SELECTED TOPICS RELATING TO TAX AND INFRASTRUCTURE

Scheduled for a Public Hearing
Before the
HOUSE COMMITTEE ON WAYS AND MEANS
on May 19, 2021

Prepared by the Staff
of the
JOINT COMMITTEE ON TAXATION

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INTRODUCTION

The House Committee on Ways and Means has scheduled a hearing on May 19, 2021 entitled "Leveraging the Tax Code for Infrastructure Investment." This document,[1] prepared by the staff of the Joint Committee on Taxation, provides a description of present-law provisions relating to the funding sources for infrastructure, including certain infrastructure trust funds, their dedicated taxes and other funding options, such as a vehicle miles traveled tax. This document also provides an overview of tax incentives for the financing of infrastructure, including tax-exempt financing for public infrastructure, the new markets tax credit, qualified opportunity zones, public-private partnerships, the low-income housing tax credit, the rehabilitation credit for certified historic structures, and summarizes energy-related tax incentives.

[1] This document may be cited as follows: Joint Committee on Taxation, *Selected Topics Relating to Tax and Infrastructure* (JCX-25-21), May 17, 2021. This document can also be found on the Joint Committee on Taxation website at www.jct.gov. All section references herein are to the Internal Revenue Code of 1986, as amended (herein "Code"), unless otherwise stated.

I. INFRASTRUCTURE TRUST FUND EXCISE TAXES

A. Highway Trust Fund

The Highway Trust Fund was established in 1956 for the Federal role in highway construction and maintenance activities, including the Interstate Highway System. The Highway Trust Fund is divided into two accounts, a Highway Account and a Mass Transit Account,[2] each of which is the funding source for specific programs.[3] Periodic multiyear surface transportation acts authorize the taxes that support the Highway Trust Fund, the fund's expenditure levels, and the programs and activities these expenditures support. Expenditures from the Highway Trust Fund are authorized through September 30, 2021.[4] Since 2001, expenditures from the fund have exceeded the revenues and interest flowing into the Highway Trust Fund. Since FY2008, over $153 billion in Treasury General Fund and other transfers to the Highway Trust Fund have been made to address projected shortfalls between revenue and expenditures.[5]

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. The funds are distributed either by formula or on a discretionary basis through individual grant programs.

Revenue sources for the Highway Trust Fund

Six separate excise taxes are imposed to fund the Federal Highway Trust Fund program.[6] Three of these taxes are imposed on highway motor fuels and 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 highway tractors), a manufacturers' excise tax on heavy vehicle tires, and an annual use tax on heavy vehicles. In general, these taxes do not apply after September 30, 2022.[7] The annual use tax expires on September 30, 2023.

For fiscal year 2019, excise tax on gasoline produced $26.7 billion in taxes; the excise tax on diesel produced $10.1 billion in taxes; the excise tax on tires and tread rubber produced $0.5 billion in taxes; the heavy vehicle use tax produced $1.3 billion in taxes; the retail sales tax on trucks and trailers produced $5.1 billion in taxes; and the excise tax on other fuels (including

[2] The Mass Transit Account was established as part of the Surface Transportation Assistance Act of 1982, Pub. L. No. 97-424, Title V (the "Highway Revenue Act of 1982"), sec. 531 (January 6, 1983).

[3] Sec. 9503.

[4] Sec. 9503(c)(1).

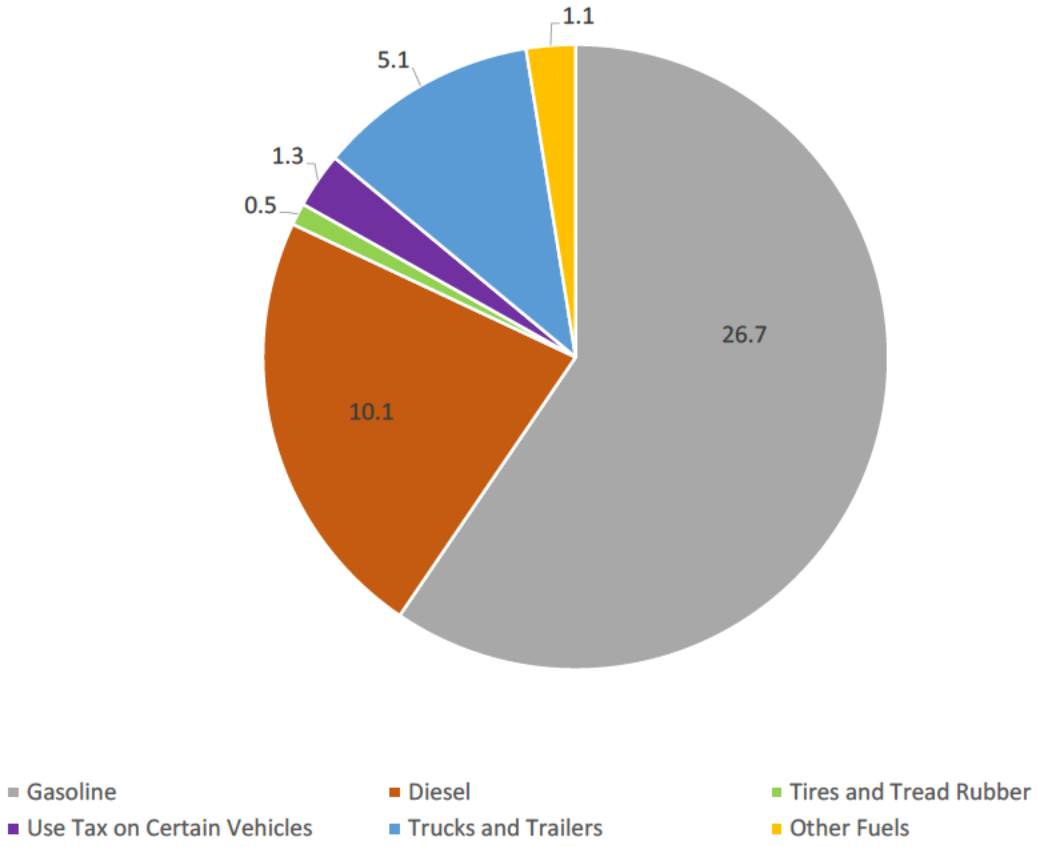
[5] Secs. 9503(f) (relating to General Fund transfers) and 9508(c)(2), (3) and (4) (relating to transfers from the Leaking Underground Storage Tank Trust Fund).

[6] Sec. 9503(b)(1).

[7] As discussed *infra* in the section relating to highway motor fuels taxes, 4.3 cents per gallon of the fuel tax rates is permanent and does not expire.

kerosene, liquefied natural gas and other alternative fuels) produced $1.1 billion in taxes.[8] For fiscal year 2019, the total tax revenue for the Highway Trust Fund was $44.2 billion.[9]

Figure 1.–Highway Trust Fund Tax Receipts
Fiscal Year 2019 by Source
($ Billions)



[8] Internal Revenue Service, Statistics of Income Bulletin, Historical Table 20, "Federal Excise Taxes Reported to or Collected by the Internal Revenue Service, Alcohol and Tobacco Tax and Trade Bureau, and Customs Service, by Type of Excise Tax, Fiscal Years 1999-2019," available at http://www.irs.gov/pub/irs-soi/histab20.xls.

[9] Motorboat fuel taxes and small engine fuel taxes, to the extent deposited in the Highway Trust Fund, are transferred to the Sport Fish Restoration and Boating Trust fund. Taxes attributable to kerosene used in aviation and aviation gasoline are dedicated to the Airport and Airway Trust Fund.

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:[10]

Fuel	Tax Rate
Gasoline	18.3 cents per gallon
Diesel fuel and kerosene	24.3 cents per gallon[11]
Alternative fuels	24.3 and 18.3 cents per gallon generally[12]

In general, all but 4.3 cents of these tax rates expire after September 30, 2022. The 4.3-cents-per-gallon portion of the fuels tax rates is permanent.[13]

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 tires. The rate is 9.45 cents for each 10 pounds of maximum rated load capacity over 3,500 pounds.[14] A "taxable tire" is any tire of the type used on highway vehicles if made of rubber (in whole or in part) and if marked according to Federal regulations for highway use.[15] "Rubber"

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[10] These fuels are subject to an additional 0.1-cent-per-gallon excise tax to fund the Leaking Underground Storage Tank ("LUST") Trust Fund, not the Highway Trust Fund. Secs. 4041(d) and 4081(a)(2)(B). That tax is imposed as an "add-on" to other existing taxes. These revenues are not credited to the Highway Trust Fund.

[11] 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).

[12] The rate of tax for liquefied petroleum gas is 18.3 cents per energy equivalent of a gallon of gasoline. In the case of liquefied natural gas, the rate is 24.3 cents per energy equivalent of a gallon of diesel. The rate of tax is 24.3 cents per gallon in the case of 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 tax rate for compressed natural gas is 18.3 cents per energy equivalent of a gallon of gasoline. See sec. 4041(a)(2) and (3).

[13] 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.

[14] Sec. 4071(a). Tire load capacity is the maximum load rating labeled on the tire pursuant to regulations promulgated by the Secretary of Transportation. In general, only tires with a maximum rated load capacity greater than 3,500 pounds are subject to tax. These parameters would generally exclude tires for passenger automobiles and light trucks. Passenger automobile tire loads generally fall in a range between 852 pounds (a tire rating of 74) and 1,764 pounds (a tire rating of 100), which is under the tire tax threshold of 3,500 pounds.

[15] 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

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.[16]

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

A 12-percent retail sales tax is imposed on the first retail sale of chassis and bodies of heavy trucks (over 33,000 pounds), chassis and bodies of trailers and semitrailers (over 26,000 pounds) and certain highway tractors.[17] 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 sale of a truck, trailer, or semitrailer is considered a sale of a chassis and a body.[18] 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.[19]

Annual use tax for heavy vehicles

An annual use tax is imposed on heavy highway vehicles, at the rates shown below.[20]

Vehicle Weight	**Tax Rate**
Under 55,000 pounds	No tax
55,000-75,000 pounds	$100 plus $22 per each 1,000 pounds (or fraction thereof) 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.

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).

[16] 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.

[17] Sec. 4051. The tax does not apply to a tractor 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.

[18] Sec. 4051(a)(5).

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

[20] Sec. 4481.

Overview of Highway Trust Fund expenditure provisions

Section 9503 authorizes expenditures (subject to appropriations) from the Highway Trust Fund through September 30, 2021, for the purposes provided in authorizing legislation in effect on the date of enactment of the "Continuing Appropriations Act, 2021 and Other Extensions Act."[21] Amounts equivalent to receipts from the highway excise taxes, as imposed through September 30, 2022, generally are transferred to the Highway Trust Fund.[22] Receipts 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 Highway Trust Fund to the Sport Fish Restoration and Boating Trust Fund through September 30, 2022, with the first $1,000,000 per fiscal year of such monies going to the Land and Water Conservation Fund instead.[23]

The Highway Trust Fund has two accounts: the Mass Transit Account and the Highway Account.[24] 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.[25] The Highway Account receives the balance of the monies dedicated to the Highway Trust Fund.

Projected balance of the Highway Trust Fund

The Congressional Budget Office ("CBO") projects that outlays from the Highway Trust Fund will exceed tax revenues and interest to the fund beginning in FY 2022 through FY 2031 see Table 1 below for both the Highway Account and Mass Transit Account. By FY 2031, the cumulative shortfall for the Highway Account is projected to reach approximately $140.5 billion, and $54.6 billion for the Mass Transit Account. Note that CBO's projections assume that taxes credited to the Highway Trust Fund will not expire as currently scheduled in 2022. The CBO projections presented in this document are from CBO's February 2021 baseline.

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[21] Pub. L. No. 116-159.

[22] The Highway Trust Fund also receives receipts from penalties imposed for violation of certain highway-related excise tax provisions. Sec. 9503(b)(5). The Trust Fund benefits from an additional, ongoing General Fund transfers representing refunds for certain tax overpayments and excise tax credits for biodiesel, renewable diesel, and alternative fuels being borne by the General Fund.

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

[24] 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.

[25] The Mass Transit Account also receives 1.43 cents per gallon for any partially exempt methanol or ethanol, 1.86 cents per energy equivalent of a gallon of diesel in the case of liquefied natural gas, 2.13 cents per energy equivalent of gasoline in the case of liquefied petroleum gas, and 9.71 cents per thousand cubic feet ("MCF") for compressed natural gas. Sec. 9503(e)(2).

Table 1.–Highway Trust Fund

Baseline Projections Highway Trust Fund Accounts

	Actual, 2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
BUDGET INFORMATION												
Millions of dollars, by fiscal year												
Highway Account												
Start-of-Year Balance	24,652	12,541	8,447	a	a	a	a	a	a	a	a	a
Flexed Balances[b]	-1,556	-1,200	-1,200	-1,200	-1,200	-1,200	-1,200	-1,200	-1,200	-1,200	-1,200	-1,200
Revenues and Interest[c]	37,710	32,462	37,470	37,509	37,533	37,595	37,625	37,647	37,678	37,746	37,821	37,888
Intragovernmental Transfers[d]	0	10,400	0	0	0	0	0	0	0	0	0	0
Outlays	48,265	45,756	44,876	45,792	47,223	49,215	51,163	52,648	53,823	55,158	56,216	57,382
End-of-Year Balance	12,541	8,447	a	a	a	a	a	a	a	a	a	a
Transit Account												
Start-of-Year Balance	8,254	5,126	3,870	a	a	a	a	a	a	a	a	a
Flexed Balances[b]	1,556	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Revenues and Interest[c]	5,249	4,463	5,192	5,187	5,169	5,145	5,121	5,097	5,069	5,045	5,024	5,000
Intragovernmental Transfers[d]	0	3,200	0	0	0	0	0	0	0	0	0	0
Outlays	9,934	10,119	10,429	10,922	11,684	12,088	12,298	12,510	12,580	12,762	12,999	13,239
End-of-Year Balance	5,126	3,870	a	a	a	a	a	a	a	a	a	a
Memorandum:												
Cumulative Shortfall[a]												
Highway Account	n.a.	n.a.	-159	-9,643	-20,533	-33,354	-48,092	-64,294	-81,638	-100,250	-119,845	-140,539
Transit Account	n.a.	n.a.	-167	-4,702	-10,017	-15,760	-21,736	-27,950	-34,261	-40,777	-47,553	-54,592

Components may not sum to totals because of rounding; n.a. = not applicable.
See next page for notes.

a. Under current law, the Highway Trust Fund cannot incur negative balances. However, following the rules governing baseline projections in the Balanced Budget and Emergency Deficit Control Act of 1985, CBO's baseline for surface transportation spending reflects the assumption that obligations presented to the Highway Trust Fund will be paid in full. The memorandum to this table shows the cumulative shortfall of fund balances, assuming spending amounts consistent with CBO's February 2021 baseline. Following the rules for baseline construction, those amounts are estimated by adjusting the obligation limitations enacted under Public Law 116-260, the Consolidated Appropriations Act, 2021, by projected inflation.

b. Flexed balances are amounts transferred from the highway account to the transit account.

c. Some of the taxes that are credited to the Highway Trust Fund are scheduled to expire on September 30, 2022, including the taxes on 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 will continue to be collected after fiscal year 2022.

d. Section 1204 of the Continuing Appropriations Act, 2021 and Other Extensions Act (P.L. 116-159) required certain intragovernmental transfers from the general fund of the Treasury to the Highway Trust Fund.

Source: Provided by the Congressional Budget Office.

B. Airport and Airway Trust Fund Excise Taxes[26]

Revenues dedicated to the Airport and Airway Trust Fund

Excise taxes are imposed on amounts paid for commercial air passenger and freight transportation and on fuels used in commercial and noncommercial (*i.e.*, transportation that is not "for hire") aviation to fund the Airport and Airway Trust Fund.[27] The present aviation excise taxes are as follows:

Tax (and Code section)	Tax Rates
a. Domestic air passengers (sec. 4261)	7.5 percent of fare, plus $4.30 (2021) per domestic flight segment generally[28]
b. International air passengers (sec. 4261)	$19.10 (2021) per arrival or departure[29]
c. Amounts paid for right to award free or reduced rate passenger air transportation (sec. 4261)	7.5 percent of amount paid
d. Air cargo (freight) transportation (sec. 4271)	6.25 percent of amount charged for domestic transportation; no tax on international cargo transportation
e. Aviation fuels (sec. 4081):[30]	
i. Commercial aviation	4.3 cents per gallon
ii. Non-commercial (general) aviation:	
Aviation gasoline	19.3 cents per gallon
Jet fuel	21.8 cents per gallon
f. Surtax on fuel used in fractional ownership program aircraft (sec. 4043)	14.1 cents per gallon

[26] The Airport and Airway Trust Fund excise taxes (except for 4.3 cents per gallon of the taxes on aviation fuels) are scheduled to expire after September 30, 2023. The 4.3-cents-per-gallon fuels tax rate is permanent. However, for Federal budget scorekeeping purposes, the statutory expiration date is disregarded, and the full amount of the taxes is assumed to be permanent.

[27] Air transportation through U.S. airspace that neither lands in nor takes off from a point in the United States (or the 225-mile zone) is exempt from the aviation excise taxes, but the transportation provider is subject to certain "overflight fees" imposed by the Federal Aviation Administration pursuant to Congressional authorization. The term "225-mile zone" means that portion of Canada and Mexico that is not more than 225 miles from the nearest point in the continental United States. Sec. 4262(c)(2)

[28] A segment consists of a single takeoff and a single landing which is taxable transportation. The domestic flight segment portion of the tax is adjusted annually (effective each January 1) for inflation. Rev. Proc. 2020-45, sec. 3.45 (2020).

[29] The international arrival and departure tax rate is adjusted annually for inflation. For a domestic segment that begins or ends in Alaska or Hawaii, a reduced tax per person applies only to departures. For calendar year 2020, that reduced rate is $9.60 per departure (to/from mainland United States). *Ibid*.

