Congressional Budget Office

Testimony

The Status of the Highway Trust Fund and Options for Financing Highway Spending

Joseph Kile
Assistant Director for Microeconomic Studies

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Notes

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Unless otherwise indicated, all years are federal fiscal years, which run from October 1 to September 30.

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Chairman Wyden, Senator Hatch, and Members of the Committee, thank you for the invitation to testify on issues related to the status of the Highway Trust Fund and on options for financing highway improvements and construction.

Summary

In 2013, governments at various levels spent $156 billion to build, operate, and maintain highways, and they spent $60 billion on mass transit systems. For both types of infrastructure, most of that spending was by state and local governments; about one-quarter of that total came from the federal government, mostly through the Highway Trust Fund. For several decades, the trust fund's balances were stable or growing, but more recently, annual spending for highways and transit has exceeded the amounts credited to the trust fund from taxes collected on gasoline, diesel fuel, and other transportation-related products and activities. Since 2008, in fact, lawmakers have transferred $54 billion from the U.S. Treasury's general fund to the Highway Trust Fund so that the trust fund's obligations could be met in a timely manner.

Moreover, with its current revenue sources, the Highway Trust Fund cannot support spending at the current rate. The Congressional Budget Office (CBO) estimates that, at the end of fiscal year 2014, the balance in the trust fund's highway account will fall to about $2 billion and the balance in its transit account will be only $1 billion. Spending for highways and transit will be $45 billion and $8 billion, respectively. By comparison, revenues collected for those purposes are projected to be $33 billion and $5 billion, respectively. The Department of Transportation (DOT) has indicated that it will probably need to delay payments to states at some point during the summer of 2014 in order to keep the fund's balance above zero, as required by law. Then, if nothing changes, the trust fund's balance will be insufficient to meet all of its obligations in fiscal year 2015, and it will incur steadily accumulating shortfalls in subsequent years. If lawmakers do not take action, all of the receipts credited to the fund in 2015 would be needed to meet obligations made before that year; none would be available to cover any new commitments that would be made in 2015.

Several options (or combinations of those options) could be pursued to address projected shortfalls in the Highway Trust Fund:

- *Spending on highways and transit could be reduced*. If lawmakers chose to address the projected shortfalls solely by cutting spending, no new obligations from the fund's highway account or its transit account could be made in fiscal year 2015; that would also be the case for the transit account in fiscal year 2016. Over the 2015–2024 period, the highway account would see a decrease of more than 30 percent in the authority to obligate funds, and the transit account's authority would decrease by about 65 percent, compared with CBO's baseline projections.

- *Revenues credited to the trust fund could be increased*—for example, by raising existing taxes on motor fuels or other transportation-related products and activities or by imposing new taxes on highway users, such as vehicle-miles traveled (VMT) taxes. The staff of the Joint Committee on Taxation (JCT) estimates that a one-cent increase in taxes on motor fuels—primarily gasoline and diesel fuel—would raise about $1.5 billion each year for the trust fund. If lawmakers chose to meet obligations projected for the trust fund solely by raising revenues, they would need to increase motor fuel taxes by an amount between 10 cents and 15 cents per gallon, starting in fiscal year 2015.

- *The trust fund could continue to receive supplements from the Treasury's general fund*. Lawmakers could maintain funding for surface transportation programs at the average amounts provided in recent years, but to do so they would need to transfer $18 billion in 2015 and between $13 billion and $18 billion every year thereafter through 2024. Spending resulting from such general fund transfers could be paid for by reducing other spending or by increasing broad-based taxes, or such transfers could add to deficits and thus increase federal borrowing.

The projected shortfalls in the Highway Trust Fund have generated interest in greater use of borrowing by state and local governments to finance highway projects. In particular, state and local governments (and some private entities) can use tax-preferred bonds that convey subsidies from the federal government in the form of tax exemptions, credits, or payments in lieu of credits to finance road construction. Similarly, some of those governments make use of direct loans from the federal government to finance projects.

Federal policies that encourage partnerships between the private sector and a state or local government may facilitate the provision of additional transportation infrastructure, but a review of those projects offers little evidence that public-private partnerships provide additional resources for roads except in cases in which states or localities have chosen to restrict spending through self-imposed legal constraints or budgetary limits.

Only a small number of highway projects in the United States have involved public-private partnerships with private financing. Some that have been financed through tolls have failed financially because the private-sector partners initially overestimated their revenues and as a result have been unable to fully repay their projects' debts. Perhaps as a response, projects that are still under construction rely less on tolls as a revenue source; more commonly, private partners are compensated from a state's general funds, thus limiting the private risk of not being repaid and leaving the risk of lower-than-expected revenues to the public partner.

Regardless of its source, however, borrowing is only a mechanism for making future tax revenues or user fee revenues available to pay for projects sooner; it is not a new source of revenues. Borrowing can augment the funds available for highway projects, but revenues that are committed for repaying borrowed funds will be unavailable to pay for new transportation projects or other government spending in the future.

Spending for Highways and Mass Transit

Almost all spending on highway infrastructure and transit projects in the United States is funded publicly. Although the private sector participates in building, operating, and maintaining projects, the federal government and state and local governments typically determine which projects to undertake and how much to spend on them. Despite several prominent examples, private spending on highway projects constitutes only a small fraction of the total.

Almost three-quarters of all public spending on highways is by state and local governments: In 2013, state and local governments spent $110 billion, and the federal government spent $46 billion. Almost all federal highway spending is capital spending, which is used to build and improve highways; by contrast, about 40 percent of the total for state and local governments is capital spending and 60 percent is for operations and maintenance. Real (inflation-adjusted) total spending on highways by federal, state, and local governments increased in the 1980s and 1990s, but it has fallen off since then. Public-private partnerships that involve private financing have accounted for about one-half of one percent of all spending on highways during the past 25 years. Spending on transit programs is much less than for highways but has generally grown—especially spending by state and local governments—during recent decades (see Figure 1).[1]

The Highway Trust Fund

The federal government's surface transportation programs are financed mostly through the Highway Trust Fund, an accounting mechanism in the federal budget that comprises two separate accounts, one for highways and one for mass transit. The trust fund records specific cash inflows from revenues collected through excise taxes on the sale of motor fuels, trucks and trailers, and truck tires; taxes on the use of certain kinds of vehicles; and interest credited to the fund. The Highway Trust Fund also records cash outflows for spending on designated highway and mass transit programs, mostly in the form of grants to states and local governments.

Spending from the Highway Trust Fund is controlled by two types of legislation:

- Authorization acts that provide budget authority (which allows the government to incur financial obligations that will result in immediate or future outlays of federal funds), mostly in the form of contract authority (which permits the government to enter into contracts or to incur obligations in advance of appropriations), and
- Annual appropriation acts, which customarily set limits on the amount of contract authority that can be obligated in a given year.

The Moving Ahead for Progress in the 21st Century Act of 2012 (MAP-21) is the most recent law authorizing highway and transit programs; its authorizations expire on September 30, 2014, at the end of the current fiscal year. MAP-21 provided a total of about $51 billion in contract authority for highway and transit programs in 2014; the 2014 obligation limitations total about $50 billion.

