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Reforming Federal Surface Transportation Policy

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Policy Handbook

MAY 2024

Rationalizing federal surface transportation policy for the 21st century entails rethinking current funding mechanisms, encouraging state and private infrastructure investment, and removing regulatory barriers that unnecessarily increase costs.

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THE CLUB FOR GROWTH FOUNDATION

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INTRODUCTION

Federal surface transportation policy is facing numerous challenges. Despite an unprecedented increase in federal funding in recent years, major infrastructure needs remain unmet. Much of this can be explained by mission creep within federal legacy programs. This has led to increased funding of dubious projects with little plausible connection to the national interest. Congress is due to reauthorize surface transportation programs by the end of September 2026, which will serve as an opportunity to refocus federal attention on promoting economic growth in the 21st century.

The surface transportation networks of the United States support robust economic growth and high standards of living by connecting people with places and by carrying goods to markets. Each year, the 4.2 million miles of US roadways carry more than 3 trillion vehicle-miles of travel,[1] which equates to roughly 5.5 trillion passenger miles annually.[2] On the freight side, trucks move about 2.5 trillion ton-miles of cargo worth more than $10 trillion annually.[3]

The creation of the Interstate Highway System in 1956 formed the basis of the modern Federal-Aid Highway Program. The interstates account for just under 49,000 of those 4.2 million miles of road (about 1%) but carry 26% of US vehicle-miles traveled.[4] Economists recently estimated that eliminating the interstates would reduce US gross domestic product between 2.6% and 3.6%—or between $718 billion and

1 Federal Highway Administration, "Traffic Volume Trends," Office of Highway Policy Information, US Department of Transportation, accessed February 7, 2024, https://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm.
2 Bureau of Transportation Statistics, "U.S. Passenger-Miles," US Department of Transportation, accessed February 7, 2024, https://www.bts.gov/content/us-passenger-miles.
3 Bureau of Transportation Statistics, "U.S. Ton-Miles of Freight," US Department of Transportation, accessed February 7, 2024, https://www.bts.gov/content/us-ton-miles-freight; Bureau of Transportation Statistics, "Freight Activity in the United States: 1993, 1997, 2002, 2007, 2012 and 2017," US Department of Transportation, accessed February 7, 2024, https://www.bts.gov/content/freight-activity-united-states-1993-1997-2002-and-2007.
4 Bureau of Transportation Statistics, "Roadway Vehicle-Miles Traveled (VMT) and VMT per Lane-Mile by Functional Class," US Department of Transportation, accessed February 7, 2024, https://www.bts.gov/content/roadway-vehicle-miles-traveled-vmt-and-vmt-lane-mile-functional-class.

$994 billion per year in 2023 dollars.[5] This estimate only accounts for the benefits to freight transportation and does not include the value of the interstates to passenger transportation.

While the interstates are owned and operated by the states, federal leadership in route selection and construction funding was justified by Congress due to the national significance of these superhighways. The Highway Trust Fund was created to support the development of the Interstate Highway System on a pay-as-you-go basis, largely via per-gallon excise taxes on motor fuel.

These policies were narrowly focused on achieving a discrete goal—constructing a nationwide network of freeways—and were quite successful at facilitating interstate commerce and international trade. They also increased access to employment and social opportunities within metropolitan areas.

But the Interstate Highway System has been functionally complete for a generation; consequently, for 25 years or so, our federal surface transportation policy has lacked a clear mission. As we would expect, this lack of direction threatens the program's continuing performance. This is especially troubling because much of the system has reached the end of its service life; reconstruction and modernization will be required over the next two decades. In 2019, this price tag was estimated to be between $900 billion and $1.4 trillion.[6]

The strict pay-as-you-go funding model based on user taxes has deteriorated since the 1970s, with federal funding increasingly being directed toward projects without national significance and of little benefit to the highway users paying the taxes to support those projects. Since 2008, Congress has relied on general fund transfers to the Highway Trust Fund to support expenditures that exceed dedicated user tax revenue. The Infrastructure Investment and Jobs Act of 2021 was heralded for its record-setting expenditure levels, but it was also characterized by record Highway Trust Fund bailouts, even more focus on projects lacking national significance, and a failure to address the trillion-dollar interstate reconstruction question.

As a result of these policy failures, taxpayer dollars have been wasted. Resources that could have improved system performance and allowed manufacturers to increase production by moving more goods to market have been diverted to political priorities that do nothing to increase economic growth.

Federal taxpayers and the users of the transportation system deserve better. Policymakers should consider three complementary recommendations to maximize taxpayer return on investment and promote economic growth,especially in the industrial sector:

1. Restore the "user-pays/user-benefits" principle and refocus on projects of national significance.
2. Leverage road pricing and the private sector to build, finance, operate, and maintain infrastructure facilities.
3. Reduce regulatory barriers that limit competition and increase costs.

Let us explore these ideas.

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5 Taylor Jaworski, Carl Kitchens, and Sergey Nigai, "Highways and Globalization," *International Economic Review* 64, no. 4 (November 2023): 1615–1648, https://doi.org/10.1111/iere.12640. For the 2023 annualized GDP estimate, see "Gross Domestic Product (Third Estimate), Corporate Profits (Revised Estimate), and GDP by Industry, Third Quarter 2023," Bureau of Economic Analysis, December 21, 2023, https://www.bea.gov/news/2023/gross-domestic-product-third-estimate-corporate-profits-revised-estimate-and-gdp.

