the Reduction of Construction Activity Associated with the Proposed APFO Legislation

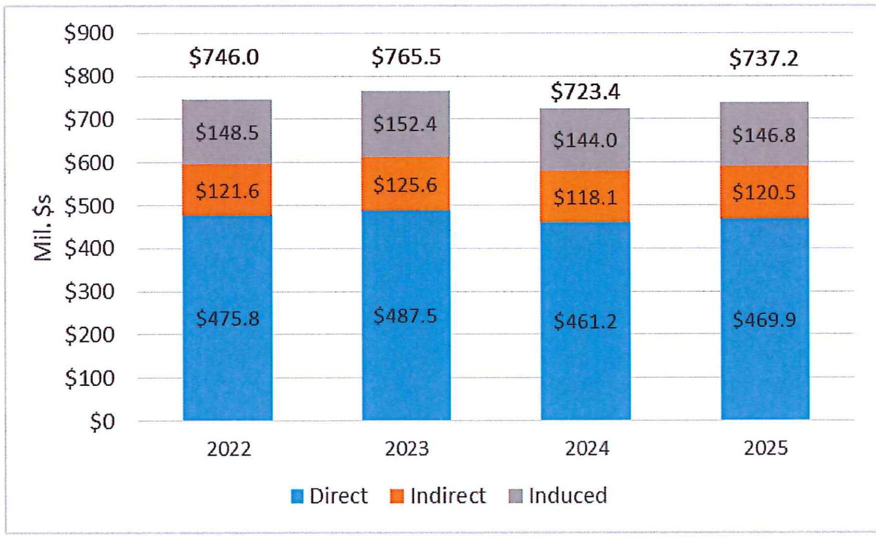

Table 6: Estimated Annual Economic Impacts Associated with the Foregone Construction Activity Associated with the Proposed APFO Legislation

Item	Direct	Indirect	Induced	Total
2022 Construction Impacts				
Output ($s)	$475,802,000	$121,642,995	$148,541,627	$745,986,622
Employment (Jobs)	2,778	823	981	4,582
Labor Income ($s)	$190,749,889	$49,316,278	$47,860,747	$287,926,914
Estimated County Revenues	n.c.	n.c.	n.c.	$14,022,112
2023 Construction Impacts				
Output ($s)	$487,493,000	$125,581,465	$152,400,415	$765,474,880
Employment (Jobs)	2,841	850	1,006	4,698
Labor Income ($s)	$195,442,210	$50,863,154	$49,104,080	$295,409,444
Estimated County Revenues	n.c.	n.c.	n.c.	$14,371,323
2024 Construction Impacts				
Output ($s)	$461,245,000	$118,127,633	$144,042,434	$723,415,067
Employment (Jobs)	2,692	800	951	4,442
Labor Income ($s)	$184,915,129	$47,880,257	$46,411,091	$279,206,477
Estimated County Revenues	n.c.	n.c.	n.c.	$13,594,125
2025 Construction Impacts				
Output ($s)	$469,914,000	$120,540,803	$146,792,147	$737,246,950
Employment (Jobs)	2,741	816	969	4,526
Labor Income ($s)	$188,391,662	$48,848,265	$47,297,064	$284,536,991
Estimated County Revenues	n.c.	n.c.	n.c.	$13,850,573

Source: JFI and IMPLAN

Economic Impacts of Foregone Resident Incomes

In addition to the reduction County economic activity resulting from the reduction in construction activity caused by the proposed APFO legislation, the County's economy will also be impacted by the loss in resident incomes associated with the housing units forgone under the proposed legislation. As presented in Table 7, the County has added on average 1,484 residential units per year since 2010.

Table 7: New Residential Construction in the County since 2011

	2010	2011	2012	2013	2014	2015	2016	Six-Year Average
Cumulative Units	106,563	107,826	109,289	110,448	112,083	113,691	115,467	
New Units		1,263	1,463	1,159	1,635	1,608	1,776	1,484

Source: Howard County Planning -Construction Report

Because the proposed APFO legislation will essentially act as a moratorium on new development for the 2022-2025 period, new development activity will essentially cease over this four-year period. As a result of this reduction in residential development, County population growth and the household incomes associated with this rising population will be slowed. As described above, the JFI estimated the household incomes that will be foregone in the County as a result of the proposed APFO legislation. As described in Table 4 above, household income growth in the County will be reduced by an average of almost $180 million per year. Moreover, this loss will be cumulative, with the loss in household income potential adding up each year, for a total potential loss of $732.9 million in 2025. The JFI estimated the reduction in County economic activity and employment that results from this lower level of County household incomes, by year and in terms of the cumulative impact. The JFI also prepared a high level estimate of the loss in County government revenues from both these foregone residential units/household incomes as well as from the resulting reduction in County economic activity.

The proposed APFO legislation will reduce economic activity and County government revenues as a result of the diminished population and associated household income growth. The reduction in Howard County household incomes and the associated reduction in County economic activity will be cumulative and grow as the proposed APFO induced moratorium on development activity reduces development and the attraction of new households into the County. As presented in Table 8 the reduction in economic activity will start at $145.4 million in 2022 with an associated reduction in employment growth of 950 jobs, earning $46.7 million in labor income, and with an associated $8.1 million in County government revenues.[6] This loss will grow to $578.7million in economic activity, with a reduction of 3,779 jobs earning an estimated $185.9 million in labor income, with an associated $32.2 million in County government revenues.[7] *It is important to note that these preliminary economic impact estimates do not represent actual losses in County economic activity or employment. They represent the losses in economic activity and employment associated with the residential development forgone as a result of the proposed APFO legislation's reduction in development activity. Thus, they represent the economic costs of the foregone development activity resulting from the APFO legislation induced development moratorium against the* ***development potential*** *of the County if this development were permitted to occur.* Further caveats are also necessary here. These impacts are based on the proposed APFO legislation acting as a moratorium on all development, and would be reduced to the extent that some development activity would be allowed. Furthermore, these estimates

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[6] The loss in economic activity is less than the loss of household incomes because of the combination of household savings and the "leakage" of economic activity due to federal and state taxes as well as from household purchases made from outside of the County.

[7] This estimate of foregone County government revenues is estimated by the IMPLAN model and by the JFI. This is a rough estimated based on standard relationships of economic activity to County government revenues and is less precise than the analysis prepared by VPA in the second part of this report.

do not take into account any adjustments in the County real estate market made in response to the legislation, such as increases in the sales and turnover existing homes by households desiring the County's substantial base of amenities. This analysis is also based on the County's projection of planned units, which could be higher or lower based on economic, market and local conditions. The estimated impacts associated with foregone development activity by year are presented in Table 9.

Table 8: Estimated Cumulative Economic Impacts Associated with the Reduction of Residential Incomes Associated with the Proposed APFO Legislation

Cumulative Residential Income Loss Impacts	2022	2023	2024	2025
Output ($s)	$145,425,527	$294,555,953	$436,111,314	$578,748,518
Employment (Jobs)	950	1,923	2,847	3,779
Labor Income ($s)	$46,718,168	$94,591,820	$140,047,873	$185,859,576
Estimated County Revenues	$8,093,562	$16,373,981	$24,236,928	$32,194,430

Source: JFI and IMPLAN

Figure 2. Reduced County Economic Activity as a Result of APFO-Related Foregone Household Income

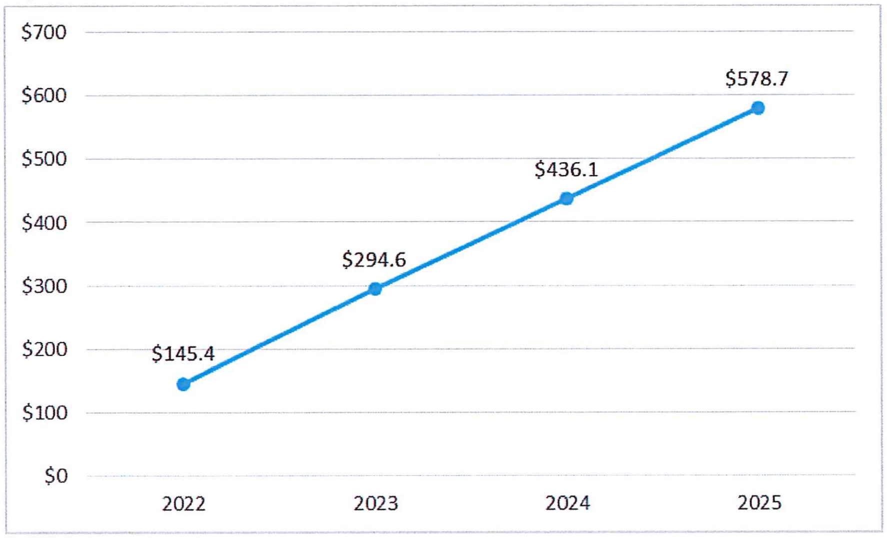

Figure 3. Reduced County Employment as a Result of APFO-Related Foregone Household Income

