The Economic Impact of the Maryland Transit Administration's Capital and Operating Expenditures

Prepared for the Greater Washington Partnership

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EY

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1 Introduction and Key Findings

The Greater Washington Partnership (GWP) engaged Ernst & Young, LLP (EY) to prepare an analysis of the economic impact of the Maryland Transit Administration's (MTA) historical capital and operating budget on Maryland and its regions.

Capital expenditures encompass MTA's investments in the long-term enhancement and capitalized maintenance of its transportation assets. Operating expenditures relate to MTA's annual spending on services and non-durable goods essential for sustaining daily operations.[1] The study explores the state and regional level jobs, labor income, gross domestic product (GDP) and economic output directly and indirectly supported by MTA. The estimated impact of the capital expenditures includes State of Good Repair (SGR), Locally Operated Transit Systems (LOTS) and other capital expenditures, such as the Purple Line. The operating expenditures include bus and rail operations, administration, and other expenditures. Impacts from both capital and operating expenditures are presented at the state and regional levels.

MTA's average annual capital expenditures over the last five years (FY20-FY24) was $670 million, $490 million (73%) of which was estimated to be spent within the state and supported economic activity in Maryland.[2] The direct operating expenditures for FY24 were $1.1 billion, $920 million (81%) of which is estimated to have occurred within the state of Maryland. In a typical year (total of the five-year average capital expenditures and FY24 operating expenditures), MTA's average annual expenditures support over $2.7 billion in economic output, 9,660 jobs, and $1.7 billion of GDP for the state of Maryland.

These impacts are estimated through the following effects:

Direct impacts	Indirect impacts	Induced impacts
MTA labor, capital spending and MTA purchases from Maryland vendors,	through the MTA and vendor supply chain, and	through household spending derived from direct and indirect employee labor income.

Total impact

The impacts are reported in terms of the following metrics: employment, labor income, gross domestic product (GDP), and economic output. This report summarizes the analysis approach, and estimated results aligned to this scope, conducted by EY's Quantitative Economics and Statistics practice. Additional details on each effect type and metric can be found in the appendix.

1. In general, operating and capital expenditures are presented separately in this report. Operating expenditures reflect FY24 actuals and capital expenditures reflect an estimated annual average spend for the past 5 years, FY20-FY24.
2. The estimated $670 million of direct spending is a 5-year average of MTA's historical capital expenditures from FY20 through FY24. This spending figure includes labor and third-party goods and services but excludes certain other costs such as legal settlements.

Economic Impacts of the MTA

The analysis considers the economic impacts both statewide and in three regions:

- Baltimore City
- Baltimore Region, which includes Anne Arundel County, Baltimore County, and Howard County
- Non-Baltimore Region, which includes all remaining counties within Maryland

Typical year of total capital and operating expenditure impacts (A+B)

Combined impacts from MTA's annual average capital expenditures from FY20 through FY24 and operating expenditures in FY24.

$2.7 billion in total economic output

$1.7 billion in total GDP (value added)

$930 million in total labor income

9,660 average jobs (direct, indirect and induced jobs lasting one year each)

(A) Five-year average capital expenditure impacts

Impacts from MTA's annual average spending on long-term enhancements and capitalized maintenance, FY20 – FY24.

$730 million in average economic output

$380 million in average GDP (value added)

$250 million in average labor income

3,530 average jobs (direct, indirect and induced jobs lasting one year each)

(B) One-year operating expenditure impacts

These impacts are supported by the MTA's spending on services and non-durable goods required for operations, FY24.

$2.0 billion total economic output

$1.3 billion in total GDP (value added)

$680 million in total labor income

6,130 average jobs (direct, indirect and induced jobs lasting one year each)

2 MTA Capital and Operating Budget

MTA Overview

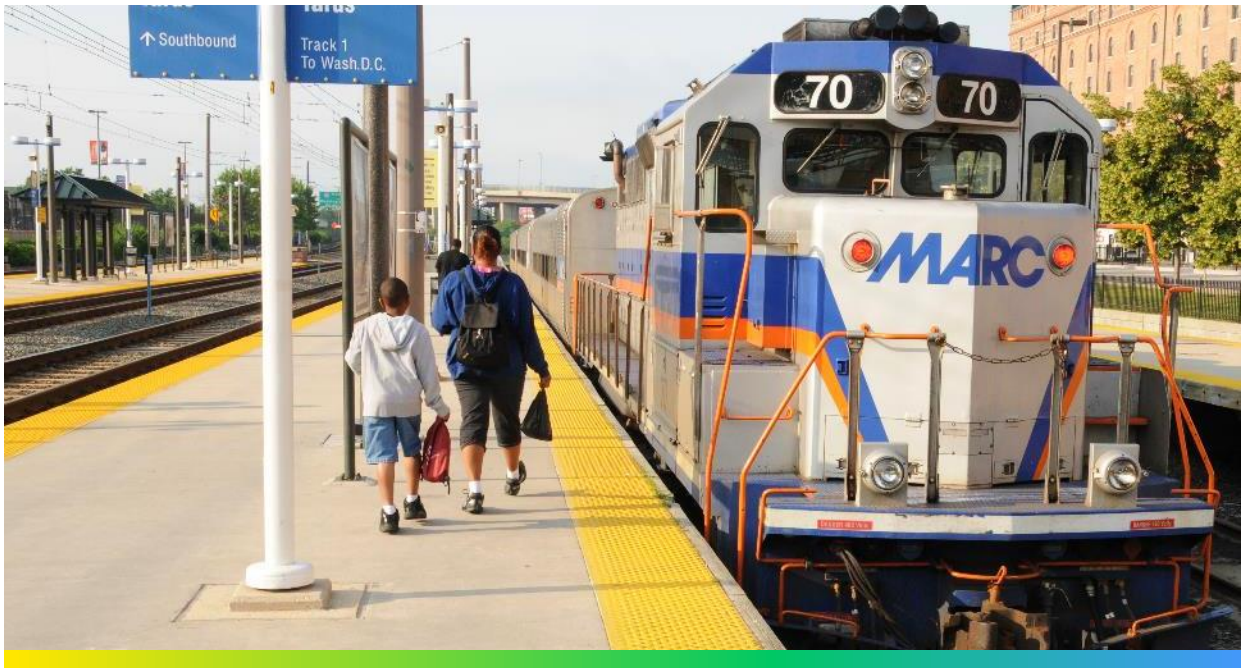
Public transit systems provide a wide range of positive externalities to the economy. These benefits include increased housing values, economic development, and faster and safer modes of transportation with a lower carbon footprint compared to standard automotive travel.[3] While this study captures only the economic impacts of the expenditures of the MTA, it should be noted that MTA's operating and capital expenditures also support additional economic and social benefits not quantified in this study.

