LONG-TERM FINANCING OF THE HIGHWAY TRUST FUND

Scheduled for a Public Hearing
Before the
HOUSE COMMITTEE ON WAYS AND MEANS
on June 17, 2015

Prepared by the Staff
of the
JOINT COMMITTEE ON TAXATION

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INTRODUCTION AND SUMMARY

The House Committee on Ways and Means has scheduled a public hearing on June 17, 2015, to examine the long-term financing of the Highway Trust Fund. This document,[1] prepared by the staff of the Joint Committee on Taxation, provides a description of present-law provisions relating to the Highway Trust Fund and its dedicated taxes. The shortfall in Highway Trust Fund revenues has prompted several proposals to fund the Highway Trust Fund, including transitioning to a vehicle miles traveled tax and tolling Federal highways. This pamphlet briefly highlights both of those issues.

The Highway Trust Fund was established in 1956 to coordinate the Federal role in highway construction and maintenance activities, including the development of the then-new Interstate Highway System. The Highway Trust Fund is divided into two accounts, a Highway Account and a Mass Transit Account, each of which is the funding source for specific programs. Expenditures from the Highway Trust Fund are authorized through July 31, 2015.

Six separate excise taxes are imposed to finance the Federal Highway Trust Fund program. Three of these taxes are imposed on highway motor fuels, and these three generate the substantial majority of the revenues dedicated to the Highway Trust Fund. The remaining three are a retail sales tax on heavy highway vehicles (trucks, trailers and certain tractors), a manufacturers' excise tax on heavy vehicle tires, and an annual use tax on heavy vehicles. For fiscal year 2013, the total tax revenue for the Highway Trust Fund was $37.9 billion.

Congressional Budget Office projections show that outlays from the Highway Trust Fund will exceed revenues during FY 2016 for both the Highway Account and the Mass Transit Account. Over the 10-year period of FY 2015-2025, the Highway Account projected outlays will exceed projected revenues by $125 billion, and for the Mass Transit Account, the deficit is projected to be $43 billion.

Regarding existing funding methods, since the fuel tax rates have not changed since 1993, some have proposed that there be an increase in the fuel taxes, and that the rates be indexed to inflation. Had the 18.3 and 24.3 cent per gallon tax rates been indexed, in 2015, the rates would be 31 cents per gallon for gasoline and 41.2 cents per gallon for diesel.

Others have suggested that the Federal fuel taxes be replaced by a Federal mileage charge (also known as a vehicle miles traveled tax) and that States be allowed to toll interstate highways. Although not discussed in this pamphlet, there are several proposals that would address the shortfall in Highway Trust Fund revenues by dedicating certain amounts generated from business tax reform.

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[1] This document may be cited as follows: Joint Committee on Taxation, *Long-Term Financing of the Highway Trust Fund*, (JCX-92-15), June 15, 2015. This document can also be found on the Joint Committee on Taxation website at www.jct.gov.

I. OVERVIEW OF THE HIGHWAY TRUST FUND AND RELATED EXCISE TAXES

The Highway Trust Fund was established in 1956 to coordinate the Federal role in highway construction and maintenance activities, including the development of the then-new Interstate Highway System. The Highway Trust Fund is divided into two accounts, a Highway Account and a Mass Transit Account, each of which is the funding source for specific programs.[2] Highway Trust Fund expenditure purposes have been revised with the passage of each authorization Act enacted since the establishment of the Highway Trust Fund in 1956. In general, expenditures authorized under those Acts (as the Acts were in effect on the date of enactment of the most recent such authorizing Act) are approved Highway Trust Fund expenditure purposes under the Code. Expenditures from the Highway Trust Fund are authorized through July 31, 2015.

Most Federal surface transportation programs funded by the Highway Trust Fund span four major areas of investment: highway infrastructure, transit infrastructure and operations, highway safety, and motor carrier safety.[3] The funds are distributed either by formula or on a discretionary basis through several individual grant programs.[4]

Revenue sources for the Highway Trust Fund

Six separate excise taxes are imposed to finance the Federal Highway Trust Fund program. Three of these taxes are imposed on highway motor fuels and these three generate a substantial majority of the revenues dedicated to the Highway Trust Fund. The remaining three are a retail sales tax on heavy highway vehicles (trucks, trailers and certain tractors), a manufacturers' excise tax on heavy vehicle tires, and an annual use tax on heavy vehicles. With two exceptions, these taxes do not apply after September 30, 2016. The 4.3-cents-per-gallon portion of the fuels tax rates is permanent.[5] The annual use tax expires on October 1, 2017.

For fiscal year 2013, gasoline produced $24.1 billion in taxes; diesel produced $8.9 billion; tires and tread rubber produced $0.4 billion; the heavy vehicle use tax produced $1.0 billion; the retail sales tax on truck and trailers produced $3.3 billion; and other fuels (including

[2] Sec. 9503. All section references are to the Internal Revenue Code of 1986 ("the Code") unless otherwise indicated.