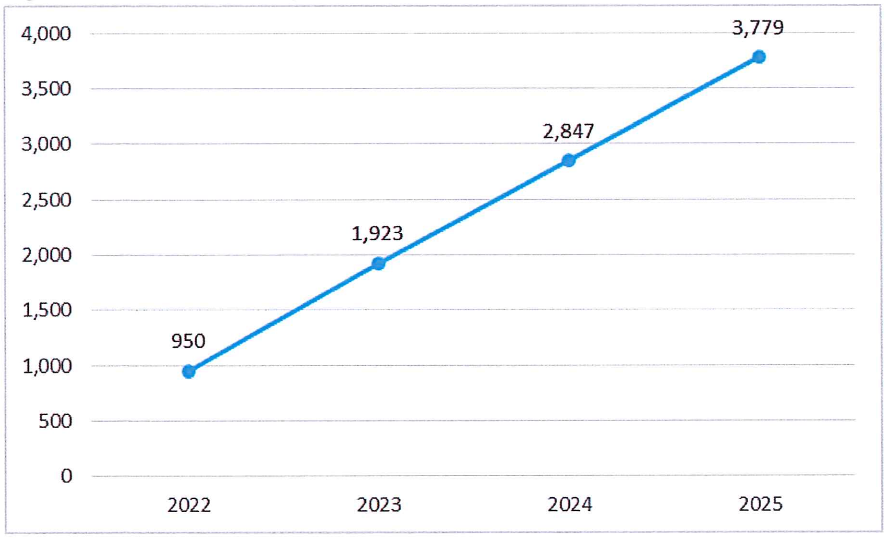

Table 9: Estimated Annual Economic Impacts Associated with the Reduction of Residential Incomes Associated with the Proposed APFO Legislation

Item	Direct[1]	Indirect	Induced	Total
2022 Residential Income Loss Impacts				
Output ($s)	$0	$0	$145,425,527	$145,425,527
Employment (Jobs)	0	0	950	950
Labor Income ($s)	$0	$0	$46,718,168	$46,718,168
Estimated County Revenues	$3,385,077	$0	$4,708,485	$8,093,562
2023 Residential Income Loss Impacts				
Output ($s)	$0	$0	$149,130,426	$149,130,426
Employment (Jobs)	0	0	973	973
Labor Income ($s)	$0	$0	$47,873,652	$47,873,652
Estimated County Revenues	$3,459,581	$0	$4,820,838	$8,280,419
2024 Residential Income Loss Impacts				
Output ($s)	$0	$0	$141,555,361	$141,555,361
Employment (Jobs)	0	0	924	924
Labor Income ($s)	$0	$0	$45,456,053	$45,456,053
Estimated County Revenues	$3,284,873	$0	$4,578,074	$7,862,947
2025 Residential Income Loss Impacts				
Output ($s)	$0	$0	$142,637,204	$142,637,204
Employment (Jobs)	0	0	932	932
Labor Income ($s)	$0	$0	$45,811,703	$45,811,703
Estimated County Revenues	$3,339,142	$0	$4,618,359	$7,957,502

Source: JFI and IMPLAN

Ancillary Impacts of the Proposed APFO Legislation

A complete assessment of all of the related potential impacts of the proposed APFO legislation on the County's economy and patterns of development was outside of the scope of this limited engagement. In order to meet the tight deadlines associated with the consideration of this proposed legislation, the JFI instead conducted a *high level review* of the *available literature* on adequate public facilities ordinances and growth moratoria on jurisdictions as well as discussions with officials from the County Planning Department and Howard County Economic Development Authority Executive Committee. The goal of this analysis was to identify additional critical issues for the County to consider in its review of the proposed legislation.

The JFI's high level analysis of the potential ancillary impacts of the proposed APFO legislation on the County development and the economy focused on the issues of: 1) its potential impact on economic development in the County; 2) its potential impact on the process and patterns of development in the County; and 3) its impact on housing affordability and inclusion. There was a lack of a substantial literature on the impact APFOs and of such a wide ranging development moratorium as could be caused by the proposed APFO legislation on Howard County. Because of this lack of literature on comparable policies and the limited time available for this analysis it is again important to note important caveats to the discussion of potential ancillary impacts below. The JFI drew inferences on these potential ancillary impacts based on its limited, high level review of the available literature found and reviewed. This inferences represent additional potential impacts for the County to consider based on the JFI's interpretation of the materials reviewed, and may or may not accurately reflect the potential impacts on the County. Again, given the potential wide ranging development, economic, and fiscal impacts of the proposed legislation, a more thorough assessment of these potential impacts is warranted.

Economic Development Impacts. The proposed APFO legislation has the potential to impact economic development in Howard County. Historically, Howard County has developed as a suburban, bedroom community with a substantial base of out-commuters. With 57 percent of the County's resident workforce commuting to jobs outside of the County, Howard County has one of the largest shares of resident out-commuters in the State.[8] Recently however, with its large and growing employment base, Howard County has made great strides in creating employment opportunities for its resident workforce, with the share of resident workers employed in-County increasing from 38 percent in 2001 to 40 percent in 2009 to 43 percent in 2016.

Over the past decade, there has been a significant change in real estate preferences among both employers and households that is altering where people want to live and work. Increasingly, younger workers and innovative companies have begun to favor urban areas. This change was led by younger – Millennials – or the cohort of population born from the 1980s to the early 2000s. According to the Urban Land Institute's America in 2015 A ULI Survey of Views on Housing, Transportation, and Community, "Cities are home to more of the nation's younger generations, composed of 42 percent Millennials and 23 percent Generation Xers, while only 25 percent of city dwellers are Baby Boomers and 9 percent are from the silent and war-baby generations." The role of Millennials was also highlighted in the PWC-ULI report Emerging Trends in Real Estate report, which found that "The Millennial and baby-boom generations have had a hand in a number of significant real estate changes over the decades. The baby-boom generation led the move to

[8] Based on a JFI analysis of 2016 U.S. Bureau of the Census – American Community Survey data, Howard County has the fifth highest share of resident workers commuting to jobs outside of the County among Maryland's 16 largest counties.

the suburbs during the 1960s, and the Millennial generation is driving the move back to the city." Jobs have increasingly followed these workers back to the cities.

Increasingly, in order to face the competition from revitalizing cities, suburban employment markets, like Howard County, need to redefine themselves to promote and develop a more urban, live-work-play environment to be competitive in today's economic development environment. This is especially true for Howard County, where Washington D.C. to the south is one of the most successful downtown revitalization stories in the nation and Baltimore City to the north is focusing on large scale redevelopment to create an improved live-work-play environment. According to the 2014 National Association for Industrial and Office Parks *Preferred Office Locations: Comparing Location Preferences and Performance of Office Space in CBDs, Suburban Vibrant Centers and Suburban Areas* report,

> Another trend is gaining momentum to meet the demand for live, work, play (LWP) environments in suburbia, where 77 percent of the nation's office inventory was located as of the first quarter.
>
> Although suburban redevelopment has received more attention, another emerging type of suburban vibrant center is far more common: the smaller cities and towns contained in many metro areas that have withstood the onslaught of highway-oriented development for over 50 years. The core areas of these cities and towns often have the employment density, design features and mix of land uses that can satisfy the demand for LWP places. Both vibrant town centers and suburban mixed-use developments that have achieved critical mass present many features of small CBDs. The demand for these suburban vibrant centers should grow, compared to the demand for typical single-use suburban locations. The preference for and performance of office space in suburban vibrant centers compared to office space in typical single-use suburban locations, as well as to downtown office space, therefore are of considerable interest.[9]

Howard County has many of the aspects of both suburban redevelopment and smaller city development highlighted in the NAIOP report as an emerging real estate development pattern. In order to be competitive in today's economic and real estate development market and continue to grow both local jobs and local employment opportunities, Howard County will need to develop the live-work-play environment increasingly demanded by both residents and workers. The County's Downtown Columbia Development Plan is a clear acknowledgement of this need. By limiting the residential development component of the Downtown Columbia plan, the proposed APFO legislation has the potential to negatively impact the County's recent economic development success by curtailing the development of the live-work-play environment that is driving today's economic and real estate development market.

Development Process Impacts.

Another potential impact of the proposed APFO legislation is on the County's reputation with the local and regional development community. Many of the major developers active in the County are located in the County and many County construction companies are involved in residential development activities. The construction sector accounts for 6 percent of all jobs in the County and the real estate sector accounts for 5.5 percent of County employment, and have grown by 10 and 19 percent respectively since 2009, in

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[9] https://www.naiop.org/preferredofficelocations.

the recovery from the "Great Recession."[10] Howard County's current APFO model has successfully managed patterns of development to match infrastructure and fiscal needs while offering both flexibility and consistency to the development community. According to the 2005 *Adequate Public Facilities Ordnances in Maryland: An Analysis of their Implementation and Effects of Residential Development in the Baltimore Metropolitan Area* report produced by the National Center for Smart Growth Research and Evaluation, the existing APFO process in the County has provided the development community with "'predictability' by betting that sufficient revenues will be raised by the time delays/moratoria automatically end."[11] According to this report,

> Development proposals are never really "denied" for lack of facilities in Howard County, and there are no moratoria. Instead, development proposals are put on hold, with a waiting period than can be as long as 9 years (6 years for the growth allocation and the end of three years for the schools test once the allocation is given). Projects must either wait for school redistricting, the construction of a new school, or the end of the three-year waiting period for school capacity improvements. So a residential developer may proceed even without passing the school adequacy test in the fourth year after receiving an allocation. Even in the worst case scenario, (s)he will be able to proceed with the development. As one developer commented, "builders agreed to live with this straightjacket in return for predictability" (as quoted in Burrel 2003).[12]

The proposed APFO legislation has the potential to reverse the development "consistency and predictability" currently present in the implementation of the County's APFO and jeopardize the County's reputation with the development community.

