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# **The Highway Funding Formula: History and Current Status Under the Infrastructure Investment and Jobs Act**

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## The Highway Funding Formula: History and Current Status Under the Infrastructure Investment and Jobs Act

Between 1916, when Congress created the first ongoing program to fund road construction, and 2012, when federal road funding shifted to a significantly different structure, various formula factors specified in law were used to apportion (distribute) most highway funds among the states. Four key factors were land area, population, urban population, and post road mileage. From 1982 through 2012, formula factors were partially overridden by state equity provisions, such as a guarantee that each state would receive federal funding at least equal to a specific percentage of the federal highway taxes its highway users paid.

Since enactment in 2012 of the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21; P.L. 112-141), formula factors such as population and highway lane mileage have ceased to play a significant role in determining the distribution of funds. Instead, apportionment was based primarily on each state's share of total apportionments in FY2012, the last year of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA; P.L. 109-59), as extended. In practice, this meant that the main determinant of the apportionment among the states under MAP-21 was the relative distributions established in SAFETEA through the guarantees provided in the state equity program, especially the guarantee of a return of at least 92 cents on the dollar of the taxes that highway users in a state paid into the highway account of the Highway Trust Fund (HTF). MAP-21 raised the guaranteed return to at least 95 cents on the dollar. The apportionment among the states under the Fixing America's Surface Transportation Act (FAST Act; P.L. 114-94), enacted in 2015, similarly was not based on any particular policy objective other than ensuring the stability of states' shares of total funding.

The Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58), enacted in 2021, changed the relatively simple programmatic structure for highway funding established by MAP-21. Part of this change was that the IIJA combined surface transportation reauthorization with a broader infrastructure bill funded primarily with multiyear advance appropriations. The IIJA retained the existing formula programs and created several new ones. The IIJA also created new competitive discretionary programs.

The IIJA added two new formula programs to the core highway programs that were funded from the HTF: the Carbon Reduction Program and the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program. Two other new formula programs created by the IIJA for highway bridges and electric vehicle infrastructure were funded with multiyear advance appropriations and apportioned on the basis of formulas unique to the individual programs. The IIJA also revived a stand-alone Appalachian Development Highway System (ADHS) Program, provided for ADHS funds to be distributed according to a cost-to-complete formula, and funded the Ferry Boat Program from both the HTF and the general fund. The formula funds under the Ferry Boat Program are not apportioned to the states but are allocated to existing public ferry service entities on the basis of ferry passengers, vehicles carried, and route miles.

The process of apportionment among the states of the core highway programs in the IIJA and the subsequent division of the state apportionments among the individual programs remains similar to the process under the FAST Act. The initial amount of the base apportionment for each state is calculated by multiplying the total apportionment by each state's share of FY2021 apportionments. The amounts for each state are then adjusted to conform to the law's three guaranteed amounts: (1) at least 95% of the state's estimated highway tax payments to the highway account of the HTF, (2) at least 2% greater than the state's apportionment for FY2021, and (3) at least 1% greater than the state's apportionment for the previous fiscal year. To date, under the IIJA, no adjustments have been necessary to ensure the guaranteed amounts are met. This is because the annual increases in the IIJA-authorized amounts (supported in part by general fund transfers to the HTF) have so far been sufficient to fund all states' initial amounts at levels high enough to satisfy the guarantees. Once a state's apportionment share is determined, the state's amount is then divided among the core programs.

Looking at core Federal-Aid Highway Program apportionments under current law and comparing them with a state's characteristics—some of which might change significantly over time—provides alternative perspectives on current and future federal involvement in highway funding. Some illuminating comparisons are each state's federal highway funding share as a function of its share of population, land area, highway lane miles, and vehicle miles traveled. These factors can be used to produce a state ranking of federal funding for each factor, such as highway funding per person.

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## Introduction

On November 15, 2021, President Joe Biden signed into law the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58). The IIJA made major changes to federal highway programs. It authorized \$356.5 billion for five fiscal years (FY2022-FY2026), providing a major increase in highway spending compared with the \$225.2 billion, unadjusted for inflation, authorized under the previous five-year surface transportation act, the Fixing America’s Surface Transportation Act of 2015 (FAST Act; P.L. 114-94). The IIJA increased spending from the Highway Trust Fund but also provided additional funds through multiyear advance appropriations from the Treasury general fund, in effect making the IIJA both a reauthorization act and a multiyear appropriations act.

For more than 100 years, the federal government has provided some form of highway funding to the states through the Federal-Aid Highway Program. One of the major characteristics of the program since its inception has been the distribution of funds to the states by formula, a process known as “apportionment.”<sup>1</sup> Of the IIJA funds administered by the Federal Highway Administration, about 87% are to be distributed to the states by formula.<sup>2</sup> The resulting apportionments are widely used to evaluate how individual states benefit from federal highway assistance relative to other states.

Although the procedure currently used to distribute federal highway funds is written into law, and programs receiving funds in this manner are frequently referred to as “formula programs,” the statutory language does not describe any formula in a straightforward way. In consequence, it can be difficult to understand how the apportionment of funds is determined and whether that apportionment adequately reflects considerations that may be of concern to Members of Congress.

At various times during the existence of the Federal-Aid Highway Program, Congress has also authorized discretionary programs that often included a competitive grant process rather than formula apportionments to the states. These programs are not the focus of this report but are at times mentioned when the context is helpful.

This report first describes the origins and development of highway formula funding and then discusses how the use of various formula factors gave way to the current apportionment mechanism. A series of tables compares individual states’ shares of the FY2023 apportionment with their shares of some factors relevant to highway needs: population, land area, highway lane miles, and vehicle miles traveled (VMT).

## The Early Years of Formula Funding

The Federal Aid Road Act of 1916 (39 Stat. 355) created the first ongoing federal program to fund road construction.<sup>3</sup> After setting some funds aside to cover administrative costs, the law

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<sup>1</sup> Apportionment is the distribution of a portion of authorized funds to each of the states by a statutory formula. Formula or apportionment factors are the data used in the formula, such as population, fuel use, or lane miles.

<sup>2</sup> Federal Highway Administration, *Bipartisan Infrastructure Law (BIL): Overview of Highway Provisions*, pp. 11-12, at [https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/BIL\\_overview\\_update\\_2022-11-8b.pdf](https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/BIL_overview_update_2022-11-8b.pdf).

<sup>3</sup> The Federal Aid Road Act of 1916 was defined as “[a]n Act to provide that the United States shall aid the States in the construction of rural post roads, and for other purposes” (39 Stat. 355). The enacted program was a rural road program, as urban roads were generally believed to be in relatively good condition, while rural roads were not. This report focuses on the main core formula programs that apportion federal highway assistance to the states. Federal road (continued...)

apportioned the remaining authorization among the states according to three factors. These factors were selected, in part, because they were not difficult to compile and seemed relevant to individual states' costs to build and maintain a highway system. The three factors, which were weighted equally, were

- (1) land area: the ratio that the area of each state bore to the total area of all states;
- (2) population: the ratio that the population of each state bore to the total population of all the states, as shown by the latest available census; and
- (3) rural post road mileage: the ratio that the mileage of rural free delivery routes and star routes in each state bore to the total mileage of those routes in all the states at the close of the preceding year.<sup>4</sup>

The selection of these factors had much to do with disagreement between urban and rural interests about the goals of the road program and with constitutional concerns regarding the appropriateness of federal spending on road construction. The population and land area factors were proxies for the rural and urban state interests. The population factor was seen as protecting the interests of the more densely populated eastern states and the land area factor as protecting the interests of large but less populated western states. The use of a post road mileage factor helped allay any constitutional qualms, as Article I, Section 7, of the Constitution specifically grants Congress the power “[t]o establish ... post roads,” but the factor also garnered favor from less populous states.<sup>5</sup> The 1916 act also set the maximum federal share of the cost of any highway project at 50%. The 1916 act supported the construction of rural roads and excluded streets and roads in places having a population of 2,500 or more.