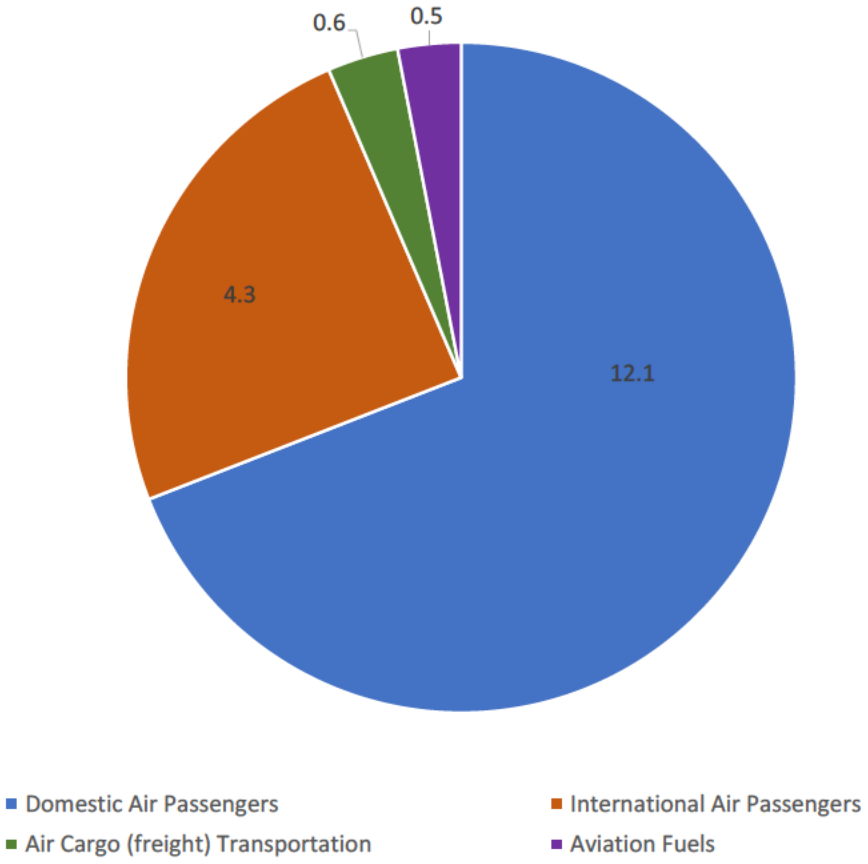
[30] As noted in the section related to the Highway Trust Fund, kerosene generally is taxed at 24.3 cents per gallon. For kerosene used in aviation, these reduced rates apply when the kerosene is removed directly from the terminal into the fuel tank of an aircraft for use in commercial or noncommercial aviation. Under certain conditions,

For fiscal year 2019, domestic air passengers produced $12.1 billion in taxes; international air passengers produced $4.3 billion in taxes; air cargo (freight) transportation produced $0.6 billion in taxes, and aviation fuels produced $0.5 billion in taxes.[31] For fiscal year 2019, the total tax revenue for the Airport and Airway Trust Fund was $17.5 billion.

refueler trucks, tankers, and tank wagons are treated as terminals. There is no tax on kerosene removed directly into the fuel tank of an aircraft for use in foreign trade. In addition, like most other taxable motor fuels, aviation fuels are subject to an additional 0.1-cent-per-gallon excise tax to fund the LUST Trust Fund. For kerosene removed directly into the fuel tank of an aircraft for a use exempt from tax under section 4041(c) (such as use in an aircraft for the exclusive use of a state or local government), the rate of tax is 0.1 cent per gallon.

[31] Internal Revenue Service, Statistics of Income Bulletin, Historical Table 20, "Federal Excise Taxes Reported to or Collected by the Internal Revenue Service, Alcohol and Tobacco Tax and Trade Bureau, and Customs Service, by Type of Excise Tax, Fiscal Years 1999-2019," available at http://www.irs.gov/pub/irs-soi/histab20.xls.

Figure 2.–Airport and Airway Trust Fund Receipts
Fiscal Year 2019 by Source
($ Billions)



Overview of Airport and Airway Trust Fund expenditure provisions

In general

The Airport and Airway Trust Fund was established in 1970 to finance a major portion of national aviation programs (previously funded entirely with General Fund revenues). Operation of the Airport and Airway Trust Fund is governed by parallel provisions of the Code and authorizing statutes.[32] The Code provisions govern deposits of revenues into the trust fund and approve expenditure purposes in authorizing statutes as in effect on the date of enactment of the latest authorizing Act. The authorizing Acts provide for specific trust fund expenditure programs.

[32] Sec. 9502 and 49 U.S.C. sec. 48101, et seq.

Authorized expenditures from the Airport and Airway Trust Fund include the following principal programs:

- Airport Improvement Program ("AIP") (airport planning, construction, noise compatibility programs, and safety projects);
- Facilities and Equipment ("F&E") program (costs of acquiring, establishing, and improving the air traffic control facilities);
- Research, Engineering, and Development ("RE&D") program (Federal Aviation Administration research and development activities); and
- Federal Aviation Administration Operations and Maintenance ("O&M") programs.

Projected balance of the Airport and Airway Trust Fund

The Coronavirus Aid, Relief, and Economic Security Act (CARES Act), enacted on March 27, 2020, provided an excise tax holiday that suspended certain aviation excise taxes. The excise tax holiday began on March 28, 2020 and ended December 31, 2020. During the excise tax holiday, no tax was imposed on kerosene used in commercial aviation. The excise taxes imposed on amounts paid for the transportation or persons and property by air were also suspended during the excise tax holiday. To address a potential shortfall, the Continuing Appropriations Act, 2021 and Other Extensions Act, Congress transferred $14 billion to the Airport and Airway Trust Fund from the General Fund.

CBO projects that tax revenues, transfers, and interest to the Airport and Airway Trust Fund will exceed outlays of the fund throughout the 2021-2031 budget window, see Table 2 below. As a result, the end of year cash balance of the fund is expected to remain above $13 billion throughout the budget window, concluding in FY 2031 at $18.9 billion. Note that CBO's projections assume that taxes credited to the Airport and Airway Trust Fund will continue to be collected after the current scheduled expiration in 2023.

Table 2.–Airport and Airport Trust Fund

Baseline Projections Airport and Airway Trust Fund

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Millions of dollars, by fiscal year											
Cash Balances											
Start-of-Year Balance	17,322	19,284	14,799	13,092	13,008	13,250	13,705	14,361	15,203	16,252	17,512
Excise Tax Revenues[a]	9,401	14,615	16,151	17,730	18,366	18,947	19,511	20,081	20,673	21,268	21,797
Transfers from General Fund for AIP[b]	2,400	408	416	425	434	443	453	464	474	484	494
Other General Fund Transfers[c]	14,000	0	0	0	0	0	0	0	0	0	0
Interest	266	154	117	133	157	177	203	226	276	331	391
Outlays	24,105	19,662	18,391	18,372	18,715	19,112	19,511	19,929	20,374	20,822	21,271
End-of-Year Balance	19,284	14,799	13,092	13,008	13,250	13,705	14,361	15,203	16,252	17,512	18,923
Uncommitted Balances											
Start-of-Year Balance	-1,891	4,552	1,827	316	100	217	606	1,243	2,115	3,270	4,716
Change in Balance[d]	6,443	-2,725	-1,511	-216	117	389	637	872	1,155	1,447	1,676
End-of-Year Balance	4,552	1,827	316	100	217	606	1,243	2,115	3,270	4,716	6,392
Summary of Spending Authority											
Total Spending Authority[e]	19,624	17,902	18,195	18,504	18,840	19,178	19,530	19,899	20,268	20,636	21,006
Amounts Made Available from Trust Fund	17,224	17,494	17,779	18,079	18,406	18,735	19,077	19,435	19,794	20,152	20,512
Amounts Made Available from Transfers[b]	2,400	408	416	425	434	443	453	464	474	484	494
Percentage Made Available from Trust Fund	88	98	98	98	98	98	98	98	98	98	98
Percentage Made Available from Transfers [b]	12	2	2	2	2	2	2	2	2	2	2
FAA Operations Budget Authority	11,002	11,216	11,441	11,679	11,938	12,199	12,470	12,754	13,038	13,322	13,606
Derived from Trust Fund	10,519	10,719	10,929	11,150	11,392	11,634	11,886	12,149	12,412	12,675	12,938
Derived from General Fund	483	497	512	529	546	565	584	605	626	647	668
Percentage Derived from Trust Fund	96	96	96	95	95	95	95	95	95	95	95
Percentage Derived from General Fund	4	4	4	5	5	5	5	5	5	5	5
Memorandum:											
Grants-in-Aid for Airports: Contract Authority	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350
Grants-in-Aid for Airports: Obligation Limitations	3,350	3,415	3,484	3,557	3,636	3,715	3,799	3,886	3,973	4,059	4,146
Total New Discretionary Resources (BA plus Obligation Limitations)	19,624	17,967	18,329	18,711	19,126	19,543	19,979	20,435	20,891	21,345	21,802

Components may not sum to totals because of rounding; AIP = Airport Improvement Program; FAA = Federal Aviation Administration; RE&D = Research, Engineering, and Development.

a. The projected revenues for the Airport and Airway Trust Fund over the next several years are highly uncertain because they depend on how quickly air travel returns to pre-pandemic volumes.

b. These amounts equal the sum of discretionary appropriations for the AIP and funding for the Airport Coronavirus Response Grant Program provided under the Consolidated Appropriations Act, 2021 (P.L. 116-260).

c. The Continuing Appropriations Act, 2021 and Other Extensions Act (P.L. 116-159) appropriated a onetime transfer of $14 billion from the general fund to the Airport and Airway Trust Fund.

d. The change in uncommitted balance equals excise tax revenues plus transfers and interest minus total spending authority.

e. These amounts equal the sum of contract authority for the AIP, general fund transfers for the AIP, and budget authority for the trust fund share of FAA Operations, Facilities and Equipment, RE&D, and Payments to Air Carriers.

Source: Provided by the Congressional Budget Office.

C. Inland Waterways Trust Fund Excise Tax

Tax and exemptions

A 29-cents-per-gallon excise tax is imposed on fuel used in powering commercial cargo vessels on a designated system of inland or intra-coastal waterways (the "inland waterways excise tax").[33] This tax is permanent. The tax applies to fuel used on any specified inland or intra-coastal waterway of the United States in the business of transporting property (other than fish or other aquatic animal life caught on the voyage) for compensation or hire, or in transporting property in the business of the owner, lessee, or operator of the vessel other than fish or other aquatic animal life caught on the voyage.[34] The inland waterways excise tax is a use tax, imposed on the boat operator.

Exemptions are provided for vessels designed primarily for use on the high seas which have a draft of more than 12 feet ("deep-draft ocean-going vessels"), for vessels used primarily for transportation of persons, and for State or local government vessels engaged in governmental business.[35]

For fiscal year 2019, the Inland Waterways Trust Fund financing rate produced approximately $108.7 million in taxes.[36]

Overview of Inland Waterways Trust Fund expenditure provisions

Operation of the Inland Waterways Trust Fund is governed by parallel provisions of the Code and authorizing statutes.[37] The Code provisions govern deposit of receipts from the fuel tax into the Trust Fund and approve general expenditure purposes. The authorizing statutes specify expenditure programs.

Amounts in the Inland Waterways Trust Fund are available, as provided by appropriation Acts, for making construction and rehabilitation expenditures for navigation on the inland and coastal waterways of the United States described in section 206 of the Inland Waterways

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[33] Sec. 4042. Like other taxable motor fuels, inland waterway fuels are subject to an additional excise tax of 0.1 cents per gallon to fund the LUST Trust Fund.

[34] The term "inland or intra-coastal waterway of the United States" means any inland or intra-coastal waterway of the United States which is described in section 206 of the Inland Waterways Revenue Act of 1978 and includes the Mississippi River upstream from Baton Rouge, Louisiana, the Mississippi River's tributaries, and specified waterways, including the Gulf of Mexico and Atlantic Intra-coastal Waterways, and the Tennessee-Tombigbee Waterway.

[35] Sec. 4042(c)(4) also provides an exemption with respect to certain of LASH (lighter-aboard-ship) and SEABEE ocean-going barges. However, LASH and SEABEE vessels are no longer in use.

[36] Internal Revenue Service, Statistics of Income Bulletin, Historical Table 20, "Federal Excise Taxes Reported to or Collected by the Internal Revenue Service, Alcohol and Tobacco Tax and Trade Bureau, and Customs Service, by Type of Excise Tax, Fiscal Years 1999-2019," available at http://www.irs.gov/pub/irs-soi/histab20.xls.

[37] Sec. 9506 and 33 U.S.C. sec. 2212.

Revenue Act of 1978, as in effect on the date of the enactment of section 9506. There is a limit of 50 percent that may be paid from the Inland Waterways Trust Fund for the cost of any construction under section 102(a) of the Water Resources Development Act of 1986 (as in effect on the date of enactment of sec. 9506). The remaining 50 percent is to be paid from the General Fund.

Projected balance of the Inland Waterways Trust Fund

CBO projects that outlays from the Inland Waterways Trust Fund will exceed revenues throughout the 2021-2031 budget window, see Table 3 below. As a result, a cumulative shortfall is projected beginning in FY 2028. By FY 2031, the cumulative shortfall is expected to be $211 million.

Table 3.–Inland Waterways Trust Fund

Projected Balances in the Inland Waterways Trust Fund Under CBO's February 2021 Baseline

	Actual, 2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Balances, Revenues, Interest and Spending												
Millions of dollars, by fiscal year												
Start-of-Year Balance	69	131	122	112	100	86	69	49	25	n.a.	n.a.	n.a.
Tax Revenues and Interest	112	104	105	105	105	105	104	103	102	101	99	99
Budget Authority[a]	50	113	115	117	119	122	124	127	129	132	135	137
End-of-Year Balance	131	122	112	100	86	69	49	25	n.a.	n.a.	n.a.	n.a.
Memorandum:												
Estimated Cumulative Shortfall[b]									-2	-33	-69	-107

Components may not sum to totals because of rounding; n.a. = not applicable.

a. The budget authority provided in 2021 is inflated in the baseline to provide an estimate of the appropriation level for the outyears. Each year the budget authority is transferred out of the trust fund to the Corps of Engineers construction account and expended over a few years. Estimates of trust fund balances reflect CBO's best estimate of likely outcomes under current law. Actual balances could be higher or lower, depending on the accuracy of revenue and spending estimates.

b. Under current law, the Inland Waterways Trust Fund cannot incur negative balances. However, following the rules governing baseline projections in the Balanced Budget and Emergency Deficit Control Act of 1985, CBO's baseline for inland waterway spending reflects the assumption that obligations presented to the Inland Water Trust Fund will be paid in full. The memorandum to this table shows the cumulative shortfall of fund balances assuming spending consistent with CBO's February 2021 baseline. Following the rules for baseline construction, those amounts are estimated by adjusting the obligation limitations enacted under the P.L. 116-260, the Consolidated Appropriations Act, 2021, by projected inflation.

Source: Provided by the Congressional Budget Office

D. Harbor Maintenance Trust Fund Excise Tax

Tax and exemptions

A 0.125-percent excise tax is imposed on the value of commercial cargo loaded or unloaded at taxable United States ports and on charges for transportation of passengers to or from such ports.[38] No tax is imposed on cargo movements within a U.S. port. The tax is permanent. Unlike most Federal excise taxes, the harbor maintenance excise tax is administered by U.S. Customs and Border Protection (rather than the Internal Revenue Service or the Treasury Department's Alcohol and Tobacco Tax and Trade Bureau (the "TTB")). Administrative rules applicable to the tax are those applicable to customs duties. Shippers and importers are liable for the tax.

The tax generally is imposed on all cargo (other than exports) and passengers that are loaded or unloaded at a U.S. port, defined as any channel or harbor in the United States that is open to public navigation. The tax does not apply to waterways where the inland waterways fuels excise tax is imposed or to ports with respect to which no Federal funds have been used since 1977 for construction, maintenance, or operation, or which were de-authorized by Federal law before 1985. Transportation at ports on the Columbia River is taxable only if the ports are downstream of the Bonneville lock and dam.

In addition to exported cargo, the tax does not apply to cargo shipped between the continental United States and Alaska (except for crude oil), Hawaii, and/or U.S. possessions, or to cargo shipped between Alaska, Hawaii, and/or such possessions for ultimate use or consumption in those locations. This exemption includes intra-state/U.S. possession cargo movements as well as passenger cruises within Alaska or Hawaii that also include travel in international waters, if the cruises do not include any stops at ports of call located outside the State from which the cruise begins. Transportation on regularly scheduled ferries transporting passengers (and their vehicles) that operate within the United States or between the United States and contiguous countries (*e.g.*, Canada) are not subject to tax. There is an exemption for cargo owned by nonprofit organizations that is intended for use in humanitarian or development assistance overseas and by U.S. government agencies. Ships' stores and fish (not previously loaded on shore) also are exempt.

For fiscal year 2020, the harbor maintenance tax produced $1.4 billion in taxes.

Overview of Harbor Maintenance Trust Fund expenditure provisions

Operation of the Harbor Maintenance Trust Fund is governed by parallel provisions of the Code and authorizing statutes.[39] The Code provisions govern deposits of revenues into the Harbor Maintenance Trust Fund and approve general expenditure programs. The authorizing statutes specify expenditure programs.

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[38] Sec. 4461.

[39] Sec. 9505 and Pub. L. No. 104-303.

The Harbor Maintenance Trust Fund generally is used for financing the operations and maintenance costs for Federally authorized public harbors and channels for commercial navigation incurred in carrying out section 210 of the Water Resources Development Act of 1986 (as in effect on the date of the enactment of the Water Resources Development Act of 1996). The U.S. Army Corps of Engineers oversees the harbor maintenance activities. Harbor Maintenance Trust Fund expenditures have principally been for the operations and maintenance costs of access channels to deep-draft harbors, *i.e.*, dredging expenses and not channel deepening projects.

Certain ancillary activities directly related to maintenance dredging or related to keeping a waterway unobstructed also are financed from the Harbor Maintenance Trust Fund.[40] Further, the administrative costs of collecting the harbor maintenance tax (not to exceed $5 million for any fiscal year) are authorized to be paid from the Trust Fund.

Projected balance of the Harbor Maintenance Trust Fund

CBO projects that end of year cash balances are projected to remain above $8 billion throughout the budget window. By FY 2031, the end of year cash balance of the fund is expected to reflect a small increase, growing from $9.1 billion in FY 2021 to $9.6 billion in FY 2031.

[40] See 33 U.S.C. sec. 2241(2).