MTA operates one of the largest multi-modal transit systems nationwide, managing commuter buses, local buses, light rail, metro subway, paratransit services, locally operated systems and Maryland Area Regional Commuter (MARC) train service. MTA is headquartered in Baltimore City, Maryland, but it provides funding throughout the state through the Locally Operated Transit Systems (LOTS) program. The MTA also operates a police force of over 200 police officers and civilians.[4]

The MTA provides five to six million passenger trips per month on their buses.[5] These bus rides account for around two-thirds of the total MTA ridership across all transportation services. The rail systems, which include Metro SubwayLink, Light RailLink, and MARC train, provide an average of over 2 million passenger trips per month. [6]

MTA's budget consists of a 6-year capital budget and an annual operating budget.[7] The capital expenditures work to maintain service quality and expand services across Maryland, while the operating expenditures support ongoing operations such as labor, utilities, rent, and other costs.

The capital budget consists of State of Good Repair (SGR) projects, system expansion (e.g., Purple Line), and other capital spending (e.g., the capital portion of LOTS expenditures). These capital budget categories and the FY24 operations expenditures are briefly detailed below.



3. Faulk, Dagney, and Michael Hicks. "The economic effects of bus transit in small cities." Public Finance Review 38.5 (2010): 513-539 & Neuwirth, Roanne. "Economic impacts of transit on cities." Transportation Research Record 1274 (1990): 142-149.
4. Maryland Transit Administration. (n.d.). Maryland Department of Transportation - Maryland Transit Administration. https://www.mta.maryland.gov
5. Ibid
6. Ibid
7. MTA's 6-year budget is forward looking, while data provided for this study was 5-years of historical expenditures. As such, expenditure data published in this study will not match current budget projections.

State of Good Repair (SGR)

The SGR program's focus is to maintain the MTA's assets and ensure the system is safe, reliable and operates at full performance. The most recent Capital Needs Inventory (CNI) and Prioritization report highlighted the need for further investments to reduce the backlog in SGR.[8] The backlog is made up of assets such as buses, rail cars, and rail tracks that are safe to operate, but are due for replacement. A large backlog may result in increased service interruptions as more unscheduled maintenance is required. Currently 14.4% of assets are due for replacement, and current fund allocation is expected to reduce the backlog to 5.4% of assets by 2027 and 1.3% by 2031.[9]

Purple Line

The MTA is currently developing the Purple Line, a 16-mile light rail line outside of Washington D.C., spanning 21 stations scheduled to open at the end of 2027.[10] The line will run between New Carrollton in Prince George's County and Bethesda in Montgomery County. This development is estimated to take 17,000 vehicles off the road daily and save one million gallons of gasoline annually.[11] The Purple Line will provide improved rapid transit access and reduce congestion in some of the most populated counties in Maryland.

Locally Operated Transit Systems (LOTS) Capital Expenditure

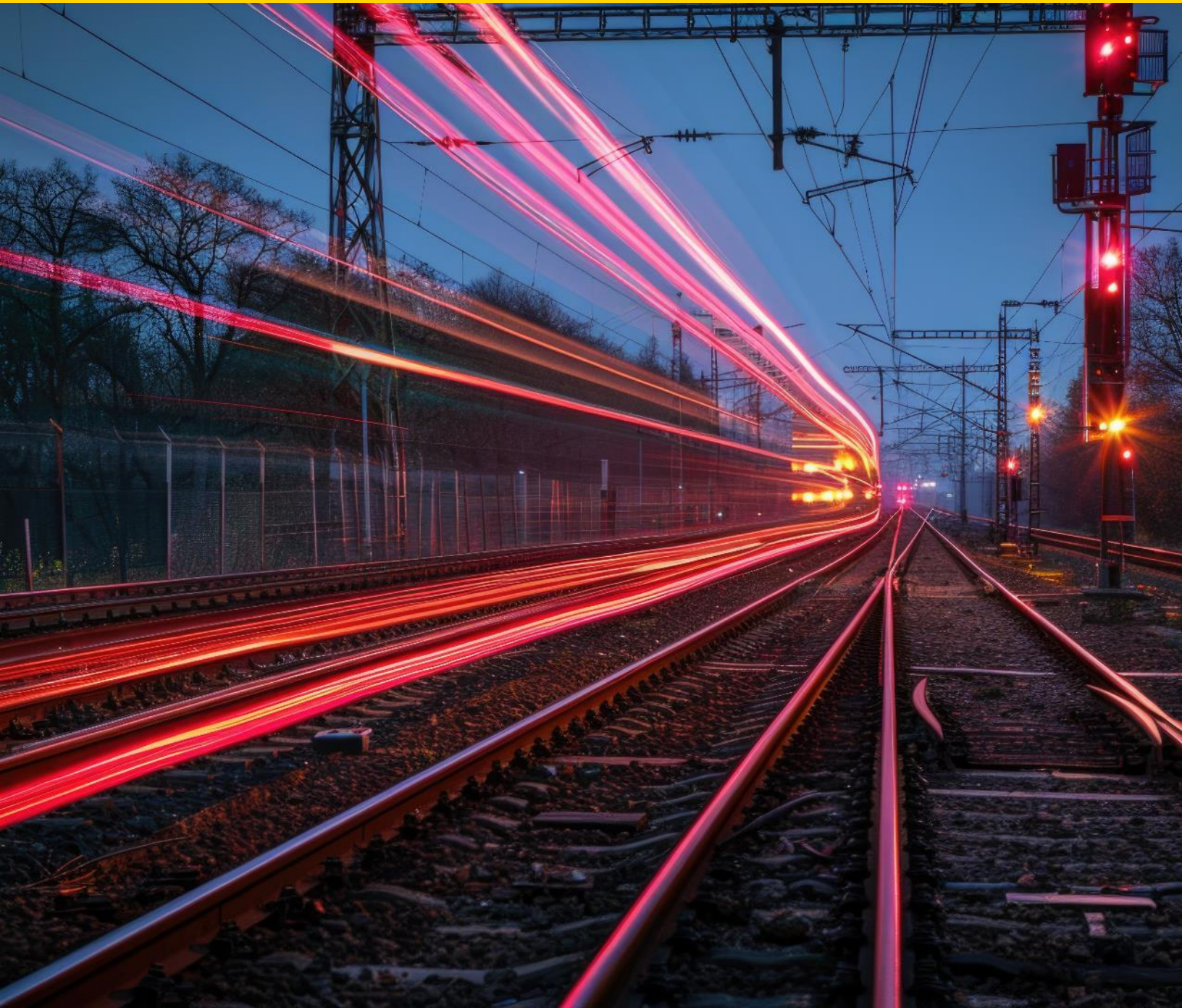
The MTA provides capital funding for locally operated transit systems (LOTS). Levels of support vary by the region's population density and size. Larger jurisdictions offer extensive fixed-route services while some smaller ones only offer demand-response paratransit services with door-to-door transportation. MTA manages several funding programs offered to both public transportation operators and specialized transportation services.[12] These grant programs offer LOTS operating, capital and technical assistance. For the purposes of this report, further references to LOTS reflects only LOTS capital funding.

