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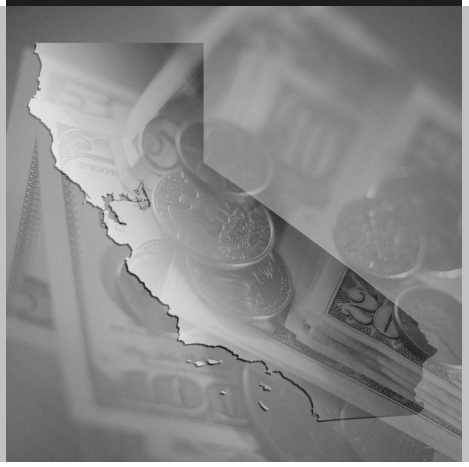

FEDERAL FORMULA GRANTS AND CALIFORNIA

Federal Highway Programs

Tim Ransdell
Shervin Boloorian

The Public Policy Institute of California (PPIC) is a private operating foundation established in 1994 with an endowment from William R. Hewlett. The Institute is dedicated to improving public policy in California through independent, objective, nonpartisan research.

PPIC's research agenda focuses on three program areas: population, economy, and governance and public finance. Studies within these programs are examining the underlying forces shaping California's future, cutting across a wide range of public policy concerns, including education, health care, immigration, income distribution, welfare, urban growth, and state and local finance.

PPIC was created because three concerned citizens—William R. Hewlett, Roger W. Heyns, and Arjay Miller—recognized the need for linking objective research to the realities of California public policy. Their goal was to help the state's leaders better understand the intricacies and implications of contemporary issues and make informed public policy decisions when confronted with challenges in the future.

David W. Lyon is founding President and Chief Executive Officer of PPIC. Raymond L. Watson is Chairman of the Board of Directors.

About This Series

Federal Formula Grants and California

The federal government uses formula grants to distribute nearly $300 billion annually to state and local governments to help them implement federal policies in such areas as health, transportation, and education. How much each government receives is determined by complex formulas that consist of many factors such as state population growth and per capita income. This series of reports provides detailed information on California's current and historical funding under the major federal grants and on the formulas used to determine California's share of funding under various specific grants.

All reports are posted on the PPIC website at www.ppic.org.

Federal Highway Programs

Tim Ransdell and Shervin Boloorian February 2003

Overview

California relies on safe, efficient, and smooth transportation of goods and people across the state's vast network of highways, roads, and rail systems. As in the rest of the nation, a substantial portion of the state's highway infrastructure was built and is partially maintained with federal support. During the 108th Congress, federal lawmakers will debate renewal of the Transportation Equity Act for the 21st Century (TEA-21), the nation's comprehensive surface transportation law that governs policy and funding for federal highway programs, as well as for transit. The act is scheduled to expire on September 30, 2003.

Pursuant to TEA-21's directives, the U.S. Department of Transportation collects fuel and excise tax revenue and then distributes the money as federal highway grants to states and other local administering entities via funding formulas called apportionments. In fiscal year 2002, California received $2.7 billion in federal highway formula apportionments, slightly less than 9 percent of the nation's $29.5 billion total apportionments.[1] These federal highway programs are used to help support interstate and national highways, a number of bridge projects, air quality and congestion management efforts, transit ventures, and regional planning, as well as a variety of local projects.

For decades, advocates and lawmakers have questioned the fairness and equity of highway formulas. Apportionment totals to some states far exceed their fuel tax payments; apportionments to other states—California included—are less than what is paid in. Some of these so-called donor states have pressed for greater funding equity, and a special TEA-21 provision addresses their concern.

This report is part of an ongoing series of federal formula grant program reviews. It examines the mechanics of federal highway formulas that determine funding levels for California and other states, and it assesses the varying effect of factors contained in those formulas.[2] It also posits a number of hypothetical

[1]To maintain analytical consistency, this report focuses primarily on funding levels in fiscal year 2002. Federal fiscal years run from October 1 through September 30.

[2]Many highway programs also allocate appropriated funding to states without formulas, but this report will not examine that process. Rather, this report examines all apportionments distributed by the Federal Highway Administration

formula-change scenarios and analyzes the state-by-state effects of those changes.[3] The text outlines the mechanics of each hypothetical formula change and lists the states most likely to gain or lose from each; the appendices provide detailed results for all states.

This report seeks to enlighten the debate over changes in highway apportionment formulas as Congress prepares to reauthorize the nation's principal transportation laws. It is meant to be an informational tool for congressional members and staff, state and local government entities, advocacy groups, news media, and other interested parties.

