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Funding and Financing Highways and Public Transportation Under the Infrastructure Investment and Jobs Act (IIJA)

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SUMMARY

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Robert S. Kirk
Specialist in Transportation Policy

William J. Mallett
Specialist in Transportation Policy

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Congress has long considered how to pay for investment in highway and public transportation infrastructure. Since 1956, federal surface transportation programs have been largely *funded* by taxes on motor fuels that flow into the Highway Trust Fund (HTF). In 2001, however, trust fund revenues stopped growing faster than spending. In 2008, Congress began using transfers from the Treasury general fund to keep the HTF solvent. Projections indicate that by the end of the current decade, the gap between dedicated surface transportation revenues and spending will average roughly $40 billion annually. Over the years, Congress has also supported *financing* infrastructure investment via a tax preference for state and local government borrowing, federal loans—such as the Transportation Infrastructure Finance and Innovation Act (TIFIA) program—and the encouragement of private investment via public-private partnerships (P3s).

The most recent surface transportation reauthorization act, the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58), authorized spending on federal highway and public transportation programs through September 30, 2026. The IIJA provided $118 billion in general fund transfers to the HTF to keep the fund solvent over the life of the act. This use of general fund transfers is to have been the de facto funding policy for 18 years when the IIJA expires. Congressional Budget Office (CBO) projections indicate a shortfall of $149.7 billion over the five fiscal years following the expiration of the IIJA. Congress may consider how to deal with this future shortfall.

The IIJA made further changes to the funding structure of highway and public transportation programs by providing additional non-trust fund sums via advance multiyear supplemental appropriations. Advance funds are effectively guaranteed because they are not subject to subsequent annual appropriations acts. The IIJA provides advance appropriations totaling an additional $47 billion for highways and $21 billion for public transportation over FY2022-FY2026. In addition, the IIJA expands the use of authorizations subject to future appropriations acts. Such use of large general fund amounts, in addition to HTF monies, is likely to be a point of discussion during the IIJA reauthorization debate in FY2025-FY2026. Possible topics for congressional consideration could include the following:

- Raising motor fuel taxes to provide the HTF with sufficient revenue to fully fund the program in the near term, but the increase would have to be large and may not be viable long-term due to expected declines in fuel consumption related to increasing adoption of electric or fuel efficient vehicles.
- Replacing or supplementing motor fuel taxes with a vehicle miles traveled (VMT) charge, a carbon tax, or an electric vehicle fee or other alternative revenue sources.
- Continuing to use Treasury general fund transfers to make up for the HTF's projected shortfalls; doing so might require budget offsets of an equal amount.
- Continuing the use of a combination of authorized trust-funded budget authority and multiyear appropriations, as was introduced in the IIJA, or eliminating the HTF and relying solely on appropriations.
- Monitoring the impact of inflation on the purchasing power of IIJA authorizations.

Tolling may be an effective way to finance specific roads, bridges, or tunnels that are heavily used and are located such that the tolls are difficult to avoid. Although tolls are collected only at the state or local level, a major expansion of tolling might reduce the need for federal expenditures on roads; however, it is unlikely to provide broad support for surface transportation.

To promote greater financing of surface transportation infrastructure, Congress could consider whether to change existing tax incentives and programs that would increase public- and private-sector borrowing and private equity investment. For example, greater federal support of the credit risk premium in the Railroad Rehabilitation and Improvement Financing Program could make the program's loans more attractive to public transportation agencies. Congress may also consider enacting other financing mechanisms for these purposes, such as a national infrastructure bank and an asset-recycling program, and encouraging greater use of value capture tools, such as tax increment financing and special assessments.

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Introduction

The federal government supports surface transportation—highways and public transportation—predominantly by providing grants to state and local governments through formula and competitive programs. Since 1956, these programs have been funded largely by taxes on motor fuels credited to the Highway Trust Fund (HTF). A steady increase in the revenues flowing into the HTF due to increased motor vehicle use and occasional increases in fuel tax rates accommodated growth in surface transportation spending over the next five decades. In 2001, however, trust fund revenues stopped growing faster than spending. In 2008, Congress began providing Treasury general fund transfers to keep the HTF solvent. Treasury general funds come predominantly from individual and corporate income taxes. Surface transportation grant programs have also been funded directly from general fund appropriations.

The federal government also supports investment in highway and public transportation infrastructure through financing, which consists of public-sector borrowing and, in some cases, private borrowing and private equity investment. Federal financing support is provided mainly via a tax preference for bonds issued by state and local governments, known as municipal bonds. Other financing mechanisms include federal loan programs, such as the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, which can help leverage private investment via public-private partnerships (P3s), and federally authorized state infrastructure banks (SIBs).

Most surface transportation programs are authorized in major surface transportation legislation enacted approximately every five years. These programs were authorized from FY2022 through FY2026 as part of the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58).

This report discusses the funding and financing mechanisms that support the federal government's involvement in surface transportation and considers legislative options intended to address issues with that support. The first part of the report deals with funding issues, especially the HTF, and the second part deals with financing. This report covers only the funding and financing of federal highway and public transportation programs and activities; it does not include intercity passenger rail programs.[1]

Surface Transportation Funding

The IIJA uses three kinds of funding to support highways and public transportation (see **Table 1**): HTF contract authority (CA),[2] advance multiyear supplemental appropriations (SA), and authorizations subject to future appropriations (STA). This combination of funding sources allowed the IIJA to provide a major increase in highway and public transportation funding for FY2022-FY2026. Whether the multiyear appropriations that supplemented the HTF spending on highways and transit are a one-time phenomenon or whether the combination of trust funding and appropriations is the new normal for funding highways and public transportation is yet to be determined. During the reauthorization debate that preceded passage of the IIJA, both contract authority and multiyear appropriations were referred to as "guaranteed" funding because they do

[1] For a discussion of intercity passenger rail programs, see CRS Report R47260, *Intercity Passenger Rail: Federal Policy and Programs*, by Ben Goldman.

[2] Contract authority is a form of budget authority that allows obligation of funds to be made in advance of appropriations. Eventually, appropriators must provide liquidating authority. However, once funds are obligated, the federal government is legally obligated to pay or reimburse the states or other entities for the federal share of the project's costs.

not require further action by the appropriators to be obligated. In addition to the "guaranteed" funding, the act provided over $33 billion in authorizations subject to the annual appropriations process for highways and public transportation.

Table 1. IIJA Highway and Public Transportation Funding by Funding Type

(in millions of nominal dollars)

	HTF Contract Authority	%	Multiyear Advance Appropriations	%	Authorizations Subject to Appropriations	%	Total
FHWA	303,500.0	83%	47,272.0	13%	14,683.0	4%	365,455.0
FTA	69,900.0	65%	21,250.0	20%	15,750.0	15%	106,900.0
FMCSA	4,456.5	87%	672.5	13%	—	0%	5,129.0
NHTSA	4,996.9	53%	1,608.5	17%	2,792.3	30%	9,379.7
Total	382,853.4	79%	70,803.0	15%	33,225.3	7%	486,881.7

Sources: Federal Highway Administration (FHWA); Federal Transit Administration (FTA); and the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58).

Notes: FMCSA = Federal Motor Carrier Safety Administration; NHTSA = National Highway Traffic Safety Administration; and HTF = Highway Trust Fund. Does not include multimodal program advance appropriations or authorizations subject to appropriation provided to the Office of the Secretary of Transportation. Totals may not add due to rounding.

For its first 50 years, the HTF funding mechanism was viewed to have worked reasonably well and generally met the congressional goal of trust fund self-sufficiency.[3] The steady increase in the revenues flowing into the HTF due to increased motor vehicle use and the willingness of Congress and some Presidents to periodically support increases in fuel tax rates accommodated growth in surface transportation spending over these decades. In 2001, however, HTF revenues stopped growing faster than spending. In FY2008, Congress began providing Treasury general fund transfers to keep the HTF solvent,[4] thus ending the era of a self-sustaining trust fund-based surface transportation program.

Every year since FY2008, there has been a gap between the dedicated tax revenues flowing into the HTF and the amount of the surface transportation spending Congress has authorized. Congress has filled these shortfalls by transfers, largely from the Treasury general fund, that have shifted a total of $275.2 billion to the HTF (roughly 26% of actual and projected outlays).[5] The IIJA authorized the most recent $118 billion of these transfers. When the act expires, the de facto policy of relying on general fund transfers to sustain the HTF will be just over 18 years old. The IIJA also combined the traditional surface transportation reauthorization with a broader infrastructure spending effort supported solely with appropriated funds.[6]

These changes, plus the growing reliance on general fund transfers to the HTF, raise the question of whether Congress continues to prioritize the goal of a self-sufficient, user-tax based trust fund system to pay for highways and public transportation. Assuming the next reauthorization adheres

[3] 70 Stat. 387-388, *Highway Revenue Act of 1956*, §209(b).

[4] Based on Federal Highway Administration (FHWA) data. Balances in the Highway Trust Fund (HTF) accrued in previous years were large enough to keep the fund sufficient until FY2008.

[5] Based on actual and projected outlays for FY2009 through the end of FY2027. Looking at the Infrastructure Investment and Jobs Act (IIJA) authorized years (FY2022 through FY2027), transferred funds will likely account for about 30% of projected outlays.

[6] Department of Transportation (DOT) websites often refer to the IIJA as the Bipartisan Infrastructure Law.

to the IIJA funding structure, the role of the HTF and the highway taxes that support it would decline more rapidly in the future, given that IIJA policies are expected to accelerate the replacement of gasoline and diesel powered motor vehicles with electric vehicles (EVs). On the one hand, Congress could pass new highway or other taxes to rejuvenate the HTF or continue to use general fund transfers to make up the gap. On the other hand, Congress could eliminate the HTF and return to the standard process of funding surface transportation programs via authorizing acts whose funds are subject to appropriations, which was the case prior to the creation of the HTF. Existing highway taxes could be dedicated to the Treasury general fund.

Congress provided multiyear supplemental appropriations as part of the broader infrastructure effort in the IIJA. It is not certain that appropriators would be willing to make such funds available in future surface transportation reauthorization acts. If these funds turn out to be a one-time effort, the level of funding could fall substantially in FY2027.

The impact of inflation on the real spending provided in surface transportation reauthorization bills has rarely been part of the reauthorization debate since the early 1980s. Recently, the post-Coronavirus Disease 2019 (COVID-19) pandemic spike in inflation has triggered interest in whether inflation will erode the value of the IIJA's spending increases.

Congressional Budget Office (CBO) projections indicate that the imbalance between motor fuel tax receipts and HTF expenditures will persist beyond FY2026. Thus, the funding and financing of surface transportation may continue to be an issue for Congress.

The Highway Trust Fund Revenue Dilemma

Although the IIJA is less dependent than before on the HTF, the fund's contract authority makes up roughly 79% of the act's funding of highways and public transportation (**Table 1**).

The HTF has two separate accounts—one for highways and another for mass transit. The primary revenue sources for these accounts are an 18.3 cent-per-gallon federal tax on gasoline and a 24.3 cent-per-gallon federal tax on diesel fuel. The HTF has other sources of revenue, such as taxes on truck sales, use, and tires, as well as the interest paid on the HTF balances held by the Treasury. However, fuel taxes typically provide about 85% of the amounts paid into the fund by highway users. The transit account receives 2.86 cents per gallon of fuel taxes, with the remainder of the tax revenue flowing into the highway account. An additional 0.1 cent-per-gallon fuel tax is credited to the Leaking Underground Storage Tank (LUST) Fund, which is not part of the transportation program.

Since 1956, the year the HTF was created, Congress has increased federal motor fuel taxes four times: in 1959, 1982, 1990, and 1993. However, since 2001, revenue flowing into the HTF has not met expectations in most years, if measured by outlays.[7] The gasoline and diesel taxes are fixed cents-per-gallon excise taxes. Revenues do not increase with inflation or fuel price increases. Revenues increase only with increased gallons sold.

Since the 1993 increase, additional changes to the taxation structure have modestly boosted HTF revenues. The American Jobs Creation Act of 2004 (P.L. 108-357), for example, provided the trust fund with increased future income by changing elements of federal *gasohol* taxation.[8] In

[7] See U.S. Congressional Budget Office (CBO), *How Would Proposed Fuel Economy Standards Affect the Highway Trust Fund?*, May 2012, p. 3. A drop in outlays in FY2006 helped bring the HTF briefly into balance in FY2006 and FY2007.

[8] The term *gasohol* refers to a fuel mixture of gasoline and ethanol, which is used in modern combustion engine automobiles.

2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU; P.L. 109-59) sought to bolster the HTF by addressing tax fraud. SAFETEA-LU also provided for the transfer of some general fund revenue associated with transportation-related activities to the trust fund. It was believed at the time of SAFETEA-LU's passage that the tax changes, a $12.5 billion unexpended balance in the trust fund, and higher fuel tax revenue due to expected economic growth would be sufficient to finance the surface transportation program through FY2009.[9] This prediction proved to be incorrect. Treasury general fund contributions rectified the shortfalls resulting from the overly optimistic forecasts associated with SAFETEA-LU. In September 2008, Congress enacted a bill that transferred $8 billion from the general fund to shore up the HTF, and other transfers followed (see **Table 2**).

