Economic Impact of Public Transportation Investment

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APTA
American Public Transportation Association

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Contents

Executive Summary

PUBLIC TRANSPORTATION SERVICES PROVIDE value to their riders, broader communities, and local economies in a variety of ways. Investment in public transportation improves mobility, and if sustained over time can affect the economy by enabling trips, including critical medical and commute trips; providing time and cost savings to public transit riders; and supporting broader societal and economic impacts including improved safety, reduced emissions, and avoided road construction costs. These impacts generated by investment in public transportation ripple throughout the economy, extending beyond the initial dollar spent.

This report evaluates how investment in public transportation delivers economic value in two specific ways:

- By affecting costs and business productivity within the economy, as measured by changes in Gross Domestic Product (GDP); and
- By delivering improvements that people value, but that do not directly affect the movement of money in a market economy. These improvements are evaluated using a "willingness-to-pay" framework that monetizes outcomes and expresses them in terms of a GDP-Equivalent.

This report summarizes (1) longer-term effects of investment in public transportation, which enables a variety of economic efficiency and productivity impacts to unfold as a consequence of changes in travel times, costs, and access; and (2) the effects of spending money on public transportation, which creates immediate jobs and income by supporting manufacturing, construction, and public transportation operation activities.

All dollar values are reported in 2023 dollars unless otherwise noted.

KEY FINDINGS

$1 Billion in transit investment:

- Generates **$5 billion of additional GDP**
- Creates or sustains **41,400 jobs**
- Generates **$251 million in tax revenue**

Overall Findings

Increased public transportation investment can lead to significant economic growth, as a consequence of both the short-term stimulus impact of public transportation outlays and a longer-term, cumulative impact on economic productivity. The latter is enabled by increasing investment to improve our nation's transportation systems and sustaining the investment over time. While the total impact will depend on the level and distribution of investment, the magnitude of potential impact can be illustrated by considering a scenario of enhanced investment sustained over 20 years.

Under such a scenario of sustained higher investment to improve the quality and availability of public transportation (the "investment" scenario), there would be a significant increase in public transportation ridership, supporting additional growth of the national economy. The impact by the end of the 20-year period would represent a ratio of approximately **$5 billion** of additional GDP/GDP equivalent per $1 billion invested annually. This includes **$3.6 billion** due to long-term performance improvements and **$1.4 billion** supported by the pattern of public transportation investment spending. At current wage rates, this is equivalent to a ratio of approximately **41,400** jobs per $1 billion invested in public transportation. This information is summarized in Table 1.

TABLE 1. Potential Long-term Economic Impact per $1 Billion of Enhanced National Investment in Public Transportation (Annual Effect in 2045)*

Category of Impact	Economic Value (GDP/ GDP Equivalent)	Wage Equivalent	Job Equivalent
Long-Term Performance Effect	$3.6 billion	$2.1 billion	28,000
Investment Spending Effect	$1.4 billion	$1.0 billion	13,400
Total Economic Impact	$5.0 billion	$3.1 billion	41,400

*Difference in impact between the base case "baseline" scenario and "investment" scenario, expressed as a ratio of $1 billion of added annual investment in public transportation. See full text for interpretation of wage and job equivalents.

Conclusion

This analysis resulted in the following key findings:

- A program of enhanced transit investment sustained over 20 years can have a total effect on the economy and society of approximately **5 times** the amount being spent annually. This is the equivalent of the value of **41,400 jobs** per $1 billion spent (at current wages).
- **$3.6 billion** of value is realized through long-term performance benefits, including improved mobility, reduced congestion, vehicle cost savings, safety and environmental improvements, and expanded access to jobs and healthcare.
- **$1.4 billion** of value comes from the direct spending impacts of transit investment, such as manufacturing vehicles and equipment, constructing facilities, and supporting transit operations and maintenance activities. Each $1 billion in direct spending impacts of transit investment also yields approximately **$1 billion** in worker income, supports approximately **13,400 jobs** (at current wages), and generates **$251 million** in Federal, State, and local tax revenues.

Investment in public transportation is both an economic catalyst and a community asset, strengthening national productivity and resilience. Sustained Federal, State, and local commitment to public transit is a key strategy for broad-based economic growth and social well-being.

If Congress invests in public transportation at the level included in the *American Public Transportation Association (APTA) 2026 Surface Transportation Authorization Recommendations*, it will result in an additional $139.6 billion in annual impacts on the economy, compared to baseline investment levels.

Introduction

TRANSPORTATION INVESTMENT AFFECTS THE economy through two fundamental mechanisms: (1) *costs and productivity impacts*—the public transportation services that are enabled by that investment provide enhanced mobility, time, and cost savings; leading to broader economic growth that occurs as a result of changes in disposable household income, business productivity, and market access; and (2) *impacts of spending*—the act of investing money in public transportation facilities and operations supports jobs and income for that industry, as well as jobs and income in supplier industries and other affected elements of the economy. In addition to effects that are reflected in flows of money in the economy, transportation also delivers improvements in long-term performance that can be monetized using research into people's "willingness to pay", as revealed through the choices people make. U.S. Department of Transportation (DOT) guidance and other research provide monetization factors for these outcomes, allowing for a more complete picture of economic value.

This report describes how investment in public transportation in the United States generates economic value. It estimates the value of investing in public transportation at the level included in the *APTA 2026 Surface Transportation Authorization Recommendations* as compared to a baseline level of investment. This report is an update to previous APTA studies on this topic. In 1984, APTA conducted a landmark study of the employment and business revenue impacts of investment in public transportation. That study was updated and expanded in 1999. A 2009 study of the same issue utilized new research, which was also leveraged in 2014 to update the study. A 2020 study continued this progression. This study builds on this body of work, taking into account the current context.

Public Transportation Investment Scenario

The analysis considers a scenario of public transportation investment based on the *APTA 2026 Surface Transportation Authorization Recommendations*. APTA recommends $23.3 billion in Federal funding allocated to public transportation annually.[1] The analysis compares this scenario to a baseline assumption that Federal funding excludes the Advance Appropriation portion of current funding, such that Federal investment is $16.4 billion per year. The difference in funding levels impacts the degree to which public transportation can support ridership growth and improvements in state of good repair of public transportation systems to enable more efficient service. To account for the long-term impacts of sustained growth, this report presents a snapshot of benefits and impacts in the year 2045.

Differences in ridership growth and state of good repair between the two scenarios are derived from analysis presented in the most recent Conditions and Performance Report published by DOT.[2] The report analyzes two types of public transit spending: expansion and preservation. It provides estimates of expected ridership capacity and state of good repair under several investment scenarios.

CONTEXT

Scenario development for this study and in the 25th edition of the Conditions and Performance Report considers the recent context for public transportation ridership. In 2020, the COVID pandemic dramatically reduced travel overall, and public transportation ridership

1 *APTA 2026 Surface Transportation Authorization Recommendations* converted to 2023 dollars. This report uses 2023 dollars throughout.

2 U.S. Department of Transportation, Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance, 25th Edition. Report to Congress (2024), at https://www.fhwa.dot.gov/policy/25cpr/pdf/CP25_Full_Report.pdf.

in particular. At the low point in April 2020, national ridership was approximately 19 percent of pre-pandemic levels.[3] Since the low point, ridership has increased steadily, supported by continued investment in public transportation. As of October 2025, national transit ridership was approximately 84 percent of pre-pandemic levels.

