

# The Economic Impact of Downtown Columbia: Detailing Contributions of the Lakefront Library, Merriweather District, and More

PREPARED BY SAGE POLICY GROUP, INC.  
ON BEHALF OF HOWARD HUGHES

MAY 2023



*A Sage Economic Impact Analysis*



## Executive Summary

This analysis' principal objective is to estimate and describe prospective economic impacts stemming from the development and operations of the Lakefront Library. The library has already garnered much attention because of its iconic architecture and waterfront setting (depicted below). It will encompass 100,000 square feet situated on the Kittamaqundi Lakefront in the heart of Columbia and will be built on land donated by Howard Hughes. Renowned designer Thomas Heatherwick of Heatherwick Studio designed the library. This is the firm that designed the Little Island in New York City and Google's campus in Bay View, California.

Construction of the Lakefront Library is expected to cost \$143 million. Once multiplier effects are considered, development and construction will support an estimated 1,163 jobs countywide, and those jobs will be associated with nearly \$100 million in labor income. Construction activity will contribute \$1.2 million in tax revenues to Howard County.



The economic and fiscal impacts related to construction of the library are significant, but ultimately the most consequential benefits will inure to Howard County residents as a result of the library's presence and operations. Research cited in this study indicates that libraries typically generate a return on investment between 400-500 percent on each dollar of taxpayer money invested, and library impact has tended to increase over time as libraries have expanded from passive institutions designed for reading and research into institutions that supply a suite of digital services that support businesses, jobseekers, and students, among others.



The five-level, 100,000 square foot facility will be more than twice as large as the current Howard County Central Branch, which is also the oldest building in the Howard County Library System. Given the historical precedent of increased visitation at replacement libraries built in downtown settings, it is conceivable that the Lakefront Library will host more than one million visitors each year. This increased visitation will lead to a higher share of spending by Howard County residents captured in the county, as library visitors spend relatively more at businesses proximate to that library.

The fact that the Lakefront Library will be an innovative and visually appealing structure enhances its potential impacts. Available research demonstrates that iconic architectural developments (IADs) designed by world famous architects “act as a catalyst for economic revitalization and transformation within neighborhoods or regions.”<sup>1</sup>

---

*Research indicates that libraries typically generate a return on investment between 400 and 500 percent on each dollar of taxpayer money invested into the facility through the provision of services to local residents.*

---

The Downtown Columbia Plan originally called for the replacement library to be built on a site in the Merriweather District that would be accompanied by 120 mixed-income housing units. With the library now slated for the Lakefront District, the Merriweather District will have more than twice the capacity to host mixed income housing units, half of which (at least 120) will be Low Income Housing Tax Credit units.

These units represent a critical step in addressing homeowner affordability issues in Howard County. As of this writing, the county’s inventory of homes for sale is sufficient to last just 0.7 months, the lowest figure among Maryland’s 24 major jurisdictions. Severe inventory shortfalls have put upward pressure on home prices and rents, rendering the county unaffordable for many would-be homebuyers, including younger families. As of March 2023, the average sale price of a home in Howard County had risen to \$592,767, roughly \$125,000 more than three years earlier.

Ultimately, the Lakefront Library will serve as an anchor of the Lakefront District, an area that will eventually support nearly 7,800 jobs and \$15.7 million in annual Howard County tax revenues based on current development plans. These impacts will add to the sizable economic and fiscal benefits generated by the already-completed portions of the Downtown Columbia Plan. Already completed development supports an estimated \$2.3 billion in economic activity countywide each year.