(FHWA). Some federal highway funding apportionments divert significant amounts to transit programs, but this report does not examine these distinctions. Also beyond the scope of this report are the ways federal transportation law specifies how states must spend some of these dollars. By law, each state must use a portion of its formula grant share for special-purpose activities for most of the major Federal-Aid Highway Programs (FAHPs). For instance, 2 percent of funds of the major TEA-21 programs must be used for state planning and research activities, with one-quarter of these funds used for research, development, and technology transfer. Further, some apportionments are calculated and then merged with other apportionments. This report focuses on aggregate federal funding amounts to each state and does not seek to identify specific suballocations.

[3]For apportionment purposes FAHPs consider the District of Columbia a state.

Abbreviations and Acronyms

ADHS	Appalachian Development Highway System
CAA	Clean Air Act of 1990
Caltrans	California Department of Transportation
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CO	Carbon monoxide
FAHP	Federal-Aid Highway Program
FHWA	Federal Highway Administration
GAO	General Accounting Office
HBRRP	Highway Bridge Replacement and Rehabilitation Program
HPP	High Priority Projects
HTF	Highway Trust Fund
IM	Interstate Maintenance
IS	Interstate
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
MG	Minimum Guarantee
MP	Metropolitan planning
MPO	Metropolitan Planning Organization
NHS	National Highway System
OBRA	Omnibus Budget and Reconciliation Act
OPAR	Other principal arterial routes
PAR	Principal arterial routes
PPM	Parts per million
RABA	Revenue Aligned Budget Authority
RTP	Recreational Trails Program
SMM	Small-state minimum
STP	Surface Transportation Program
TEA-21	Transportation Equity Act for the 21st Century
VMT	Vehicle miles traveled

ISTEA and TEA-21

Congress began building, operating, and maintaining the nation's highways and surface transportation system when it enacted the Federal-Aid Road Act of 1916 and the Federal Highway Act of 1921, and it committed to a nationwide interstate system with the Federal-Aid Highway Act of 1956. In recent years, Congress has folded these programs and their successors into multiyear legislation named with such acronyms as ISTEA and TEA-21.

TEA-21 and its immediate predecessor, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), created a new structure and funding scheme for the FAHPs in existence today. ISTEA boosted overall funding levels for the FAHPs, provided greater flexibility, increased state equity in fund distribution, and gave greater authority for administering programs to state, local, and regional entities.

The enactment of TEA-21 in 1998 retained and expanded this new structure—further augmenting funding for highways and transit—while making its own mark. The legislation ushered in a new era for transportation fiscal policy establishing minimum state funding guarantees and budgetary firewall protections to ensure smooth and stable levels of federal spending for surface transportation projects.

TEA-21 authorized a $217 billion investment in highways and transit infrastructure to be distributed to the states over six years, a 40 percent increase above ISTEA's levels. It also established guaranteed spending levels for most of its core programs through what is known as Highway Obligation Authority, directing all new federal fuel-tax revenues to the funding of surface transportation expenditures exclusively. The obligation authority construct leaves only $13 billion of TEA-21's $217 billion total subject to annual approval by congressional appropriators. Nevertheless, Congress may alter year-to-year highway funding patterns by raising the baseline funding floor through the annual budget process. Funding may also shift as a result of variations in Highway Trust Fund (HTF) Highway Account revenues, controlled by a budgetary mechanism known as the Revenue Aligned Budget Authority (RABA), discussed below.

TEA-21 specifies a guaranteed annual funding floor for transit, supported by the HTF Mass Transit Account. For transit, the spending floor is based on the guaranteed funding level that covers 80 percent of transit costs, with the remaining 20 percent to be drawn down from the General Fund. Some FHWA-apportioned funding underwrites transit projects via the Federal Transit Administration, but we make no distinction among the end uses of apportionments in this document. Apportionments that primarily fund TEA-21 transit programs will be examined separately.

Contract Authority

Normally, federal funds for domestic programs are subject to an annual appropriations process that often pits one project against another in a competition for scarce resources. Because many transportation projects are long-term in nature, taking many years to design, develop, and construct, such projects are prone to delay or abandonment without long-range assurances of federal obligations to pay for the federal government's share of project costs.

To ensure a steady flow of funds for FAHP, TEA-21 established more flexible budgetary controls through what is known as contract authority, a process that establishes minimum funding levels for specific programs over many years—six years in the case of TEA-21. In securing definitive long-range figures as baseline minimums, congressional committee leaders and transportation advocates sought to insulate transportation programs from often-unpredictable annual appropriations cycles. Whereas money already authorized for typical federal programs may be distributed annually only by a second piece of appropriations legislation, programs with contract authority are guaranteed a minimum appropriation.

Federal law requires a fiscal funding pool (typically a trust fund) to support contract authority programs. Transportation contract authority derives its fiscal life from HTF. The HTF's Highway Account is used to collect highway user taxes and distribute them via FAHP.