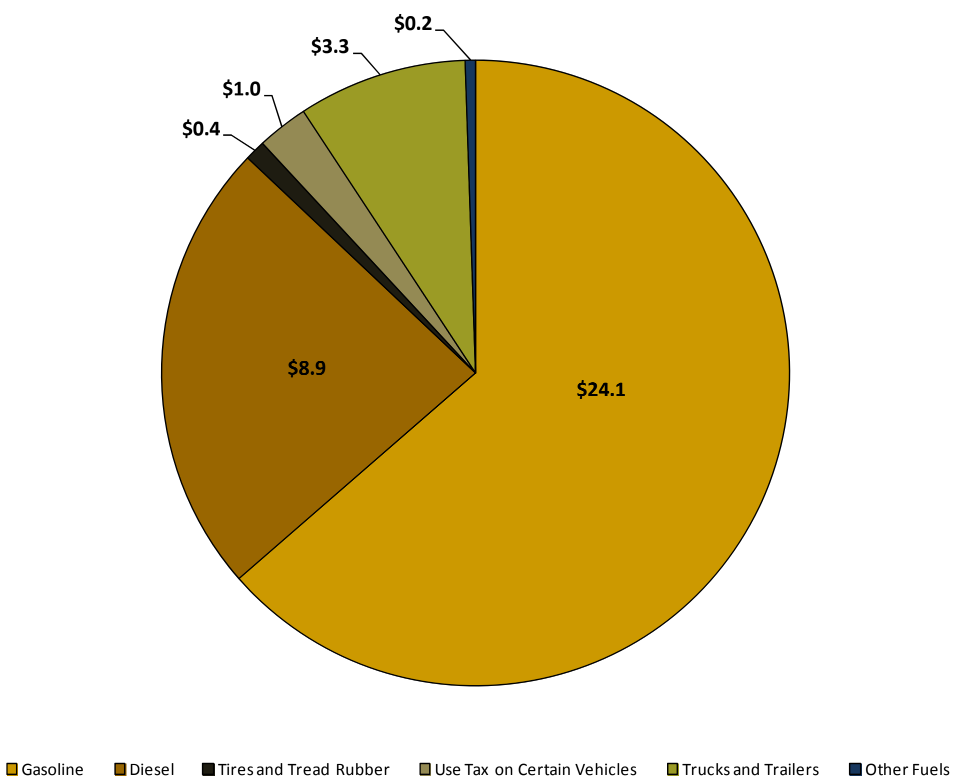
[3] Government Accountability Office, *Surface Transportation: Restructured Federal Approach Needed for More Focused, Performance-Based and Sustainable Programs* (GAO-08-400), March 2008, p. 6.

[4] *Ibid*. pp. 6-7.

[5] This portion of the tax rates was enacted as a deficit reduction measure in 1993. Receipts from it were retained in the General Fund until 1997 legislation provided for their transfer to the Highway Trust Fund.

kerosene, liquefied natural gas and other alternative fuels) produced $0.2 billion in taxes. For fiscal year 2013, the total tax revenue for the Highway Trust Fund was $37.9 billion.[6]

Figure 1.–Highway Trust Fund, Fiscal Year 2013 By Source ($ Billions)



The taxes dedicated to the Highway Trust Fund are summarized below.

Highway motor fuels taxes

The Highway Trust Fund motor fuels tax rates are as follows:[7]

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[6] Motorboat fuel taxes and small engine fuel taxes, to the extent deposited in the Highway Trust Fund, are transferred to the Sport Fish and Boating Restoration Trust fund. Taxes attributable to kerosene used in aviation and aviation gasoline are dedicated to the Airport and Airway Trust Fund. The FY 2013 numbers reflect transfers to the Highway Trust Fund after transfers of motorboat fuel and small engine fuel taxes have been taken into account.

[7] These fuels are subject to an additional 0.1-cent-per-gallon excise tax to fund the Leaking Underground Storage Tank ("LUST") Trust Fund (secs. 4041(d) and 4081(a)(2)(B)). That tax is imposed as an "add-on" to other existing taxes.

Fuel	Tax Rate
Gasoline	18.3 cents per gallon
Diesel fuel and kerosene	24.3 cents per gallon[8]
Alternative fuels	24.3 and 18.3 cents per gallon[9]

The Code imposes tax on gasoline, diesel fuel, and kerosene ("taxable fuels") upon removal from a refinery or on importation, unless the fuel is transferred in bulk by registered pipeline or barge to a registered terminal facility.[10] Typically, these fuels are transferred by pipeline or barge in large quantities ("bulk") to terminal storage facilities that are located closer to destination retail markets. The fuel is then taxed when it "breaks bulk," *i.e.*, when it is removed from the terminal, typically by truck or rail car, for delivery to a smaller wholesale facility or a retail outlet. The majority of the fuel taxes are imposed upon removal at the terminal. The party liable for payment of the taxes is the "position holder," *i.e.*, the person shown on the records of the terminal facility as controlling the fuel.[11]

The following persons who control taxable fuels before tax is imposed must be registered with the Internal Revenue Service: an enterer, a pipeline operator, a position holder, a refiner, a terminal operator, and a vessel operator.[12] The sale or other transfer of fuel to an unregistered party or removal to an unregistered facility before the fuel breaks bulk results in the imposition of tax on that transaction. If the fuel subsequently is entered into and removed from a registered terminal, a second tax is imposed. Refund claims are allowed to prevent double taxation.