The Conditions and Performance Report also highlights the considerable preservation needs of the public transit system in the U.S. If preservation spending levels are not augmented, the average condition rating of public transit infrastructure is predicted to decline, according to the report. The most recent Conditions and Performance Report estimated the State of Good Repair backlog for public transportation as $123 billion, which requires approximately $24.7 billion in annual reinvestment to fully eliminate by 2038.[4]

ASSUMPTIONS ABOUT STATE AND LOCAL SPENDING

Public transportation in the United States is funded by a combination of Federal, State, and local sources. Historically, Federal funding has represented about 18 percent of all national spending on public transportation.[5] In many cases, Federal funding requires a local match. As such, national spending has largely followed Federal funding trends. A majority (about 66 percent) of Federal funding is for capital expenses, while State, local, and other sources are used primarily for operations.[6] Continuing patterns of pre-pandemic investment, this study assumes that for each scenario, national public transportation capital spending is 2.5 times Federal capital spending, while national public transportation operations spending is 11.7 times Federal operations spending. These ratios are based on historical funding levels for the years 2007 to 2019.

BASELINE SCENARIO

This scenario assumes that the Advance Appropriation enacted in the Infrastructure Investment and Jobs Act will not continue, such that Federal investment is **$16.4 billion annually**. Based on this level of funding, this scenario assumes that total national spending on public transportation is $93.9 billion per year, of which $26.5 billion is for capital expenses and $67.3 billion is for operations. At these funding levels, we assume ridership remains constant at 2025 levels (approximately

3 APTA and Transit, APTA Ridership Trends Dashboard. https://transitapp.com/APTA.

4 U.S. Department of Transportation, *supra* note 2. Original figures were reported in 2018 dollars and have been adjusted to 2023 dollars.

5 Federal Transit Administration, National Transit Database, average for 2007-2019. Note: Federal funding made up a significantly larger portion of transit funding in 2020-2022 due to COVID support.

6 *Id.*

8.1 billion unlinked trips, annually).[7] Further, the study assumes that this funding level maintains the current state of good repair. That is, the average condition of transit vehicles and other assets neither improves nor declines.

These assumptions are supported by the Conditions and Performance Report, based on levels of expansion and preservation funding. This scenario assumes that $7.4 billion is spent on expansion and $19.1 billion on preservation.[8] This level of expansion funding is less than in any of the scenarios in the Conditions and Performance Report, of which only the "Expansion with Growth" scenario projects an increase in ridership. The "Expansion with Growth" scenario assumes $10.3 billion in expansion spending. The level of preservation spending in this report's Baseline is between the "Sustain 2014-2018" scenario ($16.3 billion) and the "SGR Benchmark" scenario ($24.6 billion) from the Conditions and Performance Report. The "Sustain 2014-2018" scenario predicts a decline in the state of good repair, while the "SGR Benchmark" shows the state of good repair improving.

INVESTMENT SCENARIO

This scenario reflects the level of Federal funding that APTA recommends to Congress in 2027 (**$23.3 billion annually**). This includes an increase to Federal public transit funding enacted in the Infrastructure Investment and Jobs Act and assumes this level of funding continues over the analysis period. Since the use of Federal funds often requires local matches, this level of funding corresponds with increased annual spending on public transportation from State and local sources at $27.9 billion above the baseline scenario. In total, these funding sources yield $121.7 billion in annual national funding. This investment includes $41.2 billion in capital spending, of which $12.8 billion is for expansion and $28.4 is for preservation. This level of funding is expected to support both modest ridership growth and improvements in the state of good repair.

Extrapolating from the relationship between expansion spending and new transit passenger seating capacity in the Conditions and

7 APTA, Public Transportation Ridership Report Fourth Quarter 2024. Inflated based on 2025 Q1 growth.

8 Based on scenario capital spending and the percent of capital spending for expansion, preservation in 2023 National Transit Database.

Performance Report, this level of expansion spending is expected to correspond to a seating capacity increase of 1.97 percent annually. Assuming ridership increases accordingly, this results in 11.6 billion unlinked trips in the year 2045.

Similarly, based on the relationship between scenario preservation funding and average physical condition of assets, this level of preservation funding is expected to result in an improvement in asset condition and a corresponding reduction in average vehicle age. Specific assumptions about vehicle age are described in the section on State of Good Repair Impacts.

Transportation Performance Impacts on the Economy

WHILE THE EFFECTS OF PUBLIC transportation investment spending can be of significant interest, longer-term travel benefits are a fundamental justification for public transportation investment that can ultimately lead to greater and more lasting impacts on an area's economy.

This chapter contains estimates of performance impacts of public transit and describes the methodology and assumptions applied to estimate these benefits and impacts. Table 2 shows the summary results of the performance analysis for each impact type per $1 billion of additional public transportation investment in the investment scenario. The total economic value of that additional investment is expected to consist of $99.9 billion in performance impacts (GDP/GDP-equivalent).

TABLE 2. GDP/GDP Equivalent Impact per $1 Billion of Investment in Public Transportation, 2045

Form of Impact	Ratio of GDP/GDP Equivalent per $1 billion
Traveler Benefits	
Marginal (Per Trip) Cost Savings	$0.39
Congestion Reduction Impacts	$0.04*
Car Ownership Model and Cost Savings	$1.11
Value of Enabled Trips	
Enabled Commute Trips	$0.35
Enabled Medical Trips	$0.93*
Consumer Surplus Benefits	$0.06**
Broader Community Benefits	
Safety Savings	$0.55*
Emissions Savings	$0.03**
Avoided Roadway Construction	$0.09
Accessibility Impacts	$0.01
State of Good Repair Impacts	
User Delay from Vehicle Failures	$0.001**
Maintenance Cost Reduction	$0.03
Total Performance Impacts Ratio	**$3.59**

Source: EBP Analysis.

* Benefit ratios that are measured in part as GDP Equivalent. Part of this benefit is measured as having direct GDP impact.

** Benefit ratios that are fully measured as GDP Equivalent.

Public Transportation Use and Mode Choice

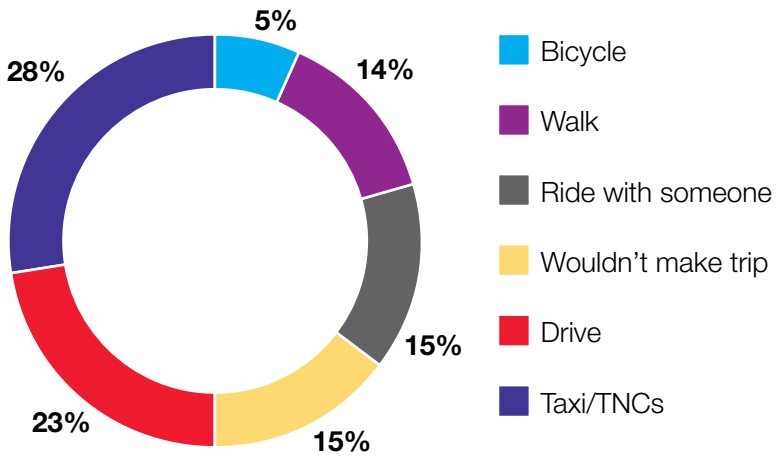
Estimating the impacts of increased public transit ridership on the economy requires understanding of mode switching behavior associated with the ridership gain. That is, in the investment scenario, public transit is more available and more convenient, resulting in higher transit ridership estimates. In the baseline scenario, where these transit improvements are not present, these additional transit trips would have to be made using other modes or may not be made at all. To calculate the benefits and potential cost savings of the additional transit trips in the investment scenario, a mode shift profile is developed which answers the question: which modes would public transit users have used, if public transit were not available?

Mode switching profiles are generally compiled from survey research data. The survey research reported here asks current public transportation passengers what they would do if public transportation were not available. This is not quite the same question as who would come to public transportation services if they were to be expanded. However, it is reasonable to assume that the switching decisions would be fairly similar in both directions.

APTA collected survey research data from public transit agencies across the United States for an upcoming edition of the *Who Rides Public Transportation* report. The analysis presented here uses survey research data from 13 public transit agencies collected between 2022 and 2024 to develop a mode shift profile. The analysis organized survey data into consistent categories and excludes the "other transit" alternative.