Table 4.–Harbor Maintenance Trust Fund

Projected Balances in the Harbor Maintenance Trust Fund Under CBO's February 2021 Baseline

	Actual, 2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Balances, Revenues, Interest and Spending												
Millions of dollars, by fiscal year												
Start-of-Year Balance	9,307	9,146	8,943	8,790	8,670	8,594	8,579	8,628	8,731	8,880	9,071	9,306
Tax Revenues and Interest	1,449	1,518	1,600	1,668	1,749	1,849	1,953	2,048	2,138	2,224	2,309	2,390
Budget Authority[a]	1,610	1,721	1,753	1,787	1,826	1,864	1,904	1,945	1,989	2,032	2,074	2,118
End-of-Year Balance	9,146	8,943	8,790	8,670	8,594	8,579	8,628	8,731	8,880	9,071	9,306	9,578
Memorandum:												
Estimated Limits on Budget Authority Exempted from the Cost Estimates[b]			2,099	2,274	2,457	2,624	2,801	3,092	3,278	3,444	3,597	3,566

Components may not sum to totals because of rounding.

a. Reflects the total amount of funding appropriated from the Harbor Maintenance Trust Fund (HMTF) in 2021, plus anticipated inflation. Each year the budget authority is transferred from the HMTF to other federal accounts and expended over a few years. Historically over 95 percent of the budget authority is transferred to the Corps of Engineers and the remaining amounts are transferred to the Saint Lawrence Seaway Development Corporation and to the U.S. Customs and Border Protection.

b. Under the Water Resources Development Act of 2020 (WRDA, enacted as division AA of Public Law 116-260), certain amounts appropriated from the HMTF for Corps of Engineers Programs—up to specified limits—are excluded from estimates of appropriation legislation for the purposes of the Congressional Budget Act of 1974 and the Balanced Budget and Emergency Deficit Control Act of 1985. For each of fiscal years 2021 through 2030, the maximum amount that can be excluded equals the total amount deposited in the HMTF during the fiscal year that is two years prior to the year for which the appropriation is made plus an adjustment specified in section 101 of WRDA.

Source: Provided by the Congressional Budget Office.

II. TRADITIONAL FINANCING AND OTHER TAX INCENTIVES

A. Tax-Exempt Financing for Public Infrastructure

Overview

Interest paid on bonds issued by State and local governments generally is excluded from gross income for Federal income tax purposes. Because of the income exclusion, investors generally are willing to accept a lower interest rate on tax-exempt bonds than they might otherwise accept on a taxable investment. This, in turn, lowers the borrowing costs for the beneficiaries of such financing.

Bonds issued by State and local governments may be classified as either governmental bonds or private activity bonds. Governmental bonds are bonds the proceeds of which are primarily used to finance governmental functions or which are repaid with governmental funds. Private activity bonds are bonds in which the State or local government serves as a conduit providing financing to nongovernmental persons (*e.g.*, private businesses or individuals). The exclusion from income for interest paid on State and local bonds does not apply to private activity bonds, unless the bonds are issued for certain permitted purposes ("qualified private activity bonds") and other Code requirements are met.

Like other activities carried out and paid for by State and local governments, the construction, renovation, and operation of governmental infrastructure projects are eligible for financing with the proceeds of governmental bonds. In addition, certain privately used infrastructure projects may be financed with qualified private activity bonds.

Tax-exempt governmental bonds

Present law does not limit the types of facilities that can be financed with governmental bonds. Thus, State and local governments can issue tax-exempt, governmental bonds to finance a broad range of infrastructure projects, including highways, railways, airports, and sewage facilities. However, while the types of projects eligible for governmental bond financing are not circumscribed, present law imposes restrictions on the parties that may benefit from such financing. For example, present law limits the amount of governmental bond proceeds that can be used by nongovernmental persons. Use of bond proceeds by nongovernmental persons in excess of amounts permitted by present law may result in such bonds being treated as taxable private activity bonds, rather than governmental bonds. The Code defines a private activity bond as any bond that satisfies (1) the private business use test and the private security or payment test ("the private business test"), or (2) "the private loan financing test."[41] Generally, private activity bonds are taxable unless issued as qualified private activity bonds.

[41] Sec. 141. For a more detailed description of the private activity bond tests, see Joint Committee on Taxation, *Overview of Selected Provisions Relating to the Financing of Surface Transportation Infrastructure* (JCX-97-15), June 23, 2015. This document can be found on the Joint Committee on Taxation website at www.jct.gov.

Qualified private activity bonds

Qualified private activity bonds are tax-exempt private activity bonds issued to provide financing for specified privately used facilities. The definition of a qualified private activity bond includes an exempt facility, qualified mortgage, veterans' mortgage, small issue, redevelopment, 501(c)(3), or student loan bond.[42]

Exempt facility bonds are often used to finance infrastructure projects. To qualify as an exempt facility bond, 95 percent of the net proceeds must be used to finance an eligible facility.[43] Facilities eligible for this financing include the following:

- Airports,
- Ports (docks and wharves),
- Mass commuting facilities,
- Facilities for the furnishing of water,
- Sewage facilities,
- Solid waste disposal facilities,
- Qualified residential rental projects,
- Facilities for the local furnishing of electric energy or gas,
- Local district heating or cooling facilities,
- Qualified hazardous waste facilities,
- High-speed intercity rail facilities,
- Environmental enhancements of hydro-electric generating facilities,
- Qualified public educational facilities,
- Qualified green building and sustainable design projects, and
- Qualified highway or surface freight transfer facilities.[44]

Generally, qualified private activity bonds are subject to a number of eligibility restrictions that do not apply to governmental bonds. For example, the aggregate volume of most qualified private activity bonds is restricted by annual State volume limitations (the "State

[42] Sec. 141(e).

[43] Sec. 142(a).

[44] Sec. 142(a)(1)-(15).

volume cap").[45] For calendar year 2021, the State volume cap, which is indexed for inflation, equals $110 per resident of the State, or $324,995,000, if greater.[46]

Qualified private activity bonds also are subject to additional limitations under section 147, including a substantial user limit, a bond maturity restriction, a limit on financing land acquisition, a limit on financing existing property absent substantial rehabilitation, certain prohibited facilities, a public approval requirement, and a limit on financing issuance costs.

Rules governing private activity bonds for selected infrastructure facilities

Airports

Exempt facility bonds may be issued to finance airports. Exempt facility bonds for airports are not subject to the State volume cap. However, all tax-exempt-bond-financed airport property must be governmentally owned. Property eligible for this financing includes land, terminals, runways, public parking facilities, and related equipment. Airplanes are not eligible for tax-exempt financing. Additionally, certain real property facilities (and related equipment) are excluded from this financing: (1) hotels and other lodging facilities; (2) retail facilities (including food and beverage facilities) located in a terminal, if the facilities are in excess of a size necessary to serve passengers and employees at the airport; (3) office buildings for individuals who are not employees of a governmental unit or of the public airport operating authority; and (4) industrial parks or manufacturing facilities.

Port facilities

Exempt facility bonds may be issued to finance port ("dock and wharf") facilities and related storage and training facilities. Facilities that are specifically ineligible for financing with airport bonds may not be financed with port bonds. Further, ships and other vessels are not eligible for private activity tax-exempt bond financing. All property financed with these bonds must be governmentally owned. Exempt facility bonds issued for ports are not subject to the State volume cap.

Mass commuting facilities

Exempt facility bond financing for mass commuting facilities is subject to restrictions similar to those that apply to such bonds for airports and port facilities. All property financed

[45] The following private activity bonds are not subject to the State volume cap: qualified 501(c)(3) bonds, exempt facility bonds for airports, docks and wharves, environmental enhancements for hydroelectric generating facilities, and exempt facility bonds for solid waste disposal facilities that are to be owned by a governmental unit. The State volume cap does not apply to 75 percent of exempt facility bonds issued for high-speed intercity rail facilities (100 percent if the high-speed intercity rail facility is to be owned by a governmental unit). Qualified veterans mortgage bonds, qualified public educational facility bonds, qualified green building and sustainable project design bonds, and qualified highway or surface freight transfer facility bonds also are not subject to the State volume cap, but the Code subjects such bonds to volume limitations specific to the category of bonds.

[46] Rev. Proc. 2020-45, 2020-46 I.R.B. 1016, p. 1022, November 9, 2020.

with these bonds must be governmentally owned. Further, "rolling stock" (*e.g.*, buses and rail cars) is not eligible for financing with exempt facility bonds.

High-speed intercity rail facilities

The definition of an exempt facility bond includes bonds issued to finance high-speed intercity rail facilities.[47] A facility qualifies as a high-speed intercity rail facility if it is a facility (other than rolling stock) for fixed guideway rail transportation of passengers and their baggage between metropolitan statistical areas.[48] The facilities must use vehicles that are reasonably expected to be capable of attaining a maximum speed in excess of 150 miles per hour between scheduled stops, and the facilities must be made available to members of the general public as passengers.

Unlike other bond-financed transportation facilities, high-speed intercity rail facilities may be privately owned. However, if the bonds are to be issued for a nongovernmental owner of the facility, such owner must irrevocably elect not to claim depreciation or credits with respect to the property financed by the net proceeds of the issue.[49]

Seventy-five percent of the principal amount of the bonds issued for high-speed rail facilities is exempt from the volume cap.[50] If all the property to be financed by the net proceeds of the issue is to be owned by a governmental unit, then such bonds are completely exempt from the volume cap.

Qualified highway or surface freight transfer facility bonds

Present law authorizes the issuance of tax-exempt private activity bonds to finance qualified highway or surface freight transfer facilities. A qualified highway facility or surface freight transfer facility is: (1) a surface transportation project which receives Federal assistance under title 23 of the United States Code; (2) an international bridge or tunnel project (for which an international entity authorized under Federal or State law is responsible) which receives Federal assistance under title 23 of the United States Code; or (3) any facility for the transfer of freight from truck to rail or rail to truck which receives Federal assistance under title 23 or title 49 of the United States Code.

Qualified highway or surface freight transfer facility bonds are not subject to the State volume limitations. Rather, the Secretary of Transportation is authorized to allocate a total of

[47] Secs. 142(a)(11) and 142(i).

[48] A metropolitan statistical area for this purpose is defined by reference to section 143(k)(2)(B). Under that provision, the term "metropolitan statistical area" includes the area defined as such by the Secretary of Commerce.

[49] Sec. 142(i)(2).

[50] Sec. 146(g)(4).

$15 billion of issuance authority to qualified highway or surface freight transfer facilities in such manner as the Secretary determines appropriate.[51]

The qualified highway or surface freight transfer facility bond provision was enacted in 2005 as part of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users ("SAFETEA-LU").[52] As reflected below, as of April 2, 2021, the Department of Transportation has made allocations of approximately $14.72 billion of the $15 billion it is authorized to allocate. Of the $14.72 billion that has been allocated, approximately $13.54 billion of bonds have been issued.[53]

Bonds Issued (In Thousands of Dollars)

Capital Beltway HOT Lanes, VA	$589,000
North Tarrant Express, TX	$400,000
IH 635 Managed Lanes (LBJ Freeway), TX	$615,000
Denver RTD Eagle Project (East Corridor & Gold Line), CO[54]	$397,835
CentralPoint Intermodal Center, Joliet, IL	$150,000
CentralPoint Intermodal Center, Joliet, IL	$75,000
Downtown Tunnel/Midtown Tunnel/MLK Extension, Norfolk, VA	$675,004
I-95 HOV/HOT Lanes, Northern VA	$241,950
Ohio River Bridges East End Crossing, IN	$676,805
North Tarrant Express Segments 3A & 3B, Fort Worth, TX	$274,030
Goethals Bridge, Staten Island, NY	$460,915
U.S. 36 Managed Lanes/BRT Phase 2, Denver Metro Area, CO[55]	$20,360
I-69 Section 5, Bloomington to Martinsville, IN	$243,845

[51] See U.S. Department of Transportation, *Notice of Solicitation for Requests for Allocations of Tax-exempt Financing and Request for Comments*, 71 Fed. Reg. 642 (January 5, 2006) and Internal Revenue Service, Notice 2006-45, *Exempt Facility Bonds for Qualified Highway or Surface Freight Transfer Facilities*, 2006-20 I.R.B. 891 (May 15, 2006).

[52] Section 11143 of Pub. L. No. 109-59.

[53] U.S. Department of Transportation, Build America Bureau, Private Activity Bonds, Current Status, as of April 2, 2021, available at https://www.transportation.gov/buildamerica/private-activity-bonds-pabs/private-activity-bonds.

[54] For a high-level description of this project, see the discussion of "Public-Private Partnerships" in Part III.D, *infra*.

[55] For a high-level description of this project, see the discussion of "Public-Private Partnerships" in Part III.D, *infra*.

Rapid Bridge Replacement Program, PA	$721,485
Portsmouth Bypass, OH	$227,355
I-77 Managed Lanes, NC	$100,000
CenterPoint Intermodal Center, Joliet, IL	$100,000
SH-288, TX	$272,635
CenterPoint Intermodal Center, Joliet, IL	$130,000
Purple Line, MD	$313,035
I-395 Express Lanes, VA	$232,995
Transform 66, VA	$737,000
AAF-Brightline Phase I, FL	$600,000
Central 70, CO	$114,660
I-75 Modernization Segment 3	$610,300
AAF-Brightline Phase 2, FL	$1,150,000
AAF-Brightline Phase 2, FL	$950,000
Fredericksburg Express Lanes Extension, VA	$262,000
North Tarrant Expressway 3C, TX	$653,865
Gilcrease Expressway West Turnpike Project, OK	$125,000
CenterPoint Intermodal Center, Joliet, IL	$150,000
Brightline West Passenger Rail, NV/CA	$1,000,000
NY State Thruway System Service Areas, NY	$269,455

Subtotal……..……..$13,539,529

Allocations (In Thousands of Dollars)

I-10 Mobile River Bridge and Bayway Project, AL	$220,000
Washington DC Smart Street Lighting, DC	$160,000
SR 400 Express Lanes, GA	$503,000
Fargo-Moorhead Flood Diversion, ND	$296,000

Subtotal…….$1,179,000

Grand Total…….…….$14,718,529

Public works facilities

Exempt facility bonds may be issued to finance various types of public works facilities, including facilities for the furnishing of water, sewage facilities, solid waste disposal facilities, local district heating or cooling facilities, and qualified hazardous waste facilities.[56] The foregoing facilities generally may be privately owned. Exempt facility bonds issued to finance such facilities are subject to the State volume cap, with the exception of solid waste disposal facilities that are to be owned by a governmental unit.

A facility for the furnishing of water must meet the following two requirements: (1) the water is or will be made available to the public (including electric utility, industrial, agricultural, or commercial users); and (2) either the facility is operated by a governmental unit or the rates for the furnishing or sale of the water have been established or approved by a State or political subdivision thereof, by an agency or instrumentality of the United States, or by a public service or public utility commission or other similar body of any State or political subdivision thereof.[57]

A local district heating or cooling facility means property used as an integral part of a local district heating or cooling system. Such a system must consist of a pipeline or network providing hot water, chilled water, or steam to two or more users for (1) residential, commercial, or industrial heating or cooling, or (2) processing steam. A local system must include facilities furnishing heating or cooling to an area consisting of a city and one contiguous county.[58]

A qualified hazardous waste facility is a facility for the disposal of hazardous waste by incineration or entombment that meets certain additional requirements specified in the Code.[59]

Indian tribal governments

Indian tribal governments[60] may issue tax-exempt bonds in several types of circumstances if they meet requirements applicable to bonds issued by States and local governments as well as certain other rules applicable only to Indian tribal governments.[61] Indian tribal governments may issue tax-exempt bonds for governmental purposes, subject to the requirement that substantially all of the proceeds of the issue are used in an essential

[56] Sec. 142(a)(4), (5), (6), (9), and (10).

[57] Sec. 142(e).

[58] Sec. 142(g).

[59] Sec. 142(h).

[60] The term "Indian tribe" is defined as "any Indian tribe, band, nation, or other organized group or community which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians." Sec. 7871(c)(3)(E)(ii).

[61] For additional information regarding the issuance of tax-exempt bonds by Indian tribal governments, see Joint Committee on Taxation, *Overview of the Federal Tax Provisions and Analysis of Selected Issues Relating to Native American Tribes and Their Members* (JCX-8-20), February 28, 2020, pp. 15-22. This document can be found on the Joint Committee on Taxation website at www.jct.gov.

governmental function.[62] Indian tribal governments may not issue tax-exempt private activity bonds except for the purpose of financing manufacturing facilities that meet certain requirements.[63]

The Code provides that Indian tribal governments may also issue a third type of tax-exempt bond called "Tribal economic development bonds" to finance projects and facilities (but not certain gambling facilities) if the bonds would be tax-exempt if issued by a State or local government.[64] The essential government function restriction does not apply for governmental bonds, and Indian tribal governments are treated as a State for purposes of issuing qualified private activity bonds. Tribal economic development bonds are subject to an allocated national limitation of $2 billion.

Expired or repealed provisions

The authority to issue new tax credit bonds and direct-pay bonds was prospectively repealed by Public Law 115-97. The authority to issue two other types of tax-credit bonds, recovery zone economic development bonds and Build America Bonds, expired on January 1, 2011. In addition, the exclusion from gross income for a bond issued to advance refund another tax-exempt bond was prospectively repealed by Public Law 115-97, as described below.

Tax-credit bonds and direct-pay bonds

In general

Tax-credit bonds provide tax credits to investors to replace a prescribed portion of the interest cost. The borrowing subsidy generally is measured by reference to the credit rate set by the Treasury Department. Tax-credit bonds include qualified tax credit bonds, which have certain common general requirements, and include new clean renewable energy bonds, qualified energy conservation bonds, qualified zone academy bonds ("QZABs"), and qualified school construction bonds.

An issuer could elect to issue certain tax credit bonds as "direct-pay bonds." Instead of a credit to the holder, with a "direct-pay bond" the Federal government pays the issuer a percentage of the interest on the bonds. The following tax credit bonds were permitted to be issued as direct-pay bonds: new clean renewable energy bonds, qualified energy conservation bonds, and qualified school construction bonds. QZABs could be issued as direct-pay bonds, but such an election was not available regarding any allocation of the national zone academy bond allocation after 2010 or any carryforward of such allocations.

As noted above, the authority to issue new tax credit bonds and direct-pay bonds was prospectively repealed by Public Law 115-97 (*i.e.*, for bonds issued after December 31, 2017).

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[62] Sec. 7871(c)(1).

[63] Sec. 7871(c)(2) and (3).

[64] Sec. 7871(f).

Build America Bonds

The Build America Bonds program, part of the American Recovery and Reinvestment Act of 2009 ("ARRA"[65]), provided a subsidy to State and local governments to finance capital projects, including the development of infrastructure. As noted above, the authority to issue bonds under the program expired December 31, 2010.

