

Maximizing State Transportation Investments

How redirecting spending from highway expansion to public transit supports economies and communities

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About ACEEE

The **American Council for an Energy-Efficient Economy** (ACEEE), a nonprofit research organization, develops policies to reduce energy waste and combat climate change. Its independent analysis advances investments, programs, and behaviors that use energy more effectively and help build an equitable clean energy future.

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Contents

Executive summary	iii
Introduction	1
Understanding the tools for projecting investment impact	1
Economic impact analysis (EIA)	1
Benefit/cost assessment (BCA).....	2
How highway expansion and public transit investment compare.....	3
Macroeconomic impacts	3
Overall project performance	5
Jobs.....	8
Household-level impacts	9
Real estate development	10
Five key actions for states to take	13
Flex federal highway formula dollars to transit programs	13
Encourage the use of project “groupings” in transportation financing plans to support urban transit funding	14
Dedicate state funds to support transit operations.....	15
Enact statewide TOD policies that boost the impact of urban transit investments	16
Sustain and grow investments in small urban and rural transit.....	16
Conclusion.....	17
References	18
Appendix	24

Executive summary

Costs to deliver transportation projects have risen drastically in recent years. To avoid wasteful spending, each new dollar invested in transportation infrastructure should be directed to the kinds of projects that deliver the most positive impact for the lowest cost. A wide body of research, including retrospective analyses of completed projects, shows that the costs of highway expansion projects often outweigh their benefits while the opposite is true for investments in public transit. Despite these findings, highways still receive more than double the total investment of public transit programs across all levels of government.

This mismatch between policy goals and investment strategies could be driven, in part, by an inaccurate understanding of the potential return on investment from new spending on each mode. To address this issue, this paper provides a side-by-side comparison of what new spending on public transit versus highways can mean across a variety of different metrics, including overall macroeconomic impacts, investment performance, jobs, household-level impacts, and land use and development. We describe how the underlying assumptions and miscalculated inputs used in economic impact analysis and benefit/cost assessments often result in a bias toward highway expansion.

With the understanding that new spending on public transit services is a smarter investment than new spending on highway expansion, we close by recommending that states take five key actions to better invest their limited transportation dollars:

- 1) Direct more of their existing transportation dollars toward transit programs through a process known as “flexing” funds.
- 2) Include lump sums to expedite the programming of urban transit projects in transportation improvement programs.
- 3) Dedicate state funds to support transit operations.
- 4) Enact transit-oriented development policies that complement transit investments.
- 5) Support small urban and rural transit with both funding and technical assistance.

Key findings

- Across all levels of government, \$249 billion annually flows to highway programs while less than \$100 billion flows to transit programs.
- Direct and measurable outcomes such as job growth, household savings, and real estate development all indicate that, in both rural and urban areas, public transit spending is generally a better investment for the public sector than highway expansion.
- About 80% of highway projects reported congestion mitigation as their purpose, but highway widening is an ineffective strategy for meeting this goal in the long run: Congestion tends to return to pre-widening levels within five years of project completion.
- Highway expansion projects continue to be justified based on a benefit/cost model that overvalues travel time savings by at least double and fails to account for the opportunity costs of valuable land.
- Investing in transit service frequency and reliability delivers strong performance results: Akron, Ohio, grew ridership by 40% over just two years and Richmond, Virginia, saw double the initial ridership projections on a corridor improved with bus rapid transit (BRT).
- Public transit and highway maintenance projects both deliver more direct jobs per dollar of spending than highway expansion projects. The public transit industry directly employs 8% more workers than the highway, street, and bridge construction industry, despite receiving half as much overall funding.
- Households can cut annual transportation costs up to 10-fold from \$12,000 to \$1,200 when new public transit investments make service convenient enough to replace a car with an annual transit pass.
- New transit spending spurs real estate development and supports infill housing opportunities. In Minneapolis, every \$1 spent on upgrading a corridor to BRT service has translated to around \$12 in new development value.

Introduction

Public infrastructure investments have long been seen as a way to stimulate economic growth, and transportation networks are especially influential in shaping national, regional, and local economies. For surface transportation systems, public spending largely flows to two categories: highways or public transit. Today, across all levels of government, about \$249 billion annually is spent on highways, more than two and a half times the \$99 billion spent each year on mass transit and rail systems (Freemark and Samuels 2025). As mega projects across both modes have been found to be “over time, over budget, over and over again” (Flyvbjerg 2014), policymakers must have a robust understanding of what each new dollar of transportation spending delivers for communities.

While many studies have been undertaken to assess the economic and fiscal impacts of transportation spending, different methodologies, units of analysis, and heavy use of industry jargon can make it challenging to navigate their findings and understand how alternative investment options compare. To help inform public officials making state and local transportation budgeting decisions in this context, this paper compares public transit investments to highway expansion projects across five categories: macroeconomic impacts, overall project performance, job creation, household-level impacts, and real estate development.

We find that investment decisions about highway expansion projects suffer from four common faults: 1) opaque models used to estimate economic impacts are biased toward larger spending, 2) flawed inputs for the most influential metric in benefit/cost assessments—travel time savings—overvalue benefits and skew results, 3) highway expansion projects fail to deliver on their stated congestion reduction goals, and 4) opportunity costs of valuable urban land are not properly weighed. These faults perpetuate poor spending decisions at the expense of investments to expand public transit services that, for their part, show proven results. Investments in public transit boost property values and spur economic development, create significant annual household cost savings, support stable and permanent jobs, and provide mobility access that connects people to essential destinations. To maximize the impact of new transportation spending, state budgets should prioritize public transit investments over highway expansion projects, with an emphasis on funding transit operations, to quickly deliver strong dollar-for-dollar returns.

Understanding the tools for projecting investment impact

Economic impact analyses (EIAs) and benefit/cost assessments (BCAs) are two prevailing frameworks used to understand the effects of transportation spending. Since these studies, particularly BCAs, are often requirements for a planned project to access competitive federal grant dollars, they tend to be conducted on the front end of a project rather than as a retrospective analysis. Because of this, these studies rely on assumptions that must be carefully and objectively calibrated to provide reliable insight for policymakers.

Economic impact analysis (EIA)

A traditional EIA uses an “input-output model” to assess three components of the economy to understand the impact of a given investment or activity: direct, indirect, and induced effects. Direct effects include economic activity that is directly connected to the investment, such as the direct spending on labor or construction costs for building a new bus terminal or roadway segment. Indirect effects can be understood as the “ripple effects” that occur further up the supply chain from that direct

spending, such as the purchase of materials associated with a construction project. Finally, induced effects look at additional spending across the larger economy that is driven by wages associated with the direct and indirect effects (IMPLAN 2026). The way EIAs are presented often involves bundling these three types of effects into a projected overall economic impact, or the value added to the economy from an initial investment.

While EIAs are powerful tools for understanding how new spending may ripple through the economy, they are not designed to offer full visibility into the potential returns from public spending. EIAs rely on a set of assumptions that are baked into an economic model and dictate how spending in one sector of the economy relates to other sectors. However, they do not account for on-the-ground changes that may call into question the model's assumptions, nor do they analyze how an investment may relate to broader policy goals.

Benefit/cost assessment (BCA)

Benefit/cost assessments (BCAs) address some of the limitations of an EIA, and it is not uncommon for project sponsors to present both EIA- and BCA-derived investment impacts for their proposals. While BCAs still rely on assumptions, they can augment EIAs by facilitating side-by-side alternative analysis and by accounting for nonmonetary impacts in a quantitative way. For transportation projects, BCAs assign monetary values to measures like time savings, healthcare outcomes, access to jobs, safety, and pollution reduction to compare how the costs of spending on a given type of infrastructure compare to the benefits that the infrastructure provides.

EIAs provide a projection of how spending may ripple through the economy, but they do not offer full visibility into the returns, benefits, and costs associated with public infrastructure.

But while offering a good supplement to EIAs, BCAs can still be manipulated to overemphasize either the benefits or costs of a project. Retrospective BCAs that measure final costs to observed benefits after the completion of a project are also uncommon compared to how widely these tools are used in the project planning stage, particularly because the U.S. Department of Transportation (DOT) requires BCAs to be submitted in applications for major competitive grant programs.

Given the limitations of EIA and BCA models, it is useful for policymakers to also consider transportation investment outcomes and project performance—metrics that show whether completed projects achieve the transportation goals and outcomes that they were initially designed to accomplish. As detailed in the sections that follow, overlaying insights on investment impacts from multiple evaluation frameworks, including EIAs, BCAs, and other targeted studies, shows that public transit spending outperforms highway spending across key evaluation categories.