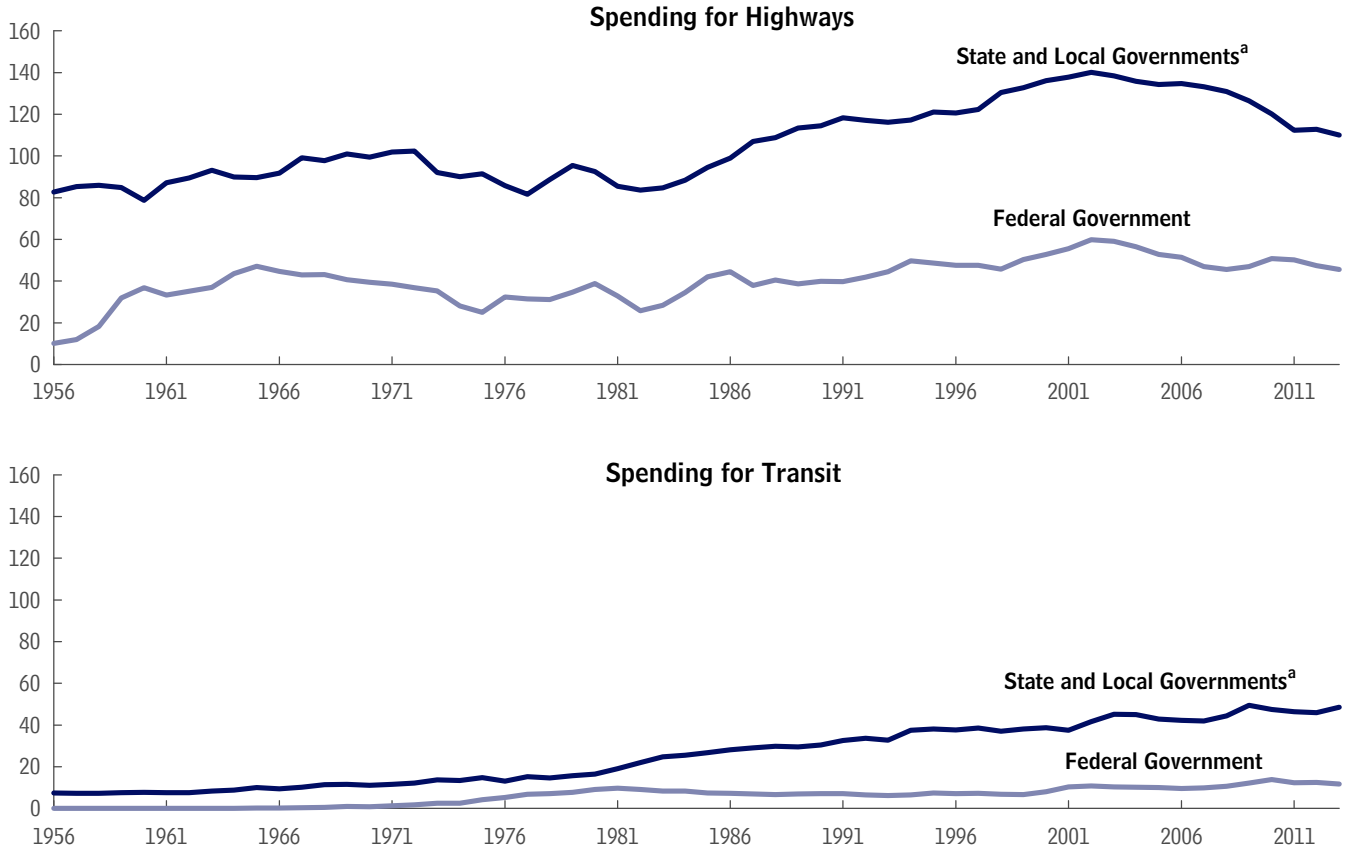
Excise taxes on motor fuels account for 87 percent of the Highway Trust Fund's revenue, mostly from the tax of 18.4 cents per gallon on gasoline and ethanol-blended

1. For more information on infrastructure spending, see Congressional Budget Office, *Public Spending on Transportation and Water Infrastructure* (November 2010), www.cbo.gov/publication/21902.

Figure 1.

Spending for Highways and Transit, by Level of Government

(Billions of 2013 dollars)



Source: Congressional Budget Office based on information from the Office of Management and Budget, the Census Bureau, the American Public Transportation Association, and the Bureau of Economic Analysis.

Note: The amount of spending for highways and transit shown differs from the amounts shown in Table 2 because some federal spending in those areas does not involve the Highway Trust Fund. In particular, the totals in Table 2 do not include about $28 billion from the American Recovery and Reinvestment Act of 2009 (ARRA) for highways or amounts periodically appropriated to assist state and local governments in rebuilding highways after natural disasters. Similarly, the transit account of the Highway Trust Fund does not fund the Capital Investment Grant program, which primarily supports new rail transit programs, or the operations of the Federal Transit Administration. Those amounts come from general funds, as did about $8 billion in spending from ARRA and $221 million from the 2013 legislation that provided funds for relief and recovery from Hurricane Sandy.

a. For 2011 through 2013, state and local spending was estimated by updating prior-year spending to account for changes in spending as reported in monthly surveys of highway and transit construction projects.

fuels.[2] Receipts from the gasoline tax now constitute almost two-thirds of the fund's total revenues (see Table 1). Under current law, all but 4.3 cents per gallon of that tax is set to expire on September 30, 2016. If that occurs, its remaining receipts will no longer be credited to the trust fund but instead will go into the Treasury's general fund. The second-largest share, accounting for about one-quarter of the fund's revenues, comes from the diesel fuel tax of 24.4 cents per gallon. The remainder comes from other taxes and from a very small amount of interest that is credited to the fund. Most of the revenue from motor fuel taxes is credited to the highway account of the trust fund, but 2.86 cents per gallon goes into the mass transit account, which receives about 13 percent of the trust fund's total revenues and interest.

2. The total gas tax is 18.4 cents per gallon. Of that, 18.3 cents is credited to the Highway Trust Fund, and 0.1 cent goes to the Leaking Underground Storage Tank Trust Fund. (The Omnibus Budget Reconciliation Act of 1993 increased the gas tax by 4.3 cents, from 14.1 cents to 18.4 cents; the added receipts were not initially credited to the trust fund but instead went into the Treasury's general fund.)

Table 1.

Estimated Revenues Credited to the Highway Trust Fund, by Source, 2014

(Billions of dollars)

	Highway Account	Transit Account	Total	Share of Total Trust Fund Revenues and Interest[a] (Percent)
Gasoline Tax	20.1	3.7	23.8	63
Diesel Tax	8.1	1.1	9.1	24
Tax on Trucks and Trailers	3.5	0	3.5	9
Use Tax on Certain Vehicles	1.0	0	1.0	3
Tire Tax on Trucks	0.4	0	0.4	1
Total	**33.2**	**4.8**	**38.0**	**100**

Source: Congressional Budget Office.

b. In 2014, CBO estimates, a small amount of interest will be credited to the Highway Trust Fund, in keeping with provisions of the Hiring Incentives to Restore Employment Act of 2010.

History of the Trust Fund's Balances. For several decades, the balances in the highway account were relatively stable or growing, but since 2001, receipts have consistently fallen below expenditures.[3] (The transit account was not established until 1983 and, until 2006, it had a different accounting treatment that makes historical comparisons inapplicable.) During the 1980s and the first half of the 1990s, balances in the highway account held steady in the vicinity of $10 billion. The most recent increase in the gasoline tax occurred in 1993, and after the Taxpayer Relief Act of 1997 redirected 4.3 cents of that tax from the general fund to the Highway Trust Fund, the unexpended balance in the highway account began to grow rapidly, reaching almost $23 billion in 2000. In 1998, the Transportation Equity Act for the 21st Century (known as TEA-21) authorized spending that was sufficient to gradually draw down those balances. As a result of that legislation and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which was enacted in 2005, outlays have generally exceeded revenues since 2001.

Since 2006, when certain accounting changes specified in TEA-21 took effect, spending from the transit account has grown and, since 2008, has exceeded revenues credited to the account. TEA-21 and SAFETEA-LU authorized spending from the account that has exceeded revenues credited to the fund by between $3 billion and $4 billion every year.

Because of looming shortfalls, since 2008 lawmakers have enacted legislation to transfer a total of more than $54 billion to the trust fund—mostly from the Treasury's general fund. Those intragovernmental transfers have allowed the fund to maintain a positive balance, but they did not change the amount of receipts collected by the government. Despite those transfers, at the end of fiscal year 2013, the trust fund's balances totaled only $6 billion.

Projections of Outlays and Revenues in 2014. According to CBO's estimates, the highway account will end fiscal year 2014 with a balance of $2 billion—at the end of 2013, that balance was $4 billion (see Table 2). By CBO's estimates, outlays from the highway account will total $45 billion in 2014, but revenues and interest earnings will amount to just $33 billion for the year. To bridge most of the gap, MAP-21 transferred $10 billion of general funds to the highway account in 2014 (following a $6 billion transfer in 2013).

The situation is similar for the transit account, which will end fiscal year 2014 with a balance of $1 billion, CBO estimates, down from $2 billion a year earlier. Revenues and interest earnings are projected to amount to $5 billion in 2014, but outlays are expected to total more than

3. In 2010, the trust fund saw a significant decrease in outlays because states spent funds from the general fund of the Treasury that were appropriated in the American Recovery and Reinvestment Act of 2009. That act did not require states to match federal funds or even to contribute funds to projects, and the same projects that were eligible for funding from the Highway Trust Fund were eligible for funding under the act.

Table 2.

Projections of the Highway Trust Fund's Accounts Under CBO's April 2014 Baseline

(Billions of dollars, by fiscal year)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Highway Account												
Start-of-Year Balance	10	4	2	a	a	a	a	a	a	a	a	a
Revenues and Interest[b]	32	33	34	34	34	34	34	34	34	34	34	34
Intragovernmental Transfers[c]	6	10	0	0	0	0	0	0	0	0	0	0
Outlays[d]	43	45	45	45	45	46	46	46	47	48	48	49
End-of-Year Balance	4	2	a	a	a	a	a	a	a	a	a	a
Transit Account												
Start-of-Year Balance	5	2	1	a	a	a	a	a	a	a	a	a
Revenues and Interest[b]	5	5	5	5	5	5	5	5	5	5	5	5
Intragovernmental Transfers[c]	0	2	0	0	0	0	0	0	0	0	0	0
Outlays[d]	7	8	8	8	8	9	9	9	10	10	10	10
End-of-Year Balance	2	1	a	a	a	a	a	a	a	a	a	a
Memorandum:												
Cumulative Shortfall[a]												
Highway account	n.a.	n.a.	-10	-21	-32	-43	-55	-67	-79	-92	-106	-120
Transit account	n.a.	n.a.	-2	-6	-9	-13	-18	-22	-27	-32	-38	-44

Source: Congressional Budget Office.