6 Transportation Research Board, *Renewing the National Commitment to the Interstate Highway System: A Foundation for the Future*, National Academies of Science, Engineering, and Medicine (National Academy of Sciences, 2019), https://doi.org/10.17226/25334.

Restore the user-pays/user-benefits principle and refocus on projects of national significance.

After two decades of study and debate at the federal level, Congress and President Dwight D. Eisenhower established the Interstate Highway System with the Federal-Aid Highway Act of 1956. This law was coupled with the Highway Revenue Act of 1956, which established a dedicated Highway Trust Fund account at the US Treasury. As with previous federal-aid highway programs, states would own and manage the interstates within their respective jurisdictions.[7]

To fund the new network of nationwide freeways, several highway user taxes were increased or created—most notably per-gallon excise taxes on gasoline and diesel fuel collected at the wholesale distribution "rack"—and receipts from these taxes were deposited into the Highway Trust Fund. Revenue credited to the trust fund was then made available to cover 90% of states' interstate project construction costs on a pay-as-you-go basis.[8]

These mechanisms formed the basis of what is known as the user-pays/user-benefits principle in highway funding. When compared to general fund appropriations, the user-pays principle offers several advantages:

- **Fairness:** Users who pay to support the system benefit from infrastructure improvements funded by their payments.
- **Proportionality:** Those who drive more pay more, those who drive less pay less, and those who do not drive at all do not pay.
- **Self-limiting:** With user payments as the sole source of revenue, the funding limit is set by the amount of revenue received from users.
- **Predictability:** Highway use and highway user revenue collections do not fluctuate wildly from year to year.
- **Signaling investment:** Users' willingness to pay can be used to direct future infrastructure improvements.[9]

The user-pays principle for the Federal-Aid Highway Program began to collapse at the end of the first phase of construction. In 1973, Congress first granted states broad authority to "flex" federal highway funds to mass transit projects.[10] The diversion of highway user tax revenue to mass transit was made automatic in 1983, when Congress established the Mass Transit Account within the Highway Trust Fund.[11]

To fund this new trust fund account, as well as increase federal-aid highway funding to the states, gasoline and diesel fuel tax rates were raised by 5¢, with 1¢ dedicated to mass transit. Mass Transit Account expenditures accounted for 16.6% of Highway Trust Fund outlays in fiscal year (FY) 2023.[12] A significant incongruity emerged: despite steadily increasing subsidies, mass transit's national passenger travel market share has fallen from 2.5% of personal trips in 1983 to 1.5% in 2022.[13]

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7 Federal-Aid Highway Act of 1956, Pub. L. 84–627, 70 Stat. 374 (June 29, 1956), § 209.
8 Federal-Aid Highway Act of 1956, Pub. L. 84–627, 70 Stat. 374 (June 29, 1956), §§ 108, 202–207, 209.
9 Robert W. Poole Jr. and Adrian T. Moore, "Restoring Trust in the Highway Trust Fund," Reason Foundation, August 2010, https://reason.org/wp-content/uploads/files/restoring_highway_trust_fund.pdf.
10 Federal-Aid Highway Act of 1973, Pub. L. 93–87, 87 Stat. 250 (Aug. 13, 1973), § 121.
11 Surface Transportation Assistance Act of 1982, Pub. L. 97–424, 96 Stat. 2097 (Jan. 6, 1983), § 531.
12 Federal Highway Administration, "Status of the Highway Trust Fund," US Department of Transportation, accessed February 7, 2024, https://www.fhwa.dot.gov/highwaytrustfund/.
13 Federal Highway Administration, *Personal Travel in the United States*: 1983–1984, vol. 1, US Department of Transportation (August 1986), https://www.fhwa.dot.gov/ohim/1983/vol1pt2.pdf; Federal Highway Administration, "Popular Person Trips (PT) Statistics," US Department of Transportation, accessed February 7, 2024, https://nhts.ornl.gov/person-trips.

In addition to diversions to mass transit, the Highway Trust Fund's Highway Account has seen its focus shift away from core highway construction and rehabilitation programs. Congress's 1991 surface transportation reauthorization created new "flexible" programs under the Highway Account, most notably the Surface Transportation Block Grant program (STBG) and the Congestion Mitigation and Air Quality Improvement program (CMAQ).[14]

STBG boasts expansive eligibility criteria and has allowed highway funding to be repurposed to support local sidewalk, bike path, and transit projects, in addition to purely aesthetic "transportation enhancements" such as landscaping and scenic beautification. CMAQ follows suit: any transportation projects that could plausibly be connected to reducing air pollution, are eligible including nonhighway projects aimed at reducing vehicle-miles traveled.

With the Infrastructure Investment and Jobs Act of 2021, Congress created two additional "flexible" formula programs under the Highway Trust Fund's Highway Account: the Carbon Reduction program and the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula program. The Carbon Reduction program can fund an array of highway and nonhighway projects that "support the reduction of transportation emissions."[15] Likewise, the PROTECT Formula program can fund myriad highway and nonhighway projects with a plausible connection to reducing vulnerability to natural hazards.[16]

Table 1 displays FY 2024 apportionments from the Highway Trust Fund's Highway Account.