The formula factors enacted in 1916 remained in place, with only temporary changes in Depression-era emergency legislation and war legislation, until passage of the Federal-Aid Highway Act of 1944 (58 Stat. 838).<sup>6</sup> The 1944 act began to shift the federal highway program away from construction of rural roads. It created three separate highway systems: a Primary System, a Secondary System, and an Urban System. Each system received a share of the total funds authorized, and these funds were then apportioned among the states by formula.<sup>7</sup>

The Federal Highway Act of 1921 (42 Stat. 22) retained the three formula factors adopted in 1916 but increased federal control over the use of funds by requiring the designation of a system of highways, limited to 7% of each state's total highway mileage, on which the federal funds could be spent. The 1921 act also guaranteed that each state would receive at least 0.5% of the total appropriation in any year. With this law, the three main characteristics of today's federal highway program were in place: funds were apportioned to the states by formula and implementation was

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legislation also soon provided for assistance to roads in national forests, Indian reservations, national parks, and other federally owned areas. Eventually, Congress also created narrower formula-based programs such as beautification, but these activities are beyond the scope of this report.

<sup>4</sup> Rural free delivery routes provided rural home delivery. Star routes provided intercity bulk mail delivery, usually between post offices. Together, this road mileage was commonly referred to as *rural post road mileage*.

<sup>5</sup> Alan R. Kooney, *Review and Analysis of Federal-Aid Apportionment Factors*, Federal Highway Administration, June 2, 1969, pp. 1-14 (hereinafter Kooney, *Review and Analysis*).

<sup>6</sup> One change of lasting impact was the withdrawal of the limitation of the use of federal funds on highway construction, reconstruction, and bridges within municipalities, which was first enacted in Section 13 of the Hayden-Cartwright Act of 1934 (48 Stat. 993).

<sup>7</sup> The primary system was made up of roads on the federal-aid highway system. The “secondary and feeder roads,” were roads in rural areas, including farm-to-market roads, rural mail routes, and school-bus routes, not on the federal-aid system. Urban system roads were federal-aid highways in urban areas with a population of 5,000 or more.

left primarily to state governments; the states were required to provide matching funds; and the funds could be spent only on designated federal-aid highways.

## The Post-World War II Highway Program

As part of the Federal-Aid Highway Act of 1944, Primary System funds were apportioned using the three formula factors established in 1916: each state's share of the national land area, population, and rural post road mileage, with each factor weighted equally. Funds for the Secondary System were apportioned on the basis of each state's share of the national land area, rural population, and rural post road mileage. The Urban System formula apportioned funds on the basis of one formula factor: each state's share of the national population living in urban areas of 5,000 or more residents. Although the act still favored rural areas, it was the first significant programmatic shift away from what had been essentially a rural road program.

During the 1970s and 1980s, as Congress created many narrowly targeted programs within the Federal-Aid Highway Program, it frequently adopted formula factors specific to those programs. By FY1977, there were 35 separate authorized programs. Of those, 13, including all the larger programs, apportioned funds using a variety of statutory formulas.<sup>8</sup> Examples of programs receiving more narrowly targeted funding were the new highway safety and hazard elimination programs, for which funds were apportioned on the basis of both total state population and public road mileage. With the aging of the Interstate Highway System leading to increasing maintenance needs, a new Interstate Resurfacing, Restoration, Rehabilitation, and Reconstruction Program (Interstate 4R) was created, with funding apportioned according to each state's Interstate Highway lane miles and VMT on the Interstate System, as shares of the respective national totals.

### Interstate Highway System: Toward Apportionments Based on Need

After the passage of the Federal-Aid Highway and Highway Revenue Acts of 1956 (70 Stat. 374, 378), funds to construct the Interstate Highway System were apportioned in two ways. Half of the apportionments for FY1957 through FY1959 were governed by the Primary, Secondary, and Urban System formulas adopted in 1944, and the other half were governed by population. Thereafter, Interstate Highway funds were to be apportioned on the basis of needs, with each state's need considered to be identical to the estimated cost of the federal share of completing the Interstate System in that state. The estimates required to begin use of this formula were completed in time for the FY1960 Interstate System apportionment. New estimates were released roughly every two years. The final cost-to-complete estimate was issued in 1991.

A 1986 report from the General Accounting Office (GAO, now the Government Accountability Office) criticized the use of land area, decennial population, and post road mileage in the distribution of highway funding. It recommended instead the use of VMT (on and off the Interstate System), lane miles, motor fuel consumption, annualized population statistics, and road deterioration.<sup>9</sup>

Although the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA; P.L. 102-240) substantially reorganized the highway programs, it apportioned funds of the four largest apportioned programs (accounting for roughly 70% of all apportioned funds) according to each state's share of apportionments during the FY1987-FY1991 period rather than according to specific factors. A 1995 GAO report noted that “[t]o a significant extent, however, the underlying

<sup>8</sup> Federal Highway Administration, *Financing Federal-Aid Highways Revisited*, July 1976, pp. 60-61, 69-70.

<sup>9</sup> U.S. General Accounting Office, *Highway Funding: Federal Distribution Formulas Should Be Changed*, GAO/RCED-86-114, March 1986, pp. 32-43, at <https://www.gao.gov/assets/rced-86-114.pdf>.

data and factors are not meaningful because the funding outcome is largely predetermined.”<sup>10</sup> Under ISTEA, the apportionments from FY1992 through FY1997 were fixed for six years by the factors used in the FY1987-FY1991 apportionments. Significantly, they did not reflect the new 1990 census data. An exception was a new program, the Congestion Mitigation and Air Quality Improvement Program (CMAQ), which was apportioned according to population in each state’s air quality non-attainment areas relative to the national population living in non-attainment areas.

In 1998, the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21; P.L. 105-178) reestablished apportionment formula factors for individual programs within the Federal-Aid Highway Program, often using new factors designed as proxies for the needs a program was intended to address. For example, the formula for the National Highway System program, one of several large programs, used four factors to apportion the annual authorization:<sup>11</sup>

- (1) the ratio of each state’s lane miles on principal arterial routes (excluding the Interstate System) to the national total (25% of the apportionment),
- (2) the ratio of each state’s VMT on principal arterial routes (excluding the Interstate System) to the national total (35%),
- (3) the ratio of each state’s diesel fuel use on highways within each state to the national total (30%), and
- (4) the ratio of each state’s per capita lane miles of principal arterial highways to the national total (10%).

The Surface Transportation Program, the federal-aid program that gave the states the greatest discretion in spending, was apportioned by a formula that used three weighted factors:

- (1) the ratio of each state’s total lane miles of federal-aid highways to the national total (25% of the apportionment),
- (2) the ratio of each state’s vehicle miles on federal-aid highways to the national total (40%), and
- (3) the ratio of each state’s estimated tax payments attributable to highway users paid into the highway account of the Highway Trust Fund—the source of federal funding for highways—to the national total (35%).

The most recent surface transportation reauthorization that used formula factors to apportion individual program authorizations was the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA; P.L. 109-59), enacted in 2005. That law apportioned 13 programs using funding formulas. For example, funds under the Highway Safety Improvement Program were apportioned according to three equally weighted factors: (1) each state’s share of lane miles of federal-aid highways, (2) VMT on federal-aid highways, and (3) number of fatalities on the federal-aid system. In contrast, the Railway-Highway Crossings Program in SAFETEA used the share of public railway-highway crossings in each state.

The factors of land area and post road mileage were no longer used for distributing any highway funds. Population figures were used for 2 of the 13 formula programs authorized in SAFETEA.

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<sup>10</sup> U.S. General Accounting Office, *Highway Funding: Alternatives for Distributing Federal Funds*, GAORCED096-6, November 1995, p. 3, at <https://www.gao.gov/products/rced-96-6>.

<sup>11</sup> Federal Highway Administration, *Financing Federal-Aid Highways*, FHWA-PL-99-015, August 1999, p. 49.