---

<sup>1</sup> Matt Patterson (2022) Revitalization, transformation and the ‘Bilbao effect’: testing the local area impact of iconic architectural developments in North America, 2000–2009, *European Planning Studies*, 30:1, 32–49, DOI: 10.1080/09654313.2020.1863341



## Table of Contents

Introduction.....	5
Nature of the Endeavor.....	5
Methods & Input Parameters .....	5
The Lakefront Library.....	7
Background .....	7
Construction Impacts .....	8
Economic Impacts .....	8
Fiscal Impacts .....	9
Other Impacts of an Operational Lakefront Library .....	10
Operational Economic & Fiscal Impacts of Downtown Columbia .....	12
The Lakefront District.....	12
Development Completed To Date .....	14
Conclusion .....	15
About Sage Policy Group.....	16
Appendix A: How to Interpret Economic Impact Estimates.....	17

## List of Exhibits

Exhibit 1: Development Parameters, Lakefront District and Completed to Date .....	6
Exhibit 2: Economic Impacts, Construction of the Lakefront Library (Millions \$2023) .....	8
Exhibit 3: Fiscal Impacts, Construction of the Lakefront Library (Thousands \$2023) .....	9
Exhibit 4: Annual Economic Impacts, Lakefront District at Full Build Out (Millions \$2023) .....	13
Exhibit 5: Annual Fiscal Impacts, Lakefront District (Millions \$2023).....	13
Exhibit 6: Annual Economic Impacts, Plan Development to Date (Millions \$2023).....	14
Exhibit 7: Annual Fiscal Impacts, Plan Development to Date (Millions \$2023).....	14



## Introduction

### NATURE OF THE ENDEAVOR

The Howard Hughes Corp. (Howard Hughes) commissioned Sage Policy Group, Inc. (Sage) to analyze the economic and fiscal implications of development related to the Downtown Columbia Plan (the Plan). Specifically, this analysis focuses upon impacts associated with development of the Lakefront Library, a new 100,000 square foot facility slated to be situated on the Kittamaquundi Lakefront in the heart of Columbia. The Lakefront Library will be built on land donated by Howard Hughes and is being designed by renowned designer Thomas Heatherwick of Heatherwick Studio, the firm that designed the Little Island in New York City and Google's campus in Bay View, California.

This analysis represents a follow-up to a 2019 Sage study examining the prospective economic and fiscal impacts of the Plan as well as a 2022 study estimating the fiscal impacts associated with the Plan's residential component. In addition to examining impacts associated with the Lakefront Library, this report supplies analytical detail regarding impacts supported by already developed elements of the Plan as well as prospective impacts associated with future Lakefront District development.

### METHODS & INPUT PARAMETERS

To estimate the economic impacts — jobs, worker compensation, and economic activity — supported by development activity, this report uses IMPLAN economic modeling software, an industry standard platform for input-output analysis. Additional information regarding IMPLAN and how to interpret economic impact findings can be found in Appendix A on page 17 of this report.

The Sage study team estimated fiscal impacts — i.e., tax dollars inuring to Howard County — using a combination of parameters generated from the customized IMPLAN model used to produce this report's economic impacts as well as proprietary techniques that rely on publicly available financial data from the Howard County Department of Finance, the Office of the Maryland Comptroller, and the U.S. Census Bureau. Howard Hughes, which serves as Downtown Columbia's Community Developer, supplied information pertaining to the Lakefront Library and other planned development in the Lakefront District and a MuniCap, Inc. analysis of development completed to date in Downtown Columbia. The study team acquired other information related to the Lakefront Library through publicly available sources like the Howard County Library System. This analysis also discusses qualitative impacts related to the development of the Lakefront Library that are difficult to measure in dollars and cents but nonetheless contribute to Columbia's sense of place while enriching the lives of Howard County residents.

The model used to estimate the economic impacts supported by the Lakefront District, along with the model used to estimate the economic impacts associated with Downtown Columbia development completed to date, relies on the following assumptions:



1. Retail sales are estimated at \$559 per square foot (\$2023). The distribution of retail segments in downtown Columbia is based on parameters obtained from the U.S. Census Bureau's monthly retail trade report.
2. The occupancy rate for retail space is estimated at approximately 95 percent at steady state. This is modestly higher than the 4.4 percent vacancy rate for all retail space in Howard County according to Q1:2023 data supplied by MacKenzie Commercial Real Estate Services, LLC.
3. It is presumed that office tenants will be staffed at a density of one employee per 378 square feet, which represents a blended average between two parameters: the national average across all office-using segments according to data published by Cushman and Wakefield, and the analogous figure from the Energy Information Administration's Commercial Buildings Energy Consumption Survey (CBECS). Importantly, both of these figures pertain to 2018; more recent figures, which would reflect pandemic-induced changes to office using trends, are not yet available.
4. The occupancy rate for office space is estimated at 86 percent at steady state, the current occupancy rate for all office space in Howard County according to Q1 2023 data supplied by MacKenzie Commercial Real Estate Services, LLC.
5. The distribution of types of office tenants is modeled to reflect existing office space tenants associated with the Plan and developer expectations of prospective tenants.
6. The study team used U.S. Census Bureau Inflow/Outflow Analysis of County commuting patterns to estimate the number of people who live in surrounding areas and commute into Howard County.