Table 1.
FY 2024 Federal-Aid Highway Program Apportionments

Highway Account Program	Apportionments	Share
National Highway Performance Program	$29,588,395,810-	54.20%
Surface Transportation Block Grant Program	$14,394,354,721	26.40%
Highway Safety Improvement Program	$3,110,182,769	5.70%
Railway-Highway Crossings Program	$245,000,000	0.50%
Congestion Mitigation & Air Quality Improvement	$2,638,965,032	4.80%
Metropolitan Planning	$455,821,233	0.80%
National Highway Freight Program	$1,429,439,392	2.60%
Carbon Reduction Program	$1,283,496,627	2.40%
PROTECT Formula Program	$1,459,427,633	2.80%
Total	$54,605,083,217	100.2%

Note: Apportionment figures are before post-apportionment set-asides, penalties, and sequestration. Program shares total more than 100% because of rounding.

Source: Federal Highway Administration, "Apportionment of Federal-Aid Highway Program Funds for Fiscal Year (FY) 2024," Notice 4510.880, US Department of Transportation, October 2, 2023, https://www.fhwa.dot.gov/legsregs/directives/notices/n4510880.cfm.

14 Intermodal Surface Transportation Efficiency Act of 1991, Pub. L. 102–240, 105 Stat. 1914 (Dec. 18, 1991), §§ 1007, 1008.
15 Federal-Aid Highways, 23 U.S.C. § 175(c)(1).
16 Federal-Aid Highways, 23 U.S.C. § 176.

Highway user tax revenue was able to sustain several decades of Highway Trust Fund mission creep. This changed in 2008, when the structural deficit between Highway Trust Fund revenue and outlays led Congress to begin a series of general fund bailouts that has continued ever since. The Eno Center for Transportation's Jeff Davis has identified three primary causes of this persistent revenue-outlay imbalance:

1. **Growth in vehicle-miles traveled has slowed.** During the initial construction phase of the Interstate Highway System, from the 1950s through the 1970s, vehicle-miles traveled growth averaged 4.5% per year. For the last two decades, however, it has averaged just 0.8% per year. A slower increase in travel means a slower increase in fuel consumed. And with approximately 85% of Highway Trust Fund revenue coming from per-gallon taxes on gasoline and diesel, this means a slower increase in revenue.

2. **Vehicle fuel efficiency has greatly improved.** The energy crisis in the 1970s led to a variety of public and private actions aimed at increasing vehicle fuel efficiency. Since then, average fuel economy has nearly doubled in the light-duty fleet, with passenger cars burning 4 gallons of gas per 100 miles today compared to 7.6 gallons in 1976. Pickup trucks and SUVs, which make up a growing percentage of the vehicle fleet, burn 5.6 gallons per hundred miles today compared to 9.3 gallons in 1976.

3. **Congress has failed to respond to these trends.** Despite the changing relationship between road use and revenue, Congress has not cut spending, raised fuel tax rates, nor employed some combination of these tools to account for these changes. Gasoline (18.4¢ per gallon) and diesel fuel (24.4¢ per gallon) tax rates were last raised in 1993.[17]

According to the Congressional Budget Office (CBO), Congress has authorized $275 billion in Highway Trust Fund bailouts since 2008.[18] Of that cumulative total, $118 billion was authorized by 2021's IIJA.[19] The IIJA provided $383 billion in Highway Trust Fund contract authority over five years, meaning nearly one-third of Highway Trust Fund spending under the current law is supported by general fund transfers.[20]

While these transfers temporarily replenished the trust fund, they failed to address the underlying structural deficit. The shortfall for FY 2023 totaled $17.6 billion, with highway user tax receipts covering 73% of Highway Account spending and 59% of Mass Transit Account spending.[21] And even if the Mass Transit Account were eliminated and all revenue dedicated to highways, highway user tax receipts would cover only 95.5% of highway outlays—a $2.2 billion deficit.[22]

17 Statement of Jeff Davis, Senior Fellow, Eno Center for Transportation, before the Subcommittee on Highways and Transit, Committee on Transportation and Infrastructure, US House of Representatives, "Running on Empty: The Highway Trust Fund," Eno Center for Transportation, October 18, 2023, https://docs.house.gov/meetings/PW/PW12/20231018/116425/HHRG-118-PW12-Wstate-DavisJ-20231018.pdf.
18 Chad Shirley, Principal Analyst, Microeconomic Studies Division, before the Subcommittee on Highways and Transit, Committee on Transportation and Infrastructure, US House of Representatives, "The Status of the Highway Trust Fund: 2023 Update," Congressional Budget Office, October 18, 2023, https://docs.house.gov/meetings/PW/PW12/20231018/116425/HHRG-118-PW12-Wstate-ShirleyC-20231018.pdf.
19 Shirley, "The Status of the Highway Trust Fund." The IIJA authorized a $90 billion transfer to the Highway Trust Fund's Highway Account and a $28 billion transfer to the Mass Transit Account.
20 Shirley, "The Status of the Highway Trust Fund."
21 Jeff Davis, "The Highway Trust Fund Ran a $17.8 Billion Structural Deficit in FY 2023," Eno Center for Transportation, October 27, 2023, https://enotrans.org/article/the-highway-trust-fund-ran-a-17-8-billion-structural-deficit-in-fy-2023/.
22 Federal Highway Administration, "Status of the Highway Trust Fund, " Table FE-1, February 2024, https://www.fhwa.dot.gov/highwaytrustfund/docs/fe-1_feb2024.pdf.