Table 2. Transfers to the Highway Trust Fund

(in billions of dollars; reflects sequestration for FY2013 and FY2014)

Public Law	Effective Date	Highway Account	Mass Transit Account	Highway Trust Fund (HTF) Total
P.L. 110-318	Sept. 15, 2008	8.017	0	8.017
P.L. 111-46	Aug. 7, 2009	7.000	0	7.000
P.L. 111-147	Mar. 18, 2010	14.700	4.800	19.500
P.L. 112-141	July 6, 2012			
From LUST	For FY2012	2.400	0	2.400
From general fund	For FY2013	5.884	0	5.884
From general fund	For FY2014	9.651	2.042	11.693
P.L. 113-159	Aug. 8, 2014	7.765	2.000	9.765
From LUST	Aug. 8, 2014	1.000	0	1.000
P.L. 114-41	July 31, 2015	6.068	2.000	8.068
P.L. 114-94				
From general fund	Dec. 4, 2015	51.900	18.100	70.000
From LUST	Dec. 4, 2015	0.100	0	0.100
From LUST	Oct. 1, 2016	0.100	0	0.100
From LUST	Oct. 1, 2017	0.100	0	0.100
P.L. 116-159	Sept. 25, 2020	10.400	3.200	13.600
P.L. 117-58	Nov. 15, 2021	90.000	28.000	118.000
General fund total		211.385	60.142	271.527
LUST fund total		3.700	0	3.700
Total transfers		215.085	60.142	275.227

Sources: Public laws as indicated. Sequestration amounts from the FHWA.

Notes: Transfers are from the Treasury's general fund unless otherwise indicated. LUST refers to the Leaking Underground Storage Tank Trust Fund administered by the Environmental Protection Agency.

[9] Jeff Davis, "Ten Years of Highway Trust Fund Bankruptcy: Why Did It Happen, and What Have We Learned?," *Eno Transportation Weekly*, August 27, 2018, pp. 8-12.

When the HTF was conceived, annual vehicle miles traveled (VMT), and therefore motor fuel tax revenue, were rising rapidly. That is no longer the case. The Federal Highway Administration (FHWA) projects that VMT will grow at an annual average of roughly 0.7% per year over the next 30 years.[10] In comparison, the average annual VMT growth rate for the previous 30 years was 1.7%. Meanwhile, other policy changes are weakening the link between driving activity and motor fuel tax revenues. Improved fuel economy is slowly reducing the average amount of fuel used per mile of travel. The expanding fleet of electric vehicles (EVs) pays nothing by way of fuel taxes, causing some to raise equity issues that are likely to become more prominent as the EV fleet expands. Under rules issued in 2022, new passenger cars and light trucks are expected to attain an average fuel economy of 49 miles per gallon in model year 2026.[11]

An increase in the existing fuel tax rates would provide immediate relief to the HTF. As a rule of thumb, adding a penny to federal motor fuel taxes would provide the trust fund with roughly $1.7-$1.8 billion per year.[12] The prospect of reduced motor fuel consumption, however, casts doubt on the long-term ability of motor fuel taxes to support increased surface transportation spending, even with significant increases in tax rates.

What Congress Faces

CBO projects that from FY2027 to FY2031, the gap between dedicated surface transportation revenues and spending will average roughly $40 billion annually (**Table 3**).[13] In 2026, as Congress considers surface transportation reauthorization, Members could again face a choice between finding new or increased sources of income for the surface transportation program and settling for a smaller program, which might look different from the one currently in place. **Figure 1** shows the potential impact of the general fund transfers within the context of the underlying imbalance between HTF revenues and projected spending for FY2021-FY2032. The financial situation the figure illustrates is further explained in the following sections.

[10] FHWA, *FHWA Forecasts of Vehicle Miles Traveled (VMT): Spring 2022*, July 2022, at https://www.fhwa.dot.gov/policyinformation/tables/vmt/2022_vmt_forecast_sum.pdf. Vehicle miles traveled (VMT) are projected to increase 22% over the 2019-2049 forecast period. VMT growth for the previous 30 years was 51%.

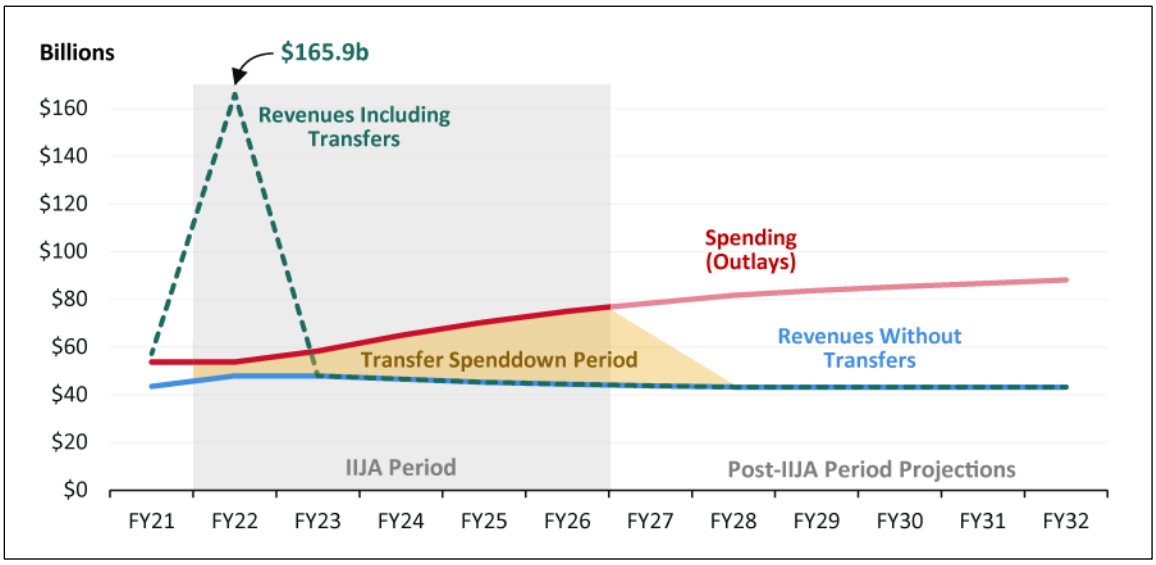
[11] CRS In Focus IF10871, *Vehicle Fuel Economy and Greenhouse Gas Standards*, by Richard K. Lattanzio.

[12] CBO, *Budget and Economic Outlook: 2023 to 2033*, February 15, 2023, at https://www.cbo.gov/data/budget-economic-data#5. Adjusted for refunds, the revenues that a one-cent increase in the fuel taxes would generate are about $1.77 billion in FY2022 declining to about $1.70 billion in FY2026.

[13] CBO, *Baseline Projections: Highway Trust Fund Accounts, May 2023 Baseline (Fiscal years FY2022-2033)*, at HIghway Trust Fund Accounts—May 2023 Baseline (cbo.gov). The $40 billion figure represents the average annual gap between projected receipts from the motor fuel, other excise taxes, and interest payments that flow into the HTF, and the anticipated cost of maintaining the HTF-supported surface transportation program at its current "baseline" level. Because of beginning-of-year HTF balances for FY2027, a five-year surface transportation bill (FY2027-FY2031) could be funded with roughly $154.7 billion (including an additional $5 billion to maintain a working balance in the HTF) in transfers or increased revenues. For a general discussion of the accuracy of CBO projections, see CBO, *Accuracy of CBO's Budget Projection for Fiscal Year 2022*, at https://www.cbo.gov/system/files/2023-01/58603-Accuracy.pdf. Unforeseeable events can affect the accuracy of forecasts.

Figure 1. Projected Highway Trust Fund Funding Gap

(in billions of dollars)



Source: Figure created by CRS based on CBO, *Highway Trust Fund Projections: May 2023 HTF Baseline 2022-2033*. Data for FY2021 and FY2022 are actual revenues and outlays.

Notes: Shows highway and mass transit accounts combined. Revenues include interest on Highway Trust Fund (HTF) balances. The shading between spending and revenues indicates the period that the HTF balance is maintained by Infrastructure Investment and Jobs Act (IIJA) transfers from the Treasury general fund.

The Underlying Problem: Highway Trust Fund Spending Exceeds Revenues

Table 3 provides projections of the gap between HTF receipts and outlays following the expiration of the IIJA at the end of FY2026. In recent decades, Congress has typically sought to reauthorize surface transportation programs for periods of five or six years. As the table indicates, a five-year reauthorization beginning in FY2027 would face a projected gap between revenues and outlays of $199 billion. A six-year reauthorization would face a gap of $244 billion.[14] These projections assume that HTF spending on federal highway and public transportation programs would remain as it is today, adjusted for anticipated inflation.

[14] Since the early 1990s, Congress has begun the reauthorization debates with a goal of a six-year bill. The two most recent bills, the Fixing America's Surface Transportation Act (FAST Act; P.L. 114-94) and the IIJA, each provided five years of funding.

Table 3. Projected Highway Trust Fund Revenue and Spending (Outlays) Imbalance

(in billions of dollars)

Fiscal Year	HTF Revenue	HTF Outlays	Difference
2027	43.74	78.48	-34.74
2028	43.25	81.61	-38.36
2029	43.20	83.64	-40.44
2030	43.19	85.26	-42.07
2031	43.19	86.56	-43.37
2032	43.16	88.07	-44.91
5-YR: FY2027-FY2031 total	216.57	415.55	-198.98
5-YR: FY2027-FY2031 average	43.31	83.11	-39.80
6-YR: FY2027-FY2032 total	259.73	503.62	-243.89
6-YR: FY2027-FY2032 average	43.29	83.93	-40.64

Source: CRS calculations based on CBO, *Highway Trust Fund Projections: May 2023 HTF Baseline 2022-2033*.

Notes: Includes combined figures from both the highway account and the mass transit account. The "HTF Revenue" column includes interest on the Highway Trust Fund (HTF) balances. Numbers may not add due to rounding.

The Resulting Funding Shortfalls

When the IIJA expires at the end of FY2026, the balance in the HTF is expected to be just over $49 billion—an amount equal to just over six months of average outlays. CBO projects that this balance, plus incoming revenue, would allow FHWA and the Federal Transit Administration (FTA) to pay their obligations to states and transit agencies through the first quarter of FY2028.[15] At some point in the second quarter of FY2028, without a reduction in the size of the surface transportation programs, an increase in revenues, or further general fund transfers, the combined balance in the HTF is projected to be depleted (see **Table 4**) to the point that FHWA and FTA would likely have to delay payments for completed work.[16]

[15] Because outlays tend to fall in winter, with the end of the construction season, if the HTF is solvent in January 2028, it could remain so through much of the second quarter of FY2028 (through March 2028).

[16] FHWA, *Action: Procedures for Reimbursements During a Cash Shortfall*, July 1, 2014, at https://www.transportation.gov/sites/dot.gov/files/docs/Guidance-Memo-Cash-Allocation-Final-3.pdf. The $14.5 billion end-of-FY2027 balance would be $9.5 billion more than the $5 billion working balance needed by FHWA and the Federal Transit Administration (FTA) to assure timely reimbursement to states and transit agencies.

Table 4. Projected Negative Cash Flow and Highway Trust Fund Cumulative Shortfalls

(fiscal years, in billions of dollars)

	2027	2028	2029	2030	2031	2032
Start-of-year HTF balance[a]	49.27	14.53	-23.83	-64.27	-106.34	-149.71
Revenues minus outlays	-34.74	-38.36	-40.44	-42.07	-43.37	-44.91
End-of-year HTF balance/shortfall	14.53	-23.83	-64.27	-106.34	-149.71	-194.62

Source: CBO, *Highway Trust Fund Projections: May 2023, HTF Baseline 2022-2033*.

Notes: Includes combined figures from both the highway account and the mass transit account. Numbers may not add due to rounding of the underlying data.

a. Under current law, the HTF cannot incur negative balances.

Based strictly on projected income and expenses, the HTF would move from a positive balance of $49 billion at the start of FY2027 to a negative balance of $149.7 billion at the end of FY2031. However, current law does not allow the HTF to incur negative balances. Unless this is changed, $149.71 billion represents the minimum amount the House Ways and Means Committee and the Senate Committee on Finance would need to find over the FY2027-FY2031 period to continue funding HTF-supported surface transportation programs and activities at the current, or "baseline," level, adjusted for inflation.[17] These numbers have implications for the size of the program Congress may approve to follow the IIJA.

If a future reauthorization bill limits highway and transit spending to the revenue projected to flow into the HTF under current law, these programs would be limited to roughly $43.7 billion in FY2027, significantly less than the projected FY2027 outlay of $78.5 billion. Under this scenario, the projected stagnation and eventual decline in HTF revenue implies that once expected inflation is factored in, FHWA and FTA would have far less contract authority in each year to spend on projects during a five-year reauthorization covering FY2027 through FY2031.[18]

Reducing expenditures would not provide immediate relief from the demands on the HTF. Because transportation projects can take years to complete, both the highway and public transportation programs must make payments in future years pursuant to commitments that have been incurred. For highway programs, the projected FY2024 obligated but unspent contract authority for highway projects in progress is roughly $81 billion. This does not count another $22 billion in available but unobligated contract authority. For public transportation programs, the projected equivalent figures for FY2024 are $32 billion in unpaid obligations and another $18 billion in unobligated contract authority.[19] The obligated amounts represent legal obligations that the U.S. government must pay out of future years' HTF receipts.

Since FY2018, Congress has provided additional funding for highways via the annual appropriations process. This has continued under the IIJA. The Consolidated Appropriations Act, 2022 (P.L. 117-103) provided $2.445 billion for highway infrastructure programs, including $847

[17] FHWA estimates that the HTF must also maintain a working balance of $5 billion. Maintaining this working balance increases the funding shortfall five-year total to $154.71 billion (FY2027-FY2031).