Highway Trust Fund

As noted above, HTF is the accounting mechanism that collects and redistributes federal highway user taxes. It is fed by revenue from the sale of gas, diesel, gasohol, and special fuels, as well as from retail sales taxes on tires, trucks, trailers, and heavy commercial vehicles. Fines levied from penalties for noncompliance with highway user safety laws are also directed to HTF. Originally conceived in 1956 as a source of funding for the nation's highway system, the fund now serves as the lifeblood of federal highway and transit projects and the foundation of the firewalls that exempt these projects from competing with other domestic programs.

The Omnibus Budget and Reconciliation Act of 1993 (OBRA-93) set the standard tax on gasoline at 18.4 cents per gallon, a rate still in effect today. Diesel taxes are levied at a higher rate of 24.4 cents per gallon. FHWA attributes federal fuel tax receipts to states for use as a factor in formula apportionments

under the Surface Transportation Program (STP) and the Minimum Guarantee (MG) provision of TEA-21.[4]

In 2000, the most recent year for which there are consistent data, the federal government collected $3.4 billion in fuel and vehicle taxes attributable to California, whereas state and local taxes and tolls collected $8.0 billion. Nationwide that year, the federal government collected $34.7 billion and state and local governments collected $65.4 billion.[5]

To stimulate the consumption of alternative fuels, Congress provides that purchasers of ethanol-based fuel (including ethanol and gasohol, which combines gasoline with ethanol) receive a partial fuel tax exemption of 5.3 cents per gallon, and OBRA-93 diverts another 2.5 cents per gallon of the ethanol-based fuel tax to the General Fund. These special concessions for ethanol fuels, which reduce pollutant emissions by increasing the fuel's oxygen content, have led to concerns about prospective reductions in trust fund contributions. The U.S. General Accounting Office (GAO) estimates that the ethanol subsidy and the 2.5 cents per gallon General Fund transfer cost the Highway Account of the HTF about $6.01 billion between 1998 and 2001 (in 2001 dollars).[6] States in the Midwest have expressed concern about reduction in receipts from highway formulas that use HTF contributions as a factor for distributing federal funding among states. California's ethanol fuel consumption rate increased significantly during this period and is expected to grow further over the next ten years as the state phases out the use of methyl tertiary butyl ether, which until recently had served as California's alternative to ethanol as a fuel oxygenate.

Obligation Limitations

Obligation limits are the budgetary ceilings Congress imposes to control contract authority cash outlays. The obligation limitation on FAHPs determines the precise amount of apportioned funds that may in fact be distributed among the programs in a given annual budget cycle. This is to say, TEA-21 lays out

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[4]FHWA adjusts state data to attribute on-highway tax revenues to states to account for state-by-state variations in state counting and reporting methods, including unequal reporting of off-highway uses, public uses, and varying definitions of gasohol. See Center for Transportation Analysis, Oak Ridge National Laboratory, *Attribution and Apportionment of Federal Highway Tax Revenues: Process Refinements*, February 2002, http://www-cta.ornl.gov/Publications/FuelTaxProcess/index.html.

[5]Federal Highway Administration, Office of Highway Policy Information, *Highway Statistics 2001*, Table HDF, http://www.fhwa.dot.gov/ohim/hs01/hdf.htm.

[6]In contrast with the 18.4 cents per gallon tax rate on gasoline and the 24.4 cents tax on diesel fuel, federal taxes on gasohol made with ethanol are 13.1 cents on 10 percent blends, to 14.3 cents per gallon on blends between 7.7 percent and 10.0 percent alcohol, and 15.4 cents per gallon on blends between 5.7 percent and 7.7 percent alcohol. See Federal Highway Administration, Office of Highway Policy Information, *Highway Statistics 2001*, Table FE-21B, http://www.fhwa.dot.gov/ohim/hs01/fe21b.htm.

contract authority ceilings statutorily for its six-year lifetime for each of its core programs, but the obligation limit marks the combined funding available before it is assigned to the states by formula. Obligation limitation is not differentiated by program. On the other hand, transportation law gives Congress the authority to alter the limit on obligations through the RABA process. Further, special programs such as high-priority projects do not count against the overall obligation limitation.

Revenue Aligned Budget Authority

General obligation limits take effect after annual adjustments are incorporated under RABA. Created by TEA-21 and implemented for the first time in fiscal year 2000, the RABA mechanism computes the difference between projected receipts and actual HTF balances so that funding keeps pace with the health of the economy. Through dedicated HTF support, Congress designed RABA to shield FAHP money from being siphoned off to the General Fund for nontransportation purposes, as had been the case under prior law. Through the RABA mechanism, Congress also sought to preserve fiscal discipline by monitoring and adjusting state apportionments above or below the baseline in accordance with HTF funds that are actually available, rather than on strict adherence to long-range approximations that may be inaccurate and impracticable.