Operating Budget

MTA's operating expenses consist of rail operations, bus operations, administration, and other expenditures. In FY24, MTA employed over 3,400 direct employees and nearly 2,000 contract employees. Over two-thirds of these direct employees worked as bus or rail operators, mechanics, or facility workers. Roughly 40% of MTA's operating budget is spent on the direct labor workforce, with the remaining 60% spent on either purchased services, including contract employees, or goods and services used for day-to-day operations.

8. Maryland Transit Administration. (n.d.). Maryland Department of Transportation - Maryland Transit Administration. https://www.mta.maryland.gov
9. Ibid
10. Maryland Transit Administration. (n.d.). Overview. Purple Line Maryland. https://www.purplelinemd.com
11. Ibid
12. Ibid

3 Estimated Economic Impacts



Capital Expenditures

Capital expenditures work to ensure long-term sustainability of the transit system. These expenditures include spending on vehicles, systems, facilities, stations and other durable expenses. Table 1 shows the estimated statewide economic impact related to MTA's average annual capital expenditures between FY20 through FY24. Certain projects, such as the Purple Line, are funded through public private partnerships. The economic impacts in Table 1 only consider the portion of these projects that are funded through MTA's direct expenditures, and do not consider the additional sources of funding. Based on historical industry-level data in the IMPLAN economic model and expenditure data provided by MTA, MTA's average annual spending of $490 million within Maryland supported 2,090 direct jobs – with an average of $77,000 each of labor income (wages and benefits) – totaling $160 million of direct labor income on average from FY20 to FY24. Each employee accounts for over $210,000 in direct economic output, totaling $440 million in direct output.

Indirect impacts are due to MTA's suppliers creating value add and employment supported by MTA purchases, which adds to the economy. Induced impacts are driven by MTA employees and MTA's supplier employees spending money in Maryland communities. MTA's annual average expenditures from FY20 to FY24 supported 3,530 jobs and $730 million in total economic output in Maryland. $380 million of the total economic output impact is Maryland GDP (value added), which includes $250 million of employee labor income. For every $100 million of direct MTA spending in Maryland, 720 jobs were supported through the direct, indirect, or induced economic effects.

Table 1 also shows the employment, labor, GDP and economic output multipliers, which range from 1.6 to 1.8. In the case of the labor income, this suggests that every $1.00 of labor income spent by MTA supports $1.60 in total labor income in the Maryland economy.

Table 1. Annual average statewide economic impacts related to MTA's historic capital expenditures, FY20-FY24

Dollar amount in millions; Total number of full-and part-time jobs

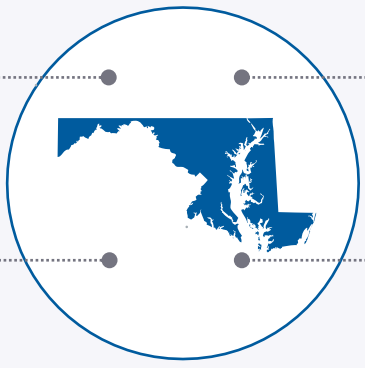
Statewide impacts	Direct impacts (a)	Indirect & induced (b)	Total (c)	Multiplier (c/a)
Average employment	2,090	1,450	3,530	1.7
Labor income	$160	$90	$250	1.6
GDP	$210	$170	$380	1.8
Economic output	$440	$290	$730	1.7

Note: Figures may not appear to sum due to rounding.
Source: EY analysis based on data provided by MTA and the IMPLAN input-output economic model of Maryland.

Maryland Statewide

$210,000
Direct economic output per worker

$77,000
Direct labor income per worker (included in direct economic output)



720
Total (direct, indirect, and induced) **jobs** per $100 million Maryland spend

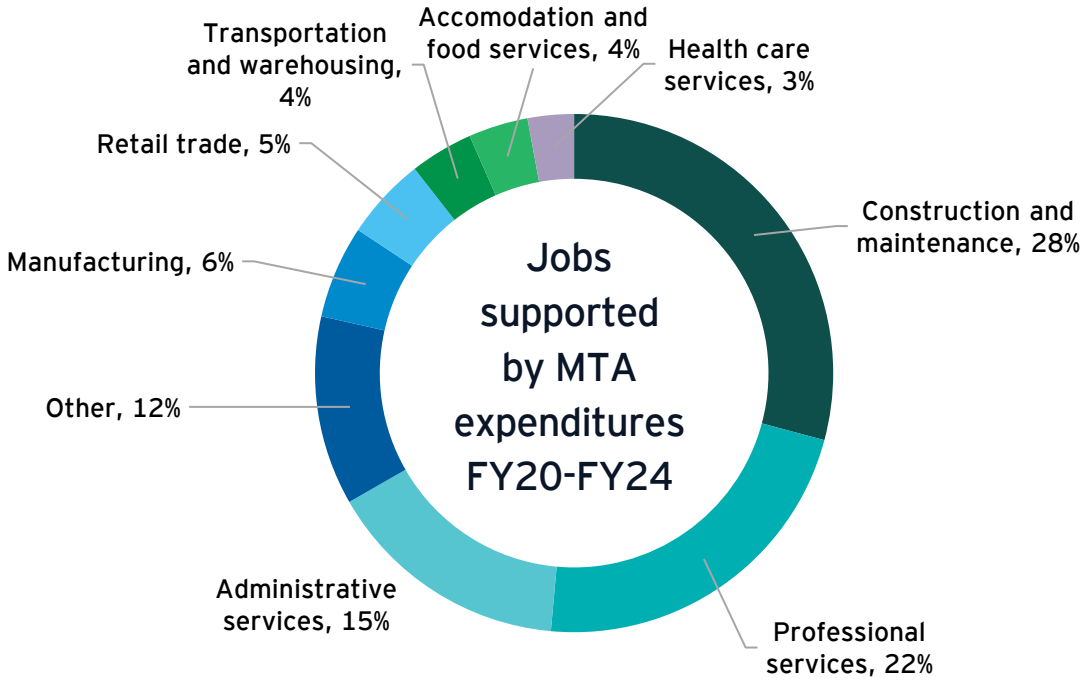
1.7x
Employment multiplier (total jobs per direct job)

Source: EY analysis based on data provided by MTA management and the IMPLAN input-output economic model of Maryland

Figure 1 shows the industry composition of jobs directly and indirectly supported by MTA's average annual capital expenditures from FY20 through FY24. The construction and maintenance industry has the greatest job impact, accounting for 28% of total jobs supported. The professional services industry has the second largest number of supported jobs, accounting for 22% of total jobs. The professional services industry includes engineers and employment services, which are temporary workers that support construction and other activities.