In general, fuel removed from a registered terminal facility is subject to tax without regard to whether the ultimate use of the fuel is taxable (*e.g.*, non-taxable use for heating or on a

[8] Diesel-water emulsions are taxed at 19.7 cents per gallon (sec. 4081(a)(2)(D)). Diesel used in certain intercity buses is taxed at 7.4 cents per gallon. Sec. 6427(b)(1).

[9] The rate of tax is 24.3 cents per gallon in the case of liquefied natural gas, any liquid fuel (other than ethanol or methanol) derived from coal, and liquid hydrocarbons derived from biomass. Other alternative fuels sold or used as motor fuel are generally taxed at 18.3 cents per gallon. For purposes of this pamphlet "alternative fuel" includes compressed natural gas. The rate for compressed natural gas is 18.3 cents per energy equivalent of a gallon of gasoline. *See* sec. 4041(a)(2) and (3).

[10] Sec. 4081(a)(1).

[11] A special rule applies to "two-party exchanges" (sec. 4105). It is common practice for oil companies to serve customers of other oil companies under exchange agreements, *e.g.*, where Company A's terminal is more conveniently located for wholesale or retail customers of Company B. In such cases, the exchange agreement party (Company B in the example) is treated as owning the fuel when sold to B's customer if the requirements of section 4105 are met.

[12] Sec. 4101 and Treas. Reg. 48.4101-1(c)(1)(ii)-(vii). In addition, blenders of taxable fuel also must be registered. Treas. Reg. 48.4101-1(c)(1)(i).

farm for farming purposes). Exceptions are provided allowing diesel fuel and kerosene to be removed for a non-taxable use if the fuel is indelibly dyed at the time of removal.[13]

The tax on alternative fuels accounts for a relatively small portion of the tax on motor fuels. The tax is imposed when the fuels are sold for use or used as a fuel in a motor vehicle or motorboat. The person liable for the tax is either the retailer making the sale or, in some cases, the user of the fuel.

Non-taxable uses of fuel

In general, refunds or income tax credits may be claimed for fuels on which tax has been imposed and which ultimately are used for a non-taxable purpose. Present law includes numerous exemptions (including partial exemptions) for specified uses. Because the fuel taxes generally are imposed before the end use of the fuel is known, many of these exemptions are realized through refunds to end users of tax paid by a party that held the fuel earlier in the distribution chain. Non-taxable uses of fuel include: (1) use on a farm for farming purposes; (2) off-highway business use; (3) export; (4) use in a boat engaged in commercial fishing; (5) use in certain intracity and local buses; (6) use in a school bus; (7) exclusive use by a qualified blood collector organization; (8) exclusive use by a nonprofit educational organization; (9) exclusive use by a State; (10) use in an aircraft or vehicle owned by an aircraft museum; and (11) use of diesel fuel other than as a fuel in a propulsion engine of a diesel-powered highway vehicle (*e.g.*, home heating oil).

The rules governing how and by whom a refund is claimed differ by type of fuel, by end use, and by dollar amount of the claim. In general, no more than one claim per quarter may be filed. Refund claims may be filed only if prescribed dollar thresholds are satisfied. If the dollar amounts are not satisfied in a calendar year, refunds must be claimed as credits on income tax returns. Unlike income tax refunds, excise tax refunds generally do not bear interest if they are not paid within set periods. The Highway Trust Fund does not reimburse the General Fund for the payments of nontaxable use refunds.[14]

Non-fuels excise taxes

Tax on heavy vehicle tires

The Code imposes a tax on taxable tires sold by the manufacturer, producer or importer of the tire. The rate is 9.45 cents for each 10 pounds of maximum rated load capacity over 3,500 pounds.[15] A “taxable tire” is any tire of the type used on highway vehicles if made of rubber (in

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[13] *See* sec. 4082(a)(2). However, such fuel generally is still subject to the LUST Trust Fund tax.

[14] The requirement that transfers be made from the Highway Trust Fund to the General Fund to cover amounts paid by the General Fund for nontaxable use refund claims was repealed by section 444(a) of Pub. L. No. 111-147 (the Hiring Incentives to Restore Employment Act, discussed *infra*).