[18] Contract authority is a type of budget authority that is available for obligation prior to appropriation. However, appropriators must eventually provide liquidating appropriation authority, which is not recorded as budget authority, to permit the eventual outlays. Contract authority is the type of budget authority used by the HTF.

[19] Office of Management and Budget (OMB), *Budget of the U.S. Government FY2024: Appendix*, pp. 912, 937-938, at https://www.whitehouse.gov/wp-content/uploads/2023/03/dot_fy2024.pdf.

million for community project funding/congressionally designated spending (earmarks), $1.145 billion for highway bridges, and various amounts for six other programs and purposes. The Consolidated Appropriations Act, 2023 (P.L. 117-328) provided $3.148 billion for Highway Infrastructure Programs, including $1.863 billion for community project funding/congressionally designated spending, $1.145 billion for a bridge replacement and rehabilitation program, and amounts for 11 other programs and purposes. These appropriations acts also provided general fund money for several public transportation programs that, in the past, received federal money only from the HTF.[20]

The additional appropriated funding means that during the IIJA authorization period, there are four funding paths: authorization of HTF contract authority; the multiyear supplemental appropriations; authorizations subject to appropriation; and additional infrastructure spending provided in annual appropriations acts.

Existing Highway Taxes[21]

The Hoover Administration imposed the first federal tax on gasoline (1 cent per gallon) in 1932 as a deficit-reduction measure following the Great Depression-induced fall in general revenues. The rate was raised to 1.5 cents per gallon to help pay for World War II and raised again to 2 cents per gallon during the Korean War. The Highway Revenue Act of 1956 (P.L. 84-627) established the HTF and raised the rate to 3 cents per gallon to pay for the construction of the Interstate Highway System. The Federal-Aid Highway Act of 1959 (P.L. 86-342) raised the rate to 4 cents per gallon. The gasoline tax remained at 4 cents per gallon from October 1, 1959, until March 31, 1983. During this period, revenues grew automatically from year to year as fuel consumption grew along with increases in VMT.

Since 1983, lawmakers have passed legislation raising the tax rates on highway fuel use three times. Although infrequent, these rate increases were large in a proportional sense. The gasoline tax was raised on April 1, 1983, from 4 to 9 cents per gallon, a 125% increase; on September 1, 1990, from 9 to 14 cents (not counting the additional 0.1 cent for LUST), a 55% increase; and on October 1, 1993, from 14 to 18.3 cents, a 31% increase. All of these increases faced resistance. For a discussion of how the rates were raised, see **Appendix**.

Currently, the highway fuel taxes supporting transportation funding via the HTF include a gasoline tax of 18.3 cents per gallon, a diesel tax of 24.3 cents per gallon, and alternative fuels taxes that are mostly based on the fuel's per energy equivalent of a gallon of gasoline or diesel. There are also truck taxes, including a tax on heavy truck tires, a truck and trailer sales tax, and a heavy vehicle use tax.[22]

Alternatives for Highway Trust Fund Revenue

The political difficulty of increasing motor fuel taxes has led to interest in alternative approaches for supporting the HTF. The following sections discuss some options.

[20] CRS Report R47002, *Federal Public Transportation Program: In Brief*, by William J. Mallett.

[21] This discussion tracks the changes in the rate of the gasoline tax. Over time, other fuels, such as diesel, have been taxed at different rates. For instance, the current tax on diesel fuel is 6 cents per gallon higher than the gasoline tax. For a tabular history of the rates of the various federal fuel taxes, see FHWA, "Highway Statistics: Table FE101-A," at https://www.fhwa.dot.gov/policyinformation/statistics/2020/fe101a.cfm.

[22] FHWA, Federal Highway-User Taxes, "Highway Statistics: Table FE-21B," October 2022, at https://www.fhwa.dot.gov/policyinformation/statistics/2021/fe21b.cfm.

"Fixing" the Gas Tax

A differently designed gas tax might be indexed to both inflation (either inflation generally or highway construction cost inflation) and fuel-efficiency improvements. Although many different inflation indexes could be used, determining the most appropriate one might become a controversial issue. The most commonly used index is the U.S. Bureau of Labor Statistics' consumer price index (CPI), which, for example, is used to adjust certain aviation user fees. Other examples are the Bureau of Economic Analysis (BEA) price indexes for gross government fixed investment and the FHWA's National Highway Construction Cost Index (NHCCI). A new design could be imposed after raising the current gas tax rate to compensate for the loss in purchasing power since the last rate increase in 1993.[23]

If the motor fuel tax rates for gasoline and diesel had been adjusted at the close of FY2022 to reflect the change in the Bureau of Labor Statistics' CPI since October 1, 1993, the 18.3 cents-per-gallon gasoline tax would now be just over 37 cents per gallon, and the 24.3 cents-per-gallon diesel tax would be nearly 50 cents per gallon. Consequently, the first step in implementing this method of "fixing" the gas tax would be to raise the base tax rate for gasoline by roughly 19 cents per gallon and to raise the rate for diesel by roughly 26 cents per gallon. Future adjustments would depend on the inflation rate in future years.

Because some of the revenues were dedicated to the general fund for deficit reduction until October 1, 1997, and not to the HTF until FY1998, the case can be made that October 1, 1997, should be the base date. This would calculate to a rate increase of roughly 15.5 cents per gallon for gasoline and 20.5 cents per gallon for diesel. The CPI does not include factors related to road construction costs. Using an index based on road construction costs would require larger adjustments in most years.[24]

Tax-rate adjustments to make up for revenue lost due to greater fuel efficiency could be determined by dividing miles driven by vehicle category by the total amount of fuel consumed by that category and comparing the quotient to the previous year. Although fuel-economy standards for new vehicles are to rise over the next few years, the average efficiency of the entire vehicle fleet will rise slowly because of the large number of older vehicles on the road.

One drawback of this remedy is that it would not address the increasing role of EVs in the light vehicle fleet.[25] These vehicles would not be taxed under this solution, and the fuel efficiency adjustment that would increase with the growth of the EV fleet would effectively create a growing cross-subsidy of EV road use by internal combustion engine vehicle owners.

Switching to Sales Tax

Under the sales tax concept, the federal motor fuel tax would be assessed as a percentage of the retail price of fuel rather than as a fixed amount per gallon. Some states already levy taxes on

[23] Institute on Taxation and Economic Policy, *A Federal Gas Tax for the Future*, September 2013, pp. 1-13, at http://www.itep.org/pdf/fedgastax0913.pdf. See also Max Baumhefner, "A Simple Way to Fix the Gas Tax Forever," Natural Resource Defense Council, August 2, 2019, at https://www.nrdc.org/bio/max-baumhefner/simple-way-fix-gas-tax-forever.

[24] As mentioned earlier in this report, with the passage of the 1993 taxes, some of the revenues were directed to the Treasury general fund. It was in FY1998 that the full 18.3 cents per gallon of revenue was credited to the HTF. Using the Bureau of Economic Analysis (BEA) Highways and Streets price index, at the end of 2021, a gasoline tax of approximately 51 cents per gallon would have been needed to equal the purchasing power of the 18.3 cents-per-gallon gasoline tax in 1998. The tax on diesel would need to be approximately 68 cents per gallon.

[25] Light-duty vehicles include passenger cars, light trucks, vans, and sport utility vehicles.

motor fuels in this way, either alongside or in place of fixed cents-per-gallon taxes on motor fuel purchases.

If fuel prices rise in the future, sales tax revenues could rise from year to year even if consumption does not increase. Conversely, a decline in motor fuel prices could lead to a drop in sales tax revenue. Many states that tied fuel taxes to prices after the price shocks of the 1970s encountered revenue shortfalls in the 1980s, when fuel prices fell dramatically. Over a 20-year period, most of these variable state fuel taxes disappeared.[26]

A federal sales tax on motor fuel would likely be, at best, an interim solution to the long-term problem of funding transportation programs because, as with the current motor fuel tax, it would rely on fuel consumption. To the extent that improved vehicle efficiency or adoption of EVs leads to long-term declines in fuel usage, a sales tax on fuel may not lead to increases in HTF revenues.[27]

Periods of rapid rises in the price of gasoline could lead to state or federal moratoriums on the collection of the tax to soften the impact of rising prices on consumers. Although proposed federal fuel tax moratoriums have not been enacted, several states implemented suspensions of their state gasoline taxes as a response to inflation in 2022.[28] Reimposing the tax can be controversial in that it may be perceived as a tax increase.

Electric Vehicle Fees/Taxes

Since EVs do not burn taxed motor fuels, their wider use could further weaken the sustainability of the motor fuel dependent HTF. In the near term, however, EVs are expected to have a modest affect on HTF revenue. As of September 2022, plug-in battery electric, plug-in hybrid, and hydrogen fuel cell vehicles (together referred to as "zero emission vehicles" or ZEVs) sold in the United States since 2010 totaled roughly 3 million vehicles, or about 1.2% of all registered light-duty vehicles.[29] ZEV sales for FY2022 were 837,100, or about 6% of sales.[30] If each private and commercially owned ZEV EV were assumed to replace a light-duty vehicle that consumes an average of 474 gallons of petroleum-based fuel per year, the forgone HTF revenue for FY2022 would have been about $260 million.[31]

In April 2021, CBO estimated that an annual $100 fee on all light-duty EVs (both all-EVs and plug-in hybrid EVs) would generate about $1.1 billion in revenues from FY2022 through FY2026. This would be about 1.6% of the total cumulative HTF shortfall over this five-year

[26] Jeffrey Ang-Olson, Martin Wachs, and Brian D. Taylor, *Variable-Rate State Gasoline Taxes*, Institute of Transportation Studies, University of California, Berkeley, Working Paper UCB-ITS-WP-99-3, July 1999. See also M. Madowitz and K. Novan, "Gasoline Taxes and Revenue Volatility: An Application to California," *Energy Policy*, vol. 59, 2013, pp. 663-673, at http://www.sciencedirect.com/science/article/pii/S0301421513002577.

[27] A fuel price floor could be established, but its impact would depend on how high the floor is set and whether the floor is indexed to inflation. The outcome could still fail to meet revenue expectations.

[28] CRS Insight IN11879, *Potential Impacts of a Federal Gasoline Tax Moratorium*, by Anthony A. Cilluffo and Robert S. Kirk.

[29] The 2021 total for all light-duty vehicles was 257,675,179. FHWA, *Highway Statistics, Annual Vehicle Distance Traveled in Miles and Related Data-2021, by Highway Category and Vehicle Type*, Table VM-1, March 2023, at https://www.fhwa.dot.gov/policyinformation/statistics/2021/pdf/vm1.pdf.

[30] The estimated total FY2022 zero emission vehicle (ZEV) fleet was 2,994,200 based on aggregate sales. Alliance for Automotive Innovation, *Electric Vehicle Sales Dashboard*, Electric Vehicle Quarterly Report, September 13, 2022, at https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard.

[31] Calculation based on 2021 average fuel consumed by all light-duty vehicles. FHWA, Highway Statistics, *Annual Vehicle Distance Traveled in Miles and Related Data—2020 by Highway Category and Vehicle Type*, Table VM-1, March 2023, at https://www.fhwa.dot.gov/policyinformation/statistics/2021/pdf/vm1.pdf.

period.[32] CBO noted that the estimate does not account for the cost of the administrative and auditing systems that would have to be in place once the fee went into effect. Development of such a framework would take time, and funding and enforcement mechanisms would have to be established.

There is recent evidence of growing consumer acceptance of EVs. Following a slump in EV sales in FY2020, sales in FY2021 increased roughly 52% over FY2019 sales; in FY2022, sales increased roughly 51% over FY2021.[33] Should this growth continue, assuming an average of 50% growth each fiscal year and barring possible production capacity limitations, the total number of ZEVs on the road would be roughly 13 million at the end of FY2026 (roughly 5% of the light-duty vehicle fleet). Under this scenario, the forgone HTF revenue during the life of the IIJA (FY2022-FY2026) would be roughly $3.4 billion. Continuing under this scenario, by the end of FY2026, EVs could have a market share approaching 30% of sales.

For the most part, this recent growth preceded the impact of provisions in the IIJA and in the legislation known as the Inflation Reduction Act of 2022 (IRA; P.L. 117-169) that were intended to encourage the purchase of all-electric EVs.[34] IIJA funded two programs over FY2022-FY2026 to accelerate the build-out of EV charging stations nationwide: the National Electric Vehicle Formula Program and the Charging and Fueling Infrastructure Grants Program. The IRA included modified and extended tax credits for new and used EV and fuel cell vehicles and enacted new tax credits for new and used commercial clean vehicles. If EV sales grow rapidly, the impact of EVs on annual HTF revenues would likely be a factor during the IIJA reauthorization debate in 2026. Under a five-year reauthorization, the debate would be considering surface transportation funding for FY2027 through FY2031.

As of 2022, 32 states had EV fees imposed at registration.[35] In most cases, the revenue from such fees is dedicated to transportation. Although sales and mileage fees have been considered, the most common form of tax is a flat fee paid annually at registration. Congress could consider imposing a similar federal fee. If Congress were to structure a federal registration fee in a way that mandates the states to implement the federal program, unrelated to the provision of federal funds, the fee might be challenged in court on constitutional grounds.[36] Vehicle owners could also be required to declare their mileage traveled during the tax year and pay the fee when they file their federal income tax returns, but not all vehicle users file returns. Other possible options for an EV tax imposition would be similar to the collection options considered under VMT tax proposals.