## State Equity Programs

Between 1982 and 2005, the formulas embedded in surface transportation authorization acts were not always decisive in determining how funds were apportioned. After some states objected that their highway users paid more of the motor fuel and truck taxes that flowed into the highway account of the Highway Trust Fund than they received in federal highway funding, Congress enacted state equity programs that generally did three things. First, each act included a guarantee that every state would receive federal funding at least equal to a specific percentage of the federal highway taxes its highway users paid. Second, all or nearly all states were given an increase in funding from the equity program.<sup>12</sup> Third, the program size was calculated in a way that ensured that the states receiving less than their highway users paid in highway taxes could be made whole up to their guaranteed percentage and that most other states could get more funding as well.

In the 1982 act, 5% of highway funding was distributed through the equity program, but in SAFETEA in 2005, the equity program received over 20% of the funds. The equity program distribution determined the total apportionment amount for each state and reduced the impact of the formula factors when it came to calculating each state's apportionments under the individual formula programs.

## Formula Changes Under MAP-21 and the FAST Act

The Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21; P.L. 112-141), enacted in 2012, eliminated or consolidated two-thirds of the previously existing federal highway programs. It also made major changes in the way funds were apportioned among the states.

Prior to MAP-21, Congress wrote authorizations for each individual apportioned program into law and specified the formula factors that were used to determine each state's share of the authorization for that program. Under MAP-21, all the large formula programs shared a single authorization amount, and the states' apportioned shares of the total authorization were determined before their amounts were divided among the specific programs.

MAP-21 did not specify any formula factors that were to be used to apportion funds among the states. Instead, the apportionment was based primarily on each state's share of total apportionments in FY2012, the last year of SAFETEA, as extended. In practice, this meant that the main determinants of the totals apportioned among the states under MAP-21 were the relative distributions under the equity bonus program established in SAFETEA.

In the MAP-21 formula, Congress addressed concerns about fairness from two different perspectives. On the one hand, it guaranteed that each state received an apportionment equal to at least 95 cents of every dollar the state's highway users paid in highway taxes. This represented an increase from the 92% return guaranteed in 2012, the final year of SAFETEA. On the other hand, by effectively fixing the apportionment shares at the FY2012 level, Congress ensured that most states receiving more from the Federal-Aid Highway Program than their highway users paid in federal highway taxes would still get increases in funding. As was true under SAFETEA and earlier equity programs, some states could receive larger amounts without substantially reducing the amounts provided to other states only because of the large amounts of overall funding

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<sup>12</sup> For example, under the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), the Minimum Guarantee Program guaranteed each state a distribution of at least \$1 million from the program. Under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA), most states received distributions under the Equity Bonus Program. In 2009, for example, Rhode Island and Maine did not receive Equity Bonus funds.



provided for apportionment. This was possible because the bill transferred \$18 billion from other Treasury accounts to the highway account of the Highway Trust Fund.<sup>13</sup>

The FAST Act (P.L. 114-94), enacted in 2015, made only modest changes to the MAP-21 apportionment mechanism. As was true with MAP-21, the FAST Act authorized a single amount for each year for all the apportioned highway programs combined. It retained the basic MAP-21 formula and the basic MAP-21 programmatic structure. This meant that while apportionments were still based primarily on each state's share of total apportionments in FY2012, the final year of SAFETEA, each state was guaranteed an apportionment equal to at least 95% of the estimated tax payments paid into the highway account of the Highway Trust Fund by highway users in the state.

## **Apportionments Under the IIJA**

The programs under MAP-21 and the FAST Act were limited in number, and the apportionment of the core formula program funds among the states was relatively simple. Also, the so-called core formula programs made up over 90% of all funding, formula and discretionary. This relatively simple programmatic structure changed under the IIJA. In part, the IIJA combined surface transportation reauthorization with a broader infrastructure bill that was funded primarily with multiyear advance appropriations. In addition, the IIJA created multiple new competitive discretionary programs.

In regard to core formula programs funded from the Highway Trust Fund, the IIJA retained the existing formula programs but created two additional ones: the Carbon Reduction Program and the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program.

In addition, two new five-year, non-core-formula programs were funded with multiyear advance appropriations: the Bridge Formula Program<sup>14</sup> and the National Electric Vehicle Infrastructure Formula Program. These funds are apportioned on the basis of formulas unique to the individual programs. The act also revived a stand-alone Appalachian Development Highway System (ADHS) Program for FY2022-FY2026 and provided for the funds to be distributed according to a cost-to-complete formula.<sup>15</sup>

## **Highway Trust Fund Core Formula Program Apportionments**

Under the IIJA, the authorization that funds nine core programs within the Federal-Aid Highway Program is apportioned among the states by formula. The programs are the

- National Highway Performance Program (NHPP);
- Surface Transportation Block Grant Program (STBG);

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<sup>13</sup> Under the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) and the Fixing America's Surface Transportation Act (FAST Act), nearly all federal highway assistance was funded out of the highway account of the Highway Trust Fund. (The Highway Trust Fund also has a separate mass transit account.) Because tax revenues dedicated to the highway account have been insufficient to fund the amounts Congress authorized to be spent from the account since FY2008, Congress has transferred \$144 billion of other monies, mostly from the Treasury general fund, to keep the highway account of the Highway Trust Fund solvent.

<sup>14</sup> Also known as the Bridge Replacement, Rehabilitation, Preservation, Protection, and Construction Program.

<sup>15</sup> The Appalachian region is defined as the whole of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia (40 U.S.C. §14102(a)(1)).

- Highway Safety Improvement Program (HSIP);
- Railway-Highway Crossings Program (this is an HSIP set-aside but is administered separately);
- CMAQ;
- Metropolitan Planning Program (MPP);
- National Highway Freight Program (NHFP);
- Carbon Reduction Program (CRP); and
- the PROTECT Formula Program.

A summary of the process follows, using FY2023 as the example year. Each state’s share of the authorization for the core programs is determined first, and then each state’s shares are divided up into the state’s specific program amounts.

### Calculating Each State’s Apportionment

The *base apportionment* for each fiscal year under the IIJA is set forth in Section 11101(A)(1). For FY2023, the base apportionment was \$53,537,826,683. This is the authorized amount available for apportionment to the states for the core formula programs.

### Calculation of the State-by-State Amounts (State Share)

First, the *initial amount* of the apportionment for each state is calculated by multiplying each state’s share of the FY2021 apportionment by the base apportionment of the relevant fiscal year. Examples of the calculation for selected states in FY2023 can be seen in **Table 1**. The selected states offer some diversity in terms of region of the United States, land area, and population.

**Table 1. State Initial Amounts**  
Selected states’ shares of FY2023 base apportionment of \$53,537,826,683

| State         | FY2021 Share | FY2023 Apportionment<br>(FY2021 Share × Base Apportionment) |
|---------------|--------------|---|
| California    | 9.2645%      | \$4,960,004,917   |
| Massachusetts | 1.5330%      | \$820,757,801   |
| Montana       | 1.0357%      | \$554,446,903   |
| Texas         | 9.8464%      | \$5,271,574,046   |

**Source:** Federal Highway Administration, “Fiscal Year (FY) 2023 Computational Tables,” at <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/comptables2023/table1pl.cfm>.

**Notes:** Calculations do not result in exact values shown because percentages are rounded. The apportionments and shares for all states are shown in Tables 4-7.

Next, the initial amounts for each state are adjusted to conform to the law’s three *guaranteed amounts*. The initial amount for each state is adjusted, if necessary, to ensure that it receives an aggregate apportionment that is

- (1) at least 95% of the state’s estimated highway tax payments to the highway account of the Highway Trust Fund based on the most recent fiscal year for which data are available;
- (2) at least 2% greater than the state’s apportionment for FY2021; and

(3) at least 1% greater than the state’s apportionment for the previous fiscal year.

To date, under the IIJA, no adjustments have been necessary to ensure that the guaranteed amounts are met. This is because the annual increases in the IIJA-authorized amounts (supported in part by general fund transfers to the Highway Trust Fund) have so far been sufficient to fund all states’ initial amounts at levels high enough to satisfy the guarantees.

