

# Introduction and key findings

This study examines the potential economic impacts of the Metropolitan Transportation Authority's (MTA) proposed 2025–2029 Capital Plan (Capital Plan) on New York State (NYS) and its regions.

The Capital Plan's proposed direct expenditure of \$68.4 billion will generate an estimated \$106.0 billion of statewide economic output over five years, supporting an average of 72,700 jobs during that period.

The scope of our analysis includes estimating potential impacts on employment, income, gross domestic product (GDP), and economic output supported through the following economic effects:

Direct impacts of MTA labor and capital spending (capitalized labor) and MTA purchases from New York vendors

**Direct impacts** 

Indirect impacts through the MTA and vendor supply chain

Indirect impacts

Induced impacts through household spending derived from direct and indirect employee labor income

**Induced impacts** 

#### Total impact

These impacts are reported in terms of four metrics: employment, labor income, GDP and economic output. This report summarizes the analysis approach and estimated results aligned to this scope, conducted by the EY organization's Quantitative Economics and Statistics (QUEST) and Valuation, Modeling, and Economics (VME) practices.



# Economic Impacts of the MTA's 2025-2029 Capital Plan

The Partnership for New York City (PFNYC) engaged Ernst & Young Infrastructure Advisors, LLC1 (EY) to prepare an analysis of the potential economic impact of the MTA's proposed 2025-2029 Capital Plan on NYS and its regions.2

This analysis focuses on the economic impacts from construction and other spending activities of the proposed Capital Plan, and does not quantify any potential positive or negative externalities, such as those arising from changes in transit service or reliability or through the financing and funding of the program.



90% share of spend sourced or performed in NYS

\$106.0b of NYS total economic output \$61.5b of direct economic output

\$37.9b in NYS total labor income

\$21.3b in direct labor income

\$57.7b in total NYS GDP (value added) \$29.6b in direct GDP



363,700

worker years (direct, indirect and induced jobs lasting one year each)

178,900

direct worker years

\$119,300

Direct labor income per NYS worker

72,700

Average number of total NYS jobs 35,800

Average number of direct NYS jobs

2.0x

**Employment multiplier** (total jobs per direct NYS job)

5,900

Total NYS worker years (direct, indirect and induced) per \$1 billion direct NYS spend



The MTA's Capital Plan will generate economic value for all 10 regions of the state outside of and including New York City (NYC)

\$14.5b

of value added for NYS regions outside of NYC

More than 1 in 4 NYS jobs to occur outside NYC

Source: EY analysis based on data provided by the MTA and the IMPLAN input-output economic model of New York.

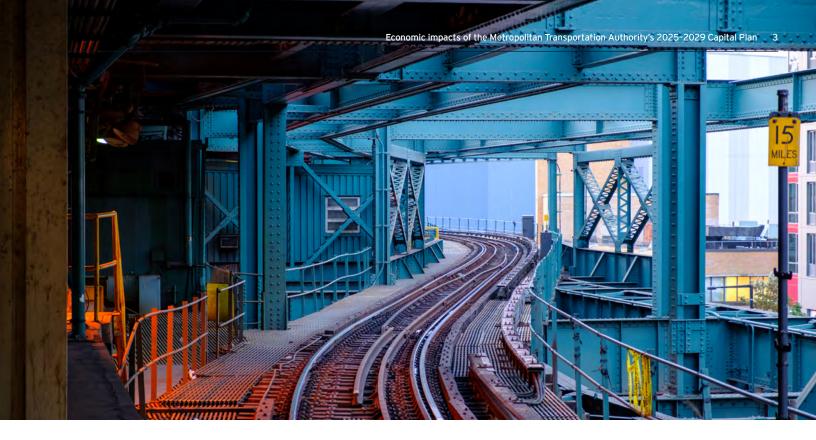
<sup>&</sup>lt;sup>1</sup> Ernst & Young Infrastructure Advisors, LLC is a member firm of the EY global organization.

<sup>&</sup>lt;sup>2</sup> This report summarizes the analysis approach and estimated results aligned to this scope, conducted by QUEST and VME practices.