Vehicle-Miles-Traveled Charges

Many economists have long favored mileage-based user charges as an alternative source of highway funding. Under the user charge concept, motorists would pay fees based on distance

[32] CBO, *Answer to a Question for the Record Following a Hearing on the Long-Term Solvency of the Highway Trust Fund*, May 12, 2021, p. 1, at https://www.cbo.gov/publication/57207.

[33] Pre-pandemic FY2019 electric vehicle (EV) sales were roughly 362,700. Sales fell to roughly 287,700 for FY2020 but rebounded to roughly 554,000 for FY2021 and to about 837,100 for FY2022.

[34] Peter Slowik et al., *Analyzing the Impact of the Inflation Reduction Act on Electric Vehicle Uptake in the United States*, Energy Innovation Policy & Technology, LLC, and International Council on Clean Transportation, January 2023, pp. 1-29, at https://energyinnovation.org/publication/analyzing-the-impact-of-the-inflation-reduction-act-on-electric-vehicle-uptake-in-the-united-states/.

[35] Austin Igleheart, *Special Fees on Plug-in Hybrid and Electric Vehicles*, National Conference of State Legislatures, March 27, 2023, at https://www.ncsl.org/energy/special-fees-on-plug-in-hybrid-and-electric-vehicles#fees.

[36] CRS Report R45323, *Federalism-Based Limitations on Congressional Power: An Overview*, coordinated by Kevin J. Hickey.

driven and, perhaps, on other costs of road use, such as weight, traffic congestion, and air pollution. The funds collected would be spent for surface transportation purposes.[37]

The concept of paying fees related to distance driven is not new: federal motor fuel taxes are a form of indirect road user charge insofar as road use is loosely related to fuel consumption. Some states have charged trucks by the mile for many years, and toll roads charge drivers based on miles traveled and the number of axles on a vehicle, which is a proxy for weight. Recent technological developments, as well as the evident shortcomings of motor fuel taxes, have led to renewed interest in the user charge concept and support for funding pilot programs that were included in both the IIJA and its predecessor, the Fixing America's Surface Transportation Act (FAST Act; P.L. 114-94).

VMT charges, also referred to as mileage-based road user charges or RUCs, could range from a flat cent-per-mile charge based on an odometer reading to a variable charge based on vehicle movements tracked by Global Positioning System (GPS). Other proposals envision VMT charges that would mimic the way Americans now pay their fuel taxes (i.e., by collecting the charge at the pump), but a different method would be required to obtain payment from EV users.

Implementation of a VMT charge would have to overcome numerous potential disadvantages relative to the motor fuel tax. These disadvantages include public concern about personal privacy; higher collection and enforcement costs (estimates range from 5% to 13% of collections); the administrative challenge of collecting the charge from roughly 272 million vehicles;[38] and the setting and adjusting of VMT rates, which would likely be as controversial as increasing motor fuel taxes. Another issue is how to collect the charge from drivers who do not have a bank account or credit/debit card.

A variety of collection methods have been considered for a national VMT. The most commonly discussed method is GPS tracking that would tally the number of miles driven for each vehicle and then bill the vehicle owner. As mentioned, billing each vehicle owner could greatly increase the administrative costs and reduce the net revenues provided by the tax. The GPS-linked method of collection would likely raise the most individual privacy concerns of the proposals Congress may consider.[39]

Historically, Congress imposed a $5 motor vehicle use tax during World War II. However, federal administration and enforcement of the tax were uneven and evasion was widespread.[40] This was not a mileage fee but rather a flat fee per vehicle under which each vehicle owner purchased a stamp that was displayed on the vehicle. New Zealand had a similar payment system for its mileage fee under which car owners had to purchase mileage certificates that they then displayed on their dashboards. This worked reasonably well in New Zealand.[41]

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[37] See CRS Report R44540, *Mileage-Based Road User Charges*, by Robert S. Kirk and Marc Levinson. See also U.S. Government Accountability Office (GAO), *Highway Trust Fund: Federal Highway Administration Should Develop and Apply Criteria to Assess How Pilot Projects Could Inform Expanded Use of Mileage Fee Systems*, GAO-22-104299, January 10, 2022.

[38] FHWA, *State Motor-vehicle Registrations: 2020*, Table MV-1, June 2022, at https://www.fhwa.dot.gov/policyinformation/statistics/2020/mv1.cfm.

[39] GAO, Highway Trust Fund: Federal Highway Administration Should Develop and Apply Criteria to Assess How Pilot Projects Could Inform Expanded Use of Mileage Fee Systems, GAO-22-104299, January 10, 2022, at https://www.gao.gov/products/gao-22-104299.

[40] Jeff Davis, "The Federal Tax on Driving and Automobile: 1942-1946," *Eno Transportation Weekly*, December 5, 2022, pp. 21-27.

[41] Road User Charges Review Group, *An Independent Review of the New Zealand Road User Charging System*, March 31, 2009, at https://www.nzta.govt.nz/assets/resources/road-user-charges/docs/ruc-final-report.pdf.

Some collection methods might be linked to the annual registration of the vehicles. For example, all vehicle owners could be required each year to declare to the Internal Revenue Service (IRS) the vehicle's miles driven and receive from the IRS a certificate of proof of payment, which would then be provided to the state departments of motor vehicles as a requirement for vehicle registration. This would be analogous to the collection of the heavy vehicle use tax paid by truck owners. However, collecting such a tax from the general population of automobile owners would likely be more complicated to administer than collecting a fee from commercial truck owners. All of these collection methods would be complicated to enforce, and evasion would likely be widespread without substantial enforcement activity.[42]

Some concerns have been raised that a flat per mile VMT charge that would replace the federal fuel tax would, at least in the near term, result in more greenhouse gas (GHG) emissions.[43] The reasoning is that the switch would reduce the costs of driving fuel-inefficient vehicles and reduce the incentive to purchase fuel-efficient vehicles. One response would be to shift from a flat VMT charge to one that uses miles traveled but adjusts the fee based on vehicle weight, efficiency, or both. Another response would be to retain the fuel taxes and charge the VMT to ZEVs and perhaps hybrid vehicles.

A nationwide VMT charge would be analogous to a national toll. This raises the prospect that vehicles using toll roads could be charged twice, although this effectively happens now in that toll-road users also pay tax on the motor fuel they consume while using the toll road. Technically, it would be possible for a VMT charge to replace an existing toll, but this could cause complications with respect to the servicing of bonds funded by toll-road revenue.

Truck-Only Vehicle-Miles-Traveled Charge

Imposing a VMT charge on heavy trucks only,[44] as has been done in Germany, might be less onerous to implement because it would avoid the privacy objections, would involve a smaller number of collection points, and might avoid the equipment issues automobiles would face if commercial trucks' electronic logging devices prove adaptable to charging a VMT. A truck-only VMT concept has run into opposition from trucking interests, who object to being singled out for a tax that could logically be charged to all highway vehicles.[45] A national VMT charge on heavy trucks could also face tax administration issues.

To achieve the greatest savings in costs of collection, taking full advantage of the economies of scale available at the national level, the IRS would need to devise a means of collection that provides for direct payment to the federal government, is easy to administer, and difficult to evade. The cost of collection of the federal motor fuel tax is less than 1 cent per dollar of revenue;

[42] Although enforcement would take time and effort—because all on-road vehicles are assigned vehicle identification numbers (VINs) that are included in state registration data along with addresses and ownership data—it is possible that the Internal Revenue Service could use these data along with its own taxpayer information to establish an enforcement mechanism.

[43] Max Baumhefner, "A Simple Way to Fix the Gas Tax Forever," *NRDC Expert Blog*, August 2, 2019, at https://www.nrdc.org/experts/max-baumhefner/simple-way-fix-gas-tax-forever. See also "Big Electric Trucks and SUVs are the New Gas Guzlers," *Quartz*, April 14, 2022, at https://qz.com/2154558/big-electric-trucks-and-suvs-are-the-new-gas-guzzlers.

[44] CBO, *Issues and Options for a Tax on VMT by Commercial Trucks*, October 2019.

[45] Sam Mintz, "Trucking Industry to Congress: Don't Use Us to Pay for Surface Bill," *Politico*, January 24, 2020, at https://www.politico.com/newsletters/morning-transportation/2020/01/24/trucking-industry-to-congress-dont-use-us-to-pay-for-surface-bill-784620.

in contrast, the estimated cost to the German government of payments to Toll Collect, the contractor that collects its truck VMT, is 13% of annual revenues.[46]

Vehicle-Miles-Traveled Charges and Non-highway Programs

Since 1982, the HTF has funded most federal public transportation programs and highway programs. If a VMT charge were to be used strictly for highway purposes, it might reasonably be characterized as a user fee even if the amount paid by each individual driver does not correspond precisely to the social cost (such as pollution and traffic congestion costs) of that user's driving. A VMT charge that funded both highways and public transportation might arguably be seen more as a tax than a user fee because the road congestion reducing benefits of public transportation to the drivers that pay the VMT are indirect and not everywhere at all times. This distinction raises a number of legal issues.[47] If the existing HTF were to be retained, legislation would most likely specify what share of the VMT revenue would be credited to the separate highway and mass transit accounts within the fund. VMT collections deposited in the Treasury general fund would likely be seen as taxes, not as user charges.

Carbon Taxes

A carbon tax could be assessed on emissions of carbon dioxide and other GHGs. Its scope might include manufacturing facilities, power plants, and transportation.[48] A share of revenues from a carbon tax could be dedicated to federal transportation programs, either directly or via existing transportation trust funds such as the HTF or the Airport and Airway Trust Fund. The revenues could either replace or supplement current transportation taxes, such as motor fuel taxes. CBO estimated that a carbon tax of $25 per metric ton in effect January 2023 would increase federal revenues by about $865 billion between 2023 and 2032 after adjusting for tax revenue losses related to increased business costs. The projection assumed the tax would increase at a real annual rate of 5% (inflation adjusted).[49] The effect of a carbon tax on the HTF would depend on the design of the tax and the use of the revenue it generates. Assuming federal GHG emission reduction targets were met, carbon tax revenues would decline over time.

Other Options to Preserve the Highway Trust Fund

A wide range of additional proposals have been suggested to generate revenue for the HTF. These proposals largely originated from the work of two commissions established pursuant to SAFETEA and of groups such as the American Association of State Highway and Transportation Officials (AASHTO) and the Transportation Research Board (TRB).[50] For example, AASHTO's

[46] CRS Report R44540, *Mileage-Based Road User Charges*, by Robert S. Kirk and Marc Levinson, p. 12.

[47] There may be legal considerations depending on whether the VMT charge is structured as a fee or a tax. See, for example, U.S. Const. Art. 1, §8, cl. 1 ("all Duties, Imposts and Excises shall be uniform throughout the United States"). Legally, the two are distinguished by the relationship between the amount charged by the government and the services rendered to the payer. For example, the Supreme Court has explained that a tax may be administered "arbitrarily and [without regard to] benefits bestowed by the Government on a taxpayer and go solely on ability to pay, based on property or income," while a user fee is a specific charge imposed for a benefit that accrues only to the payers. *Nat'l Cable Television Ass'n v. United States*, 119 U.S. 336, 340-41 (1974).

[48] CRS Report R42731, *Carbon Tax: Deficit Reduction and Other Considerations*, by Jonathan L. Ramseur and Jane A. Leggett.

[49] CBO, "Impose a Tax on Emissions of Greenhouse Gases," in *Options for Reducing the Deficit: 2023 to 2032—Volume 1*, December 2022, at https://www.cbo.gov/budget-options/58638.

[50] The Transportation Research Board (TRB), through its research programs, has prepared several reports on future (continued...)

"Matrix of Illustrative Surface Transportation Revenue Options" lists 37 potential HTF revenue options with yield estimates in tabular form.[51] Many of these options involve taxes on freight movements or energy.[52] The revenue estimates from these exercises are merely suggestive; the revenue obtained from any given measure would depend on changes in the price of motor fuels, growth in the number of annual auto registrations, and other factors.

The Future of the Highway Trust Fund

The HTF was created as a highway user-supported fund. Highway taxes paid by users would be credited to the HTF to be solely used for highway funding, thereby providing a link between those who pay the taxes and those who benefit from the spending. However, when HTF was established, it was to be a temporary device. It was supposed to disappear when the Interstate Highway System was finished. It has endured, and its breadth of financing has expanded well beyond the Interstate Highway System, most significantly with the 1982 creation of the mass transit account within the HTF to support public transportation spending. However, the HTF is not essential to a federal role in transportation funding. Congress routinely funds large infrastructure projects, such as those constructed by the U.S. Army Corps of Engineers, from general fund appropriations. Before 1956, Congress funded highway projects using annual appropriations. As recently as the 1990s, significant highway programs, such as the Appalachian Development Highway System, were funded from the general fund.

Given the $118 billion in general fund transfers to the HTF under the IIJA, by the time the revenues and transfers spend down to zero in FY2027, roughly 30% of HTF outlays (FY2022-FY2027) will have been supported with transferred funds. In addition, the act provided $71 billion in multiyear supplemental appropriations also from the general fund. Both the general fund transfers and the multiyear appropriations weaken the link between highway taxes and spending and, consequently, the argument for a trust fund system.

If Congress chooses not to impose new taxes and fees dedicated to the HTF, it could still maintain or expand the surface transportation program with general fund monies. Any of the revenues from the HTF financing options discussed above could also be deposited into the general fund rather than the HTF if Congress were to consider alternatives to the trust fund financing model. Possible alternatives are discussed in the following sections.