How highway expansion and public transit investment compare

Macroeconomic impacts

The larger magnitude of initial spending on highways distorts takeaways on overall returns

In anticipation of the Infrastructure Investment and Jobs Act (IIJA), the American Public Transportation Association (APTA) and the American Road and Transportation Builders Association (ARTBA) both commissioned studies to quantify the economic impact of transportation spending (APTA 2020; ARTBA 2021). APTA's report estimated both EIA and BCA style measures to value the impact of public transit spending while ARTBA's study focused on traditional EIA metrics to project how IIJA's additional spending across both highway and transit programs would ripple through the economy.¹

Both organizations found that public transit spending has a significant economic impact, with APTA finding that every dollar spent on transit generates a \$5 overall return (across both EIA and BCA style measures) and ARTBA finding that every dollar of IIJA's new spending on transit programs translates to \$3.30 of activity in the economy (represented as an "economic multiplier" of 3.3 in the report). Because of the way EIAs capture "ripple effects," studies across larger geographies tend to show larger impacts, so state-level EIAs will often show lower multipliers.²

ARTBA's analysis found that the economic multipliers of IIJA's new spending on highway programs and transit programs were about the same.³ However, the study emphasized the larger magnitude of IIJA's impact from highway spending compared to the bill's transit spending. Given the similar multipliers, however, these differences in magnitude are driven by the different amounts of upfront spending on each mode rather than by how strongly each type of investment ripples through the economy. In fact, IIJA allocated \$110 billion in new funding for highways and bridges, nearly triple the \$39 billion for new public transit funding.

New lanes on existing highway connections add little economic value

EIAs focus on how new transportation spending may ripple through the economy, but other research provides a supplementary understanding of the overall economic impacts of investment in different modes. As thoroughly detailed in a rigorous compilation of major research findings from the nonpartisan RAND Corporation, highway infrastructure investment is not a panacea for growth (Shatz et al. 2011).

¹ APTA published a new study in February 2026 that reached roughly the same conclusions as its 2021 report, but we focus on the 2021 analysis in this section to facilitate better comparison with ARTBA's 2021 findings.

² As one example, a Virginia EIA-style study found \$2.86 in economic activity per dollar invested in public transit programs across the state (Virginia DRPT 2020).

³ While ARTBA's study reports the highway multiplier as 3.4 and the public transit multiplier as 3.3, both of these figures actually appear to be 3.4 when we recreate them using the study's published figures: Page 20 reports inputs as an average of \$12.5 billion annually for highways (shown to multiply to \$42 billion) and \$3.8 billion for transit (shown to multiply to \$12.8 billion) $42/12.5 = 3.36$ (rounded to 3.4) and $12.8/3.8 = 3.36$ (rounded to 3.4). This discrepancy shows how rounding errors and the black box nature of EIAs makes them susceptible to presenting misleading results.

Although the interstate highway system was a transformative national investment that created new connections and revolutionized industries, the impact of new highway spending on the economy has drastically decreased over time as the system has been completed: In one study that looked at total national highway capital stock from 1950 to 1989, highway capital accounted for 32% of annual productivity growth in the 1950s but steadily declined in each subsequent decade, falling to 7% by 1980–1989 (Nadiri and Mamuneas 1996).

In other words, today’s spending on adding capacity to a complete network does not have the same reverberating impacts as past spending to build the network in the first place. Yet when discussing highway investment impacts, there is still a tendency to appeal to the wide-reaching economic benefits of “new connections” (Allen and Arkolakis 2019; Jaworski et al. 2023) even though these types of projects are no longer the norm. Combined with the complexity of the economic models described above, this can leave policymakers with a misguided understanding of what each dollar of new spending on the highway system means for today’s economy.

Outside of urban regions, retrospective analyses of the economic impacts of highways also show that neighboring areas see differing impacts that offset one another: Gains for some are losses for others, and as a result many instances of rural highway expansion have been found to ultimately redistribute rather than create economic activity (Chandra and Thompson 2000; Shatz et al. 2011). These findings are especially relevant for decision-makers concerned with maximizing overall impacts of transportation investments across a state rather than just shifting economic activity from one community to another.

Case study: Seven miles of rural highway or the bulk of a statewide transit program

In Virginia, state agencies analyzed the overall “economic justification” of spending on public transit programs, calculating both BCA ratios and EIA metrics for the state’s transit spending across four geographies: Northern Virginia (NoVA), all other urban areas, all rural areas, and statewide (Virginia DRPT 2020). Virginia found that the total monetized benefits from public spending on transit outweighed costs, with a statewide benefit/cost ratio of \$2.11 in benefits for every \$1 the state invests. Even considering just rural transit spending, benefits outweighed costs at \$1.04 per \$1 spent (Virginia DRPT 2020, 11).

At the same time, a proposal to build about seven miles of new highway in a low-density region of southern Virginia is estimated to cost \$745 million (Virginia Department of Transportation 2025). The new highway, dubbed the Martinsville-Southern Connector, is framed as a way to spur economic growth in a region with a shrinking population base (Gordon 2020). With a price tag equaling nearly 62% of the total annual cost to provide *all* of Virginia’s public transit service (and more than double what the state spends on transit in all communities except for NoVA), the widening should be expected to show strong returns.

However, although the Virginia Department of Transportation (VDOT) has not conducted a formal BCA or EIA for this project, a traffic engineer familiar with the proposal used data from a separate study for the roadway to estimate that the Southern Connector has a benefit-cost ratio of 0.18—less than a fifth of the ratio for the state’s rural transit investments and less than a 10th of the ratio for statewide transit spending—showing the project’s large price tag far exceeds its potential benefits (SELC 2021, 7).

Expanding public transit service can lead to economic gains

From a macroeconomic perspective, improving transit service can yield agglomeration benefits by promoting population density and knowledge sharing between workers (Chatman and Noland 2013). Public transit spending also boosts economic productivity by expanding access to employment for people who previously could not participate in the workforce. Illustrating the benefits of this expanded access to employment, a study of cities that made significant investments in public transit (\$50 per capita or more in 2005 dollars) found those cities saw net increases in personal income in the years following their transit spending “surges,” outpacing both the national income trends and trends in other cities that spent less on transit (Hoback and Anderson 2010).

New research that considers the regional impacts of existing infrastructure patterns in urban areas also finds stark differences in the impacts from highways and public transit: Economic productivity⁴ is positively correlated with transit service, density, and traffic congestion but negatively correlated with roadway supply, parking supply, and vehicle travel (Litman 2025). This study measures transit service as revenue hours per capita, which is a measure of service frequency that is determined more by a transit agency’s operating budget than by its capital budget. Because federal transportation policy is set in a way that largely limits funding for transit programs to capital expenses, state and local leaders play a critical role in supporting agency operating budgets to tap into these economic productivity gains.

Overall project performance

Beyond economic impacts, policymakers are also concerned with how their spending choices improve the transportation system’s performance and, by extension, quality of life for their constituents. In weighing their investment options, state and local leaders should understand how different kinds of projects ultimately improve user outcomes or meet a strategic policy goal.

Highway expansion projects overvalue travel time savings and fall short of their stated goals

Since sitting in traffic is an acute frustration that many people experience daily, policymakers are interested in addressing congestion through their transportation spending. However, highway widening projects are a costly, time-consuming, and ineffective strategy for addressing this problem. In fact, of 88 specific project and policy strategies for addressing congestion that the Texas A&M Transportation Institute has detailed, 75 approaches, including various public transit applications but also traffic management and design strategies like variable speed limits or roundabouts, are classified as both faster and cheaper solutions than adding new highway lanes (TTI 2026).

The well-documented phenomenon of induced demand shows that as roadways are widened to relieve congestion, congestion temporarily decreases but eventually increases to previous levels after only a few years as new trips fill up the new capacity, kicking off a perpetual cycle of costly widenings that have short-lived benefits at best (Handy 2026). In fact, one major study found evidence of a causal relationship between expansion of highway lane mileage and more driving, showing that vehicle miles traveled (VMT) tends to increase in lockstep with highway lane mileage and that congestion returns to preconstruction levels by only five years after the widening is completed (Hymel 2019). This concept has

⁴ In Litman (2025), economic productivity is defined as “the ability of people to produce and ultimately consume goods and services.”

also been described as “the fundamental law of road congestion” by leading economists (Duranton and Turner 2011) and has been documented in transportation research as far back as the 1960s.

A national sample found that mitigating congestion was reported as a motivating purpose for some 80% of highway projects, making this the most common motivation for projects across urban to rural contexts (Fitzroy et al. 2014). Yet a track record of projects failing to achieve this goal in the long term shows poor performance for this type of investment.

The Katy Freeway cost \$2.8 billion to widen, but it has not solved peak hour congestion on Interstate 10 in Houston. At its widest point, the highway now occupies more than 500 feet of land, roughly equivalent to two city blocks.