# 2025-2029 Capital Plan overview

The MTA carries over 5.5 million passengers every weekday across its network of subways, buses and commuter rails.<sup>3</sup> This infrastructure supports the economy of New York by allowing efficient movement across the region. The MTA's 2025-2029 Capital Plan builds on previous investments by continuing to modernize and expand the transit system.





To determine the Capital Plan, the MTA periodically prepares a 20-Year Needs Assessment, a system-wide inventory and condition evaluation to help prioritize capital investment, and reviews changes in regional travel patterns, demographics and economic trends. The latest 20-Year Needs Assessment (2025-2044) identified aging infrastructure as a major threat and underscored the necessity for investment to address climate change and the evolving needs of riders. The Capital Plan targets several key areas of improvement to keep the MTA's infrastructure reliable, accessible and sustainable. The Capital Plan aims to benefit the region through improved transit performance, enhanced safety and accessibility, and a commitment to climate initiatives.

# The 2025-2029 Capital Plan focuses on enhancing service reliability and safety by investing in infrastructure and rolling stock.

The Capital Plan's investments in rehabilitating core infrastructure and modernizing its rolling stock and capital assets are intended to improve overall transit experience for riders by reducing delays and increasing service reliability. Key initiatives include:<sup>4</sup>

- Purchase 2,000 new railcars and more than 2,000 new buses
- Install over 75 miles of modern signals on subway and commuter rail lines
- Rebuild or repair over 80 substations and key infrastructure elements, including facilities, bridges and tunnels

# The MTA's 2025-2029 Capital Plan aims to enhance safety, comfort and accessibility by investing in technology and infrastructure.

Key areas of investment include:5

- Make 60+ subway and rail stations accessible
- Repair or rehabilitate 150+ subway and 25+ railroad stations
- Expand camera infrastructure in stations, train cars and buses and install modern fare gates in 150+ subway stations

The MTA's 2025-2029 Capital Plan aims to reduce MTA's carbon footprint and enhance the resilience of New York's transit system against the impacts of climate change.

Key areas of investments include:6

- Purchase 500 zero-emission buses and install charging infrastructure at bus depots, with special emphasis on communities with high air pollution and asthma rates
- Install new infrastructure to improve stormwater flood protection at stations and yards as well as protecting 20 miles of the Hudson Line from sea-level rise and stormwater runoff
- Upgrade ventilation systems in subway stations and tunnels to improve air circulation and reduce heat buildup

 $<sup>^{\</sup>scriptscriptstyle 3}$  2025-2029 Capital Plan. PDF file. https://new.mta.info/document/151266

<sup>&</sup>lt;sup>4</sup> Ibid.

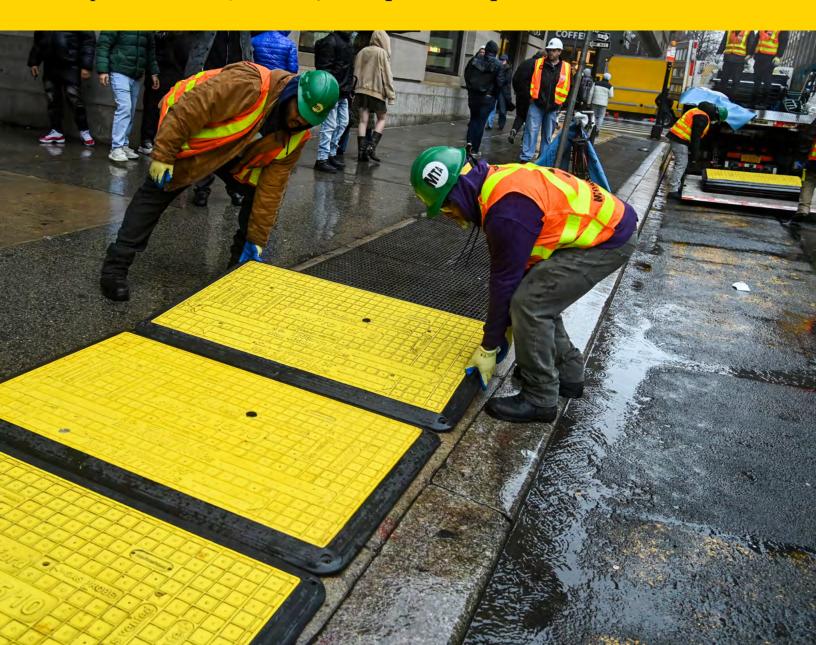
<sup>&</sup>lt;sup>5</sup> Ibid.