Administrative services, (15%), manufacturing (6%), and retail trade (5%) are also supported through MTA capital expenditures. The remaining (24%) is made up of transportation and warehousing, accommodation and food services, health care services, and various other industries. Many of these jobs are driven by the induced activity related to direct and indirect employees spending income in consumer facing industries.

Figure 1. Annual average direct, induced and indirect jobs supported by MTA capital expenditures, by industry, FY20-FY24

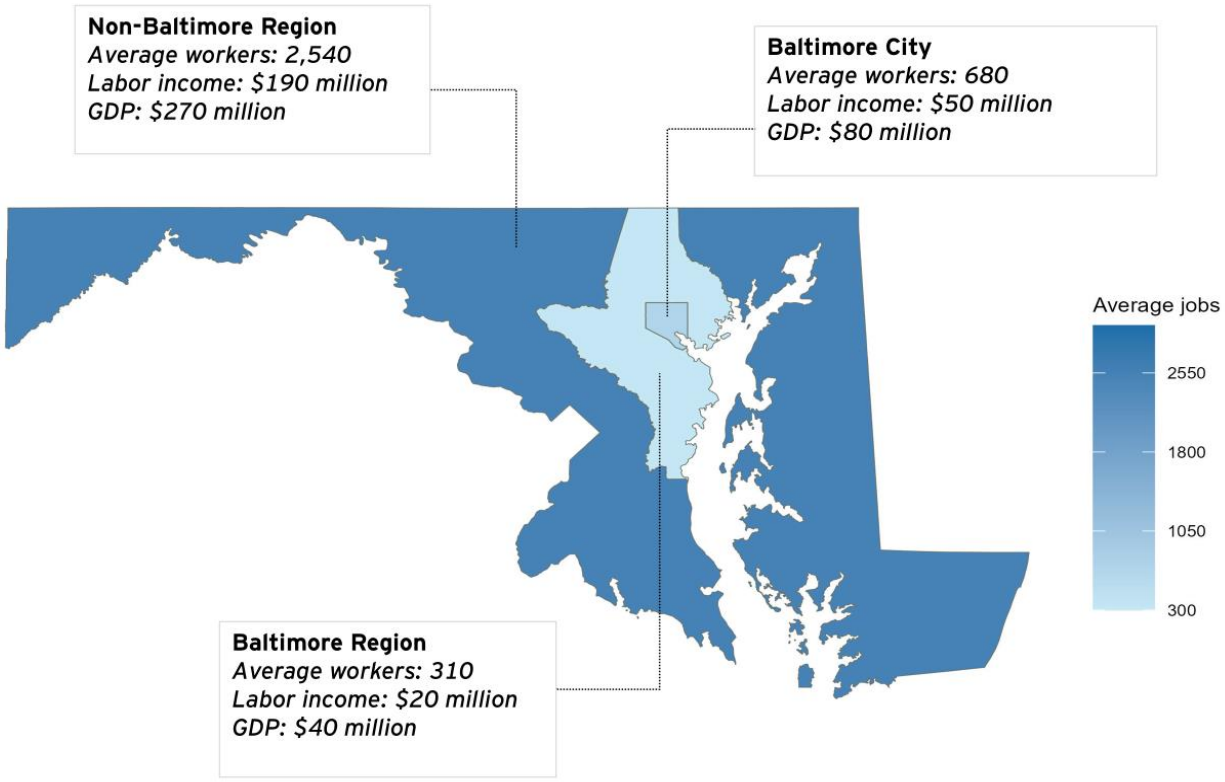


Source: EY analysis using IMPLAN 2022 model for the state of Maryland
MTA average annual capital expenditures supported direct, indirect, and induced jobs throughout Maryland reflecting vendor facility locations and supply chain network. Majority of employment impacts occur in Baltimore City, mainly reflecting construction and maintenance operations.

Figure 2. Annual average regional economic impacts related to MTA's capital expenditures, FY20-FY24

Total number of average jobs by work location

Note: Figures may not appear to sum due to rounding.



Regional Results

Table 2 shows average annual expenditures for MTA from FY20 through FY24 and the percentage of spending in each region and Maryland statewide. 73% of MTA's estimated $670 million expenditures ($490 million) was spent in Maryland, with the remaining $180 million annually being spent outside of Maryland.[13]

For SGR, 89% of Maryland expenditures occur in Baltimore City, with eight maintenance facilities located within the city. LOTS funding is paid directly to Maryland counties to support local transit operations, with 82% occurring in the Non-Baltimore Region. The Purple Line expenditures in the state primarily occur in Montgomery and Prince George's County Maryland, which are located in the Non-Baltimore Region.

Table 2. Average annual capital investment estimated to occur within Maryland, by region, FY20 – FY24

Dollar amount in millions

		Spending percentage by region		
Expenditure category	Direct spending	Baltimore City	Baltimore Region	Non-Baltimore Region
SGR	$160	89%	7%	4%
LOTS*	$20	1%	16%	82%
Purple Line	$280	0%	0%	100%
Other	$30	30%	3%	67%
Total	**$490**	**30%**	**3%**	**67%**

Notes: Figures may not appear to sum due to rounding. While labeled labor income, direct impacts only consider employee compensation but does not include proprietor income. Total average capital expenditures on purchased materials and services were estimated to be $670 million. 27% of direct expenditures are estimated to occur outside of Maryland.
Source: EY analysis based on data provided by MTA and the IMPLAN input-output economic model of Maryland

Table 3 shows the employment, labor income, GDP, and economic output associated with the MTA's average annual capital expenditures from FY20 through FY24. The table shows both MTA's direct expenditures and employment and the total economic activity supported by MTA's capital expenditures.

Baltimore City captures $150 million of total supported economic output, accounting for 21% of statewide economic output related to capital expenditures. The capital spending in Baltimore City supports approximately 680 average jobs.

The Non-Baltimore Region has the largest job impact from capital expenditures, with 2,540 average jobs, $330 million of direct economic output and $510 million of total economic output.

Table 3. Average annual regional economic impacts related to MTA's capital expenditures, FY20-FY24

Dollar amount in millions; Total number of full-and part-time jobs by location

	Average employment		Labor income		GDP		Economic output	
Region	Direct	Total	Direct	Total	Direct	Total	Direct	Total
Baltimore City	450	680	$30	$50	$40	$80	$100	$150
Baltimore Region	50	310	$0	$20	$10	$40	$10	$70
Non-Baltimore Region	1,580	2,540	$130	$190	$160	$270	$330	$510
Maryland	**2,090**	**3,530**	**$160**	**$250**	**$210**	**$380**	**$440**	**$730**
Multipliers		**1.7**		**1.6**		**1.8**		**1.7**

Note: Figures may not appear to sum due to rounding.
Source: EY analysis based on data provided by MTA and the IMPLAN input-output economic model of Maryland.