Exhibit 1 supplies development parameters for the Lakefront District (projected), the portion of the Plan that has been completed to date, and the total development expected to occur under Plan auspices.

Exhibit 1: Development Parameters, Lakefront District and Completed to Date

Use Type	Lakefront District (Projected)	Completed to Date	Plan Total
Retail (SF)	67,000	167,892	1,250,000
Office/Conference (SF)	585,731*	665,279	4,300,000
Hotel Rooms	0	0	640
Residential Units	1,528	1,671	6,250

Source: Howard Hughes Corporation      \*Note: This includes 200,000 square feet of senior living space





## The Lakefront Library

### BACKGROUND

The Plan — originally conceived in 2010 and updated in 2016 — called for demolition and replacement of the Central Branch library and construction of a new facility in Downtown Columbia. The Plan originally called for the replacement library to be built in the Merriweather District (at the time called the Crescent Neighborhood). Meanwhile, the Housing Commission was tasked with building 120 mixed income housing units, half of which would be low-income units supplied with use of Low Income Housing Tax Credits (LIHTC units), on the site.

The Plan has since evolved. The library is now slated to be built in the Lakefront District on the parking lot to the north of the Whole Foods parking lot. With more developable land available, the Housing Commission is committed to building at least 240 mixed income housing units — more than twice the original number — on the Merriweather site. Half of those housing units (a minimum of 120) will be LIHTC units.

The Lakefront Library, which is expected to cost in the range of \$143 million to build and will include a parking garage, will be funded by both Howard County and the State of Maryland. The facility is designed by renowned designer Thomas Heatherwick of Heatherwick Studio, and it is not an exaggeration to describe preliminary renderings as visually impressive. As described in *The Architect's Newspaper*:

“Renderings show a building with cascading planted staircases that weave across the primary facade, enabling visitors to climb higher and higher for views toward Lake Kittamaquidi, the manmade lake at the heart of town. Viewing terraces will be accented with native plants, providing colorful perches to take in views of the waterfront.”<sup>2</sup>

The five-level, 100,000 square foot facility will be more than twice as the current central branch for Howard County and will be the County’s largest branch when complete. It will offer an array of amenities to serve the community, including space for literacy classes, a makers lab, an auditorium hosting public events, a teaching kitchen and café, and other multipurpose space.

As Howard County Executive Calvin Ball has stated, “The Lakefront Library project is for the people and will serve as a transformative civic and educational center for all in Howard County. It will be a hub where education, the arts, and nature all converge to spark creativity, critical thinking, and community connections.”<sup>3</sup>

---

<sup>2</sup> Heatherwick Studio unveils design for Lakefront Library in Columbia, Maryland. Edward Gunts, *The Architect's Newspaper*. March 31, 2023. <https://www.archpaper.com/2023/03/heatherwick-studio-unveils-design-for-lakefront-library-in-columbia-maryland/>

<sup>3</sup> Howard County Executive Calvin Ball Unveils Transformative Lakefront Library Project, *Howard County Maryland*, March 30, 2023. <https://www.howardcountymd.gov/News033023>



## CONSTRUCTION IMPACTS

### ECONOMIC IMPACTS

Construction of the Lakefront Library is expected to cost in the range of \$143 million and is slated to commence in 2026. A general contractor has not yet been confirmed.