<sup>&</sup>lt;sup>6</sup> Ibid.

# 3 Estimated economic impacts

The Capital Plan will result in on-site construction and engineering services, as well as purchases of New York-manufactured equipment. This activity will support jobs, incomes and business sales throughout NYS.

Based on analysis of the types of past spending, historic vendor locations, and vendor survey results, the estimated overall in-state spending associated with the Capital Plan is \$61.5 billion – **90% of planned expenditures**.



### Statewide results

Table 1 shows the estimated statewide economic impacts of the 2025-2029 Capital Plan over the five-year investment period. Over five years, the Capital Plan will require 178,900 direct worker years, which is equivalent to 35,800 NYS jobs directly supported for the duration of the 5-year period. These employees will earn an average of \$119,300 (labor income divided by worker years) in annual total labor income (wages and benefits) – totaling \$21.3 billion of direct labor income over five years for NYS workers.

The total of 35,800 direct jobs shown in the table includes 29,100 NYS vendor jobs and 6,700 MTA jobs. Based on data provided by the MTA and historical industry-level data in the IMPLAN economic model, the analysis estimated that the MTA's \$40.8 billion of spending with NYS vendors would support an average of 29,100 direct jobs – or one direct job for every \$281,000 of spending (direct economic output per worker). Direct spending also includes an estimated \$6.8 billion of capitalized construction services and

materials for work performed by the MTA. Based on average payroll data provided by the MTA, this spending will require an average of nearly 6,700 direct jobs. This is included in the overall direct impact reported in Table  $1.\,$ 

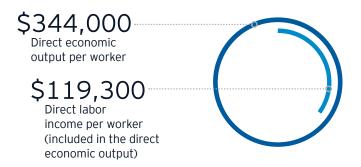
Indirect and induced economic impacts will be supported throughout NYS as MTA's vendors purchase materials and supplies to meet the MTA's demand and as employees spend their incomes at businesses in their local communities. In total, the Capital Plan will support 363,700 worker years over five years, averaging 72,700 jobs, and produce \$106.0 billion in total economic output in New York.<sup>7</sup> Of the total economic output impact, \$57.7 billion will be New York GDP (value added), including \$37.9 billion of employee labor income. For every \$1 billion of direct spending, the Capital Plan will support 5,900 New York worker years through the direct, indirect or induced economic effects.

Table 1. Statewide economic impacts related to the MTA's 2025-2029 Capital Plan

#### Billions of nominal dollars; total number of full- and part-time jobs

Statewide impacts	Direct impacts	Indirect & induced	Total, statewide
Average employment	35,800	37,000	72,700
Worker years (5-year total)	178,900	184,800	363,700
Labor income (5-year total)	\$21.3	\$16.5	\$37.9
GDP (5-year total)	\$29.6	\$28.1	\$57.7
Economic output (5-year total)	\$61.5	\$44.4	\$106.0

Note: Figures may not appear to sum due to rounding. While labeled labor income, direct impacts only consider employee compensation. Source: EY analysis based on data provided by the MTA and the IMPLAN input-output economic model of New York.



Source: EY analysis based on data provided by the MTA and the IMPLAN input-output economic model of New York.

5,900

Total worker years (direct, indirect, and induced) per \$1 billion direct NYS spend

2.0x

Employment multiplier (total jobs per direct NYS job)

<sup>7</sup> Total economic output is approximately equivalent to business sales.