The mode shift profile applied is shown in Figure 1. Compared to 2008-2015 survey data used in the previous economic impact analysis, this mode shift profile shows a larger share of transit riders coming from driving and carpooling (38 percent compared to 31 percent); the taxi and TNC share has also increased to 28 percent from 19 percent. The shares of those walking or bicycling have increased, and the share of "wouldn't make the trip" has declined to 15 percent from 24 percent.

FIGURE 1. Mode Shift Profile



Source: APTA Survey Research Data and EBP Analysis.

People traveling by bus versus rail have different modes available to them in the absence of public transit. The percentages in Figure 1 reflect the overall composition of existing transit trips. For the analysis, we used distinct distributions for bus, commuter rail, and other rail (i.e., heavy rail and light rail). The most notable differences include that the drive alternative is much more prevalent for commuter rail riders (42 percent), followed by heavy and light rail (31 percent), and less prevalent for bus riders (14 percent). Walking and biking are most commonly alternatives for bus riders (26 percent, combined) and least common for commuter rail (1 percent, combined). These differences reflect variations in trip length, as commuter rail trips are longer and therefore less feasible walking or biking distances. They also reflect the fact that bus riders tend to have lower personal vehicle availability compared to people who rely on rail, particularly commuter rail.

Traveler Benefits

This section discusses benefits to travelers including both users of the transit system and "non-users", consisting of drivers who experience congestion impacts. Impacts on users and non-users include:

- **Marginal (Per Trip) Cost Savings.** New transit riders that shift from driving, taxi, and TNC modes save money by being able to rely on lower-cost public transit. This impact is estimated in the following section.
- **Time savings from congestion reduction**. Shifting travel from driving (including carpooling, taxi, and TNC) to transit reduces congestion on the road, saving all road users time. This impact is described in the section below.
- **Cost savings from reduction in vehicle ownership**. Some transit users are able to avoid owning a vehicle because of the availability of transit, as well as other supportive mobility options like TNCs and micromobility (such as bikeshare and scootershare). As a result, they save on the fixed costs of vehicle ownership, as described in more detail below.
- **Transit user travel time savings**. Investment in public transit expansion may produce time savings for public transit users. For example, service improvements may lead to reduced access and egress time, waiting time, or in-vehicle travel time. New transit riders who previously drove may avoid highly congested driving trips or the time it takes to find parking. Others may switch from slow walking trips. The extent of travel time savings depends on how public transit service is expanded. Due to the high variability in potential outcomes, these benefits and impacts are not estimated here. Investment in public transit can also generate reliability improvements for both existing and new transit users by providing better information about vehicle arrivals, improving dispatching and scheduling, and investing in infrastructure like dedicated lanes to improve service quality. The investment scenario is expected to produce reliability improvements, which may reduce the amount of planned buffer time. This analysis does not estimate reliability benefits, which may also impact the economy through improved reliability for business and commute trips.

PER TRIP COST SAVINGS

Per trip cost savings for riders who use transit in the investment scenario but would drive, ride with someone, or use a taxi or TNC in the baseline funding scenario are estimated to total **$10.9 billion** in 2045.

This analysis applies average costs by mode on a per trip basis that is shown in Table 3. Per trip costs include fares and per mile vehicle operating costs and reflect average trip lengths. All per trip costs directly affect flows of money in the economy.

TABLE 3. Average Per Trip Costs by Mode

	Cost per Trip 2045 (in 2023 dollars)
Transit	$1.45*
TNC/Taxi	$12.76
Drive	$1.56
Ride with Someone	$1.94

Sources: Costs are consistent with the APTA 2025 Public Transportation Fact Book (transit), Taxi Fare Finder (taxi and TNC), AAA Your Driving Costs 2024 report (drive), and 2023 FHWA Highway Statistics Series Table VM-1, 2025 (drive).

*Transit fare costs are weighted across all fixed route transit modes.

CONGESTION REDUCTION IMPACTS

Savings also extend to non-transit users, such as automobile and truck travelers who benefit when public transportation leads to reduced traffic congestion. These benefits occur in urban areas where traffic congestion during peak hours causes delay costs that can be reduced by diverting more commuting trips to public transportation.

Congestion increases operating costs for car and truck drivers, adds to travel time, and can have broader impacts on the economy. For example, congestion can reduce business productivity by increasing the time and reducing the reliability with which goods can be transported and reducing access to labor.

To estimate congestion reduction impacts, this analysis applies per mile cost of congestion factors from DOT's Benefit-Cost Analysis (BCA) Guidance.[9] Applying these factors to the difference in miles driven for vehicular modes (drive, taxi/TNC, ride with someone) and transit modes between the baseline and investment scenarios results in congestion reduction benefits of approximately **$1.2 billion** in 2045. Almost one-third (32 percent) of congestion benefits are associated with commuting

9 U.S. Department of Transportation, Benefit-Cost Analysis Guidance for Discretionary Grant Programs, Table A-14: External Highway Use Costs, May 2025.

and therefore affect business productivity and GDP growth, while the remainder reflect a "willingness to pay" for travel time savings.

COST SAVINGS FROM REDUCTION IN AUTOMOBILE OWNERSHIP

With significant transit system improvements, some drivers would choose to eliminate a household vehicle. Research team analysis of 2023 U.S. Census data found that metro level transit mode share was a strong predictor of metro level car ownership (defined as cars per household). This analysis evaluated transit mode share as a predictor of car ownership in 45 urban areas with population greater than 1 million people. The team then estimated the change in mode share using the base mode share in those areas, share of transit in those areas, and the change in trips between the investment and baseline scenarios. The analysis found that a 1 percent increase in transit mode share correlated with approximately 0.02 fewer cars per household, or the equivalent of two of every hundred households giving up a car.

TABLE 4. Car Ownership Fixed Costs, 2023 dollars

Car Ownership Cost	Annual Cost Per Car
Insurance	$1,667
License and Registration	$1,302
Depreciation	$4,558
Finance Charge	$1,294
Annual Fixed Cost	**$8,287**

Source: AAA Your Driving Costs 2024.

Individuals who shift from driving to transit save an estimated $13,200 per year.[10] The cost of owning and using a car includes fixed costs, such as license and registration, and variable costs, such as fuel and maintenance. Variable costs were considered in the cost per trip of driving, described under the "Per Trip Cost Savings" header above. The analysis of car ownership costs considers only the fixed costs, to avoid double counting. The fixed costs of car ownership are estimated at $8,287 per year.

Transit mode share in the 45 largest urban areas in 2045 is projected to be 2.76 percentage points higher in the investment scenario compared to the baseline scenario. Based on the relationship estimated by the research team, this is expected to correlate with a decrease in car ownership among urban households from 1.66 cars per household to 1.60 in the investment scenario. This is the equivalent of 6 fewer cars for every 100 households. This reduction results in approximately **$30.9 billion** saved in car operating costs annually in 2045 in the investment scenario.

All of these cost savings directly affect flows of money in the economy, as they represent money returned to people for use on other household

10 APTA, Policy Brief: Transit Savings Grow as Auto Costs and Gas Prices Increase, 2023. https://www.apta.com/wp-content/uploads/APTA-POLICY-BRIEF-Transit-Savings-09.27.2023.pdf.

expenditures. The lowest quintile of households by income (one fifth of all U.S. households) had household incomes of less than $33,000 in 2023.[11] For those at the lower range of incomes, this is a very substantial income benefit, providing an enormous gain in their purchasing power.

Value of Enabled Trips

Increased transit funding in the investment scenario is expected to enable transit trips. That is, with expanded transit, individuals will make trips that they otherwise would not have made. The mode shift profile estimates that approximately 15 percent of the new transit trips under the investment scenario are enabled. These trips include commute and medical trips, as well as other trip types for shopping or recreation. Using trip purpose data for transit trips from the 2022 National Household Travel Survey (NHTS), this analysis estimates that 32 percent of enabled trips in the investment scenario are for commute purposes, 11 percent for medical purposes, and 58 percent for all other trip purposes.