Capital expenditure will support an estimated 878 jobs in Howard County over the duration of the project. A job in this context refers to one position that lasts for one year. For example, if ten construction workers are employed for three years, that would be counted as thirty jobs. These construction jobs will command an estimated \$92 million in labor income, which includes wages, benefits, and other forms of compensation. These jobs and compensation pertaining to construction itself are classified as direct impacts.

Secondary impacts are generated through two channels: indirect impacts occur from augmented business-to-business spending that occurs as a result of the direct activity, and induced impacts occur from augmented consumer to business spending that occurs due to the bolstered local spending power. Secondary impacts will occur in both Howard County and the remainder of the state, though direct impacts are confined to Howard County.

Once these secondary effects are considered, construction will support an estimated 1,163 jobs in Howard County. Those jobs will be associated with nearly \$97 million in labor income. Construction will augment economic activity—the sum of goods and services sold—in the county by approximately \$183.5 million. The following table provides additional detail on construction phase impacts.

Exhibit 2: Economic Impacts, Construction of the Lakefront Library (Millions \$2023)

	Jobs	Labor Income	Economic Output
<i>Howard County</i>			
Direct effects	878	\$78.5	\$129.8
Indirect effects	115	\$9.2	\$24.7
Induced effects	170	\$9.3	\$28.9
<b>Total*</b>	<b>1,163</b>	<b>\$96.9</b>	<b>\$183.5</b>
<i>Remainder of Maryland</i>			
Indirect effects	27	\$2.1	\$7.3
Induced effects	168	\$9.3	\$27.8
<b>Total*</b>	<b>195</b>	<b>\$11.3</b>	<b>\$35.2</b>
<i>Statewide Total</i>			
Direct effects	878	\$78.5	\$129.8
Indirect effects	142	\$11.3	\$32.1
Induced effects	338	\$18.5	\$56.7
<b>Total*</b>	<b>1,359</b>	<b>\$108.3</b>	<b>\$218.7</b>

\*Note: totals may not sum due to rounding





## FISCAL IMPACTS

The construction of the Lakefront Library will generate augmented tax revenues for both Howard County and the State of Maryland. The \$96.9 million in Howard County labor income, which includes benefits and other forms of compensation, will support more than \$900,000 in income taxes for the County. This accounts for the fact that wages are approximately 70 percent of total compensation according to the Bureau of Labor Statistics and not all jobs supported by capital expenditure will be filled by those living in Howard County. The construction phase will generate another \$280,000 for the County through other taxes and fees. Note that this does not include any construction impact fees. It is not presently known how much in impact fees will be paid to the County.



At the State level, the \$143 million investment will support nearly \$1.5 million in income tax revenues, \$2.4 million in sales tax revenues, and \$195,000 in other taxes and fees. Note that these tax revenues will be supported over the duration of construction.

Exhibit 3: Fiscal Impacts, Construction of the Lakefront Library (Thousands \$2023)

	Howard County	Maryland
Sales Tax	-	\$2,402.0
Income Tax	\$914.8	\$1,487.1
Other Taxes & Fees	\$281.4	\$194.5
<b>Total</b>	<b>\$1,196.3</b>	<b>\$4,083.6</b>

Source: Sage, IMPLAN



## OTHER IMPACTS OF AN OPERATIONAL LAKEFRONT LIBRARY

Because the Lakefront Library will be a publicly owned building, it will not pay property taxes. Direct income taxes paid to the County will only increase to the extent that the Lakefront Library requires more staffing than the Central Branch library did. Any augmented income tax revenues would, of course, be countervailed by the cost of paying those additional employees. Even so, libraries — especially ones as visually distinctive and offering as many services as the Lakefront Library will — generate economic and fiscal impacts beyond those originating from initial capital investment.