Once the guarantees have been satisfied, each state’s share of the base apportionment is set. The division of the base state apportionments described below do not reduce or increase the amount apportioned to each state.

### Division of Each State’s Apportionment Among the Programs

Once a state’s base apportionment share is determined, the state’s amount is then divided among the core programs. This is basically a two-step process.

First, each state’s program amounts are determined and distributed for three programs that have specified nationwide dollar amounts for each fiscal year under the IIJA. These amounts are divided among the states according to formulas for each program:

- (1) CMAQ: the total amount for the fiscal year set forth in the IIJA (\$2,587,220,620 for FY2023) is distributed such that each state receives an amount equal to the proportion of the CMAQ amount apportioned to the state for FY2020.
- (2) NHFP: the total amount set aside for the program (\$1,401,411,169 for FY2023) is distributed such that each state receives an amount equal to the proportion of that state’s share of the total base apportionment.
- (3) MPP: the total amount for the fiscal year (\$445,883,562 for FY2023) is distributed such that each state receives an amount equal to the proportion of the amount apportioned to that state to carry out Metropolitan Transportation Planning (23 U.S.C. §134) for FY2020.

On the basis of these calculations, the amounts are distributed to the programs from each state’s base apportionments. What is left of the state’s base apportionment is referred to as the “remaining amount” or “remaining apportionment.” **Table 2** provides examples of the calculations, again based on FY2023.

**Table 2. Calculation of the Remaining Apportionments Under 23 U.S.C. §104(b)(4-6)**

Apportionment adjustments for FY2023 for selected states

| State         | FY2023 State Apportionment | NHFP          | CMAQ          | MPP          | Remaining Apportionment |
|---------------|----------------------------|---------------|---------------|--------------|-------------------------|
| California    | \$4,960,004,917            | \$129,833,554 | \$515,763,217 | \$67,323,616 | \$4,247,084,530         |
| Massachusetts | \$820,757,801              | \$21,484,233  | \$70,483,942  | \$12,095,567 | \$716,694,059           |
| Montana       | \$554,466,903              | \$14,513,778  | \$16,545,382  | \$2,419,123  | \$520,988,620           |
| Texas         | \$5,271,574,045            | \$137,989,216 | \$193,966,801 | \$34,914,051 | \$4,904,703,977         |

**Source:** Federal Highway Administration, FY2023 Computational Tables, Table I, at <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/comptables2023/table1p3-4.cfm>.

**Notes:** The determination of the National Highway Freight Program (NHFP), Congestion Mitigation and Air Quality Improvement Program (CMAQ), and Metropolitan Planning Program (MPP) amounts and the remaining apportionment do not reduce the amounts apportioned to the states but are part of the determination of how much of each state’s apportionment must be administered under the individual programs.

Second, the remaining apportionments are divided among the five other eligible programs by percentages set forth in Title 23, Section 104(b)(1-3, 7-8), of the *U.S. Code*. For examples, see **Table 3**.

**Table 3. Division of the Remaining Apportionments**

Distribution of the FY2023 remaining apportionments among selected states

| State | Remaining Apportionment | NHPP (59.1%)    | STBG (28.7%)    | HSIP (6.7%)   | CRP (2.6%)    | PROTECT (2.9%) |
|-------|-------------------------|-----------------|-----------------|---------------|---------------|----------------|
| CA    | \$4,247,084,530         | \$2,509,055,207 | \$1,220,621,452 | \$284,811,672 | \$108,838,746 | \$123,757,453  |
| MA    | \$716,694,059           | \$423,402,206   | \$205,979,452   | \$48,061,872  | \$18,366,501  | \$20,884,028   |
| MT    | \$520,988,620           | \$307,785,070   | \$149,733,277   | \$34,937,765  | \$13,351,217  | \$15,181,291   |
| TX    | \$4,904,703,977         | \$2,897,557,834 | \$1,409,622,730 | \$328,911,971 | \$125,691,360 | \$142,920,082  |

**Source:** Federal Highway Administration, FY2023 Computational Tables, Table I, at <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/comptables2023/table1p3-4.cfm>.

**Notes:** NHPP = National Highway Performance Program; STBG = Surface Transportation Block Grant Program; HSIP = Highway Safety Improvement Program; CRP = Carbon Reduction Program; PROTECT = Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation. Calculations do not result in exact values shown because percentages are rounded.

## Transferability

Title 23, Section 126, of the *U.S. Code* allows a state to transfer a core program apportionment to another program under Section 104(b), not to exceed 50% of the amount apportioned. There are some limits on the application of the transferability of certain suballocated set-asides and the MPP funds. Despite the limitations, the transferability provision lessens the importance of dividing each state's apportionment among the core formula programs.

## Other IIJA Formula Highway Programs

Division J of the IIJA provided supplemental appropriations from the general fund for four other formula highway programs that are outside the scope of the core highway program apportionment process. These four programs are the Bridge Formula Program, the National Electric Vehicle Infrastructure Formula Program, the ADHS Program, and the Ferry Boat Program (FBP). In addition to receiving the Division J general fund appropriation, the FBP also received a funding authorization from the Highway Trust Fund.

Several formula highway programs have received general fund appropriations over the past few years in annual Transportation, Housing and Urban Development, and Related Agencies (THUD) Appropriations acts. Beginning in FY2018, THUD appropriations acts have included funding from the general fund for "Highway Infrastructure Programs." Although much of the funding was for competitive grants under a variety of programs and for Community Project Funding/Congressionally Directed Spending (known to some as earmarks), the acts also provided for formula apportionments. Funding made available by annual appropriations is not examined in this report.

## Bridge Formula Program

The IIJA provided \$5.5 billion per fiscal year to replace, rehabilitate, preserve, protect, and construct highway bridges. After set-asides of 3% for tribal transportation facility bridges and

0.5% for administration, funds are distributed to states, the District of Columbia, and Puerto Rico by a formula based on two factors related to bridge condition:

- the cost of replacing bridges classified in poor condition in the state in proportion to replacing all bridges classified in poor condition (75% of the apportionment) and
- the cost of rehabilitating bridges classified in fair condition in the state in proportion to rehabilitating all bridges classified in fair condition (25%).

The program guarantees each state a minimum annual apportionment of \$45 million.

### **National Electric Vehicle Infrastructure Formula Program**

The IJA appropriated \$1 billion per fiscal year to provide funding to states to deploy electric vehicle (EV) charging infrastructure. After funding set-asides, including 10% for grants to state and local governments that require additional assistance to deploy EV charging infrastructure, the program apportions funding to states, the District of Columbia, and Puerto Rico by a formula based on a state's share of the combined amount distributed in federal-aid highway apportionments and Puerto Rico Highway Program funding.

### **Appalachian Development Highway System Program**

The IJA provided \$250 million per fiscal year for the ADHS program. These funds were apportioned to Appalachian states according to state percentages derived from the 2021 ADHS cost-to-complete estimate, adjusted to exclude those corridors that Appalachian states have no current plans to complete. Apportionments were adjusted so that no Appalachian state receives an amount in excess of 30% of the amount made available, and each Appalachian state receives at least \$10 million unless that is more than needed to complete the ADHS corridor(s) in the state.

### **Ferry Boat Program**

The IJA provided an average of \$182 million per fiscal year for the FBP, of which \$114 million was authorized from the Highway Trust Fund and \$68 million was appropriated by Division J from the general fund. The funds under this program are not apportioned to the states but are allocated by formula to existing ferry service entities that are publicly owned or operated, on the basis of data from the National Census of Ferry Operators.<sup>16</sup> The FBP formula is based on three factors:

- number of ferry passengers (35%),
- number of vehicles carried (35%), and
- total route nautical miles (30%).

States with at least one eligible entity that meets FBP requirements receive at least \$100,000 for each fiscal year.<sup>17</sup>

## **Evaluating States' Highway Apportionments**

As described above, the IJA procedure currently used to apportion core Federal-Aid Highway Program funds among the states is not based on any particular policy objectives other than

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<sup>16</sup> Bureau of Transportation Statistics, National Census of Ferry Operators, at <https://www.bts.gov/NCFO>.