Benefits derived from enabled commute trips represent actual dollars earned by workers, having a direct impact on the economy. The benefits of enabled medical trips represent a mix of actual avoided transportation or medical care costs (about 14 percent of costs associated with providing medical care), as well as costs associated with quality of life, such as living with a well-managed medical condition enabled by greater access to transportation rather than poorly managed care. Consumer

$1 billion in transit investment generates $1.1 billion in auto ownership savings

11 U.S. Census, Historical Income Tables: Households, Table H-1. https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-households.html.

surplus benefits for all other enabled trips are estimated based on a willingness to pay concept, which assumes that individuals are willing to pay to make trips an amount that is commensurate with how much they value making that trip.

ENABLED COMMUTE TRIPS

Many people in the United States depend on public transit to get to work. According to 2023 US Census data, more than 5.5 million workers in the U.S. used public transportation as their primary method of commuting to work. For transit commuters whose trips are enabled by the investment scenario and who have no alternative mode of accessing jobs, the investment scenario enables them to hold a job. Per 2023 Census data, median annual earnings of transit commuters in the U.S. was nearly $46,300, while for those outside of urban areas, where alternative transportation methods are more limited, the median is $31,899. By applying the more conservative earnings to the number of enabled commute trips in the investment scenario, APTA's *Recommendations* would produce **$9.7 billion** in new wages for commuters in 2045.

Enabling workers to access and maintain employment results in benefits to society beyond wage earnings. Without access to transit, these workers would otherwise not be able to commute to their jobs, resulting in potential reliance on public assistance in order to meet basic needs that job earnings would otherwise cover. Populations that are unable to access a job due to a lack of transportation may rely on Federal programs for food assistance such as Supplemental Nutrition Assistance Program (SNAP), medical assistance such as Medicaid, housing assistance such as Section 8 housing vouchers, and assistance for variable family needs such as Temporary Assistance for Needy Families (TANF). Beyond Federal programs, there are various publicly funded State and local programs that populations that are unable to access a job due to a lack of transportation may rely on. The table below shows the total annual funding for these select Federal programs in 2023.

By assuming that all populations that are unable to access a job due to a lack of transportation are in poverty and making further adjustments by comparing the number of users per program to the total number of households

TABLE 5. Total Cost of Select Federal Public Assistance Programs, 2023

Federal Public Assistance Program	Total Annual Funding (in billions)
SNAP	$107.0
Medicaid	$909.0
Section 8	$32.4
TANF (total TANF Funding)	$33.9
Total Select Federal Public Assistance Programs	$1,082.3

Sources: USDA Food and Nutrition Service, SNAP National Level Annual Summary 2023; Health Management Associates, "Medicaid Spending in Federal FY 2024 Totals Nearly $909 Billion"; National Association of Homebuilders, "Congress Averts Partial Government Shutdown, Approves $70B for HUD"; TANF and MOE Spending and Transfers by Activity by Fiscal Year.

Note: Total funding for these Federal public assistance programs benefits recipients who are in need for any reason, not solely because of a lack of access to transportation. This is not a comprehensive list of public assistance programs. There are other Federal, State, and local public assistance programs for populations in need not included in this table.

living in poverty, annual Federal assistance spending per household where the primary wage earner is unable to work due to a lack of transportation is estimated at more than $25,000. This figure highlights how transit investment can not only empower individuals, their households, and the businesses where they work, but also avoid the need for public assistance. However, the overall summation of impacts in this report does not count public assistance spending avoided, as these costs overlap with enabled earnings.

ENABLED MEDICAL TRIPS

Research shows that ensuring access to preventive care such as vaccinations and cancer screenings as well as treatment for chronic conditions such as asthma, diabetes, and heart disease carries both health benefits for individuals, but also broader economic benefits to taxpayers. The aggregate cost of providing transportation to medical appointments is smaller than that of treating patients with poorly managed diseases in the emergency room further down the road. As an example, the cost of missing appointments to manage asthma was estimated at $2,465.59 per capita.[12]

Using this research on medical costs associated with preventive care and well-managed versus poorly managed care for chronic conditions, Godavarthy et al. (2014) estimates that the value of an enabled medical trip is approximately $480.[13] Applying this cost to the number of enabled medical trips in the investment scenario results in **$25 billion** in societal benefits in 2045.

CONSUMER SURPLUS BENEFITS

For all other trips that are not for commute or medical purposes, the value of foregoing a trip is estimated to equal half the difference between the cost of taking a taxi and the cost of taking transit. This method, based on the assumption of the average person's willingness to pay for a non-commute and non-medical trip, is known as consumer surplus. Applying the cost of a foregone trip to all other enabled transit trips results in consumer surplus benefits of **$1.7 billion** in 2045.

While this analysis uses consumer surplus methodology to calculate the benefits of enabled non-commute and non-medical trips, there are additional costs associated with suppressed trips that consumer surplus does not capture. For example, foregone trips for education purposes may affect a person's lifelong job prospects, earning potential, and quality of life. Trips associated with education, as well as trips for social purposes and shopping may also carry additional value of social

12 Wallace et al. (2006). Cost-Effectiveness of Access to Nonemergency Medical Transport. Originally reported as $1,431.65 in 2001 dollars and adjusted to 2023 dollars.

13 Godavarthy et. al (2014). Cost-Benefit Analysis of Rural and Small Urban Transit. Originally reported in 2011 dollars and adjusted to 2023 dollars per one-way medical trip.

inclusion. Costs associated with providing these trips, sometimes referred to as human service trips, may be even more expensive than the cost of a taxi or TNC trip, especially in rural areas where taxi or TNC services may not be available and where social services transportation may be even more expensive to provide.

Broader Community Impacts

Public transportation capital investments and operations spending also lead to social benefits that are valued by residents of affected areas. These include impacts on road safety, environmental impacts such as improved air quality, and public costs associated with roadway development patterns. In this analysis, the research team has assigned values to these external impacts to estimate their value to society. Note that some of these external impacts are valued by GDP-equivalent or "willingness to pay" because they do not consist of a direct injection of money into the economy.

SAFETY IMPACTS

Improvements in public transportation services may enhance safety by reducing collisions and associated insurance costs, personal losses and emergency response costs. The cost savings fall into three classes:

- Injury reduction for those shifting from automobiles to public transportation, due to the significantly lower incident rates for public transportation;
- Injury reductions for residents, as pedestrian and bicycle crashes and fatalities involving vehicles are reduced due to fewer cars being on the road; and
- Reduced costs of traffic enforcement and emergency services.

$1 billion in transit investment generates $550 million in safety benefits

Some avoided costs associated with safety improvements have direct economic consequences. These consequences include reduced costs of emergency services; household savings on insurance and health care; avoided loss of lifetime earnings; and improved firm productivity when workers are not lost due to injury or death. Other safety benefits are based on a "willingness to pay" framework, meaning that while there is not necessarily a direct economic transaction, there is a net benefit to society when fewer travelers experience injuries and death from collisions.

The safety cost analysis estimates avoided fatalities, injuries, and crash-involved vehicles with increased public transportation investment by applying mode specific crash rates to the miles of travel in the baseline versus investment scenario. The metrics are then monetized based on social cost factors from the Bureau of Transportation Statistics' National Transportation Statistics and DOT's BCA Guidance. Applying

these factors to the difference in travel by mode between the baseline and investment scenarios results in safety benefits of approximately **$15.5 billion** in 2045. Approximately 15 percent of these benefits are associated with direct flow of money in the economy.[14]

ENVIRONMENTAL IMPACTS

Reducing vehicle miles traveled (VMT) also has environmental implications. While these impacts do not represent a direct economic transaction, this impact type is valued based on a "willingness to pay" framework, reflecting the desire to avoid negative environmental impacts of vehicular tailpipe emissions. The analysis estimates the metric tons of pollutants produced per mile of travel by different modes. It then monetizes these pollutants using per ton factors.[15] Applying these and comparing the baseline and investment scenarios results in emissions savings of approximately **$787 million** in 2045.