<u>Housing Affordability and Inclusion Impacts</u>.

Finally, the proposed APFO legislation could impact housing affordability and inclusion in the County. Providing sufficient affordable housing is a core goal in the County's Plan Howard 2030 master plan, which established affordable housing as one of nine key initiatives to guide development in the County,

> **Housing** - The County will continue to develop new models to provide sustainably affordable housing in mixed income communities, and to educate both home-seekers and the general public on the many benefits of compact, mixed-use, mixed income, location efficient homes.[13]

The County's 2030 master plan identifies the need for affordable housing as well as the impact of the County's existing APFO on affordable housing development in its assessment of the County's Jobs/Housing Balance,

> Since job growth also depends on having the workforce to fill the jobs, a common measure of how growth has been balanced is the ratio of jobs to housing. [...] The jobs to housing ratio has increased from 1.51 in 1990 to 1.78 in 2009. This is a result of continued job

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[10] Based on U.S. Bureau of Economic Analysis figures to be comparable to the IMPLAN results.

[11] National Center for Smart Growth Research and Evaluation, *Adequate Public Facilities Ordnances in Maryland: An Analysis of their Implementation and Effects of Residential Development in the Baltimore Metropolitan Area*, 2005, p. xv.

[12] Ibid. p lvii.

[13] https://www.howardcountymd.gov/LinkClick.aspx?fileticket=T5Yn58WbdKQ%3d&portalid=0 – Executive summary.

growth in the County even while there have been constraints on residential growth due to the County's Adequate Public Facilities Act. Setting housing limits too low in relation to job growth and associated housing demand contributes to higher housing prices, forcing many Howard County workers to commute greater distances for affordable housing.[14]

Howard County supports housing affordability thought the programs offered by the Howard County Housing and Community Development, which "works to provide affordable housing opportunities for low and moderate income residents of Howard County". The Department administers a range of Federal, State, and County funded programs providing opportunities for affordable home ownership, loans and grants for special needs housing programs, rental assistance, community facilities, and programs. The Department also owns and manages residential property, maintains these properties, provides loans for settlement and down payment assistance, assists in home ownership preparedness, operates the Community Development Block Grant, Community Legacy, and the HOME program."[15] Recent negotiations over the development of downtown Columbia also emphasized the need and planned for affordable housing.[16] Thus, it is clear that expanding the supply of affordable housing is a core goal of the County.

APFOs in general have been found to impact housing affordability and by effectively acting as a moratorium on growth, the proposed APFO legislation could negatively impact the County's affordable housing goals. A review of APFO legislation in Cabarrus County, North Carolina found that APFO programs led to an increase in the price of existing single family homes.[17] Similarly Rosen and Katz found that "building moratoria, growth management systems and restrictive zoning practices have helped lead to significantly increased house prices."[18] Ott and Read found that,

> Adequate public facilities ordinances provide rapidly growing communities with a management strategy capable of limiting the pace of residential development. However, existing literature supports many of the economic and social concerns identified by opponents of APFOs. Concurrency regulations imposing temporary development moratoria or voluntary impact fees may produce a number of externalities. APFOs can potentially increase the cost of housing, reduce undeveloped land values, encourage development in more remote locations, and provide existing residents and local governments with windfall economic gains.
>
> Economic theory and existing empirical research show that impact fees often increase the cost of new housing in an amount greater than the fee. Therefore, new home buyers may absorb a large portion of the cost increase associated with an impact fee. Existing residents are likely to experience capital gains as property tax savings and benefits of improved infrastructure are capitalized into existing home values. A reduction in new housing supply may also put upward pressure on existing home prices.[19]

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[14] Plan Howard2030, p. 78-79.
[15] https://www.howardcountymd.gov/Departments/Housing-and-Community-Devel
https://www.howardcountymd.gov/Departments/Housing-and-Community-Development/MM-About-Us opment/MM-About-Us.
[16] http://www.baltimoresun.com/news/maryland/howard/columbia/ph-ho-cf-drra-signing-0209-20170206-story.html.
[17] Read, D., The impact of an adequate public facilities ordinance on the sale price of single-family housing in Cabarrus County, North Carolina, Housing and Society, 2015, Vol. 42, No. 2, 148–161.
[18] Rosen, L and Katz, L. "Growth Management and Land Use Controls: The San Francisco Bay Area Experience, 9 J. Am. Real Est. & Urb. Econ. A. 321 (1981).
[19] Ott, S, Read, D The Effect of Growth Management Strategies: Adequate Public Facilities Ordinances and Impact Fees A Review of Existing Strategy, Available at, https://www.naiop.org/-/media/9887459CA2A243F19B542D68CEA45B4D.ashx

Thus, a strong argument can be made from Howard County's own plan as well as the limited literature reviewed that the County's APFO and the proposed new APFO legislation, which would significantly limit development, has the potential to increase home prices and therefore reduce housing affordability in the County. As a result of this increase in housing costs, County goals for a more inclusive and diverse residential population could also be impacted. According to Pendall, a APFOs should not result in exclusion; however, a moratorium can reduce the supply of affordable units and result in the exclusion of minorities from a jurisdiction.[20] As a result, the proposed APFO legislation similarly has the potential to impact the County's inclusion goals.

Moreover, by restricting development activity in the County, the proposed APFO legislation will also limit both the development of housing and payment of fees to the County's Moderate Income Housing Unit (MIHU) program. The County MIHU program law "provides a vital tool to increase affordable homeownership and rental housing opportunities for County residents. The law requires developers to build a certain percentage, usually 10-15%, of MIHU "for sale" units or "rental" units in which the sale price and rental prices are calculated based on an affordability formula stipulated by County law."[21] According to the most recent County October 2017 MIHU Report, 139 MIHU buyers have closed on units since 2017 and there are a total of 505 MIHU rental units currently rented and 133 additional MIHU rental units pending. Developers can also pay a fee-in-lieu of development of MIHU units and according to the MIHU report, "The Department has signed fee in lieu agreements with 46 developers for 594 units through 10/31/17. The FY18 budget spending authority for the fee-in-lieu revenue is $500,000."[22] By restricting development, the proposed APFO legislation will eliminate both the development of MIHU units and payment of fee-in-lieu revenues over the four year moratorium period, thereby reducing the provision of moderate income units.

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[20] Pendall, R. "Local land-use regulation and the chain of exclusion." Journal of the American Planning Association 66:2 (2000), 125-142.

[21] See https://www.howardcountymd.gov/Portals/0/Documents/Housing/Publications/ConPlan%202011-2015_06%2014%2012%20distributed%20_final%20edit%206.pdf?ver=2016-01-14-223342-780. – Page 86

[22] See https://www.howardcountymd.gov/Portals/0/Documents/Housing/Publications/2017%20Oct%20MIHU%20Report.pdf?ver=2017- 12-08-121047-997

Fiscal Impact of Foregone Residential Development

Valbridge Property Advisors has joined with the JFI to prepare an analysis of the fiscal impact of the proposed APFO legislation on the operating budget of Howard County. Like the Economic Impact model of JFI, we have employed an I/O model that measures both the current Howard County Operating Budget and the tax revenues and expenditures associated with the construction of new residential dwellings. This analysis measures only recurring transactions such as real property tax and capital operating allocations. The one-time costs of development, such as permit fees and impact fees, are addressed in the Economic Impact portion of this report.

Data Inputs

The data used to determine the fiscal impact of residential development is relatively limited at this level of analysis. Since the proposed APFO legislation will essentially place a four year moratorium on new residential development throughout the County, the annual operating budget will undoubtedly change considerably over the moratorium interval.

There are five primary data sources for the fiscal impact analysis:

1. **Census Data** – Valbridge sources current estimates and future projections of population, households and incomes calculated by Environmental Systems Research Institute, Inc. (ESRI), a nationally recognized data provider, which incorporate 2010 Census data. This analysis uses data available from the 2010 U.S. Census and the Census Bureau's 2011-2015 American Community Survey.
2. **County Budget** – A first-hand source of details on the revenue and allocation expenditures of Howard County are sourced from the FY 2018 Howard County Operating Budget. This document was supported by PlanHoward 2030 Fiscal Impact Analysis, prepared by the Howard County Department of Planning and Zoning Division of Research. May 29, 2012.
3. **Pupil Yield Data** – Every type of dwelling unit generates a factor of students occupying seats in the local school system. The Howard County Public School System (HCPSS) monitors enrollment closely and publishes a Cost per Seat/Student Generation Rates document. The most recent version was updated October 20, 2017, with pupil yields based on housing type per elementary, middle and high school.
4. **Housing Unit Allocations** – The Howard County Department of Planning and Zoning meters growth throughout the county by way of a housing unit allocation model. The Department has supplied VPA with a tally of all development in the allocation pipeline by planning district and unit type.
5. **Sales Data** – To determine the relative values of new construction and compute the foregone property and income tax revenue. Howard County Planning and Zoning provided a data stream of home sales throughout the County, by type and planning region, which was also sourced for Table 3 above. The sale transfer data is derived from the State Department of Assessment and Taxation (SDAT).