The unique funding structure and guarantees of TEA-21 facilitated unprecedented growth in funds for transportation projects during its first three years, and the RABA firewall was initially considered a success. States received $9.1 billion in excess obligation authority beyond baseline funding amounts during the economic boom years of 2000 through 2002, of which California received $697.9 million. In fiscal year 2002 alone, RABA increased the state's highway apportionment total by $315.8 million (Table K.1).

But during fiscal year 2002, a recession and lower-than-estimated HTF fuel tax collections (blamed in part on reduced travel and commerce following the September 11, 2001, terrorist attacks) sent 2003 RABA adjustments, for the first time, moving in a negative direction. As a result, the president's fiscal year 2003 budget proposed a $4.37 billion reduction in FAHP and highway safety construction programs from the TEA-21 baseline level—an $8.6 billion reduction from fiscal year 2002 FAHP obligations. According to the National Governors Association, such deep cuts would have cost 300,000 jobs nationwide. The California Department of Transportation (Caltrans) estimated that it would lose $613 million as a result of the shortfall and that the reduction would cost the state between 20,000 and 25,000 jobs.

Despite numerous hearings and much call for Congress to restore the funds, the 107th Congress adjourned without completing work on a transportation spending bill. Still, House and Senate transportation leaders succeeded in a partial restoration of funds in the final continuing resolution, which maintained federal funding in the absence of a final agreement. The resolution provided obligation authority up to the TEA-21 2002 baseline level of $27.7 billion, which will fund California up to approximately $2.5 billion, an increase of $327 million over the proposed amount in the president's budget. The fate of RABA and potential substitutes will be decided during the TEA-21 reauthorization process.

Apportionments

Employing a variety of factors and weights, FAHP apportionments distribute formula funds to states on an annual basis for nine programs: Interstate Maintenance, National Highway System, Surface Transportation Program, Highway Bridge Replacement and Rehabilitation Program, Congestion Mitigation and Air Quality Improvement, Appalachian Development Highway System, Recreational Trails, Metropolitan Planning, and Minimum Guarantee.

The following sections examine the function and distribution to California and other states of funding from each program (except the Appalachian Development Highway System, as California is not among the 13 states funded by the program).[7] It is important to note that TEA-21 specifies a number of set-asides and other deductions from these apportionments before funds flow to states.[8] Thus, some apportioned levels are actually larger than the amount ultimately available for state spending. Furthermore, TEA-21 affords states considerable latitude to transfer funds from one program to another.[9]

In addition to outlining California's share of these nine formula programs, the following sections also posit a number of hypothetical formula changes and examine their effects on state apportionment levels. These changes are examined without regard to their political viability or whether any legislator or stakeholder has proposed them.

[7]In addition, the report will discuss, but not provide, extensive funding detail for the RABA program, which in essence is a modified apportionment.

[8]A particularly wide array of set-asides and deductions are subtracted from the Surface Transportation Program apportionment.

[9]A state may transfer up to 50 percent of its apportionment for one program into any of the others.

Interstate Maintenance

The Interstate Maintenance (IM) fund provides federal resources for the resurfacing, restoration, rehabilitation, and reconstruction of most interstate routes.

Federal IM funds are distributed to the states through a tripartite formula based 33-1/3 percent on interstate lane miles,[10] 33-1/3 percent on vehicle miles traveled (VMT) on the state's portion of the interstate system, and 33-1/3 percent on the state's share of contributions to the highway account of the HTF that are attributable to commercial vehicles (Figure 4.1a). TEA-21 set a 0.5 percent small-state minimum on combined IM and National Highway System (NHS) funds, but funds required to finance the minimum are deducted from larger states' NHS accounts, leaving the IM apportionment unchanged by the process.

In 2002, California received a federal apportionment of $346.5 million, 8.8 percent of the nation's $3.9 billion total (Table C.1). California's share of IM funds derives from its 7 percent share of interstate lane miles, 11.8 percent share of VMT, and 7.7 percent of commercial vehicle contributions to HTF, with each factor weighted equally.