AVOIDED ROADWAY CONSTRUCTION

Reducing vehicle miles traveled by driving or automobile modes leads to less burden on roadway infrastructure, and thus less need for roadway construction spending. The benefits associated with avoided roadway construction represent a direct economic impact, as the government saves money on these construction activities and can spend it elsewhere on other economic supporting activities.

This analysis calculates avoided roadway construction based on reduced peak period urban VMT for driving modes in the investment scenario[16] and research on roadway construction cost per peak period VMT.[17] A shift in VMT from driving to transit modes in the investment scenario results in approximately **$2.4 billion** in avoided costs associated with roadway construction.

AGGLOMERATION IMPACTS

Public transportation improvements, particularly fixed route high-capacity transit such as rail, enable higher density development than would otherwise be possible. When travelers are able to reach

14 Derived from Blincoe, L., Miller, T. R., Wang, J. S., Swedler, D., Coughlin, T., Lawrence, B., ... & Dingus, T. (2022). The economic and societal impact of motor vehicle crashes, 2019 (No. DOT HS 813 403).

15 Emissions factors for cost per metric ton for NOx, SO2, and PM2.5 come from DOT's BCA Guidance May 2025. Emissions factors for cost per metric ton for CO2 come from DOT's BCA Guidance November 2024. Emissions factors for cost per metric ton for VOC comes from DOT's BCA Guidance 2020.

16 Trips are restricted to urban peak period based on NHTS data filtered using the Federal Highway Administration's definition for peak period travel, which is 6am to 10am, and 4pm to 8pm.

17 Litman, T. (2025). Evaluating Public Transit Benefits and Costs. Litman assumes that the typical cost of roadway construction is between $0.20 and $1 per VMT during peak travel. This analysis uses the midpoint of this assumption, $0.60.

a business or mixed use cluster via transit, there is then less need for parking and less burden in terms of congestion on the roadway network, allowing for increased density of development and business activity.[18] Research shows that as a result of this clustering, public transportation can lead to economic productivity changes through the following mechanisms:

1. Mobility and market access—business productivity benefits from access to a broader and more diverse labor market, and access to a wider customer market; and
2. Spatial agglomeration economies—business productivity benefits from clustering of similar and complementary activities enabled by public transportation capital investments.

These *agglomeration economies* yield productivity gains because:

- some businesses will have access to a larger and more diverse labor market, providing them with a better capacity to find workers with the desired skills, thereby enhancing labor productivity;
- some trade and service sector establishments will be able to access broader customer bases, allowing them to more efficiently arrange locations and resources to serve customers;
- specialized knowledge spreads more quickly through social networks, enhancing human capital and labor productivity in technology and skill industries that benefit from such interaction; and
- greater diversity in economic activity and labor force skills breeds creativity and innovation.

The context of this study focuses specifically on accessibility benefits from investments in fixed-guideway transit through the Capital Investments Grant (CIG) program. The magnitude of the effect is estimated by:

1. First considering the extent to which rail transit projects enable higher concentrations of economic activity (jobs, income), compared to roadways, per dollar of investment. This

18 For example, *see* Robert Cervero, G.B. Arrington, Vehicle Trip Reduction Impacts of Transit-Oriented Housing, Journal of Public Transportation, Volume 11, Issue 3, 2008, https://doi.org/10.5038/2375-0901.11.3.1 and APTA. The Role of Transit in Support of High Growth Business Clusters in the U.S. https://www.apta.com/wp-content/uploads/Resources/resources/reportsandpublications/Documents/TransitHighGrowthClustersUS-Final2013-1124-1.pdf.

analysis draws on data collected from the AASHTO EconWorks Case Study database[19] and information on median earnings per worker from the American Community Survey.[20] From the EconWorks database, we identify an increment of two additional jobs per $1 million of transit investment over and above the impact of highway projects. The observed clustering of growth and associated increment in economic activity is indicative of market access expansion enabled by high-capacity transit. Considering annual earnings per worker, this yields an estimate of approximately $120,000 in additional income per million dollars spent on transit infrastructure.

2. By assessing an additional productivity gain to urban commercial and mixed use centers due to agglomeration of labor markets around stations and greater effective density of clustering at urban commercial office centers. A literature review of worldwide studies of agglomeration found a median agglomeration elasticity of 4.3 percent, which represents the gain in productivity (applied to worker income) per increase in market size.[21] Some research indicates that worker productivity gains could in fact be much higher.[22] Applying the conservate gain of 4.3 percent to the above income impacts yields an increased estimate of approximately $125,000 per $1 million spent.
3. Applying the above impact ratio to the modest increment in Fixed-Guideway CIG grants defined in the investment scenario.

Based on an additional investment in the investment scenario of $2.5 billion annually in high-capacity fixed guideway transit, the resulting accessibility impact to the economy is estimated at **$316 million**. This estimate is likely to be highly conservative given that it is restricted to major transit corridor investments even though transit supports market access and agglomeration economies in metropolitan areas more broadly.

19 Weisbrod, Piercy and Fitzroy. (forthcoming) Combining Ex-Post Quantitative Metrics and Case Narratives to Reveal Factors Affecting Cost & Economic Development Outcomes of Transportation Investments in the US.

20 U.S. Census, Full-Time, Year-Round Workers and Median Earnings in Past 12 Months by Sex and Detailed Occupation: ACS 2023. https://www.census.gov/data/tables/time-series/demo/industry-occupation/median-earnings.html.

21 Graham, Daniel. (2018). Quantifying Wider Economic Impacts of Agglomeration for Transport Appraisal: Existing Evidence and Future Directions. https://assets.publishing.service.gov.uk/media/5af9661f40f0b622dae8de0d/agglomeration-elasticities-existing-evidence-and-future-priorities.pdf.

22 Donovan, S. B. (2017). Urban agglomeration benefits from public transit improvements: Extending and implementing the Venables model. Research in Transportation Economics, 66, 36-45. https://doi.org/10.1016/j.retrec.2017.09.002.

State of Good Repair Impacts

Greater investment in preservation of transit assets, such as vehicles and guideways, in the investment scenario results in an improved state of good repair. The Conditions and Performance Report relates preservation spending to asset condition across scenarios. It also provides historical data on asset condition and vehicle age by mode. Extrapolating from these two relationships, the analysis estimates average vehicle age by mode for the investment scenario. In the baseline scenario, we assume average vehicle age is maintained at current levels. Table 6 shows the average vehicle ages projected in each scenario in the year 2045.

TABLE 6. Average Vehicle Age by Scenario (in years) in 2045

Mode	Baseline	Investment
Bus	7.1	6.1
Commuter Rail	23.2	19.3
Heavy Rail	24.5	15.1
Light Rail	19.6	15.1

Source: Baseline scenario age is from NTD 2023 data. Investment scenario age was estimated based on the projected condition rating and the relationship between condition ratings and vehicle age in the 25th Edition of the Conditions & Performance Report.

USER DELAY FROM VEHICLE FAILURES

Improved vehicle conditions can reduce travel time for transit users by reducing the incidence of delays caused by vehicle failures. These failures are more common with aging vehicles. Based on the vehicle ages in Table 6, the reduced user delay in the investment scenario, as compared to the baseline is valued at **$21.6 million**.[23] This reflects only the delay caused by vehicle failures. Aging vehicles may also have other problems, such as problems with doors opening or closing or issues with bike racks on buses, that can cause delays without resulting in complete vehicle failure. Other delays may be associated with aging infrastructure, such as track and signal problems. These are not captured in this analysis.

