The False Promise of Building Roads

Transit Outpaces Highways for Economic Value

There is a persistent narrative that highway spending, particularly for highway expansion, is a good investment. This may have been true once, but now that the auto/highway system has matured and reached saturation,[1] investments in other parts of the transportation system are yielding greater economic benefits.

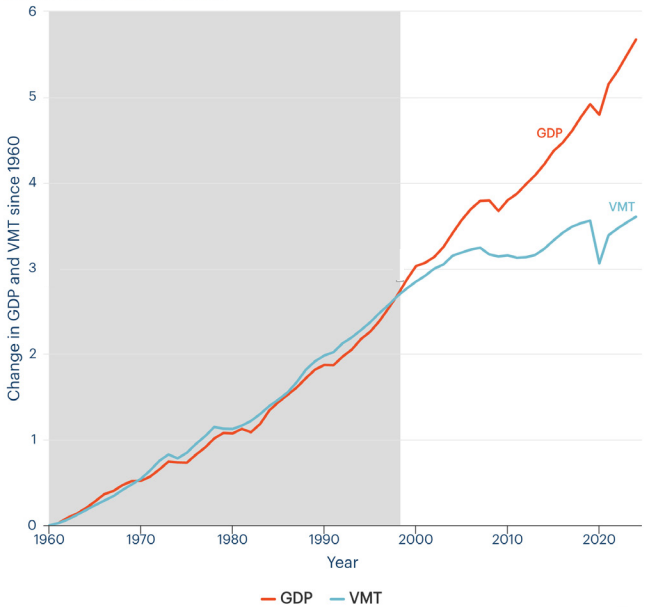
As the country, states, and cities have for years built their economies around automobility, maintaining these roads, while managing a transition to other mobility strategies, continues to have critical value. At the same time, investment in transportation modes that are more space and fuel efficient yields greater returns to quality of life and economic growth.

The Economic Case Has Changed

For decades, highway expansion was believed to be tied to economic growth. Vehicle Miles Traveled (VMT) and Gross Domestic Product (GDP) grew along the same path from 1960-1998. But since 1998, their trajectories have diverged. GDP growth remained positive while VMT became mostly flat; both experienced a small decline during the COVID pandemic. One explanation for the divergence is that, as the highway system has been completed, new capacity no longer increases connectivity as it once did.[2,3] Whatever the reason, new highway expansion is failing to yield anticipated economic returns. Transit, on the other hand, is a reliable investment, generating greater economic value than highway expansion.

US GDP and Annual VMT – Change since 1960

GDP in Chained 2017 Dollars



BEA, Table 1.1.6. Real Gross Domestic Product, Chained Dollars, Last Revised on: January 22, 2026; FHWA, Table VM203, ANNUAL VEHICLE-MILES OF TRAVEL, 1957 - 2024

Transit Generates Greater Long-Term Economic Returns

Transit investments are often high-return economic development strategies. In the tri-state area, a dollar invested in transit yields $2.20 of economic value. The same dollar invested in the highway and street system returns only $1.78. Upstate the values are closer but a dollar in transit investment still yields 4% more value than a dollar spent on highways and streets. Highway construction jobs tend to be short-term and often involve out of area firms[4], meaning the profits "leak" to other regions even if the work is done by local labor. However, investments in public transit create long-term operational jobs locally (e.g., drivers,

mechanics, maintenance staff). And while transit wages tend to circulate locally and amplify local economic benefits, additional spending on automobiles and fuel feeds non-local, and oftentimes international, economies. Economic modeling for transit investments finds robust returns for the local economy:

- 2.5 times greater total employment impacts than spending on streets and highways[5]
- 31% more direct jobs per dollar than new highway construction[6]

Highway Travel Time 'Savings' Don't Last

Highway expansions are typically justified based on the estimated value of travel time savings for users.[7] But the evidence shows that added capacity typically induces **new** traffic. Within 5 years congestion is often worse than before the expansion took place.[8] The most effective way to reduce congestion and save travel time is with demand management strategies.[9] Furthermore, projects may never even recover the additional delays caused during highway construction.[10]

There is clear evidence that travel time savings, if realized at all, will be short-lived. A 2020 study of highway expansion projects in California from 2008 to 2018 showed that the effects of induced demand are either ignored or greatly underestimated in the environmental review process, in some cases by an order of magnitude.[11] For example, the stated purpose of the $1.6 billion Interstate 405 Sepulveda Pass Improvement Project was to improve traffic conditions including reducing commute times for all drivers. The environmental review predicted "a reduction of 14,860 vehicle-hours of delay for the year 2015 and 16,060 vehicle-hours of delay for the year 2031" compared to the no build alternative. However, a year after opening in 2014, reductions in delays were only 50% of those promised[12] and drivers saw a one-minute increase in rush hour commute times compared to pre-project conditions.[13] When induced demand erodes those time savings, the core economic justification disappears.