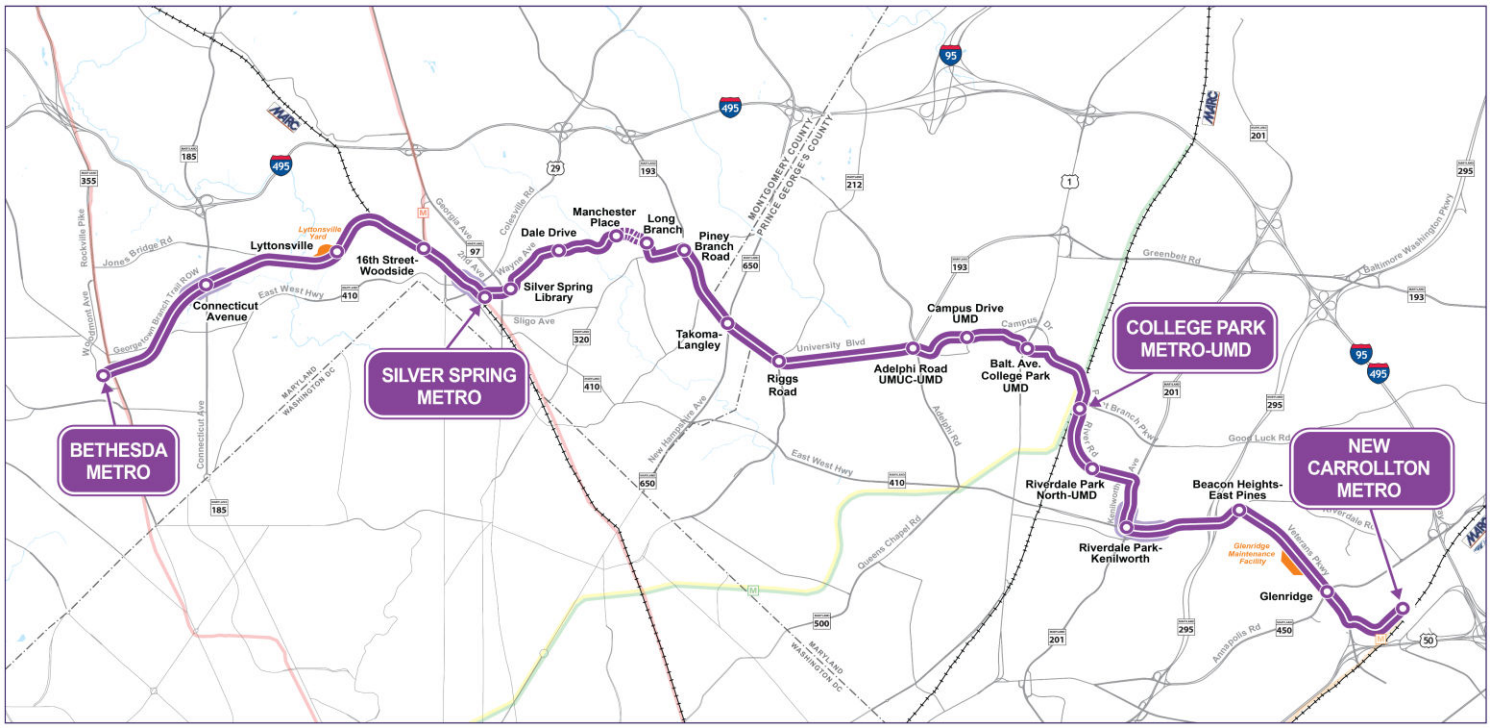
[13] The $670 million of direct spending on project related and third-party goods and services and excludes other costs such as legal settlements.

MTA Purple Line Expenditures Supported an Average of 2,260 Jobs Annually from FY20-FY24

Purple Line Capital Expenditures

The ongoing Purple Line project accounts for 50% of MTA's average capital expenditures from FY20 through FY24. The average amount spent over the period was $335 million, totaling $1.7 billion over the 5-year period.[14] The bulk of the construction and spending was in the Non-Baltimore Region where the transit line is located. MTA's total estimated spending in Maryland was $280 million annually, while $55 million was spent on goods and services outside Maryland each year on average.

Purple Line



On average, annually from FY20 – FY24, MTA's Purple Line capital expenditures supported 1,390 direct jobs where employees earned an average of $79,000. The annual average total labor income (wages and benefits) directly supported is estimated to be $110 million. Including indirect and induced economic impacts, the Purple Line expenditures supported a total of 2,260 average jobs and $450 million in total economic output in Maryland. For every $100 million of direct spending in Maryland, the Purple Line supported an annual average of 810 jobs.

[14] The Purple Line project is financed through a public private partnership mechanism. As such, MTA's Purple Line expenditures are only a portion of the total project cost, which is partially financed by other entities. Only goods and services used in the construction of the Purple Line are considered for this analysis. Spending breakdowns may not sum due to rounding.

Table 4. Annual average statewide economic impacts related to MTA-funded Purple Line capital expenditures, FY20 – FY24

Dollar amount in millions; Total number of full-and part-time jobs

	Direct impacts (a)	Indirect & induced (b)	Total (c)	Multiplier (c/a)
Average annual employment	1,390	870	2,260	1.6
Annual labor income	$110	$50	$170	1.5
Annual GDP	$140	$100	$240	1.7
Economic output	$280	$170	$450	1.6