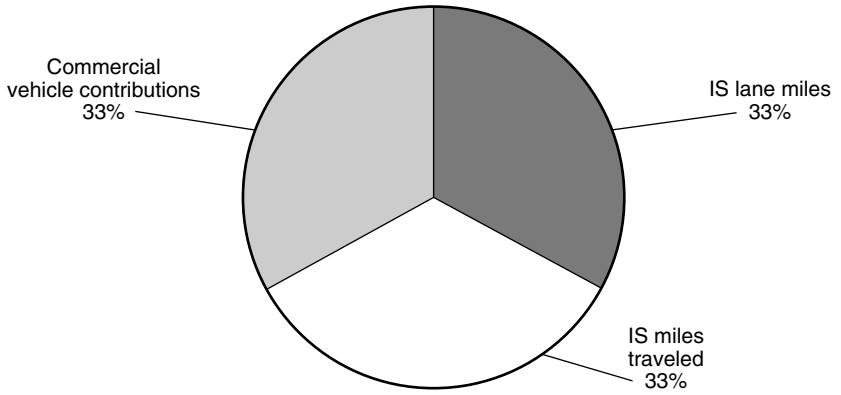

Figure 4.1a—IM Funding Factors: Statutory Formula

[10]Lane mileage, or the physical amount of interstate roadway within each state, is calculated by multiplying the number of miles of interstate highways by the number of lanes for each mile.

Hypothetical alternative apportionments using different weights for each factor would shift funding among states. As shown in Table C.2, increasing the relative weight of the interstate lane miles factor to 40 percent and reducing the other two factors to 30 percent (Figure 4.1b) would reduce IM funds to California by $4.4 million, or 1.3 percent (Table 4.1). Increasing the lane miles factor would increase IM funds for 23 states and reduce funds for 28 states.

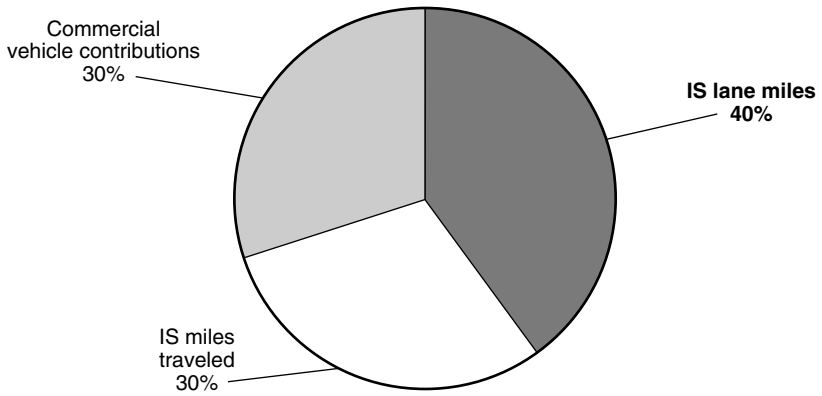

Figure 4.1b—IM Funding Factors: Hypothetical Increased Weight to Interstate Lane Miles

Table 4.1

States Experiencing Greatest Fiscal Year 2002 Funding Losses from Hypothetical Increases in IM Funding Factors

Increased Weight to IS Lane Miles		Increased Weight to IS Miles Traveled		Increased Weight to Commercial Vehicle Contributions	
State	Change ($)	State	Change ($)	State	Change ($)
California	–4,432,687	Montana	–2,781,563	California	–7,157,325
Massachusetts	–2,004,044	Wyoming	–2,399,399	Ohio	–2,862,419
Montana	–1,993,028	New Mexico	–1,620,392	Georgia	–2,609,561
Utah	–1,618,003	North Dakota	–1,421,846	New Jersey	–2,351,398
Illinois	–1,292,217	South Dakota	–1,411,952	Texas	–2,061,108
Alaska	–1,155,019	Iowa	–1,402,038	Florida	–1,927,890
South Dakota	–983,033	Oklahoma	–1,378,283	Maryland	–1,459,059
Connecticut	–859,784	Mississippi	–1,354,955	Virginia	–1,428,939
Colorado	–839,163	Nebraska	–1,248,537	North Carolina	–1,279,423
New York	–814,195	Kansas	–1,235,550	Tennessee	–1,146,142

Increasing the weight of the interstate VMT factor to 40 percent and reducing the other two factors to 30 percent (as in Figure 4.1c) would raise California's IM funding by $11.6 million, an increase of 3.3 percent. A number of more densely populated states would also benefit considerably, including Massachusetts, Florida, Maryland, and Connecticut. States that would experience a substantial reduction in IM funds under an increase in the VMT factor include more sparsely populated states such as Montana, Wyoming, and New Mexico. Increasing the VMT factor would increase IM funds for 22 states and reduce funds for 29 states.

Finally, Table C.2 also shows that increasing the weight of the commercial vehicle contributions factor to 40 percent and reducing the other factors to 30 percent (Figure 4.1d) would result in a $7.2 million reduction in California's IM funding, a 2.1 percent cut (Table C.2). States that would gain substantially if the commercial vehicle contributions factor weight were increased include primarily sparsely populated states with a large proportion of through-freight traffic, such as Montana and Wyoming. An increase in the commercial vehicle contributions factor would increase IM funds for 25 states and reduce funds for 26 states. Table 4.2 summarizes the effects of several hypothetical changes to IM formulas.