FIGURE 1.

CBO Forecast of Highway Trust Fund End-of-Year Balance/ Shortfall, By Account

Source: Congressional Budget Office, "Baseline Projections: Highway Trust Fund Accounts," February 2024.

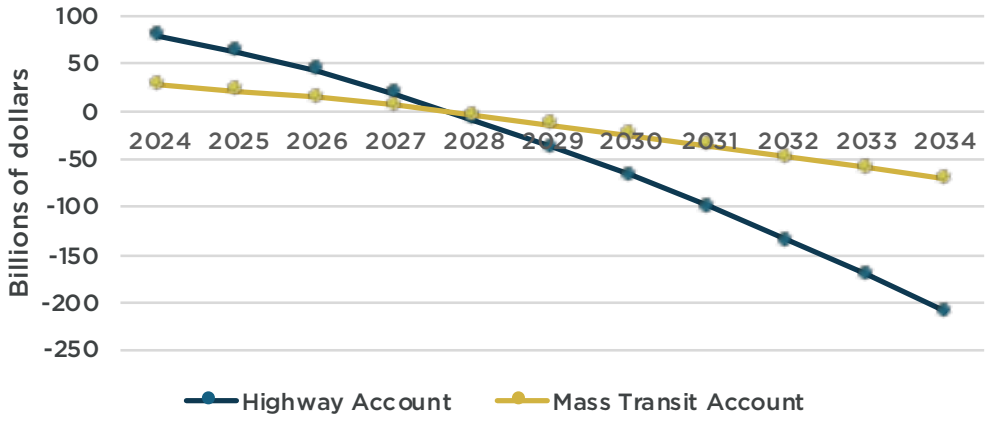
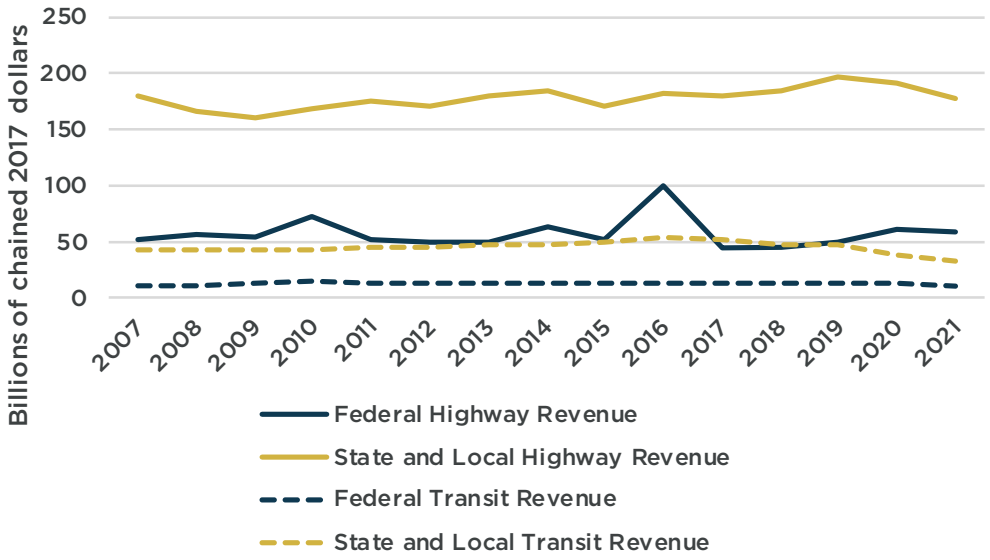


FIGURE 2.

Figure 2: Real Transportation Revenue by Level of Government, 2007–2021

Source: Bureau of Transportation Statistics, Government Transportation Financial Statistics (GFTS), Table 2-B, https://www.bts.gov/browse-statistical-products-and-data/gtfs/transportation-revenue-level-government-type.



The Highway Trust Fund's structural deficit is expected to worsen over the next decade, with forecasted end-of-year balances and shortfalls presented in Figure 1. At the end of the CBO's baseline budget window in 2034, the cumulative deficit is forecasted to reach $279.33 billion, with highway user tax receipts and interest covering just 49% of Highway Account outlays and a paltry 24% of Mass Transit Account outlays.[23]

This dismal outlook calls for rethinking federal surface transportation policy. A fiscally responsible Congress would begin by recognizing that federal revenue supports a relatively small share of total surface transportation funding.

As Figure 2 shows, state and local governments tend to allocate three to four times more revenue to highways and transit than does the federal government.

23 Congressional Budget Office, "Highway Trust Fund Accounts," February 2024, https://www.cbo.gov/system/files/2024-02/51300-2024-02-highwaytrustfund.pdf.