As an infamous example of this, a stretch of Interstate 10 in Houston called the Katy Freeway, often dubbed one of the “world’s widest highways” at 26 lanes and 500 feet (including frontage roads) at its widest point, cost taxpayers \$2.8 billion to widen in 2008. Despite a temporary reduction in travel times following the project’s completion, from 2011 to 2014 morning and afternoon commute times had both increased by more than 30%, outpacing the region’s population growth over the same time (Olin 2020). As of 2024, the freeway still ranks as the sixth-most congested roadway in the whole state (TTI 2024). In light of outcomes like this, proposals to widen highways based on relieving congestion or creating travel time savings should prompt substantial scrutiny, even if they create jobs and spur the kinds of economic ripple effects that EIA-style analyses highlight.

Projects to add new capacity to highways are often justified by a longstanding BCA model supported by the Federal Highway Administration (FHWA) that quantifies the value of travel time savings from reduced traffic congestion and multiplies it across all road users. As FHWA’s BCA documentation notes, most BCAs for highway expansion projects attribute the bulk of benefits to this category (FHWA 2022). The underlying theory of “travel time savings” is that new highway capacity will reduce congestion and therefore create monetary gains for individuals in the form of time not wasted in traffic. Critically, BCAs also tend to assume straight line trends for travel time savings over a project’s lifespan instead of accounting for dynamic changes in congestion over time.

Since travel time savings are the linchpin of positive BCA results for highway expansion projects, the accuracy of the input value used for each hour of time saved is critical to producing a reliable and impartial analysis for these expensive projects. In simple terms, the common approach to calculating this value is to take 50% of the prevailing median wage rate for the area for “personal” travel time and 100% of the median wage for “business” travel time. FHWA’s recommended values for each were about \$13/hour and \$25/hour, respectively, in 2016, meaning that a project is assumed to produce \$13 or \$25 in benefit for every hour of a person’s travel time it reduces (FHWA 2016).

However, these assumed values are less reliable than real-world data: A dataset analyzing millions of trips through a dynamically priced toll road in the Seattle region, SR167, found that the average driver values time savings at less than \$7/hour, indicating that the common calculation of value of travel time in BCA models is likely to grossly overstate what drivers are actually willing to pay to save time (Brent and Gross 2017). This same analysis showed that actual revenue from SR167’s tolls was drastically lower than the original estimates from the Washington State Department of Transportation: The state DOT expected to see about \$3.5 million in toll revenue in 2012 but actually collected just over \$1 million (Brent and Gross 2017, 10), further illustrating how modeled projections based on assumptions about individual values can misrepresent a project’s overall benefits relative to its costs.

At the same time, construction costs have soared to all-time highs in recent years in ways that may not be fully captured by BCAs that were completed years earlier with much lower cost inputs: Between 2017 and 2025, the National Highway Construction Cost Index has doubled (U.S. DOT 2026). This paints a picture of unwise decision-making about highway expansion: overly optimistic projections about costs staying low while benefits stay high end up greenlighting projects that, with more accurate inputs, might be evaluated differently.

For highway expansions, undercalculated costs and overvalued benefits end up greenlighting projects that, with more scrutiny, would likely fail to pass a BCA test.

With investments in operating budgets, transit systems exceed ridership goals

Even though there are various policy goals that may relate to public transit, transit systems are often judged across the board by one metric: how much ridership they support. But growing ridership requires making transit service more convenient for more users, which means investing on the operating side of the system to improve service frequency and reliability. However, funding frameworks for transit prioritize capital funding (vehicle purchases, facilities, etc.) over operating funding (which includes funds to pay driver salaries needed to provide more service). This can lead to a vicious cycle where systems lack sufficient operating funding to grow ridership, are penalized with budget cuts for perceived underperformance on ridership goals, then have a further reduced ability to grow ridership as a result. Compounding this, the labor costs that form a large share of transit agency operating expenses grow over time as wages grow across competing sectors of the economy, but as a public service, transit agencies are expected to keep fares low. When operating subsidies are kept flat as labor costs grow, agencies effectively experience budget cuts that can lead to the same vicious cycle.

Because the overall performance of any given transit system on ridership goals is directly related to the amount of operating funding that the system can access to run frequent and reliable service, an across-the-board judgment based on ridership is not a useful framework for assessing system performance. Instead, policymakers should ask whether investments that are made with the specific purpose of growing ridership successfully meet this goal. The data suggest that they do, indicating a stronger performance for this style of transit investment compared to spending aimed at reducing highway congestion.

Transit networks that have been redesigned to prioritize service frequency have seen ridership grow—in the case of Akron, Ohio, ridership increased by 40% two years after implementation of a redesign and new operating investments, proving this type of investment can deliver a strong performance for its stated goals (Walker 2025).⁵ Specific investments to improve bus service frequency by creating high-capacity bus rapid transit (BRT) service also drive substantial ridership growth: in Seattle, ridership was about 35% higher on corridors where BRT replaced conventional bus service compared to ridership growth on non-BRT corridors over the same timeline (Stewart et al. 2017).

⁵ Notably, service frequency is not the only goal of public transit agencies, and prominent transit planning discussions highlight the inherent tradeoff that agencies face in prioritizing frequency-oriented service (in simple terms, faster service in fewer places) compared to coverage-oriented service (generally slower service in more places) given limited operational resources. This issue is covered in detail in Walker (2008). While not the focus of this report, trade-off decisions between which goal to prioritize become easier for transit agencies to navigate when more operating funding is made available.

As a recent BRT project in Richmond, Virginia demonstrates, these investments not only grow ridership, but they can do so at a rate that vastly exceeds their stated goals: Richmond’s BRT cut transit travel times in half and saw ridership levels that doubled initial projections for the route (Results for America 2023). Across the country, BRT systems have also returned to 100% of their prepandemic ridership levels while total transit ridership continues to rebound, showing the underlying demand for this kind of high-capacity and well-performing bus service (Eno Center for Transportation 2025).

Jobs

Public transit investments and highway maintenance both support more direct jobs than highway expansion

Job creation is a common motivator for infrastructure spending, and on the surface, highway expansion projects appear to show impressive job impacts. However, this is because highway expansion projects tend to involve higher upfront spending and larger *indirect job* effects, or jobs further up the supply chain from the initial spending, like at a materials manufacturing plant. Dollar for dollar, alternative spending on either highway maintenance, transit operations, or transit capital projects all supports more *direct jobs* (jobs associated with the specific project, like a construction worker hired to build a bridge or a bus driver hired to operate a bus) compared to highway expansion projects (SGA 2011). For highway construction projects, some estimates have found that more than 70% of jobs generated are indirect rather than direct hires (FHWA 2000).

This distinction is important for state and local policymakers, because directly supported jobs (and the wages they provide) are more likely to stay in the community and bolster localized workforce and economic development goals while indirectly supported jobs may manifest in sectors of the economy that largely operate in other geographies. Yet because EIAs report an overall impact associated with a generalized category of spending, just reading the headline on job impacts from an EIA with a national scope like ARTBA’s can lead decision-makers to erroneously believe the bigger job impact number from highway construction means more jobs for their constituents, when in reality alternative spending scenarios are most likely to support local jobs.

To further illustrate this, an EIA from the Michigan Department of Transportation (MDOT) showed that the state’s \$5.4 billion-dollar 2026–2030 public transportation program will support an estimated 125,548 jobs while its \$10.7 billion-dollar highway program over the same timeline will support an estimated 89,380 jobs (MDOT 2025a, 2025b). Using these figures, the state is spending about \$43,288 to support each job related to its transit investments and nearly three times that amount (\$119,624) to support each job related to its highway program investments (see Appendix).

The kinds of project expenses associated with different types of spending offer a likely explanation: To expand highways, significant portions of project budgets are often used on right-of-way (ROW) acquisition, or the public purchase of land at market value through eminent domain. As an expense that is fundamentally an asset transfer, ROW acquisition consumes project funds but does not support additional direct jobs.⁶

⁶ Some studies have modeled very minimal administrative job effects associated with ROW purchase, but these do not contribute meaningfully to overall jobs associated with highway spending.

A retrospective look at executed FHWA construction contracts proves this: After accounting for the cost of land, “fix-it-first” highway maintenance work (prioritization of repairs on existing infrastructure over new construction projects) supports 7% more construction jobs than new highway construction projects (Good Jobs First 2025). A separate retrospective assessment of executed federal transportation project contracts following the American Reinvestment and Recovery Act of 2010 similarly found that every billion dollars spent on public transit projects created or supported nearly twice the number of direct jobs as each billion spent on highway projects, despite the larger magnitude of highway spending (U.S. PIRG et al. 2010). National data also show that public transit systems directly employ 411,000 people, 8% more than the 380,000 people employed in the highway, street, and bridge construction industry despite highway programs receiving more than twice the spending of transit programs (FTA 2024; BLS 2026).