Note: n.a. = not applicable.

a. Beginning in fiscal year 2015, CBO projects, revenues credited to the highway and transit accounts of the Highway Trust Fund will be insufficient to meet the fund's obligations. Under current law, the trust fund cannot incur negative balances nor is it permitted to borrow to cover unmet obligations presented to the fund. Under the Deficit Control Act of 1985, however, CBO's baseline for highway spending must incorporate the assumption that obligations incurred by the Highway Trust Fund will be paid in full. The cumulative shortfalls shown here thus are estimated on the basis of spending that is consistent with obligation limitations contained in CBO's April 2014 baseline—adjusted for projected inflation—for highway and transit spending. To meet obligations as they come due, the Department of Transportation estimates, the highway account must maintain cash balances of at least $4 billion, and the transit account must maintain balances of at least $1 billion. As a result, under CBO's baseline projections, the highway account will probably have to delay some of its payments during the summer of 2014.

b. Some taxes that are credited to the Highway Trust Fund are scheduled to expire on September 30, 2016—among them the taxes on certain heavy vehicles and tires and all but 4.3 cents of the federal tax on motor fuels. Under the rules that govern CBO's baseline projections, however, these estimates reflect the assumption that all of those expiring taxes would be extended.

c. The Moving Ahead for Progress in the 21st Century Act required certain intragovernmental transfers, mostly from the U.S. Treasury's general fund, to the Highway Trust Fund. Those amounts totaled about $18 billion. CBO's baseline does not reflect an assumption that additional transfers from the general fund would occur.

d. Outlays include amounts that are transferred between the highway and transit accounts. CBO estimates that those amounts will total about $1 billion annually.

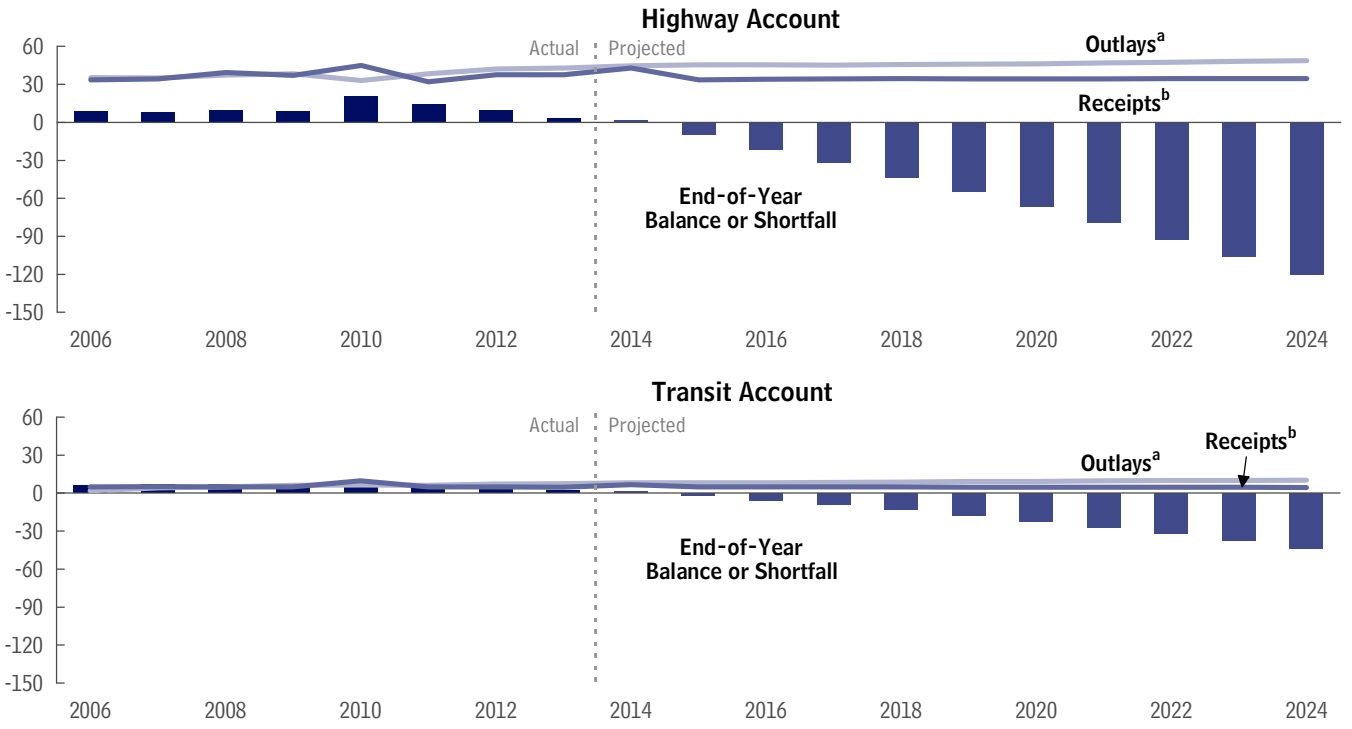
$8 billion. MAP-21 transferred $2 billion of general funds to the transit account in 2014.

Unless additional funds are provided (either through an increase in revenues or through additional transfers to the general fund), the disparity between the receipts credited to the fund and outlays from the fund will require DOT to delay its reimbursements to states for the costs of construction. CBO estimates that such a delay would probably take effect sometime during the summer of 2014 for projects funded from the highway account and sometime in the first half of 2015 for transit projects. Such a slowdown in payments occurred in 2008 when DOT announced that balances in the highway account had fallen below what it needed to reimburse states for the bills presented to the fund. Because deposits into the fund are made only twice each month, DOT has testified that it would need to delay payments if cash balances

Figure 2.

Receipts, Outlays, and Balance or Shortfall for the Highway Trust Fund Under CBO's April 2014 Baseline

(Billions of dollars)



Source: Congressional Budget Office.

Notes: Under current law, the Highway Trust Fund cannot incur negative balances nor is it permitted to borrow to cover unmet obligations presented to the fund. Under the Deficit Control Act of 1985, however, CBO's baseline for highway spending must incorporate the assumption that obligations incurred by the Highway Trust Fund will be paid in full.

a. Projections of outlays are calculated by adjusting the obligation limitations set for the current year to account for projected inflation.

b. Projections of receipts are based on market conditions, and they incorporate an assumption under CBO's April 2014 baseline that some taxes (including taxes on certain heavy vehicles and tires and all but 4.3 cents of the federal tax on motor fuels) that are credited to the Highway Trust Fund but scheduled to expire on September 30, 2016, would be extended.

The receipts line includes revenues credited to the Highway Trust Fund and intragovernmental transfers, mostly from the U.S. Treasury's general fund. Since 2008, those transfers (including amounts transferred in fiscal year 2014) have totaled about $54 billion.

fell below $4 billion in the highway account or below $1 billion in the transit account.[4]

Projections of Outlays and Revenues From 2015 Through 2024. CBO's baseline projections reflect the assumptions that expiring excise taxes would be extended and that obligations from the trust fund would grow at the rate of inflation. Under those assumptions, CBO projects, shortfalls in both accounts of the trust fund would grow steadily larger over the next decade because revenues from the excise taxes are expected to grow very little, but spending would continue to rise (see Figure 2).[5] By 2024, the cumulative shortfalls would total about

4. Department of Transportation, Office of Inspector General, *Refinements to DOT's Management of the Highway Trust Fund's Solvency Could Improve the Understanding and Accuracy of Shortfall Projections*, CR-2012-071 (March 2012), p. 22, www.oig.dot.gov/node/5736.

5. CBO constructs its baseline in accordance with provisions set forth in the Balanced Budget and Emergency Deficit Control Act of 1985 and in the Congressional Budget and Impoundment Control Act of 1974.

$120 billion for the highway account and about $44 billion for the transit account, CBO estimates.

Revenues generated by excise taxes and credited to the Highway Trust Fund are projected to rise from about $38 billion in 2014 to about $39 billion in 2024, mostly because annual increases in revenues from taxes on the use of diesel fuel and on truck sales are expected to be largely offset by annual declines in revenues from the tax on gasoline. Tax revenues from diesel fuel and truck sales are projected to increase, on average, by about 3 percent annually over the 2014–2024 period. In contrast, revenues from the tax on gasoline are projected to decline at an average annual rate of 1 percent over that period, mainly because of mandated increases in corporate average fuel economy standards.[6]

If lawmakers do not address the projected shortfalls, all revenues credited to the Highway Trust Fund in 2015 will be used to meet obligations made before that year. (Most obligations involve capital projects that take years to complete. The Federal-Aid Highway program, for example, typically spends about 25 percent of its budgetary resources in the year funds are first made available for spending; the rest is spent over the next several years.) Most of the trust fund's current obligations will therefore be met using tax revenues that have not yet been collected. At the end of 2013, for example, $66 billion in contract authority for highway programs had been obligated but not yet spent and another $28 billion was available to states but not yet obligated. As a result, if states were given no further authority to spend, another three years' worth of motor fuel taxes would need to be collected just to meet the highway account's obligations at the end of 2013 plus any new obligations from contract authority made available before 2014. Tax receipts dedicated to the highway account are projected to be about $34 billion per year over the next three years. For the transit account, collections of almost five years' worth of taxes, at about $5 billion per year, would be needed to meet current obligations and any new obligations from contract authority made available before 2014.[7]

6. For more information, see Congressional Budget Office, *How Would Proposed Fuel Economy Standards Affect the Highway Trust Fund?* (May 2012), www.cbo.gov/publication/43198.