Eliminate the Highway Trust Fund

Eliminating the HTF would do away with the budget framework of contract authority, obligations, and apportionments.[53] Surface transportation programs would compete with other

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surface transportation finance that discuss VMT and other options. These reports include National Cooperative Highway Research Program (NCHRP), *Future Financing Options to Meet Highway and Transit Needs*, NCHRP Project 20-24, Web-Only Document 102, December 2006, at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w102.pdf; and TRB, *The Fuel Tax and Alternatives for Transportation Funding*, Special Report 285, January 2006, at http://onlinepubs.trb.org/onlinepubs/sr/sr285.pdf.

[51] American Association of State Highway and Transportation Officials, "Matrix of Illustrative Surface Transportation Revenue Options," January 2019, at https://transportation.org/funding-finance/wp-content/uploads/sites/42/2023/01/Matrix_of_Funding_Options.pdf.

[52] For example, Pete K. Rahn, "The Gas Tax is Obsolete. Here's a Better Idea," *Politico*, June 23, 2021, at https://www.politico.com/news/agenda/2021/06/23/gas-tax-better-idea-495572.

[53] Joshua Schank, "Life and Death of the Highway Trust Fund: How We Pay for Transportation," Eno Center for Transportation, December 2014, at https://www.enotrans.org/store/research-papers/the-life-and-death-of-the-highway-trust-fund-2.

federal programs for funding each year, possibly affecting the level of funding provided for transportation.

There could be advantages to moving away from using a trust fund for surface transportation programs. Until recently, one of the most intractable arguments in reauthorization debates concerned which states were "donors" to transportation programs and which were "donees." Donor states were those whose highway users were estimated to pay more to the highway account of the HTF than they received. Donee states received more than they paid. The donor-donee dispute was unique to the federal highway program and occurred largely because of the ability to track federal fuel tax revenues by state. This issue has faded, as HTF shortfalls have been resolved with injections of general fund transfers to the HTF. These general fund monies transferred into the HTF have no connection to highway tax revenues but have made nearly all states donees. The donor-donee issue would likely be eliminated if transportation-related taxes were deposited into the general fund instead of the trust fund. This would provide Congress with greater flexibility to allocate funding among various transportation modes and between transportation and nontransportation uses. At the same time, treating fuel taxes as another source of federal revenue would weaken the long-standing link between road user charges and program spending.

Eliminating the HTF might also allow for creativity in thinking about the provision of transportation infrastructure. Historically, important parts of U.S. transportation infrastructure, such as the transcontinental railroads and the Panama Canal, were authorized by specific congressional enactments rather than grant programs. Reconsidering the trust fund structure might reopen discussion of this approach.

Devote Highway Trust Fund Revenues Exclusively to Highways

This option would leave transit and other surface transportation programs to be funded entirely by annual appropriations of general funds or to be funded by states and localities. However, even if all HTF revenues were dedicated to highways, the HTF is projected to face annual shortfalls beginning in FY2028. According to CBO, annual HTF revenue is projected to be about $22 billion less than the cost of maintaining the present level of highway spending, adjusted for inflation, in FY2028, even if no HTF monies go to public transportation.[54] Such a change would have political implications. Since the early 1990s, public transportation and cycling advocates, environmentalists, and a wide range of other groups have become supporters of the surface transportation program. These groups might be less enthusiastic about supporting a program that does not address their interests.

"Devolve" Surface Transportation Programs to the States

The federal government could devolve most federal responsibility for highways and public transportation to states and localities. Under devolution proposals, the federal taxes that now support surface transportation programs, mostly fuel taxes, would be reduced accordingly, leaving individual states and localities to raise their own taxes to pay for highway and transit projects as they see fit. A small program, funded by much-reduced motor fuel taxes, would remain in place at

[54] CBO, *Highway Trust Fund Accounts*, CBO's Baseline as of February 2023, at https://www.cbo.gov/system/files/2020-03/51300-2020-03-highwaytrustfund.pdf. The $20 billion figure reflects an FY2027 start-of-year balance of nearly $39 billion. Without this balance, the shortfall would be roughly $59 billion in FY2028.

the federal level to maintain roads on federal lands, fund highway safety efforts, and support other programs Congress may decide not to devolve.[55]

Retain the Infrastructure Investment and Jobs Act Model

By enacting the IIJA, Congress chose to both retain the funding model of transferring funds into the HTF, mostly from the Treasury general fund, and provide large additional amounts of appropriated funds outside the trust fund framework. Congress could decide to continue the IIJA model of a less important role for HTF contract authority programs supplemented with multiyear appropriated programs. It could also revert to a primarily HTF model. In either case, the large amounts of general fund monies that would be needed to maintain current spending levels are likely to become a major point of contention when Congress debates reauthorizing surface transportation programs beyond FY2026.

Making a General Fund Share Permanent

By FY2026, the last year of the IIJA, federal highway programs will have been funded for just over 18 years under a de facto policy of providing a Treasury general fund share. Congress could address the inadequacy of motor fuel taxes to meet surface transportation needs by making the general fund share permanent.

The public transportation titles of surface transportation bills fund the Capital Investment Grants program through appropriations from the general fund. The Federal Aviation Administration (FAA) budget is also supported by a combination of trust funds and general funds; the general fund amount is supposed to approximate the value of the airways system to military and other government users and to "societal" nonusers (people who do not fly but, for example, benefit from the delivery of freight via aircraft).[56] A similar argument can be made regarding the public good benefits of a well-functioning surface transportation system to justify an annual general fund appropriation to support spending on roads and public transportation.[57]

Were Congress to decide on a future policy of providing an annual general fund share for federal highway and public transportation programs, the funding structure of the federal-aid highways program could change. Congress would have the choice of appropriating the general fund share to the HTF and maintaining the programmatic status quo, or it could fund some programs from the trust fund and fund others via appropriations as was done under the IIJA.

Congress could also consider a two-pronged approach to authorization. One option could be to authorize the trust-funded programs in separate bills from the appropriated programs. For example, Congress could approve a very long authorization for trust-funded projects that typically take many years to plan and complete. The long-term authorization could be paired with a series of short-term bills funded with appropriated general funds for programs whose projects are more likely to be completed quickly.[58]

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[55] CRS Report R44811, *Surface Transportation Devolution*, by Robert S. Kirk.

[56] The provision of a general fund share for the Federal Aviation Administration (FAA) is not required by statute but is the historical norm. When the Airport and Airway Trust Fund was running sufficient balances to do so, it was not uncommon for presidential budgets to propose funding the entire FAA budget with trust fund revenues. Since the 1971 creation of the Airport and Airway Trust Fund, however, this occurred only in FY2000.

[57] Joseph E. Stiglitz, *Economics of the Public Sector* (New York, NY: W.W. Norton Co., 1986), p. 599.

[58] See Jeff Davis, *Why Not a Ten-Year Surface Transportation Bill? (Executive Summary)*, Eno Center for Transportation, February 26, 2015, p. 1.

Tolling of Federal-Aid System Highways

Toll roads have a long history in the United States, going back to the early days of the republic. During the 18th century, most were local roads or bridges that could not be built or improved with local government tax revenue alone. However, beginning with the Federal Aid Road Act of 1916 (39 Stat. 355), federal law has included a prohibition on the tolling of roads that benefited from federal funds.[59] During the late 1940s and early 1950s, the prospect of toll revenues allowed states to build thousands of miles of limited-access highways without federal aid and much sooner than would have been the case with traditional funding. Despite this, the tolling prohibition was reiterated in the Federal-Aid Highway Act and Highway Revenue Act of 1956 (70 Stat. 374), which authorized funds for the Interstate System, created the HTF, and raised the fuel taxes to pay for their construction. Over the last three decades, the prohibition has been moderated so that exceptions to the general ban on tolling now cover the vast majority of federal-aid roads and bridges. A ban remains on the tolling of existing Interstate System highway surface lane capacity. Although new toll facilities have opened in several states, some of those projects have struggled financially.

Generally, there are several levels of restrictions on tolling of federal-aid highways. Non-Interstate highways and bridges may be converted to toll roads after reconstruction or replacement. Existing Interstate surface lane capacity may not be converted to toll roads except under the auspices of the Value Pricing Pilot Program[60] and the Congestion Relief Program.[61] Interstate bridges and tunnels may be converted if they are reconstructed or replaced. New capacity on the federal-aid highway system, including Interstates, may be tolled. Any roads that are not part of the federal-aid highway system may be tolled. There are limitations on the use of toll revenues, however.[62]

Options for Expanded Use of Tolling

Although the amount of toll revenue has grown significantly in recent years, toll revenue as a share of total spending on highways has been relatively steady for more than half a century, ranging from roughly 5% to 7%.[63] Highway toll revenue nationwide came to $17.629 billion in FY2020, according to FHWA. On average, facility owners collected $2.77 million per mile of toll road or bridge in FY2020, while revenue per mile varied greatly among toll facilities.[64] During the COVID-19 pandemic, toll revenues fell to $13.511 billion (FY2021) and average collections fell to $2.25 million.[65] All revenue from tolls flows to the state or local agencies or private entities that operate tolled facilities; the federal government does not collect any revenue from tolls.

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[59] CRS Report R44910, *Tolling U.S. Highways and Bridges*, by Robert S. Kirk.

[60] FHWA, "Federal Tolling Programs: Value Pricing Pilot Program," at https://www.fhwa.dot.gov/ipd/tolling_and_pricing/tolling_pricing/vppp.aspx.

[61] FHWA, "Congestion Relief Program: Fact Sheet," February 6, 2023, at https://www.fhwa.dot.gov/bipartisan-infrastructure-law/congestion_relief.cfm.

[62] See 23 U.S.C. §129(a)(3).

[63] FHWA, *Highway Statistics: Summary to 1975*, Table HF-211, 1977, pp. 107-136. Also *Highway Statistics: Summary to 1995*, Table SF-210; *Highway Statistics*, various years, Tables SF-21, HF-10, and HF-10a; and *Our Nation's Highways: 2010*, Figure 6-6: Toll Facility Revenue: 1993-2008, at http://www.fhwa.dot.gov/policyinformation/pubs/pl10023/fig6_6.cfm. For 2020, toll revenues were 6.7% of all spending on roads.

[64] FHWA, *Highway Statistics, 2020*, Table HF-10, February 2021, at https://www.fhwa.dot.gov/policyinformation/statistics/2020/pdf/hf10.pdf.

[65] FHWA, *Highway Statistics, 2021*, Table HF-10, February 2023, at https://www.fhwa.dot.gov/policyinformation/statistics/2021/hf10.cfm.

However, a major expansion of tolling might reduce the need for federal expenditures on roads. There are three possible means of increasing revenue from tolling:

- **Increase the Extent of Toll Roads.** FHWA statistics identified 6,358 tolled miles of roads, bridges, and tunnels as of July 2021,[66] a net increase of 1,637 miles, or 35%, over 1990.[67] Toll-road mileage comprises 0.6% of the 1,033,912 miles of public roads eligible for federal highway aid.[68] Although there may be many existing roads on which tolling would be financially feasible, the vast majority of mileage on the federal-aid system probably has too little traffic to make toll collection economically viable.
- **Increase the Average Toll per Mile.** Raising tolls can be politically challenging, especially when revenue is used for purposes other than building and maintaining the toll facility. Trucking interests frequently raise opposition to rate changes that increase truck tolls relative to automobile tolls. Where roads are operated by private concessionaires, the operators' contracts with state governments typically specify the maximum rate at which tolls can rise. Additionally, large increases can encourage motorists to use competing non-tolled routes, thereby reducing their revenue-raising potential. In general, FHWA does not regulate toll rates.[69]
- **Increase Toll Road Usage.** Increasing toll road usage is dependent largely on policies that effectively increase the number of miles tolled and establish toll rates that maximize revenues without discouraging use. However, toll road use is also determined by broad economic and social trends. The funding and financing of many of the toll roads constructed in the 20th century was based on the assumption that the new roads would lead to increased vehicle usage. Although highway VMT declined by 13.2% in 2020 due to the COVID-19 pandemic, vehicle use rose to near 2019 levels in 2021. However, increased telework has changed the pattern of travel. Many toll roads, especially high occupancy toll lanes, were built to support commuting. Increased telework could create revenue uncertainty for some toll roads, at least in the near term. In addition, if demographic trends and social changes eventually lead to slower growth in personal motor vehicle use, then toll revenues may be constrained in the longer term.

The constraints on these means of increasing revenue from tolling suggest that imposing tolls on individual transportation facilities is likely to be of limited use in supporting the overall level of highway capital spending. Furthermore, some states, particularly those with low population densities, may have few or no facilities suitable for tolling.[70] Toll collection itself can be costly; collection costs on many existing toll roads exceed 10% of revenues. For these reasons, although tolls may be an effective way of funding specific facilities—especially major roads, bridges, or

[66] FHWA, *Toll Facilities in the United States: Toll Mileage Trends—2009 to 2020*, July 2021, at https://www.fhwa.dot.gov/policyinformation/tollpage/documents/trends.pdf.

[67] FHWA, *Toll Facilities in the United States: Bridges-Roads-Tunnels-Ferries*, FHWA-PL-91-009, 1991, p. v.

[68] FHWA, *Highway Statistics*, Table HM-18, October 26,2021, at https://www.fhwa.dot.gov/policyinformation/statistics/2020/pdf/hm18.pdf.

[69] Exceptions to the general federal policy of not regulating toll rates include the mandate that intercity buses serving the public have the same access to and pay the same rates as public transportation buses and the requirement that public authorities operating high-occupancy toll lanes on the Interstate System consult with affected metropolitan planning organizations on the placement and amount of tolls.

[70] CRS Report R45250, *Rural Highways*, by Robert S. Kirk.

tunnels that are likely to be used heavily and are located such that the tolls are difficult to avoid—they likely would be less effective in providing broad support for surface transportation programs.