In Michigan, the state is spending nearly three times as much to support each job related to its highway program compared to its public transit program.

Household-level impacts

Rural public transit brings key benefits

Although rural, demand-response transit systems contribute less directly to measures like congestion reduction or travel time savings, they provide critical mobility and enable trips in ways that can be expressed as a monetized value.⁷ Recent estimates have suggested that the federal government spends about \$25,000 per household on assistance programs for households where the primary wage earner is unable to work because of a lack of transportation (APTA 2026, 17). As a point of reference, Virginia’s total state investment in public transit programs was about \$309 per household in 2024 (Virginia DRPT 2023b).

Accounting for how rural transit connects people with job opportunities, access to preventative medical care, and social opportunities (especially for aging populations) that are key determinants of health, studies from Illinois (Sriraj et al. 2025), Massachusetts (UMass 2025), Minnesota (MnDOT 2020), and Georgia (GDOT 2020) show that investing in rural transit systems creates positive benefits and avoids other costs to the state by helping to both increase tax revenue and decrease government expenditure. As researchers in Illinois estimated, these benefits are valued at \$4 for every \$1 of the state’s rural transit investment. Planning documents from the transit agency in Danville, Virginia (the rural community referenced in the Virginia case study above where a \$725 million highway proposal is being considered), further demonstrate the vital contribution of rural transit for enabling mobility and access: Two out of three of the agency’s demand-response trips are for either



Figure 2. Demand response transit is most commonly used in lower density areas where traditional “fixed route” bus service is not feasible to operate.

⁷ Demand-response transit is a form of public transit service that provides door-to-door or curb-to-curb services for riders across a designated geographic area, using flexible and demand-driven routes rather than fixed-route service, or regularly scheduled bus routes with predetermined stops.

work or medical purposes, and 35% of riders said without transit service, they would not be able to make these trips (Virginia DRPT 2023a, 3–45).

Since mobility on the highway system is dependent on access to a vehicle, new spending on highways in rural areas does not convey the same “mobility access” benefits as rural transit. Finally, as described earlier in this paper, the spillover effects of highway expansion in rural areas often create net zero economic impacts, with new economic activity for one town detracting from economic activity in neighboring areas.

Public transit investments create meaningful cost savings for households

In addition to broader economic impacts, fiscal outcomes, or other metrics described above, transportation investment decisions also tangibly affect the cost of living for American families. After housing expenses, transportation costs comprise the greatest share of monthly household spending at 17% (BLS 2025). Assuming about 15,000 miles of travel each year, the average annual cost associated with owning and operating a car is now more than \$12,000 (BTS 2024). In contrast, averaging annual costs for unlimited transit passes are about \$1,200 across six major cities, and are often cheaper in other metro areas.⁸

Replacing annual costs for one vehicle with an annual transit pass cuts costs 10-fold, from \$12,000 to \$1,200.

Auto-oriented development patterns can also add to household costs in more hidden ways. When off-street parking is required for new housing, the cost is typically bundled into overall rent. For carless renters, this bundled parking expense results in a 13% annual rent increase that researchers have described as a “deadweight loss to society” valued at over \$440 million annually across the country (Gabbe and Pierce 2016).

When public transit operating budgets allow agencies to provide reliable, convenient, and accessible service, households may be able to substitute car ownership for an annual transit pass and keep more money in their pockets. Alongside transit operating investments, complementary reforms for land use and development codes can reduce the oversupply of parking by eliminating minimum parking requirements for new housing, driving down rent in the process (Housing Affordability Institute 2023).

Real estate development

Transit and highway investments both exert influence on the surrounding built environment that translates to impacts on property values, offering another lens policymakers can use to make data-driven decisions for their transportation spending. As summarized below, the land along high-capacity transit corridors tends to grow in value while the land occupied by widened highways is underutilized.

Public transit investment boosts growth and development

Transit corridors and station areas are often hotbeds of development activity. As one example, a 2024 report from Metro Transit in Minneapolis showed that while the property directly served by high-

⁸ This average was calculated using the high end of the monthly and annual transit pass figures summarized in a list from the Motley Fool publication by NASDAQ (Gabrielle 2022). The cities in this list include New York City, Chicago, Philadelphia, San Francisco, Minneapolis, and Los Angeles.

capacity transit⁹ constituted just 3.4% of the region's total land area, it contained 38.4% of all permitted development activity (Metro Transit 2024). Similar findings in Washington, DC, found that Metro station areas make up about 3% of the region's land but contain 30% of total property value and 30% of annual property tax revenue (WMATA 2024). However, while rail transit access has long been shown to support higher property values (Nelson 1999; MnDOT 2009), the predominant mode of public transit in most American cities is a city bus. For most policymakers making public transit spending decisions, the ability of bus service enhancements to boost property values is more relevant than impacts from rail access.

In the Twin Cities, the Metro B Line BRT shows how adding service capacity to a bus route can influence the local economy through real estate development. Metro Transit upgraded one of its core routes from local bus service to a new BRT service, called the B Line, in June 2025. Regional government leaders have measured \$909 million of new investment in housing, commercial, and civic real estate development along the B Line since the \$74 million project's initial announcement in 2014 (Met Council 2026). In other words, the region has seen more than \$12 of investment for every dollar spent to deliver the upgrade. In Richmond, Virginia, the \$65 million Pulse BRT has similarly boosted property values within a half mile of the corridor by nearly 50% over the last decade (Results for America 2023). Notably, coordinated land use planning in both cities has ensured that new developments spurred by the BRT systems include affordable housing units.

While BRT is still a relatively novel transit mode for American cities, some established systems, summarized in Table 1 below, show what these services can mean for local economic development over the long term. As one example, the \$200 million HealthLine, a 6.8-mile BRT system in Cleveland, Ohio, has supported more than \$5.8 billion in transit-oriented development (TOD) since its inception in 2008, with coordinated local planning for housing, land use reform, and economic revitalization of the corridor central to facilitating these returns (ITDP 2013). Likewise, in Vancouver, Washington, residential real estate within walking distance to a BRT station grew in value over 10 years 5%–7% more than similar properties elsewhere in the city, growth that could translate to fiscal revenue through land value capture mechanisms to help finance future BRT construction (Beaudoin and Tyndall 2023). As a suitable transit service typology for many American cities, BRT offers a cost-effective and scalable way to enhance local economic development.



Figure 3. Minneapolis' Metro Transit uses BRT to provide frequent, reliable, and convenient transit service at a fraction of the cost of traditional rail infrastructure. Credit: Tony Webster from Minneapolis, Minnesota, United States, [CC BY 2.0](#) via Wikimedia Commons.

⁹ As defined in Metro Transit's report, this measure includes all properties with 0.5 miles of a light rail or BRT station and within 0.25 miles of a high-capacity bus route (15-minute or better frequency).

Table 1. Summary of select property value impacts from select BRT projects

City and BRT route name	Year BRT announced	Year BRT service began	Cost to build	Property value impacts on BRT corridor
Minneapolis, MN Metro B Line	2014	2025	\$74 million**	\$909 million in new development
Richmond, VA Pulse BRT	2014	2018	\$65 million	50% increase in property values
Cleveland, OH HealthLine	2005	2008	\$200 million**	\$5.8 billion in transit-oriented development*
Eugene, OR EmX Green Line	2001	2007	\$25 million	\$100 million in new development*
Vancouver, WA The Vine BRT	2011	2017	\$53 million	5%–7% growth in residential real estate value

*As of 2013, using data from table 2.1 in Nelson and Ganning (2015).

**These figures include both BRT-specific costs like vehicles and stations as well as associated roadwork such as sidewalk upgrades on the corridor.

Highway expansion is an unproductive use of valuable land

While the property value impacts of highway expansion projects are less commonly analyzed, several studies offer insight into how this spending compares to the transit projects described above. For residential real estate, the effect of BRT investments is substantially greater than that of highway widenings: Compared to the 5%–7% premium spurred by the Vancouver, Washington BRT project, studies from Texas (Harris et al. 2024, 1) and North Carolina (NCDOT 2018) each found much smaller long-term (5–15 years) residential real estate value increases of only 0.5%–2% on average following a highway expansion, less than annual changes in inflation.

Looking beyond just home values, a study in Minnesota examined the effect of MnDOT’s highway capacity-adding projects (new lanes on existing highways) on both residential and commercial property values across rural to urban contexts (MnDOT 2009). The analysis found that in some areas closest to the expanded highways, residential property values decreased by around 5% following the projects given negative externalities like air pollution and noise.