For instance, a 2009 analysis indicated that for “each dollar of taxpayers’ money invested in public libraries, the libraries – on average – return a value to the citizens of 4 to 5 times more.”<sup>4</sup> A 2006 report studying the impact of Pennsylvania’s 630 libraries found a similar impact of \$5.50 in benefits for every \$1 of taxpayer support.<sup>5</sup> Other studies have determined returns on investment consistent with those studies. For example, in South Carolina, public libraries return \$4.48 for every \$1 of taxpayer funding.<sup>6</sup> In Minnesota, the return on investment is estimated at \$4.62 per \$1 of taxpayer funding.<sup>7</sup>

4 Aabo, S. (2009). “Libraries and return on investment (ROI): A meta-analysis”. *New LibraryWorld* 110 (7/8), 311-324. <https://library.wyo.gov/wp-content/uploads/2020/02/475260.pdf>

5 Jose-Marie Griffiths, Donald W. King and Sarah E. Aerni, “Taxpayer Return-on-Investment (ROI) in Pennsylvania Public Libraries,” *UNC School of Information and Library Science* (September 2006) (On file at the Joint State Government Commission).

6 Barron, Williams, Bajjaly, Arns, and Wilson (2005). “The Economic Impact of Public Libraries on South Carolina.” *The School of Library and Information Science, University of South Carolina*. <http://www.libsci.sc.edu/sceis/exsummary.pdf>

7 Skurla, James A; Jacobson, Jean; Jaeschke, Josh; Jacobson, Jenna. (2011). *Minnesota Public Libraries' Return on Investment*. University of Minnesota Duluth. Retrieved from the University of Minnesota Digital Conservancy, <https://hdl.handle.net/11299/203309>.



The way in which libraries generate economic benefits for the communities in which they are situated are “numerous, varied, and complex.”<sup>8</sup> Those impacts have increased over time as libraries have shifted from passive institutions designed for reading and occasional research to institutions that “build a community’s capacity for economic activity and resiliency.”<sup>9</sup> As explained by the nonpartisan Urban Institute:

“Public libraries build a community’s capacity for economic activity and resiliency. Many families and caregivers rely on the library to provide important preschool reading and learning. Many people entering the workforce rely on libraries to get them online. Local businesses are increasingly tapping into the library’s online databases to keep themselves competitive and to find synergistic new business opportunities. Library facilities often anchor downtown and commercial developments, and are attractive neighborhood amenities.”<sup>10</sup>

Because the Lakefront Library will be twice as large the current central branch and much larger than any other Howard County library, with significantly enhanced facilities for the provision of community services beyond lending books and other media, it will almost certainly provide services to more county residents than the existing Central Branch library. This is especially true given the precedent that downtown libraries tend to attract significantly more daily visits. “The Denver Public Library, which finished the expansion of its downtown library in 1995, saw the number of daily visits double from 1,500 to 3,000. The Seattle Public Library, which opened in 2004 draws 8,000 visitors a day, twice the circulation of the old central library facility.”<sup>11</sup>

If the number of annual visitors to the Lakefront Library increases proportionally to the square footage of the facility relative to the Central Branch or Miller Branch library, the Lakefront Library could host more than one million visitors each year.<sup>12</sup> This will likely increase the share of spending by Howard County residents that remains within the county; research has found that library users are more likely to spend at proximate businesses due to halo and convenience effects.<sup>13</sup>

Under the assumption that the increase in attendance will be exactly proportional to the difference in square footage between the Lakefront Library and the Miller Branch, there will be more than 350,000 additional annual library visits. If those visitors make even modest expenditures while in Downtown

---

8 McClure, Fraser, Newlson, and Robbins (2000). “Economic benefits and impacts from public libraries in the state of Florida.” Information Use Management and Policy Institute, School of Information Studies, Florida State University.

<https://ii.fsu.edu/sites/g/files/imported/storage/original/application/a32c839ca354d63b4becc8c7e427d5ba.pdf>

9 Carlos A. Manjarrez, Jessica Cigna, Beata Bajaj (2007). “Public Library Contributions to Local Economic Development.” The Urban Institute, Urban Libraries Council.

10 Ibid

11 Ibid

12 This estimate is based on an extrapolation of pre-pandemic attendance at the Miller Branch library. Relevant data were provided by the Howard County Library System to Howard Hughes.

13 Skurla, James A; Jacobson, Jean; Jaeschke, Josh; Jacobson, Jenna. (n 8)





Columbia, that will translate into tens of millions of dollars of additional spending each year. Beyond supporting existing businesses located in Downtown Columbia, this augmented spending increases the viability of additional development in the area, potentially bolstering the County's assessable base and property tax receipts.