Transit Strengthens Productivity Through Agglomeration

Economic productivity increases when people and businesses cluster together — these are known as agglomeration economies.[14] Highways tend to promote sprawl, weakening economic advantages, while transit is critical in enhancing economies,[15] especially for metro areas. Specifically, transit investments increase productivity, create more efficient labor markets, lead to knowledge spillovers, and help lower supply chain costs.

- Public transit **increases** urban agglomeration effects by **7%**
- Road lane expansion **reduces** agglomeration effects by **nearly 48%**[16]

Transit Uses Land Far More Efficiently

From 2001 to 2019 New York State lost 68,000 acres of forest land. **94% of this loss (64,000 acres) is attributed to sprawl development.** Highway expansion enables sprawl, but highways themselves compound the problem, consuming valuable land that could otherwise support more housing, commercial development, schools, healthcare facilities, and other community infrastructure. In fact, the land devoted to roads nationally is valued at $4.1 trillion[17]. A study of just 142 urban areas estimates the value of land used by the freeways could generate $500 billion of development.[18] This land, when accounted for properly, shows that **some highway projects' costs are three times greater than their benefits.**[19] Transit, on the other hand, can be **15 times more space-efficient** than a car lane, enabling thousands of acres of land to be used in ways that increase accessibility, support agglomeration economies, create open space, or otherwise free up land for productive uses that grow the tax base.[20]

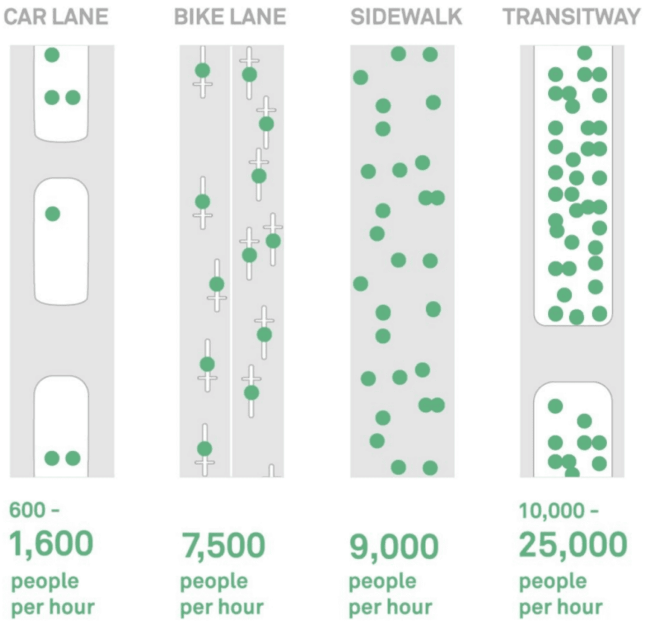
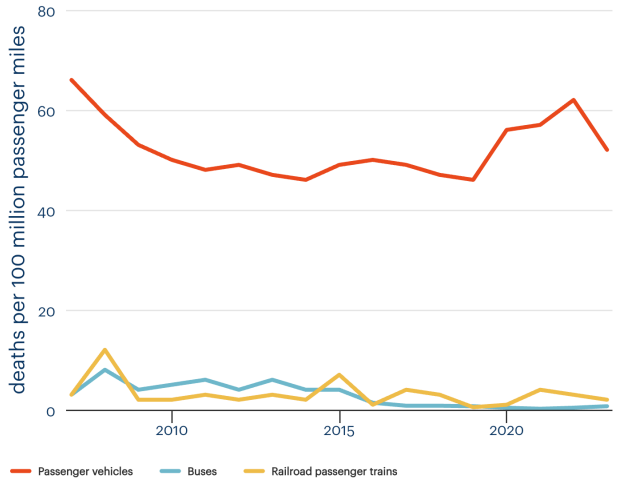