<sup>17</sup> 23 U.S.C. §147.

ensuring the stability of state shares based on the apportionment shares in FY2021, the last year of the FAST Act, as extended. Some policy-related factors used to distribute highway funds in the past are no longer in use, while other possible factors sometimes mentioned in policy discussions, such as states' rates of population growth and projected increases in truck traffic, have never been used as formula factors.

A comparison of core Federal-Aid Highway Program apportionments under current law with a state's characteristics—some of which might change significantly over time—provides alternative perspectives on current and future federal involvement in highway funding. Thus, the following tables present each state's share of FY2023 apportionments and its proportion of some factors that have been used in the past distribution of federal highway funds.<sup>18</sup> **Table 4** compares apportionments with population shares, **Table 5** uses land area, **Table 6** uses lane miles on the federal-aid highway system, and **Table 7** uses VMT on the federal-aid highway system. **Table 8** ranks individual states' apportionment amounts as judged by these factors (e.g., apportionment per person).

## Apportionment and Population

Population may be used as a proxy for transportation needs, although it is less useful as a proxy for road conditions or extent of the highway capital stock, since states with similar populations may have significantly better or worse road conditions or smaller or larger road networks.

One advantage of using annual state population estimates, as opposed to rural or urban land area data, is that the Census Bureau provides full population estimates by state within a year of its annual survey and annual estimates each year thereafter until the next decennial census. Providing a breakdown of rural and urban populations takes longer and in the past was delayed until the details of the next decennial census were complete. This was a disadvantage to fast-growing states and an advantage to states that were losing residents.

Most states with large populations, including California, New York, and Florida, have apportionment shares that are lower than their population shares. Texas and Pennsylvania are exceptions in this respect.

**Table 4. FY2023 Apportionment and State Share of 2023 Population**

| State                | Apportionment<br>FY2023 | Share  | Population<br>2023 | Share   |
|----------------------|-------------------------|--------|--------------------|---------|
| Alabama              | \$1,025,270,663         | 1.915% | 5,108,468          | 1.525%  |
| Alaska               | \$677,607,185           | 1.266% | 733,406            | 0.219%  |
| Arizona              | \$988,758,942           | 1.847% | 7,431,344          | 2.219%  |
| Arkansas             | \$699,670,219           | 1.307% | 3,067,732          | 0.916%  |
| California           | \$4,960,004,917         | 9.264% | 38,965,193         | 11.634% |
| Colorado             | \$730,888,012           | 1.365% | 5,877,610          | 1.755%  |
| Connecticut          | \$678,751,533           | 1.268% | 3,617,176          | 1.080%  |
| Delaware             | \$228,599,214           | 0.427% | 1,031,890          | 0.308%  |
| District of Columbia | \$215,626,394           | 0.403% | 678,972            | 0.203%  |

<sup>18</sup> For other possibilities, see Paul Lewis, Jeff Davis, and Alice Grossman, *Refreshing the Status Quo: Federal Highway Programs and Funding Distribution*, Eno Foundation, December 2019, at <https://enotrans.org/wp-content/uploads/2023/02/Refreshing-the-Status-Quo-Eno-Center-for-Transportation.pdf>.

| State          | Apportionment<br>FY2023 | Share  | Population<br>2023 | Share  |
|----------------|-------------------------|--------|--------------------|--------|
| Florida        | \$2,560,420,059         | 4.782% | 22,610,726         | 6.751% |
| Georgia        | \$1,744,914,746         | 3.259% | 11,029,227         | 3.293% |
| Hawaii         | \$228,565,771           | 0.427% | 1,435,138          | 0.429% |
| Idaho          | \$386,525,504           | 0.722% | 1,964,726          | 0.587% |
| Illinois       | \$1,921,327,929         | 3.589% | 12,549,689         | 3.747% |
| Indiana        | \$1,287,669,246         | 2.405% | 6,862,199          | 2.049% |
| Iowa           | \$664,150,438           | 1.241% | 3,207,004          | 0.958% |
| Kansas         | \$510,684,005           | 0.954% | 2,940,546          | 0.878% |
| Kentucky       | \$897,899,553           | 1.677% | 4,526,154          | 1.351% |
| Louisiana      | \$948,473,230           | 1.772% | 4,573,749          | 1.366% |
| Maine          | \$249,457,740           | 0.466% | 1,395,722          | 0.417% |
| Maryland       | \$812,097,278           | 1.517% | 6,180,253          | 1.845% |
| Massachusetts  | \$820,757,801           | 1.533% | 7,001,399          | 2.091% |
| Michigan       | \$1,422,840,565         | 2.658% | 10,037,261         | 2.997% |
| Minnesota      | \$881,212,982           | 1.646% | 5,737,915          | 1.713% |
| Mississippi    | \$653,591,065           | 1.221% | 2,939,690          | 0.878% |
| Missouri       | \$1,279,336,708         | 2.390% | 6,196,156          | 1.850% |
| Montana        | \$554,466,903           | 1.036% | 1,132,812          | 0.338% |
| Nebraska       | \$390,607,118           | 0.730% | 1,978,379          | 0.591% |
| Nevada         | \$490,714,078           | 0.917% | 3,194,176          | 0.954% |
| New Hampshire  | \$223,281,143           | 0.417% | 1,402,054          | 0.419% |
| New Jersey     | \$1,349,302,291         | 2.520% | 9,290,841          | 2.774% |
| New Mexico     | \$496,265,721           | 0.927% | 2,114,371          | 0.631% |
| New York       | \$2,268,371,707         | 4.237% | 19,571,216         | 5.844% |
| North Carolina | \$1,409,427,904         | 2.633% | 10,835,491         | 3.235% |
| North Dakota   | \$335,504,936           | 0.627% | 783,926            | 0.234% |
| Ohio           | \$1,811,425,428         | 3.383% | 11,785,935         | 3.519% |
| Oklahoma       | \$857,064,806           | 1.601% | 4,053,824          | 1.210% |
| Oregon         | \$675,461,989           | 1.262% | 4,233,358          | 1.264% |
| Pennsylvania   | \$2,217,276,474         | 4.142% | 12,961,683         | 3.870% |
| Rhode Island   | \$295,545,197           | 0.552% | 1,095,962          | 0.327% |
| South Carolina | \$904,920,391           | 1.690% | 5,373,555          | 1.604% |
| South Dakota   | \$381,106,235           | 0.712% | 919,318            | 0.274% |
| Tennessee      | \$1,141,964,588         | 2.133% | 7,126,489          | 2.128% |
| Texas          | \$5,271,574,046         | 9.846% | 30,503,301         | 9.108% |
| Utah           | \$469,256,058           | 0.876% | 3,417,734          | 1.020% |
| Vermont        | \$274,270,175           | 0.512% | 647,464            | 0.193% |

| State         | Apportionment<br>FY2023 | Share    | Population<br>2023 | Share    |
|---------------|-------------------------|----------|--------------------|----------|
| Virginia      | \$1,375,194,618         | 2.569%   | 8,715,698          | 2.602%   |
| Washington    | \$916,122,234           | 1.711%   | 7,812,880          | 2.333%   |
| West Virginia | \$590,576,476           | 1.103%   | 1,770,071          | 0.529%   |
| Wisconsin     | \$1,016,821,360         | 1.899%   | 5,910,955          | 1.765%   |
| Wyoming       | \$346,203,111           | 0.647%   | 584,057            | 0.174%   |
| Total         | \$53,537,826,683        | 100.000% | 334,914,895        | 100.000% |

**Sources:** Federal Highway Administration, “FY2023 Computational Tables, Table I, Part 1,” at <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/comptables2023/table1p3-4.cfm>; and U.S. Census Bureau, “Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia, and Puerto Rico: April 1, 2020 to July 1, 2023 (NST-EST2023-POP),” at <https://www.census.gov/data/tables/time-series/demo/popest/2020s-state-total.html>.