The fact that the Lakefront Library will be architecturally impressive will serve to heighten its economic impact. Research indicates that iconic architectural developments (IADs) designed by world famous architects "act as a catalyst for economic revitalization and transformation within neighborhoods or regions."<sup>14</sup> Notably, regions with IADs generally experience more economic and cultural growth than non-IAD neighborhoods. Accordingly, the economic impact of Sydney's opera house or the Eiffel Tower in Paris is far greater than their direct transactional impacts.

The Lakefront Library also has the potential to increase proximate property values by rendering Downtown Columbia a more enticing place to live and visit. This will, all things being equal, lead to higher property tax revenues. It may also attract additional investment to the area. To the extent the Lakefront Library brings visitors from outside of Howard County to Downtown Columbia, the dollars those visitors spend will support higher incomes for Howard County residents and business owners, bolstering county-level income tax collections in the process.

There is at least one additional consideration. The 120+ extra housing units that will be built on the Merriweather District site because the library is being built on the lakefront will expand housing choice and affordability in employment-rich downtown Columbia. At current inventory levels, Howard County has enough homes on the market to last just 0.7 months, the lowest figure among Maryland's 24 major jurisdictions according to data from Maryland REALTORS. That has put significant upward pressure on home prices and rents, rendering the county unaffordable for many would-be homebuyers and labor force participants. As of March 2023, the average sale price of a home in Howard County had risen to \$592,767, roughly \$125,000 more than was the case three years prior.

## Operational Economic & Fiscal Impacts of Downtown Columbia

### LAKEFRONT DISTRICT – MASSIVE ECONOMIC IMPACTS TODAY & TOMORROW

The architecturally impressive Lakefront Library will serve as the cultural centerpiece of Downtown Columbia, a region slated for 385,000 square feet of office space, 67,000 square feet of retail space, more than 1,500 residential units, and 200,000 square feet of senior housing. The viability of commercial and residential development will be enhanced by proximity to the Lakefront Library, but

---

14 Matt Patterson (2022) Revitalization, transformation and the 'Bilbao effect': testing the local area impact of iconic architectural developments in North America, 2000–2009, *European Planning Studies*, 30:1, 32–49, DOI: 10.1080/09654313.2020.1863341



the model used to estimate annual economic impacts does not account for any of these likely but speculative synergies.

Nonetheless, the Sage study team has endeavored to estimate both the impacts of the library and of the broader Lakefront District it will accentuate. Based on Sage's modeling, once fully developed, the Lakefront District will support approximately 7,800 jobs in Howard County and another 2,450 jobs across the balance of the state. Those statewide jobs will be associated with nearly \$850 million in compensation and more than \$2 billion in economic activity each year.

Exhibit 4: Annual Economic Impacts, Lakefront District at Full Build Out (Millions \$2023)

	Jobs	Labor Income	Economic Output
<i>Howard County</i>			
Direct effects	3,650	\$313.1	\$832.6
Indirect effects	1,614	\$123.6	\$322.6
Induced effects	2,527	\$140.1	\$432.7
<b>Total*</b>	<b>7,791</b>	<b>\$576.8</b>	<b>\$1,587.8</b>
<i>Remainder of Maryland</i>			
Indirect effects	374	\$31.0	\$84.4
Induced effects	2,094	\$128.9	\$356.8
<b>Total*</b>	<b>2,468</b>	<b>\$271.6</b>	<b>\$441.2</b>
<i>Statewide Total</i>			
<b>Total*</b>	<b>10,259</b>	<b>\$848.3</b>	<b>\$2,029.0</b>

Source: Sage, IMPLAN \*Note: totals may not sum due to rounding

The Lakefront District will support an estimated \$15.7 million in tax revenues for Howard County per annum, with a plurality of that total — about \$7.5 million — accounted for by property taxes. State-level tax revenues will be augmented by more than \$23 million/annum. Exhibit 5 supplies relevant summary detail.