MAINTENANCE COST REDUCTION FROM NEWER VEHICLES

Older vehicles are also associated with higher maintenance and fuel costs. While the baseline scenario assumes the current distribution of vehicle ages by mode, the investment scenario assumes some of the oldest vehicles are replaced with new vehicles. Based on these assumptions and cost profiles of maintenance and fuel costs by mode and vehicle age, fuel and maintenance costs would be reduced by **$807.2 million** in the year 2045.[24]

23 Based on EBP analysis using simplified tool from TCRP Report 198 (2018).

24 EBP analysis using TCRP Return on Investment Calculator Agency Cost Profiles (2018).

Transportation Spending Impacts on the Economy

THIS CHAPTER FOCUSES ON HOW TRANSIT spending impacts the economy through worker wages and purchases of materials and services.

Direct, Supplier Purchases, Employee Spending

Capital investments in public transportation are made to accomplish one of three objectives:

1. New system investments, with expenditures for land acquisition, engineering and all necessary system components;
2. Modernization, with expenditures for replacement or rehabilitation of system components at the end of their useful lives; and
3. Expansion, with expenditures for additions to existing services. The scope and range of expenditures for expansion projects vary greatly.

For all three classes of objective, *capital investment* ("capital spending") is defined to include:

- development of facilities—including project design and construction of stations; maintenance and administration buildings; and guideways; and
- purchases of equipment—passenger vehicles (e.g., buses, trains) and supporting control and operations equipment including fare collection and communications and information systems.

Ongoing spending on *operations and maintenance* ("operations spending") of public transportation systems, on the other hand, supports jobs and the purchasing of supplies needed for continuing public transportation operations like providing bus and train services, maintenance activities, and administration.

Investment in public transportation projects and services directly support short-term construction jobs and longer-term operations jobs, known as the "direct effect". Investment in public transportation projects also allows for additional multiplier effects in the economy, as described in the following section.

Indirect and Induced Spending Effects

Direct investment in public transportation projects, equipment, and services leads to broader effects on the economy, falling into two classes:

- **"Supplier Purchase" effects on supporting industries** (i.e., those that supply goods and services to enable the vehicle manufacturing and construction activities by providing engines, equipment parts, and the steel, concrete, electronics, and other materials needed for building vehicles, guideways, and station facilities); and
- **"Employee Spending" effects as employees spend their income** on consumer goods and services, including healthcare, food, clothing, shelter, recreation, and personal services.

These effects are indicators of the broader role of public transportation in a regional or national economy because they show how investment in public transportation supports jobs and income in other industries. They also illustrate how increases in public transportation spending generate additional jobs in the economy, assuming there are sufficient workers to fill these public transportation-generated jobs without displacing other existing jobs. If there are workers available for these new jobs, then an *increase* in public transportation spending can have very real "multiplier" effects by leading to more jobs not only in the construction and transportation industries, but also in other industries associated with supplier purchases and employee spending.

The calculation of supplier purchase and induced employee spending effects is made on the basis of input-output (I-O) accounting tables. These matrices show the pattern of purchases and sales between industries in the economy. Base tables are constructed at a national level by the U.S. Bureau of Economic Analysis (BEA), and tables for smaller regions are derived by "regionalizing" the BEA tables to reflect inter-regional purchasing patterns. These regionalized tables thus utilize information on both the inputs used to produce a dollar of product for each specific industry and the extent that each industry's purchases are supplied by other firms located within or outside the study area. The multipliers are used to calculate the total direct, indirect and induced effect on jobs, income, GDP, and output generated per dollar of spending on various types of goods and services in the study area.

FIGURE 2. Direct, Indirect, and Induced Impacts from Transit Capital and Operations Spending

Directly Supported Activity

Transit agencies employ workers, pay them wages, and invest in equipment and supplies

Supplier Activity (Indirect)

Transit agencies purchase goods and services from companies who in turn employ and pay workers

Worker Income Spending (Induced)

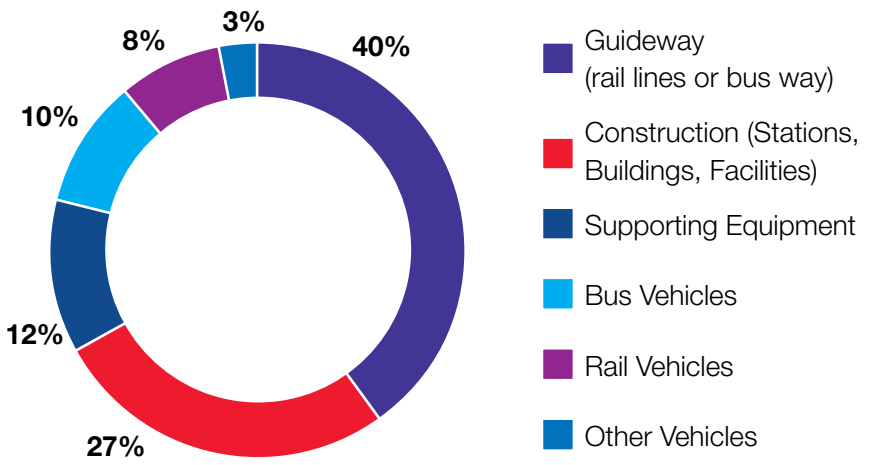
Transit agency and supplier employees spend their income, generating additional activity within the regional economy

Capital and Operations Investment

Investment in public transportation capital and operations lead to different forms of job and income generation and affect different industries in the economy. For that reason, it is important to consider the public transit capital and operations funding mix. Figure 3 shows the mix of products and services now being purchased as capital investment in public transportation within the U.S. Figure 4 shows the components of operations spending, also at the national level. The most recent data from APTA (as of 2023) indicates that 68 percent of all public transportation investment is for operations and maintenance of existing systems, while 32 percent is for capital investment in construction and for vehicles and equipment needed to operate existing and expanded systems.

In accordance with current law, Federal funding for public transportation can be used for capital expenditures and preventive maintenance. However, according to the federally required standard accounting system, preventive maintenance includes components that are categorized as maintenance as well as components that are categorized as operations. Based on these categorizations, in the 2023 Federal fiscal year, 50 percent of Federal assistance for public transportation was designated for operating expenses and 50 percent was

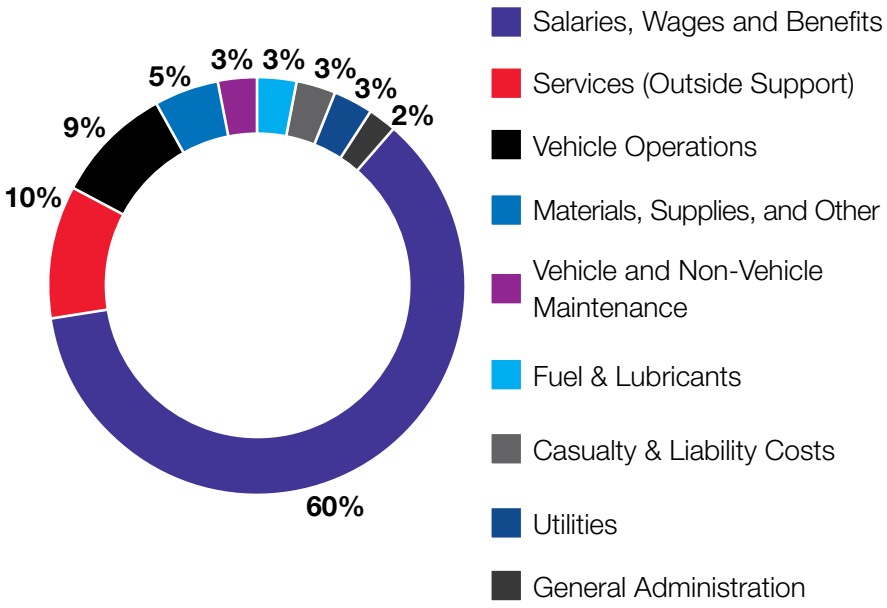
FIGURE 3. Capital Spending – Components of Capital Investment in Public Transportation in the US



Source: 2025 APTA Factbook.

designated for capital expenses.[25] This represented a significant departure from Federal spending prior to 2020. In 2020, due to the COVID-19 pandemic, the share of Federal assistance spending for operating expenses dramatically increased to 70 percent, as significant reductions in ridership reduced transit agency revenues and their ability to fund regular operations. Increased Federal assistance spending for operating expenses enabled public transit agencies to continue to provide necessary transportation services for essential workers and populations relying on transit. Since 2020, as transit ridership has continued to recover and trend toward pre-pandemic levels, the share of Federal assistance spending for operating versus capital spending has also begun to shift toward pre-pandemic levels.