## Apportionment and Land Area

Land area was one of the original 1916 formula factors because it could be measured reliably and because the federal aid was intended to help build all-weather roads across large expanses of thinly populated land. This factor was also thought to help balance out the influence of the population factor, which was seen as favoring the northeastern states. Land area has not been used as a factor in distributing federal highway funding since the passage of TEA-21 in 1998. Land area may be less useful today as a measure of need for highway funding because few new roads are being built. Most federally funded construction work involves the reconstruction or expansion of existing highways, and lane mileage of federal-aid or Interstate Highways may be a more suitable measure for this purpose.

**Table 5. FY2023 Apportionment and State Share of Land Area**

| State                | Apportionment<br>FY2023 | Share  | Land area<br>(sq. miles) | Share   |
|----------------------|-------------------------|--------|--------------------------|---------|
| Alabama              | \$1,025,270,663         | 1.915% | 50,645                   | 1.434%  |
| Alaska               | \$677,607,185           | 1.266% | 570,641                  | 16.157% |
| Arizona              | \$988,758,942           | 1.847% | 113,594                  | 3.216%  |
| Arkansas             | \$699,670,219           | 1.307% | 52,035                   | 1.473%  |
| California           | \$4,960,004,917         | 9.264% | 155,779                  | 4.411%  |
| Colorado             | \$730,888,012           | 1.365% | 103,642                  | 2.934%  |
| Connecticut          | \$678,751,533           | 1.268% | 4,842                    | 0.137%  |
| Delaware             | \$228,599,214           | 0.427% | 1,949                    | 0.055%  |
| District of Columbia | \$215,626,394           | 0.403% | 61                       | 0.002%  |
| Florida              | \$2,560,420,059         | 4.782% | 53,625                   | 1.518%  |
| Georgia              | \$1,744,914,746         | 3.259% | 57,513                   | 1.628%  |
| Hawaii               | \$228,565,771           | 0.427% | 6,423                    | 0.182%  |
| Idaho                | \$386,525,504           | 0.722% | 82,643                   | 2.340%  |
| Illinois             | \$1,921,327,929         | 3.589% | 55,519                   | 1.572%  |
| Indiana              | \$1,287,669,246         | 2.405% | 35,826                   | 1.014%  |



| State          | Apportionment<br>FY2023 | Share  | Land area<br>(sq. miles) | Share  |
|----------------|-------------------------|--------|--------------------------|--------|
| Iowa           | \$664,150,438           | 1.241% | 55,857                   | 1.581% |
| Kansas         | \$510,684,005           | 0.954% | 81,759                   | 2.315% |
| Kentucky       | \$897,899,553           | 1.677% | 39,486                   | 1.118% |
| Louisiana      | \$948,473,230           | 1.772% | 43,204                   | 1.223% |
| Maine          | \$249,457,740           | 0.466% | 30,843                   | 0.873% |
| Maryland       | \$812,097,278           | 1.517% | 9,707                    | 0.275% |
| Massachusetts  | \$820,757,801           | 1.533% | 7,800                    | 0.221% |
| Michigan       | \$1,422,840,565         | 2.658% | 56,539                   | 1.601% |
| Minnesota      | \$881,212,982           | 1.646% | 79,627                   | 2.255% |
| Mississippi    | \$653,591,065           | 1.221% | 46,923                   | 1.329% |
| Missouri       | \$1,279,336,708         | 2.390% | 68,742                   | 1.946% |
| Montana        | \$554,466,903           | 1.036% | 145,546                  | 4.121% |
| Nebraska       | \$390,607,118           | 0.730% | 76,824                   | 2.175% |
| Nevada         | \$490,714,078           | 0.917% | 109,781                  | 3.108% |
| New Hampshire  | \$223,281,143           | 0.417% | 8,953                    | 0.253% |
| New Jersey     | \$1,349,302,291         | 2.520% | 7,354                    | 0.208% |
| New Mexico     | \$496,265,721           | 0.927% | 121,298                  | 3.434% |
| New York       | \$2,268,371,707         | 4.237% | 47,126                   | 1.334% |
| North Carolina | \$1,409,427,904         | 2.633% | 48,618                   | 1.377% |
| North Dakota   | \$335,504,936           | 0.627% | 69,001                   | 1.954% |
| Ohio           | \$1,811,425,428         | 3.383% | 40,861                   | 1.157% |
| Oklahoma       | \$857,064,806           | 1.601% | 68,595                   | 1.942% |
| Oregon         | \$675,461,989           | 1.262% | 95,988                   | 2.718% |
| Pennsylvania   | \$2,217,276,474         | 4.142% | 44,743                   | 1.267% |
| Rhode Island   | \$295,545,197           | 0.552% | 1,034                    | 0.029% |
| South Carolina | \$904,920,391           | 1.690% | 30,061                   | 0.851% |
| South Dakota   | \$381,106,235           | 0.712% | 75,811                   | 2.146% |
| Tennessee      | \$1,141,964,588         | 2.133% | 41,235                   | 1.167% |
| Texas          | \$5,271,574,046         | 9.846% | 261,232                  | 7.396% |
| Utah           | \$469,256,058           | 0.876% | 82,170                   | 2.327% |
| Vermont        | \$274,270,175           | 0.512% | 9,217                    | 0.261% |
| Virginia       | \$1,375,194,618         | 2.569% | 39,490                   | 1.118% |
| Washington     | \$916,122,234           | 1.711% | 66,456                   | 1.882% |
| West Virginia  | \$590,576,476           | 1.103% | 24,038                   | 0.681% |
| Wisconsin      | \$1,016,821,360         | 1.899% | 54,158                   | 1.533% |
| Wyoming        | \$346,203,111           | 0.647% | 97,093                   | 2.749% |

| State | Apportionment<br>FY2023 | Share    | Land area<br>(sq. miles) | Share    |
|-------|-------------------------|----------|--------------------------|----------|
| Total | \$53,537,826,683        | 100.000% | 3,531,907                | 100.000% |

**Sources:** Federal Highway Administration (FHWA), “FY2023 Computational Tables, Table I, Part I,” at <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/comptables2023/tableIp3-4.cfm>; and U.S. Census Bureau, “State Area Measurements and Internal Point Coordinates,” at <https://www.census.gov/geographies/reference-files/2010/geo/state-area.html>.

## Apportionment and Highway Lane Miles

Lane miles provide a measure of the size of the capital stock of highways in a state relative to other states and the nation as a whole. Lane miles are a direct measure of the extent of public roads in both rural and urban areas. Lane-mile data can be obtained from the FHWA’s Highway Performance Monitoring System.

Although a General Accounting Office study from 1995 rated lane miles as the best proxy for needs, the character of individual states’ lane miles can vary substantially.<sup>19</sup> For example, states with dense urban populations may face higher costs for repairing existing lane miles or building new ones than sparsely populated states. Mountainous lane miles are often more expensive to rebuild or repair than flat lane miles, and roads subject to extreme cold may require more costly construction methods than those in more temperate areas.