Given the large nominal dollar increase in highway funding in the IIJA, especially for bridges, the use of tolling to fund road projects could decline. Tolling could be an issue in the next surface transportation reauthorization cycle, however.

Inflation and Reauthorization

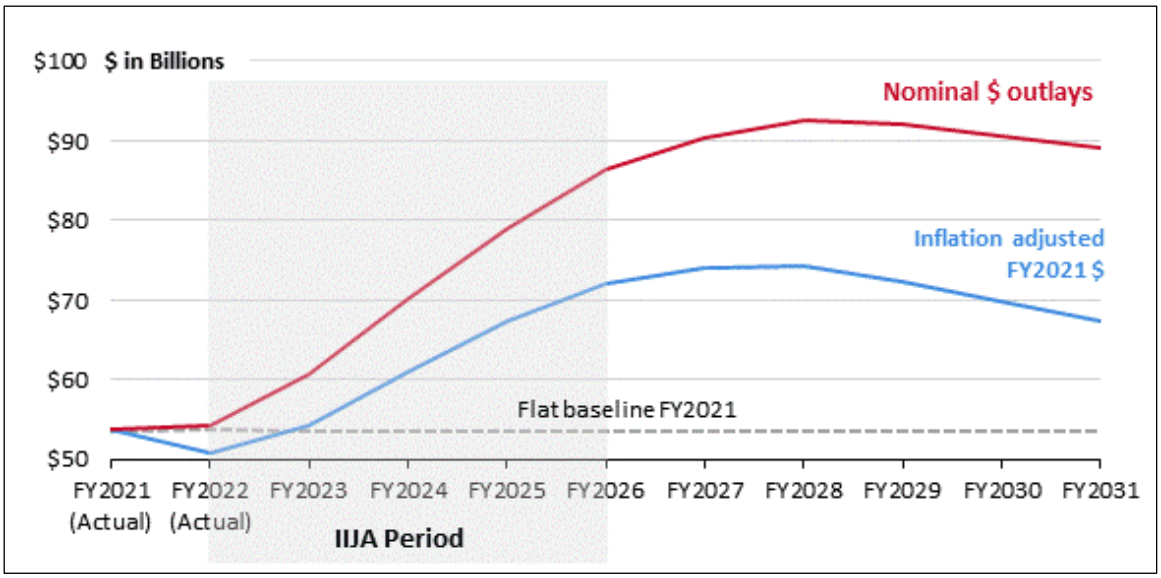
In the 10 years prior to enactment of the IIJA, the inflation rate measured by the Consumer Product Price Indexes and the Gross Domestic Product Price Index (GDP-PI) was modest, usually near or below 2%. This meant that inflation was not a significant issue during the reauthorization debate that proceeded passage of the IIJA. However, the more rapid pace of price increases since 2021 has raised the prospect that inflation may erode the value of the surface transportation spending provided in the IIJA. This could be a factor in the decisions that the authorizing and funding committees make in determining the dollar size of the future surface transportation programs and how to pay for them.

The Partial Loss of IIJA Purchasing Power

Actual and projected inflation, as measured by GDP-PI, suggest that IIJA spending (outlays) over FY2022-FY2026 could lose significant purchasing power. CBO has made outlay projections of both HTF contract authority (CA) and the multiyear supplemental appropriations (SA) for highways and public transportation through FY2031. **Figure 2** shows, in red, the trend of eventual outlays of combined HTF CA and SA budget authority during the IIJA authorization and for the five years following the expiration of the IIJA. The blue line shows the outlay trend adjusted for inflation using CBO's actual and projected GDP-PI. The gap between the lines indicates the loss of purchasing power from FY2022 through FY2031. Nevertheless, inflation-adjusted outlays would be higher for the entire period except for FY2022.

Figure 2. Actual and Projected Highway and Transit Outlays

CA and SA combined in billions of dollars



Source: CBO, Baseline Projections Highway Trust Fund Accounts, May 2023, at Highway Trust Fund Accounts—May 2023 Baseline (cbo.gov); and CBO, *Cost Estimate: Senate Amendment 2137 to H.R. 3684, the Infrastructure Investment and Jobs Act*, p. 17, at https://www.cbo.gov/publication/57406. Inflation adjustments calculated by CRS to FY2021=100, based on CBO's projected Gross Domestic Product price index in the *Budget and Economic Outlook: 2023-2033*, at https://www.cbo.gov/publication/58848.

Notes: CA = Highway Trust Fund contract authority; and SA = multiyear supplemental appropriations. Projections for IIJA authorizations that are subject to appropriations are not available. Outlays are end of fiscal year amounts. CBO's projections incorporate an assumption that the CA of roughly $79.9 billion that will be provided in FY2026, the final year of the IIJA authorization, will also be provided in each subsequent year. CBO's cost estimate assumes that for SA, the budget authority is zero for FY2027 and subsequent years.

The projected loss of purchasing power (the difference between nominal and inflation-adjusted outlay amounts) grows to 16.5% at the end of FY2026, the final year of the IIJA, and to 24.3% by the end of FY3031, which would be the final year of a five-year reauthorization.

Construction Costs

Comparing price indexes for highway and street construction costs to the GDP-PI used above indicates that the loss of purchasing power for highway spending could be greater than indicated in **Figure 2**. During the two previous surface transportation reauthorization cycles (FY2013-FY2021) the BEA highways and streets price index averaged a 2.6% annual average increase[71] compared with the GDP-PI, which averaged 1.8%.[72] BEA has not yet provided a price index figure for FY2022; however, FHWA's NHCCI indicated that annual average highway construction costs for FY2022 rose almost 24% above FY2021.[73] Construction cost indexes tend

[71] BEA, *Price Indexes for Gross Government Investment by Type; Highways and Streets*, at https://apps.bea.gov/iTable/?reqid=19&step=2&isuri=1&categories=survey#eyJhcHBpZCI6MTksInN0ZXBzIjpbMSwyLDNdLCJkYXRhIjpbWyJjYXRlZ29yaWVzIiwiU3VydmV5Il0sWyJOSVBBX1RhYmxlX0xpc3QiLCIzOTkiXV19.

[72] CBO, *Budget and Economic Data: 10-Year Economic Projections*, February 2023, at https://www.cbo.gov/data/budget-economic-data#4.

[73] FHWA, *National Highway Construction Cost Index (NHCCI)*, April 2023, at https://explore.dot.gov/views/

(continued...)

to be somewhat volatile and are heavily influenced by energy costs, which began rising with the easing of the pandemic and then spiked with the start of the war in Ukraine, as well as by labor costs. Some of the factors that led to these large construction costs have eased recently.[74] Neither of these price indexes is projected into the future. In preparation for surface transportation reauthorization Congress could ask CBO and the Department of Transportation (DOT) to provide estimates of future cost trends for highway and public transportation projects.

The Slow Spending Nature of Highway and Public Transportation Programs

Another factor that could influence the impact of inflation is that surface transportation programs are slow-spending programs. Their authorized spending is outlaid over a long period. Using highway programs as an example, the vast majority of each year's federal highway funds are available for obligation for four years. Obligation occurs when the state or grantee signs a project agreement with FHWA in which the agency commits to the federal portion of the project cost. For highway projects, 84% of obligated funds are expended (outlaid) within three years of obligation, but some funds take as long as nine years to expend.[75] This means that for FY2026, the last year of the IIJA, obligation of these authorized funds is to continue through FY2029. Some IIJA funds obligated in FY2029 might not be fully spent (outlaid) until FY2038.[76]

Maintenance of Effort

Research by CBO has estimated that state and local governments receiving federal grants for highway projects "reduce their own per capita spending on highway capital by 26 cents for an additional dollar of annual federal formula grants."[77] This raises the possibility that the IIJA may lead to less combined state, local, and federal spending on highway bridges than previous state and local spending patterns imply. Maintenance of effort could be an issue for Congress during IIJA reauthorization.

NHIInflationDashboard/NHCCI?%3Aiid=1&%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Adisplay_count=n&%3AshowVizHome=n&%3Aorigin=viz_share_link; and Jeff Davis, "Highway Construction Costs Have Risen 50% in Two Years," *Eno Transportation Weekly*, April 17, 2023, at https://www.enotrans.org/article/highway-construction-costs-have-risen-50-in-two-years/.

[74] Competition in the bidding process for project contracts could also influence the costs. For example, in testimony before the House Committee on Transportation and Infrastructure, Subcommittee on Highways and Transit, American Road & Transportation Builders Association's Senior Vice President Paula Hammond remarked that despite reports of cost increases, there are a "significant number of states in which project bids continue to come in below the initial engineer's estimates." See *Reviewing the Implementation of the Infrastructure Investment and Jobs Act*, at https://www.artba.org/wp-content/uploads/2023/03/Hammond_March28_Testimony.pdf?mc_cid=8de2003917&mc_eid=5f461d588c.

[75] FHWA, "Funding Federal-Aid Highways," January 2017, at https://www.fhwa.dot.gov/policy/olsp/fundingfederalaid/06.cfm.

[76] Most of the multiyear supplemental appropriations provided for highways and mass transit in Division J of the IIJA were available for obligation for five years. Obligated balances are generally available for liquidation for five additional years, so these funds must be spent in 10 years. See GAO, *A Glossary of Terms Used in the Federal Budget Process*, September 2005, p. 71.

[77] Sheila Campbell and Chad Shirley, *Fiscal Substitution in Spending for Highway Infrastructure*, CBO, Working Paper 2021-13, October 2021, pp. 1-45, at https://www.cbo.gov/publication/57430. The report notes that their finding is at the lower end of estimates in existing literature.

Financing Surface Transportation

Surface transportation *financing* involves mainly public-sector borrowing and, in some cases, private borrowing and private equity investment. CBO has estimated that over the period 2007 through 2016, federally supported financing as a share of capital spending by all levels of government was 20% for highways and 54% for public transportation.[78] This section discusses current federal programs that support the use of debt finance, including tax preferences and loans, and private investment to build and rebuild highways and public transportation. It also considers legislative options intended to encourage greater infrastructure financing in the future.

Municipal Bonds

Municipal bonds, debt instruments used by states and all types of local government, are a major source of financing for transportation infrastructure. The interest on municipal bonds is generally exempt from federal income tax; consequently, an investor will usually accept a lower interest rate than on a non-tax-exempt bond, and the borrower can finance a project at a lower cost. The forgone tax revenue is the federal government's contribution to a project financed with municipal bonds. CBO estimates that the cost to the federal government of tax-exempt bonds in state and local transportation and water infrastructure investment is 26 cents per dollar financed.[79]

Grant anticipation bonds are tax-exempt securities issued by state and local agencies and backed by federal grants expected to be received in the future. The best known variant is the Grant Anticipation Revenue Vehicle (GARVEE) bond, backed by a pledge of future federal highway apportionments.[80] Similar bonds, known as Grant Anticipation Notes (GANs), may be backed by a pledge of future federal public transportation apportionments or by anticipated discretionary funding such as that from the Capital Investment Grant (New Starts) Program to build rail transit lines and bus rapid transit.

Private activity bonds (PABs) are a type of municipal bond in which a state or local government acts as a financial intermediary for a business or individual.[81] PABs are not eligible for federal tax exemption unless Congress grants an exception for a certain purpose and other requirements are met. Congress has approved limited use of tax-exempt PABs for airports, docks and wharves, mass commuting facilities, high-speed intercity rail facilities, and qualified highway or surface freight transfer facilities (26 U.S.C. §142). In the case of qualified highway or surface freight transfer facilities, the Secretary of Transportation must approve the issuance of PABs, and the aggregate amount allocated must not exceed $30 billion (26 U.S.C. §142(m)(2)). The authorization for the sale of qualified highway or surface freight transfer facilities was a provision in SAFETEA, enacted in 2005. For many years, the issuance was limited to $15 billion, and many feared this would prevent projects from utilizing this type of financing. The limit was raised to $30 billion by Section 80403 of the IIJA. As of April 23, 2023, $17.0 billion of the $30 billion

[78] CBO, *Federal Support for Financing State and Local Transportation and Water Infrastructure*, October 2018, p. 7, at https://www.cbo.gov/system/files?file=2018-10/54549-InfrastructureFinancing.pdf.

[79] Ibid., p. 2.

[80] FHWA, "Grant Anticipation Revenue Vehicles (GARVEEs)," at https://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_debt_financing/garvees/garvee_state_by_state.aspx.

[81] Joint Tax Committee, *Overview of Selected Provisions Relating to the Financing of Surface Transportation Infrastructure*, JCX-97-15, June 23, 2015, at https://www.jct.gov/publications.html?func=showdown&id=4796.

had been issued to finance more than 30 projects, and another $2.3 billion had been allocated to two other projects.[82]

While municipal bonds are a popular financing method, there are several potential disadvantages to their use. Because they are issued by state and local governments, the federal government has less control over the types of projects supported and the amount of the federal contribution than it does with grant and loan programs. Tax-exempt bonds, moreover, can be an inefficient way to subsidize state and local debt because borrowing costs are reduced by less than the forgone federal revenue. As CBO notes, "the remainder of that tax expenditure accrues to bond buyers in the highest income tax brackets."[83] Also, tax-exempt bonds are unattractive to investors that do not have a federal tax liability, such as pension funds and foreign individuals and organizations, shrinking the potential funds available to state and local governments.