Options for Addressing Projected Shortfalls in the Highway Trust Fund

Lawmakers have three primary options for addressing the projected shortfalls in the Highway Trust Fund:

- Reduce spending on highways and transit,
- Increase taxes dedicated to the trust fund, or
- Transfer general revenues to supplement the trust fund.

Of course, many combinations of such changes are possible.

Reduce Spending From the Trust Fund. Policymakers might want to address projected shortfalls by limiting federal spending for highways and mass transit to the amount of revenue generated by users. That reduction in spending would probably have significant negative consequences for the condition and performance of the nation's highway and mass transit infrastructure. In addition, unless some other federal spending was increased or federal taxes lowered, the reduction in federal spending would slow economic growth and employment during the next few years relative to what it would otherwise be. Over the longer term, the smaller amount of infrastructure would impose a drag on economic performance, but the smaller amount of federal debt stemming from the lower level of spending would provide an economic boost.

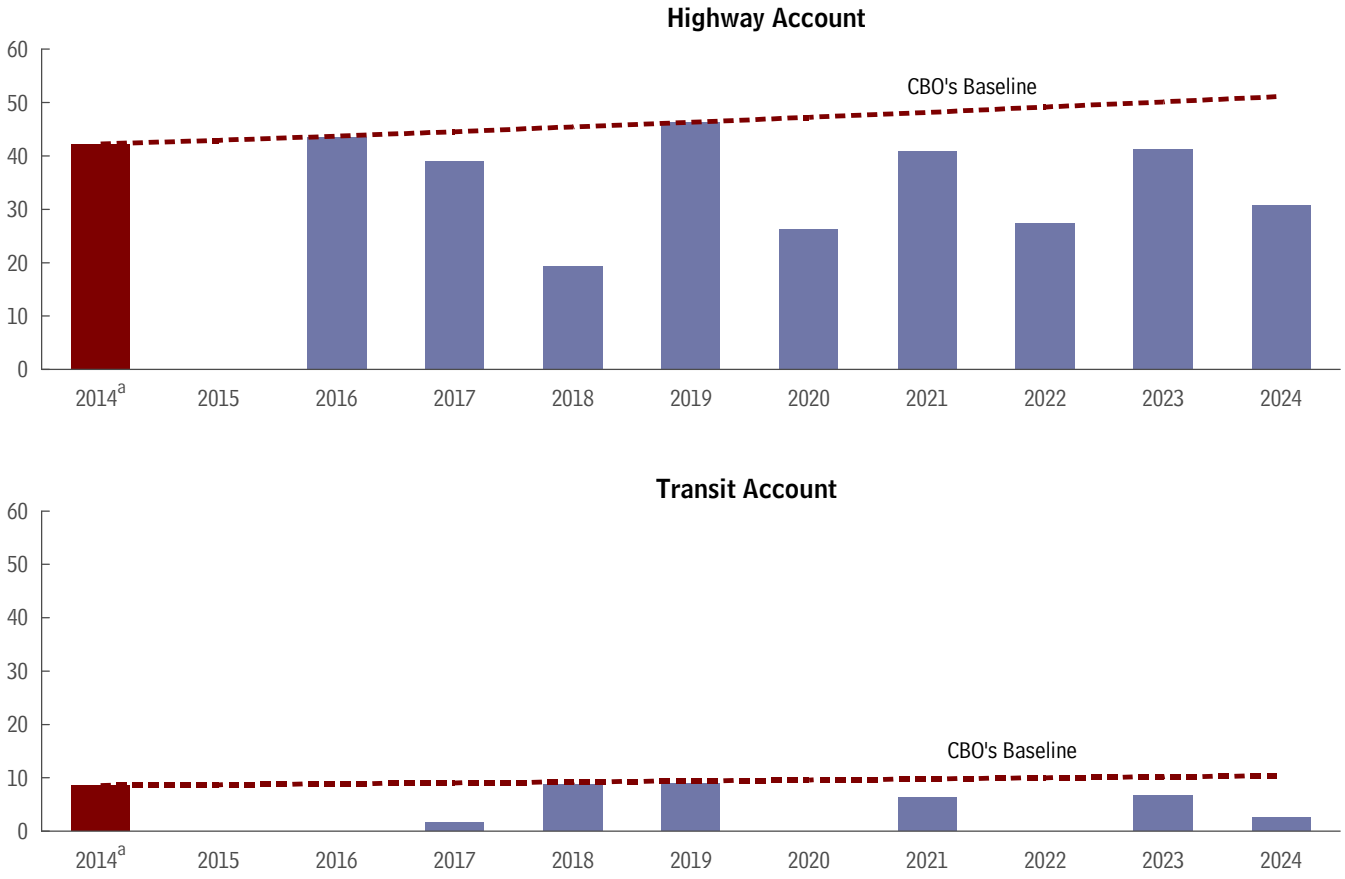
If lawmakers chose to avert projected shortfalls solely by cutting spending, then the trust fund would be unable to support any new obligations in 2015, probably significantly delaying investment in infrastructure and halting numerous transportation projects across the country. Neither the highway account nor the transit account would be able to support new obligations in 2015 because reimbursements to states for multiyear projects already under way would be expected to exceed the estimated revenue collections for that year. The highway

7. See Office of Management and Budget, *Budget of the U.S. Government, Fiscal Year 2015: Appendix* (April 2014), www.whitehouse.gov/omb/budget/Appendix. At the end of fiscal year 2013, the balance in the transit account was about $2 billion, but unspent contract authority for transit programs totaled $14 billion in obligated balances and $9 billion in unobligated amounts.

Figure 3.

Estimated New Commitments That Could Be Accommodated by the Highway Trust Fund With No Changes in Receipts

(Billions of dollars)



Source: Congressional Budget Office.

Note: The figure shows the new commitments that could be provided from the highway and transit accounts of the Highway Trust Fund as long as the minimum balance in the highway account was at least $4 billion and the minimum balance in the transit account was at least $1 billion and the obligation limitation for each account did not exceed the amounts projected in CBO's April 2014 baseline.

a. Data for 2014 represent the obligation limitations contained in the Consolidated Appropriations Act, 2014, and contract authority that is exempt from those limitations.

account would be able to support new obligations in 2016, but the transit account would not (see Figure 3). Such sudden shifts in the amount of annual spending authority would probably make program administration and planning difficult for DOT as well as for state and local grant recipients.

Over the 2015–2024 period, the highway account would see a decrease in obligational authority of more than 30 percent, relative to CBO's baseline, and such authority for the transit account would decrease by about 65 percent. For example, such a cut would reduce obligations for highway programs from current projections of about $45 billion per year, on average, to about $32 billion per year, on average, from 2015 through 2024. Similarly, such a cut would reduce obligations for transit projects from current projections of about $10 billion per year, on average, to about $4 billion per year, on average, for the 2015–2024 period.

The consequences of such reductions in federal spending could be ameliorated, at least in part, if state and local governments responded to the reduction in federal funds by increasing their own spending through some

combination of raising additional revenues, shifting spending from other purposes, and borrowing.

If total funding for investment in highways and mass transit was significantly reduced, then it would be especially important to allocate the remaining funding, and to use that infrastructure, in the most effective way. Specifically, the negative consequences of a substantial reduction in funding could be partly alleviated if the remaining spending was focused on projects with especially large benefits and if people's use of highways and mass transit was focused on the highest-value uses (for example, through taxes on vehicle-miles traveled or congestion pricing).[8] In addition, the economic efficiency of each dollar of funding could be improved if the federal government limited its support to projects (such as the Interstate highways) that offer significant benefits to more than one state, leaving state and local governments to fund projects with more localized benefits. If the people who benefit from a project bear its costs, the likelihood is diminished that too large a project (or too many projects) will be undertaken or that too many infrastructure services will be consumed relative to the resources needed to provide them.

Increase Taxes Dedicated to the Trust Fund. Another approach to bringing the trust fund's finances into balance would be to increase its revenue—for example, by raising the taxes on motor fuels or by imposing mileage-based, or VMT, taxes.[9] Increasing the charges that highway users pay also could promote more efficient use of the system. Economic efficiency is enhanced when highway users are charged according to the marginal (or incremental) costs of their use, including the external costs that their highway use imposes on society. A combination of a fuel tax and a VMT tax that accounts for the type and weight of a vehicle and the location and time of its use could provide incentives for reducing driving's social costs and could generate funds for federal spending on highways. But generating additional funds that way would raise questions of fairness, including, for example, whether the structure of user charges would impose relatively greater burdens on low-income and rural users.