A recent study assessing the amount of land dedicated to roadways across more than 300 metropolitan areas also found that after accounting for the opportunity cost associated with land value, typical costs to expand a roadway exceed benefits (in the form of travel time savings for both people and freight movement) by nearly three times (Guerra et al. 2025).¹⁰ A mere 10% reduction in the amount of land dedicated to roads in urban areas across the country could also result in an annual net benefit of more than \$27 billion without impacting levels of access and connectivity of the roadway network (Guerra et al. 2025, 112). As a specific example of this, the \$25 million removal of about a mile of underutilized

¹⁰ This same research team also noted that accounting for the monetary costs associated with the negative externalities from highway expansion would make these costs rise even more, but the tripling here is just reflective of costs to build and the costs of using valuable land.

highway on the Park East Freeway in Milwaukee has translated to an estimated \$1 billion in new investments facilitated by a reconnected street grid, with assessed land values on the former highway land growing 180% in the same time it took for citywide values to grow by 25% (McCormick 2020).

Five key actions for states to take

As summarized throughout this paper, new investment in public transit is a cost-effective way for states to directly support jobs, boost economic productivity, create valuable gains in terms of new mobility access, grow property values, and generate savings for households. State leaders can take five key actions, summarized below, to maximize the long-term value of their transportation spending by directing more resources to public transit and reducing spending on new highway capacity.

Flex federal highway formula dollars to transit programs

Administrative action

As a starting point, state DOTs can direct more of their existing federal transportation dollars toward transit programs through a process known as “flexing” funds. This administrative action occurs through coordination between the DOT, transit agencies, metropolitan planning organizations (MPOs), and regional FHWA and Federal Transit Administration (FTA) offices. Specifically, flexing funds involves moving funds out of highway programs (formula funding programs administered by FHWA) and into transit programs (formula funding programs administered by FTA). The Surface Transportation Block Grant program and the National Highway Performance Program are some of the most flexible and plentiful sources of federal transportation formula funding, making them good candidates for this strategy.

Transferring a modest share of a state’s most flexible source of FHWA funds to FTA programs would result in a boon to transit funding in most states without significant impacts to highway program budgets. Under FTA contracts, small-scale roadwork projects are faster and cheaper to deliver.

State DOTs have barely scratched the surface of the potential impact of this strategy: A recent report found that nationwide, only 3% to 4% of total annual highway formula funding gets flexed to FTA programs and that only California and New Jersey flexed more than 10% of their FHWA funds to FTA (TRB 2022). Flexing a modest share of a state’s most flexible sources of FHWA funds would represent a major boon to transit funding in most states without significantly impacting highway program revenues. What is more, highway investment portfolios focused on preventative maintenance (regular resurfacing and upkeep to avoid expensive repairs and reconstruction) rather than more costly expansion projects make each highway dollar go further, enhancing the ability to flex funds to FTA programs without repercussions for highway performance measures.

Flexing funds to transit programs also allows states to readily tap into an underleveraged transit funding source without raising taxes. State leadership on this issue enables local transit agencies, which have limited avenues for directly generating new revenue, to expand and modernize services. Data show that the payoff is real: State leaders in New Jersey and California see higher transit mode share in their communities while still meeting their established performance targets for travel time reliability and freight reliability on the highway network (FHWA 2023a, 2023b).

This strategy also streamlines project delivery for work such as sidewalk construction and crosswalk installation when the improvements are on transit corridors. As federal transportation planning guidance explicitly outlines, these impactful but low-cost improvements are often much quicker to

deliver under FTA procedures that are more right-sized for small-scale projects than they are under FHWA procedures designed for large-scale construction (U.S. DOT 2025).

To put this strategy into practice, state DOTs, transit agencies, and MPOs must collaborate to ensure project eligibility and make a formal request for a transfer of funds. With close coordination, these funding transfers can typically be executed in only 90 days, offering a much quicker path to accessing new funds for transit and transit-supportive projects such as pedestrian safety improvements on transit corridors.

Encourage the use of project “groupings” in transportation financing plans to support urban transit funding

Administrative action

Another administrative action at the state DOT level—grouping similar projects under a lump sum in financial planning documents—can make it easier and quicker for states to work with transit agency partners in local communities to flex funds and respond more nimbly to emerging transit priorities. Both states and MPOs have a longstanding practice of using this strategy to build flexibility into the process for highway programs and rural transit spending, but it is an underleveraged tool for streamlining the programming of funds for urban transit projects.

To be eligible to benefit from the flex funding process outlined above, a project must be included in an MPO’s adopted transportation improvement program (TIP) and by extension the DOT’s statewide transportation improvement program (STIP). While it sounds straightforward, project inclusion in a TIP/STIP can present a hurdle for agencies that want to leverage federal funding for new priorities that emerge outside of the standard multiyear transportation planning cycles, since MPOs and states can only direct federal funds to transportation projects that are in their adopted plans. Waiting for new rounds of “calls for projects,” in the typical planning cycle, can add years of unnecessary delay to project delivery.

But across modes, priorities still emerge outside the standard planning cycle, so planning processes need to include mechanisms for responding to these changes. Project groupings are an alternative to line-item project listings in these planning documents, allowing agencies to program funds to meet an overall goal instead of delivering a specific project in a specific location. Routine investments that do not significantly impact transportation system operations are generally eligible to be grouped rather than listed individually.

There are two paths to updating projects in TIPs and STIPs between planning cycles: modifications (a lighter lift) and amendments (a heavier lift). Project groupings, which are also called lump sums or pools in some regions, can typically be adjusted with modifications rather than amendments, making them more administratively streamlined. Taking action to include project groupings for urban transit spending and transit-adjacent pedestrian infrastructure upgrades creates a dedicated space within TIPs and STIPs for programming new funding for these needs, whether the funds come from flexed highway dollars or other sources.

Dedicate state funds to support transit operations

Political action

Dedicating funds for transit operations within state budgets can improve system capacity and help transit agencies achieve stronger performance on measures like ridership and service efficiency. As described in this paper, transit service capacity is intrinsically tied to operations, specifically to the frequency of service operated. Without reliable and sufficient operational funding, transit agencies cannot provide the kinds of high-capacity services that riders want and that legislators may expect.

Without reliable and sufficient operational funding, which must primarily come from state or local sources under existing federal funding rules, transit agencies cannot provide the high-capacity, efficient, and convenient services that riders want and that legislators expect.

State funds for transit operations can come from a variety of sources: General sales taxes, bond proceeds, and trust funds are commonly used, but in other cases states have dedicated a portion of state gas tax revenues or vehicle registration fees for transit. Some states, like Massachusetts and Michigan, have also leveraged more innovative funding streams like tapping tax revenue from cannabis sales to support transit programs (NCSL 2025). New Jersey, California, and, to a lesser extent, Texas have used revenue from roadway tolls to support transit expenses.¹¹ In New York City, the state-controlled Metropolitan Transportation Authority's recent implementation of congestion pricing on toll roads servicing Manhattan has reduced traffic and generated substantial funding to improve transit services (Kaske and Gordon 2025).

Federal law largely prohibits the use of federal funds for operating expenses for transit agencies in urbanized areas with populations over 200,000, but because operating costs increase over time while fares remain more flat, most urbanized systems do not recoup enough in farebox revenue to operate without significant public funding support. While local governments are often a key source of operating support, dedicating state-level funding to transit operations ensures residents across the state have more equal access to high-quality transit service, which can be everything from demand response to rapid bus to rail, depending on each community's needs, while also leveling the playing field for transit agencies in the state regardless of service area population.¹² Although nearly every state dedicates some amount of funding to transit programs today, most states provide relatively small sums: More than 80% of all state funds dedicated to transit programs come from just seven states (AASHTO 2024). To boost their support for transit programs, states will need to either redirect existing revenue or tap new revenue streams.

In Massachusetts, the Fair Share Amendment, a progressive tax reform enacted in 2022, generates new revenue for the state via a 4% surtax on annual household income over \$1 million and emphasizes investments in mass transit. As a result of the state's investments, the Metropolitan Boston Transit

¹¹ Despite the Texas Department of Transportation's emphasis on using toll revenue specifically for funding highway projects, there is a provision that allows excess revenue to be used for other prioritized transportation improvements through the Regional Toll Revenue program in the metropolitan Dallas area. The MPO for that region, the North Central Texas Council of Governments (NCTCOG), has a long history of leveraging surplus toll funds to support a wide variety of projects advancing transportation alternatives, including light rail projects, transit vehicle purchases, vanpool/demand response programs, travel demand management programs, and many corridor and small area studies assessing TOD feasibility across the region. See NCTCOG *Regional Toll Revenue* program website for additional details.

¹² In Texas, which has one of the nation's largest highway expansion programs, the state DOT has acknowledged that dedicated statewide funding for transit is needed to grow services to a level that meets current demand (TxDOT 2025, 69).

Authority has seen improved system performance, reliability, affordability, and accessibility. Massachusetts' distribution of operating assistance to local transit agencies across the state, outside of the Boston region, has also spurred a 20% increase in transit ridership in those areas (Commonwealth of Massachusetts 2026).