Image: NACTO

Transit is Safer and Reduces Economic Costs

Transit is far safer than driving. The death rate per passenger mile in private automobiles is **20 times higher than train travel and 30 times higher than bus travel**.[21] Bus transit is also safer than car travel for non-passengers, i.e.cyclists, pedestrians, and other users of the road. [22] Research has shown that rates of pedestrian injuries are 4.1 times greater and cyclist injuries 5.3 times greater for cars than for buses.[23]

Passenger Death Rate, U.S., 2007-2023



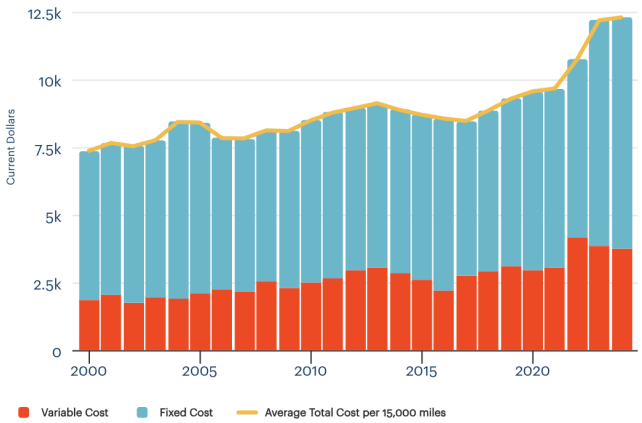
Data Source: National Safety Council, "Deaths by Transportation Mode" data

Transit Reduces Household Financial Burden

Vehicle ownership imposes large fixed and variable costs, many of which are not included in benefit-cost analysis.[24] These costs include insurance and registration, financing, purchases, ongoing fuel and maintenance, and depreciation. Unexpected repairs or costs associated with crashes also create financial burdens for households. The image below shows the breakdown of fixed and variable costs of car ownership, **per car**. American householders own 1.7 cars on average, and 60% own more than one car meaning the costs of automobility are nearly double what is shown here.

Average Cost of Owning and Operating an Automobile

Assuming 15,000 vehicle-miles per year



Bureau of Transportation Statistics visualization of AAA data 2000-2024

In addition to the high costs of owning and operating vehicles, the economic cost of motor vehicle crashes can take a significant toll on car owners.Nationwide, the cost of crashes was estimated to total almost $340 billion in 2019; individuals paid 75% of this cost, only two-thirds of which is covered by their private insurance.[25] The remaining $79 billion is an unexpected out-of-pocket loss. Public transportation, as a safer alternative, can reduce medical and insurance costs directly for individuals and society.

Reducing these financial burdens enables households to spend more on other priorities and in the local economy. This generates multiplier impacts, supporting local businesses and jobs.[26]

Public transportation is both an economic development tool and an affordability strategy, reducing the cost-of-living for users.

With the balance tipped as it is, why do we keep expanding highways?

Unfortunately, negative externalities of vehicle usage, such as additional delay, air, water and noise pollution, due to the induced demand are not well accounted for in most benefit-cost analyses. Travel time savings, even though fleeting account for a large amount of modeled benefits in project evaluation, agglomeration benefits, one of the key economic benefits of transit, are excluded, land costs are often undervalued or excluded. To get rational outcomes, we need to account for the negative externalities including induced demand and the additional air, water, and noise pollution of induced traffic, along with any positive and negative impacts of land use patterns encouraged and supported by different investments.

Properly accounting for travel time impacts, financial burdens on individuals and households, and agglomeration benefits in our analyses of the value of transportation investments would lead to a very different set of project priorities.