[15] Sec. 4071(a). In general, these parameters would exclude tires for passenger automobiles and light trucks.

whole or in part) and if marked according to Federal regulations for highway use.[16] "Rubber" includes synthetic and substitute rubber. For biasply tires, and super single tires (other than those designed for steering), the rate of tax is half the regular rate, 4.725 cents for each 10 pounds of maximum rated load capacity over 3,500 pounds.[17]

The tax does not apply to tire carcasses not suitable for commercial use, or to tires for use on qualifying intercity, local and school buses.[18] In addition, tires sold for the exclusive use of the Department of Defense or the Coast Guard are not subject to tax.[19] Nor does the tax apply to tires of a type used exclusively on mobile machinery vehicles. The Code also provides exemptions for tires that have been exported, sold to a State or local government for its exclusive use, sold to a nonprofit educational organization for its exclusive use, sold to a qualified blood collector organization for its exclusive use in connection with a vehicle the organization certifies will be primarily used in the collection, storage or transportation of blood, or used or sold for use as supplies for vessels.[20]

Retail sales tax on tractors, heavy trucks, and heavy trailers

A 12-percent retail sales tax is imposed on the first retail sale of heavy trucks (over 33,000 pounds), trailers (over 26,000 pounds) and certain highway tractors.[21] The taxable weight is the "gross vehicle weight," which is the maximum total weight of a loaded vehicle (all equipment, fuel body, payload, driver, etc.). The tax is imposed on chassis and bodies. The sale of a truck or trailer is considered a sale of a chassis and a body. However, the price of certain equipment unrelated to the highway transportation function of the vehicle is excluded from the

[16] Sec. 4072(a). "Tires of the type used on highway vehicles" means tires of the type used on motor vehicles that are highway vehicles, or vehicles of the type used in connection with motor vehicles that are highway vehicles (sec. 4072(c). However, the term does not include the kind of tires used exclusively on mobile machinery vehicles, as defined in section 4053(8).

[17] Sec. 4071(a). The term "biasply tire" means a pneumatic tire on which the ply cords that extend to the beads are laid at alternative angles substantially less than 90 degrees to the centerline of the tread. A "super single tire" means a single tire greater than 13 inches in cross section width designed to replace two tires in a dual fitment. It does not include any tire designed for steering.

[18] Sec. 4221(e)(3). A qualifying intercity or local bus is a bus which is used predominantly in furnishing (for compensation) passenger transportation available to the general public on a schedule with a regular route or has a seating capacity of at least 20 adults (not including the driver) (sec. 4221(d)(7)(B)). A school bus is a bus substantially all the use of which is to transport students and employees of schools (sec. 4221(d)(7)(C)).

[19] Sec. 4073.

[20] *See* sec. 4221; and Internal Revenue Service, Publication 510, *Excise Taxes (Including Fuel Tax Credits and Refunds)*, July 2013, p. 33.

[21] Sec. 4051. The tax does not apply to tractors weighing 19,500 pounds or less that, in combination with a trailer or semitrailer, has a gross combined weight of 33,000 pounds or less.

tax base.[22] Additionally, a credit against the tax is allowed for the amount of tire excise tax imposed on manufacturers of new tires installed on the vehicle.

The Code also imposes the 12-percent tax on the price of parts or accessories installed on a taxable vehicle within six months of the date the vehicle was placed in service.[23]

Annual use tax for heavy vehicles

An annual use tax is imposed on heavy highway vehicles, at the rates shown below.[24]

Vehicle Weight	Tax Rate
Under 55,000 pounds	No tax
55,000-75,000 pounds	$100 plus $22 per 1,000 pounds over 55,000 pounds
Over 75,000 pounds	$550

The annual use tax is imposed for a taxable period of July 1 through June 30. Generally, the tax is paid by the person in whose name the vehicle is registered. Exemptions and reduced rates are provided for certain "transit-type buses," trucks used for fewer than 5,000 miles on public highways (7,500 miles for agricultural vehicles), logging trucks, mobile machinery and qualified blood collector vehicles.

Overview of Highway Trust Fund expenditure provisions

In general

Section 9503 of the Code authorizes expenditures (subject to appropriations) from the Highway Trust Fund through July 31, 2015, for the purposes provided in authorizing legislation in effect on the date of enactment of the Highway and Transportation Funding Act of 2015.[25]

Amounts equivalent to receipts from the highway excise taxes, as imposed through September 30, 2016, generally are transferred to the Highway Trust Fund.[26] Receipts

[22] Sec. 4053.

[23] A vehicle is treated as placed in service on the date on which the owner of the vehicle took actual possession of the vehicle.

[24] Sec. 4481.

[25] Pub. L. No. 114-121.

[26] As noted above, the Highway Trust Fund also receives receipts from penalties imposed for violation of certain highway-related excise tax provisions. Legislation has been enacted periodically to transfer specified amounts of General Fund revenues to the Trust Fund, and in 2012, legislation was enacted transferring $2.4 billion determined to be in excess of spending needs of the LUST Trust Fund to the Highway Account of the Highway Trust Fund. See, sec. 9503(c)(2) and Pub. L. No. 172-151, sec. 40201(a)(1).

attributable to the excise taxes imposed on motorboat gasoline and special motor fuels and on gasoline used as a fuel in the non-business use of small-engine outdoor power equipment are transferred from the Trust Fund to the Sport Fish Restoration and Boating Trust Fund through September 30, 2016, with the first $1,000,000 per fiscal year of such monies going to the Land and Water Conservation Fund instead.[27]

The Highway Trust Fund has two accounts: a Mass Transit Account and a Highway Account.[28] Both accounts are funding sources for specific transit and highway-related programs. Both accounts accrue interest on unexpended balances. The Mass Transit Account receives revenues equivalent to 2.86 cents per gallon of highway motor fuels excise taxes generally, except 1.43 cents per gallon for any partially exempt methanol or ethanol, 1.86 cents per gallon for liquefied natural gas, 2.13 cents per gallon for liquefied petroleum gas, and 9.71 cents per MCF for compressed natural gas. The Highway Account receives the balance of the monies dedicated to the Highway Trust Fund.