Fuel Taxes. Excise taxes credited to the Highway Trust Fund come primarily from taxes on gasoline, ethanol-blended fuels, and diesel fuels. Those excise taxes were last increased in 1993, and their purchasing power is about 40 percent below that in 1993. If those taxes had been adjusted to keep pace with the consumer price index, for example, the tax on gasoline, which is currently 18.4 cents per gallon, would be about 30 cents per gallon, and the tax on diesel fuel, currently 24.4 cents per gallon, would be about 40 cents per gallon.

According to JCT's estimates, a one-cent increase in the taxes on motor fuels, effective October 1, 2014, would raise about $1.5 billion annually for the Highway Trust Fund over the next 10 years.[10] If lawmakers chose to meet obligations projected for the trust fund solely by raising revenues, they would have to increase the taxes on motor fuels by between 10 cents and 15 cents per gallon, starting in fiscal year 2015. (That increase would return fuel taxes to roughly the level they were in 1993, after adjusting for the effects of inflation.)

Fuel taxes offer a mix of positive and negative characteristics in terms of many people's conception of equity. They satisfy a "user pays" criterion—that those who receive the benefits of a good or service should pay its cost. But they also can impose a larger burden relative to income on people who live in low-income or rural households because those people tend to spend a larger share of their income on transportation. Fuel taxes impose a burden even on households that do not own passenger vehicles by raising transportation costs, which are reflected in the prices of purchased goods.

Fuel taxes have two desirable characteristics that are related to economic efficiency: They cost relatively little to implement (the government collects taxes from fuel distributors, and users pay the taxes when they purchase fuel), and they offer users some incentive to curtail fuel use, thus reducing some of the social costs of travel. However, a fuel tax discourages some travel too much and

8. For a comprehensive discussion of the benefits and challenges of congestion pricing, including options for its design and implementation for highways, see Congressional Budget Office, *Using Pricing to Reduce Traffic Congestion* (March 2009), www.cbo.gov/publication/20241.

9. See Congressional Budget Office, *Alternative Approaches to Funding Highways* (March 2011), www.cbo.gov/publication/22059.

10. Because excise taxes reduce the tax base of income and payroll taxes, higher excise taxes would lead to a reduction in revenues from income taxes and payroll taxes. The estimates shown here do not reflect those reductions. Those reductions would amount to about 25 percent of the estimated increase in excise tax receipts.

other travel too little, because it does not reflect the large differences in cost for use of crowded roads compared with uncrowded roads or for travel by trucks that have similar fuel efficiency but cause different amounts of pavement damage. Moreover, for a given tax rate on fuels, the incentive to reduce mileage-related costs diminishes over time as more driving is done in vehicles that are more fuel efficient.

VMT Taxes. VMT taxes provide stronger incentives for efficient use of highways than fuel taxes do because VMT taxes are better aligned with the costs imposed by users. Most of those costs—including pavement damage, congestion, accidents, and noise—are tied more closely to the number of miles vehicles travel than they are to fuel consumption.

For VMT taxes to significantly improve efficiency, however, they would need to vary greatly according to vehicle type, time of travel, place of travel, or some combination of such characteristics. For example, because pavement damage increases sharply with vehicle weight but decreases with the number of axles on a vehicle, the portion of VMT taxes assessed to maintain pavement could be small or nonexistent for passenger vehicles but substantial for heavy-duty trucks, particularly those with high weight per axle. Similarly, VMT taxes could be higher for any travel on crowded urban roads during peak hours than for travel in off-peak hours or on roads that are less congested.

In fact, a system of VMT taxes would not need to apply to all vehicles on every road. There already exist less comprehensive systems of direct charges for road use: Toll roads, lanes, and bridges are common in the United States, and several states and foreign countries place weight-and-distance taxes on trucks. Expansion of existing systems could focus on highly congested roads or on entry points into congested areas, and such targeted approaches would cost less to implement if they required relatively simple equipment to be placed in vehicles. Alternatively, the focus could be on specific vehicle types: Although trucks (excluding light-duty trucks), for example, constitute only 4 percent of all vehicles in the United States, they account for roughly 25 percent of all costs that highway users impose on others, including almost all of the costs associated with pavement damage.

The costs of implementing VMT taxes include capital costs for equipment and operating costs for metering, payment collection, and enforcement. The cost to establish and operate a nationwide program of VMT taxes is uncertain and difficult to estimate because projections so far are based mainly on small trials that have used a variety of evolving technologies and because the cost would depend on whether VMT taxes would vary by time, place, or type of vehicle. Although the costs of charging drivers are declining with improvements in technology, the costs remain higher than those for collecting revenues through the motor fuel taxes. The idea of imposing variable VMT taxes also has raised concerns about privacy: The collection process could give the government access to specific information about when and where individual vehicles are used.

Transfer Money From the General Fund. Lawmakers could choose to continue to supplement the Highway Trust Fund with general revenues, thus providing more money for highways and transit systems than is collected from excise taxes dedicated to those purposes. To continue funding for surface transportation programs at the average amounts provided in recent years, adjusted for inflation, lawmakers would need to transfer $18 billion to the Highway Trust Fund in 2015, CBO estimates. That transfer would cover a projected cumulative shortfall in the Highway Trust Fund of $13 billion and allow the trust fund to maintain cash balances of at least $4 billion in the highway account and at least $1 billion in the transit account. Subsequently, lawmakers would need to transfer $13 billion in 2016; such transfers would need to increase gradually to $18 billion by 2024 to maintain current spending, adjusted for inflation. At that pace, by 2024, CBO projects, general fund transfers would account for about one-third of the receipts credited to the Highway Trust Fund.

Spending that resulted from such transfers could be paid for by reducing other spending or by increasing broad-based taxes, such as income taxes; or it could add to deficits and thus increase federal borrowing. Reductions in other spending would mean that the benefits of the spending on transportation would be at least partially offset by a reduction in whatever benefits that other spending would have provided. Boosting the already-high federal debt would have long-term negative effects on the economy.

Increasing broad-based taxes would offer advantages and disadvantages compared with raising taxes on highway users. Two arguments can be made in support of using

such a source of funding for highways. First, some benefits of better highway infrastructure are distributed more broadly than to just highway users. For example, reducing transportation costs for suppliers and customers increases efficiency by allowing businesses to specialize more in terms of the products and services they produce and the materials they use. Second, large amounts could be raised through small changes in tax rates. JCT has estimated that raising all tax rates on ordinary individual income by 1 percentage point would yield an average of $69 billion per year from 2014 to 2023—more than all of the current Highway Trust Fund taxes combined.[11] Moreover, funding highways through broad-based taxes does not impose a larger burden relative to income on rural or low-income users (unlike some taxes on fuel use).

In other respects, however, the use of general revenues poses disadvantages. In particular, the approach gives users no incentive to drive less or to use less fuel, and it does not satisfy the principle that a user-pays system may be fairest and most efficient. Moreover, even a small increase in existing tax rates would hamper economic efficiency by discouraging work and saving and by encouraging people to shift income from taxable to nontaxable forms and to shift spending from ordinary to tax-deductible goods and services.

Financing Highways

The projected shortfalls in the Highway Trust Fund have generated interest in increasing the amount of spending that can be sustained in the near term by encouraging state and local governments to rely more heavily on debt financing. Most highway projects now are paid for with current state or federal revenues. Apart from increasing their own taxes or cutting other spending, state and local governments or other public entities could finance additional spending on highways in a number of ways, including one or more of the following:

- Issuing tax-preferred government bonds,
- Obtaining federal loans or loan guarantees, or
- Joining with a private partner to obtain private financing.

11. See Congressional Budget Office, *Options for Reducing the Deficit: 2014 to 2023* (November 2013), p. 106, www.cbo.gov/budget-options/2013/44687.

Tax-preferred government bonds include tax-exempt bonds (among them private activity bonds, or PABs) and tax credit bonds, both of which transfer some of the cost of borrowing from state and local governments and the private sector to the federal government in the form of forgone federal tax revenues. Investors are generally willing to accept a relatively low rate of return on tax-preferred bonds because interest income is exempt from federal (and many state) taxes and because those bonds are backed by the taxing authority of the public entity.

Federal loans or loan guarantees can reduce state and local governments' borrowing costs, depending on the terms of the loan, in part because the federal government assumes the risk that would be borne by a lender and paid for by a borrower in the form of higher interest rates. A current federal loan program offers state and local governments an opportunity to borrow money for highways and certain other transportation projects at interest rates that are based on the long-term Treasury rate.