Taking effect in June 2026, the Northern Illinois Transit Act (NITA) in Illinois will direct new investments into transit services across the state but with a focus on the Chicago region. NITA shows how state-led leadership to support transit operations can find new revenue from existing sources without raising statewide taxes: NITA redirects revenue from the state's sales tax on motor fuel (different from the similarly named motor fuel tax, which remains earmarked primarily for road projects) to support transit agency operating costs across the state (State of Illinois CGFA 2025).

Enact statewide transit-oriented development policies that boost the impact of urban transit investments

Administrative and political action

Beyond redistributing existing funds and identifying new funding streams to support transit programs, state leaders can also boost the impact of their urban transit investments by enacting state-level legislation on TOD. TOD is an especially useful tool for the public sector to realize gains from its transit investments, because it leverages regulatory power to spur the private sector to make investments that further public goals. Effective and well-designed TOD policies help make communities more connected, affordable, and accessible.

Given how land value is positively impacted by transit investments and negatively impacted by highway investments, incentivizing development on land that transit serves is a strategic value-capture tool that can help public agencies fund public infrastructure (Germán and Bernstein 2020). Regarding BRT specifically, research has shown planning and economic development incentives like those offered through some TOD regulations are key to jumpstarting market responses to BRT investments (Nelson and Ganning 2015).

State-led TOD policies can help local communities tap into any latent capacity in existing transit systems, thereby growing ridership and the associated benefits of transit with regulatory levers. Recent state-led TOD legislation from Washington, Colorado, and California offers blueprints for other states to follow (Nakajima 2025). By providing standardized language for TOD ordinances to local jurisdictions, lending technical capacity to local governments, and streamlining review processes to deliver more housing and mixed-use development on transit corridors, state leadership on TOD can help maximize the impact of new transit spending.

Sustain and grow investments in small urban and rural transit

Administrative and political action

Finally, in planning for new state-led investments in transit, leaders and advocates alike should not overlook opportunities to sustain and grow investments in small urban and rural transit systems. Transit services in these areas require a larger operating subsidy per trip given the lower density and longer distances between destinations, but this spending is still found to generate as much as \$4 in benefits for every \$1 invested. While federal funding provides a clear avenue for rural transit operating investments through the Section 5311

Disinvestment in rural transit systems leads to increases in costs to the public sector that outweigh any financial savings from ceasing operations.

program, which state DOTs typically administer, dedicated support from additional state funds and technical assistance are still crucial to the success of these systems.

Small urban and rural transit services can also be key pillars in garnering broader public support for funding in transit across all communities regardless of demographics, making the usefulness and benefits of transit more visible to a wider array of constituents. Disinvestment in rural systems has also been found to lead to increases in costs to the public sector that outweigh any financial savings from ceasing operations (Alhassan and Ancaes 2025).

Beyond funding support, states can also leverage their institutional capacity to modernize rural and small urban transit systems, which often have less in-house technical expertise relative to their peer agencies in urban areas. NCDOT offers a good framework for how states can proactively step into this leadership role. The agency's statewide approach to strengthening and modernizing rural transit through the Mobility for Everyone, Everywhere program has been instrumental in providing new mobility access for underserved rural communities. With a dedicated support arm institutionalized at NCDOT through the Integrated Mobility Division, state-level leadership, standardization, and technical assistance for local governments made it possible for some of the state's smallest and most resource-constrained communities to deliver new mobility solutions for their residents (SUMC 2025). With the support of the state's leadership, these microtransit services enabled transit trips for more than half a million residents across 11 different rural communities in North Carolina as of 2024, including residents from some 13,000 zero-vehicle households in rural areas (NCDOT 2025).

Conclusion

Transportation spending has long favored highways over public transit programs, but investments in public transit systems yield returns that outweigh their costs while investments in highway programs underdeliver and create a negative return. Still, existing levels of funding for public transit are inadequate to deliver the level of service desired in many communities, and the gaps created by federal funding limitations and local capacity constraints highlight the importance of state leadership in supporting transit systems. State funding infusions into the operating budgets of public transit agencies can expand transit service capacity, create new jobs, spur savings for households, and lead to many other measured benefits described in this paper. With a better understanding of how to interpret the real impacts of new spending on highways versus transit programs, state leaders can make more informed investment decisions that yield stronger outcomes.

To maximize the impact of their transportation spending, states can redirect federal highway program funding to local transit systems, reform STIP/TIP processes to streamline the programming of transit funding, dedicate additional state revenue to support transit operations, boost the impacts of transit with complementary land use policy reform, and support less visible transit services in small urban and rural areas with both funding and technical assistance. Leadership across these five key areas will help states deliver the integrated, connected, and accessible mobility networks that communities are calling for while putting each limited public dollar to its most impactful transportation use.

References

- AASHTO (American Association of State Highway Officials). 2024. *Survey of State Funding for Public Transportation—Final Report 2024, Based on FY 2022 Data*. Washington, DC: AASHTO. store.transportation.org/Item/PublicationDetail?ID=5241.
- Alhassan, J., and P. Anciaes. 2025. “Public Transport Investments and Generators of Economic and Social Activity.” *Journal of Transport and Health* 41. doi.org/10.1016/j.jth.2025.101989.
- Allen, Treb and Costas Arkolakis. 2019. "The Welfare Effects of Transportation Infrastructure Improvements," NBER Working Paper 25487. doi.org/10.3386/w25487.
- APTA (American Public Transportation Association). 2020. “Economic Impact of Public Transportation, 2020 Update.” apta.com/wp-content/uploads/APTA-Economic-Impact-Public-Transit-2020.pdf.
- _____. 2026. “Economic Impact of Public Transportation, 2026 Update.” apta.com/wp-content/uploads/2026/03/APTA-Economic-Impact-of-Public-Transportation-022026.pdf.
- ARTBA (American Road and Transportation Builders Association). 2021. “Economic Impacts of Transportation Infrastructure.” www.artba.org/wp-content/uploads/2024/09/ARTBA_EIA_IJA_Report_Sept2021.pdf.
- Beaudoin, J., and J. Tyndall. 2023. “The Effect of Bus Rapid Transit on Local Home Prices.” *Research in Transportation Economics* 102 (2023): Article 101370 doi.org/10.1016/j.retrec.2023.101370.
- Bureau of Labor Statistics (BLS). 2025. “Consumer Expenditures 2024.” bls.gov/news.release/cesan.nr0.htm.
- _____. 2026. “Employment for Construction: Highway, Street, and Bridge Construction (NAICS 2373) in the United States” retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/IPUDN2373W200000000> April 2026
- Brent, D., and A. Gross. 2017. “Dynamic Road Pricing and the Value of Time and Reliability.” *Journal of Regional Science* 58. [//doi.org/10.1111/jors.12362](https://doi.org/10.1111/jors.12362).
- BTS (Bureau of Transportation Statistics). 2024. “Average Cost of Owning and Operating an Automobile.” bts.gov/content/average-cost-owning-and-operating-automobilea-assuming-15000-vehicle-miles-year.
- Chandra, A., and E. Thompson. 2000. “Does Public Infrastructure Affect Economic Activity?: Evidence from the Rural Interstate Highway System.” *Regional Science and Urban Economics* 30 (4): 457–90. [doi.org/10.1016/S0166-0462\(00\)00040-5](https://doi.org/10.1016/S0166-0462(00)00040-5).
- Chatman, Daniel G., and Robert B. Noland. 2014. “Transit Service, Physical Agglomeration and Productivity in US Metropolitan Areas.” *Urban Studies* 51(5), (917–937). www.jstor.org/stable/26145765.
- Commonwealth of Massachusetts. 2026. “Fair Share Is Making Public Transit Safer, More Accessible, and More Reliable.” *Delivering on Fair Share Impact Report*. mass.gov/info-details/fair-share-is-making-public-transit-safer-more-affordable-more-reliable.
- Duranton, Gilles, and Matthew A. Turner. 2011. "The Fundamental Law of Road Congestion: Evidence from US Cities." *American Economic Review* 101 (6): 2616–52. www.aeaweb.org/articles?id=10.1257/aer.101.6.2616