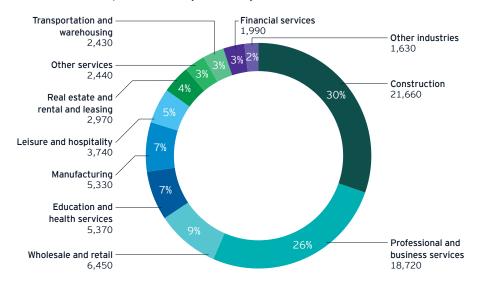
Figure 1 provides additional industry composition of jobs directly and indirectly supported through the Capital Plan.

The greatest job impacts occur in the construction industry (30% of total jobs supported), with an average of 21,660 jobs supported over the 5-year period.

The second largest number of supported jobs occurs in professional and business services (26%), which includes accounting, legal, consulting, and employment services that provide temporary workers to support construction and other industries.

Education and health services (7%) and leisure and hospitality (5%) jobs are also supported by the Capital Plan. These jobs are predominately driven through the induced activity related to direct and indirect employees spending income in these customer facing sectors.

Figure 1. Direct, induced and indirect average jobs supported by the 2025-2029 Capital Plan, by industry



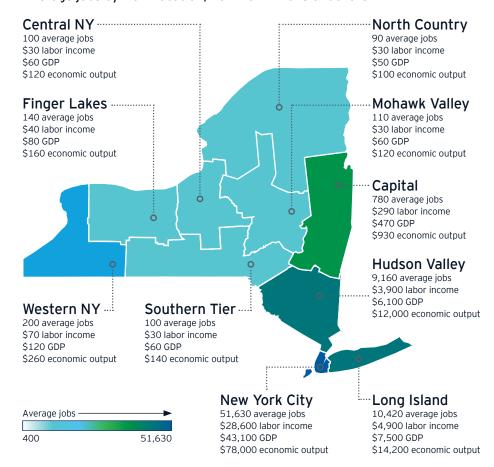
Every \$1b in railcar investment within NYS supports nearly 900 average jobs.

# Regional results

The Capital Plan will support direct, indirect and induced jobs throughout the state reflecting vendor facility locations and supply chain networks. The analysis estimated the potential economic impacts on the state's 10 labor market regions.<sup>8</sup>

The majority of the employment impacts will occur in the New York City, Long Island, and Hudson Valley regions – primarily reflecting the location of construction and maintenance services performed within the MTA operating region. Employment impacts reflect the place of work and not the residence of employees.

Average jobs by work location; nominal millions of dollars



This analysis uses the 2024 Labor Market Regions (LMRs) as defined by the New York State Department of Labor. Labor Market Regions Map | State of New York (ny.gov)

Note: Amounts in the figure on the right have been rounded to the nearest 10 jobs or \$10 million.

Figure 2. Total statewide economic impacts related to the MTA's 2025–2029 Capital Plan

The five boroughs of New York City will capture \$48.3 billion of the direct Capital Plan spend (78% of estimated instate expenditures) – supporting approximately 144,800 direct worker years and an average of 29,000 direct jobs in the city over the five-year investment period. Including indirect and induced effects supported within the region and captured as a result of direct spending in other regions, the New York City job impact will total 258,200 worker years (51,600 average jobs) from 2025 to 2029.

Long Island has the next largest total job impact, with 52,100 total worker years over five years, averaging 10,400 Long Island jobs,

as well as \$6.6 billion of direct spending and \$14.2 billion in total economic output.

The Hudson Valley region has the third-highest level of direct spending at \$6.2 billion. In total, spending in the Hudson Valley Region is estimated to support approximately 45,800 worker years (9,200 average jobs).

Significant direct impacts are also supported in the Capital Region from an estimated \$380 million of direct spending.