Highway Trust Fund expenditures

Highway Trust Fund expenditure purposes have been updated with each surface transportation Act enacted since establishment of the Trust Fund in 1956. In general, expenditures authorized under those Acts (as the Acts were in effect on the date of enactment of the most recent such authorizing Act) are specifically approved by the Code as Highway Trust Fund expenditure purposes. The Code provides that authority to make expenditures from the Highway Trust Fund expires after July 31, 2015.

Anti-deficit provisions of the Highway Trust Fund

Because some highway/mass transit projects can take multiple years to complete, the Highway Trust Fund generally has carried a positive unexpended balance – a large portion of which is reserved to cover existing Highway Trust Fund obligations. Highway Trust Fund spending is limited by internal anti-deficit provisions. Generally, these rules are intended to prevent the further obligation of Federal highway/transit funds from the Highway Trust Fund if the current and expected balances of the Trust Fund are projected to fall below certain levels. In the case of the Highway Account, the rules require the Treasury Department to determine, on a quarterly basis, the amount (if any) by which unfunded highway authorizations exceed projected

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The Trust Fund benefits from an additional, ongoing General Fund subsidy from costs of refunds for certain tax overpayments and excise tax credits for biodiesel, renewable diesel, and alternative fuels being borne by the General Fund.

[27] Sec. 9503(c)(4) and (5).

[28] Highway Trust Fund expenditures are subject to appropriations Acts. However, certain of the programs are classified as "contract spending", a category of Federal spending in which executive agencies are permitted to enter into contracts for spending with appropriations being enacted subsequently to liquidate the contracted expenditures. Highway Trust Fund spending further has benefited from special Federal budget "firewalls" designed to ensure that the monies are spent as authorized rather than being subjected to obligations ceilings enacted as part of deficit reduction measures.

net Trust Fund receipts for the 48-month period beginning at the close of each fiscal year.[29] If unfunded highway authorizations exceed projected 48-month Trust Fund receipts, apportionments to the States for programs are to be reduced proportionately. The Mass Transit Account has a similar 12-month receipts rule.[30] For purposes of these rules, Highway Trust Fund excise taxes are assumed to be permanent.

Limitations on transfers to the Highway Trust Fund

No Highway Trust Fund monies may be spent for a purpose not approved by the Code. The Code contains a specific enforcement provision to prevent expenditure of Highway Trust Fund monies for purposes not authorized in the Code.[31] Should such unapproved expenditures occur, no further excise tax receipts will be transferred to the Highway Trust Fund. Instead, the taxes will continue to be imposed with receipts being retained in the General Fund. This enforcement provision provides that it applies not only to unauthorized expenditures under the current Code provisions, but also to expenditures pursuant to future legislation that does not amend the Code's expenditure authorization provisions or otherwise authorize the expenditure as part of a revenue Act, and applies regardless of whether the subsequently enacted provision attempts to waive this limitation.

Legislation regarding the Highway Trust Fund balance

In recent years, trends in Highway Trust Fund receipts and spending have resulted in projections of significant shortfalls. As discussed below, several provisions have been enacted transferring money from the General Fund to the Highway Trust Fund to avoid a shortfall.

Public Law No. 110-318, "an Act to amend the Internal Revenue Code of 1986 to restore the Highway Trust Fund balance" transferred, out of money in the Treasury not otherwise appropriated, $8,017,000,000 to the Highway Trust Fund effective September 15, 2008. Public Law No. 111-46, "an Act to restore sums to the Highway Trust Fund and for other purposes," transferred, out of money in the Treasury not otherwise appropriated, $7 billion to the Highway Trust Fund effective August 7, 2009. The Hiring Incentives to Restore Employment Act (the "HIRE Act") transferred, out of money in the Treasury not otherwise appropriated, $14,700,000,000 to the Highway Trust Fund and $4,800,000,000 to the Mass Transit Account in the Highway Trust Fund.[32] The HIRE Act provisions generally were effective as of March 18, 2010.

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[29] Sec. 9503(d).

[30] Sec. 9503(e)(4).

[31] Sec. 9503(b)(5).

[32] The Hiring Incentives to Restore Employment Act (the "HIRE" Act), Pub. L. No. 111-147, sec. 442.

Moving ahead for Progress in the 21st Century ("MAP-21")[33] provided that, out of money in the Treasury not otherwise appropriated, the following transfers were to be made from the General Fund to the Highway Trust Fund:

	FY 2013	**FY 2014**
Highway Account	$6.2 billion	$10.4 billion
Mass Transit Account	_____	$2.2 billion

MAP-21 also transferred $2.4 billion from the Leaking Underground Storage Tank Trust Fund to the Highway Account in the Highway Trust Fund.