- Eno Center for Transportation. 2025. “More Mode Choice for Urban Mobility.” enotrans.org/article/mode-choice-for-urban-mobility/.
- FHWA (Federal Highway Administration). 2023a. “State Highway Reliability Report – New Jersey.” Transportation Performance Management website. www.fhwa.dot.gov/tpm/reporting/state/reliability.cfm?state=New%20Jersey.
- _____. 2023b. “State Highway Reliability Report – California.” Transportation Performance Management website. www.fhwa.dot.gov/tpm/reporting/state/reliability.cfm?state=California.
- _____. 2022. “Appendix A, Highway Investment Analysis Methodology.” In *Status of the Nation’s Highways, Bridges, and Transit Conditions and Performance Report*. fhwa.dot.gov/policy/24cpr/pdf/AppendixA.pdf.
- _____. 2016. “Revised Value of Travel Time Guidance.” transportation.gov/sites/dot.gov/files/docs/2016%20Revised%20Value%20of%20Travel%20Time%20Guidance.pdf.
- _____. 2000. “Highway Operations Spending as a Catalyst for Job Growth.” ops.fhwa.dot.gov/freight/freight_analysis/highway_ops/hiway_ops2.htm.
- Fitzroy, S., G. Weisbrod, and N. Stein. 2014. “TPICS, TIGER and US Experience: A Focus on Case-Based Ex Post Economic Impact Assessment.” International Transport Forum, Discussion Paper 2014-11. oecd.org/content/dam/oecd/en/publications/reports/2014/10/tpics-tiger-and-us-experience_g17a26c0/5jrw2z2fqgf1-en.pdf.
- Flyvbjerg, Bent. 2014. “What You Should Know about Megaprojects and Why: An Overview.” *Project Management Journal* 45, no. 2 (April/May). pmi.org/-/media/pmi/documents/public/pdf/research/research-summaries/flyvbjerg_megaprojects.pdf.
- Freemark, Y., and G. Samuels. 2025. “Federal Infrastructure Spending on Transportation, Four Years after the Infrastructure Investment and Jobs Act.” Washington, DC: Urban Institute. www.urban.org/research/publication/federal-infrastructure-spending-transportation-four-years-after-infrastructure.
- FTA (Federal Transit Administration). 2024. “National Transit Summaries and Trends.” transit.dot.gov/sites/fta.dot.gov/files/2025-11/2024%20National%20Transit%20Summaries%20and%20Trends%201.1.pdf.
- Gabbe, C., and G. Pierce. 2016. “Hidden Costs and Deadweight Losses: Bundled Parking and Residential Rents in the Metropolitan United States.” *Housing Policy Debate*. doi.org/10.1080/10511482.2016.1205647.
- Gabrielle, N. 2022. “Here’s How Much a Monthly Transit Pass Costs in 6 Big U.S. Cities.” *The Motley Fool*. www.nasdaq.com/articles/heres-how-much-a-monthly-transit-pass-costs-in-6-big-u.s.-cities.
- GDOT (Georgia Department of Transportation) Office of Performance-Based Management and Research. 2020. “Economic Impact Analysis of Georgia’s Rural and Small Urban Transit Systems.” rosap.ntl.bts.gov/view/dot/57560.
- Germán, Lourdes and Allison Ehrich Bernstein. 2020. “Land Value Return: Tools to Finance Our Urban Future.” Lincoln Institute of Land Policy. www.lincolninst.edu/app/uploads/legacy-files/pubfiles/land-value-return-policy-brief.pdf.

- Good Jobs First. 2025. "Smart Growth and Good Construction Jobs: How Urban Density Benefits Union Density." goodjobsfirst.org/wp-content/uploads/2025/10/Smart-Growth-and-Good-Construction-Jobs-How-Urban-Density-Benefits-Union-Density.pdf.
- Gordon, W. 2020. "In a Shrinking Part of Southern Virginia, VDOT Is Still Planning a Highway Expansion." *Virginia Mercury*. virginiamercury.com/2020/11/24/in-a-shrinking-part-of-southside-virginia-vdot-presses-forward-with-highway-expansion-plans/.
- Guerra, E., G. Duranton, and X. Ma. 2025. "Urban Roadway in America: The Amount, Extent, and Value." *Journal of the American Planning Association* 91 (1): 102–16. doi.org/10.1080/01944363.2024.2368260.
- Handy, S. 2026. "Let's Be Honest about Highway Expansions." University of California Davis, Institute for Transportation Studies. its.ucdavis.edu/blog/lets-be-honest-about-highway-expansions.
- Harris, L., M. Harleman, M. Willis, P. Hystad, and E. Hill. 2024. "Limited Impact of Roadway Construction and Traffic Congestion on Nearby Housing Prices." *Journal of Transport Policy* 157: 1–9. sciencedirect.com/science/article/abs/pii/S0967070X2400221X.
- Hoback, A., and S. Anderson. 2010. "Link between Transit Spending and Personal Income." University of Detroit Mercy. academia.edu/143120169/Link_Between_Transit_Spending_and_Personal_Income.
- Housing Affordability Institute. 2023. "Affordability Roadblocks: Parking Mandates." housingaffordabilityinstitute.org/policy-center/parking-mandates/.
- Hymel, K. 2019. "If You Build It, They Will Drive: Measuring Induced Demand for Vehicle Travel in Urban Areas." *Transport Policy* 76: 57–66. doi.org/10.1016/j.tranpol.2018.12.006.
- IMPLAN. 2026. "Introduction to Economic Impact Analysis." www.implan.com/introduction-to-economic-impact-analysis/.
- ITDP (Institute for Transportation and Development Policy). 2013. "More Development for Your Transit Dollar." Available at itdp.org/2013/11/13/more-development-for-your-transit-dollar-an-analysis-of-21-north-american-transit-corridors/?%2Fmoredevelopment.
- Jaworski, T., C. Kitchens, and S. Nigai. 2023. "Highways and Globalization." Working paper 27938, National Bureau of Economic Research. nber.org/system/files/working_papers/w27938/w27938.pdf.
- Kaske, M., and A. Gordon. 2025. "New York's Congestion Pricing Is Working. Five Charts Show How." Bloomberg City Lab. www.bloomberg.com/news/articles/2025-12-22/nyc-congestion-pricing-is-the-controversial-program-working.
- Litman, T. 2025. "The Mobility-Productivity Paradox." *Victoria Transport Policy Institute*. www.vtpi.org/ITED_paradox.pdf.
- McCormick, K. 2020. "Deconstruction Ahead: How Urban Highway Removal Is Changing Our Cities." Lincoln Institute of Land Policy. www.lincolninst.edu/publications/articles/2020-03-deconstruction-ahead-urban-highway-removal-changing-cities/.
- MDOT (Michigan Department of Transportation). 2025. "Five-Year Transportation Program: Revenues, Strategies, and Impacts: Highway Program Impacts." Accessed February 10, 2026. www.michigan.gov/mdot/programs/planning/five-year-transportation-program/revenue-impacts/highway-economic-impacts.

- _____. 2025b. “Five-Year Transportation Program: Revenues, Strategies, and Impacts: Public Transportation Program Impacts.” Accessed February 10, 2026.
www.michigan.gov/mdot/programs/planning/five-year-transportation-program/revenue-impacts/public-transportation-economic-impacts.
- Metro Transit. 2024. “Development Trends along Transit.”
www.metrotransit.org/Data/Sites/1/media/tod/2024devtrendsreport.pdf.
- Metropolitan Council. 2026. “Metro B Line.” Accessed February 2026.
metro council.org/Transportation/System/Transit/Value-of-Transit/METRO-B-Line.aspx.
- MnDOT (Minnesota Department of Transportation) Research Services Division. 2009. “The Economic Impact of Upgrading Roads.” cts-d10resmod-prd.oit.umn.edu/pdf/mndot-2009-16.pdf.
- _____. Office of Research and Innovation. 2020. “Measuring the Economic Benefits of Rural and Small Urban Transit Services in Greater Minnesota.” mdl.mndot.gov/flysystem/fedora/2023-01/202010.pdf.
- Nadiri, M., and T. Mamuneas. 1996. “Contribution of Highway Capital to Industry and National Productivity Growth.” Prepared for Apogee Research, Inc., for the Federal Highway Administration Office of Policy Development. rosap.ntl.bts.gov/view/dot/13426.
- Nakajima, Christi. 2025. “Five Key Components to Include in State Transit Oriented Development Laws.” ACEEE. aceee.org/blog-post/2025/10/five-key-components-include-state-transit-oriented-development-laws.
- NCDOT (North Carolina Department of Transportation) Research and Development Unit. 2018. “Analysis and Validation of Historical Transportation Assessments.” *Institute for Transportation Research and Education, North Carolina State University*.
connect.ncdot.gov/projects/research/RNAProjDocs/2017-22%20Final%20Report.pdf.
- _____. Integrated Mobility Division. 2025. “NCDOT Integrated Mobility Division, Multimodal Updates.” Webinar.
connect.ncdot.gov/business/Transit/MeetingResourcesDocs/MM%20Updates%20Webinar%20-%20July%202025.pdf.
- NCSL (National Conference of State Legislatures). 2025. “States Can(nabis) Collect Millions.”
www.ncsl.org/fiscal/states-can-nabis-collect-millions.
- NCTCOG (North Central Texas Council of Governments). “Regional Toll Revenue.” Accessed March 2026.
nctcog.org/trans/funds/rtr.
- Nelson, A. 1999. “Transit Stations and Commercial Property Values: A Case Study with Policy and Land-Use Implications.” *Journal of Public Transportation* 2 (3): 77–95.
<https://doi.org/10.5038/2375-0901.2.3.4>.
- Nelson, A., and J. Ganning. 2015. “National Study of BRT Development Outcomes.” NITC-RR-650. Portland, OR: Transportation Research and Education Center (TREC).
<http://dx.doi.org/10.15760/trec.28>.
- Olin, A. 2020. “What If We Spent Billions to Improve Access Instead of Gridlock?” Kinder Institute for Urban Affairs, Rice University. kinder.rice.edu/urbanedge/what-if-we-spent-billions-improve-access-instead-gridlock.
- Results for America. 2023. “Bus Rapid Transit: Richmond, VA.” catalog.results4america.org/case-studies/bus-rapid-transit-richmond-va.