FIGURE 4. Operations and Maintenance Spending – Components of Operations Investment in Public Transportation in the US



Source: 2025 APTA Factbook.

Compared to the 2017 spending data summarized in the 2020 APTA Economic Impact Update, current data indicate a decreased share of capital spending for transit vehicle purchases in 2023, including buses and other non-rail vehicles (-4 percent) and rail vehicles (-1 percent).[26] Capital spending for construction of guideway as a share of total capital spending remained consistent with the previous study, while spending on construction of buildings and related facilities (+3 percent) and purchases of supporting equipment (+1 percent) increased relative to the previous study.

Economic Impact Modeling

The economic impact estimates in this study are based on a methodology commonly used to calculate impacts from transportation spending.

25 APTA. 2025 Public Transportation Fact Book. https://www.apta.com/wp-content/uploads/APTA-2025-Public-Transportation-Fact-Book.pdf.

26 *Id.*

CALCULATION OF OVERALL IMPACT ON JOBS

The methodology uses a national economic model to:

1. track the pattern and mix of direct expenditures;
2. assess the portion of goods and services purchased within the U.S.; and
3. trace the impacts generated from supplier purchases and employee spending.

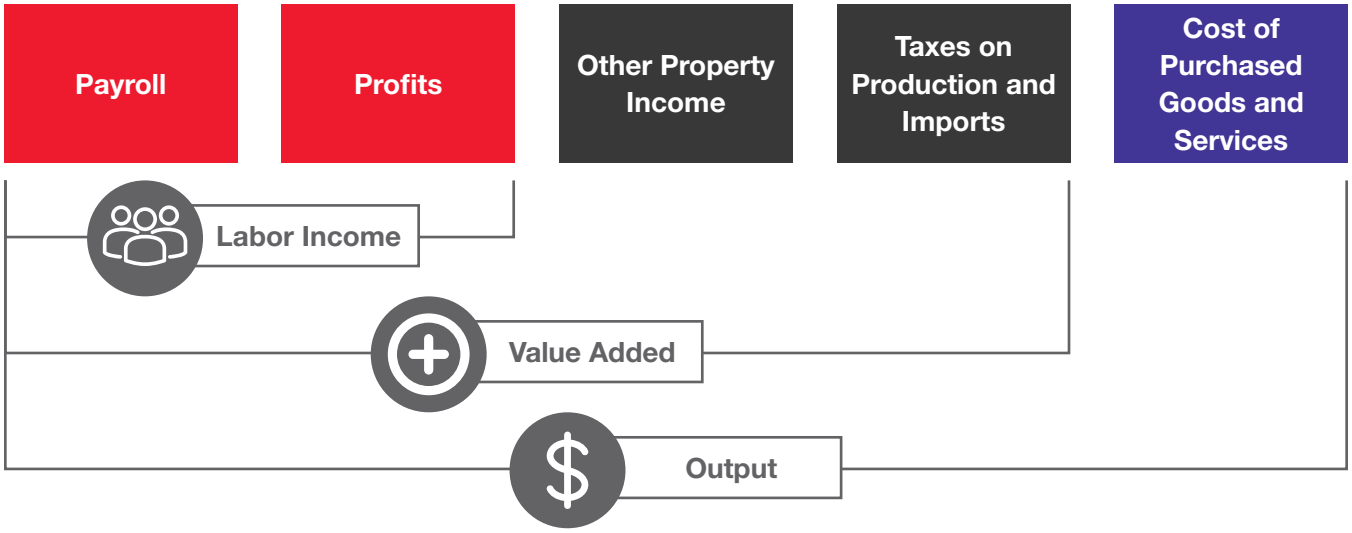
OTHER METRICS OF ECONOMIC IMPACT

The economic impact of investment in public transportation occurs in the form of an increase in economic "activity" which can be measured in several different ways. They are:

- Total business output (volume of business revenues or sales);
- Total Gross Domestic Product (GDP) (also referred to as "value added", which reflects business profit, personal income, and taxes);
- Total labor income (i.e., wages/payroll & benefits, which is a subset of GDP); and
- Total jobs associated with that labor income.

Job impacts are usually of most interest to the general public, partly because they are a unit of measurement most easily understood and most often the most direct objective. It is important to note that these are alternative units of measurement of the same fundamental economic impacts, so they can *never* be added together. Figure 5 below presents the interactive relationships between the different economic impact measures.

FIGURE 5. Economic Impact Types



Overall Economic Impact of Spending

Table 7 shows the estimated breakdown of jobs generated in terms of direct spending, supplier purchases, and employee spending effects for both transit capital and operations spending as a result of greater investment in public transportation in the investment scenario. These estimates come from spending impact ratios developed from an analysis of the economic impacts of public transit operations and capital spending in the U.S. in 2023, which used the 2023 IMPLAN input-output model. The research team then applied these spending impact ratios to the estimated increase in capital and operations spending above the baseline in the 2045 investment scenario.

TABLE 7. Jobs Generated in the US per $1 Billion of Additional Spending on Public Transportation in the Investment Scenario, 2045

Impact Type	Capital Spending Job Generation	Operations Spending Job Generation	Total Investment Scenario Spending Job Generation
Direct Effect	4,500	10,500	7,350
Supplier Purchases (Indirect)	2,400	850	1,650
Employee Spending (Induced)	3,400	5,500	4,400
Total Jobs	10,300	16,850	13,400

Source: EBP Analysis using 2023 IMPLAN.

VARIATION IN ECONOMIC IMPACTS OVER TIME

The estimated ratios of jobs generated per $1 billion of spending that are shown here differ from prior studies. In general, these ratios tend to decrease over time for two reasons:

- The cost of paying workers tends to rise as worker productivity increases and as the buying power of the dollar is eroded by inflation over time. Increased productivity also means that fewer workers will be needed to provide the same services.
- The use of advanced equipment and material technologies, which affect the non-labor share of total costs, continues to rise over time. As spending on automated fare collection and control systems increase, the need for workers to manually provide these services is reduced.

There are several additional factors that also cause these job generation ratios to vary over time:

- Increasing globalization of trade tends to introduce more options for foreign-source parts and materials (which do not generate jobs in the U.S. economy). However, that trend is mitigated through policies imposing Buy America requirements.
- Economic impact models are gaining precision and detail about parts and material purchasing over time, which have tended to reduce job impact estimates as the models incorporate greater recognition of needs for highly specialized parts that may not be manufactured locally.

VARIATION IN ECONOMIC IMPACTS BY REGION/AREA

The job generation ratios shown in Table 7 represent national impacts of public transportation spending. The corresponding impacts for any given State, region, or city will be lower than the national figures because smaller shares of purchased equipment, parts, and materials are typically produced within the geographically smaller area of study.[27]

OTHER IMPACTS ON WAGES, VALUE-ADDED, AND OUTPUT

Table 8 presents additional metrics of economic impact per $1 billion of increased investment in the investment scenario. The broadest impact measure is output (e.g., business sales, which shows an average of $2.30 impact per $1 of public transportation spending). The impact measure preferred by most economists is GDP, which shows an average of $1.40 of change per $1 of investment. GDP consists of labor income, net corporate profits, and taxes. The total GDP impact of the additional spending in the investment scenario is estimated to be $39.5 billion.