Signed into law on August 8, 2014, the Highway and Transportation Funding Act of 2014 transferred $7.765 billion from the General Fund to the Highway Account of the Highway Trust Fund, $2 billion from the General Fund to the Mass Transit Account of the Highway Trust Fund, and $1 billion from the Leaking Underground Storage Tank Trust Fund to the Highway Account of the Highway Trust Fund.[34]

Despite these transfers, projected Highway Trust Fund outlays continue to exceed projected revenues. The following table reflects the Congressional Budget Office's ("CBO") projections of the Highway Trust Fund's balance for fiscal years 2015 through 2025.

[33] Moving Ahead for Progress in the 21st Century Act ("MAP-21"), Pub. L. No. 112-141, sec. 40201(a)(2), and sec. 40251.

[34] Highway and Transportation Funding Act of 2014, Pub. L. No. 113-159, sec. 2002.

Table 1.−Estimates of Revenue and Outlays for the Highway Trust Fund
Fiscal Years 2014-2025
[billions of dollars]

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Highway Account												
Start-of-Year Balance	4	11	2	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
Revenues & Interest[b]	34	34	35	35	35	35	35	35	35	35	34	34
Intragovernmental Transfers[c]	18	0	0	0	0	0	0	0	0	0	0	0
Outlays	45	44	45	45	46	46	47	48	48	49	50	50
End of Year Balance**	11	2	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
Transit Account												
Start-of-Year Balance	2	3	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	4
Intragovernmental Transfers[c]	4	0	0	0	0	0	0	0	0	0	0	0
Outlays[d]	8	8	8	8	8	9	9	9	10	10	9	10
End-of-Year Balance	3	1	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[a]
Memorandum												
Cumulative Shortfall[a]												
Highway Account	n.a.	n.a.	-8	-19	-29	-41	-52	-65	-79	-93	-108	-125
Transit Account	n.a.	n.a.	-3	-6	-9	-13	-17	-22	-27	-32	-37	-43

Notes: Details may not add to totals because of rounding.
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 Balanced Budget and Emergency Deficit Control Act of 1985, however, CBO's baseline for highway and transit spending must incorporate the assumption that obligations incurred by the Highway Trust Fund will be paid in full. As a result, the cumulative shortfalls shown here are estimated on the basis of spending that would occur if obligations from the fund each year were equal to the obligation limitations enacted for 2014, adjusted for projected inflation. To meet obligations as they come due, the Department of Transportation estimates, the highway account must maintain a cash balance of at least $4 billion and the transit account must maintain a balance of at least $1 billion.

b. Some of the 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. However, under the rules governing baseline projections, these estimates reflect the assumption that all of the expiring taxes credited to the fund continue to be collected.

c. Sections 40201 and 40251 of the Moving Ahead for Progress in the 21st Century Act (Public Law 112-140) and section 2002 of the Highway and Transportation Funding Act of 2014 (Public Law 113-159) required certain intergovernmental transfers, mostly from the general fund of the Treasury, to the Highway Trust Fund CBO's baseline does not reflect an assumption that additional transfers from the general fund would occur.

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

II. SELECTED METHODS TO ADDRESS THE HIGHWAY TRUST FUND SHORTFALL

A. Motor Fuel Tax Rate Adjustments

The gasoline tax, which began in 1932, was last increased in 1993 to its current rate of 18.3 cents per gallon on October 1, 1993. The diesel fuel tax, which began in 1951, also was last increased in 1993 (currently 24.3 cents per gallon).

The gasoline tax began in 1932 at one cent per gallon and was increased to 1.5 cents per gallon in 1934. The half-cent increase was rescinded by the Revenue Act of 1934 and restored by the Revenue Act of 1940. The tax increased to two cents per gallon in 1951. In addition to creating the Highway Trust Fund, the Highway Revenue Act of 1956 raised fuel taxes to three cents per gallon and directed that 100 percent of the proceeds from the tax go to the Highway Trust Fund. Subsequent changes include a rise to four cents per gallon in 1959, nine cents in 1983, and 14 cents in 1990. The 1990 tax had two components: a 11.5 cents per gallon tax rate and a 2.5 cents per gallon deficit reduction rate, totaling 14 cents per gallon. The Omnibus Budget Reconciliation Act of 1993 ("OBRA 1993") raised the deficit reduction rate to 6.8 cents per gallon, of which 4.3 cents per gallon went to the General Fund and 2.5 cents per gallon was redirected to the Highway Trust Fund. Combined with the 11.5 cents per gallon tax rate, the total tax rate under OBRA 1993 was 18.3 cents per gallon. The Taxpayer Relief Act of 1997 redirected the 4.3 cents from the General Fund to the Highway Trust Fund.[35]