With the vast majority of federal revenue being spent on grants to state and local infrastructure owner-operators, economists have long been concerned that federal transportation grants may crowd out state and local spending, leading to little or no net increase in transportation infrastructure investment that can fuel economic growth.[24]

This crowding-out risk can be minimized by refocusing the federal role on nationally significant projects rather than projects that solely benefit particular states or localities. A rightsized surface transportation program designed to promote the national interest would focus primarily on maintaining and modernizing the Interstate Highway System, which accounts for just 2.6% of US roadway lane-miles but carries 25.9% of US vehicle-miles traveled.[25]

If the Highway Trust Fund ceased funding non-interstate highways, mass transit, highway safety, and similar programs, expected cash flow is likely to be sufficient to cover Interstate Highway System rehabilitation and reconstruction needs over the next two decades.

In FY 2023, federal highway user taxes generated $42.1 billion in revenue that was credited to the Highway Trust Fund's Highway Account ($37.4 billion) and the Mass Transit Account ($4.7 billion) before interest income ($5.7 billion), or approximately $48 billion in total income.[26]

Assuming a 0.75% annual increase in vehicle-miles traveled that approximates recent trends, the National Academies' 2019 interstate futures study estimated that $33 billion (in 2016 dollars) in annual federal and state spending over the next 20 years was needed to resurface and construct highway segments ($27 billion), rehabilitate and replace bridges ($4 billion), and support highway operations on the Interstate system.[27] Maintaining the 90% federal share for interstates results in $29.7 billion in federal obligations. Finally, adjusting 2016 dollars to 2023 dollars yields an annual interstate federal funding estimate of $34.6 billion.[28]

While this approach would likely sustain the interstate system as it currently exists at current federal highway user tax rates, it does not include capacity expansions to maintain and improve system performance (for example, by minimizing congestion delay). Including these additions would require $51.4 billion per year in 2023 dollars, according to the estimate from the National Academies study, which exceeds anticipated Highway Trust Fund revenue.[29] However, this estimate is sensitive to assumptions about vehicle-miles traveled growth and vehicle fuel economy, so it is subject to significant uncertainty.

With current highway user taxes likely unable to fully fund future Interstate Highway System needs—let alone support broader National Highway System federal aid funding, safety programs, and transportation research activities that many desire and can be justified under the user-pays principle—alternative procurement methods are needed to bridge the gap. To do so, Congress should eliminate restrictions on direct road pricing by infrastructure owner-operators. This would reduce Highway Trust Fund fiscal obligations while simultaneously strengthening the user-pays principle.

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24 Brian Knight, "Endogenous Federal Grants and Crowd-Out of State Government Spending: Theory and Evidence from the Federal Highway Aid Program," *American Economic Review* 92, no. 1 (March 2002): 71–92, https://doi.org/10.1257/000282802760015612.
25 Bureau of Transportation Statistics, "Estimated U.S. Roadway Lane-Miles by Functional System," US Department of Transportation, accessed February 7, 2024, https://www.bts.gov/content/table-1-6-estimated-us-roadway-lane-miles-functional-systema; Bureau of Transportation Statistics, "Roadway Vehicle-Miles Traveled."
26 Federal Highway Administration, "Status of the Highway Trust Fund."
27 Transportation Research Board, *Renewing the National Commitment to the Interstate Highway System,* p. 158.
28 Adjusted to 2023 dollars using the GDP deflator derived from the Bureau of Economic Analysis, "Table 8.1.4: Price Indexes for Gross Domestic Product, Not Seasonally Adjusted," National Income and Product Accounts, https://apps.bea.gov/iTable/?reqid=19&step=2&isuri=1&categories=survey#eyJhcHBpZCI6MTksInN0ZXBzIjpbMSwyLDNdLCJkYXRhIjpbWyJjYXRlZ29yaWVzIiwiU3VydmV5IlOsWyJOSVBBX1RhYmxlX0xpc3QiLCI0MDMiXV19.
29 Congressional Budget Office, "Highway Trust Fund Accounts," February 2024.4

Table 2. Current Federal Highway Tolling Programs

Tolling Program	Description
Section 129 General Toll Program	Permits tolling of new highways, new lanes to existing highways (provided the number of toll-free lanes remains the same), reconstruction of non-interstate highways, and reconstruction/replacement of bridges and tunnels.
Section 129 Congestion Relief Program	Permits tolling of interstates in up to 10 urbanized areas with populations greater than 1 million residents.
Section 166 HOV/HOT Lanes	Permits high-occupancy vehicle lanes to be used by toll-paying vehicles that do not meet minimum occupancy requirements.
Interstate System Reconstruction and Rehabilitation Pilot Program	Permits the conversion of toll-free interstate highways to toll facilities for reconstruction purposes. Limited to three route slots, which must be used by different states (one per state).
Value Pricing Pilot Program	Permits variable tolling to manage the demand for congestion mitigation purposes. Limited to 15 slots, although agencies that have been allocated a slot can implement congestion pricing on multiple facilities.

Source: Office of Innovative Program Delivery, "Tolling and Pricing," Federal Highway Administration, US Department of Transportation, 2018, https://www.fhwa.dot.gov/ipd/pdfs/fact_sheets/techtools_federal_highway_tolling.pdf. Pub. L. 117–58, § 11404(a).

Leverage road pricing and the private sector to build, finance, operate, and manage infrastructure facilities.