In addition to formula funds, TEA-21 authorized $50 million in fiscal year 1998 and $100 million in IM discretionary funds to be dispersed by the secretary of transportation on any route or portion of the interstate system.

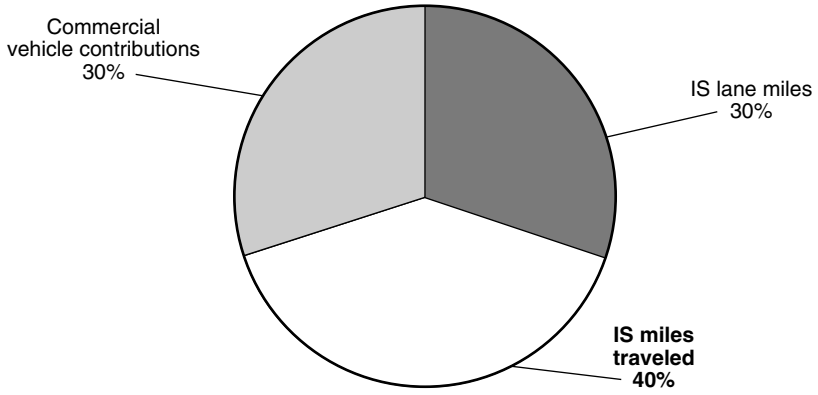

Figure 4.1c—IM Funding Factors: Hypothetical Increased Weight to Interstate Vehicle Miles Traveled

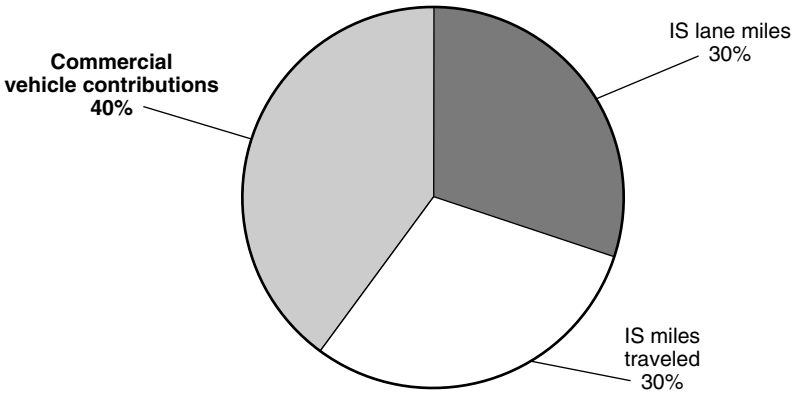

Figure 4.1d—IM Funding Factors: Hypothetical Increased Weight to Highway Account Commercial Vehicle Contributions

Table 4.2

States Experiencing Greatest Fiscal Year 2002 Funding Gains from Hypothetical Increases in IM Funding Factors

Increased Weight to IS Lane Miles		Increased Weight to IS Miles Traveled		Increased Weight to Commercial Vehicle Contributions	
State	Change ($)	State	Change ($)	State	Change ($)
Texas	3,238,792	California	11,590,011	Montana	4,774,591
New Jersey	2,016,423	Massachusetts	2,619,367	Wyoming	2,948,163
Pennsylvania	1,824,914	Florida	2,209,261	Utah	2,401,065
Arkansas	1,823,959	Maryland	2,170,987	South Dakota	2,394,985
Indiana	1,743,822	Connecticut	1,643,809	Alaska	2,387,284
Ohio	1,706,217	Georgia	1,233,620	New Mexico	2,251,607
Wisconsin	1,498,604	Virginia	1,226,929	North Dakota	2,009,040
Georgia	1,375,940	Washington	1,188,519	Kansas	1,764,166
Alabama	1,227,902	Ohio	1,156,201	Idaho	1,599,499
Mississippi	1,177,906	Michigan	1,067,783	Colorado	1,339,506

National Highway System

The National Highway System consists largely of rural and urban roads that require funding for improvements and maintenance projects. The NHS program also funds designated connections to major intermodal terminals and some transit improvements in NHS corridors.

Funding apportioned for the NHS is distributed to the states according to a four-factor formula: 25 percent based on a state's total lane miles of principal arterial routes other than interstate roads (OPAR), 35 percent based on vehicle

miles traveled on these routes, 30 percent based on the state's diesel fuel consumption as a percentage of diesel fuel consumption in the nation, and 10 percent based on the total lane miles of principal arterial routes (PAR) in each state divided by the total state population—a per capita measure of population sparseness in a highway funding context (Figure 4.2a). A 0.5 percent small-state minimum is applied to the combination of NHS and IM funding, with additions and subtractions applied to the NHS component alone.