Tax credit bonds, an alternative type of tax-preferred municipal bond, might help to overcome some of these limitations. Tax credit bonds typically do not pay interest. Instead, the investor receives a tax credit, an amount that is the same for investors in different tax brackets. Tax credit bonds, therefore, are more efficient than tax-exempt bonds because the revenue forgone by the federal government equals the reduction in borrowing costs that state and local governments receive. Unused tax credits by the bondholder may be carried forward to another year or sold to another entity with tax liability. With some types of tax credit bonds known as issuer credit or direct pay bonds, the credit is paid to the issuer (a state or local government) by the Treasury, and the investor gets interest similar to taxable securities. Consequently, tax credit bonds can be attractive to investors with no federal tax liability.

Federal authority exists for state and local governments to issue some types of tax credit bonds, but under current authority, none can be used to finance transportation projects. Tax credit bonds authorized by the American Recovery and Reinvestment Act of 2009 (P.L. 111-5), known as Build America Bonds, were used to finance a wide range of projects, including transportation. The authorization to issue these bonds expired on December 31, 2010.

Transportation Infrastructure Finance and Innovation Act

An existing federal mechanism for providing credit assistance to relatively large transportation infrastructure projects is the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, enacted in 1998.[84] TIFIA provides federal credit assistance in the form of secured loans, loan guarantees, and lines of credit.[85]

Federal credit assistance reduces borrowers' costs and lowers project risk, thereby helping to secure other financing at rates lower than would otherwise be possible. Another purpose of TIFIA funding is to leverage nonfederal funding, including investment from the private sector. Loans must be repaid with a dedicated revenue stream, typically a project-related user fee, such as a toll,

[82] DOT, Build America Bureau, "Private Activity Bonds: Current Status," April 24, 2023, at https://www.transportation.gov/buildamerica/financing/private-activity-bonds-pabs/private-activity-bonds.

[83] CBO, *Answer to a Question for the Record Following a Hearing on the Long-Term Financing of the Highway Trust Fund Conducted by the House Committee on Ways and Means*, July 24, 2015, at https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/50418-QFRs_HTF_1.pdf.

[84] 23 U.S.C. §601 et seq.

[85] CRS Report R45516, *The Transportation Infrastructure Finance and Innovation Act (TIFIA) Program*, by William J. Mallett.

but sometimes with dedicated tax revenue. Through FY2022, TIFIA had provided assistance of about $43 billion to nearly 100 projects costing an estimated $156 billion (in FY2022 dollars).[86]

The IIJA authorized $250 million per year in CA from the highway account of the HTF for TIFIA for FY2022 through FY2026. Because the government expects its loans to be repaid, an appropriation need cover only administrative costs and the subsidy cost of credit assistance. According to the Federal Credit Reform Act of 1990, the subsidy cost is "the estimated long-term cost to the government of a direct loan or a loan guarantee, calculated on a net present value basis, excluding administrative costs."[87] According to OMB data, $1 in TIFIA funding has provided about $25 in credit assistance over the past 10 years, a 4% subsidy cost.[88]

States are allowed to use funds they receive from two other highway programs to pay for the subsidy and administrative costs of credit assistance. These two programs are the competitively awarded Nationally Significant Multimodal Freight and Highway Projects Program (known as INFRA grants), funded at $1.6 billion per year, and the formula-based National Highway Performance Program (NHPP), funded at $29.6 billion per year. If states decide to use their formula funding in this way, the potential amount of loans and other credit assistance may be much greater than would be possible using the $250 million direct authorization alone. Project sponsors can also use the multimodal Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program to pay the subsidy and administrative costs of a TIFIA loan.[89]

The primary goal of the TIFIA program, historically, has been to enable the construction of large-scale surface transportation projects by providing financing to complement state, local, and private investment. The TIFIA program has been one of the main ways in which the federal government has encouraged the development of public-private partnerships (P3s) and private financing in surface transportation often backed by new, but sometimes uncertain, revenue sources, such as highway tolls, other types of user charges, and incremental real estate taxes.

Several changes to the TIFIA program in the FAST Act were aimed at making it easier to finance smaller projects, particularly those in rural areas. Several relatively small loans over the past few years appear to show that these changes have begun to have an effect.

The TIFIA program is administered by DOT's Build America Bureau (BAB). In addition to TIFIA, BAB administers the State Infrastructure Bank (SIB) program, the Railroad Rehabilitation and Improvement Financing (RRIF) Program, and the allocation of authority to issue PABs for qualified highway or surface freight transfer facilities. BAB also is responsible for establishing and promoting best practices for innovative financing and P3s and for providing advice and technical expertise in these areas. BAB administers the discretionary INFRA grants and has responsibilities related to procurement and project environmental review and permitting.

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[86] Both dollar numbers were calculated by CRS in inflation-adjusted FY2022 dollars. DOT, "Projects Financed by TIFIA," at http://www.dot.gov/tifia/projects-financed.

[87] Federal Credit Reform Act of 1990 (§502 5A), enacted as §13201 of Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508).

[88] Based on the original subsidy rate for FY2014 through FY2023. OMB, *Budget of the U.S. Government, FY2023, Federal Credit Supplement*, Tables 1 and 7, at https://www.whitehouse.gov/wp-content/uploads/2022/04/cr_supp_fy2023.pdf.

[89] A maximum of 20% ($455 million) of the funding appropriated in FY2022 was available to pay the subsidy and administrative costs of TIFIA and Railroad Rehabilitation and Improvement Financing (RRIF) program credit assistance. DOT, "Notice of Funding Opportunity for the Department of Transportation's National Infrastructure Investments (i.e., the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program) under the Infrastructure Investment and Jobs Act ('Bipartisan Infrastructure Law')," at https://www.transportation.gov/sites/dot.gov/files/2022-04/RAISE_2022_NOFO_AMENDMENT_1.pdf.

In addition to reauthorizing funding for the TIFIA program, the IIJA made some changes to the program. Among those changes, IIJA expanded the list of eligible projects to include airports, the public infrastructure component of a transit-oriented development, and the acquisition of plant and animal habitat to mitigate the effects of transportation projects on endangered species.

Railroad Rehabilitation and Improvement Financing

BAB also administers the RRIF program, which provides credit assistance to railroads.[90] Although the original focus of the program was the financing of small freight railroads, sponsors of intercity passenger rail and commuter rail projects have been the major beneficiaries of the loans. From its establishment in 1998 through FY2022, there were 40 RRIF loans issued to 35 operators for a total of $7.1 billion, equaling $8.6 billion in FY2022 dollars. About 89% of the RRIF program's inflation-adjusted loan amount went to government-controlled entities for passenger rail projects, with 44% of the total going to public transportation agencies for commuter rail projects and 44% of the total going to Amtrak, the national intercity passenger rail provider. Freight railroads received about 11% of the inflation-adjusted amount of RRIF loans.[91]

Congress has authorized $35 billion in loan authority for the RRIF program. Unlike the TIFIA program, RRIF is intended to operate at no cost to the government and does not receive an annual appropriation. Nevertheless, the FY2018 Consolidated Appropriations Act appropriated $25 million in budget authority to cover the cost of RRIF credit assistance. Additionally, the FY2016 Consolidated Appropriations Act (P.L. 114-113) and the FY2018 Consolidated Appropriations Act (P.L. 115-141) provided $1.96 million and $350,000, respectively, to fund certain expenses incurred by prospective RRIF borrowers in preparation of their applications for RRIF credit assistance. With this funding and using existing authorities, DOT established the RRIF Express Program to increase loans to short-line and regional railroads.

Public-Private Partnerships

Demands on the transportation system and constraints on public resources have led to calls for more private-sector involvement in the provision of highway and transit infrastructure through P3s, which can be designed to lessen demands on public-sector funding.[92] Private involvement can take a variety of forms, largely depending on which elements of a project, and associated risks, are transferred from the public sector. Project elements include design, construction, finance, operation, and maintenance. Typically, the "public" in P3s refers to a state government, local government, or transit agency. The federal government, nevertheless, exerts influence over the prevalence and structure of P3s through its transportation programs, funding, and regulatory oversight.[93]

To be viable, P3s involving private financing typically require an anticipated project-related revenue stream from a source such as vehicle tolls, freight container fees, or, in the case of transit station development, building rents. Private-sector resources may come from an initial payment to lease an existing asset in exchange for future revenue, as with the Indiana Toll Road and Chicago

[90] CRS Report R44028, *The Railroad Rehabilitation and Improvement Financing (RRIF) Program*, by David Randall Peterman.

[91] Inflation-adjusted FY2022 dollar amounts calculated by CRS based on DOT, "Railroad Rehabilitation & Improvement Financing (RRIF): Executed Loan Agreements," at https://www.transportation.gov/buildamerica/financing/rrif.

[92] See, for example, Bipartisan Policy Center, *Bridging the Gap Together: A New Model to Modernize U.S. Infrastructure*, May 2016, at https://bipartisanpolicy.org/library/modernize-infrastructure/.

[93] CRS Report R45010, *Public-Private Partnerships (P3s) in Transportation*, by William J. Mallett.

Skyway, or they may arise from a newly developed asset that creates a new revenue stream. Either way, a facility user fee, such as a toll, is often the key to unlocking private-sector participation and resources.

In some cases, private-sector financing is backed by "availability payments," regular payments made by government to the private entity based on negotiated quality and performance standards of the facility. Aversion in the private sector to the risk that too few users will be willing to pay for use of a new facility, known as demand risk or revenue risk, made availability payment P3s more common during and for several years after the deep recession that began in December 2007.[94] This suggests that state and local governments may retain demand risk more often during downturns in the economy.

It is frequently asserted that hundreds of billions of dollars of private funds are available globally for infrastructure investment.[95] To date, however, the number of transportation P3s in the United States is relatively small, as is the amount of long-term private financing provided. According to one source, from 1993 through September 2017, there were 30 surface transportation P3s involving long-term financing, with total project costs totaling $39 billion. This includes the 99-year lease of the Chicago Skyway, the I-595 managed lanes project in Florida, and the Purple Line light rail transit project in Maryland.[96]

While private investment may grow in the future, many impediments remain. Some of the major ones include the relative attractiveness of the tax-exempt financing available to state and local government, political opposition to tolling and privatization, and difficulties associated with project development. Private-sector financing generated through P3s might best be seen as a supplement to traditional public-sector funding rather than as a substitute.

In addition to attracting private capital, P3s may generate new resources for highway and transit infrastructure in at least two ways. First, P3s may improve efficiency through better management and innovation in construction, maintenance, and operation—in effect providing more infrastructure for the same price. Private companies may be more able to examine the full life-cycle cost of investments, whereas public agency decisions are often tied to short-term budget cycles. Such cost reductions may not materialize, however, if the public sector has to spend a substantial amount of time on procurement, oversight, dispute resolution, and litigation.[97] Second, P3s may reduce government agencies' costs by transferring the financial risks of building, maintaining, and operating infrastructure to private investors. These risks include construction delays, unexpectedly high maintenance costs, and the possibility that demand will be less than forecast. There is a danger that this transfer of risk may prove illusory if major miscalculations force a public agency to renegotiate contracts or provide financial guarantees.[98] Moreover, as the Government Accountability Office (GAO) points out, there is the perspective that not all the risks

[94] "Demand Risk P3s Are An Unhappy Family," *Public Works Financing*, September 2014, p. 19; and Robert W. Poole, "The Return of Revenue-Risk Transportation P3s," *Public Works Financing*, October 2022, pp. 9-10.

[95] Bipartisan Policy Center, *Bridging the Gap Together: A New Model to Modernize U.S. Infrastructure*, May 2016, p. 67, at https://bipartisanpolicy.org/library/modernize-infrastructure/.

[96] "U.S./Canada Transportation P3 Market 1993-2017," *Public Works Financing*, September 2017, pp. 9-12.

[97] CBO, *Public-Private Partnerships for Transportation and Water Infrastructure*, January 2020, at https://www.cbo.gov/publication/56003.

[98] E. Engel, R. Fischer, and A. Galetovic, "Privatizing Highways in the United States," *Review of Industrial Organization*, vol. 29, 2006, pp. 27-53.

can or should be shifted to the private sector. For instance, private investors are unlikely to accept the risk of higher construction costs due to delays in the environmental review process.[99]

Asset Recycling

Asset recycling is the sale or lease to the private sector of government-owned infrastructure assets and the investment of the proceeds in new infrastructure. For a few years, the national government of Australia had a policy of making 15% incentive payments to state and territory governments if they agreed to sell or lease assets to the private sector and then "recycle" these payments to other infrastructure projects. Over the roughly three-year period, the asset recycling initiative was in effect, the national government entered into three agreements with incentive payments totaling A$2.3 billion (approximately US$1.5 billion). According to a review of the program by the Australian Treasury, this led to A$15 billion in additional infrastructure. One of the agreements involved the 99-year lease of the electricity network businesses owned by the State of New South Wales and the investment of the proceeds in the Sydney Metro, Parramatta Light Rail, and several road projects.[100] A similar program for the United States was proposed in a draft bill on infrastructure investment circulated by House Transportation and Infrastructure Committee Chairman Bill Shuster in 2018. The draft bill proposed to provide a federal payment of 15% of the assessed value of a leased infrastructure asset to eligible project sponsors, allotting $3 billion for this purpose from FY2019 through FY2023. Infrastructure assets that qualify for recycling in the draft bill include highways, public transit, airports, ports and port terminals, publicly owned railroads, intercity bus facilities, intermodal transportation facilities, and drinking and wastewater facilities.[101]

Section 71001 of the IIJA created a new program for technical assistance and expert advice grants in the use of innovative finance and development of asset concessions (23 U.S.C. §611). Funding of $20 million per year for FY2022-FY2026 was appropriated for the program. Section 71001 of the IIJA also included a requirement for the Secretary of Transportation to submit to Congress a report on asset recycling by August 1, 2024.