To encourage investment in pro-growth highway capacity enhancements and reduce risk to taxpayers, policymakers should remove barriers to road pricing and private sector infrastructure development. Despite its strong embodiment of the user-pays/user-benefits principle, tolling of federal-aid highways was traditionally forbidden under federal law. This prohibition has been relaxed in recent decades, but it still applies to the reconstruction of interstate highways. The legalization of tolling is a prerequisite to most forms of public-private partnerships (P3s). Tolling and P3s present opportunities to deliver better infrastructure more quickly and at reduced costs to taxpayers.

Congress has restricted funding to toll roads since the Federal Aid Road Act of 1916, the first federal road construction assistance program, which mandated that "all roads constructed under the provisions of this Act shall be free from tolls of all kinds."[30] This general prohibition was first relaxed in 1927 with an exemption for funding toll bridges.[31] In establishing the Interstate Highway System, Congress incorporated a number of existing toll roads, bridges, and tunnels into interstate routes but prohibited federal funding from supporting those grandfathered toll facilities.[32]

In 1991, Congress exempted from the general tolling prohibition the new construction or reconstruction of existing toll-free bridges and tunnels, as well as federal-aid highways not part of the interstate system.[33] This reoriented federal tolling policy from general opposition to qualified support when tolls are imposed to improve highways or enhance capacity. Since then, Congress has allowed tolling of high-occupancy vehicle lanes, established a pilot program for toll-financed reconstruction of existing interstate segments, created a congestion pricing pilot program, and permitted tolling of new interstate lanes.[34] However, tolling existing interstate highway capacity is still generally prohibited. Table 2 summarizes the five current federal tolling programs.

30 Federal Aid Road Act of 1916, Pub. L. 64–156, 39 Stat. 355 (July 11, 1916), § 1.
31 Robert S. Kirk, "Tolling U.S. Highways and Bridges," Congressional Research Service, updated August 4, 2017, https://crsreports.congress.gov/product/pdf/R/R44910/5.
32 Kirk, "Tolling U.S. Highways and Bridges."
33 Intermodal Surface Transportation Efficiency Act of 1991, Pub. L. 102–240, 105 Stat. 1914 (Dec. 18, 1991), § 1012.
34 Kirk, "Tolling U.S. Highways and Bridges."

While it is possible to toll federal-aid highways, just 0.6% of federal-aid highway mileage is tolled.[35] Approximately 60% of this mileage is on the Interstate Highway System, with 7.5% of interstate route miles being tolled.[36] Modifying federal toll policy could encourage more states to examine tolling as an alternative revenue mechanism.

In a 2013 study, the Reason Foundation's Robert Poole proposed financing the reconstruction and expansion of the Interstate Highway System with toll revenue. After estimating the per-mile toll rates necessary to undertake interstate modernization in each of the 50 states plus the District of Columbia, he found that only six high-cost, low-traffic rural states would require toll rates that "are probably far from being acceptable."[37]

For those six, he concluded,

> *These states might be expected to argue for federal aid, analogous to what they received in the original Interstate construction program, to cover part of the costs, leaving a smaller amount to be financed by tolls. Or they could decide to use one or more sources of state funds (e.g., in Alaska, a portion of the revenues from the Alaska Permanent Fund) to supplement the amount raised via tolling. Such funding would be a departure from the users-pay/users-benefit principle advocated in this study.*[38]

As noted, the primary impediment to financing interstate modernization with tolls is that it is generally prohibited; the partial exception is the three-slot Interstate System Reconstruction and Rehabilitation Pilot Program. Poole recommends "mainstreaming" this pilot program by expanding its authority to allow each state to reconstruct any or all its interstate segments with tolls.[39]

Allowing tolling where it is feasible would reduce the demand for limited taxpayer funds and would better align with the user-pays system. This user-based revenue stream also creates opportunities to leverage private sector investment and management, which can shift financing, construction, and operating risks away from taxpayers. This would help ensure that scarce resources are directed to their most beneficial use and maximize the potential economic growth from infrastructure expenditures.

Conventionally procured megaprojects are notorious for being "over budget, over time, under benefits, over and over again."[40] Long-term toll concessions are a form of public-private partnership widely used abroad and increasingly used in the United States to deliver highway megaprojects.[41] In a toll-concession P3, private companies compete to design, build, finance, operate, and maintain highway facilities for multiple decades. As "revenue-risk" projects, these concessionaires assume the risks of cost overruns, delayed construction, and traffic and revenue shortfalls, in exchange for the toll revenue with which they hope to earn an adequate return on investment.

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35 Office of Highway Policy Information, "Public Road Length by Functional System and Federal-Aid Highways National Summary," Federal Highway Administration, US Department of Transportation, October 26, 2021, https://www.fhwa.dot.gov/policyinformation/statistics/2020/hm18.cfm; Office of Highway Policy Information, "Toll Facilities in the United States," Federal Highway Administration, US Department of Transportation, May 12, 2022, https://www.fhwa.dot.gov/policyinformation/tollpage/page04.cfm.
36 Office of Highway Policy Information, "Toll Facilities in the United States."
37 Robert W. Poole Jr., "Interstate 2.0: Modernizing the Interstate Highway System via Toll Finance," Reason Foundation, September, 2013, p. 32, https://reason.org/wp-content/uploads/files/modernizing_interstates_toll_finance.pdf.
38 Poole, "Interstate 2.0," 32.
39 Poole, "Interstate 2.0," 29.
40 Bent Flyvbjerg, "Introduction: The Iron Law of Megaproject Management," introduction to *The Oxford Handbook of Megaproject Management*, ed. Bent Flyvbjerg (Oxford: Oxford University Press, 2017), 1–18.
41 Baruch Feigenbaum and Mae Baltz, *2023 Annual Privatization Report: Surface Transportation*, Reason Foundation, May 25, 2023, https://reason.org/wp-content/uploads/annual-privatization-report-2023-surface-transportation.pdf.