**Table 6. FY2023 Apportionment and State Share of Highway Lane Miles**

| State                | Apportionment<br>FY2023 | Share  | FAHP lane<br>miles | Share  |
|----------------------|-------------------------|--------|--------------------|--------|
| Alabama              | \$1,025,270,663         | 1.915% | 62,961             | 2.505% |
| Alaska               | \$677,607,185           | 1.266% | 9,567              | 0.381% |
| Arizona              | \$988,758,942           | 1.847% | 47,055             | 1.872% |
| Arkansas             | \$699,670,219           | 1.307% | 50,834             | 2.023% |
| California           | \$4,960,004,917         | 9.264% | 159,391            | 6.342% |
| Colorado             | \$730,888,012           | 1.365% | 42,638             | 1.696% |
| Connecticut          | \$678,751,533           | 1.268% | 15,436             | 0.614% |
| Delaware             | \$228,599,214           | 0.427% | 4,302              | 0.171% |
| District of Columbia | \$215,626,394           | 0.403% | 1,330              | 0.053% |
| Florida              | \$2,560,420,059         | 4.782% | 84,884             | 3.377% |
| Georgia              | \$1,744,914,746         | 3.259% | 79,810             | 3.175% |
| Hawaii               | \$228,565,771           | 0.427% | 3,954              | 0.157% |
| Idaho                | \$386,525,504           | 0.722% | 25,807             | 1.027% |
| Illinois             | \$1,921,327,929         | 3.589% | 84,048             | 3.344% |
| Indiana              | \$1,287,669,246         | 2.405% | 57,675             | 2.295% |
| Iowa                 | \$664,150,438           | 1.241% | 58,890             | 2.343% |

<sup>19</sup> U.S. General Accounting Office, *Highway Funding: Alternatives for Distributing Federal Funds*, GAORCED096-6, November 1995, at <https://www.gao.gov/products/rced-96-6>.

| State          | Apportionment<br>FY2023 | Share           | FAHP lane<br>miles | Share           |
|----------------|-------------------------|-----------------|--------------------|-----------------|
| Kansas         | \$510,684,005           | 0.954%          | 75,260             | 2.994%          |
| Kentucky       | \$897,899,553           | 1.677%          | 36,452             | 1.450%          |
| Louisiana      | \$948,473,230           | 1.772%          | 37,368             | 1.487%          |
| Maine          | \$249,457,740           | 0.466%          | 13,777             | 0.548%          |
| Maryland       | \$812,097,278           | 1.517%          | 22,792             | 0.907%          |
| Massachusetts  | \$820,757,801           | 1.533%          | 26,677             | 1.061%          |
| Michigan       | \$1,422,840,565         | 2.658%          | 85,461             | 3.400%          |
| Minnesota      | \$881,212,982           | 1.646%          | 76,411             | 3.040%          |
| Mississippi    | \$653,591,065           | 1.221%          | 51,166             | 2.036%          |
| Missouri       | \$1,279,336,708         | 2.390%          | 74,907             | 2.980%          |
| Montana        | \$554,466,903           | 1.036%          | 32,540             | 1.295%          |
| Nebraska       | \$390,607,118           | 0.730%          | 44,935             | 1.788%          |
| Nevada         | \$490,714,078           | 0.917%          | 20,771             | 0.826%          |
| New Hampshire  | \$223,281,143           | 0.417%          | 8,201              | 0.326%          |
| New Jersey     | \$1,349,302,291         | 2.520%          | 29,047             | 1.156%          |
| New Mexico     | \$496,265,721           | 0.927%          | 31,273             | 1.244%          |
| New York       | \$2,268,371,707         | 4.237%          | 68,035             | 2.707%          |
| North Carolina | \$1,409,427,904         | 2.633%          | 61,463             | 2.445%          |
| North Dakota   | \$335,504,936           | 0.627%          | 40,628             | 1.617%          |
| Ohio           | \$1,811,425,428         | 3.383%          | 76,752             | 3.054%          |
| Oklahoma       | \$857,064,806           | 1.601%          | 74,090             | 2.948%          |
| Oregon         | \$675,461,989           | 1.262%          | 41,326             | 1.644%          |
| Pennsylvania   | \$2,217,276,474         | 4.142%          | 67,918             | 2.702%          |
| Rhode Island   | \$295,545,197           | 0.552%          | 4,216              | 0.168%          |
| South Carolina | \$904,920,391           | 1.690%          | 50,684             | 2.017%          |
| South Dakota   | \$381,106,235           | 0.712%          | 42,531             | 1.692%          |
| Tennessee      | \$1,141,964,588         | 2.133%          | 50,030             | 1.991%          |
| Texas          | \$5,271,574,046         | 9.846%          | 235,936            | 9.387%          |
| Utah           | \$469,256,058           | 0.876%          | 24,402             | 0.971%          |
| Vermont        | \$274,270,175           | 0.512%          | 8,646              | 0.344%          |
| Virginia       | \$1,375,194,618         | 2.569%          | 55,908             | 2.224%          |
| Washington     | \$916,122,234           | 1.711%          | 47,279             | 1.881%          |
| West Virginia  | \$590,576,476           | 1.103%          | 23,611             | 0.939%          |
| Wisconsin      | \$1,016,821,360         | 1.899%          | 65,830             | 2.619%          |
| Wyoming        | \$346,203,111           | 0.647%          | 18,414             | 0.733%          |
| <b>Total</b>   | <b>\$53,537,826,683</b> | <b>100.000%</b> | <b>2,513,320</b>   | <b>100.000%</b> |

**Sources:** Federal Highway Administration (FHWA), “FY2023 Computational Tables, Table I, Part I,” at <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/comptables2023/tableIp3-4.cfm>; and FHWA, “Highway Statistics, 2021, Table HM-48,” at <https://www.fhwa.dot.gov/policyinformation/statistics/2021/hm48.cfm>.

**Notes:** FAHP = Federal-Aid Highway Program. Only federal-aid highway lane miles are shown. Lane miles are calculated by multiplying the length of road by the number of lanes.

## Apportionment and Vehicle Miles Traveled

Estimates of VMT in a state are developed by the states via projection from traffic counts, offering an indication of the level of use of the road system. VMT does not indicate the time spent traveling the miles, so drivers in urban areas would be traveling fewer miles relative to most rural drivers because the former are more likely to encounter traffic. An alternative measure looking more specifically at congestion would calculate VMT per highway lane mile.

Generally, geographically large states that also have large cities tend to have an equal or higher share of total VMT than their apportionment percentage. Rural states without large urban areas also generally have larger apportionment percentages than their percentage of national VMT.

**Table 7. FY2023 Apportionment and State Share of Vehicle Miles Traveled**

| State                | Apportionment<br>FY2023 | Share  | Annual VMT<br>(Millions) | Share   |
|----------------------|-------------------------|--------|--------------------------|---------|
| Alabama              | \$1,025,270,663         | 1.915% | 52,694                   | 1.971%  |
| Alaska               | \$677,607,185           | 1.266% | 4,052                    | 0.152%  |
| Arizona              | \$988,758,942           | 1.847% | 65,615                   | 2.455%  |
| Arkansas             | \$699,670,219           | 1.307% | 33,026                   | 1.235%  |
| California           | \$4,960,004,917         | 9.264% | 291,192                  | 10.893% |
| Colorado             | \$730,888,012           | 1.365% | 47,619                   | 1.781%  |
| Connecticut          | \$678,751,533           | 1.268% | 26,139                   | 0.978%  |
| Delaware             | \$228,599,214           | 0.427% | 8,461                    | 0.317%  |
| District of Columbia | \$215,626,394           | 0.403% | 2,470                    | 0.092%  |
| Florida              | \$2,560,420,059         | 4.782% | 172,356                  | 6.448%  |
| Georgia              | \$1,744,914,746         | 3.259% | 94,680                   | 3.542%  |
| Hawaii               | \$228,565,771           | 0.427% | 7,200                    | 0.269%  |
| Idaho                | \$386,525,504           | 0.722% | 15,719                   | 0.588%  |
| Illinois             | \$1,921,327,929         | 3.589% | 86,931                   | 3.252%  |
| Indiana              | \$1,287,669,246         | 2.405% | 57,076                   | 2.135%  |
| Iowa                 | \$664,150,438           | 1.241% | 29,005                   | 1.085%  |
| Kansas               | \$510,684,005           | 0.954% | 27,655                   | 1.035%  |
| Kentucky             | \$897,899,553           | 1.677% | 40,754                   | 1.525%  |
| Louisiana            | \$948,473,230           | 1.772% | 47,875                   | 1.791%  |
| Maine                | \$249,457,740           | 0.466% | 11,819                   | 0.442%  |
| Maryland             | \$812,097,278           | 1.517% | 50,857                   | 1.902%  |
| Massachusetts        | \$820,757,801           | 1.533% | 50,393                   | 1.885%  |
| Michigan             | \$1,422,840,565         | 2.658% | 86,283                   | 3.228%  |