Under the Build America Bonds program, an issuer could elect to have an otherwise tax-exempt bond, issued prior to January 1, 2011, treated as a "Build America Bond."[66] In general, Build America Bonds are taxable governmental bonds whose interest is subsidized by the Federal government by means of a tax credit to the holder ("tax-credit Build America Bonds") or, in the case of certain qualified bonds, a direct payment to the issuer ("direct-pay Build America Bonds").[67]

Although the authority existed to issue Build America Bonds that provided for a tax credit to the bond holder, most Build America Bonds were issued as direct-pay Build America Bonds. Under a special rule, in lieu of the tax credit to the holder, the issuer is allowed a refundable credit equal to 35 percent of each interest payment made under such bond.[68]

Sequestration and direct-pay bonds

As noted above, issuers could elect to issue certain tax-credit bonds, including Build America Bonds, as direct-pay bonds under section 6431. Pursuant to the Balanced Budget and Emergency Deficit Control Act of 1985, as amended, sequestration applies to direct-pay bonds. For such bonds, refund payments and refund offset transactions processed are subject to a percentage reduction (5.9 percent for fiscal year 2020). Bonds subject to sequestration include Build America Bonds, qualified school construction bonds, QZABs, new clean renewable energy bonds, and qualified energy conservation bonds for which the issuer elected to receive a direct credit subsidy pursuant to section 6431.[69]

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[65] Pub. L. No. 111-5.

[66] Sec. 54AA (as in effect prior to its repeal by sec. 13404(a) of Pub. L. No. 115-97).

[67] Tax-credit Build America Bonds could be issued to finance any governmental purpose for which tax-exempt governmental bonds (excluding private activity bonds under section 141) could be issued under section 103. The eligible uses of proceeds and types of financings for direct-pay Build America Bonds are more limited than for tax-credit Build America Bonds. Direct-pay Build America Bonds could be issued to finance only capital expenditures that could have been financed with tax-exempt governmental bonds.

[68] Sec. 54AA(g)(1) (as in effect prior to its repeal by sec. 13404(a) of Pub. L. No 115-97).

[69] Additional information, including a summary of prior-year sequestration reduction rates, is available on the IRS's website, at https://www.irs.gov/tax-exempt-bonds/effect-of-sequestration-on-state-local-government-filers-of-form-8038-cp.

Advance Refundings

A refunding bond is a bond that is used to pay principal, interest, or redemption price on a prior bond issue (the refunded bond). Different rules apply to current as opposed to advance refunded bonds. A current refunding occurs when the refunded bond is redeemed within 90 days of issuance of the refunding bond. An advance refunding occurs when the refunding bond is issued more than 90 days before the redemption of the refunded bond. In an advance refunding, two issues of tax-exempt bonds remain outstanding simultaneously for more than 90 days to finance the same project or activity.[70]

Prior to Public Law 115-97, the exclusion from gross income for State and local bonds applied to current refundings and, in certain limited circumstances, to advance refundings. For example, governmental bonds and qualified 501(c)(3) bonds generally could be advance refunded one time.[71] Public Law 115-97 repealed the exclusion from gross income for interest on a bond issued to advance refund another tax-exempt bond, effective for refunding bonds issued after December 31, 2017.

[70] See S. Rep. No. 99-313, p. 828 (1986).

[71] Sec. 149(d)(3) (as in effect prior to Public Law 115-97). In addition, prior to Public Law 115-97, private activity bonds other than qualified 501(c)(3) bonds could not be advance refunded. Sec. 149(d)(2) (as in effect prior to Public Law 115-97). Furthermore, in the case of an advance refunding bond that results in interest savings, the refunded bond was required to be redeemed on the first call date 90 days after the issuance of the refunding bond that results in debt service savings. Sec. 149(d)(3)(A)(iii) and (B) (as in effect prior to Public Law 115-97); Treas. Reg. sec. 1.149(d)-1(f)(3).

B. New Markets Tax Credit

Background and scope

In general

The New Markets Tax Credit ("NMTC") is a geography-based tax credit program. Under section 45D(a), an investor may claim tax credits for a qualified equity investment in a qualified community development entity ("CDE"). The qualified CDE designates equity investments as qualified equity investments, rendering the investor eligible to receive tax credits. The qualified CDE can only designate up to an amount allocated to it by the Department of the Treasury's Community Development Financial Institutions Fund ("CDFI Fund"). The CDFI Fund allocates amounts to qualified CDEs through a competitive application process.

The amount of the NMTC is determined on a credit allowance date as an amount equal to the applicable percentage of the qualified equity investment in the qualified CDE on that date. The applicable percentage is five percent for the first three years of the investment and six percent for the remaining four years, for a total credit of 39 percent over seven years. The credit allowance date is the date of the investment and the next six anniversary dates of the investment.

To continue to be eligible for tax credits, the taxpayer must continue to hold the qualified equity investment on the credit allowance date of each year. In other words, if the qualified equity investment ceases, or ceases to be qualified, the remaining tax credits are no longer allowed. The credits already claimed may also be subject to recapture if the CDE ceases to be qualified, if the proceeds of the investment cease to be used in a qualified manner, or if the taxpayer redeems its qualified equity investment.

Regulated financial institutions provide most of the equity for NMTC transactions. In addition to receiving the NMTC, financial institutions often receive credit under the Community Reinvestment Act for investing in low-income census tracts.

Substantially all of the qualified equity investment must be used by the qualified CDE to provide investments in low-income communities through qualified active low-income community businesses.

Qualifying geography

The NMTC provisions require CDEs to serve or provide investment capital for low-income communities or low-income persons. A low-income community is either (1) a population census tract that meets certain criteria or (2) a specific area designated by the Secretary. Specifically, a "low-income community" is a population census tract with either (1) a poverty rate of at least 20 percent or (2) median family income which does not exceed 80 percent of the greater of metropolitan area median family income or statewide median family income (for a nonmetropolitan census tract, does not exceed 80 percent of statewide median family income). In the case of a population census tract located within a high migration rural county, low-income is defined by reference to 85 percent (as opposed to 80 percent) of statewide median family income. For this purpose, a high migration rural county is any county that, during the 20-year period ending with the year in which the most recent census was conducted, has a net out-

migration of inhabitants from the county of at least 10 percent of the population of the county at the beginning of such period. In addition, a population census tract with a population of less than 2,000 is treated as a low-income community for purposes of the NMTC if such tract is within an empowerment zone (the designation of which is in effect under section 1391) and is contiguous to one or more low-income communities.

CDEs may also qualify for the NMTC if they serve targeted populations, as designated by the Secretary, regardless of the composition of the population census tract or tracts in which the targeted populations live. For this purpose, a "targeted population" is defined by reference to section 103(20) of the Riegle Community Development and Regulatory Improvement Act of 1994 (the "Act") to mean individuals, or an identifiable group of individuals, including an Indian tribe, who are low-income persons or otherwise lack adequate access to loans or equity investments. Section 103(17) of the Act provides that "low-income" means (1) for a targeted population within a metropolitan area, less than 80 percent of the area median family income; and (2) for a targeted population within a nonmetropolitan area, less than the greater of 80 percent of the area median family income or 80 percent of the statewide nonmetropolitan area median family income.

Project structures

In a typical NMTC structure, an intermediary entity (the "investment fund LLC") receives equity investments from investors (usually financial institutions) and debt from other sources. The investment fund LLC's proceeds are then invested as equity investment into a qualified CDE. The qualified CDE in turn makes a qualified low-income community investment in a qualified active low-income community business.

A qualified CDE is any domestic corporation or partnership: (1) whose primary mission is serving or providing investment capital for low-income communities or low-income persons; (2) that maintains accountability to residents of low-income communities by their representation on any governing board of or any advisory board to the CDE; and (3) that is certified by the Secretary as being a qualified CDE. A qualified equity investment means stock (other than nonqualified preferred stock) in a corporation or a capital interest in a partnership that is acquired directly from a CDE for cash and includes an investment of a subsequent purchaser if such investment was a qualified equity investment in the hands of the prior holder. Substantially all the investment proceeds must be used by the CDE to make qualified low-income community investments. For this purpose, qualified low-income community investments include: (1) capital or equity investments in, or loans to, qualified low-income community businesses; (2) certain financial counseling and other services to businesses and residents in low-income communities; (3) the purchase from another CDE of any loan made by such entity that is a qualified low-income community investment; or (4) an equity investment in, or loan to, another CDE.

Although equity investments in qualified active low-income community businesses qualify under the NMTC rules, generally, such investments are in the form of loans. Equity investors that own a majority interest in a low-income community business can have their NMTC credits recaptured if the business violates the rules for qualification. However, Treasury regulations provide a "reasonable expectation" safe harbor for CDEs that lend to such a business;

if the CDE "reasonably expects" that the rules are being satisfied, NMTC credits are not subject to recapture.[72]

A qualified active low-income community business is defined as a business that satisfies, with respect to a taxable year, the following requirements: (1) at least 50 percent of the total gross income of the business is derived from the active conduct of trade or business activities in any low-income community; (2) a substantial portion of the tangible property of such business is used in a low-income community; (3) a substantial portion of the services performed for such business by its employees is performed in a low-income community; and (4) less than five percent of the average of the aggregate unadjusted bases of the property of such business is attributable to certain financial property or to certain collectibles.

Allocation process

The CDFI Fund annually allocates NMTCs to CDEs under a competitive application process. CDEs, in turn, allocate NMTCs to equity investors. The maximum annual amount of NMTCs that the CDFI Fund can allocate is $3.5 billion for calendar years 2010 through 2019 and $5 billion for calendar years from 2020 through 2025. No amount of unused allocation limitation may be carried to any calendar year after 2030.

For the 2019 allocation application round,[73] the CDFI Fund awarded 76 CDEs more than $3.5 billion[74] in NMTCs from a total of 206 applications requesting $14.7 billion.[75] Out of the total awarded, approximately $2.6 billion (74.6 percent) of NMTC investment proceeds will likely be used to finance and support loans to or investments in operating businesses in low-income communities, and approximately $882.8 million (25.4 percent) of NMTC investment

[72] Treas. Reg. sec. 1.45(D)-1(d)(6)(i).

[73] The CDFI Fund opened the calendar year 2020 round of the NMTC Program on September 22, 2020. The application deadline was November 16, 2020. The CDFI Fund anticipates announcing calendar year 2020 allocation awards in summer 2021. Office of Inspector General, Department of the Treasury, *Audit of the Community Development Financial Institutions Fund's Financial Statements for Fiscal Years 2020 and 2019* (OIG-21-006), November 13, 2020, available at https://www.cdfifund.gov/sites/cdfi/files/2021-04/CDFI_FY20_AFR_508_Compliant.pdf (last visited April 29, 2021).

[74] CY 2019 allocation authority included $3.5 billion authorized by the Protecting Americans from Tax Hikes (PATH) Act, Division Q of Public Law No. 114-113, plus $48,485,000 rescinded from prior allocation rounds. Office of Inspector General, Department of the Treasury, *Audit of the Community Development Financial Institutions Fund's Financial Statements for Fiscal Years 2020 and 2019* (OIG-21-006), November 13, 2020, available at https://www.cdfifund.gov/sites/cdfi/files/2021-04/CDFI_FY20_AFR_508_Compliant.pdf (last visited April 29, 2021).

[75] Information is available at https://www.cdfifund.gov/programs-training/programs/new-markets-tax-credit/award-announcement-step (last visited April 26, 2021).

proceeds will likely be used to finance and support real estate projects in low-income communities.[76]

Applications for NMTCs are reviewed in two phases.[77] In Phase 1, applications are reviewed, scored, and ranked based on two criteria: business strategy and community outcomes. Applicants that meet the minimum scoring thresholds in Phase 1 advance to Phase 2 review and will be provided with "preliminary" awards, in descending order of final rank score, until the available allocation authority is fulfilled. Final rank scores are determined by evaluating management capacity, capitalization strategy, and information regarding previous awards.[78]

In Phase 1, in evaluating and scoring the business strategy criteria, the CDFI Fund is looking for a CDE to articulate, with specificity, its strategy to use an allocation and to describe a long track record serving low-income communities, and of providing products and services like those that it intends to provide through its investments. The CDE can earn "priority points" if it has a track record of five or more years of experience providing capital and/or technical assistance to disadvantaged businesses and communities. For the community outcomes criteria, the CDFI Fund considers the extent to which the CDE is working in particularly economically distressed or otherwise underserved communities, shows that its projected financing activities will generate demonstrable community outcomes, and demonstrates meaningful engagement with community stakeholders when vetting potential investments. In general, the highest ranked applications provide specifics concerning job creation, community development benefits, and a track record of providing capital and/or technical assistance to disadvantaged businesses and communities.

In Phase 2, management capacity is evaluated based on management experience in low-income communities, asset and risk management, and fulfilling government compliance requirements. Capitalization is evaluated based on an applicant's track record of raising capital, investor commitments (or a strategy to secure such commitments), plan to pass along the benefits of the credit to the underlying businesses, and willingness to invest in amounts that exceed the minimum statutory requirements. Applicants with prior year allocations are evaluated on their effective use of prior-year allocations and whether they have substantiated a need for additional allocation authority.

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[76] Information is available in the 2019 NMTC Award Book. It is available at https://www.cdfifund.gov/sites/cdfi/files/documents/2019-nmtc-award-book-finalforwebsite-13july2020.pdf (last visited April 26, 2021).

[77] The 2019 NMTC program allocation application provides information on reviewer criteria. It is available at https://www.cdfifund.gov/sites/cdfi/files/documents/cy-2019-nmtc-application-final.pdf (last visited April 26, 2021). The term "infrastructure" is provided as a business type on page 58 of the application.

[78] Information on the allocation application review process, general characteristics of a highly ranked application, and application ratings is available at https://www.cdfifund.gov/sites/cdfi/files/documents/2019-nmtc-program-allocation-evaluation-process_508-compliant.pdf (last visited April 26, 2021).

Applicability of the NMTC for projects in Native American areas[79]

The NMTC provisions require CDEs to serve or provide investment capital for low-income communities. CDEs formed to support Native American projects may satisfy this requirement in two ways.

First, the CDE may invest in a project in a population census tract designated as a low-income community; a population census tract in a Native American area[80] can qualify as a "low-income community." Second, the CDE may invest in a project that serves a targeted population, as designated by the Secretary. Targeted populations are treated as low-income communities regardless of the composition of the population census tract or tracts in which the targeted population lives.[81] Certain Indian tribes are included in the list of groups that may be designated as targeted populations.[82]

[79] For more detailed information regarding the use of the NMTC for projects in Native American areas, see Joint Committee on Taxation, *Overview of Federal Tax Provisions and Analysis of Selected Issues Relating to Native American Tribes and Their Members* (JCX-8-20), February 28, 2020, pp. 40-45. This document can be found on the Joint Committee on Taxation website at www.jct.gov.

[80] "Native American area" is the term used by the U.S. Department of Treasury, CDFI Fund, Office of Financial Strategies and Research to describe land designated as Indian reservations by Federal or State authorities. These areas are composed of U.S. Census Bureau "American Indian/Alaska Native/Native Hawaiian Areas," available at https://catalog.data.gov/dataset/tiger-line-shapefile-2018-nation-u-s-current-american-indian-alaska-native-native-hawaiian-area (last visited May 14, 2021).

[81] Sec. 45D(e)(2).

[82] Sec. 45D(e)(2); 12 U.S.C. sec. 4702(20); see also Treas. Reg. 1.45D-1(d)(9). An Indian tribe may be designated as a targeted population if the tribe are (i) low income persons or (ii) otherwise lack adequate access to loans or equity investments. 12 U.S.C. sec. 4702(20). A targeted population is "low-income" for this purpose if (1) in the case of a metropolitan area, the group's median family income does not exceed 80 percent of the area median family income or (2) in the case of a non-metropolitan area, the group's median family income does not exceed 80 percent of either area median family income or statewide nonmetropolitan area median family income. 12 U.S.C. sec. 4702(17); Treas. Reg. sec. 1.45D-1(d)(9).

NMTCs and Infrastructure

Since inception of the credit, the CDFI Fund has completed 16 allocation rounds and has made 1,254 awards.[83] The CDFI Fund has allocated a total of $61 billion in tax credit authority to CDEs and CDEs have raised more than $56 billion[84] in qualified equity investments.[85]

The CDFI Fund reports data for all projects (6,822 qualified active low-income community businesses) between fiscal year 2003 and 2019 by State, zip code, and census tract.[86]

Over the course of the NMTC program, there have been $2.59 billion out of the $55.92 billion in NMTCs invested in the following categories of infrastructure projects across 50 states, the District of Columbia, and Puerto Rico:[87]

[83] Office of Inspector General, Department of the Treasury, *Audit of the Community Development Financial Institutions Fund's Financial Statements for Fiscal Years 2020 and 2019* (OIG-21-006), November 13, 2020, available at https://www.cdfifund.gov/sites/cdfi/files/2021-04/CDFI_FY20_AFR_508_Compliant.pdf (last visited April 29, 2021).

[84] A lag in time between the allocation of credits and when the qualified equity investments are made. It takes time for the industry to absorb and there is also a lag in reporting time. U.S. Department of the Treasury, CDFI Fund, Office of Financial Strategies and Research.