References

1. The post-Interstate Era is considered to have started with the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). Weingroff, R. F. Backbone: Creation of the National Highway System. FHWA. https://highways.dot.gov/highway-history/federal-aid-legislation/backbone-creation-national-highway-system
2. Litman, T. (2010). Evaluating Transportation Economic Development Impacts. Victoria Policy Institute. https://vtpi.org/econ_dev.pdf.
3. Guerra, Duranton, & Ma. (2024). Urban Roadway in America: The Amount, Extent, and Value. Journal of the American Planning Association, 91(1), 102–116. https://doi.org/10.1080/01944363.2024.2368260
4. Garin, A. (2019). Putting America to work, where? Evidence on the effectiveness of infrastructure construction as a locally targeted employment policy. Journal of Urban Economics Volume 111, May 2019, Pages 108-131. https://doi.org/10.1016/j.jue.2019.04.003.
5. U.S. Bureau of Economic Analysis. RIMS II Multipliers - Total Multipliers for Output, Earnings, Employment, and Value Added by Detailed Industry for theTri-State Region (2017/2022).
6. Smart Growth America. (2011). Recent Lessons from the Stimulus: Transportation Funding and Job Creation.
7. U.S. Department of Transportation. (2026). Benefit-cost analysis guidance for discretionary grant programs [2026 update]. https://www.transportation.gov/mission/office-secretary/office-policy/transportation-policy/benefit-cost-analysis-guidance.
8. Volker, J. M. B., Lee, A. E., & Handy, S. (2020). Induced Vehicle Travel in the Environmental Review Process. Transportation Research Record, 2674(3), 10–16. https://doi.org/10.1177/0361198120923365.
9. Hymel, K. (2019). If you build it, they will drive: Measuring induced demand for vehicle travel in urban areas. Transport Policy, Volume 76, 2019, Pages 57-66.
10. McCann, B., DeLille, B, Dittmar, H., and Garland, M. (1999). Road Work Ahead: Is Construction Worth the Wait? Surface Transportation Policy Project.
11. Volker, J. M. B., Lee, A. E., & Handy, S. (2020). Induced Vehicle Travel in the Environmental Review Process. Transportation Research Record, 2674(3), 10–16.
12. LA Metro. (26 May, 2015). I-405 Sepulveda Pass Improvements Project Evaluation. https://www.scribd.com/document/266814689/I-405-Sepulveda-Pass-Improvements-Project-Evaluation
13. Short, A. (2019, May 8). A Great Big Freeway — Thanks to Induced Demand. Streetsblog USA.
14. Edward L. Glaeser. (2010). Introduction. In Agglomeration Economics. University of Chicago Press.
15. Melo, P., Graham, D., Transport- induced agglomeration effects: Evidence for US metropolitan areas. Regional Science Policy & Practice, Volume 10, Issue 1, 2018, Pages 37-48, ISSN 1757-7802,
16. Melo, P., Graham, D., Transport- induced agglomeration effects: Evidence for US metropolitan areas. Regional Science Policy & Practice, Volume 10, Issue 1, 2018, Pages 37-48, ISSN 1757-7802,
17. Guerra, Duranton, & Ma. (2024). Urban Roadway in America: The Amount, Extent, and Value. Journal of the American Planning Association, 91(1), 102–116. 0
18. Kennedy, Patrick (2026). Atlas of Inner-City Highway Impacts.
19. Guerra, Duranton, & Ma. (2024). Urban Roadway in America: The Amount, Extent, and Value. Journal of the American Planning Association, 91(1), 102–116.
20. Millard-Ball, A. (2022). The Width and Value of Residential Streets. Journal of the American Planning Association, 88(1), 30–43.
21. Deaths by Transportation Mode. National Safety Council Injury Facts. NSC data combines highway fatality data from Fatality Analysis Reporting System (FARS), railroad fatality data from the Federal Railroad Administration, passenger mile estimates from the Bureau of Transportation Statistics (BTS), and all other data from National Safety Council estimates. Depending on data source and how mode is defined, these safety comparisons vary. For example, BTS reports that motor bus fatality rates are similar to all categories of rail, but that individually heavy rail, light rail, and commuter rail are safer than bus:
22. Morency et al. (2018) Traveling by Bus Instead of Car on Urban Major Roads: Safety Benefits for Vehicle Occupants, Pedestrians, and Cyclists. Journal of Urban Health 95, 196–207 (2018).
23. Morency et al. (2018) Traveling by Bus Instead of Car on Urban Major Roads: Safety Benefits for Vehicle Occupants, Pedestrians, and Cyclists. Journal of Urban Health 95, 196–207 (2018).
24. U.S. Department of Transportation. (2026). Benefit-cost analysis guidance for discretionary grant programs [2026 update].
25. Blincoe, L., Miller, T., Wang, J.-S., Swedler, D., Coughlin, T., Lawrence, B., Guo, F., Klauer, S., & Dingus, T. (2023, February). The economic and societal impact of motor vehicle crashes, 2019 (Revised) (Report No. DOT HS 813 403). National Highway Traffic Safety Administration.
26. Godavarthy, R. P., Mattson, J., & Ndembe, E. (2014). Cost–Benefit Analysis of Rural and Small Urban Transit in the United States. Transportation Research Record: Journal of the Transportation Research Board, 2533(1), 141-148.