The Census American Fact Finder estimates that there are 322,360 persons residing in Howard County in 2017 and will be 348,512 in 2022, based on the 2010 Census and annual surveys thereafter. There was also estimated a household count of 116,281 and a household size of 2.76 persons per household in 2017 expanded to 125,177 households of 2.77 persons in 2022. These key figures drive the per capita calculations of development and County budget figures. All of the other data is derived from the County budget, housing unit allocation data and sales data.

The Howard County Operating Budget is comprised of several revenue and expenditure streams. For the purpose of this high-level analysis, we concentrated on the General Fund, which has a projected revenue of approximately $1.1 billion, which computes to a revenue of $3,408 per capita or $9,449 per household. There are three primary taxes levied in Howard County – Property, Income and Fire & Rescue. The tax rates are shown in Table 10. Generally, these three taxes supply approximately 88.8% of the General Fund revenue stream, whereas the property tax revenue makes up approximately 48.4% of the General Fund and income tax revenue is another 40.4%. The Fire and Rescue Tax is mentioned here as a required tax, but is not a significant part of the overall operating budget. The remaining 11% of the General Fund revenue is supplied by a wide variety of fees for services, debt service, revenues from other agencies and the prior year fund balance.

The lower part of Table 10 carries forward the data from Table 1 through the four year moratorium term. The county average household size is estimated by the Census to be 2.76 persons in 2017 and 2.77 persons in 2022, exhibiting a relatively stable household size. Further research by the Howard County government pares the household size by unit type, ranging from 2.07 in a multifamily condition to 3.19 in a single family detached house. The population projection data in Table 10 is computed on these detailed assumptions moving forward through 2025 without a perceptible increase in persons per household.

Several important caveats to this fiscal analysis. It was determined that at the time of this analysis, the proposed APFO restrictions will cover nearly all of Howard County, effectively creating a moratorium on all planned residential development. There are a few factors listed below that when studied in greater detail, will affect the outcomes. This report introduces the greatest gross effects of a moratorium. The specific effects on each budgeted allocation will vary over the term of the moratorium and by the parameters of each fund.

- ❖ The fiscal analysis is based on the same housing development activity and income data used in the economic impact study portion of this report.
- ❖ Households and dwelling units are not an interchangeable term in census data, however, based on the limited timing of this study and the data on dwelling units in planning, property transfers and construction permitting, we are conservatively assuming each new dwelling unit will be occupied by one household.
- ❖ Although this fiscal analysis projects 2017-8 data forward through the 2022-5 timeframe, the projection forward of the County budget based on 2018 is likely to shift and restructure considerably without the inputs of new development that carry and fund other programs and departments that may or may not be able to source other revenue. Therefore, this analysis offers a liberal approach to standard inflation in a non-volatile market over a period of eight years.
- ❖ One-time revenues from construction are significant, such as building permit and inspection fees, transfer taxes, recordation taxes, etc., but they are not recurring revenues that would be added year after year to the County General Fund base. Although the revenue streams from these other sources are important and have a direct causal relationship with development, the analysis of details such as foregone construction permitting revenue and allocations to programs mandated by the state government is too variable for the level of analysis presented herein. For example, permit fees for home construction are variable, depending on the size of the home, inspection frequency, and if in a subdivision, the permitting of public infrastructure improvements is based on personnel review time,

inspections, materials, equipment, etc. To adequately address the averages in development costs for new residential construction will require the input of the engineering and architecture community.

- The total budget for Howard County exceeds the General Fund by approximately $483 million. Whether operating in net deficit or not, new construction is a direct source of funding for several programs and departments under the Howard County government umbrella. The most accurate picture of the impact of the proposed APFO legislation would require a far deeper analysis of each revenue stream and allocation.

Table 10: Inputs for Computing Fiscal Impact FY2018

Demographics	2017	2022	Annual Rate
Population	322,360	348,512	1.57%
Persons per HH - ACS Count Average	2.76	2.77	
Persons per HH - Single Family Detached	3.19		
Persons per HH - Single Family Attached	2.66		
Persons per HH - Apartment/Condominium	2.07		
Households	116,281	125,177	1.49%
Median HH Income	$112,531	$120,888	1.44%
County General Fund			
Property Tax Rate	$1.014 /$100 of Assessed Real Property Value		
Income Tax Rate	3.20%		
Fire & Rescue Tax Rate	$0.176 /$100 of Assessed Real Property Value		
Projected Revenue	$1,098,746,451	$1,212,810,496	
Revenue Per Capita	$3,408	$3,480	
Revenue Per Household	$9,449	$9,689	

Foregone Development	2022 Dwelling Units	2022 Population	2023 Dwelling Units	2023 Population	2024 Dwelling Units	2024 Population	2025 Dwelling Units	2025 Population	Total Dwelling Units	Total Population
TOTAL	1,711	4,722	1,784	4,924	1,672	4,615	1,687	4,656	6,854	18,917
Single Family Detached	440	1,214	437	1,206	427	1,179	460	1,270	1,764	4,869
Townhouse	298	822	301	831	298	822	250	690	1,147	3,166
Condominium	155	428	172	475	164	453	168	464	659	1,819
Rental Apartment	818	2,258	874	2,412	783	2,161	809	2,233	3,284	9,064
Columbia	484	1,055	540	1,176	424	923	625	1,362	2,073	4,516
Single Family Detached	42	134	46	147	36	115	54	172	178	568
Townhouse	10	27	12	32	9	24	13	35	44	117
Condominium	43	89	48	99	38	79	56	116	185	383
Rental Apartment	389	805	434	898	341	706	502	1,039	1,666	3,449
Elkridge	282	641	388	902	408	951	296	704	1,374	3,199
Single Family Detached	15	48	39	124	43	137	45	144	142	453
Townhouse	69	184	94	250	98	261	70	186	331	880
Condominium	34	70	54	112	58	120	47	97	193	400
Rental Apartment	164	339	201	416	209	433	134	277	708	1,466
Ellicott City	425	1,174	358	989	367	1,014	310	856	1,460	4,033
Single Family Detached	198	632	167	533	171	545	144	459	680	2,169
Townhouse	123	327	104	277	106	282	90	239	423	1,125
Condominium	31	64	26	54	27	56	23	48	107	221
Rental Apartment	73	151	61	126	63	130	53	110	250	518
Rural West	100	319	100	319	100	319	100	319	400	1,276
Single Family Detached	100	319	100	319	100	319	100	319	400	1,276
Southeast	420	1,021	398	973	373	909	356	913	1,547	3,816
Single Family Detached	85	271	85	271	77	246	117	373	364	1,161
Townhouse	96	255	91	242	85	226	77	205	349	928
Condominium	47	97	44	91	41	85	42	87	174	360
Rental Apartment	192	397	178	368	170	352	120	248	660	1,366

Source: Howard County Government; ESRI; Compiled by Valbridge 2017

Revenues

Table 11 summarizes the revenue streams for property, income and fire tax that would have been realized with projected development, should the proposed APFO legislation not pass. The data is computed for each housing type in each planning district and totaled and averaged at the top. The data shows the relative impact of housing types on revenue.

Table 11 revenue projections are based on a straight-line inflation rate. In actuality inflation is not consistent year to year, and some costs as some factors outside of construction may influence the new construction market, especially in the arena of property assessments and the values of new homes. Markets for construction materials, labor and financial markets are particularly volatile and can cause major shifts in construction and hence, property valuation.

The Rural West is clearly the highest per home value to the County at an average of $18,654 in combined taxes, whereas apartment households are averaging approximately $4,120 in tax revenue. Weighted averages are provided for the 2022 year only as a representative snapshot of what each housing type in each district contributes to the General Fund. The overall revenue is estimated at approximately $14.4 million per annum in 2022, escalating to as much as $15.1 million in 2025. The overall impact for the 2022-5 period is estimated at $59.0 million of foregone tax revenue.

To create the property value per unit of apartments, we followed the state assessment method of value based upon income, by analyzing several apartment communities in each planning district (none in Rural West) of relatively new construction and divided the assessed value by the number of units. We also retrieved data on all the affordable (LIHTC) general occupancy (family style) communities in the county and computed per unit value in the same manner. Using the Howard County standard of 10-15% moderate income housing unit (MIHU), we estimated the income per planning area by a 15% factor for affordable and 85% for market rate. It was computed that affordable apartments were approximately one-third the value of market rate in each planning district other than Elkridge, where the values were much closer to market rate. Therefore, in Ellicott City, where there are no general occupancy LIHTC units, an estimation for the four year period was based on 33% of the new units being affordable.

There are a number of affordable age-restricted apartment communities throughout the four more urban planning districts. Although construction of these properties does contribute to the General Fund, these communities were not evaluated in this report primarily because they do not contribute significantly to income tax revenue.