The most significant barriers to developing major highway projects as toll-concession P3s are federal restrictions on tolling and the states' failure to provide adequate enabling legislation. However, federal law is also biased against public-purpose infrastructure financing by the private sector. Most significantly, interest income on government bonds is untaxed, while interest income on commercial bonds is generally taxed.[42]

To encourage private sector investment in public-purpose infrastructure like highways, Congress has attempted to level the financing playing field by authorizing qualified private activity bonds (PABs), for which interest income is untaxed. Qualified PABs for highway projects are subject to a $30 billion lifetime national volume cap.[43] In addition to qualified PABs, the US Department of Transportation can provide credit assistance under the Transportation Infrastructure Finance and Innovation Act (TIFIA). TIFIA is funded by Congress and thus faces budget constraints but has, to date, maintained unobligated budget authority throughout its program life.[44]

At the end of 2022, 27 surface transportation P3 projects that cost a total of $41.5 billion were financed by outstanding qualified PABs and/or TIFIA loans.[45] TIFIA financing totaled $11 billion and qualified PAB financing totaled $7.5 billion. If these projects had been conventionally funded by federal grants at the typical 50%–90% federal share of project costs, they would have required nearly $28 billion in additional federal funding.[46] That number represents a 150% increase in taxpayer funding that would have been required.

If toll-concession P3s are to play a much larger role in procuring US highway megaprojects, Congress must eliminate or greatly increase the lifetime volume cap on qualified PABs and increase TIFIA program authorizations. While these changes would not be costless, the cost to the US Treasury would be a fraction of the funding required to execute the same projects with conventional taxpayer grants. The overall result would be less waste, better protection for taxpayers and investments targeted to projects that lead to sustained economic growth.

Reduce regulatory barriers that limit competition and increase costs.

Improving the efficiency of surface transportation infrastructure funding and financing should be the primary focus of reform-minded policymakers. But regulatory mandates that limit competition, increase costs, and ultimately reduce productive infrastructure investment should also be scrutinized. The impacts of Buy America and the Davis-Bacon Act deserve special attention.

First, the federal government has imposed "Buy America" domestic content requirements on surface transportation infrastructure since 1978.[47] These policies aim to encourage domestic employment by requiring recipients of federal aid funding to use steel, iron, and manufactured products produced in the United States. This includes state departments of transportation, transit agencies, and Amtrak.

With respect to highways, one study estimated that Buy America's requirements on steel alone raised construction costs by $652 million per year between 2009 and 2011.[48] Domestic content requirements

42 Marc Scribner, "Private Activity Bonds Can Spur Infrastructure Investment," Reason Foundation, May 26, 2021, https://reason.org/commentary/private-activity-bonds-can-spur-infrastructure-investment/.
43 26 U.S.C. § 142(m).
44 William J. Mallett, *The Transportation Infrastructure Finance and Innovation Act (TIFIA) Program*, Congressional Research Service, last modified February 15, 2019, 7, https://crsreports.congress.gov/product/pdf/R/R45516.
45 Feigenbaum and Baltz, *2023 Annual Privatization Report,* p. 29.
46 Feigenbaum and Baltz, *2023 Annual Privatization Report,* p. 29.
47 Surface Transportation Assistance Act of 1978, Pub. L. 95–599, 92. Stat. 2689 (Nov. 6, 1978), § 401.
48 Michaela D. Platzer and William J. Mallett, *Effects of Buy America on Transportation Infrastructure and U.S. Manufacturing*, Congressional Research Service, last modified July 2, 2019, 17, https://crsreports.congress.gov/product/pdf/R/R44266/9.

also substantially increase procurement costs and limit competition in the passenger railcar and transit bus markets.[49]

A general waiver on manufactured products for highways that has applied since the original 1978 enactment is facing elimination, which will, undoubtedly, further increase highway construction costs.[50] The law will continue to allow for waivers if Buy America requirements do not meet the "public interest," if needed materials or products are insufficiently available, or if meeting domestic content restrictions would increase costs by more than 25%.[51]

This explicit tolerance for higher costs not only negatively impacts the productivity of federally funded surface transportation investments, but it also fails to produce the intended employment effects. Economists have estimated that US domestic content preference laws cost the economy more than six jobs for each job protected from import competition.[52] Put another way, for every job "created or saved" through Buy America requirements, six jobs are lost or never created in the rest of the economy through higher costs for domestic producers. Unsurprisingly, the benefits of Buy America are concentrated in industries that supply the government, with export-oriented manufacturers of finished goods being particularly harmed.[53]

Second, since the enactment of the Davis-Bacon Act of 1931, federal law has required contractors of any federally funded public works project of more than $2,000 to pay at least "prevailing wages" for a given occupation.[54] These minimum wage rates are determined by the Department of Labor based on past wages and benefits paid for similar work in the same state.[55] Current implementing regulations derive prevailing wages based on average wages paid to at least 30% of local workers in a given occupation.[56] This 30% threshold was reduced from a 50% threshold set in 1983.[57]