Exhibit 5: Annual Fiscal Impacts, Lakefront District (Millions \$2023)

	Howard County	Maryland
Property Tax	\$7.5	\$0.9
Sales Tax		\$8.8
Income Tax	\$6.3	\$11.1
Other Taxes & Fees	\$1.9	\$2.2
<b>Total</b>	<b>\$15.7</b>	<b>\$23.0</b>

Source: Sage, IMPLAN

About \$6.4 million of those property taxes will be generated by development located in the Lakefront District, while the remainder will be related to development supported through secondary effects. The Lakefront District will also generate significant revenues for the Columbia association once steady state operations are achieved; based on projections from Howard Hughes, annual Columbia Association fees will exceed \$2 million per annum upon completion of Lakefront District development.



## DEVELOPMENT COMPLETED TO DATE

As development proceeds in Downtown Columbia, economic and fiscal impacts will continue to expand. Already, economic and fiscal contributions are significant. As of this writing, there have been nearly 168,000 square feet of retail space, 665,000 square feet of office space, and 1,671 residential units developed in Downtown Columbia as a result of the Plan.

*On an annual basis, development completed to date supports approximately \$23 million in revenues for Howard County and \$32 million in revenues for the State.*

That development supports an estimated 8,836 jobs in Howard County each year, or nearly 5.0 percent of all jobs in Howard County based on Census Bureau employment estimates. Jobs attributable to the Plan support approximately \$654 million in annual worker compensation and \$1.8 billion in annual economic activity. Across the balance of the state, development associated with Plan implementation supports an additional 2,800 jobs. These figures and others can be found in Exhibit 6.

Exhibit 6: Annual Economic Impacts, Plan Development to Date (Millions \$2023)

	Jobs	Labor Income	Economic Output
<i>Howard County</i>			
Direct effects	4,140	\$355.1	\$944.2
Indirect effects	1,830	\$140.1	\$365.8
Induced effects	2,866	\$158.9	\$490.7
<b>Total*</b>	<b>8,836</b>	<b>\$654.1</b>	<b>\$1,800.8</b>
<i>Remainder of Maryland</i>			
Indirect effects	424	\$35.2	\$95.7
Induced effects	2,375	\$146.2	\$404.7
<b>Total*</b>	<b>2,798</b>	<b>\$308.0</b>	<b>\$500.4</b>
<i>Statewide Total</i>			
<b>Total*</b>	<b>11,635</b>	<b>\$962.1</b>	<b>\$2,301.1</b>

Source: Sage, IMPLAN \*Note: totals may not sum due to rounding

On an annual basis, development to date supports approximately \$23 million in revenues for Howard County and \$32 million in revenues for the State. Exhibit 7 supplies pertinent statistical detail.

Exhibit 7: Annual Fiscal Impacts, Plan Development to Date (Millions \$2023)

	Howard County	Maryland
Property Tax	\$10.6	\$1.3
Sales Tax	-	\$10.6
Income Tax	\$9.5	\$16.8
Other Taxes & Fees	\$2.9	\$3.3
<b>Total</b>	<b>\$23.0</b>	<b>\$32.0</b>

Source: Sage, IMPLAN





## Conclusion

Construction of the Lakefront Library will support an estimated 1,163 jobs in Howard County. Those jobs will be associated with nearly \$100 million in worker compensation. As a result of development and construction activities, Howard County tax revenues will be bolstered by nearly \$1.2 million. Those impacts are significant, but ultimately less important than the benefits that will inure to Howard County residents once the library becomes operational.

The Lakefront Library will serve as the cultural centerpiece of Downtown Columbia, which is itself the cultural and economic engine of Howard County. The facility, to be built on land donated by Howard Hughes, will provide a suite of services to Howard County residents that the Central Branch library, constructed in 1981, has not been able to provide.

The new library will serve as the anchor of the Lakefront District. Once fully developed, the district will support nearly 7,800 jobs and \$15.7 million in tax revenues in Howard County each year. These impacts will add to the sizable economic and fiscal benefits generated by already-completed portions of the Plan guiding downtown Columbia's redevelopment. As of this writing, development completed to date downtown supports an estimated \$2.3 billion in economic activity across Howard County each year.