Table 11: Estimated General Fund Revenue Not Realized as a Result of the Proposed APFO Legislation

	Foregone Units	*Property Tax Revenue*	*Fire & Rescue Tax Revenue*	*Income Tax Revenue*	*2022 Total Revenue*	*Property Tax Revenue*	*Fire & Rescue Tax Revenue*	*Income Tax Revenue*	*Total Revenue*	*2023 Total Revenue*	*2024 Total Revenue*	*2025 Total Revenue*	Total Foregone Units	*Total Foregone Revenue*
						Weighted Averages / Dwelling Unit								
Total Housing Units	***1,711***	$7,218,139	$1,252,853	$5,894,504	$14,365,496	$4,219	$732	$3,445	$8,396	***$14,949,840***	***$14,589,979***	***$15,130,160***	**6,854**	**$59,035,476**
Single Family Detached	***440***	$3,650,005	$633,531	$2,617,633	$6,901,169	$8,295	$1,440	$5,949	$15,684	**$6,944,797**	**$6,909,012**	**$7,666,337**	**1,764**	**$28,421,315**
Townhouse	***298***	$1,591,514	$276,239	$1,142,128	$3,009,880	$5,341	$927	$3,833	$10,100	**$3,072,827**	**$3,097,572**	**$2,698,958**	**1,147**	**$11,879,237**
Condominium	***155***	$573,259	$99,501	$411,298	$1,084,057	$3,698	$642	$2,654	$6,994	**$1,284,003**	**$1,259,797**	**$1,318,287**	**659**	**$4,946,145**
Rental Apartment	***818***	$1,403,363	$243,582	$1,723,446	$3,370,390	$1,716	$298	$2,107	$4,120	**$3,648,214**	**$3,323,598**	**$3,446,577**	**3,284**	**$13,788,779**
Columbia	*484*	$1,279,075	$222,009	$1,267,152	$2,768,235	$2,643	$459	$2,618	$5,719	$3,138,072	$2,505,585	$3,773,783	2,073	$12,185,675
Single Family Detached	*42*	$404,160	$70,150	$289,774	$764,085	$9,623	$1,670	$6,899	$18,192	$857,776	$688,086	$1,057,932	178	$3,367,878
Townhouse	*10*	$56,277	$9,768	$40,367	$106,412	$5,628	$977	$4,037	$10,641	$130,887	$100,620	$148,973	44	$486,892
Condominium	*43*	$177,109	$30,741	$127,056	$334,906	$4,119	$715	$2,955	$7,789	$383,194	$310,946	$469,693	185	$1,498,739
Rental Apartment	*389*	$641,528	$111,350	$809,954	$1,562,832	$1,649	$286	$2,082	$4,018	$1,766,214	$1,405,934	$2,097,186	1,666	$6,832,166
Elkridge	*282*	$855,064	$148,413	$744,152	$1,747,630	$3,032	$526	$2,639	$6,197	$2,597,875	$2,803,623	$2,189,280	1,374	$9,338,408
Single Family Detached	*15*	$82,895	$14,388	$59,475	$156,758	$5,526	$959	$3,965	$10,451	$417,760	$472,122	$506,433	142	$1,553,073
Townhouse	*69*	$306,451	$53,191	$219,873	$579,514	$4,441	$771	$3,187	$8,399	$809,221	$864,747	$633,118	331	$2,886,600
Condominium	*34*	$158,590	$27,526	$113,650	$299,766	$4,664	$810	$3,343	$8,817	$488,002	$537,254	$446,245	193	$1,771,267
Rental Apartment	*164*	$307,129	$53,308	$351,154	$711,591	$1,873	$325	$2,141	$4,339	$882,893	$929,500	$603,484	708	$3,127,468
Ellicott City	*425*	$2,393,566	$415,451	$1,762,862	$4,571,879	$5,632	$978	$4,148	$10,757	$3,947,946	$4,139,674	$3,579,197	1,460	$16,238,697
Single Family Detached	*198*	$1,517,836	$263,451	$1,088,690	$2,869,977	$7,666	$1,331	$5,498	$14,495	$2,481,153	$2,604,096	$2,247,746	680	$10,202,972
Townhouse	*123*	$631,093	$109,539	$452,990	$1,193,623	$5,131	$891	$3,683	$9,704	$1,034,473	$1,080,726	$940,537	423	$4,249,358
Condominium	*31*	$97,445	$16,914	$69,952	$184,311	$3,143	$546	$2,257	$5,946	$158,448	$168,656	$147,261	107	$658,676
Rental Apartment	*73*	$147,191	$25,548	$151,230	$323,969	$2,016	$350	$2,072	$4,438	$273,873	$286,197	$243,653	250	$1,127,691
Rural West	*100*	$986,622	$171,248	$707,542	$1,865,412	$9,866	$1,712	$7,075	$18,654	$1,912,048	$1,959,849	$2,008,845	2,059	$7,746,154
Single Family Detached	*100*	$986,622	$171,248	$707,542	$1,865,412	$9,866	$1,712	$7,075	$18,654	$1,912,048	$1,959,849	$2,008,845	400	$7,746,154
Southeast	*420*	$1,703,813	$295,731	$1,412,796	$3,412,340	$4,057	$704	$3,364	$8,125	$3,353,899	$3,181,248	$3,579,054	1,547	$13,526,541
Single Family Detached	*85*	$658,492	$114,294	$472,151	$1,244,937	$7,747	$1,345	$5,555	$14,646	$1,276,061	$1,184,860	$1,845,381	364	$5,551,238
Townhouse	*96*	$597,692	$103,741	$428,897	$1,130,331	$6,226	$1,081	$4,468	$11,774	$1,098,246	$1,051,480	$976,330	349	$4,256,387
Condominium	*47*	$140,115	$24,320	$100,640	$265,074	$2,981	$517	$2,141	$5,640	$254,359	$242,941	$255,088	174	$1,017,463
Rental Apartment	*192*	$307,515	$53,375	$411,107	$771,997	$1,602	$278	$2,141	$4,021	$725,234	$701,967	$502,255	660	$2,701,453

Source: Valbridge Analysis of Howard County Fiscal Year 2018 Approved Operating Budget

Revenue Gap

The $483 million gap in revenue between the General Fund and All Funds is summarized below in Table 12. The line items in bold and italic are directly impacted by residential construction activities, but not completely, as some of these funds source revenue from other activities as well. Additionally, the impacts are not shared equally across the county, where for example, some development would be on well and septic services and others would be on public water and sewer. Likewise, the TIF districts are not funded by development in other areas of the county.

Table 12: Other Revenue

Subtotal Other Revenue	**$**	**483,190,182**
Special Revenue Funds	**$**	**208,990,049**
Ag Preservation	***$***	***12,536,434***
Commercial BAN	$	2,330,000
Communty Renewal Program	***$***	***5,112,374***
Environmental Services	$	26,355,098
Fire & Rescue Tax	***$***	***102,230,763***
Forest Conservation	***$***	***682,251***
Grants	$	23,800,861
Program Revenue	$	11,376,135
Recreation & Parks Fund	$	20,973,978
Special Tax District	$	1,025,000
Speed Enforcement	$	1,258,155
TIF District	***$***	***1,257,000***
Trust and Agency Multifarious	$	52,000
Enterprise Funds	**$**	**157,582,118**
County Broadband Initiative	$	638,517
Non-County Broadband Initiative	$	1,541,298
Private Sector Broadband Initiative	$	385,526
Recreation Special Faciltities	$	2,153,710
Shared Septic Systems	***$***	***779,815***
W&S Operating	***$***	***92,218,059***
W&S Special Benefits Charges	***$***	***44,473,893***
Watershed Protection & Restoration	$	15,391,300
Internal Service Funds	**$**	**116,618,015**
Employee Benefits	$	60,904,219
Fleet Operations	$	19,701,900
Risk Management	$	10,580,814
Technology & Communications	$	25,431,082

Source: Valbridge Analysis of Howard County Fiscal Year 2018 Approved Operating Budget

One-Time Fees and Permitting

Construction activity includes a variety of fees for permitting and review, as well as road excise tax, school surcharge and transfer tax and recordation tax. The permit and review fee revenues are allocated to sustaining those operations of government, while the other fees and taxes are utilized for debt service to capital road improvements and school construction. Although these are not annually recurring revenue streams like property and income tax, they are essentially recurring with continual new construction, and hence an integral revenue stream in the General Fund. Tables 13 and 14 calculate the estimated impacts of these foregone revenues for Transfer Tax (1.0% of purchase price), Recordation Tax (0.5% of assessed value), Road Excise Tax ($1.18/sf), and School Surcharge $1.29/sf). Howard County Departments of Permits and Inspections provided that the average sizes by unit types throughout the county were 5,465 for a single family detached unit, 2,586 for a single family attached (townhouse) unit and 1,458 for a multifamily unit. These numbers are based on total enclosed area of the building/unit, rather than limited to finished space as the state tax assessments are computed.

The total foregone revenue each of the four years averages $22.1 million, with a per unit weighted average of $12,872 in 2022. These tables illustrate the magnitude of impact by housing type in each planning district, with single family homes clearly contributing significantly more on a per unit basis than multifamily and attached homes. However, the total over the four year period attributes a greater share ($25.6 million) to multifamily units than to attached units.

These revenues are included in the General Fund revenue and allocation models and represent a separate revenue stream in addition to property tax and income tax. It illustrates that certain General Fund revenues are earmarked for certain allocations and the residential construction revenue is divided among many program allocations in varying percentages. Some construction revenue is also used as inputs to the Special Revenue Funds, Enterprise Funds and Internal Service Funds mentioned above in Table 12. A full analysis of the flow of construction revenue would require detailed review of each fund and requirements of those particular funds to break down the path of each dollar of construction revenue.