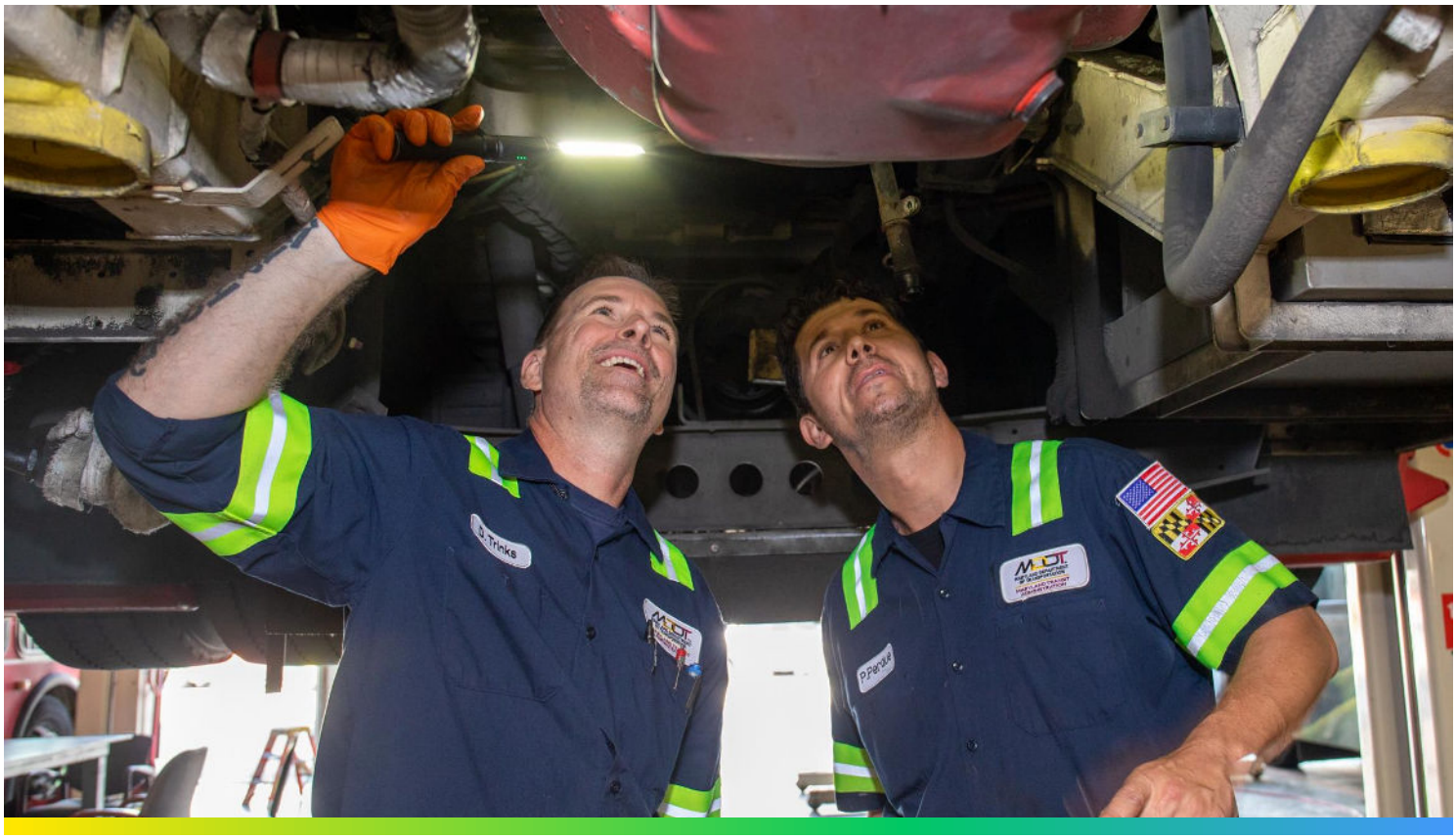
Note: Figures may not appear to sum due to rounding.
Source: EY analysis based on data provided by MTA and the IMPLAN input-output economic model of Maryland

The Purple Line is expected to be completed and begin serving the community in 2027. To complete the Purple Line project there is an additional $1.7 billion in required funding. This funding will come from MTA, federal loans, the private sector and various other sources. As shown in Table 5, the expected spending will support 3,790 average annual jobs, or 11,380 worker years over the three-year period, with an average total labor income of $74,000. Total GDP supported is estimated to be $1.2 billion supported through the completion of the Purple Line project.

Table 5. Estimated impacts of MTA and partner estimated capital expenditures to complete Purple Line, CY25 – CY27

	Direct impacts (a)	Indirect & induced (b)	Total (c)	Multiplier (c/a)
Total worker years	7,000	4,380	11,380	1.6
Average annual jobs	2,330	1,460	3,790	1.6
Total labor income	$570	$270	$840	1.5
Total GDP	$730	$500	$1,230	1.7
Economic output	$1,420	$860	$2,280	1.6

Note: Figures may not appear to sum due to rounding.
Source: EY analysis based on data provided by MTA and the IMPLAN input-output economic model of Maryland



Operating Expenditures

Operating expenditures support the daily operations of MTA's transit network and are budgeted on a fiscal year basis. As shown in Table 6, MTA's FY24 operating expenditures supported approximately 3,380 direct jobs, with each worker earning an average of $142,000. The annual direct labor income provided by MTA was $480 million and direct economic output was estimated to be nearly $1.4 billion.

Including indirect and induced impacts, MTA's operating expenditures supported a total of 6,130 jobs and over $2.0 billion in total economic output in Maryland. $1.3 billion of the total economic output is Maryland GDP (value added), including the $680 million of labor income.

Table 6. Statewide economic impacts related to MTA's FY24 operating expenditures
Dollar amount in millions; Total number of full-and part-time jobs

	Direct impacts (a)	Indirect & induced (b)	Total (c)	Multiplier (c/a)
Employment	3,380	2,750	6,130	1.8
Labor income	$480	$190	$680	1.4
GDP	$740	$520	$1,260	1.7
Economic output	$1,390	$620	$2,010	1.4

Note: Figures may not appear to sum due to rounding. Impacts rounded to the nearest $10 million or 10 employees.
Source: EY analysis based on data provided by MTA and the IMPLAN input-output economic model of Maryland

Economic Impacts of MTA's FY24 Operating Expenditures

Maryland Statewide

$411,000

Direct economic output per worker

$142,000
Direct labor income per worker (included in direct economic output)

670
Total (direct, indirect, and induced) **jobs per $100 million** Maryland spend

1.8
Employment multiplier (total jobs per direct job)

Figure 3 shows the industry composition of jobs directly and indirectly supported by MTA's FY24 operating expenditures. The transportation and warehousing industry has the greatest job impact, accounting for 79% of total jobs supported with 4,870 jobs.

All other industries are primarily driven by indirect and induced activity. The remaining industries each make up less than 5% of total employment impact individually, totaling 21% when combined together.