Assessments of the experience with private financing of highways in the United States suggest that turning to a private partner does not typically yield additional financing, although doing so may speed the provision of financing and make new roads available sooner than they would have been otherwise. Private financing can provide the capital necessary to build a new road, but it comes with the expectation of repayment and a future return, the ultimate source of which is either tax revenues collected by a government or fees from road users, like tolls—the same sources that are available to governments. All told, the total cost of the capital for a highway project, whether that capital is obtained through a government or through a public-private partnership, tends to be similar once all relevant costs are taken into account. Regardless of its source, financing is only a mechanism for making future tax or user fee revenues available to pay for projects sooner; it is not a new source of revenues.

Tax-Preferred Bonds

The federal government provides several types of tax preferences to subsidize infrastructure financing. *Tax-exempt bonds* use the well-established tax preference of paying interest that is not subject to federal income tax. Such bonds can be issued to finance the functions of state and local governments or, in the case of PABs, certain types of projects undertaken by the private sector. A second, more recently developed type of tax preference for infrastructure financing is associated with *tax credit bonds*. Such

bonds come in two basic forms: those that provide a tax credit to the bondholder in lieu of paying interest and those that allow the bond issuer to claim a tax credit. (For issuers with no tax liability, the credit in the second scenario takes the form of a payment from the Secretary of the Treasury. Such bonds are known as direct-pay tax credit bonds.) Tax-exempt and tax credit bonds alike transfer some of the cost of borrowing from state and local governments and the private sector to the federal government, either in the form of forgone federal tax revenues or, in the case of direct-pay tax credit bonds, a federal outlay.

Tax preferences provide federal support for infrastructure financing while generally allowing state and local governments to exercise broad discretion over the types of projects they finance and the amount of debt they issue. However, tax preferences are not governed by the annual appropriation process, so lawmakers exercise less oversight over their continuation and use than is applied to federal grant and loan programs. Also, because forgone revenues are not identifiable in the federal budget, the use of tax preferences can mask the full scope of the government's financial activities. Using some types of tax-preferred bonds can be an inefficient way to deliver a federal financial subsidy to state and local governments. With a tax exemption for interest income, for example, state and local borrowing costs (and the costs of the private entities that make use of PABs) are reduced by significantly less than the amount of forgone federal revenues; the remainder of that tax expenditure accrues to bond buyers in the highest income tax brackets. Subsidizing borrowing through the use of payments made directly to borrowers can be more efficient—in terms of the benefits to state and local governments per dollar of federal cost—and more conducive to budgetary review and control.[12]

Tax-Exempt Government Bonds. Federal tax exemptions for interest income from government bonds (and qualified PABs) allow issuers of such debt to sell bonds that pay lower rates of interest than do taxable bonds. Because purchasers of tax-exempt bonds demand a return that is at least as high as the after-tax yield they could obtain from comparable taxable bonds, the amount by which the return from tax-exempt bonds is lower than the yield on comparable taxable debt depends on the income tax rate of the marginal (or market-clearing) buyer of tax-exempt bonds. Thus, the amount of subsidy that state and local governments receive by issuing tax-exempt bonds is determined not by an explicit decision of the federal government, but indirectly by the federal tax code and the financial circumstances of potential investors.

JCT estimates that the tax exemption for state and local debt resulted in $32 billion of forgone federal revenues in 2012; for the subsequent five years, it estimates that tax-exempt debt will reduce revenues by an additional $191 billion. According to data from the Internal Revenue Service, tax-exempt bonds issued between 1991 and 2011 to finance highway and other transportation projects (both for new construction and to refund existing transportation debt) accounted for between about one-eighth and one-fifth of the total value of tax-exempt bonds issued that can be classified by the type of project financed. Thus, a rough estimate of the tax expenditure for transportation bonds in 2012 would be between $4 billion and $6 billion. Data from proprietary sources suggest that highway bonds may account for as much as one-half of all tax-exempt debt issued to finance transportation projects.[13]

Private Activity Bonds. Private activity bonds are tax-exempt bonds that typically are used to finance large infrastructure and other projects primarily undertaken by a private entity. Thus, PABs essentially provide financing to private businesses or individuals; a qualified governmental unit serves as a conduit between those entities and the purchaser of the bond. Only certain PABs are tax exempt. Bonds that meet the necessary criteria are known as qualified private activity bonds and may be issued to finance a wide range of infrastructure (and other) projects, including those for transportation.

SAFETEA-LU allowed tax-exempt PABs to be issued for certain surface transportation projects, but the law placed a cap of $15 billion on the issuance of such bonds. According to DOT (as of April 18, 2014), bonds with a

12. For more information, see Congressional Budget Office and Joint Committee on Taxation, *Subsidizing Infrastructure Investment with Tax-Preferred Bonds* (October 2009), www.cbo.gov/publication/41359.

13. See Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2012–2017*, JCS-1-13 (February 2013), p. 40, http://tinyurl.com/kasohdx; Internal Revenue Service, Statistics of Income, "Table 2. Long-Term Tax-Exempt Governmental Bonds, by Bond Purpose and Type of Issue," http://tinyurl.com/pvw7znq; and Thomson Reuters, "Transportation Highlights," *The Bond Buyer Yearbook* (various issues).

value of $4.6 billion have been issued for 11 projects in all since 2005. DOT allocated another $5.2 billion of that $15 billion to projects that, although approved, have not started and could use PABs in the future; roughly 30 percent of that amount has been allocated during the past 12 months. That leaves slightly more than $5 billion available for future applicants. However, the almost $10 billion in bonds currently issued or allocated under the $15 billion cap may overstate the amount of PABs that those projects will use eventually, because some projects that received a PAB allocation have switched to other forms of financing. For example, in May 2013, DOT allocated about $4.4 billion from PABs to seven projects that had not yet issued bonds. By April 2014, however, only five of them had issued PABs, all for amounts that were significantly less than originally allocated.

Giving private entities access to the tax-exempt market using PABs lowers the cost of capital for those borrowers and can promote infrastructure projects when state and local governments have self-imposed limits on borrowing. But, like tax-exempt government bonds, PABs result in forgone tax revenues. And, to the extent that private funding was available without PABs, albeit at a higher cost, only projects of marginal value would be unable to receive financing without them.

Because of the growing number of projects seeking to use PABs, some financial market analysts are concerned that the limit on their use will be reached soon. Development of large, complex infrastructure projects often takes years, so financial analysts are seeking certainty that PABs will be available if they choose to apply for them. In his 2015 budget proposal, the President proposed raising the cap, by $4 billion, to $19 billion. According to JCT's estimates, such an additional allocation would begin to be used sometime in 2017.

Tax Credit Bonds. Starting in the late 1990s, the Congress turned to tax credit bonds as a way to finance public expenditures. In their early form, those bonds allowed their holders to receive a credit against federal income tax liability instead of—or in addition to—the cash interest typically paid on the bonds. The amount of the credit equals the credit rate, which is set by the Secretary of the Treasury, multiplied by the face amount of the bond.

Tax credit bonds offer some advantages over other types of tax-preferred bonds, such as tax-exempt bonds. Because bondholders pay taxes on the amount of credit they claim, tax credit bonds do not result in investors in high marginal tax brackets receiving a portion of the forgone tax revenues. Rather, the revenues forgone by the federal government through tax credit bonds reduce state and local borrowing costs dollar for dollar, a more efficient use of federal resources than that resulting from tax-exempt bonds. Tax credit bonds also allow the amount of federal subsidy to be determined explicitly, rather than depending on other federal polices (such as marginal income tax rates).

The American Recovery and Reinvestment Act of 2009 authorized Build America Bonds, tax credit bonds that were sold only in 2009 and 2010. State and local governments issued the bonds either as traditional tax credit bonds or, if certain conditions were met, as direct-pay tax credit bonds (known as qualified Build America Bonds). In contrast to earlier tax credit bonds, Build America Bonds have an interest rate (or coupon) that is set by the issuer rather than by the Secretary of the Treasury. For the direct-pay bonds, the federal government provided payments directly to issuing state and local governments equal to 35 percent of the interest, in lieu of a tax credit going to the bondholder. The amount of that financing subsidy is greater than the reduction in the interest costs that those state and local governments would have realized if they had issued traditional tax-credit bonds because, in the latter case, the bond buyer claiming the tax credit would have had to be compensated with additional interest income for the resulting tax liability.

The interest subsidies provided by direct-pay tax credit bonds appear as outlays in the federal budget, making the cost more transparent and, in principle, enabling comparison with other federal outlays for the same purposes. Also, because the yields provided to holders of direct-pay tax credit bonds are similar to the yields of other taxable securities, direct-pay tax credit bonds are more attractive to tax-exempt entities than other tax credit bonds are and may therefore increase the pool of funds available to state and local governments to finance infrastructure projects and other activities.