In practice, use of a "prevailing wage" mandates union pay scales for public works projects, increasing the cost of construction labor. Economists have been investigating the cost of Davis-Bacon for decades. A 1983 study found that Davis-Bacon increased federal project construction costs by as much as $600 million each year.[58] A more recent estimate found that Davis-Bacon increased construction costs by 9.9% and that repeal would have saved taxpayers $10.9 billion in 2010.[59]

Regardless of the precise costs, the goal of increasing wage rates on public works projects is fundamentally misguided, as are Buy America's domestic content requirements. The economic value of infrastructure is measured not in inputs, such as construction labor or materials, but in outputs. To maximize the productivity of infrastructure and potential economic growth, input costs should be minimized. Inflated input costs translate to less infrastructure than could otherwise be procured, which reduces the benefits to US citizens—the users of the infrastructure—as well as the overall economy.[60]

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49 Platzer and Mallett, *Effects of Buy America on Transportation Infrastructure*, 18.
50 Marc Scribner, "Department of Transportation's 'Buy America' Regulatory Agenda Increases Highway Construction Costs," Reason Foundation, December 21, 2023, https://reason.org/commentary/department-transportation-buy-america-regulatory-agenda-increases-highway-costs/.
51 2 C.F.R. § 184.7(a) https://www.ecfr.gov/current/title-2/subtitle-A/chapter-I/part-184/section-184.7.
52 Peter B. Dixon, Maureen T. Rimmer, and Robert G. Waschik, "Evaluating the Effects of Local Content Measures in a CGE Model: Eliminating the US Buy America(n) Programs," *Economic Modelling* 68 (January 2018): 155–166, https://doi.org/10.1016/j.econmod.2017.07.004.
53 Dixon, Rimmer, and Waschik, "Evaluating the Effects of Local Content Measures."
54 Davis-Bacon Act of 1931, Pub. L. 71–798, 46 Stat. 1494 (March 3, 1931).
55 40 U.S.C. § 3142(b). https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title40-section3142&num=0&edition=prelim.
56 29 C.F.R. § 1.2. https://www.ecfr.gov/current/title-29/subtitle-A/part-1/section-1.2.
57 Shirley A. Jones, *Updating the Davis-Bacon and Related Acts Regulations*, US Government Accountability Office, Department of Labor, 88 Fed. Reg. 57526, September 5, 2023, https://www.gao.gov/assets/830/828700.pdf.
58 Steven G. Allen, "Much Ado about Davis-Bacon: A Critical Review and New Evidence," *Journal of Law and Economics* 26, no. 3 (October 1983): 707–736.
59 James Sherk, "Repealing the Davis-Bacon Act Would Save Taxpayers $10.9 Billion," The Heritage Foundation, February 14, 2011, https://www.heritage.org/jobs-and-labor/report/repealing-the-davis-bacon-act-would-save-taxpayers-109-billion.
60 Clifford Winston, "On the Performance of the U.S. Transportation System: Caution Ahead," *Journal of Economic Literature* 51, no. 3 (September 2013): 773–824, http://dx.doi.org/10.1257/jel.51.3.773.

Conclusion

The US surface transportation system is at a crossroads. The federal government's ambitious goals of the mid-20th century have largely been accomplished, leaving today's policymakers without a coherent vision of what comes next. This failure to set clear goals has caused the performance of legacy programs to suffer.

At the federal level, the efficiency lodestar should be paired with a clear connection to the national interest. As we have seen, that coupling is not difficult—it means placing a strong emphasis on transportation policy that facilitates interstate commerce and international trade, areas of federal oversight that are recognized and endorsed by the US Constitution. This corrected focus should acknowledge—and reinforce—the small relative role of the federal government in surface transportation networks while aiming to complement the more efficient roles of the states and private sector.

A new approach is needed—one that will reignite America's industrial capacity and investment. Policymakers must begin by recognizing that transportation is a means to an end. The value of transportation is instrumental rather than intrinsic; it comes from connecting people and products with places. Policy that directs resources to their most productive use, rather than the current practice of wasteful spending on projects that promote political interests, will allow American firms to increase production and move more goods to market — which in turn will promote American industrial growth. To maximize the benefits of transportation, infrastructure policy must be focused on providing the best service at the lowest cost. That is, policy must enable efficiency.

Rationalizing federal surface transportation policy for the 21st century entails rethinking current funding mechanisms, encouraging state and private infrastructure investment, and removing regulatory barriers that unnecessarily increase costs. If federal policymakers value a strong American economy with robust growth in the manufacturing and industrial sectors, a free market and limited government approach can enable efficient transportation networks to get us there.

It is time for America to put Americans first. It is time to set ourselves free from onerous and needless surface transportation headwinds.

About the Author

Marc Scribner is a senior transportation policy analyst at Reason Foundation. Scribner has testified numerous times before Congress at the invitation of both Democrats and Republicans on issues including highway revenue collection, traffic congestion management, freight rail regulation, airport financing, and air traffic control modernization. He is a member of the Transportation Research Board of the National Academies' Standing Committee on Emerging Technology Law.

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