Figure 3. Direct, induced and indirect average jobs supported by MTA FY24 operating expenditures, by industry

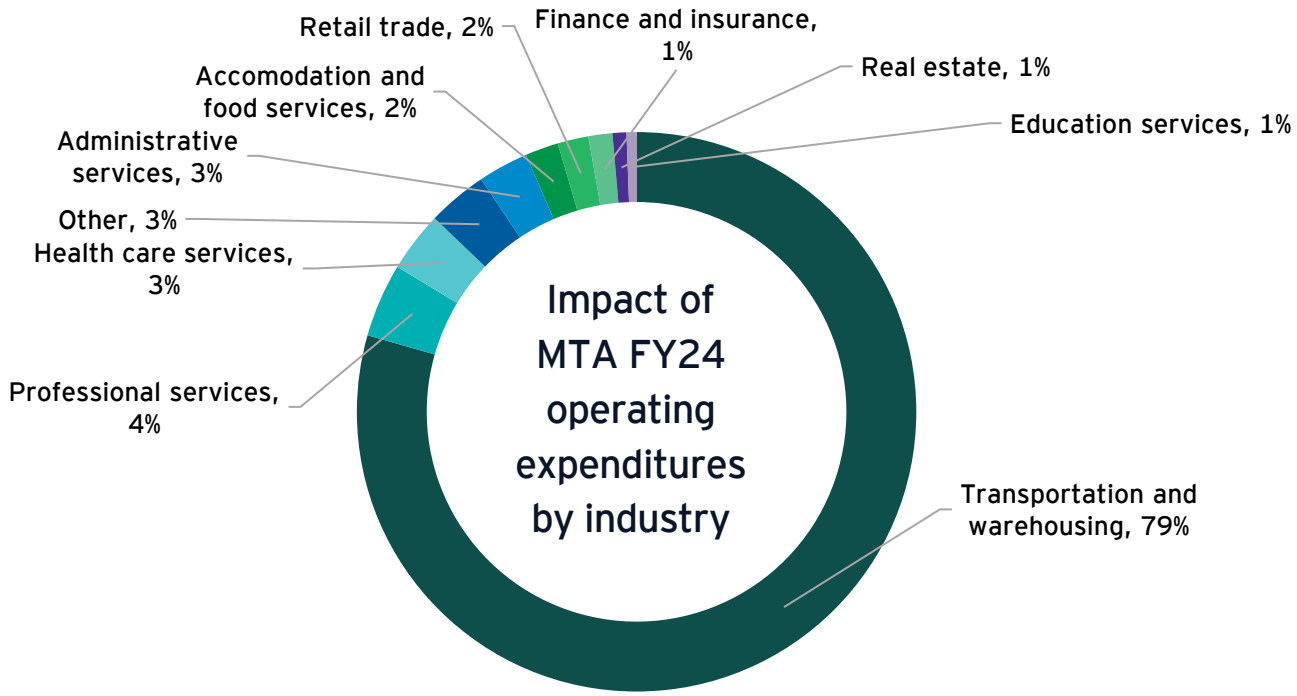


Figure 4. Total regional economic impacts related to MTA's operating expenditures, FY24

Total number of average jobs by work location

Note: Figures may not appear to sum due to rounding.

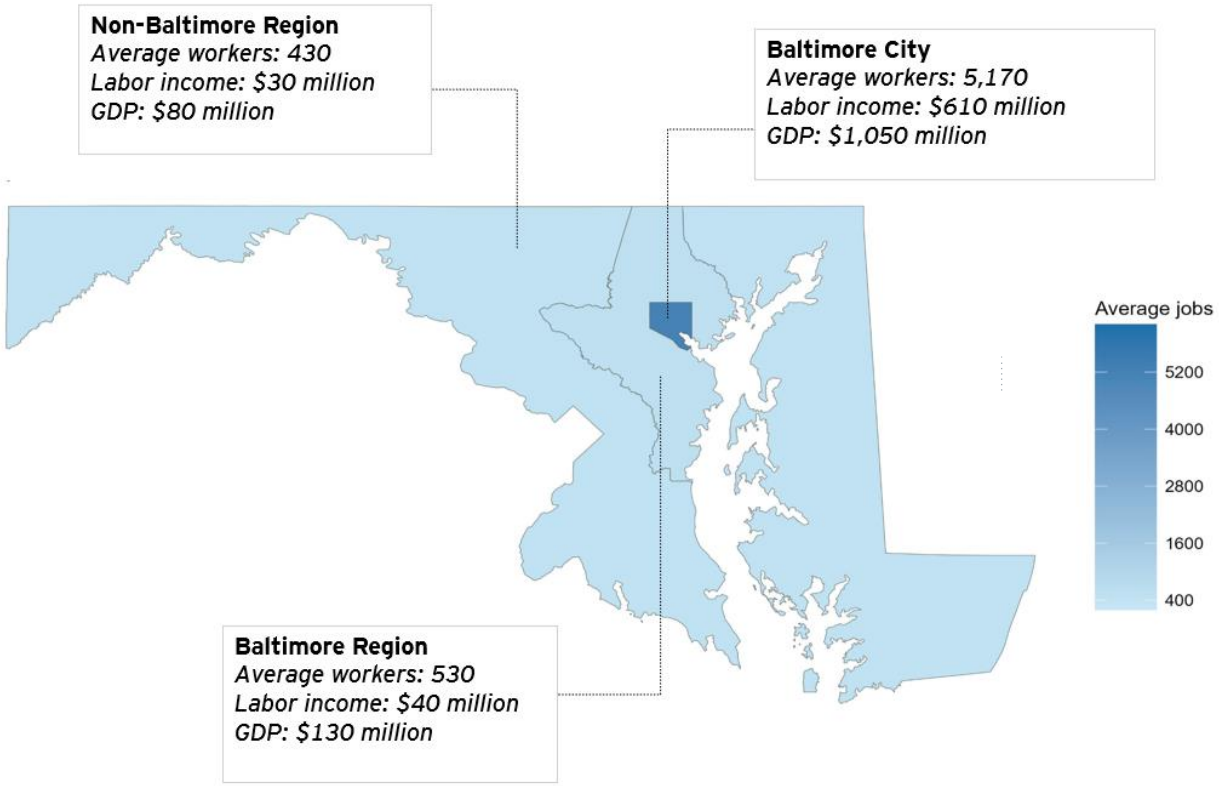


Table 7 shows the estimated impacts of MTA's FY24 operating expenditures by region in Maryland. The majority of MTA's operating expenditures are in Baltimore City, accounting for 65% of the $1.1 billion expenditures. The high concentration of spending is due to the MTA headquarters and operating employees being located in the city. Throughout the state, total expenditures are largely driven by purchased services and consumable goods at $650 million – accounting for 58% of total operating expenditures. Less than 20% of operating expenditures are estimated to be purchased outside of Maryland.

Table 7. Annual MTA FY24 operating expenditures, $ in millions

		Spending by region			
Expenditure category	Direct spending	Baltimore City	Baltimore Region	Non-Baltimore Region	Outside Maryland
Direct labor	$480	$480	--	$0	--
Purchased services and consumable goods	$650	$250	$120	$70	$220
Total operating expenditures	**$1,130**	**$730**	**$120**	**$70**	**$220**

Note: Figures may not appear to sum due to rounding. Figures that show $0 are small, non-zero impacts that are rounded to zero.
Source: EY analysis based on data provided by MTA and the IMPLAN input-output economic model of Maryland

Conclusion

Typical MTA expenditures will support an average:

9,660 jobs annually

and $1.7 billion in GDP for the state.