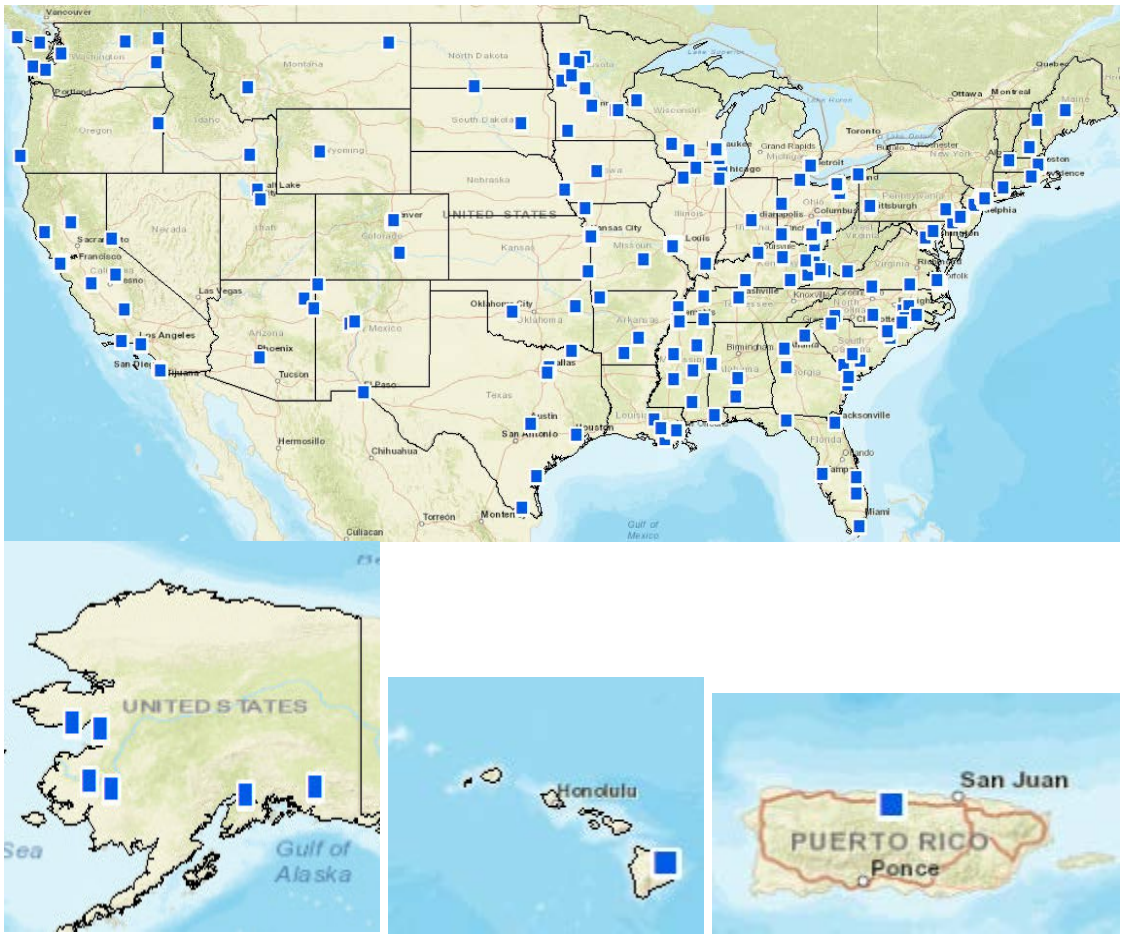
[85] *Ibid*. This $61 billion total includes $1.0 billion of allocation authority provided under the Gulf Opportunity Zone Act of 2005 (Pub. L. No 109-135) to CDEs with a significant mission to recover and redevelop low-income communities in the Katrina GO Zone.

[86] That information is available at https://www.cdfifund.gov/sites/cdfi/files/202103/FY%202020%20NMTC%20Public%20Data%20Release.xlsx (last visited April 26, 2021). The CDFI Fund has previously reported data for all projects (5799 qualified active low-income community businesses) between fiscal year 2003 and 2017 by State and zip code. That information is available at https://www.cdfifund.gov/sites/cdfi/files/documents/2019-nmtc-public-data-release_fy_17.xlsx (last visited April 26, 2021). The CDFI has also prepared a short report on their 2003-2017 dataset which includes some geographic breakdowns (metro/non-metro, levels of economic distress, etc.). According to the report, 75.9 percent of investments occurred in metropolitan areas, and 75.3 percent of investments occurred in a census tract that experienced at least one criteria of severe distress. The report also indicates that 39.8 percent of the qualified active low-income community businesses that were beneficiaries of a qualified CDE investment were involved with the development or leasing of real estate (and they received $22.9 billion or 47.5 percent of the NMTC investments), 58.9 percent of the qualified active low-income community businesses were operating businesses (and they received $24.6 billion or 50.9 percent of the NMTC investments), and 1.3 percent of the qualified active low-income community businesses were the beneficiaries of loans or investments made by qualified CDEs through other unrelated CDEs (and they received $778 million or 1.6 percent of the NMTC investments). The report is available at https://www.cdfifund.gov/sites/cdfi/files/documents/2019-nmtc-public-data-release_fy_17-comments-incorporated_bl-edits-incorporated_final.pdf (last visited April 21, 2021).

[87] Table and map provided by the U.S. Department of the Treasury, CDFI Fund, Office of Financial Strategies and Research. This information includes mixed-use development projects.

NMTC Project Category	Qualified Low Income Community Investments		#
Broadband	$	150,019,585	3
Electric Power Generation, Transmission and Distribution	$	728,410,104	61
Freight, trucking	$	366,236,649	43
Mixed-use development, infrastructure	$	49,477,462	7
Municipal, tribal or government facility	$	96,760,261	13
Parking, Transportation, Commercial	$	565,470,219	53
Parks and Recreation	$	16,523,081	1
Port operations	$	2,500,000	1
Shipyards and supporting activities	$	46,315,000	4
Telecommunications	$	65,071,349	11
Urban Transit or supporting business	$	164,159,750	9
Water, sewage, support activities, water transportation	$	338,682,861	21
Grand Total	**$**	**2,589,626,321**	**227**

Map: $2.59 Billion Invested in NMTC Infrastructure Projects



Breakdown by Jurisdiction

State	Number	State	Number
Alabama	4	Nebraska	2
Alaska	2	Nevada	1
Arizona	3	New Hampshire	3
Arkansas	4	New Jersey	6
California	12	New Mexico	4
Colorado	4	New York	10
Connecticut	1	North Carolina	7
Delaware	1	North Dakota	1
District of Columbia	2	Ohio	10
Florida	9	Oklahoma	2
Georgia	8	Oregon	2
Hawaii	1	Pennsylvania	7
Idaho	1	Puerto Rico	1
Illinois	8	Rhode Island	2
Indiana	1	South Carolina	5
Iowa	2	South Dakota	1
Kansas	1	Tennessee	6
Kentucky	8	Texas	11
Louisiana	9	Utah	2
Maine	1	Vermont	1
Maryland	2	Virginia	5
Massachusetts	5	Washington	9
Michigan	6	West Virginia	1
Minnesota	8	Wisconsin	9
Mississippi	5	Wyoming	1
Missouri	8		
Montana	2	**Total**	**227**

C. Qualified Opportunity Zones

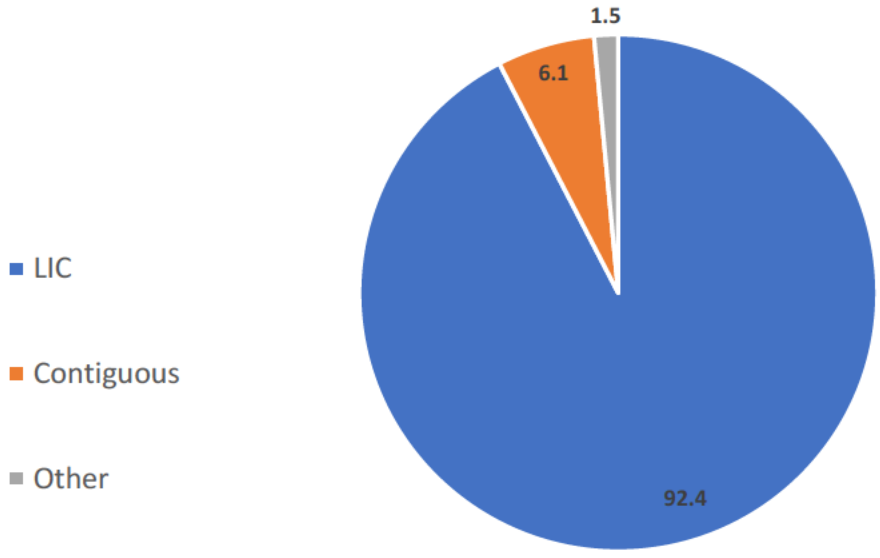
Background and scope

The qualified opportunity zone rules provide the tax benefits of deferral and exclusion to taxpayers who reinvest gain as equity in qualified opportunity funds, which are investment vehicles organized for the purpose of investing in qualified opportunity zones. A qualified opportunity zone is a census tract that is a low-income community (or, in certain cases, a census tract contiguous with a low-income community) that has received a designation as a qualified opportunity zone by the state government of the state in which the tract is located. A qualified opportunity fund must invest at least 90 percent of its assets either (i) directly invest in qualified opportunity zone business property ("QOZBP") or (ii) invest in a partnership or corporation that is a qualified opportunity zone business, which in turn owns QOZBP.

QOZBP consists of tangible property used in the trade or business of the qualified opportunity fund or the qualified opportunity zone business. Tangible property must also satisfy requirements relating to its acquisition, improvement, and use to qualify as QOZBP.

According to 2019 tax return data, there was about $24 billion in total investments made by qualified opportunity funds; of which approximately 75 percent were from returns of electronic filers. As the figure below illustrates, over 92 percent of these investments went into low-income communities (LIC), about six percent went to zones contiguous to low-income communities (Contiguous), and the remaining investments went into nonqualified tracts (Other).

Figure 3.–Distribution of Qualified Opportunity Fund Investment by Census Tract Type



Source: Joint Committee staff calculations using data from 2019 tax year electronic filers only, which represent approximately 75 percent of all zone fund returns.

Among those funds that filed electronically, 93 percent of qualified opportunity fund investments are in qualified opportunity zone stock or partnership interests, with the remaining amounts invested in various qualified opportunity zone business property.

Qualified Opportunity Zone and Infrastructure

The qualified opportunity zone rules require investors to hold equity in QOZBP, tangible property located in the qualified opportunity zone. As such, the rules may be used to finance investments in property such as real estate. However, the rules impose several restrictions that may make broader infrastructure projects less feasible.

For example, the requirement of an equity investment within the qualified opportunity zone may preclude infrastructure projects such as telecommunications lines or sewage facilities, that may need to span entire cities or counties, from being qualifying investments. The requirement of an equity investment by the qualified opportunity fund also means that infrastructure-type assets owned by the public sector or quasi-governmental agencies may not be qualifying structures.

An additional rule mandates that less than five percent of the average of the aggregate adjusted bases of the property of the qualified opportunity zone business be attributable to nonqualified financial property. This limits qualified opportunity funds from investing through debt; unlike NMTC investments which have traditionally been made in the form of loans, financial intermediaries are effectively prohibited by the opportunity zone rules. Another rule requires that at least 50 percent of the total gross income of the qualified opportunity zone business must be derived from the active conduct of business in the qualified opportunity zone. This requirement would seem to exclude non-revenue generating public infrastructure. Finally, the requirement that investments must be deployed within a certain timeframe may prevent using the benefit for infrastructure projects that are either too far into their development timeline or too early in the planning process.

While the qualified opportunity zone rules allow funds to invest in many different types of businesses, the most recent data suggest that most investments relate to real estate and construction. The table below illustrates the types of businesses that funds have invested in.

Qualified Opportunity Zone Fund Investments by Industry

NAICS Code	Industry	QOF Investment ($ millions	QOF Investment (percentage of total)
53	Real Estate and Rental and Leasing	8,701.2	55.3%
23	Construction	1,580.2	10.0%
52	Finance and Insurance	1,576.0	10.0%
	Unclassified/Unknown	1,573.4	10.0%
54	Professional, Scientific, and Technical Services	580.7	3.7%
55	Management of Companies and Enterprises	544.9	3.5%
72	Accommodation and Food Services	452.4	2.9%
31-33	Manufacturing	159.4	1.0%
81	Other Services (except Public Administration)	140.4	0.9%
56	Administrative and Support and Waste Management and Remediation Services	82.4	0.5%
62	Health Care and Social Assistance	81.4	0.5%
11	Agriculture, Forestry, Fishing and Hunting	69.5	0.4%
48-49	Transportation and Warehousing	56.4	0.4%
71	Arts, Entertainment, and Recreation	44.2	0.3%
61	Educational Services	34.1	0.2%
42	Wholesale Trade	18.0	0.1%
51	Information	16.0	0.1%
44-45	Retail Trade	12.6	0.1%
22	Utilities	10.9	0.1%
21	Mining, Quarrying, and Oil and Gas Extraction	1.7	0.0%
Total		15,735.8	100.0%

Source: Joint Committee staff calculations using data from 2019 tax year electronic filers only, which represent approximately 75 percent of all zone fund returns. Industry designations based on self-reporting by taxpayers using the North American Industry Classification System (NAICS) codes.

III. OTHER FINANCING OPTIONS AND INCENTIVES

A. Vehicle Miles Traveled Tax

In general

A mileage-based tax system, also known as a vehicle miles traveled ("VMT") tax system, charges users a tax based on the number of miles traveled.[88] 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.[89] 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.[90] In addition, a VMT may better align tax revenue with road use compared to a revenue stream based on fuel consumption, because the adoption of more fuel efficient or zero-emission vehicles will not reduce the revenues collected. 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.

Elements of a VMT

The three fundamental elements in designing a VMT are (1) the tax base, (2) the tax rate, and (3) addressing the method of measuring the number of miles traveled and other implementation challenges.[91]

Tax base

As the name implies, the tax base of any VMT is composed of the vehicles and the miles they travel. A VMT could be imposed on all vehicles that use public roads and highways, or on a subset, such as trucks, buses, and other heavy vehicles.

The mileage component of the VMT tax base can vary depending on whether the tax is imposed on every mile a vehicle travels, or only on a subset of those miles. For example, a VMT could be designed to count only miles traveled on interstate highways as opposed to miles traveled on all roads.

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

[89] A VMT that is narrow in geographical scope and only imposed on certain roads or highways can resemble a toll system.

[90] *Ibid*.

[91] For a more detailed discussion of these elements, see Congressional Budget Office, *Issues and Options for a Tax on Vehicle Miles Traveled by Commercial Trucks*, October 2019.

Tax rate

A VMT could be designed to have a uniform rate per mile for each vehicle on which the tax is imposed. Alternatively, the rate could vary depending on the type of vehicle. For example, heavier vehicles can cause more pavement damage over time, and thus miles traveled by such vehicles might be taxed at a higher rate. A more nuanced approach to a VMT might measure weight per axle, rather than overall weight, to determine the rate of tax. Another rate differentiation option would be to impose a higher rate in urban areas with higher congestion and pollution, and a lower rate in rural areas where those problems are less significant.[92] A VMT could also be designed to have differential rates based on the type of road or bridge being traversed.

Method of measuring miles traveled and other implementation challenges

Method of measuring miles traveled

The principal options for measuring the number of miles traveled are odometer readings, a radio-frequency reader, or an onboard device that logs the number of miles over a period of time. Using existing vehicle odometers may require the least capital investment but have higher administrative costs over time and only be compatible with a tax base that included all roads and highways.

A radio-frequency reader approach would require a system of pillars or gantries similar to those used on some toll roads to collect the relevant mileage data. This would significantly increase the capital costs associated with implementing the tax but would be compatible with a tax base that includes only interstate highways and certain other designated highways or roads.

An onboard device that logs miles and is capable of transmitting data would eliminate the need for expensive pillars or gantries, but would impose additional costs on vehicles that have them. Tracking miles using an onboard device also raises privacy issues, particularly if required for non-commercial vehicles. Although many heavy trucks are already equipped with such devices for non-tax purposes, significant administrative processes would need to be put in place to securely incorporate the data collected by those devices into a VMT system.

Implementation challenges

The amount of revenue ultimately collected from such a tax will depend greatly on the level of compliance. Devices will have to be acquired by taxpayers or built into vehicles by manufacturers. The devices will have to be tested and authenticated. This will take time. Even in the case of vehicles (such as many heavy trucks) that already use mileage tracking devices, an independent verification system would be vital to the successful collection of the tax.

[92] For a discussion of a hypothetical urban-rural differentiated VMT, see Ashley Langer, Vikram Maheshri, and Clifford Winston, "From Gallons to Miles: A Disaggregate Analysis of Automobile Travel and Externality Taxes," *Journal of Public Economics*, vol 152, August 2017, pp. 34, 41-44.

As the cents-per-mile rate increases, the incentive to underreport or not report increases. If the IRS does not have an effective way to verify whether the miles reported on the returns are accurate, some taxpayers may underreport their mileage knowing that the IRS cannot challenge the taxpayer's claim.

Implementation of a VMT will require the IRS to dedicate significant resources, both at the front end, to collect and process VMT data, and at the back end to audit tax return information. Agency data systems will need to be developed to accommodate the reporting of vehicle mileage data, the matching of vehicles and related mileage data to a particular taxpayer, and accepting new tax returns. This will require that the IRS (and other appropriate agencies necessary for implementation) be provided with both time and sufficient budget resources to develop these new systems before the tax is implemented.

The IRS must also have a method of identifying who is subject to the tax to identify non-filers. As compared with the current excise tax system, the number of taxpayers and vehicles subject to the new VMT will be substantial, especially if applied to all vehicles. As of 2019, there were over 276 million register highway vehicles, including cars, trucks, motorcycles, and buses,[93] which is 120 million more than the combined number of 2019 individual and corporate tax filers.[94] Many of these taxpayers will have no prior excise tax filing requirement and no experience with the excise tax system. As a result, the IRS will need to do significant outreach to taxpayers to educate them about the new tax and recordkeeping requirements.

[93] United States Department of Transportation, Bureau of Transportation Statistics, Number of U.S. Aircraft, Vehicles, Vessels, and Other Conveyances, available at https://www.bts.gov/content/number-us-aircraft-vehicles-vessels-and-other-conveyances, accessed May 5, 2021.

[94] Internal Revenue Service, SOI Tax Stats – Tax Stats-at-a-Glance, available at https://www.irs.gov/statistics/soi-tax-stats-tax-stats-at-a-glance, accessed May 5, 2021.

B. Tolling

Federal law generally restricts the ability of States to impose tolls on interstate highways.[95] Over the years, various laws passed by Congress have expanded the authority of States to impose tolls in certain circumstances. The Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted in 2012, reinforced the encouragement of tolls on high occupancy vehicle lanes and congestion pricing, and allowed for tolling on new Interstate routes, route extensions, and additional lane capacity (but not on the existing lane capacity).[96]

An expansion of tolling could be achieved in several ways. Additional tolling pilot projects could be encouraged and tolling-supported 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 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 have ranged from 8 to 13 percent, even accounting for electronic collection and not including the cost of physical infrastructure.[97] This compares unfavorably to the cost of collecting the existing Federal motor fuels taxes, estimated to be less than one percent of revenues.[98] 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 non-tolled routes could lead to reduced toll collections and increased congestion on local roads by motorists who use those roads in an effort to reduce their travel costs.

Efforts to make greater use of tolling are likely to draw attention to the Federal role in regulating tolls. Under current law, the Federal government has no jurisdiction over toll rates. The law requires that bridge tolls "shall be just and reasonable,"[99] 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

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[95] 23 U.S.C. sec. 301. Some State toll roads that existed before the creation of the interstate highway system in 1956 and that were later incorporated into that system were allowed to retain their tolls.

[96] Pub. Law No. 112-141. For further discussion of MAP-21 and the other Federal rules on highway tolling, see Robert Kirk, Congressional Research Service, *Tolling U.S. Highways and Bridges* (Report R44910), August 4, 2017, available at https://www.crs.gov/reports/pdf/R44910.