- SEL (Southern Environmental Law Center). 2021. “Martinsville-Southern Connector FEIS Comments.” www.selc.org/wp-content/uploads/2021/11/Martinsville-Southern-Connector-FEIS-Comments-11-1-21.pdf.
- SGA (Smart Growth America). 2011. “Recent Lessons from the Stimulus: Transportation Funding and Job Creation.” t4america.org/wp-content/uploads/2011/02/lessons-from-the-stimulus.pdf.
- Shatz, H., K. Kitchens, S. Rosenbloom, and M. Wachs. 2011. “Highway Infrastructure and the Economy: Implications for Federal Policy.” Santa Monica, CA: RAND Corporation. rand.org/pubs/monographs/MG1049.html.
- Sriraj, P., J. Jang, and L. Srieniawski. 2025. “Return on Investment for Rural Demand Response Transit in Illinois.” University of Illinois Chicago Urban Transportation Center. uofi.app.box.com/s/jc14pwjlugl6z4ny9t4urolgnt8c0ygub.
- State of Illinois CGFA (Commission on Government Forecasting and Accountability). 2025. “Monthly Briefing, November 2025.” cgfa.ilga.gov/Upload/1125%20Monthly.pdf.
- Stewart, O., A. Vernez Moudon, and B. E. Saelens. 2017. “The Causal Effect of Bus Rapid Transit on Changes in Transit Ridership.” *J. Public Trans.* 20 (1): 91–103. pmc.ncbi.nlm.nih.gov/articles/PMC5627619/.
- SUMC (Shared Use Mobility Center). 2025. “Building Mobility for All: North Carolina’s Statewide Approach to On-Demand Transit.” learn.sharedusemobilitycenter.org/casestudy/building-mobility-for-all-north-carolinas-statewide-approach-to-on-demand-transit/.
- TRB (Transportation Research Board) National Cooperative Highway Research Program. 2022. *Federal Funding Flexibility: Use of Federal-Aid Highway Fund Transfers by State DOTs (NCHRP Report 1023)*. Washington, DC: The National Academies Press. doi.org/10.17226/26696.
- TTI (Texas A&M Transportation Institute). 2026. “How to Fix Congestion.” *Transportation Policy Research*. Accessed April 2026. policy.tti.tamu.edu/congestion/how-to-fix-congestion/.
- _____. 2024. “Texas’ Top 100 Congested Road Segments.” mobility.tamu.edu/texas-most-congested-roadways/.
- TxDOT (Texas Department of Transportation). 2025. “Draft Statewide Multimodal Transit Plan.” ftp.txdot.gov/pub/txdot/get-involved/ptn/SMTP/102025-draft-plan.pdf.
- UMass, Donahue Institute, Economic and Public Policy Research Group. 2025. “Quaboag Connector Economic Impact Analysis.” rideconnector.org/wp-content/uploads/2025/05/Donahue-Institute-Economic-Impact-Report-FINAL.pdf.
- U.S. DOT (U.S. Department of Transportation). *National Highway Construction Cost Index*. Accessed February 2026. explore.dot.gov/views/NHInflationDashboard/NHCCI_1?%3Aiid=1&%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Adisplay_count=n&%3AshowVizHome=n&%3Aorigin=viz_share_link.
- _____. 2025. “Flexible Funding Process Guidebook.” transit.dot.gov/sites/fta.dot.gov/files/2025-04/Flex-Funding-Guidebook-04-09-2025.pdf.
- U.S. PIRG (U.S. Public Interest Research Group) Education Fund, Center for Neighborhood Technology, and Smart Growth America. 2010. “What We Learned from the Stimulus.” publicinterestnetwork.org/wp-content/uploads/2012/02/ARRA-jobs-report_1.pdf.

- Virginia DRPT (Virginia Department of Rail and Public Transit). 2020. “Economic Benefits of Public Transportation in the Commonwealth of Virginia.” drpt.virginia.gov/wp-content/uploads/2023/05/economic-benefits-of-public-transportation-in-virginia.pdf.
- _____. 2023a. “Danville Transit Development Plan.” drpt.virginia.gov/wp-content/uploads/2024/10/Danville-Transit-TDP-Updated-2023.pdf.
- _____. 2023b. “Annual Budget, Fiscal Year 2024.” drpt.virginia.gov/wp-content/uploads/2023/09/FY24_CT_B_Final_Annual_Budget_Document-2.pdf.
- Walker, J. 2008. “Purpose-Driven Public Transport: Creating a Clear Conversation about Public Transport Goals.” *Journal of Transport Geography* 16: 436–42. doi.org/10.1016/j.jtrangeo.2008.06.005.
- _____. 2025. “Akron: Major Ridership Growth through Network Redesign.” *Human Transit Blog*. humantransit.org/2025/11/akron-major-ridership-growth-through-network-redesign.html.
- WMATA (Washington Metropolitan Area Transit Authority). 2024. “Benefits of Transit Report.” wmata.com/about/news/upload/BenefitsOfTransit_Report_240304_Web.pdf.

Appendix

ACEEE calculations based on Michigan Department of Transportation’s (MDOT) economic impact figures, as published in March 2026.

Public transportation programs: Total investment/Total employment impact = Dollars spent by MDOT to support each job related to its transit programs. $\$5,400,000,000/125,438 = \$43,049$

Public Transportation Program Impacts, Michigan Department of Transportation. Accessed February 2026. Available at www.michigan.gov/mdot/programs/planning/five-year-transportation-program/revenue-impacts/public-transportation-economic-impacts.

	2026	2027	2028	2029	2030	Total	Annual Average
Investment (millions \$)	\$1,047	\$1,062	\$1,084	\$1,107	\$1,130	\$5,430	\$1,086
Employment impact (jobs)	25,906	25,412	25,056	24,704	24,360	125,438*	25,088
Gross regional product (millions \$)	\$910	\$901	\$898	\$894	\$891	\$4,494	\$899
Labor income (millions \$)	\$706	\$635	\$694	\$690	\$628	\$3,353	\$671
Business output/sales (millions \$)	\$1,751	\$1,735	\$1,730	\$1,725	\$1,720	\$8,660	\$1,732

**Total Employment Impact refers to cumulative job-years supported by FY 2026-2030 Transit Program*

***Labor income is comprised of the sum of salaries, wages, proprietors' income, and employer-paid benefits.*

****Business Output/Sales is final sales, or total revenues, by industry. Depending on the industry, sales can be to any combination of other businesses, households, or the federal/state/local government, as defined by TREDIS.*

Highway programs: Total investment/Total employment impact = Dollars spent by MDOT to support each job related to its highway programs. $\$10,692,000,000/89,380 = \$119,624$

Highway Program Impacts, Michigan Department of Transportation. Accessed February 2026. Available at www.michigan.gov/mdot/programs/planning/five-year-transportation-program/revenue-impacts/highway-economic-impacts.

	2026	2027	2028	2029	2030	Total	Annual average
Investment (in millions)	\$2,587	\$2,602	\$1,896	\$1,748	\$2,859	\$10,692	\$2,138
Employment impact (jobs)	22,496	21,235	16,085	14,621	14,943	89,380*	17,876
Gross regional product (in millions)	\$2,046	\$2,008	\$1,452	\$1,316	\$1,366	\$8,188	\$1,638
Labor income (in millions) ***	\$1,573	\$1,498	\$1,085	\$988	\$1,025	\$6,168	\$1,234
Output/sales (in millions) ***	\$4,230	\$4,156	\$2,976	\$2,692	\$2,794	\$16,848	\$3,370

**Total employment impact refers to cumulative job-years supported by FY 2026-2030 Highway and Bridge Program.*

***Labor income is comprised of the sum of salaries, wages, proprietors' income, and employer-paid benefits.*

****Business Output/Sales is final sales, or total revenues, by industry. Depending on the industry, sales can be to any combination of other businesses, households, or the federal/state/local government, as defined by TREDIS.*