Table 13: Estimated One-Time Revenues Directly Associated With New Residential Construction

	2022 Foregone Units	*Transfer Tax Revenue*	*Recordation Tax Revenue*	Road Excise Tax	School Surcharge	*2022 Total Revenue*	*Transfer Tax Revenue*	*Recordation Tax Revenue*	Road Excise Tax	School Surcharge	*Total Revenue*	*2023 Total Revenue*	*2024 Total Revenue*	*2025 Total Revenue*
							Weighted Averages / Dwelling Unit							
Total Housing Units	***1,711***	$7,118,481	$3,559,240	$5,420,757	$5,926,082	$22,024,560	$4,160	$2,080	$3,168	$3,464	$12,872	$22,649,314	$21,893,337	$21,650,018
Single Family Detached	*440*	$3,599,610	$1,799,805	$2,837,428	$3,101,934	$11,338,777	$8,181	$4,090	$6,449	$7,050	$25,770	$11,332,407	$11,169,394	$12,207,447
Townhouse	*298*	$1,569,540	$784,770	$909,341	$994,110	$4,257,761	$5,267	$2,633	$3,051	$3,336	$14,288	$4,326,187	$4,326,376	$3,707,986
Condominium	*155*	$565,344	$282,672	$266,668	$291,527	$1,406,211	$3,647	$1,824	$1,720	$1,881	$9,072	$1,623,917	$1,576,189	$1,636,322
Rental Apartment	*818*	$1,383,987	$691,993	$1,407,320	$1,538,511	$5,021,811	$1,692	$846	$1,720	$1,881	$6,139	$5,366,803	$4,821,379	$4,098,264

Planning Area/Unit Type	2022 Foregone Units	*Transfer Tax Revenue*	*Recordation Tax Revenue*	Road Excise Tax	School Surcharge	*2022 Total Revenue*	*Transfer Tax Revenue*	*Recordation Tax Revenue*	Road Excise Tax	School Surcharge	*Total Revenue*	*2023 Total Revenue*	*2024 Total Revenue*	*2025 Total Revenue*
Columbia	***484***	$1,261,415	$630,707	$1,044,590	$1,141,967	$4,078,680	$2,606	$1,303	$2,158	$2,359	$6,068	*$4,565,528*	*$3,600,591*	*$4,504,465*
Single Family Detached	*42*	$398,580	$199,290	$270,845	$296,094	$1,164,809	$9,490	$4,745	$6,449	$7,050	$20,684	$1,292,114	$1,024,351	$1,556,717
Townhouse	*10*	$55,500	$27,750	$30,515	$33,359	$147,124	$5,550	$2,775	$3,051	$3,336	$11,376	$179,047	$136,205	$199,583
Condominium	*43*	$174,664	$87,332	$73,979	$80,875	$416,850	$4,062	$2,031	$1,720	$1,881	$7,813	$472,632	$380,100	$569,110
Rental Apartment	*389*	$632,671	$316,335	$669,251	$731,639	$2,349,897	$1,626	$813	$1,720	$1,881	$4,160	$2,621,736	$2,059,935	$2,179,056
Elkridge	***282***	$843,258	$421,629	$647,930	$708,330	$2,621,147	$2,990	$1,495	$2,298	$2,512	$6,783	*$3,943,747*	*$4,213,175*	*$3,318,264*
Single Family Detached	*15*	$81,750	$40,875	$96,731	$105,748	$325,103	$5,450	$2,725	$6,449	$7,050	$14,624	$853,239	$949,759	$1,003,596
Townhouse	*69*	$302,220	$151,110	$210,552	$230,180	$894,062	$4,380	$2,190	$3,051	$3,336	$9,621	$1,233,437	$1,302,423	$942,381
Condominium	*34*	$156,400	$78,200	$58,495	$63,948	$357,043	$4,600	$2,300	$1,720	$1,881	$8,620	$576,383	$629,333	$518,495
Rental Apartment	*164*	$302,888	$151,444	$282,152	$308,454	$1,044,939	$1,847	$923	$1,720	$1,881	$4,491	$1,280,688	$1,331,661	$853,792
Ellicott City	***425***	$2,360,518	$1,180,259	$1,831,100	$2,001,796	$7,373,674	$5,554	$2,777	$4,308	$4,710	$12,640	*$6,287,945*	*$6,511,827*	*$5,559,755*
Single Family Detached	*198*	$1,496,880	$748,440	$1,276,843	$1,395,870	$4,918,033	$7,560	$3,780	$6,449	$7,050	$17,789	$4,195,382	$4,345,561	$3,702,311
Townhouse	*123*	$622,380	$311,190	$375,332	$410,321	$1,719,223	$5,060	$2,530	$3,051	$3,336	$10,641	$1,473,386	$1,522,336	$1,310,492
Condominium	*31*	$96,100	$48,050	$53,334	$58,305	$255,789	$3,100	$1,550	$1,720	$1,881	$6,370	$217,555	$229,140	$198,002
Rental Apartment	*73*	$145,158	$72,579	$125,592	$137,300	$480,630	$1,988	$994	$1,720	$1,881	$4,703	$401,622	$414,790	$348,950
Rural West	***100***	$973,000	$486,500	$644,870	$704,985	$2,809,355	$9,730	$4,865	$6,449	$7,050	$21,044	*$2,845,843*	*$2,883,242*	*$2,921,577*
Single Family Detached	*100*	$973,000	$486,500	$644,870	$704,985	$2,809,355	$9,730	$4,865	$6,449	$7,050	$21,044	$2,845,843	$2,883,242	$2,921,577
Southeast	***420***	$1,680,289	$840,144	$1,252,267	$1,369,003	$5,141,704	$4,001	$2,000	$2,982	$3,260	$8,983	*$5,006,251*	*$4,684,502*	*$5,345,957*
Single Family Detached	*85*	$649,400	$324,700	$548,140	$599,237	$2,121,477	$7,640	$3,820	$6,449	$7,050	$17,909	$2,145,829	$1,966,481	$3,023,247
Townhouse	*96*	$589,440	$294,720	$292,942	$320,250	$1,497,352	$6,140	$3,070	$3,051	$3,336	$12,261	$1,440,318	$1,365,412	$1,255,530
Condominium	*47*	$138,180	$69,090	$80,861	$88,399	$376,529	$2,940	$1,470	$1,720	$1,881	$6,130	$357,346	$337,615	$350,715
Rental Apartment	*192*	$303,269	$151,634	$330,324	$361,117	$1,146,345	$1,580	$790	$1,720	$1,881	$4,090	$1,062,758	$1,014,993	$716,466

Source: Valbridge Analysis of Howard County Fiscal Year 2018 Approved Operating Budget

Table 14: Total Foregone Revenue from Certain One-Time Fees

	Total Foregone Units	*Transfer Tax Revenue*	*Recordation Tax Revenue*	Road Excise Tax	School Surcharge	*2022-5 Total Revenue*
Total Housing Units	6,854	$28,586,432	$14,293,216	$21,659,249	$23,678,332	$88,217,230
Single Family Detached	1,764	$14,824,388	$7,412,194	$11,375,507	$12,435,935	$46,048,024
Townhouse	1,147	$6,194,627	$3,097,313	$3,500,048	$3,826,323	$16,618,311
Condominium	659	$2,579,605	$1,289,803	$1,133,770	$1,239,460	$6,242,638
Rental Apartment	3,284	$4,987,812	$2,493,906	$5,649,925	$6,176,613	$19,308,256

Planning Area/Unit Type	Total Foregone Units	*Transfer Tax Revenue*	*Recordation Tax Revenue*	Road Excise Tax	School Surcharge	*2022-5 Total Revenue*
Columbia	2,073	$4,933,029	$2,466,515	$4,466,668	$4,883,052	$16,749,264
Single Family Detached	178	$1,756,832	$878,416	$1,147,869	$1,254,873	$5,037,990
Townhouse	44	$253,941	$126,971	$134,265	$146,781	$661,959
Condominium	185	$781,640	$390,820	$318,281	$347,952	$1,838,692
Rental Apartment	1,666	$2,140,616	$1,070,308	$2,866,253	$3,133,446	$9,210,623
Elkridge	1,374	$4,547,045	$2,273,523	$3,475,872	$3,799,894	$14,096,333
Single Family Detached	142	$809,935	$404,968	$915,715	$1,001,079	$3,131,697
Townhouse	331	$1,505,378	$752,689	$1,010,040	$1,104,196	$4,372,303
Condominium	193	$924,141	$462,070	$332,045	$362,998	$2,081,254
Rental Apartment	708	$1,307,592	$653,796	$1,218,072	$1,331,621	$4,511,080
Ellicott City	1,460	$8,377,773	$4,188,886	$6,290,089	$6,876,453	$25,733,202
Single Family Detached	680	$5,321,515	$2,660,758	$4,385,116	$4,793,898	$17,161,287
Townhouse	423	$2,215,705	$1,107,853	$1,290,776	$1,411,103	$6,025,436
Condominium	107	$343,435	$171,717	$184,087	$201,248	$900,487
Rental Apartment	250	$497,118	$248,559	$430,110	$470,205	$1,645,992
Rural West	2,059	$4,040,398	$2,020,199	$2,579,480	$2,819,940	$11,460,017
Single Family Detached	400	$4,040,398	$2,020,199	$2,579,480	$2,819,940	$11,460,017
Southeast	1,547	$6,688,188	$3,344,094	$4,847,140	$5,298,992	$20,178,414
Single Family Detached	364	$2,895,708	$1,447,854	$2,347,327	$2,566,145	$9,257,034
Townhouse	349	$2,219,602	$1,109,801	$1,064,967	$1,164,243	$5,558,613
Condominium	174	$530,391	$265,195	$299,357	$327,263	$1,422,205
Rental Apartment	660	$1,042,487	$521,244	$1,135,490	$1,241,341	$3,940,562