| State          | Apportionment<br>FY2023 | Share    | Annual VMT<br>(Millions) | Share    |
|----------------|-------------------------|----------|--------------------------|----------|
| Minnesota      | \$881,212,982           | 1.646%   | 49,318                   | 1.845%   |
| Mississippi    | \$653,591,065           | 1.221%   | 31,665                   | 1.185%   |
| Missouri       | \$1,279,336,708         | 2.390%   | 60,211                   | 2.252%   |
| Montana        | \$554,466,903           | 1.036%   | 10,704                   | 0.400%   |
| Nebraska       | \$390,607,118           | 0.730%   | 18,707                   | 0.700%   |
| Nevada         | \$490,714,078           | 0.917%   | 22,219                   | 0.831%   |
| New Hampshire  | \$223,281,143           | 0.417%   | 11,455                   | 0.429%   |
| New Jersey     | \$1,349,302,291         | 2.520%   | 61,863                   | 2.314%   |
| New Mexico     | \$496,265,721           | 0.927%   | 21,603                   | 0.808%   |
| New York       | \$2,268,371,707         | 4.237%   | 85,660                   | 3.204%   |
| North Carolina | \$1,409,427,904         | 2.633%   | 90,947                   | 3.402%   |
| North Dakota   | \$335,504,936           | 0.627%   | 7,483                    | 0.280%   |
| Ohio           | \$1,811,425,428         | 3.383%   | 93,495                   | 3.497%   |
| Oklahoma       | \$857,064,806           | 1.601%   | 40,386                   | 1.511%   |
| Oregon         | \$675,461,989           | 1.262%   | 33,131                   | 1.239%   |
| Pennsylvania   | \$2,217,276,474         | 4.142%   | 88,075                   | 3.295%   |
| Rhode Island   | \$295,545,197           | 0.552%   | 6,951                    | 0.260%   |
| South Carolina | \$904,920,391           | 1.690%   | 51,667                   | 1.933%   |
| South Dakota   | \$381,106,235           | 0.712%   | 9,139                    | 0.342%   |
| Tennessee      | \$1,141,964,588         | 2.133%   | 66,869                   | 2.501%   |
| Texas          | \$5,271,574,046         | 9.846%   | 265,952                  | 9.949%   |
| Utah           | \$469,256,058           | 0.876%   | 27,887                   | 1.043%   |
| Vermont        | \$274,270,175           | 0.512%   | 5,407                    | 0.202%   |
| Virginia       | \$1,375,194,618         | 2.569%   | 73,159                   | 2.737%   |
| Washington     | \$916,122,234           | 1.711%   | 51,150                   | 1.913%   |
| West Virginia  | \$590,576,476           | 1.103%   | 14,301                   | 0.535%   |
| Wisconsin      | \$1,016,821,360         | 1.899%   | 55,735                   | 2.085%   |
| Wyoming        | \$346,203,111           | 0.647%   | 8,195                    | 0.307%   |
| Total          | \$53,537,826,683        | 100.000% | 2,673,206                | 100.000% |

**Sources:** Federal Highway Administration (FHWA), “FY2023 Computational Tables, Table I, Part I,” at <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/comptables2023/table1p3-4.cfm>; and FHWA, “Highway Statistics, 2021, Table VM-3,” at <https://www.fhwa.dot.gov/policyinformation/statistics/2021/vm3.cfm>.

**Note:** The table shows vehicle miles traveled (VMT) annually on federal-aid highways only.

## Ranking State Apportionment per Factor

The values in each column of **Table 8** are calculated using data from Tables 4 through 7. For example, the data in the per capita column are based on a state’s apportionment divided by its

population from **Table 4**, which were then ranked for **Table 8**. Lane miles count lanes on only federal-aid highways. VMT are annual values for federal-aid highways only.

**Table 8. 2023 State Ranking of Apportionments Divided by Each of the Four Factors**

| State                | Per Capita | Per Sq. Mile | Per Lane Mile | Per VMT |
|----------------------|------------|--------------|---------------|---------|
| Alabama              | 18         | 27           | 39            | 33      |
| Alaska               | 1          | 51           | 2             | 1       |
| Arizona              | 43         | 37           | 28            | 50      |
| Arkansas             | 11         | 33           | 43            | 25      |
| California           | 46         | 16           | 12            | 43      |
| Colorado             | 47         | 39           | 34            | 49      |
| Connecticut          | 22         | 4            | 7             | 13      |
| Delaware             | 13         | 5            | 5             | 11      |
| District of Columbia | 8          | 1            | 1             | 2       |
| Florida              | 51         | 10           | 14            | 51      |
| Georgia              | 34         | 17           | 27            | 37      |
| Hawaii               | 32         | 13           | 4             | 10      |
| Idaho                | 21         | 46           | 42            | 15      |
| Illinois             | 39         | 15           | 23            | 19      |
| Indiana              | 23         | 12           | 26            | 18      |
| Iowa                 | 16         | 35           | 47            | 17      |
| Kansas               | 25         | 41           | 51            | 36      |
| Kentucky             | 19         | 25           | 18            | 21      |
| Louisiana            | 15         | 26           | 16            | 31      |
| Maine                | 24         | 38           | 32            | 26      |
| Maryland             | 44         | 7            | 8             | 47      |
| Massachusetts        | 49         | 6            | 13            | 46      |
| Michigan             | 41         | 22           | 37            | 45      |
| Minnesota            | 38         | 36           | 46            | 40      |
| Mississippi          | 12         | 31           | 44            | 28      |
| Missouri             | 17         | 30           | 35            | 23      |
| Montana              | 3          | 49           | 36            | 3       |
| Nebraska             | 20         | 43           | 49            | 27      |
| Nevada               | 37         | 47           | 20            | 20      |
| New Hampshire        | 33         | 23           | 15            | 32      |
| New Jersey           | 40         | 3            | 6             | 22      |
| New Mexico           | 10         | 48           | 40            | 16      |
| New York             | 50         | 9            | 9             | 12      |
| North Carolina       | 45         | 20           | 22            | 48      |

| State          | Per Capita | Per Sq. Mile | Per Lane Mile | Per VMT |
|----------------|------------|--------------|---------------|---------|
| North Dakota   | 4          | 45           | 50            | 5       |
| Ohio           | 36         | 11           | 21            | 34      |
| Oklahoma       | 14         | 34           | 45            | 24      |
| Oregon         | 31         | 40           | 38            | 29      |
| Pennsylvania   | 28         | 8            | 10            | 14      |
| Rhode Island   | 9          | 2            | 3             | 6       |
| South Carolina | 29         | 18           | 33            | 41      |
| South Dakota   | 6          | 44           | 48            | 8       |
| Tennessee      | 30         | 21           | 24            | 42      |
| Texas          | 26         | 28           | 25            | 30      |
| Utah           | 42         | 42           | 30            | 44      |
| Vermont        | 5          | 19           | 11            | 4       |
| Virginia       | 35         | 14           | 19            | 35      |
| Washington     | 48         | 32           | 29            | 39      |
| West Virginia  | 7          | 24           | 17            | 9       |
| Wisconsin      | 27         | 29           | 41            | 38      |
| Wyoming        | 2          | 50           | 31            | 7       |

**Sources:** CRS based on U.S. Census Bureau, “Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia, and Puerto Rico: April 1, 2020 to July 1, 2023 (NST-EST2023-POP),” at <https://www.census.gov/data/tables/time-series/demo/popest/2020s-state-total.html>; U.S. Census Bureau, “State Area Measurements and Internal Point Coordinates,” at <https://www.census.gov/geographies/reference-files/2010/geo/state-area.html>; Federal Highway Administration (FHWA), “Highway Statistics, 2021, Table HM-48,” at <https://www.fhwa.dot.gov/policyinformation/statistics/2021/hm48.cfm>; and FHWA, “Highway Statistics, 2021, Table VM-3,” at <https://www.fhwa.dot.gov/policyinformation/statistics/2021/vm3.cfm>.

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