[97] Robert Kirk, Congressional Research Service, *Tolling U.S. Highways and Bridges* (Report R44910), August 4, 2017, available at https://www.crs.gov/reports/pdf/R44910, summary page and pp. 7-8.

[98] *Ibid.*

[99] Surface Transportation and Uniform Relocation Assistance Act of 1987, Pub. Law No. 100-17, sec. 135.

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.

C. Infrastructure Bank

As a supplement to existing financing mechanisms for infrastructure, there have been proposals put forth in the past decade to create a "national infrastructure bank" with funding to provide additional financing for infrastructure projects of national and/or regional significance. The proposed legislation typically would establish the bank as a wholly owned government corporation and grant it authority to make loans, loan guaranties, and in some cases grants and equity investments. In these proposals, the board of the bank would consist of directors appointed by the President and confirmed by the Senate.

Generally, the proposals would initially capitalize the infrastructure bank with appropriated Federal funds. Projects eligible for assistance from the bank vary depending on the proposal; some focus on highway and transportation related projects, while others also include energy, water, telecommunications, and environmental projects.[100]

[100] For a discussion of several past national infrastructure bank proposals, see William Mallett and Grant Driessen, Congressional Research Service, *Infrastructure Finance and Debt to Support Surface Transportation Investment* (Report R43308), November 17, 2016, pp. 19-21.

D. Public-Private Partnerships

Another mechanism for financing infrastructure is the use of public-private partnerships. The U.S. Department of Transportation defines a public-private partnership broadly to include a contractual agreement formed between public and private sector partners that typically involves "a government agency contracting with a private partner to renovate, construct, operate, maintain, and/or manage a facility or system, in whole or in part, that provides a public service."[101] The private sector historically has participated in the design and construction of U.S. highways, most commonly as contractors to the public sector. A public-private partnership, however, generally shifts more of the economic risks (and attendant rewards) of a transportation project to the private sector than would be the case in a traditional public owner-private contractor relationship. Public-private partnerships take many forms. For example, a public-private partnership might involve a private party operating a project for a period of years following construction and obtaining an economic return based on the relative success of its management ("existing facilities"), or a private party taking on all the design and construction risks for a new project ("new build facilities").[102] State and local governments have shown increasing interest in public-private partnership arrangements as a means of shifting the increasing costs and risks of infrastructure development and maintenance to private parties in exchange for those private parties receiving some economic benefit.[103]

As previously mentioned, some public-private partnerships involve private parties acquiring economic interests in the financing, maintenance, and operation of public highways

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[101] U.S. Department of Transportation, Federal Highway Administration, *Innovative Program Delivery*, *Glossary*, "Public-Private Partnership (P3)," available at https://www fhwa.dot.gov/ipd/glossary/.

[102] This discussion provides a high-level overview of public-private partnerships involving long-term leases of transportation infrastructure assets by a private party, as well those involving the responsibility to design, build, finance, operate, and maintain new transportation infrastructure assets by a private party. The U.S. Department of Transportation categorizes public-private partnerships as either "new build facilities" or "existing facilities." For existing facilities, public-private partnerships are structured as long-term lease and operations and maintenance concessions under which the private partner operates and maintains the facility, in some cases makes improvements to it, and pays an upfront concession fee for the right to operate the toll road and retain toll revenues. For new build facilities, public-private partnerships are structured as design-build-finance-operate-maintain concessions "that bundle together and transfer to a private sector partner responsibilities for design, construction, finance, and long-term operations and maintenance over the concession period." See U.S. Department of Transportation, Federal Highway Administration, *Innovative Program Delivery*, "P3 Defined," available at http://www fhwa.dot.gov/ipd/p3/defined/default.aspx.

[103] For background on infrastructure investment, see Congressional Budget Office, *Issues and Options in Infrastructure Investment* (May 2008), available at https://www.cbo.gov/sites/default/files/110th-congress-2007-2008/reports/05-16-infrastructure.pdf (public-private partnership discussion pp. 32-33). See also, Congressional Budget Office, *Public-Private Partnerships for Transportation and Water Infrastructure* (January 21, 2020), available at https://www.cbo.gov/system/files/2020-01/56003-CBO-PPP.pdf; and Department of the Treasury, Office of Economic Policy, *Expanding our Nation's Infrastructure through Innovative Financing* (September 2014), available at https://www.treasury.gov/resource-center/economic-policy/Documents/3_Expanding our Nation's Infrastructure through Innovative Financing.pdf.

after they are built.[104] Two arrangements, involving the Chicago Skyway and the Indiana Toll Road, illustrate how the public-private partnership concept can be applied to transfers of economic interests in existing highways from the public sector to private parties. The Chicago Skyway and Indiana Toll Road deals are structured as very long-term arrangements (99 years and 75 years, respectively).[105] For tax purposes, each transaction can be seen as comprising three operating relationships, each of which in turn runs for the length of the overall arrangement: (i) a lease of the existing infrastructure (the highway itself and associated improvements) from the public owner to the private party; (ii) a grant by the public owner to the private party of a right of way on the public lands underlying that infrastructure; and (iii) a grant of a franchise from the public entity permitting the private party to collect tolls on the highway.[106] In return, the private party paid a large up-front amount to the public owner, and agreed to (i) operate and maintain the road, (ii) invest specified amounts in future improvements, and (iii) accept restrictions on the maximum tolls it could charge. An umbrella concession agreement sets out the long-term rights and obligations of each party including dispute resolution mechanisms.

Alternatively, some private parties take on all the design and construction activities and related risks for a new project (in accordance with standards specified by the public agency), as well as the financing, maintenance, and operation of the infrastructure assets after they are built. The Denver Eagle, an approximately 40-mile commuter rail project (the "Eagle P3"), and the Colorado U.S. 36 Express Lanes Project, a highway project, are examples of a public-private partnership where the public sector transferred the responsibilities to design, build, finance, operate, and maintain the project to the private party.[107] This type of public-private partnership arrangement involves an exclusive right of the private party to design and build new public-use infrastructure assets in accordance with the public agency's specified standards, followed by a lease of the new infrastructure assets from the public owner to the private party for the term of the concession agreement. Unlike public-private partnerships involving long-term leases of

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[104] For background on public-private partnerships, see CRS Report R45010, *Public-Private Partnerships (P3s) in Transportation*, by William J. Mallett (March 26, 2021); CRS Report R43410, *Highway and Public Transportation Infrastructure Provision Using Public-Private Partnerships (P3s)*, by William J. Mallett (March 5, 2014); and U.S. Government Accountability Office, *Highway Public-Private Partnerships, More Rigorous Up-front Analysis Could Better Secure Potential Benefits and Protect the Public Interest*, GAO-08-44 (Washington, DC: February 2008).

[105] See summaries of these arrangements at U.S. Department of Transportation, Federal Highway Administration, *Innovative Program Delivery* "Project Profiles," available at https://www.fhwa.dot.gov/ipd/project_profiles/il_chicago_skyway.aspx and https://www.fhwa.dot.gov/ipd/project_profiles/in_indiana_toll.aspx.

[106] For a detailed discussion of the tax treatment of certain public-private partnerships involved in transportation infrastructure, see Joint Committee on Taxation, *Overview of Selected Internal Revenue Code Provisions Relating to the Financing of Public Infrastructure* (JCX-7-19), March 4, 2019, pp. 26-39. This document can be found on the Joint Committee on Taxation website at www.jct.gov.

[107] See summaries of these arrangements at U.S. Department of Transportation, Federal Highway Administration, *Innovative Program Delivery*, "Project Profiles," available at https://www.fhwa.dot.gov/ipd/project_profiles/co_eagle_project.aspx and https://www.fhwa.dot.gov/ipd/project_profiles/co_us36_express_lanes_phase2.aspx.

previously existing infrastructure assets, the private party in a design-build-finance-operate-maintain concession arrangement generally does not pay a large up-front amount to the public owner. Rather, the costs of construction are generally funded with equity capital, third-party debt, tax-exempt financing, Federal loans, and/or Federal grants. In return for operating and maintaining the infrastructure assets, the private party agrees to collect fees for the term of the agreement (*e.g.*, tolls from end users or availability payments from the public owner), which are structured to meet the debt service requirements, costs of operating and maintaining the infrastructure assets, and payments to equity investors. An umbrella concession agreement sets out the long-term rights and obligations of each party including dispute resolution mechanisms.

E. Excise Tax on Freight Transport

The weight of domestic shipments by truck has increased from 9.9 million tons in 2012 to 11.1 million tons in 2018.[108] Freight transport by truck can result in pavement damage, congestions, accidents, and increased air pollution. One proposal to address these externalities and raise additional revenue would be to impose a per mile tonnage tax on freight shipments by heavy trucks. Such a tax would be a variation of a vehicle miles traveled tax and would raise similar implementation issues. A more comprehensive tax could be designed to account for intermodal substitution effects and tax shipments by rail and barge based on the externalities resulting from those modes of transportation as well as their use of public resources (such as dredging in the case barge traffic).[109]

[108] United States Department of Transportation, Bureau of Transportation Statistics, Weight of Shipments by Transportation Mode, available at https://data.bts.gov/stories/s/Moving-Goods-in-the-United-States/bcyt-rqmu, accessed May 4, 2021.

[109] For an analysis of one overland freight excise tax proposal see Congressional Budget Office, *Options for Reducing the Deficit: 2019 to 2028*, December 2018, Option 32, p. 284.

F. Low-Income Housing Tax Credit

A taxpayer may claim the low-income housing tax credit annually over a 10-year period for the costs of building or rehabilitating rental housing occupied by low-income tenants. The amount of credit that may be claimed each year is an amount equal to the applicable percentage of the qualified basis of each qualified low-income building.[110]

Credit calculations

The applicable percentage for non-Federally subsidized newly constructed housing and non-Federally subsidized substantial rehabilitation is calculated such that the present value of the credit amounts is at least 70 percent of a building's qualified basis, depending on the prevailing interest rate.[111] These credits are sometimes referred to as "nine-percent credits."

The applicable percentage for Federally subsidized newly constructed housing, Federally subsidized substantial rehabilitation, and certain housing acquisition costs, is calculated such that the present value of the credit amounts is at least 30 percent of a building's qualified basis, depending on the prevailing interest rate.[112] These credits are sometimes referred to as "four-percent credits."

Section 42(d)(5) provides for an increase in housing credit for buildings located in certain high cost areas and difficult development areas, as designated by the Secretary of Housing and Urban Development.

State housing credit ceiling

A low-income housing tax credit is allowable only if the building owner receives a housing credit allocation from a State or local housing credit agency. Generally, the aggregate credit authority provided annually to each State for calendar year 2021 is $2.8125 multiplied by the State population, with a minimum annual cap of $3,245,625 for certain small population

[110] Sec. 42.

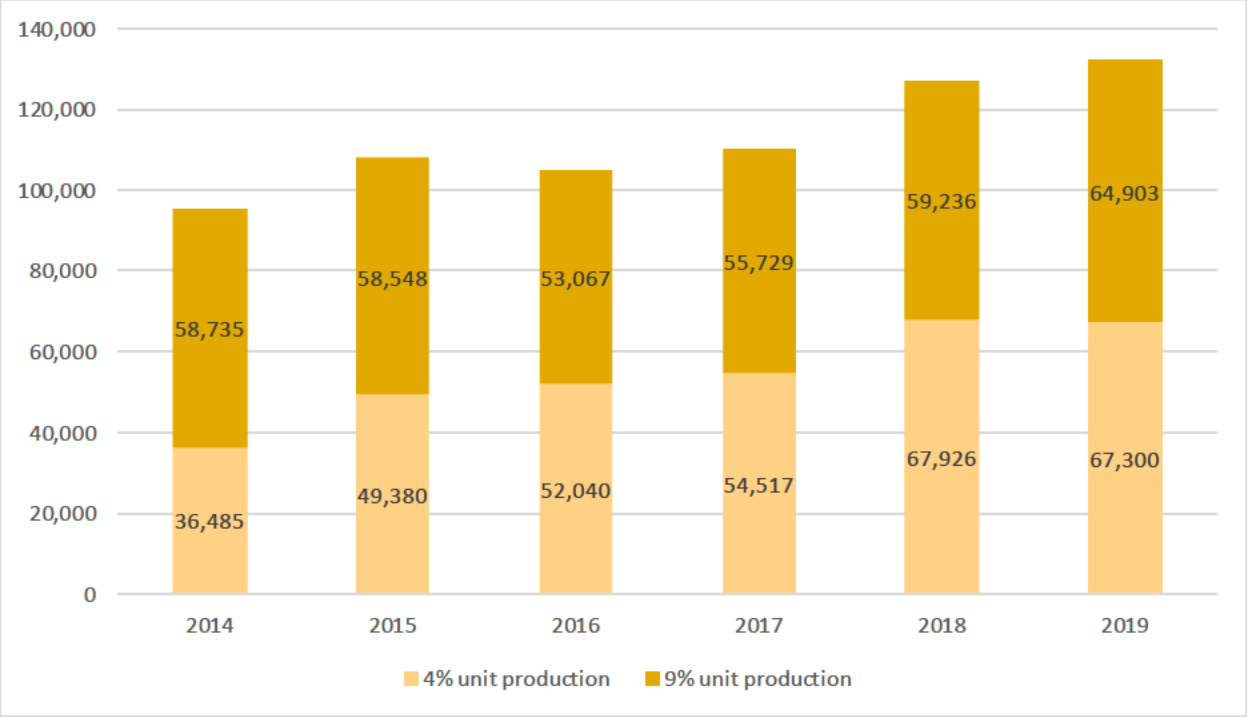
[111] See sec. 42(b) and (e). This credit is referred to as the 70-percent credit. See Joint Committee on Taxation, *General Explanation of the Tax Reform Act of 1986* (JCS-10-87), May 4, 1987. This document can be found on the Joint Committee on Taxation website at www.jct.gov. However, under the Housing and Economic Recovery Act of 2008, the minimum applicable percentage for such credits was temporarily set at nine percent (the "nine-percent floor"). The Consolidated Appropriations Act, 2016 made the nine-percent floor permanent. The enactment of the nine-percent floor on the credit implies that, under the statutory formula, the present value is always 70 percent or greater.

[112] This credit is referred to as the 30-percent credit. See Joint Committee on Taxation, *General Explanation of the Tax Reform Act of 1986* (JCS-10-87), May 4, 1987. This document can be found on the Joint Committee on Taxation website at www.jct.gov. However, under the Consolidated Appropriations Act, 2020, the minimum applicable percentage for such credits was set at four percent (the "four-percent floor"). The enactment of the four-percent floor on the credit implies that, under the statutory formula, the present value is always 30 percent or greater.

States and territories.[113] The amount of housing credit allocated by a State to a low-income building reduces the State housing credit ceiling only once, in the year the housing credit is allocated. However, credit allocations are not needed for buildings that receive 50 percent or more of their financing from the proceeds of tax-exempt bonds that are subject to the private activity bond volume limit.[114]

Figure 4 shows that in 2019, a total of 67,300 and 64,903 low-income housing units received initial allocations of four-percent and nine-percent credits, respectively. Between 2014 and 2019, the number of units receiving initial allocations of four-percent credits increased from 36,485 units to 67,300 units, while units receiving initial allocations of nine-percent credits increased more modestly from 58,735 units to 64,903 units.

Figure 4.–Number of Units Receiving Initial Credit Allocations, by Credit Type



[113] See Notice 2021-19, 2021-11 I.R.B. 920, March 15, 2021. Section 42(h)(3)(I) provides for an increase in the State housing credit ceiling for 2018, 2019, 2020, and 2021. The increase is calculated by multiplying the State housing credit ceiling by 1.125.

In 2021, the most recent year for which the IRS has issued population estimates for purposes of the low-income housing tax credit, the small population States are Alaska, Delaware, the District of Columbia, Montana, North Dakota, Rhode Island, South Dakota, Vermont, and Wyoming. The small population territories are American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands. *Ibid.*

[114] Sec 42(h)(4)(B). If less than 50 percent of a building is financed with tax-exempt bonds, only the portion of credits attributable to the bond-financed portion of the building is allowed without allocation. Sec. 42(h)(4)(A).

Sources: National Council of State Housing Agencies, HFA Factbook: 2019 Annual Survey Results, Tables 3d and 5.
Note: Units include new construction, substantially rehabilitated units, and newly acquired and rehabilitated units.

Data in Table 5 show that the total amounts of credits claimed by taxpayers increased from $8.7 billion in 2014 to $12.0 billion in 2019. These totals include both four-percent and nine-percent credits.

Table 5.–Total Low-Income Housing Tax Credits Claimed, 2014 to 2019 ($ millions)

Year	Total credits ($ millions)
2014	8,656.51
2015	9,136.35
2016	9,430.57
2017	9,739.40
2018	10,488.48
2019	12,045.79

Source: Joint Committee staff calculations.

Qualified low-income housing projects and qualified low-income buildings

A qualified low-income building is a building that is subject to a 15-year compliance period and is part of a qualified low-income housing project. A qualified low-income housing project is a project that meets the minimum set-aside requirement and other requirements with respect to the set-aside units at all times during the compliance period. As discussed below, buildings are generally also subject to a 15-year extended-use period following the compliance period.

Minimum set-aside requirement

To meet the minimum set-aside requirement, a qualified low-income housing project must satisfy one of three tests (whichever is elected by the taxpayer):[115]

[115] Sec. 42(g)(1). The 40-60 test is used to satisfy the minimum set-aside requirement in the majority of projects. For example, in 2019, the 40-60 test was used for 100 percent of units in 16 States. In only three States was the 40-60 test used for less than 50 percent of the units in the State (45 percent in Indiana, 35 percent in Nevada, and 45 percent in Virginia). NCSHA, HFA Factbook: 2019 Annual Survey Results, Table 9.

20-50 test. The 20-50 test is met if 20 percent or more of the residential units in the project are both rent-restricted and occupied by individuals whose income is 50 percent or less of area median gross income.

40-60 test. The 40-60 test is met if 40 percent or more of the residential units in such project are both rent-restricted and occupied by individuals whose income is 60 percent or less of area median gross income.