National Infrastructure Bank

Congress has considered several proposals to create a national infrastructure bank to help finance infrastructure projects.[102] One purported advantage of a national infrastructure bank over other loan programs, such as TIFIA, is that it would have more independence in its operation, such as in project selection, and have greater expertise at its disposal. Additionally, a national infrastructure bank would likely be set up to help a much wider range of infrastructure projects, including water, energy, and telecommunications infrastructure. Proponents contend that the best projects, or at least those that are the most financially viable, would be selected from across these sectors. Most current proposals would create a wholly owned government corporation overseen by a board whose members are selected by the President or Congress. Other models exist,

[99] GAO, Highway Public-Private Partnerships: More Rigorous Up-front Analysis Could Better Secure Potential Benefits and Protect the Public Interest, GAO-08-44, February 8, 2008, at https://www.gao.gov/products/gao-08-44.

[100] Australian Government, The Treasury, *Review of the National Partnership Agreement on Asset Recycling*, January 29, 2019, at https://treasury.gov.au/publication/p2019-t349382.

[101] Committee on Transportation and Infrastructure, "The Shuster Infrastructure Proposal," at https://republicans-transportation.house.gov/building21/.

[102] CRS In Focus IF11608, *National Infrastructure Bank: Proposals in the 117th Congress*, by William J. Mallett.

including placing the bank inside an existing federal agency and creating a government-sponsored enterprise with an independent board.

In many formulations, capitalization of a national infrastructure bank comes from an appropriation, but in others, the bank is authorized to raise its own capital through bond issuance. By issuing securities that are not tax exempt, it could tap pools of private capital that do not invest in tax-exempt bonds, such as pension funds and foreign citizens, the traditional sources of much project finance. Tax-exempt municipal securities are unattractive to some investors—some because individual issues are too small to be of interest to them and others because the investors do not benefit from the tax preference. Taxable bonds with long maturities might be attractive to some of these investors.[103] An infrastructure bank also might choose to reduce the federal government's share of project costs, putting greater reliance on nonfederal capital and user fees.

Most infrastructure bank proposals assume the bank would improve the allocation of public resources by funding projects with the highest economic returns regardless of infrastructure system or type. Selection of the projects with the highest returns, however, might conflict with the traditional desire of Congress to ensure funding for various purposes. In the extreme case, major transportation projects might not be funded if the bank were to exhaust its lending authority on water or energy projects offering higher returns.

Limitations of a national infrastructure bank include its duplication of existing programs such as TIFIA, the Water Infrastructure Finance and Innovation Act, and the Wastewater and Drinking Water State Revolving Funds. An infrastructure bank may not be the lowest-cost means of increasing infrastructure spending. CBO has pointed out that a special entity that issues its own debt would not be able to match the lower interest and issuance costs of the U.S. Treasury.[104] In some formulations, a national infrastructure bank exposes the federal government to the risk of default.[105]

State Infrastructure Banks

SIBs exist in many states. In 32 states and Puerto Rico, SIBs were created pursuant to a federal program originally established in surface transportation law in 1995 (P.L. 104-59).[106] Several other states, among them California, Florida, Georgia, Kansas, Ohio, and Virginia, have state investment banks that are unconnected to the federal program.[107] Local governments have also begun to embrace the idea. Dauphin County, PA, has established an infrastructure bank funded from a state tax on liquid fuels to make loans to the 40 municipalities and private project sponsors

[103] U.S. Congress, Senate Committee on Banking, Housing, and Urban Affairs, Testimony of Felix Rohatyn, Co-Chair of the Commission on Public Infrastructure, *Hearing on Condition of Our Nation's Infrastructure and Proposals for Needed Improvement*, 110th Cong., 2nd sess., March 11, 2008; and U.S. Congress, House Committee on Transportation and Infrastructure, Testimony of Bernard Schwartz, President and CEO, BLS Investments, *Hearing on Financing Infrastructure Investments*, 110th Cong., 2nd sess., June 10, 2008.

[104] U.S. Congress, House Committee of the Budget and Committee on Transportation and Infrastructure, Testimony of Peter R. Orszag, Director, CBO, *Hearing on Financing Infrastructure Investment*, 110th Cong., 2nd sess., May 8, 2008.

[105] U.S. Congress, House Committee on Ways and Means, Subcommittee on Select Revenue Measures, Testimony of Samuel Staley, *Hearing on the National Infrastructure Banks*, 111th Cong., 2nd sess., May 13, 2010.

[106] FHWA, "State Infrastructure Banks (SIBs)," at https://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_credit_assistance/sibs/.

[107] Robert Puentes and Jennifer Thompson, *Banking on Infrastructure: Enhancing State Revolving Funds for Transportation*, Brookings Institution, September 2012, at https://www.brookings.edu/wp-content/uploads/2016/06/12-state-infrastructure-investment-puentes.pdf.

within its borders.[108] The City of Chicago established a nonprofit organization, the Chicago Infrastructure Trust, in 2012 as a way to attract private investment for public works projects. The mayor decided to initiate its dissolution in 2019 due to inactivity and other issues.[109]

Capitalization has been one of the biggest obstacles to federally authorized SIBs. States can capitalize the banks using some of their apportioned and allocated highway and transit funds and any amount of rail program funds. Since 2015, capitalization of a rural project fund may be made by a loan from the TIFIA program. Federal funds have to be matched with state funds, generally on an 80% federal, 20% state basis.[110]

Value Capture

Value capture represents an attempt to cover part or all of the cost of transportation improvements from landowners or developers who benefit from the resulting increase in the value of real property. Value capture revenue mechanisms include tax increment financing, special assessments, development impact fees, negotiated exactions, and joint development.[111] Because these mechanisms rely on local property development and taxation administered by state and local governments, the federal role in value capture strategies may be limited, as GAO has noted.[112] However, it is worth describing these strategies to provide a fuller picture of the ways in which they might supplement or supplant more commonly used funding and financing mechanisms.

Value capture is not a new idea. Land developers built and operated streetcar systems in the late 19th century as a way to sell houses on the urban fringe, for example. One widely used mechanism over the past few decades is joint development, in which land development at or near a transportation facility is pursued cooperatively between the public and private sectors. An example might involve a transit agency leasing the unused space over a station, its "air rights," to a developer in exchange for a regular payment.

Joint development has generated relatively small amounts of money for transit agencies. For example, the Washington Metropolitan Area Transit Authority received about $15 million from joint development in FY2019 prior to the disruptions of COVID-19, about 2% of its operating revenue.[113] Less widely used strategies, such as special assessment districts, are estimated to generate significant amounts of funding for specific projects. In a special assessment district, properties within a defined area are assessed a special tax for a specific purpose. A special

[108] Jeff Frantz, "Dauphin County Creates Infrastructure Bank for Road Improvements," *PennLive*, March 1, 2013, at http://www.pennlive.com/midstate/index.ssf/2013/03/dauphin_county_creates_infrast.html; and Dauphin County, "Infrastructure Bank," at https://www.dauphincounty.org/government/departments/community_and_economic_development/industrial_development_authority/infrastructure_bank.php.

[109] A. D. Quig, "Lightfoot is Killing Emanuel's Infrastructure Trust," *Crain's Chicago Business*, November 18, 2019, at https://www.chicagobusiness.com/government/lightfoot-killing-emanuels-infrastructure-trust.

[110] Build America Bureau, "State Infrastructure Banks," at https://www.transportation.gov/buildamerica/sibs.

[111] FHWA, *Value Capture: Capitalizing on the Value Created by Transportation*, August 2019, at https://www.fhwa.dot.gov/ipd/pdfs/value_capture/value_capture_implementation_manual_2019.pdf. Tax increment financing uses the increase in property tax revenue within a defined area resulting from an infrastructure improvement to cover the cost of the improvement.

[112] GAO, *Public Transportation: Federal Role in Value Capture Strategies for Transit Is Limited, but Additional Guidance Could Help Clarify Policies*, GAO-10-781, July 2010, at http://www.gao.gov/new.items/d10781.pdf.

[113] Washington Metropolitan Area Transit Authority, *FY2022 Budget*, p. 11, at https://www.wmata.com/about/records/upload/FY2022_Approved_Budget_Final_071421.pdf.

assessment district in Seattle produced $25 million of the $53 million (47%) needed to fund the South Lake Union streetcar project.[114]

Value capture also has been used in highway projects. Texas, for example, has authorized the use of tax increment financing through the creation of transportation reinvestment zones to help fund highway projects.[115] Special assessment districts also have been set up in several states, including Florida and Virginia, to fund highway projects. In Virginia, a special assessment district was used to help fund the expansion of Route 28 near Washington Dulles International Airport beginning in the late 1980s.[116]

[114] GAO, *Public Transportation: Federal Role in Value Capture Strategies for Transit Is Limited, but Additional Guidance Could Help Clarify Policies*, GAO-10-781, July 2010, pp. 16, 20, at http://www.gao.gov/new.items/d10781.pdf.

[115] FHWA, *Tax Increment Financing: Primer*, June 2021, at https://www.fhwa.dot.gov/ipd/pdfs/value_capture/fhwa_hin_21_006.pdf.

[116] FHWA, *Value Capture: Primer on Special Assessment Districts*, January 26, 2021 at https://www.fhwa.dot.gov/ipd/pdfs/value_capture/fhwa_hin_21_003.pdf.

Appendix. How the Tax Rates Have Been Raised Since 1983

Raising the rates on fuel taxes has never been popular. The last three increases were accomplished with difficulty and were influenced by the broader budgetary environment and the politics of the time.[117]

The Great Compromise and the Highway User Fee

The increase in the fuel tax rate under the Surface Transportation Assistance Act of 1982 (STAA; P.L. 97-424, Title V) occurred in the lame-duck session of the 97th Congress. In what would become known as the "Great Compromise," supporters of increased highway spending had come to an agreement with transit supporters (mostly from the Northeast) that a penny of a proposed 5-cents-per-gallon increase would be dedicated to a new mass transit account within the Highway Trust Fund (HTF). This meant that support for the bill during the lame-duck session was widespread and bipartisan. President Ronald Reagan's opposition to an increase in the gas tax softened during the lame-duck session. On November 23, 1982, he announced that he would support passage of STAA because "[o]ur country's outstanding highway system was built on the user fee principle—that those who benefit from a use should share in its cost."[118] The bill faced a series of filibusters in the Senate, which four cloture votes eventually overcame. The conference report was again filibustered, and President Reagan helped secure the votes needed for cloture. President Reagan signed STAA into law on January 6, 1983, more than doubling the highway fuel tax to 9 cents per gallon.[119]

50/50 Share: Deficit Reduction/Highway Trust Fund

The Omnibus Budget Reconciliation Act of 1990 (OBRA90; P.L. 101-508), enacted November 5, 1990, was passed under the pressure of impending final FY1991 sequestration orders issued by President George H. W. Bush under Title II of P.L. 99-177, the Balanced Budget and Emergency Deficit Control Act of 1985, also known as the Gramm-Rudman-Hollings Act. OBRA90 included budget cuts, tax changes, and the Budget Enforcement Act (P.L. 101-508), which rescinded the FY1991 sequestration orders. OBRA90 also raised the tax on gasoline by 5 cents per gallon, to 14 cents. Half the increase went to the HTF (2 cents to the highway account and 0.5 cents to the mass transit account), with the other 2.5 cents per gallon to be deposited in the general fund for deficit reduction. This was the first time since 1957 that the motor fuel tax was used as a source of general revenue. Section 9001 expressed the sense of Congress that all motor fuel taxes should be directed to the HTF as soon as possible.

More for Deficit Reduction

The Omnibus Budget Reconciliation Act of 1993 (OBRA93; P.L. 103-66) Section 13241(a) made further fuel tax changes:

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[117] FHWA, *Funding Federal-aid Highways; Appendix K, Historical Federal Fuel Tax Rates*, last modified January 2017, at https://www.fhwa.dot.gov/policy/olsp/fundingfederalaid/k.cfm.

[118] U.S. President (Reagan), "Remarks to Reporters Announcing the Administration's Proposal for a Highway and Bridge Repair Program," *The American Presidency Project; Public Papers*, November 23, 1982.

[119] See Jeff Davis, *Reagan Devolution: The Real Story of the 1982 Gas Tax Increase*, Eno Center for Transportation, 2015, pp. 1-40.

- The 2.5-cents-per-gallon fuel tax dedicated to deficit reduction in OBRA90 was redirected to the HTF beginning October 1, 1995, and its authorization was extended to September 30, 1999.
- The highway account received 2 cents per gallon and the mass transit account 0.5 cents per gallon of the rededicated amount.
- An additional permanent 4.3 cents-per-gallon fuel tax took effect in October 1993 and was dedicated to deficit reduction.

OBRA93 brought the gasoline tax to 18.3 cents per gallon, although for two years (October 1, 1993-October 1, 1995), 6.8 cents per gallon of this was deposited in the general fund. On October 1, 1995, the amount going to the general fund dropped to 4.3 cents per gallon, and the amount dedicated to the HTF increased to 14 cents per gallon. Subsequently, under the Taxpayer Relief Act of 1997 (P.L. 105-34), all motor fuel tax revenue was redirected to the HTF. The Leaking Underground Storage Tank (LUST) Fund continues to receive the revenue from an additional 0.1 cents-per-gallon tax.

Author Information

Robert S. Kirk
Specialist in Transportation Policy

William J. Mallett
Specialist in Transportation Policy

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