As shown in Table D.1a, before application of the small-state minimum, California received $453.9 million, or 9.48 percent of the $4.8 billion U.S. total, from the NHS program in fiscal year 2002. This share reflected the fact that California represented 8.5 percent of the nation's lane miles, 14.2 percent of miles traveled, 7.7 percent of diesel consumption, and 0.86 percent of highway population sparseness.

Table D.2 explores funding variations resulting from changes in the NHS formula's statutory 25/35/30/10 factor mix. Increasing from 25 percent to 40 percent the weight of the factor measuring lane miles on principal arterial routes other than interstate highways—and reducing the relative weight of the other three factors by 5 percentage points each (Figure 4.2b)—would increase California's NHS apportionment by $5 million (1.1 percent) to a total of $448.3 million (Table 4.3).[11] States that would experience a substantial funding reduction from a hypothetical relative increase in the lane miles factor include more rural states such as Wyoming, North Dakota, and Montana (Table 4.4).

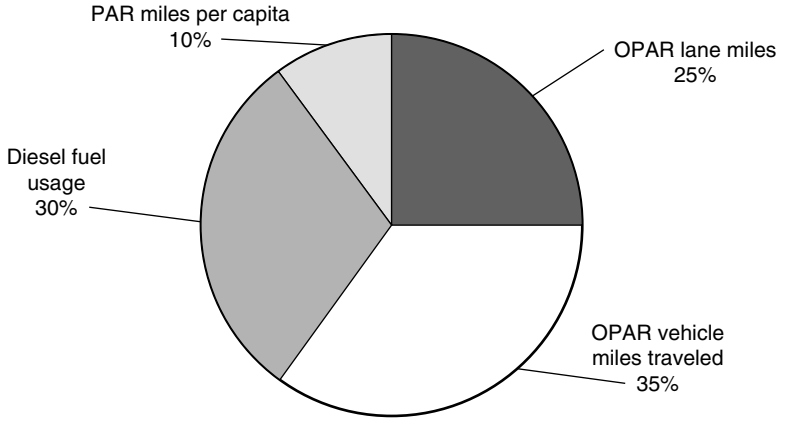

Figure 4.2a—NHS Factors: Statutory Formula

[11]Typically, lane miles factor increases do not benefit California; the state's increase under this hypothetical has less to do with the lane miles factor than with the concurrent reduction in the lane miles per capita sparsity factor.

Table 4.3

States Experiencing Greatest Fiscal Year 2002 Funding Gains from Hypothetical Increases in NHS Funding Factors

Increased Weight to Other PAR Lane Miles		Increased Weight to Other PAR VMT		Increased Weight to Diesel Fuel Usage		Increased Weight to PAR Miles per Capita	
State	Change ($)	State	Change ($)	State	Change ($)	State	Change ($)
Texas	19,456,836	California	59,077,539	Ohio	15,924,806	Wyoming	126,114,013
Florida	7,604,362	Florida	20,825,828	Texas	12,151,830	North Dakota	122,451,155
Wisconsin	5,131,516	Texas	16,570,515	Georgia	11,633,143	South Dakota	89,048,315
California	4,998,724	New York	14,317,358	Pennsylvania	10,450,908	Montana	79,638,264
Minnesota	4,536,017	New Jersey	12,167,224	Illinois	10,406,918	Alaska	44,568,042
Michigan	4,447,347	Michigan	8,269,780	Indiana	8,562,841	Nebraska	40,002,558
Iowa	3,700,895	Massachusetts	6,493,852	Virginia	6,420,525	Idaho	32,474,740
North Carolina	2,766,423	Pennsylvania	6,158,119	Tennessee	4,733,116	Kansas	24,388,925
Kansas	2,712,806	Maryland	5,301,835	Missouri	4,144,144	Iowa	23,801,286
New York	2,629,349	North Carolina	3,577,972	Alabama	3,961,397	New Mexico	23,069,083

Table 4.4

States Experiencing Greatest Fiscal Year 2002 Funding Losses from Hypothetical Increases in NHS Funding Factors