Average income test. The average income test is met if 40 percent or more (25 percent or more in the case of a project located in a high cost housing area) of the residential units in such project are both rent-restricted and occupied by individuals whose income does not exceed the imputed income limitation designated by the taxpayer with respect to the respective unit. The imputed income limitation is determined in 10-percentage-point increments, and may be designated as 20, 30, 40, 50, 60, 70, or 80 percent. The average of the imputed income limitations designated must not exceed 60 percent of area median gross income.[116]

Placed in service rules

Generally, a building must be placed in service in the calendar year in which it is allocated credits (the "allocation year").[117] However, many buildings are not sufficiently completed to be placed in service in the allocation year, and may require a carryover allocation. To qualify for a carryover allocation, the taxpayer must spend more than 10 percent of the taxpayer's reasonably expected basis in the building (as of the close of the second calendar year following the allocation year) within one year of the date of allocation.[118] Such building generally must be placed in service by the end of the second calendar year following the allocation year.

The IRS defines the placed-in-service date for new or existing buildings as "the date on which the building is ready and available for its specifically assigned function, *i.e.*, the date on which the first unit in the building is suitable for occupancy in accordance with [S]tate or local law."[119] Certain rehabilitation expenditures, which are treated as separate new buildings for purposes of the credit, are treated as placed in service at the end of any 24-month period over which the expenditures are incurred.[120]

Table 6 displays the total number of units and properties placed in service each year between 2014 and 2018. The number of units and properties placed in service each year varies and depends not only on the allocation of tax credits in the year, but also on a variety of

[116] In October 2020, the IRS published proposed regulations setting forth guidance on administering the average income test. 85 Fed. Reg. 68816, October 30, 2020.

[117] Sec. 42(h)(1)(B).

[118] Sec. 42(h)(1)(E).

[119] See Notice 88-116, 1988-2 C.B. 44.

[120] Sec. 42(e)(4)(A).

economic and market factors. In addition, a building located in an area affected by a natural disaster may also face construction difficulties, delaying the building's placed-in-service date.

Table 6.–Number of Units and Properties Placed in Service, 2010 to 2014

Year	Properties placed in service	Units placed in service
2010	1,217	92,257
2011	1,671	131,455
2012	1,563	116,427
2013	1,279	87,194
2014	1,037	81,192

Source: Department of Housing and Urban Development, LIHTC Database. Available at: https://lihtc.huduser.gov/.

Note: Data for units and properties placed in service during years 2015 through 2019 are also available but may be incomplete.

Extended use period

To be eligible for housing credits, a building owner is generally required to enter into an agreement with the housing credit agency to maintain housing affordability restrictions on the property for an additional 15 years following the end of the initial 15-year compliance period (the "extended use period").[121] However, the extended use period may be terminated early under three scenarios: (1) if the building is acquired by foreclosure, (2) if the building owner exercises the qualified contract option, or (3) if a qualified nonprofit organization or other qualified buyer purchases the building by exercising a "right of first refusal" described under section 42(i)(7).

Qualified contracts

To exercise the qualified contract option, the building owner must submit to the housing credit agency a written request to find a buyer that agrees to acquire the owner's interest in the low-income portion of the building. An owner may only make such a request starting in the 14th year of the compliance period.[122] However, the qualified contract exception does "not apply to the extent more stringent requirements are provided in the agreement [with the housing credit agency] or in State law."[123]

[121] Sec. 42(h)(6).

[122] Sec. 42(h)(6)(I).

[123] Sec. 42(h)(6)(E).

The housing credit agency has a period of one year beginning on the date the owner makes the written request to produce a qualified contract, in which a buyer agrees to acquire the building at a specified statutory price.[124] If the agency is unable to present a qualified contract before the end of the one-year period, the extended use agreement terminates and the housing affordability restrictions are removed.[125]

Right of first refusal

In many states, housing credit agencies favor low-income housing credit applications that give qualified nonprofit organizations or certain other parties a "right of first refusal," as described under section 42(i)(7). Section 42(i)(7) provides that no Federal income tax benefit fails to be allowable to a taxpayer with respect to any qualified low-income building merely by reason of a "right of first refusal" that is (1) held by a qualified nonprofit organization or certain other qualified buyers (2) to purchase the building (3) after the end of the compliance period (4) for a price not less than the minimum purchase price. The minimum purchase price is an amount equal to the sum of the principal amount of indebtedness secured by the building (other than indebtedness incurred within the five-year period ending on the date of the sale), plus certain exit taxes.[126] However, a number of State courts have come to different conclusions with respect to what constitutes a right of first refusal and how such a right may be triggered.[127]

Qualified allocation plans

The low-income housing credit must be allocated pursuant to a housing credit agency's qualified allocation plan (a "QAP").[128] A QAP is defined as any plan that (1) sets forth the selection criteria to be used to determine the housing priorities of the housing credit agency which are appropriate to local conditions, (2) which give preference in allocating housing credit to certain projects (*e.g.*, projects serving the lowest income tenants), and (3) which provide a procedure that the agency will follow in monitoring for noncompliance and in notifying the IRS of such noncompliance and in monitoring for noncompliance with habitability standards through regular site visits.[129] QAPs must use the following selection criteria: project location, housing

[124] The buyer must agree to acquire the non low-income portion of the building for fair market value and the low-income portion of the building for an amount not less than the applicable fraction of the sum of (i) the outstanding indebtedness secured by, or with respect to, the building; (ii) the adjusted investor equity in the building; plus (iii) other capital contributions; but reduced by (iv) cash distributions from the project. Sec. 42(h)(6)(F).

[125] Sec. 42(h)(6)(E)(i); Treas. Reg. sec. 1.42-18(a).

[126] Sec. 42(i)(7)(B).

[127] See, *e.g.*, *Homeowner's Rehab, Inc v. Related Corp. V SLP, L.P.*, 479 Mass. 741 (2018) (holding that a bona fide offer was not required for nonprofit partner to exercise its right of first refusal to purchase partnership's property interest); *Senior Housing Assistance Grp. v. AMTAX Holdings 260, LLC*, No. C17-1115 RSM, 2019 WL 1417299 (W.D. Wash. Mar. 29, 2019), *appeal dismissed*, No. 19-35354, 2019 WL 5576461 (9th Cir. Sept. 13, 2019) (requiring exercise of right of first refusal under section 42(i)(7) to satisfy State common law requirement of a bona fide offer).

[128] Sec. 42(m).

[129] Sec. 42(m)(1)(B).

needs characteristics, project characteristics, sponsor characteristics, tenant populations with special housing needs, public housing waiting lists, tenant populations of individuals with children, projects intended for eventual tenant ownership, the energy efficiency of the project, and the historic nature of the project.[130]

Native American areas

Present law does not require housing credit agencies to allocate credits to projects located in Native American areas.[131] However, agencies are allowed to give preference in allocating credits to projects serving the lowest-income tenants and to set project selection criteria that reflect the housing priorities of the agency and are appropriate to local conditions.[132]

Depending on the rules of the particular State or locality, a Native American tribe may be involved in a low-income housing tax credit project in various ways. For example, an applicant for housing credits may be required to obtain legal authorization or permits from a tribal government for a project that is located on land controlled by the tribe. A tribe may also be more directly involved and serve as the lender, developer, or property manager for a project.[133]

[130] Sec. 42(m)(1)(C).

[131] The term "Native American area" refers to Federal- and State-designated Native American areas, off-reservation trust lands, Hawaiian home lands, State-designated tribal statistical areas, tribal designated statistical areas, Oklahoma tribal statistical areas, and Alaskan Native village statistical areas. See Census Bureau, *Class Codes and Definitions*, available at https://www.census.gov/library/reference/code-lists/class-codes.html; Census Bureau, *TIGER/Line Shapefile, 2017, nation, U.S., Current American Indian/Alaska Native/Native Hawaiian Areas National (AIANNH) National*, October 17, 2019, available at https://catalog.data.gov/dataset/tiger-line-shapefile-2017-nation-u-s-current-american-indian-alaska-native-native-hawaiian-area.

[132] Sec. 42(m)(1).

[133] For more detailed information regarding projects located on Native American lands, see Joint Committee on Taxation, *Overview of Federal Tax Provisions and Analysis of Selected Issues Relating to Native American Tribes and Their Members* (JCX-8-20), February 28, 2020, pp. 49-51. This document can be found on the Joint Committee on Taxation website at www.jct.gov.

G. Rehabilitation Credit for Certified Historic Structures

A 20-percent tax credit is provided for qualified rehabilitation expenditures with respect to a certified historic structure.[134] A certified historic structure means a building that is listed in the National Register, or that is located in a registered historic district and is certified by the Secretary of the Interior to the Secretary of the Treasury as being of historic significance to the district.

Under prior law, the full amount of the credit was generally allowable in the taxable year in which the qualified rehabilitated building was placed in service. However, under present law, the credit is generally allowable ratably in each taxable year over the five-year period beginning in the taxable year in which the qualified rehabilitated building is placed in service, for amounts paid or incurred after December 31, 2017. Taxpayers are required to use straight-line depreciation in order for rehabilitation expenditures to be treated as qualified.

As shown in Figures 5 and 6 below, the amount of rehabilitation credits was $1.57 billion in 2017 and dropped to $1.14 billion in 2018. From 2013 to 2018, approximately 98 percent of all rehabilitation credits claimed were credits for qualified rehabilitation expenditures with respect to certified historic structures.

From 2010 to 2017, the total amount of rehabilitation credits claimed for certified historic structures increased by an average of 15 percent per year. Previously, between 2005 and 2010, the growth rate was roughly one percent per year. There was a significant drop in the amount of credits claimed after 2017. In contrast, from 2012 through 2017, the level of rehabilitation credits claimed for non-historic buildings (*i.e.*, buildings placed in service prior to 1936) remained relatively stable, fluctuating between $13 million and $40 million in credits claimed per year. The non-historic rehabilitation credit was eliminated in 2017 under Public Law 115-97.

Most rehabilitation credits are claimed by C corporations, with such entities claiming about 77 percent of credits in any given year. Individuals claim virtually all of the remaining rehabilitation credits in any given year. Rehabilitation credit deals are often structured as partnerships, with individual or corporate partners claiming the benefit of the credits. In Figure 6, the credits claimed by individual and corporate partners are reflected in the individual and corporate data, respectively.

[134] Sec. 47.

Figure 5.–Rehabilitation Credits by Credit Type, 2005-2018

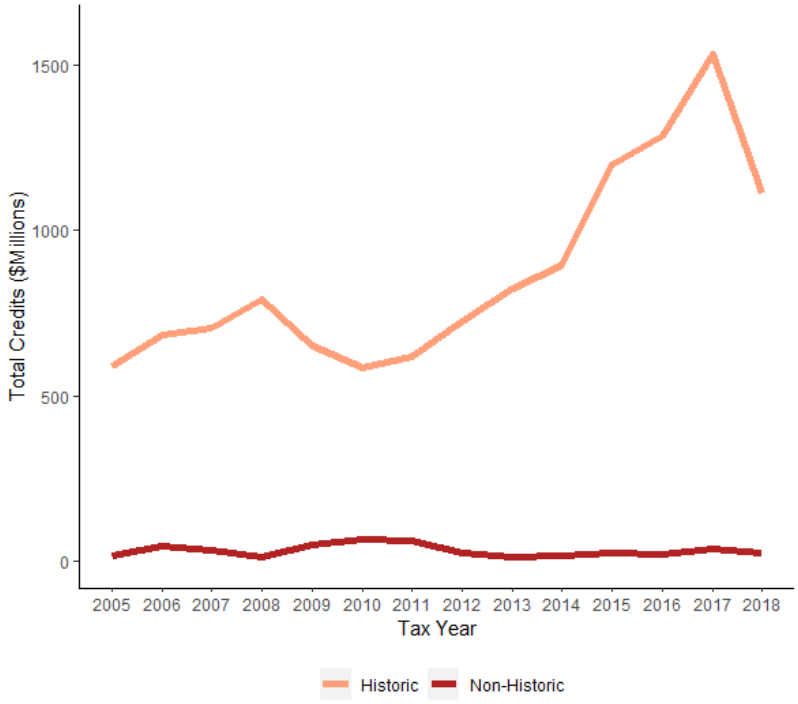
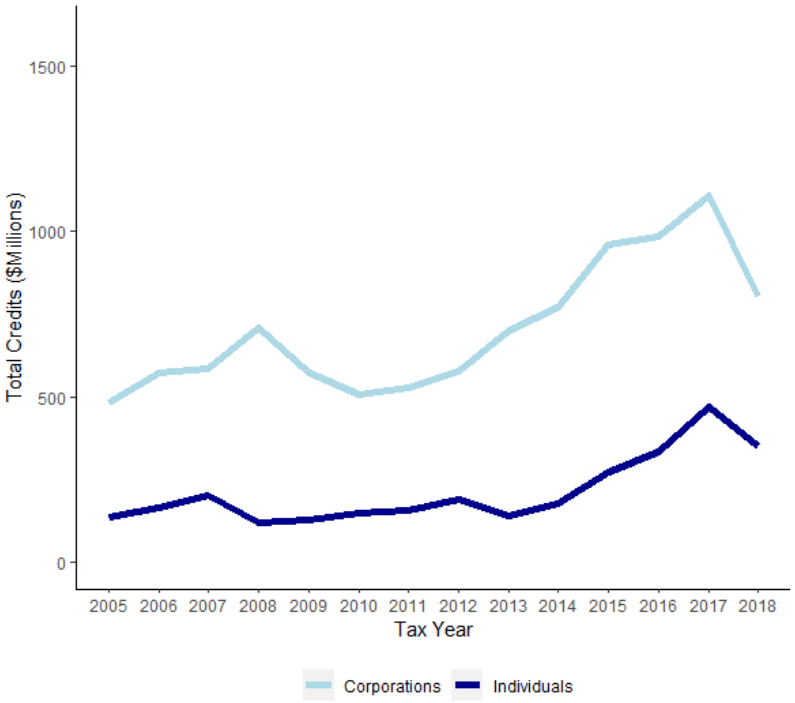


Figure 6.–Rehabilitation Credits by Filer Type, 2005-2018



Sources: JCT staff calculations and SOI data.

IV. SUMMARY OF ENERGY-RELATED TAX EXPENDITURES

A. Summary of Credit for Electricity Produced from Certain Renewable Resources		
Eligible Electricity Production Activity (sec. 45)	**Credit Rate for 2021[135] (cents per kilowatt-hour)**	**Expiration[136]**
Wind	2.5	January 1, 2022
Closed-loop biomass	2.5	January 1, 2022
Open-loop biomass	1.3	January 1, 2022
Geothermal	2.5	January 1, 2022
Municipal solid waste (including landfill gas facilities and trash combustion facilities)	1.3	January 1, 2022
Qualified hydropower	1.3	January 1, 2022
Marine and hydrokinetic	1.3	January 1, 2022

[135] Credit rates are adjusted annually for inflation. See 86 Fed. Reg. 22300, April 27, 2021. In general, the credit is available for electricity produced during the first 10 years after a facility has been placed in service. Taxpayers may also elect to get a 30-percent investment tax credit in lieu of this production tax credit. In the case of wind facilities, the available production tax credit or investment tax credit is reduced by 20 percent for facilities the construction of which began in 2017, by 40 percent for facilities the construction of which began in 2018, by 60 percent for facilities the construction of which began in 2019, and by 40 percent for facilities the construction of which began after 2019.

[136] Expires for property the construction of which begins after this date.

B. Summary of Certain Renewable and Alternative Fuel Incentives		
Fuel Type	**Per Gallon Incentive Amount**	**Expiration**
Agri-biodiesel and biodiesel (secs. 40A, 6426, and 6427)	$1.00 per gallon, plus $0.10 per gallon for small agri-biodiesel producers	January 1, 2023
Renewable diesel (secs. 40A, 6426, and 6427)	$1.00 per gallon	January 1, 2023
Second generation biofuel (cellulosic and algae) (sec. 40(b)(6))	$1.01 per gallon[137]	January 1, 2022
Alternative fuel (secs. 6426 and 6427):[138] • **liquefied petroleum gas** • **P Series Fuels** • **compressed or liquefied natural gas** • **liquefied hydrogen** • **any liquid fuel derived from coal through the Fischer-Tropsch process** • **compressed or liquefied gas derived from biomass** • **liquid fuel derived from biomass**	$0.50 per gallon[139]	January 1, 2022

[137] Income tax only credit which is not refundable.

[138] The refundable component of the alternative fuel mixture credit sunset for alternative fuel mixtures sold or used after December 31, 2011 (sec. 6427(e)(6)(D)). Alternative fuel does not include ethanol, methanol, biodiesel, or fuel derived from the production of paper or pulp. In addition, an alternative fuel mixture does not include mixtures made with liquified petroleum gas, compressed or liquefied natural gas, or compressed or liquefied gas derived from biomass. Sec. 6426(e)(2)

[139] For alternative fuels that are used or sold "neat" (not as part of a mixture with taxable fuel) the incentive can be claimed two ways: (1) as an excise tax credit against fuel tax liability, or (2) as a cash (outlay) payment if there insufficient fuel tax liability. Cash payments are not available for the alternative fuel in a mixture, only excise tax credits.

C. Summary of Investment Tax Credits for Energy Production Property			
Qualified Energy Property (sec. 48)	**Credit Rate**	**Maximum Credit**	**Expiration**[140]
Equipment to produce energy from a geothermal deposit	30% (in lieu of production tax credit)	None	January 1, 2022
	10%	None	None
Equipment to use ground or ground water for heating or cooling	10%	None	January 1, 2024
Equipment that uses fiber-optics to distribute sunlight inside a structure	30%	None	January 1, 2020
	26%		January 1, 2023
	22%		January 1, 2024
Microturbine property (< 2 megawatt electrical generation power plants of ≥ 26% efficiency)	10%	$200 per kilowatt of capacity	January 1, 2022
Combined heat and power property (simultaneous production of electrical/mechanical power and useful heat > 60% efficiency)	10%	None	January 1, 2022
Solar electric or solar hot water property	30%	None	January 1, 2020
	26%		January 1, 2023
	22%		January 1, 2024
	10%		None
Fuel cell property (generates electricity through electrochemical process)	30%	$1,500 for each ½ kilowatt of capacity	January 1, 2020
	26%		January 1, 2023
	22%		January 1, 2024

[140] For all eligible property, construction of the property must begin before the expiration date, except where otherwise noted. For credits subject to a rate phase down, construction must begin before the dates listed and placed in service before January 1, 2026.