Table 2. Estimated economic impacts, MTA's 2025-2029 Capital Plan, by development region Total number of worker years by work location; millions of dollars

	Worker years	5-year total	Labor income	e 5-year total	GDP 5-ye	ear total	Economic 5-year	•
Region	Direct	Total	Direct	Total	Direct	Total	Direct	Total
Capital	1,500	3,900	\$130	\$290	\$170	\$470	\$380	\$930
Central New York	-	480	-	\$30	-	\$60	_	\$120
Finger Lakes	-	690	-	\$40	-	\$80	-	\$160
Hudson Valley	17,400	45,800	\$1,900	\$3,900	\$2,700	\$6,100	\$6,200	\$12,000
Long Island	15,000	52,100	\$2,300	\$4,900	\$3,000	\$7,500	\$6,600	\$14,200
Mohawk Valley	-	570	-	\$30	-	\$60	-	\$120
New York City	144,800	258,200	\$17,000	\$28,600	\$23,700	\$43,100	\$48,300	\$78,000
North Country	-	470	-	\$30	-	\$50	-	\$100
Southern Tier	-	520	-	\$30	-	\$60	-	\$140
Western NY	250	1,000	\$20	\$70	\$20	\$120	\$60	\$260
New York	178,900	363,700	\$21,300	\$37,900	\$29,600	\$57,700	\$61,500	\$106,000
Multipliers		2.0		1.8		1.9		1.7

<sup>-</sup> Denotes value equal to zero

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

Source: EY analysis based on data provided by the MTA and IMPLAN input-output economic model of New York.

### Additional impacts from new vendor facilities

As part of the vendor survey, key MTA vendors were asked whether they had established new production facilities in New York as a result of MTA contracts. Of the surveyed companies, two indicated that they opened new facilities within the state to meet MTA demand. The two vendors responded that these facilities are in Genesee County and Bronx County. The additional production capacity to serve MTA contracts for these vendors were 1% and 25%, respectively. This additional production capacity in the state of New York generates additional economic impacts – both in terms of direct jobs at these facilities and additional supply chain impacts. Based on historical spend with these vendors, the reported additional capacity could total up to \$6.3 million in New York sales, which may not have occurred in the state otherwise. In a previous survey conducted in 2019, another seven MTA vendors indicated that they had relocated or opened new facilities within the state to meet MTA demand with an average additional production capacity of 50%. The surveyed vendors represent a total of 425 current contracts in the construction, transportation and warehousing, manufacturing, utilities, and other industries. 70% of the MTA's vendors carry out over 90% of their work within NYS. This includes either producing goods and services in NYS or subcontracting to other vendors located in NYS.

29%

More than one in four jobs estimated to occur outside of New York City

# MTA agency results

Table 3 shows how this direct NYS spending translates to direct job requirements by agency, and the related indirect and induced job impacts. The values shown in this table are the total number of worker years (one-year jobs) over the five-year plan. Spending by the New York City Transit (NYCT) is estimated to require 122,300 direct worker years in NYS. NYCT accounts for over two-thirds of the total employment impact in the state and will support 246,900 total direct, indirect and induced worker years over the five-year investment period. The Long Island Railroad (LIRR) provides the next highest total employment with over 55,200 direct, indirect and induced worker years supported by the capital spending.

Table 4. Direct employment impact, by MTA agency, 2025-2029

Number of worker years and average total jobs, 5-year total

MTA agency	Direct impacts	Indirect & induced impacts	Total impacts	Average total jobs
NYCT, SIRTOA, and MTA Bus	124,200	126,800	251,100	50,200
New York City Transit (NYCT)	122,300	124,700	246,900	49,400
Staten Island Railway (SIRTOA)	910	930	1,800	370
MTA Bus	1,000	1,300	2,300	450
Long Island Rail Road (LIRR)	26,900	28,200	55,200	11,000
Metro-North Railroad (MNR)	16,500	18,600	35,100	7,000
MTA Capital Construction (MTACC)	5,900	6,000	11,900	2,400
MTA Bridges & Tunnels (B&T)	3,500	3,100	6,600	1,300
Administration	1,900	1,900	3,800	770
Total	178,900	184,800	363,700	72,700

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

Source: EY analysis based on information provided by the MTA and the county-level IMPLAN input-output economic models of New York.

## Comparing the current and 2019 study

The results that we observe for the 2025-2029 Capital Plan mirror the results of the 2020-2024 Capital Plan analysis, with an increase in the volume in spending but generally consistent supplier locations and composition of the MTA spending.