The Federal government began taxing diesel fuel at a rate of two cents per gallon in 1951. As with gasoline taxes, the rate was increased to three cents by the Highway Revenue Act of 1956 and proceeds were directed to the Highway Trust Fund. Subsequently, the Federal diesel excise tax was raised to four cents per gallon in 1959, nine cents in 1982, 15 cents in 1985, 20 cents in 1990. The Omnibus Budget Reconciliation Act of 1990 tax had two components: a 17.5 cents per gallon tax rate and a 2.5 cents per gallon deficit reduction rate, totaling 20 cents per gallon. Diesel fuel excise taxes reached their current rate of 24.3 cents per gallon in 1993. OBRA1993 raised the 2.5 cents per gallon rate to 6.8 cents per gallon of which 4.3 cents per gallon went to the General Fund and 2.5 cents per gallon was redirected to the Highway Trust Fund. Combined with the 17.5 cents per gallon tax rate, the total tax rate under OBRA 1993 was 24.3 cents per gallon. The Taxpayer Relief Act of 1997, Pub. L. No. 105-34, redirected the 4.3 cents from the General Fund to the Highway Trust Fund.[36]

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[35] Revenue Act of 1932, Pub. L. No. 72-154, sec. 617; National Industrial Recovery Act, Pub. L. No. 73-67, sec. 211; Revenue Act of 1934, Pub. L. No. 73-218, sec. 603; Revenue Act of 1940, Pub. L. No. 76-656, sec. 210; Revenue Act of 1951, Pub. L. No. 82-183, sec. 489; Highway Revenue Act of 1956, Pub. L. No. 84-627, secs. 202, 209; Federal-Aid Highway Act of 1959, Pub. L. No. 86-342, sec. 201; the Surface Transportation Assistance Act of 1982, Pub. L. No. 97-424, sec. 511; the Omnibus Budget Reconciliation Act of 1990, Pub. L. No. 101-508, sec. 11211; Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, sec. 13241; and the Taxpayer Relief Act of 1997, Pub. L. No. 105-34,

[36] Revenue Act of 1951, Pub. L. No. 81-183, sec. 2450; Highway Revenue Act of 1956, Pub. L. No. 84-627, sec. 202; Federal-Aid Highway Act of 1959, Pub. L. No. 86-342, sec. 201; Surface Transportation Assistance Act of 1982, Pub. L. No. 97-424, sec. 511; Omnibus Budget Reconciliation Act of 1990, Pub. L. No. 101-508, sec.

Under present law the fuel taxes are not indexed and remain at their current fixed rates of 18.3 cents per gallon and 24.3 cents per gallon. Had the 18.3 and 24.3 cent per gallon tax rates been indexed, in 2015, the rates would be 31 cents per gallon for gasoline and 41.2 cents per gallon for diesel.

11211; Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, sec. 13241; and the Taxpayer Relief Act of 1997, Pub. L. No. 105-34.

B. Vehicle Miles Traveled Tax

Mileage-based tax system

A mileage-based tax system (also known as a vehicle miles traveled, or VMT, tax system) charges users a tax based on the number of miles traveled.[37] Unlike tolls, which are attached to a particular structure or area, mileage-based tax systems may directly charge users on all roads and for all driving. A VMT tax has the potential to improve the efficiency of highway financing because the tax can be calibrated closely to the costs that vehicles impose in terms of road damage and congestion, as the tax can vary based on time of day, congestion, type of road, type of vehicle, etc.[38] Fuel taxes might still be imposed in conjunction with a VMT tax, if the objective is to address the pollution costs from burning fossil fuels.

Experience with VMT systems is limited. In 2001, Oregon established a Road User Fee Task Force (the "Task Force") to develop recommendations to find a replacement for the fuel tax. The Task Force was an independent body of State legislators, transportation commissioners, local government officials and citizens. In 2003, the Task Force recommended a road user fee based on distance traveled as the best broad scale funding alternative to the fuel tax. In response to the Task Force recommendations, the Oregon Department of Transportation conducted two pilot programs, the first in 2006-2007, and the second in 2012-2013 (the "2013 pilot"). In light of the growing usage of wireless electronic devices by the general public, the 2013 pilot was conducted with an "open architecture," meaning the driver, rather than the government, selected the distance reporting technology from a group of plans meeting Oregon Department of Transportation specifications (some plans were administered by Oregon, some administered by private companies). With respect to the 2013 pilot, it was concluded that a VMT system can protect privacy, allow for multiple reporting and payment choices, and is easy to use. Following the 2013 pilot, the Oregon Legislature mandated an Oregon Road Usage Program involving up to 5,000 volunteers that will go into effect on July 1, 2015.[39]

A VMT tax program similar to the second Oregon pilot will likely have costs that will be incurred by the individual motorists. Examples of such costs include the cost of the selected mileage monitoring devices ($50 to $80 for the devices used in the pilot) and wireless data communication charges (estimated to be $3 to $5 per month in 2013). In addition, there are governmental costs for accounting systems, procurement contracts (compensation for providers of commercial account management), and enforcement activities. Oregon estimated that these portions of the system could cost approximately $420,000 annually to operate for 5,000 volunteer drivers.

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[37] Report of the National Surface Transportation Infrastructure Financing Commission, *Paying Our Way: A New Framework for Transportation Finance*, Feb. 2009, p. 128.