Source: Valbridge Analysis of Howard County Fiscal Year 2018 Approved Operating Budget

Pupil Yield

Using the data provided by HCPSS, combined with the foregone housing data from Table 1, we have computed the impact on the schools of this new housing over the four year period of 2022-2025 in Table 15. This is the largest single budget expenditure in the County General Fund at 57.1%. The school system operates under an independent budget from the County, but is still funded in part by the County General Fund. This table of data is illustrative only, in that the forthcoming calculations of budget allocations includes a lump sum from the County of approximately $627 million in FY2018. This pupil yield represents inputs only and does not factor year-by-year attrition. Pupil yields are estimated by the HCPSS as follows:

	Detached	Attached	Multifamily	Manufactured
Elementary	0.469	0.242	0.106	0.481
Middle	0.144	0.093	0.043	0.145
High	0.075	0.06	0.032	0.075

The cost per pupil is not computed here. This table is for demonstration of the potential growth (or foregone growth) of student populations associated with new construction. The analysis of actual school population is highly dependent on school census data and attrition and graduation rates. Because of the flux in school populations year to year, we are limited in our ability to associate a per pupil impact of new development on the education portion of the General Fund. The many variables at play include the size of a household balanced against the household by household type (family, with or without children; non-family; single parent; etc.), the local attrition rates, ages of members of the households by household type, and more.

With this study, we are able to provide a high-level overview of potential growth areas based on countywide and planning area averages. The data produced indicates a higher propensity for pupil growth from multifamily housing than single family in Columbia and Elkridge in particular, due to the zoning and market for multifamily unit types. A detailed study with more data sources could work to associate a differential cost by unit type, by planning district.

Table 15: Estimated Student Yield Not Realized as a Result of Proposed APFO Legislation

	2022 Dwelling Units	ES	MS	HS	Total	2023 Dwelling Units	ES	MS	HS	Total	2024 Dwelling Units	ES	MS	HS	Total	2025 Dwelling Units	ES	MS	HS	Total	Total Dwelling Units	Total Foregone Yield
TOTAL	1,711	382	133	82	597	1,784	389	136	84	609	1,672	373	130	80	583	1,687	380	132	81	592	6,854	2,380
Single Family Detached	440	206	63	33	303	437	205	63	33	301	427	200	61	32	294	460	216	66	35	316	1,764	1,214
Townhouse	298	72	28	18	118	301	73	28	18	119	298	72	28	18	118	250	61	23	15	99	1,147	453
Condominium	155	16	7	5	28	172	18	7	6	31	164	17	7	5	30	168	18	7	5	30	659	119
Rental Apartment	818	87	35	26	148	874	93	38	28	158	783	83	34	25	142	809	86	35	26	146	3,284	594
Columbia	484	68	26	18	111	540	76	28	20	124	424	59	22	15	97	625	88	33	23	143	2,073	475
Single Family Detached	42	20	6	3	29	46	22	7	3	32	36	17	5	3	25	54	25	8	4	37	178	122
Townhouse	10	2	1	1	4	12	3	1	1	5	9	2	1	1	4	13	3	1	1	5	44	17
Condominium	43	5	2	1	8	48	5	2	2	9	38	4	2	1	7	56	6	2	2	10	185	33
Rental Apartment	389	41	17	12	70	434	46	19	14	79	341	36	15	11	62	502	53	22	16	91	1,666	302
Elkridge	282	45	17	12	73	388	68	25	17	110	408	72	27	18	117	296	57	21	13	91	1,374	392
Single Family Detached	15	7	2	1	10	39	18	6	3	27	43	20	6	3	30	45	21	6	3	31	142	98
Townhouse	69	17	6	4	27	94	23	9	6	37	98	24	9	6	39	70	17	7	4	28	331	131
Condominium	34	4	1	1	6	54	6	2	2	10	58	6	2	2	10	47	5	2	2	9	193	35
Rental Apartment	164	17	7	5	30	201	21	9	6	36	209	22	9	7	38	134	14	6	4	24	708	128
Ellicott City	425	134	44	26	204	358	113	37	22	172	367	115	38	22	176	310	97	32	19	148	1,460	700
Single Family Detached	198	93	29	15	136	167	78	24	13	115	171	80	25	13	118	144	68	21	11	99	680	468
Townhouse	123	30	11	7	49	104	25	10	6	41	106	26	10	6	42	90	22	8	5	36	423	167
Condominium	31	3	1	1	6	26	3	1	1	5	27	3	1	1	5	23	2	1	1	4	107	19
Rental Apartment	73	8	3	2	13	61	6	3	2	11	63	7	3	2	11	53	6	2	2	10	250	45
Rural West	100	47	14	8	69	100	47	14	8	69	100	47	14	8	69	100	47	14	8	69	400	275
Single Family Detached	100	47	14	8	69	100	47	14	8	69	100	47	14	8	69	100	47	14	8	69	400	275
Southeast	420	88	31	20	140	398	85	30	19	135	373	79	28	18	125	356	91	31	19	140	1,547	539
Single Family Detached	85	40	12	6	58	85	40	12	6	58	77	36	11	6	53	117	55	17	9	80	364	250
Townhouse	96	23	9	6	38	91	22	8	5	36	85	21	8	5	34	77	19	7	5	30	349	138
Condominium	47	5	2	2	9	44	5	2	1	8	41	4	2	1	7	42	4	2	1	8	174	31
Rental Apartment	192	20	8	6	35	178	19	8	6	32	170	18	7	5	31	120	13	5	4	22	660	119

Source: Howard County Public Schools; Howard County Planning Department; Compiled by Valbridge, 2017

Allocation and Reconciliation

General Fund allocations are summarized in seven categories as shown in Table 16. We have computed the per capita and household allocations based on 2017 and 2022 Census data estimates. The foregone development resulting from the passage of the proposed APFO legislation is computed to approximately $16.4 million in 2022, and as much as $17.3 million in 2023.

Table 16: General Fund Allocations FY2018-FY2025

	County Government	Education	Public Safety	Public Facilities	Community Services	Legislative & Judicial	General Government	Non-Departmental Expenses	*Total*
2022	2018 General Fund	$627,146,166	$134,812,893	$70,864,978	$69,648,002	$28,288,054	$29,003,806	$138,982,552	**$1,098,746,451**
	2022 General Fund	$692,252,022	$148,808,209	$78,221,676	$76,878,362	$31,224,719	$32,014,775	$153,410,732	**$1,212,810,496**
	2018 Per Capita	$1,945	$418	$220	$216	$88	$90	$431	**$3,408**
	2022 Per Capita	$1,986	$427	$224	$221	$90	$92	$440	**$3,480**
	2018 Per Household	$5,393	$1,159	$609	$599	$243	$249	$1,195	**$9,449**
	2022 Per Household	$5,530	$1,189	$625	$614	$249	$256	$1,226	**$9,689**
	New Development Allocation	$9,380,059	$2,016,361	$1,059,909	$1,041,707	$423,097	$433,802	$2,078,725	**$16,433,660**
2023	General Fund	$709,558,323	$152,528,414	$80,177,218	$78,800,321	$32,005,337	$32,815,144	$157,246,001	**$1,243,130,759**
	Per Capita	$2,004	$431	$226	$223	$90	$93	$444	**$3,512**
	Per Household	$5,585	$1,201	$631	$620	$252	$258	$1,238	**$9,785**
	New Development Allocation	$9,869,811	$2,121,639	$1,115,249	$1,096,096	$445,188	$456,452	$2,187,260	**$17,291,695**
2024	General Fund	$727,297,281	$156,341,625	$82,181,649	$80,770,330	$32,805,470	$33,635,523	$161,177,151	**$1,274,209,028**
	Per Capita	$2,023	$435	$229	$225	$91	$94	$448	**$3,544**
	Per Household	$5,641	$1,213	$637	$626	$254	$261	$1,250	**$9,883**
	New Development Allocation	$9,334,879	$2,006,649	$1,054,804	$1,036,689	$421,059	$431,713	$2,068,713	**$16,354,505**
2025	General Fund	$745,479,713	$160,250,165	$84,236,190	$82,789,588	$33,625,607	$34,476,411	$165,206,580	**$1,306,064,253**
	Per Capita	$2,041	$439	$231	$227	$92	$94	$452	**$3,576**
	Per Household	$5,697	$1,225	$644	$633	$257	$263	$1,263	**$9,981**
	New Development Allocation	$9,504,864	$2,043,189	$1,074,011	$1,055,567	$428,726	$439,574	$2,106,383	**$16,652,315**

Source: Howard County FY2018 Approved Operating Budget

These allocation projections are straight-line growth across all sectors for the study period. It is understood that in reality there would not be straight line growth in all functions and activities or expenditures of government year to year, but at this level of analysis general trends are important indicators. A detailed departmental and line item budget review would help to differentiate those units that would experience incremental growth and/or those that may not grow or actually decline, based upon the foregone construction activity. In some cases it could be expected that there would be a reduction of staff and space resources that may be associated with the reduced construction activity, whereas some programming and mandated activities that otherwise are funded by the construction enterprise, may need to persist and be funded by another source, based on the details of the mandates.