TABLE 8. Economic Impact of Spending $1 Billion on Public Transportation in Investment Scenario (includes direct, supplier purchases, and employee spending), 2045

Economic Impact	Per $1 Billion of Investment Scenario Spending
Output (Revenue/Business Sales)	$2.30
GDP (Value Added)	$1.40
Labor Income	$1.00
Tax Revenue (Federal, State, local)	$0.25
Jobs	13,400.00

Source: EBP Analysis using 2023 IMPLAN.

27 Regional economic models such as IMPLAN and RIMS-II, or broader economic analysis systems such as REMI and TREDIS, may be used to calculate impacts for smaller, sub-national regions.

TABLE 9. Tax Revenues Generated per $1 Billion of Public Transportation Investment, 2045

Tax Revenue Type	Federal Tax ($M's)	State and Local Tax ($M's)	Total Taxes ($M's)
Corporate Profits	$15	$6	$21
Personal Income	$66	$15	$81
Sales & Property	$0	$65	$65
Social Security Contributions	$73	$1	$74
Other Taxes & Fees	$3	$7	$10
Total	**$158**	**$93**	**$251**

Source: EBP Analysis using 2023 IMPLAN.

TAX REVENUE IMPACTS

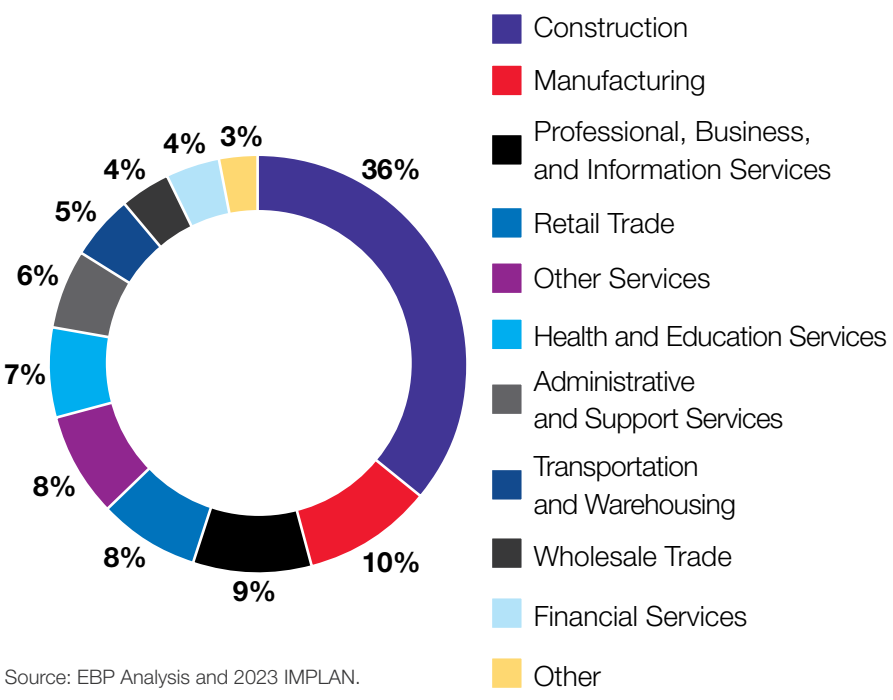
A breakdown of the corresponding tax revenue impacts of $1 billion of increased public transportation investment in the investment scenario is shown in Table 9. Nearly two thirds of these tax revenues are associated with personal income and social security tax revenue generated because of additional labor income; the rest are generated as a consequence of additional business activity.

Impacts by Industry

The job impacts shown earlier in Table 8 can be further disaggregated in terms of industries and occupations. A breakdown of national job impacts by major industry group from capital spending and operations and maintenance (O&M) spending is shown in Figure 6 and Figure 7, respectively. The mix of affected industry groups shown in these charts reflects the combined outcome of four key factors:

- *The direct investment mix* for capital and operations—
  - For capital spending, the mix is primarily construction services and manufacturing of buses, trains, tracks, and equipment.

FIGURE 6. Jobs Created per $1 Billion of Public Transportation Capital Investment by Industry

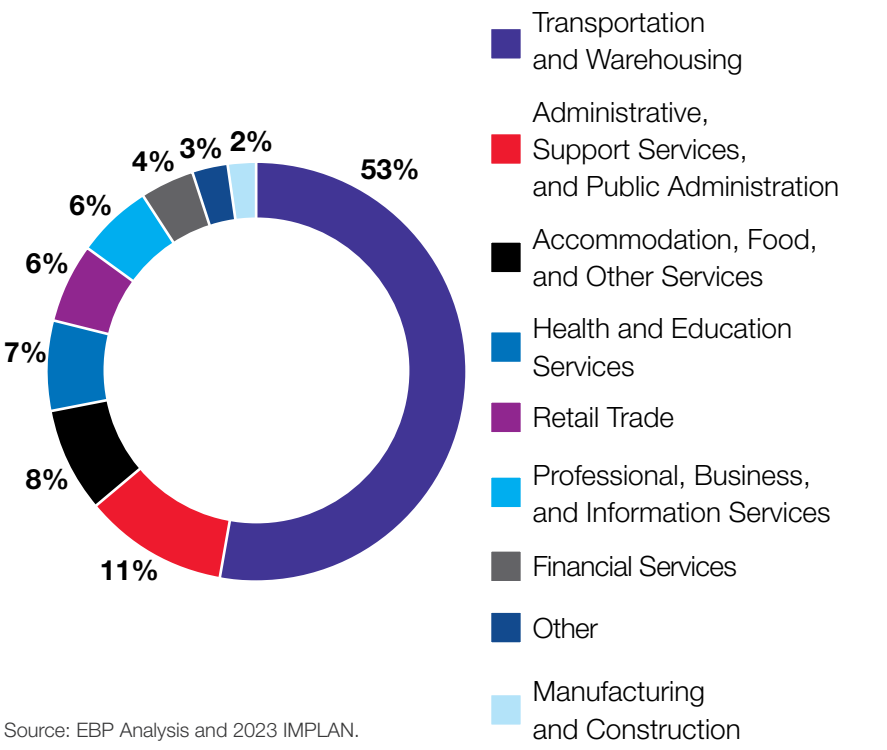


Source: EBP Analysis and 2023 IMPLAN.

- For operations, the mix is primarily public transportation services.

- The locally made portion of those manufactured products and services.
- *The supplier purchases effect*, which the national input-output table shows are distributed across a broad range of industries.
  - For capital investment, these effects are concentrated in manufacturing of building materials and equipment, associated transportation and wholesale purchases, and administrative, professional, and financial services.
  - For operations spending, these effects are concentrated in professional and administrative services, vehicle replacement parts manufacturing, wholesale trade, and petroleum products.
- *The employee spending effect* on worker spending of the additional wages, which the national input-output table shows are distributed across a very different range of industries, primarily health services, retail trade, restaurants and lodging, personal services, and financial services. This effect changes from year-to-year as the average labor compensation per worker in each U.S. industry changes, and the input-output models reflect such changes.

FIGURE 7. Jobs Created per $1 Billion of Public Transportation O&M Investment by Industry



Source: EBP Analysis and 2023 IMPLAN.

Conclusion

THE ANALYSIS SHOWS THAT PUBLIC TRANSPORTATION investment can have significant impacts on the economy, and thus represents an important public policy consideration. These impacts include (1) providing savings for households and businesses due to improvement of transportation system performance and (2) supporting American jobs and industry with spending on public transportation. **In the long term, a program of enhanced investment sustained over 20 years can have a total effect on the economy and society of approximately 5 times the amount being spent annually. This is the equivalent of the value of 41,400 jobs per $1 billion spent (at current wage rates).** Actual national job growth impacts will depend on how national economic competitiveness, workforce availability, and unemployment rates are affected.

If Congress invests in public transportation at the level included in the *American Public Transportation Association (APTA) 2026 Surface Transportation Authorization Recommendations*, it will result in an additional $139.6 billion in annual impacts on the economy, compared to baseline investment levels.