[38] *Ibid*.

[39] See Oregon Department of Transportation, "Road Usage Charge Pilot Program 2013 & Per-Mile Charge Policy in Oregon" (February 2014) http://www.oregon.gov/ODOT/HWY/RUFPP/docs/RUCPP%20Final%20Report%20-%20May%202014.pdf.

The implementation costs of a nationwide system of VMT taxes are not known, and would vary depending on the specific technologies chosen to track and report miles driven. One report based on preliminary Federal Highway Administration research estimates administrative costs for a nationwide VMT system would include $10 billion in capital costs for a billing agency and operating costs of 1.7 percent of revenues, compared with 1.0 percent for current fuel taxes.[40] The type of VMT tax system adopted could have different effects on the capital and ongoing operational costs. For example, a system where the taxes are collected at the pump, as they were in the initial Oregon pilot, might have higher initial capital costs, but lower operating costs, than a system where bills are sent from a central office to individual users. A pay at the pump system would need special methods for handling all-electric vehicles, however. Retrofitting existing vehicles with the necessary mileage tracking equipment would be more costly than equipment that came standard on new vehicles; however, the transition time until all vehicles are equipped at the factory would be long.

In the Netherlands, a proposed nationwide GPS-based VMT system for eight million Dutch vehicles (plus foreign users of Dutch roads) resulted in several private companies providing detailed cost estimates to implement the system, including administrative, collection and enforcement costs plus the costs of the on-board devices for recording miles travelled. For three such companies (Siemens, Vodafone, and T-Systems) whose cost estimates were readily attainable, the average estimated initial setup costs were $2.3 billion (approximately $218 per Dutch vehicle). The estimated annual operating costs averaged $668 million ($84 per Dutch vehicle) and estimated annual depreciation was an estimated $227 million ($28 per Dutch vehicle).[41] The estimated operating costs varied considerably depending on the sophistication of the on-board tracking. Systems that track and transmit mileage to a back office for determining tolls are less costly than an on-board device that can determine the actual toll and transmit only the toll information to the back office for billing. The latter systems provide more privacy and better information to the consumer about real-time tolling rates.

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[40] Report of the National Surface Transportation Infrastructure Financing Commission, Paying Our Way: A New Framework for Transportation Finance, Feb. 2009, p. 150.

[41] Transportation Research Board of the National Academies, National Cooperative Highway Research Program, Report 689, Costs of Alternative Revenue-Generation Systems, 2011.

C. Tolling[42]

The Congressional Research Service has noted the following with respect to the use of tolls as a method of financing:

> The failure of Federal highway user taxes and fees to provide sufficient revenues to support even baseline surface transportation spending levels has encouraged Congress to consider expanded toll financing. Congress has encouraged increased use of tolling in recent transportation legislation, including MAP-21. Recent projections of substantial annual gaps between revenue anticipated from taxes dedicated to surface transportation and the cost of maintaining the current federal surface transportation program have stimulated interest in changing tolling policy in conjunction with reauthorizing or replacing MAP-21.
>
> An expansion of tolling could be achieved in several ways. Additional tolling pilot projects could be encouraged and tolling-supported innovative finance could be provided, such as more loans for road and bridge construction through the U.S. Department of Transportation's ("DOT") Transportation Infrastructure Finance and Innovation Act ("TIFIA") program, which would be repaid through user tolls. Another option would be to allow States to toll Federal-aid highways as they see fit, or Interstate Highway segments could be converted to toll roads as they undergo reconstruction in the future, eventually turning all Interstates into toll roads.
>
> The amount of revenue that could be generated by tolling depends heavily on the way in which tolling is implemented. However, broader use of tolling faces a number of constraints. The costs of toll collection may exceed 10 percent of revenues, even if all tolls are collected electronically, not including the cost of physical infrastructure. This compares unfavorably to the cost of collecting the existing federal motor fuels taxes, estimated to be less than one percent of revenues. Many roads, even in urban areas, may not have sufficient traffic willing to pay a high enough toll to cover construction, maintenance, and toll collection costs. The availability of competing nontolled routes could lead to evasion if motorists consider tolls excessive.
>
> Efforts to make greater use of tolling are likely to draw attention to the Federal role in regulating tolls. Under current law, Federal approval is needed for initial implementation of tolls on roads and bridges that have received Federal aid, but the Federal government has no jurisdiction over toll rates. The law requires that bridge tolls "shall be just and reasonable," but provides no mechanism for enforcing that provision. More widespread use of tolls is likely to raise significant questions about differences in States' toll rates, preferential tolls for residents of particular jurisdictions, State attempts to collect tolls at borders rather than at internal locations where more residents would be affected, and the relationship between auto tolls and truck tolls. Congress may consider a more precise definition of the current "just and reasonable" requirement and clarify the role of DOT in enforcing tolling regulations and overseeing toll rates.

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[42] The following summary was largely taken from Robert S. Kirk, Congressional Research Service, *Tolling U.S. Highways* (Report R43575), May 30, 2014.