## About Sage Policy Group

**Sage Policy Group** is an economic and policy consulting firm headquartered in Baltimore, MD. Dr. Anirban Basu, Sage's chairman and CEO, founded the firm in 2004. Over a period spanning nearly two decades, Sage has managed to create a client base that encompasses more than forty states and seven countries and includes Fortune 500 companies, NFL teams, aquariums and zoos, state and local governments, insurance companies, banks, brokerage houses, major medical systems, trade organizations, and law firms, among others.

The company is especially well known for its analytical capabilities in economic impact estimation, school enrollment forecasting, economic development, economic forecasting, fiscal impact analyses, legislative analyses, litigation support, environmental economics, and industry outlooks, and has significant experience in the subject areas of construction, healthcare, energy, real estate, manufacturing, professional sports, lotteries, agriculture, tourism, entrepreneurship, government contracting, secondary and post-secondary education, and the economics of retirement. The firm is also known for its superior communications and messaging skills.

In addition to leading Sage, Dr. Basu has emerged as one of the nation's most recognizable economists. He serves as the chief economist to Associated Builders and Contractors, the International Food Distributors Association, the Maryland Bankers Association and as the chief economic adviser to the Construction Financial Management Association. He chaired the Maryland Economic Development Commission from 2014 to 2021 and currently chairs the Baltimore County Economic Advisory Committee. He has been interviewed by CNBC, CNN, Fox Business, Axios, the New York Times, and many others.

Dr. Basu's lectures in economics are delivered to audiences across the U.S. and abroad. In recent years, he has focused upon health economics, the economics of education, and economic development. He has lectured at Johns Hopkins University in micro-, macro-, urban, and international economics, and most recently, global strategy. He is now the Distinguished Economist in Residence at Goucher College, where he teaches History of Economic Thought.



## Appendix A: How to Interpret Economic Impact Estimates

To quantify the economic impacts of the Downtown Columbia Plan, Sage used IMPLAN economic modeling software and its embodied multipliers to generate estimates of employment, labor income, and output. Below is an abbreviated glossary of terms that may prove helpful in interpreting analytical findings.

---

### EMPLOYMENT

As defined by IMPLAN, a job that lasts twelve months equals one job, two jobs that last six months equal one job, three jobs that last four months equal one job, etc. Based on this, **job-years** represents a useful term. For instance, an endeavor that supports 200 jobs for a six-month period would be considered to support 100 jobs measured in job-years. Note that IMPLAN jobs aren't quite the same thing as full-time equivalents (FTEs). Each of IMPLAN's 536 unique industries has a different conversion rate between jobs and FTEs, although for almost every industry one job is equal to less than one FTE.

---

### OUTPUT (BUSINESS ACTIVITY, ECONOMIC ACTIVITY)

Output equals the value of industry production or service provision. It might be easier to conceptualize this as total business sales or economic activity. For retail industries, it is the gross margin (not gross sales). For manufacturing, output is the quantity of total sales plus/minus the change in inventories. For the service sector, output is directly equal to sales. This is summarized by the following equation:

$$\text{Output} = (\text{Manufacturing sales} + / - \text{change in inventories}) + (\text{service sector sales}) + (\text{gross margin for wholesale and retail trade})$$

---

### LABOR INCOME

Worker compensation is comprised of wages, benefits, and proprietor income (money accruing to owners of businesses).

$$\text{Worker Compensation} = \text{all forms of employee compensation (wages/benefits)} + \text{proprietor income}$$

---

### DIRECT EFFECTS

Direct effects are impacts tightly aligned with the endeavor under consideration. In this instance, direct effects are produced primarily by library construction, development of other downtown components, and expanded residential and commercial bases.

---

### INDIRECT EFFECTS

Indirect effects stem from business-to-business spending activity within the study area that occurs as a result of the direct effects. These can also be considered broader supply chain effects. This is a form of **secondary** effects.

---

### INDUCED EFFECTS

Induced effects relate to household spending that occurs due to expanded levels of labor/household income. This is a form of **secondary** effects.