The President's budget proposal for 2015 includes a direct-pay tax credit bond with a credit equal to 28 percent of each interest payment. By allowing state and local governments to substitute taxable for tax-exempt bonds, the proposal would increase taxable interest income, boosting federal revenues by $59 billion between 2015 and 2024, according to JCT. Because the proposal also would increase subsidy payments to state and local

governments (which are recorded in the federal budget as outlays) by an estimated $64 billion, the net effect would be to increase the cumulative 10-year deficit by $4 billion.[14]

Federal Loans and Loan Guarantees

The federal government also subsidizes borrowing by state and local governments by providing and guaranteeing loans for infrastructure. Such credit assistance can reduce state and local governments' costs because it can facilitate borrowing at interest rates that are lower than otherwise might be available, and it may open additional access to the capital markets. Specifically, in providing loans and loan guarantees, the federal government assumes the risk that would be borne by a lender and paid for by a borrower in the form of higher interest rates.

The Federal Credit Reform Act of 1990 (FCRA) established rules for calculating the budgetary costs of direct loans and explicit loan guarantees issued by the federal government. The budgetary cost of federal credit assistance programs is recorded as the net present value of the cash flows to and from the government—the loan amount and the expected repayments—when the loan is disbursed to recipients.[15] That subsidy cost represents an estimate of the net cost that the government bears. In contrast, the cash flows associated with that loan between the Treasury, an agency, and borrowers occur over time and are not recorded in the budget.

An important aspect of the budgetary treatment of federal credit programs is that agencies must receive an appropriation equal to the estimated subsidy cost before they can make or guarantee a loan.[16] In the case of direct loans, FCRA specifies that loan repayments are unavailable for future spending; those repayments are already accounted for in the estimated net present value of the loan, so they are not available to "revolve" into new loans. Such a revolving fund is the model on which many state infrastructure banks are based. However, for the federal government, those repayments represent part of the financing for the original loans and are implicit in the subsidy calculation. Allowing loan repayments to be used for new loans—without any additional appropriation to cover the subsidy costs of the new loans—would raise the effective FCRA subsidy cost of the original loans to 100 percent (the same as for grants).

FCRA accounting, however, does not provide a comprehensive measure of the economic cost of credit assistance. Through its use of Treasury rates for discounting, FCRA implicitly treats market risk—a type of risk that investors require compensation to bear—as having no cost to the government. Specifically, FCRA's procedures incorporate the expected cost of defaults on government loans or loan guarantees but not the cost of risk associated with uncertainty about the magnitude and timing of those defaults. Investors require compensation—a "market risk premium"—to bear that risk. That premium on a risky loan or guarantee compensates investors for the increased likelihood of sustaining a loss when the overall economy is weak and resources are scarce; that likelihood is reflected in higher expected returns and lower prices for assets that carry more market risk. Taxpayers bear the investment risk for federal credit obligations. By omitting the cost of market risk and thereby understating the economic cost of federal credit obligations, FCRA accounting may lead policymakers to favor credit assistance over other forms of aid that have a similar economic cost.[17]

Loans Made Under the Transportation Infrastructure Finance and Innovation Act. DOT administers a loan program under the Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA) that provides credit assistance to state and local governments to finance highway projects and other types of surface transportation infrastructure. The TIFIA program offers subordinated federal loans for up to 35 years at interest rates that are based on the rate for Treasury securities of similar maturity. (On May 1, 2014, the interest rate on the 30-year Treasury bond was 3.41 percent.) TIFIA assistance may be used for up to 49 percent of a project's cost. Combined with other federal grants and credit assistance,

14. See Congressional Budget Office, *An Analysis of the President's 2015 Budget* (April 2014), www.cbo.gov/publication/45230.

15. The net present value is the single number that expresses a flow of current and future income (or payments) in terms of an equivalent lump sum received (or paid) today.

16. In contrast, no appropriations are necessary for the periodic revisions to subsidy estimates that agencies make to reflect actual experience with loans and guarantees. Permanent indefinite budget authority exists for those revisions, which are recorded in the budget as increases or decreases in outlays.

17. Moreover, subsidy rates computed under FCRA exclude federal administrative costs, even those that are essential for preserving the value of the government's claim to future repayments, such as loan-servicing and collection costs; those costs are accounted for separately in the budget. For more information, see Congressional Budget Office, *Fair-Value Accounting for Federal Credit Programs* (March 2012), www.cbo.gov/publication/43027.

TIFIA loans can be part of a package of federal assistance that funds up to 80 percent of the cost of a project.

MAP-21 made several changes to the TIFIA program, notably increasing the amount of budget authority for the subsidy cost of the program's loans from $122 million per year in the previous authorization for highway and transit programs to $750 million in 2013 and $1 billion in 2014. As of April 28, 2014, about $720 million of that budget authority was uncommitted. Since 2012, TIFIA subsidy rates for direct loans have averaged about 9 percent. If that subsidy rate continued in effect, the $1.75 billion in subsidies authorized by MAP-21 would finance more than $19 billion in loans.

MAP-21 also authorized master credit agreements and created an extra interest rate subsidy for projects in rural areas. Master credit agreements would allow DOT to make commitments of future TIFIA loans, contingent on future authorizations, to a group of projects secured by a common revenue source. Under provisions of MAP-21, rural projects receive a minimum of 10 percent of the funds appropriated and are eligible to receive loans at half the Treasury rate. Such an interest rate subsidy makes a project relatively less expensive for the sponsors and relatively more expensive for the federal government. It may result in federal loans for projects that would not otherwise generate enough revenue to cover the costs of financing the projects.

Proposals for a Federal Infrastructure Bank. In recent years, the Congress has considered several proposals for establishing a federal bank to fund infrastructure projects through loans and grants.[18] In recent years, the President's budget has included a request to create a similar entity.[19]

Whether federal credit assistance is provided through an existing federal agency or a newly created special entity, however, it would involve similar budgetary costs to the federal government. The support offered for surface transportation by most proposed infrastructure banks would not differ substantially from the loans and loan guarantees already offered by DOT through its TIFIA program. Therefore, differences between the existing TIFIA program and an infrastructure bank would primarily be operational, concerning the types of infrastructure to fund, the kinds of credit assistance to provide, the selection process for projects, the amount of leverage to provide for federal funds, and the amount of private-sector participation to encourage or require. For example, an infrastructure bank could focus on financing transportation infrastructure, or it could define infrastructure more broadly to include sewers, wastewater treatment facilities, drinking water supply facilities, broadband Internet access, or even schools. In principle, an infrastructure bank could use any of several methods to finance projects, including federal loans, lines of credit, and guarantees for private loans.

CBO has previously analyzed an illustrative federal infrastructure bank—one that is representative of certain recent proposals but that would focus on surface transportation programs.[20] That entity, which would be federally funded and controlled, would select new, locally proposed construction projects for funding on the basis of several criteria, including the projects' costs and benefits, and it would provide financing for the projects through loans and loan guarantees. To repay the loans, projects would have to use tolls, taxes, or other dedicated revenue streams. Financial assistance could be provided to any consortium of partners with an eligible project, such as a group of state and local entities or a group of nongovernmental partners. The bank could provide the subsidy amounts needed to compensate private-sector investors for benefits that accrue to the general public and to the economy at large.

Such an infrastructure bank could have a limited role in enhancing investment in surface transportation projects by providing new federal subsidies (in the form of loans or loan guarantees) to certain large projects, potentially including multijurisdictional or multimodal projects, and by allowing the benefits of potential projects to be more readily compared in a competitive selection process.

A key limitation of such a bank is that many surface transportation projects would not be good candidates for its support, because most projects do not involve toll collections or other mechanisms to collect funds directly from project users or other beneficiaries.

18. Other government programs that provide credit assistance for infrastructure projects include the Environmental Protection Agency's grants for states' revolving loan funds for water projects and states' infrastructure banks, all capitalized with federal funds and administered by states.

19. Other Congressional proposals to establish an infrastructure bank include providing bond insurance to issuers.

20. See Congressional Budget Office, *Infrastructure Banks and Surface Transportation* (July 2012). www.cbo.gov/publication/43361.

Private Financing

Only a small number of highway projects in the United States have involved public-private partnerships with private financing.[21] Assessments of those projects indicate that such partnerships may accelerate the availability of financing—for example, by circumventing states' self-imposed limits on borrowing—but they do not generally result in additional financing. Some of the projects that have been financed through tolls have failed financially because the private-sector partners initially overestimated their revenues and as a result have been unable to fully repay their projects' debts. Perhaps as a response, projects that are still under construction rely less on tolls as a revenue source; more commonly, private partners are compensated from a state's general funds, thus limiting the private risk of not being repaid and leaving the risk of lower-than-expected revenues to the public partner.

Increasingly, public-private partnerships also have replaced the funds obtained through private means (at market rates) with tax-exempt bonds or bonds that provide a credit against taxes owed. That change has brought the projects more in line with the way states typically finance infrastructure projects, lowering the private partners' costs at the expense of costs to federal taxpayers and increasing the amount of the government's implicit equity and risk. In doing so, newer projects may have diminished the incentives associated with private financing to control costs and to be completed quickly.