In an average year, the MTA supports 9,660 jobs and over $1.7 billion in GDP in the state of Maryland through its combined capital and operating expenditures. The capital expenditures work to ensure the long-term sustainability of the transit system. These expenditures fund new vehicles, systems, facilities, stations and other durable expenditures. The MTA is currently in the process of constructing the Purple Line, a 16-mile light rail line that will go through a heavily congested portion of the state. Through the project's completion in 2027, it is estimated the project will support 3,790 jobs annually and $1.2 billion in GDP for the state.

The MTA operating expenditures fund the daily operations of the transit system. This includes employing nearly 3,380 direct workers in FY24. In total, the operating budget supports 6,130 jobs, $680 million in labor income and nearly $1.3 billion in GDP. The total economic output resulting from MTA's operating budget is over $2 billion.

Economic Benefits of the Proposed Red Line

The Red Line is a proposed east-west light rail transit line designed to run across the Greater Baltimore region, connecting Bayview to Woodlawn. This report focuses on historical investment, and since the Red Line is a planned future project, it is not included in this study. However, this new light rail system would fall under the purview of the MTA. The proposed project would improve regional mobility and create access to opportunity for diverse communities, including more than 16,000 zero-car households. The Red Line would also provide access to the regional transit network – including Metro subway, light rail, CityLink bus routes, MARC and Amtrak services. Key Red Line destinations include Johns Hopkins Bayview Medical Center, Baltimore City Community College, the Baltimore Convention Center, and the Baltimore Centers for Medicare & Medicaid Services.

With a projected capital cost over $4.7 billion and over $53 million of annual operation costs, the Red Line is estimated to support over $10 billion of new economic activity associated with construction, including around $6 billion in labor income. The investment would support 12,000 to 16,000 temporary jobs related to construction and 1,400 to 1,650 permanent jobs for operations.

A sample of 45 Transit Oriented Development (TOD) projects along the Red Line corridor are estimated to support $12.4 billion in economic growth, resulting in 4,600 permanent jobs. The Red Line may support even more TOD in the corridor, leading to additional economic benefits for the surrounding communities.

The Red Line is projected to increase MTA ridership by supporting 28,500 to 35,000 daily trips on average. The projection is based on a high potential user base of residents along the Red Line Corridor, which takes into consideration population density, activity density, and transit propensity along the corridor. The proposed Red Line corridor would connect some of Baltimore's most dense job and population communities while also serving historically underrepresented and low-income households. 49% of residents along the corridor identify as Black and more than 25% of households do not have cars.

Research has shown that properties in close proximity to high-quality, rapid transit have greater value compared to otherwise similar property without rapid transit. Other analysis shows that improved access to rapid transit provides additional time savings from road congestion and cost savings from reduced fuel usage, maintenance, and wear and tear for roads. Air pollutants are also likely to decrease with fewer cars on the roads. Better regional mobility will likely stimulate regional employment, support local revenues, and provide better access to public resources like healthcare centers and schools.

Source: Greater Washington Partnership & Greater Baltimore Committee. (2024). *The Economic Development Potential of the Red Line*. Retrieved from https://greaterwashingtonpartnership.com/wp-content/uploads/2024/11/Red-Line-Study-Report-FINAL.pdf

Appendix:
Glossary of Economic Impact Terms

Economic contribution indicators

- **Employment:** Full-time and part-time one-year employment. Employment is presented as "one-year" jobs to capture jobs that span multiple years. For example, one construction worker who works two years at the construction site would be counted as two one-year jobs in our analysis.
- **Labor income:** Salaries, wages, employer payroll taxes, and benefits related to employment, including proprietor income.
- **Value added:** Labor income plus indirect business taxes, consumption of fixed capital (depreciation), and mixed income. Mixed income includes income earned from interest, dividends, and corporate profits.
- **Gross economic output:** Sum of value-added and intermediate input (supplier) purchases. Purchases of goods and services that are not sold for final consumption such as energy and materials are considered intermediate inputs.

Types of contributions

- **Direct contribution:** Direct contributions include MTA employees, labor income, value added, output, and local taxes generated from MTA's expenditures to construct and operate transit services in the three study regions.
- **Indirect contribution:** The indirect economic contributions are the employees, labor income, value added, output, and local taxes attributable to purchases from local suppliers, including contract labor. The indirect contributions capture the additional input purchases from local suppliers by businesses supplying MTA, thereby creating subsequent rounds of indirect effects.
- **Induced contribution:** The induced contributions include the employment, labor income, value added, economic output, and local taxes supported through the spending by MTA employees and supplier employees at regional businesses including grocery stores, restaurants, and service providers.
- **Multipliers:** Multipliers are the total contribution divided by the direct contribution for any given indicator. In other words, a 1.5 multiplier in economic output means that every $1 of direct output supports $1.50 in total output.

Appendix:

Technical Details on Study Methodology and Limitations

The reader should be aware of the following model limitations and assumptions when interpreting the results:

- The impacts presented in this study are based on the work location. The jobs supported could be filled by residents or non-residents.
- The indirect and induced economic contributions are estimated using IMPLAN 2022, a static input-output economic model reflecting historical purchasing relationships which may not hold true for future years. In some cases where the closest related IMPLAN model was not reflecting the reality of MTA's specific situation, that model was adjusted to better reflect the relationships between the economic impact measures.
- The economic impacts presented in this report quantify the economic activity supported by MTA's investments and purchases. In some cases, the indirect and induced jobs are not net new to the state but are temporarily supported by MTA's expenditures. This is especially true for construction jobs where each construction investment temporarily supports jobs until the construction period is complete.
- This analysis does not quantify any possible positive or negative externalities from the MTA 2025-2029 Capital Plan that may be quantified as part of a benefit-cost analysis.

Data sources and modeling approach

Capital expenditures

- The estimated average direct capital expenditures by spending category (e.g. Purple Line, LOTs, SGR, etc.) over the previous 5 years (2020 – 2024) was provided by MTA. They also provided the distribution of spending by region for each spending category, along with the estimated distribution of spending by IMPLAN industry for each of those spending category-based MTA data and analysis. The spending categories are each multiplied by the distribution by region and by industry to estimate the category spending by industry and region, a necessary input for the IMPLAN model.

Operating expenditures

- Actual FY24 operating expenditures was provided by the MTA. To map the spending to relevant IMPLAN codes and locations where the spending occurred, MTA provided data on spending by vendor. All line items related to government entities, mainly transfers, were excluded from the analysis. Vendors based outside the region were researched to determine if they had economic activity occurring within Maryland, and if so, a portion of the total spending was apportioned to Maryland. The top 21 vendors with activity in Maryland were assigned to the most relevant IMPLAN industry, and their spending was apportioned by region based on where the work occurred. Those distributions by region and industry were then extrapolated to the full MTA spending and uses as inputs for the IMPLAN model.

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