VPA's estimated revenues and costs associated with the foregone units are presented by year in Table 17. VPA's high level, preliminary fiscal analysis shows that:

- In 2022, the foregone County revenues of $14.4 million is lower than projected allocated expenses of $16.4 million, with a net fiscal benefit of $2.1 million, or $438 per capita and $1,293 per household;
- In 2023, the foregone County revenues of $14.9 million is lower than projected allocated expenses of $17.3 million, with a net fiscal benefit of $2.3 million, or $476 per capita and $1,405 per household;
- In 2024, the foregone County revenues of $14.6 million is lower than projected allocated expenses of $16.4 million, with a net fiscal benefit of $1.8 million, or $382 per capita and $1,156 per household; and

- In 2025, the foregone County revenues of $15.1 million is lower than projected allocated expenses of $16.7 million, with a net fiscal benefit of $1.5 million, or $327 per capita and $1,012 per household.

Table 17: Reconciliation of General Fund and Foregone Development

	2022 Total	Per Capita	Per Household	2023 Total	Per Capita	Per Household	2024 Total	Per Capita	Per Household	2025 Total	Per Capita	Per Household
Foregone Revenue	$14,365,496	$3,042	$8,396	$14,949,840	$3,036	$8,380	$14,589,979	$3,162	$8,726	$15,130,160	$3,250	$8,969
Allocated Expense	$16,433,660	$3,480	$9,689	$17,291,695	$3,512	$9,785	$16,354,505	$3,544	$9,883	$16,652,315	$3,576	$9,981
Net Surplus/Deficit	**-$2,068,164**	**-$438**	**-$1,293**	**-$2,341,854**	**-$476**	**-$1,405**	**-$1,764,525**	**-$382**	**-$1,156**	**-$1,522,155**	**-$327**	**-$1,012**

While the VPA analysis shows a net fiscal benefit to the County from the development moratorium, as described in more detail below, this analysis focused on three major County revenue streams while comparing these to only General Fund allocated government expenses. Overall County government expenses are supported by both the core general fund revenues analyzed in this analysis, as well as by Special Revenue Funds, Enterprise Funds, and Internal Service Funds. It was not possible, given the time and resources available in this limited engagement to assess all of the potential revenue streams impacted by the foregone development activity. Moreover, VPA's fiscal impact analysis focused on the direct impacts attributable to these properties, and do not take into account the economic and resulting fiscal impacts of the reduction in County economic activity described in the economic impact analysis above. These high level estimates of fiscal benefits to the County account for less than 0.2 percent of county general fund expenditures and, given the omitted potential revenue streams, may not be indicative of actual cost savings to the County.

However, this is not absolute, as there are other revenue and expense streams in the overall County budget that are directly related to new construction and development. Table 18 that follows identifies a set of revenue and allocation funds that offset and augment the General Fund. These tables do not balance because there are other funds and allocations associated with other uses that are not listed herein and also some of these funds are parsed internally to receive revenue from a variety of sources and not only new construction. A more detailed analysis of the budget and each of the programs to determine the levels and sources of revenue and allocations at a micro level is warranted to explain or dissolve the shortfall shown in Table 17.

As noted above in *Revenues*, there is a $483 million revenue stream that is funded outside of the General Fund, which is mostly generated from property and income taxes. These revenue funds align somewhat with the allocation funds. The All Funds budget is comprised of a total of the General Fund, Grants Fund, Program Revenue Fund and a variety of other funds relative to specific activities in public safety, public facilities, community services and general government. Other sources of revenue are other governmental agencies, impact fees, usage fees, penalty fees, and more. These specified funds have rules of procedure and finances that require particular management and allocations. Some of these mandates are grant-based, and others are legislatively driven. In the latter case, a program that may be heavily funded by development may not be diminished or dissolved, whether development is in a moratorium or not. For example, the Forest Conservation program and Watershed Protection program are state mandated activities that require compliance and monitoring over time, regardless of new development activity.

Adjustments to the revenue and allocations of the county budget through the four year moratorium would require an analysis of the parameters of each funding source and allocation to determine which line items would be increased, decreased or levelled. The outcomes of that analysis would also color the allocations to non-development related functions of government in order to cover the shortfall on property and income tax revenue growth year-to-year.

Table 18: Other Revenue Sources and Allocations Directly From New Development

Other General Fund Revenues	Type of Fund	Total Revenue	Per Capita	Per Household	Foregone Revenue
Agricultural Preservation	Special Revenue	$12,536,434	$39	$108	$184,466
Communty Renewal Program	Special Revenue	$5,112,374	$16	$44	$75,225
Forest Conservation	Special Revenue	$682,251	$2	$6	$10,039
TIF Districts	Special Revenue	$1,257,000	$4	$11	$18,496
Shared Septic Systems	Enterprise Fund	$779,815	$2	$7	$11,474
Water & Sewer Operations	Enterprise Fund	$92,218,059	$286	$793	$1,356,929
Water & Sewer Special Benefits Charges	Enterprise Fund	$44,473,893	$138	$382	$654,405
Total Revenues		**$157,059,826**	**$487**	**$1,351**	**$2,311,034**

Other Allocations	Total Allocation	Per Capita	Per Household	Foregone Allocation
Fire & Rescue Reserve Fund	$102,230,763	$317	$879	$1,504,260
Agricultural Preservation	$7,350,000	$23	$63	$108,151
Environmental Services Fund	$22,614,000	$70	$194	$332,750
Shared Septic	$535,845	$2	$5	$7,885
Water & Sewer Special Benefit	$38,473,893	$119	$331	$566,119
Water & Sewer Operating Fund	$65,158,500	$202	$560	$958,765
Forest Conservation Fund	$678,751	$2	$6	$9,987
TIF Districts	$232,000	$1	$2	$3,414
Community Renewal Program	$610,000	$2	$5	$8,976
Fire Service Building & Equipment	$4,100,000	$13	$35	$60,329
School Construction & Site Acquisition	$7,200,000	$22	$62	$105,943
General Improvement Capital Projects Fund	$7,367,780	$23	$63	$108,412
Recreation & Parks Capital Projects Fund	$7,648,000	$24	$66	$112,535
Highway Projects	$526,000	$2	$5	$7,740
Total Expenditures	**$264,725,532**	**$821**	**$2,277**	**$3,895,266**

Source: Howard County FY2018 Approved Operating Budget

Some of these funds are sourced directly to new construction, such as Forest Conservation, and Community Renewal Program, whereas the TIF districts (Columbia Town Center, Laurel Park, and Savage) are designated zones with a bond debt of a limited parameters. Likewise, some highway projects are funded through development impact analysis. These funds that are pro-rated would need to be scaled and analyzed with the housing unit allocation plans and program parameters to determine the actual impact of development on planning area by planning area basis. Other factors, some of which are volatile, such as local economic trends as well as cost of construction, goods and materials, can also contribute directly to the value of the homes.

Appendix 1 – Economic Impact Analysis Methodology and Terms

This economic impact analysis of the proposed APFO legislation used the IMPLAN input-output model for Howard County, Maryland. IMPLAN is one of the most widely used models in the nation, and can be used to analyze the impacts of companies, projects, or of entire industries. An input-output analysis examines the relationships among businesses and among businesses and final consumers. Input-output analysis is based on the use of multipliers, which describe the response of an economy to a change in demand or production. Multipliers measure the effects on an economy from a source of economic activity, in this case the foregone residential construction activity and resulting household incomes associated with the impacted housing units associated with proposed APFO legislation.

The economic activity generated in a city, county, region or state is greater than the simple total of spending associated with the event or activity being studied. This is because as this money is earned it is, in turn, spent, earned and re-spent by other businesses and workers in the state economy through successive cycles of spending, earning and spending. However, the spending in each successive cycle is less than in the preceding cycle because a certain portion of spending "leaks" out of the economy in each round of spending. Leakages occur though purchases of goods or services from outside of the region and federal taxation. The IMPLAN multipliers used in this analysis capture the effects of these multiple rounds of spending. This analysis focuses on four measures of economic impact:

- **Output**. The total value of production or sales in all industries;
- **Employment**. The total number of full and part time jobs in all industries;
- **Labor Income**. The wages and salaries, including benefits, and other labor income earned by the workers holding the jobs created; and
- **State and Local Government Revenues.** The revenues accruing to the County government. Local, County government revenues were estimated based on this aggregate estimate, based on data on the distribution of state and local government revenues in Maryland, based on U.S. Bureau of the Census data, with direct household income tax revenues calculated based in County personal income data, from the Bureau of Economic Analysis, and County income tax revenues, from the County budget.

Four measures of the economic activity and impact of the jobs and business activity retained or assisted by HCEDA business attraction, expansion and recruitment efforts and MCE's operations are included in this report:

- **Direct effects**. The change in economic activity being analyzed—in this case the construction activity and resident incomes associated with the residential units impacted by the Proposed APFO legislation;
- **Indirect effects**. The changes in inter-industry purchases, for example the purchase of raw materials by an HCEDA supported manufacturing firm, that occur in response to the change in demand from the directly affected industries;
- **Induced effects**. The changes in spending from households as income and population increase due to changes in production; and
- **Total effects**. The combined total of direct, indirect and induced effects.