C. Summary of Investment Tax Credits for Energy Production Property			
Qualified Energy Property (sec. 48)	**Credit Rate**	**Maximum Credit**	**Expiration**[140]
Small (< 100 kilowatt capacity) wind electrical generation property	30%	None	January 1, 2020
	26%		January 1, 2023
	22%		January 1, 2024
Waste energy recovery property	26%	None	January 1, 2023
	22%		January 1, 2024
Wind, biomass, municipal solid waste, qualified hydropower, and marine and hydrokinetic property	30% (in lieu of production tax credit)	None	January 1, 2022; January 1, 2026, in the case of offshore wind facilities[141]

[141] In the case of wind facilities other than offshore wind facilities, the available investment tax credit is reduced by 20 percent for facilities the construction of which begins in 2017, by 40 percent for facilities the construction of which begins in 2018, by 60 percent for facilities the construction of which begins in 2019, and by 40 percent for facilities the construction of which begins after 2019.

D. Summary of Energy Conservation and Residential Power Credits				
		Credit Rate or Amount	**Maximum Credit**	**Expiration**[142]
Personal credits:				
Credit for nonbusiness energy property installed at a principal residence (sec. 25C)	Insulation to 2009 international energy conservation code standard	10%	$500 (overall sec. 25C credit maximum)	December 31, 2021
	Energy efficient windows, doors, skylights, roofs	10%	$500 ($200 for windows and skylights)	December 31, 2021
	Advanced main air circulating fans	100%	$50	December 31, 2021
	Qualified natural gas, propane, or oil furnace or hot water boilers	100%	$150	December 31, 2021
	Qualified electric heat pump water heaters or natural gas, propane, or oil water heaters	100%	$300	December 31, 2021
	Qualified central air conditioners	100%	$300	December 31, 2021
Credit for residential energy efficient property (sec. 25D)	Residential solar water heating or solar electric property, fuel cell, small wind property, geothermal heat pump property, qualified biomass fuel property (wood/pellet stoves)	30%	$500 per ½ kilowatt of capacity for fuel cells	December 31, 2019
		26%		December 31, 2022
		22%		December 31, 2023
Business Credits:				
Manufacturer credit for new energy efficient home (sec. 45L)	Homes 30 percent more efficient than standard or Energy Star manufactured homes	$1,000 per home	None	December 31, 2021
	Homes 50 percent more efficient than the specified standard or is a manufactured home that meets the requirements of the Energy Star Labeled Homes program	$2,000 per home	None	December 31, 2021

[142] Expires for property placed in service after the expiration date.

E. Summary of Alternative Fuel Vehicle Credits			
Type of Property	**Description of Qualifying Property**	**Credit Amount and Explanation**	**Expiration**
Fuel cell vehicles (sec. 30B)	Vehicles propelled by chemically combining oxygen with hydrogen and creating electricity	• Base credit of $4,000 for vehicles weighing 8,500 pounds or less • Heavier vehicles can get up to a $40,000 credit, depending on weight • An additional $1,000 to $4,000 credit is available to cars and light trucks to the extent fuel economy exceeds 2002 base fuel economy	December 31, 2021
Alternative fuel refueling property (sec. 30C)	Property that dispenses alternative fuels, including ethanol, biodiesel, natural gas, hydrogen, and electricity	30% credit up to $30,000 for business property and $1,000 for property installed at a principal residence	December 31, 2021
Plug-in electric-drive motor vehicles (sec. 30D)	Four-wheeled vehicles (excluding low speed vehicles and vehicles weighing 14,000 or more) propelled by a battery with at least 4 kilowatt-hours of electricity that can be charged from an external source	Base credit of $2,500, plus $417 for each kilowatt-hour of additional battery capacity in excess of 4 kilowatt-hours, up to a maximum credit of $5,000	200,000 vehicles per manufacturer limitation
Plug-in electric-drive motorcycles (sec. 30D)	Two-wheeled vehicles able to achieve speeds of at least 45 miles per hour propelled by a battery with at least 2.5 kilowatt-hours of electricity that can be charged from an external source	Credit is 10% of cost, up to $2,500	December 31, 2021

F. Summary of Certain Non-Fossil Fuel Capital Cost Recovery Provisions		
Eligible Activity	**Description of Provision**	**Expiration**
Five-year cost recovery for certain energy property (secs. 168(e)(3)(B)(vi) and 48(a)(3)(A))	• A five-year Modified Accelerated Cost Recovery System ("MACRS") recovery period is generally provided for equipment using solar and wind energy to generate electricity (*e.g.*, solar panels), to heat or cool (or provide hot water for use in) a structure, or to provide solar (or wind) process heat; equipment using solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight; equipment used to produce, distribute, or use energy derived from a geothermal deposit; qualified fuel cell or microturbine property; combined heat and power system property; equipment using the ground or ground water as a thermal energy source (or sink) to heat (or cool) a structure; and waste energy recovery property • A five-year MACRS recovery period is also provided for certain small power production biomass facilities (*i.e.*, a qualifying small power production facility within the meaning of section 3(17)(C) of the Federal Power Act (16 U.S.C. 796 (17)(C)), as in effect on September 1, 1986, that also qualifies as certain biomass property, including (i) a boiler, the primary fuel for which will be an alternate substance; (ii) a burner (including necessary on-site equipment to bring the alternate substance to the burner) for a combustor other than a boiler if the primary fuel for such burner will be an alternate substance; (iii) equipment for converting an alternate substance into a qualified fuel; (iv) certain pollution control equipment; and (v) equipment used for the unloading, transfer, storage, reclaiming from storage, and preparation (including, but not limited to, washing, crushing, drying, and weighing) at the point of use of an alternative substance for use in equipment described in (i), (ii) or (iii))	January 1, 2024, for all property except for solar and wind energy property
Pollution control facilities (secs. 169 and 291(a)(4))	A taxpayer may elect to recover the cost of a certified pollution control facility over a period of 60 months (84 months in the case of certain atmospheric pollution control facilities used in connection with a power plant or other property that is primarily coal-fired). A corporation must reduce the amount of basis otherwise eligible for the 60-month (or 84-month) recovery period by 20%	None
Energy efficient commercial buildings deduction (sec. 179D)	A taxpayer may take in the placed-in-service year an additional deduction of $1.80 per square foot of commercial building property that exceeds certain energy efficiency standards. If a section 179D deduction is allowed, the basis of the property is reduced by the amount of the deduction; the remaining basis is recovered under otherwise applicable rules	None

G. Summary of Fossil Fuel Capital Cost Recovery Provisions		
Eligible Activity	**Description of Provision**	**Expiration**
Geological & geophysical expenditures (sec. 167(h))	• Geological and geophysical ("G&G") expenditures (*e.g.*, expenditures for geologists, seismic surveys, gravity meter surveys, and magnetic surveys) incurred by independent producers and smaller integrated oil companies in connection with domestic oil and gas exploration may be amortized over 24 months • G&G expenditures incurred by major integrated oil companies are amortized over seven years • No expensing of abandoned property	None
Alaska natural gas pipeline (secs. 168(e)(3)(C)(iii), 168(g)(3)(B), and 168(i)(16))	A seven-year MACRS recovery period and a 22-year class life is provided for any natural gas pipeline system located in the State of Alaska that has a capacity of more than 500 billion Btu of natural gas per day and either is placed in service after December 31, 2013, or the taxpayer elects to treat the system as placed in service on January 1, 2014 (to the extent the system was placed in service before January 1, 2014).	None
Natural gas gathering lines (secs. 168(e)(3)(C)(iv) and 168(g)(3)(B))	A seven-year MACRS recovery period and 14-year class life is provided for natural gas gathering pipelines	None
Deduction for tertiary injectants (sec. 193)	Taxpayers engaged in petroleum extraction activities may generally deduct qualified tertiary injectant expenses paid or incurred while applying a tertiary recovery method	None
Election to expense intangible drilling costs (secs. 263(c) and 291)	Taxpayers may elect to currently deduct intangible drilling costs ("IDCs") paid or incurred with respect to the development of an oil or gas property located in the United States. For an integrated oil company that has elected to expense IDCs, 30% of the IDCs on productive wells must be capitalized and amortized over a 60-month period	None

Summary of Fossil Fuel Capital Cost Recovery Provisions (cont'd)		
Eligible Activity	**Description of Provision**	**Expiration**
Depletion (secs. 611-613A and 291)	• Depletion is available to any person having an economic interest in a producing mine or oil and gas property (*e.g.*, a working or royalty interest in an oil- or gas-producing property). There generally are two types of depletion: cost and percentage depletion • Under the cost depletion method, the taxpayer deducts that portion of the adjusted basis of the depletable property which is equal to the ratio of units sold from that property during the taxable year relative to the number of units remaining as of the end of taxable year plus the number of units sold during the taxable year • Under the percentage depletion method, a percentage, varying from five percent to 22 percent (generally 15 percent for oil and gas properties), of the taxpayer's gross income from a producing property is allowed as a deduction in each taxable year. The amount deducted generally may not exceed 50 percent (100 percent in the case of oil and gas properties) of the net income from the oil and gas property in any year (the "net-income limitation") • Additionally, the percentage depletion deduction for all oil and gas properties may not exceed 65 percent of the taxpayer's overall taxable income for the year (determined before such deduction, as well as before any deduction allowable under section 199A, and adjusted for certain loss carrybacks and trust distributions) • Cost depletion is limited to the taxpayer's basis in the property, whereas percentage depletion is not limited by the basis, but is subject to limitations based on net income derived from the property and taxable income • Percentage depletion for producing oil and gas property (15-percent rate) is available only to independent producers and royalty owners. Integrated oil and gas companies must use cost depletion. Generally, an integrated oil company is a producer of crude oil that engages in the refining or retail sale of petroleum products in excess of certain threshold amounts	None

Summary of Fossil Fuel Capital Cost Recovery Provisions (cont'd)		
Eligible Activity	**Description of Provision**	**Expiration**
Depletion (secs. 611-613A and 291) (con't)	• Percentage depletion is also available for coal and lignite (10-percent rate) and oil shale (15-percent rate). The percentage depletion deduction for coal and lignite is generally reduced for corporations by an amount equal to 20 percent of the percentage depletion that exceeds the adjusted basis of the property • Percentage depletion is not available to individuals where capital gains rates apply under section 631(c)	None

H. Summary of Fossil Fuel Capital Gains Treatment		
Eligible Activity	**Description of Provision**	**Expiration**
Capital gains treatment of certain coal royalties (sec. 631(c))	• In the case of the disposal of coal (including lignite) mined in the United States, held for more than one year prior to disposal, by the owner in a form under which the owner retains an economic interest in such coal, the excess of the amount realized from the sale over the adjusted depletable basis of the coal (plus certain disallowed deductions) is treated as from the sale of property used in the owner's trade or business (*i.e.*, the sale of section 1231 property) • If the owner's net section 1231 gains, including royalties from eligible coal disposals, exceed its section 1231 losses, the royalties are treated as capital gains • Where individual capital gains rates apply, percentage depletion is not available	None

I. Summary of Energy Credits Related to Fossil Fuels			
Eligible Activity	**Description**	**Credit Amount**	**Expiration**
Enhanced oil recovery ("EOR") credit (sec. 43)	• Credit for expenses associated with an EOR project • An EOR project is generally a project that involves the use of one or more tertiary recovery methods to increase the amount of recoverable domestic crude oil	• 15% of enhanced oil recovery costs	None (currently phased out due to the price of oil and gas)
Marginal wells credit (sec. 45I)	Production credit for marginal wells or wells that have an average daily production of not more than 25 barrels per day	• $3-per-barrel credit (adjusted for inflation from 2004) for the production of crude oil from marginal wells • $0.50-per-1,000-cubic-feet credit (adjusted for inflation from 2004) for the production of natural gas from a marginal well	None (currently phased out due to the price of oil and gas)
Indian coal credit (sec. 45)	Production credit for coal produced from reserves that on June 14, 2005, were owned by (or held in trust on behalf of) an Indian tribe	• $2-per-ton credit (adjusted for inflation; $2.60 per ton for 2021)	January 1, 2022
Advanced coal project credit (sec. 48A)	• Investment credit for projects that use integrated gasification combined cycle ("IGCC") or other advanced coal-based electricity generation technologies • Credits are allocated by the Secretary • First round allocations are capped at $800 million for IGCC projects and $500 million for other projects • Second round allocations are capped at $1.25 billion • Second round projects must generally sequester 65% of total CO_2 emissions (70% in the case of reallocated credits)	• 20% for first round IGCC projects • 15% for other first round projects • 30% for second round projects	None Approximately $2 billion of credits will be reallocated in 2021 due to forfeiture of the initial allocations.

J. Summary of Energy-Related Bond Provisions	
Type of Bond	**Description**
Tax-exempt bonds for certain public energy-related projects (sec. 103)	• Tax-exempt governmental bond • May be used for financing government-owned and operated electrical and gas-powered generation, transmission and distribution facilities • Not subject to any volume caps
Tax-exempt bonds for certain private energy-related projects (secs. 141 and 142)	• Tax-exempt qualified private activity bond • May be used for financing certain exempt facilities including privately owned and/or operated utility facilities (local district heating and cooling facilities, certain private electric and gas facilities, and hydroelectric dam enhancements); qualified green building and sustainable design projects • Generally subject to private activity volume cap
Safe harbor from arbitrage rules for prepaid natural gas (sec. 148)	• Allows tax-exempt bonds to be used to finance prepaid natural gas contracts without application of the otherwise applicable arbitrage rules

K. Summary of Other Energy Provisions			
Eligible Activity	**Description**	**Credit Amount**	**Expiration**
Energy research credit (sec. 41)	• Flat-rate (*i.e.* non-incremental) credit for payments made to energy research consortia for qualified energy research • Includes research related to fossil fuels as well as to renewable energy technologies	20% of qualified expenses	None
Advanced nuclear power production credit (sec. 45J)	• Credit for production of nuclear power from new facilities that use modern designs and have received an allocation from the Secretary • Secretary may allocate up 6,000 megawatts of credit-eligible capacity	• 1.8 cents per kilowatt-hour for the eight-year period starting when the facility was placed in service. • Not inflation adjusted.	None
Carbon dioxide sequestration credit (sec. 45Q)	• Credit for the sequestration of carbon dioxide produced at qualified U.S. facilities • Sequestration can be for either industrial sources or for direct air capture of carbon, within the U.S. • The credit amount varies depending on the underlying activity (industrial source versus direct air capture).	• In 2021, for industrial sources, the credit amount is $22.68 per metric ton of carbon dioxide capture. • In 2021, for direct air capture, the credit amount is $34.81 per metric ton of carbon dioxide capture. • The credit period is the 12-year period beginning on the date the carbon capture equipment was originally placed in service	January 1, 2026[143]

[143] Carbon capture equipment must be placed in service at a qualified facility the construction of which begins at that date.

Summary of Other Energy Provisions (cont'd)			
Eligible Activity	**Description**	**Credit Amount**	**Expiration**
Advanced energy project credit (sec. 48C)	• Investment credit for qualified projects that re-equip, expand, or establish a manufacturing facility for the production of specified energy related products • Credits are allocated by the Secretary and are capped at $2.3 billion • All credits have been allocated	30%	None
Energy conservation subsidies provided by public utilities (sec. 136)	• Energy conservation subsidies provided by public utilities are excluded from gross income	N/A	None
Special rules for nuclear decommissioning costs (sec. 468A)	• Provides a current deduction for contributions to qualified nuclear decommissioning funds. • A 20% tax rate on income earned by nuclear decommissioning trusts	N/A	None

Summary of Other Energy Provisions (cont'd)			
Eligible Activity	**Description**	**Credit Amount**	**Expiration**
Passive loss rules for working interests in oil and gas property (sec. 469)	• Passive activity loss rules not applicable to working interest in any oil or gas property that taxpayer holds directly or indirectly through an entity that does not limit the taxpayer's liability • Losses and credits from such interests, in general, may offset income from other activities of taxpayer	N/A	None
Reduced rate of tax for alcohol from natural gas ("partially exempt methanol or ethanol") (sec. 4041(m))	• Taxed at 9.15 cents per gallon (alcohols other than ethanol) • Taxed at 11.3 cents per gallon (ethanol)	N/A	After September 30, 2022, the rates of tax are 2.15 cents per gallon for alcohols other than ethanol and 4.3 cents per gallon for ethanol
Reduced tax for diesel-water fuel emulsion (secs. 4081(a)(2)(D), 4081(c) and 6427(m))	• Diesel fuel tax rate of 24.3 cents per gallon is reduced to 19.7 cents per gallon for diesel-water fuel emulsions to reflect the reduced Btu content per gallon resulting from the water • Refund of the difference between the two rates is available to the extent tax-paid diesel is used to produce a qualifying emulsion diesel fuel	N/A	After September 30, 2022, the rate of tax for diesel fuel is 4.3 cents per gallon
Certain publicly traded partnerships treated as corporations (secs. 7704 and 851)	• General rule that a publicly traded partnership is taxed as a corporation is not applicable if 90 percent of gross income is interest, dividends, real property rents, or certain other types of qualifying income • Other types of qualifying income include income and gains from certain activities with respect to natural resources	N/A	None

L. Estimates of Energy-Related Tax Expenditures

Table 7 presents estimates of selected energy-related income tax expenditures for Fiscal Years 2020 through 2024.[144]

Table 7.–Energy-Related Tax Expenditure Estimates, Fiscal Years 2020-2024

	FY 2020-2024 ($ billions)
Investment tax credits for energy production property	35.5
Credit for electricity produced from certain renewable resources	17.0
Certain fossil fuel preferences [1]	8.1
Credit for residential energy-efficient property	3.6
Credits for alternative fuel technology vehicles and alternative fuel refueling property	3.2
Amortization of pollution control facilities	2.1
Exceptions for certain publicly traded partnerships treated as corporations	1.8
Depreciation recovery periods for energy-specific items [2]	1.0
Credit for nonbusiness energy property	0.8
Manufacturer credit for new energy efficient homes	0.6
Advanced energy project credit	0.4
Certain energy-related bond provisions [3]	0.2
Carbon dioxide sequestration credit	0.1
Energy efficient commercial buildings deduction	0.1
Exclusion of energy conservation subsidies provided by public utilities	0.1

[1] These include the coal production credits, advanced coal project credit, amortization of geological and geophysical expenditures, excess of percentage over cost depletion, and expensing of intangible drilling costs.

[2] These include 5-year MACRS for certain energy property, 10-year MACRS for smart electric distribution property, and 15-year MACRS for certain electric transmission property and natural gas distribution lines. Bonus depreciation and general acceleration under MACRS are also included.

[3] These include the credit for holders of qualified energy conservation bonds and the exclusion of interest on State and local government qualified private activity bonds for energy production facilities.

[144] These estimates are reproduced from Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2020-2024* (JCX-23-20), November 5, 2020, and reflect legislation enacted through October 1, 2020. Estimates for certain energy provisions are de minimis or unavailable.