It should be noted that there are small differences in aggregate gross output, value-added and employment multipliers. A portion of the difference can be explained by a one-percentage-point increase in the share of activity estimated to take place in the NYS in this version of the study compared to the prior study. This share is estimated using a survey of the MTA's vendors, which has a margin of error. As such, there is functionally no difference between the 89% NYS share of the prior study and the 90% share in the

current study (both values are within the margin of error), though the estimated share in this year's study results in a slightly larger multiplier.

Additionally, the underlying data used in deriving the multipliers is from the Bureau of Economic Analysis's input/output table (I/O), which is updated every five years. A portion of the difference in the multiplier relates to this data, which describes the production functions of each industry and the transactions between industries.

Lastly, the differences in the prior and current versions of the Capital Plan's composition of spending (e.g., construction vs. equipment spending) and the locations in which the activities occur (regions of the state) influence the economic multipliers.

# Appendix:

# Technical description of data and limitations

### Technical details on study methodology

The estimated economic impacts presented in this study are based on information regarding MTA's investments and operations provided by the MTA or estimated by EY. The state and regional economic contributions related to this activity were estimated using the county-level IMPLAN I-O economic models, which describe relationships between businesses, households, and governments within each region and throughout the state of New York. This model follows financial flows as purchases of local goods by companies and employees support sales, jobs and labor income. IMPLAN is used by the public sector as well as private-sector businesses and other researchers and is based on widely accepted methodology for estimating these types of economic linkages.

The magnitude of each economic effect is described in terms of an economic multiplier. The multipliers in the IMPLAN model are based on the Leontief matrix, which estimates the total economic requirements for every unit of direct output in a given industry using detailed inter-industry relationships documented in the input-output model. The input-output framework connects commodity supply from one industry to commodity demand by another. The multipliers estimated using this approach capture all of the backward linkages related to an industry's production by attaching technical coefficients to expenditures. These output coefficients (dollars of demand) are then translated into dollars of GDP, labor income, and number of employees based on industry averages. A static I-O model is based on observed historical relationships, and therefore does not account for supply-side constraints, price changes, laborcapital substitution or other market dynamics.

The three types of effects estimated by the IMPLAN model – direct, indirect, and induced effects – describe the nature of the economic "ripple" effects generated by the MTA Capital Plan in the state economy.

 Direct effects include jobs at construction contractors and equipment manufacturers in the NYS as direct result of MTA expenditures (MTA suppliers and vendors, including in-house capitalized labor). For example, MTA's purchase of construction services from a NY vendor would support direct construction employment.

- Indirect (supply chain) economic effects are the result of purchases by MTA's vendors from its in-state suppliers and the subsequent rounds of supplier purchases in the state economy (NY supply chain). For example, the construction services supplier must purchase concrete to be used in the construction process from a supplier; this supplier, in turn, must purchase gravel, sand and water from suppliers to produce concrete.
- Induced (employee spending) economic contributions are related to employee household spending. Employees in the direct and indirect economic impact use a portion of their incomes to purchase goods and services from local businesses. These transactions support employment at businesses such as retailers, restaurants and service companies.

To model the economic contributions related to MTA's diverse business activities, EY assigned each capital expenditure to a specific industry within the IMPLAN economic model. By using separate industries, EY is better able to reflect the different types of supplier purchases (operating inputs) required by MTA and its contractors. Industries were assigned based on historical MTA capital spending, by project.

Indirect and induced effects are driven by (1) purchases of business inputs; (2) the percentage of each type of commodity that is purchased from within each region; and (3) household consumption profiles for employees (purchases of household inputs).

County models were aggregated into 10 economic regions. Results were estimated using a Multi-Regional Input-Output (MRIO) approach, which captures the inter-region trade flows and allows direct impacts in one region to support indirect and induced effects in another. In the subsequent rounds of indirect contribution, supplier purchases are higher for each round of contributions in the linked regional models due to the capture of purchases between and among regions. In the individual region models, once a purchase has left the region, it does not create additional contributions. For example, by using the MRIO approach, the model captures purchases by a company in New York City from a company in Long Island (first round indirect effects), and the subsequent purchases of additional business inputs by the Long Island supplier from businesses in New York City or other regions (additional rounds of indirect effects).