In addition, more recent agreements have reduced private partners' debt-service payments—that is, interest payments on any money borrowed to finance the projects—by increasing the share of financing provided by the state or locality or by the federal government. Accordingly, the financing provided by the TIFIA program or by tax-exempt private activity bonds has become increasingly prominent for highway projects that involve public and private partners.

The history of privately financed roads in the United States encompasses 29 projects that are either under way or have been completed during the past 25 years. The value of the contracts for those projects totals $24 billion, a little more than one-half of one percent of the approximately $4 trillion that all levels of government spent on highways over the period. (Both of those amounts are in 2013 dollars.) In the past few years, the number of partnerships for road projects with private financing has increased; two-thirds of the $24 billion in contracts has been committed in the past five years.

The amount of risk transferred to private partners has varied from project to project. In some instances, the financial risk was borne primarily by taxpayers, who were responsible for repaying debt incurred by the private partner. Under one program in Florida, for example, private businesses finance each project entirely with private debt that is to be repaid over a predetermined time—usually five years—with future grants from the federal government, state funds, and revenues from tolls collected from users of the completed road. The state's guarantee of repayments eliminates much of the transfer of risk that takes place with other privately financed projects. Thus, the financing is essentially public, and the structure of the public-private partnership is similar to that of an approach without private financing. In other instances, the private partner has borne more of the risk of the investment—specifically, some of the private partners' money might be lost if the project did not produce revenues as expected.

Over the past 25 years, 10 privately financed projects—of various sizes but all involving contracts of at least $50 million—have been completed (see Table 3). A review of those projects offers little evidence that public-private partnerships provide additional resources for roads except in cases in which states or localities have chosen to restrict spending through self-imposed legal constraints or budgetary limits. To varying degrees, the projects that made use of private financing were in states in which the government could have issued bonds to finance the work through traditional means. In some cases, however, the use of a public-private partnership accelerated a project's access to financing by circumventing restrictions that states have imposed on themselves and that limit their ability to issue additional debt. (Earlier financing of a road project adds value when it allows the public to enjoy the benefits of the new road sooner than would otherwise be possible.)

Several such projects are still under construction (see Table 4). New public-private partnerships have sought to reduce their borrowing costs by relying on publicly subsidized borrowing through the TIFIA program and

21. For additional information on the experience with public-private partnerships, see the testimony of Joseph Kile, Assistant Director for Microeconomic Studies, Congressional Budget Office, before the Panel on Public-Private Partnerships, House Committee on Transportation and Infrastructure, *Public-Private Partnerships for Highway Projects* (March 5, 2014), www.cbo.gov/publication/45157.

Table 3.

Completed Highway Projects That Used Public-Private Partnerships With Private Financing

	Dulles Greenway	SR-91 Express Lanes	Camino Colombia Bypass	Atlantic City–Brigantine Tunnel	Southern Connector	Pocahontas Parkway	Route 3 North	South Bay Expressway (S. Section)	SH-130 (Segments 5 and 6)	I-495 HOT Lanes
Description of the Project										
Opening Date	1995	1995	2000	2001	2001	2002	2005	2007	2012	2012
Location	Va.	Calif.	Tex.	N.J.	S.C.	Va.	Mass.	Calif.	Tex.	Va.
Revenue Sources	Tolls	Tolls	Tolls	Tolls/Taxes	Tolls	Tolls	Taxes	Tolls	Tolls	Tolls
Road Length (Miles)	14	10	22	2	16	9	21	10	40	14
Financial Structure and History										
Bankruptcy Declared	No	No	Yes	No	Yes	No	No	Yes	No	No
Public Buyout of Private Partners	No	Yes	No	No	No	No	No	No	No	No
Sources of Financing (Millions of 2013 dollars)										
Private										
Debt	462	161	96	155	260	690	506	421	737	0
Equity	59	33	19	0	0	0	0	220	227	376
Public										
TIFIA program	0	0	0	0	0	0	0	174	462	633
Other	0	0	0	300 [a]	0	0	0	0	0	1,072 [b]
Total Cost	**521**	**194**	**115**	**455**	**260**	**690**	**506**	**815**	**1,427**	**2,081**

Source: Congressional Budget Office based on data from the Federal Highway Administration.

Note: HOT = high occupancy/toll; TIFIA = Transportation Infrastructure Finance and Innovation Act.

a. The project relied on a casino's future contribution to the Casino Reinvestment Development Authority and on funds from the South Jersey Transportation Authority and the New Jersey Transportation Trust Fund Authority.

b. Sources of funding included private activity bonds (issued by or on behalf of a state or local government to finance a private project) and loans or grants from states or localities, which included their funds from federal formula grants.

through PABs issued by local municipalities; the PABs have tax advantages that lower the private partner's debt-service payments. All but one of those projects have made use of federal subsidies through the TIFIA program. That choice of financing constitutes a return to some features of the traditional approach in which the public sector—the federal government, in particular—retains greater risks, especially the risk of default. For instance, the South Bay Expressway, which had received some financing from the TIFIA program, illustrates what can happen to taxpayers as the ultimate equity holders. The project filed for Chapter 11 bankruptcy in March 2010, finally emerging in May 2011. The new financing and ownership structure required by the bankruptcy court imposed a loss of 42 percent on federal taxpayers, replacing the original TIFIA investment with a package of debt and equity worth only 58 percent of the original investment.[22] New public-private parternerships also typically secure state or local loans or grants as part of their financing. In the other cases, project managers who are responsible for a project's financing have had to take out bank loans. That source of private capital was more attractive during the recent economic downturn as interest rates fell relative to the yields for bonds in municipal bond markets (including those of PABs).

Budgetary Principles for the Treatment of Projects With Complex Financing

Under the principles that govern federal budgeting, the budgetary treatment of complex financing arrangements—those that involve an intermediary other than the Treasury raising money in private capital markets on behalf of the federal government—should depend on its economic substance: who controls the program and its budget, who selects the managers, who provides the

22. Randall Jensen, "Tollway Exits Chapter 11: TIFIA Ends Up Taking a Haircut," *Bond Buyer* (May 6, 2011), http://tinyurl.com/3fn8nvj.

Table 4.

Highway Projects Under Way That Use Public-Private Partnerships With Private Financing

	I-595 Managed Lanes	North Tarrant Express Segments 1 & 2	Port of Miami Tunnel	I-635 LBJ Freeway	I-95 HOV/HOT Lanes	Midtown Tunnels	Presidio Parkway	Ohio River Bridges East End Crossing	North Tarrant Express Segement 3A
					Description of the Project				
Start of Construction	2009	2010	2010	2011	2012	2012	2013	2013	2014
Expected Completion	2014	2015	2014	2016	2015	2017	2015	2016	2018
Location	Fla.	Tex.	Fla.	Tex.	Va.	Va.	Calif.	Ind.	Tex.
Revenue Source	Tolls/Taxes	Tolls	Taxes	Tolls	Tolls	Tolls	Taxes	Tolls/Taxes	Tolls
Road Length (Miles)	11	13	1	13	29	1	2	8	6
					Sources of Financing (Millions of 2013 dollars)				
Private									
Debt	829	0	362	0	0	0	167	0	0
Equity	231	452	85	713	280	272	46	78	413
Public									
TIFIA program	640	690	362	902	300	422	150	0	524
Private activity bonds[a]	0	422	0	643	253	675	0	677	271
Other[b]	246	609	329	520	90	719	0	395	169
Total Cost	**1,946**	**2,173**	**1,138**	**2,779**	**923**	**2,089**	**365**	**1,150**	**1,377**

Source: Congressional Budget Office based on data from the Federal Highway Administration.

Note: HOV = high-occupancy vehicle; HOT = high occupancy/toll; TIFIA = Transportation Infrastructure Finance and Innovation Act.

a. Private activity bonds are issued by or on behalf of a state or local government to finance a private project.

b. Mostly loans or grants from states or localities, which may include their funds from federal formula grants.

capital, and who owns the resulting entity.[23] Is the activity governmental (that is, initiated, controlled, or funded largely by the government for governmental purposes) or is it an initiative of the private sector (driven by market forces independent of the government)?

An investment that is essentially governmental should be shown in the budget whether it is financed directly by the Treasury or indirectly by a third party that is borrowing on behalf of the government. Activities need not be conducted by a federal agency to be classified as governmental and included in the budget. When doubt exists about whether a program should be recorded in the federal budget, those same principles indicate that "borderline agencies and transactions should be included in the budget unless there are exceptionally persuasive reasons for exclusion."[24]

Likewise, spending financed by all forms of agencies' borrowing, including debt not backed by the full faith and credit of the U.S. government, appears in the budget. However, bond proceeds or repayable equity investments are not recorded as federal receipts; they are a means of financing a project—not the ultimate source of capital, which is the income that will be generated by their operation.

23. See Congressional Budget Office, *Third-Party Financing of Federal Projects* (June 2005), www.cbo.gov/publication/16554.

24. The President's Commission on Budget Concepts, *Report of the President's Commission on Budget Concepts* (October 1967).

About This Document

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