#### Study limitations

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

- The potential economic impacts presented in this study (including employment and labor income) reflect the work location. These are jobs that will be based in a given state and could be filled by residents or non-residents.
- The indirect and induced economic contributions are estimated using a static input-output economic model reflecting historical purchasing relationships.
- Indirect economic impacts were estimated based on relationships in the IMPLAN input-output model, which describe the mix of locally supplied goods and services, by industry, based on

- historical purchasing relationships. The IMPLAN industry models were chosen to most closely resemble the mix of activities related to the planned capital expenditures, with certain adjustments described above.
- 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 analysis does not quantify any potential positive or negative externalities as a result of the MTA 2025-2029 Capital Plan that may be quantified as part of a benefit-cost analysis.



## Data sources and modeling approach

This section details the steps taken to identify and develop inputs necessary for the effective application of the IMPLAN model to the MTA's 2025-2029 Capital Plan. In some cases, assumptions were necessary regarding model inputs, and the reasoning for those assumptions is included herein.

#### Historical spending

The MTA provided the total budget allocated to each asset category for the five-year period 2025-2029 and details of MTA's historical capital spending. A key component of developing the IMPLAN inputs is identifying the share of the Capital Plan allocated to different supplier and industry sub-sectors. To inform the share of the budget allocated to different suppliers and industries, MTA provided a list of prime vendors and project-related task expenditures from the 2010-2014 and 2015-2019 capital plans as a basis for future procurement activity. Historical spending by subasset category was used as a basis to estimate the spending detail within the asset categories for 2025-2029, given that the latter is still being determined.

The historical spending was also used to estimate the share of goods and services that would potentially be sourced from within NYS, based on historical vendor spend. The analysis allocated total spending by MTA agency and broad asset category to detailed spending categories based on historical project and task-level expenditures. The analysis then used historical detail on vendor billing addresses to allocate detailed spending to the NYS regions and other states.

#### Vendor surveys

MTA identified the top vendors associated with the 2025-2029 capital plan. A vendor survey was designed to obtain additional information about the labor/capital split at these vendors, materials sourcing, as well as the use and location of subcontractors to deliver on MTA contracts.

Based on our analysis of the survey responses, adjustments to the NYS share of spending were made to account for the proportion of the contract value that would be sourced to prime or subcontractors in New York. EY calculated the overall share of the contract value that was performed by the NYS companies, looking through the prime contract (i.e., accounting for the prime vs. subcontracted value and location).

The survey was further used to validate the model's key impact multipliers as well as assumptions related to the construction sector employment and material sourcing. In general, the analysis determined that MTA's contractors with model-predicted laborcapital split and sourcing.

# Data analysis and assumptions

This section outlines the steps and guidance received from the MTA in using its data to develop the IMPLAN inputs.

- Project descriptions in historical MTA capital plans were used to assign IMPLAN 546 Classification System codes to each project in the 2025-2029 Capital Plan.
- Within each asset category, the share of expenditure incurred in a particular industry code and county was calculated based on historical data on MTA vendors. In-state and out-of-state suppliers were identified based on billing address for MTA prime contractors. The scope of this study was limited to the NYS impacts.
- The region within NYS which the economic activity occurred was identified by billing address zip code information in the vendor survey.
- Once the share of expenditure within each asset category was calculated for industry codes and regions, shares were applied to the 2025-2029 Capital Plan to estimate the industry and region shares within each Agency-Asset spending line item.
- For in-house capitalized labor spending by MTA, 100% of spending was placed in the region in which the construction project is expected to take place. As construction project locations are predetermined and can only take place onlocation, the impacts of these projects are also likely to take place in the general vicinity of the project location. As a result, while some construction contractors may be headquartered elsewhere, the impacts of the MTA spending are more accurately attributed to the project location. For this reason, 100% of MTA in-house capitalized labor spending is mapped to project location.



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