Increased Weight to Other PAR Lane Miles		Increased Weight to Other PAR VMT		Increased Weight to Diesel Fuel Usage		Increased Weight to PAR Miles per Capita	
State	Change ($)	State	Change ($)	State	Change ($)	State	Change ($)
Wyoming	–16,967,481	Wyoming	–23,724,255	North Dakota	–19,454,220	California	–87,784,389
North Dakota	–9,615,914	North Dakota	–20,972,796	Wyoming	–17,960,635	Illinois	–73,695,040
Montana	–8,411,435	Montana	–16,805,632	South Dakota	–14,940,112	Texas	–72,687,335
South Dakota	–7,437,289	South Dakota	–16,539,499	Montana	–14,819,629	Ohio	–68,198,504
New Jersey	–3,987,587	New Mexico	–8,677,081	Kansas	–5,556,356	Georgia	–49,621,084
Alaska	–3,093,912	Nebraska	–8,390,962	Idaho	–5,376,728	Pennsylvania	–44,251,225
Utah	–2,833,231	Iowa	–7,921,927	Nebraska	–4,661,286	New York	–42,277,642
Idaho	–2,717,459	Idaho	–7,810,454	New Mexico	–3,950,543	Virginia	–34,451,409
Maine	–2,552,863	Kansas	–6,478,999	Colorado	–3,339,256	Indiana	–26,601,476
New Mexico	–2,362,868	Oklahoma	–5,250,253	Alaska	–3,093,912	Michigan	–23,132,030

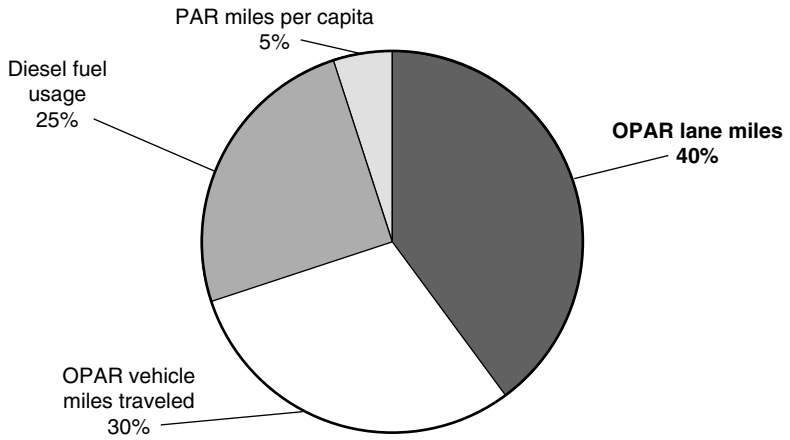

Figure 4.2b—NHS Factors: Hypothetical Increased Weight to OPAR Lane Miles

A hypothetical increase from 35 percent to 50 percent in the factor measuring VMT on other principal arterial routes (Figure 4.2c) would cause California's NHS receipts to spike sharply upward by $59.1 million (13.3 percent) to a total of $515.2 million. This hypothetical would shift funds to states with larger populations, including Florida, Texas, and New York. States that would experience a reduction in NHS funding if the VMT factor weight were expanded include smaller states such as Wyoming, North Dakota, and Montana. The hypothetical change in factor weight would increase NHS funding for 19 states and reduce funding for 26 states.

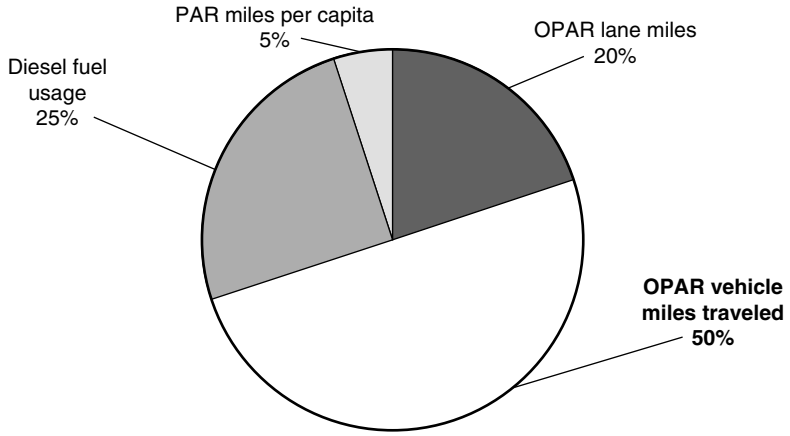

Figure 4.2c—NHS Factors: Increased Weight to OPAR Vehicle Miles Traveled

Increasing the weight of the factor measuring diesel fuel usage on highways from 30 percent to 45 percent (Figure 4.2d) would reduce California's NHS funding level by a relatively small amount: $3.1 million (0.7 percent). Several states near the nation's northern border would experience substantial reductions, including North Dakota, Wyoming, South Dakota, and Montana. The change in factor weight would increase NHS funding for 22 states and reduce funding for 23 states.

Finally, a hypothetical increase in the weight of the factor weighing highway mileage per capita (Figure 4.2e) would shift funding, not surprisingly, from more populous states to sparsely populated states. Raising the factor weight from 10 percent to 25 percent (an admittedly disproportionate increase[12]) would reduce California's NHS receipts by $87.8 million, or nearly 20 percent. States losing funding under this hypothetical would include Illinois, Texas, and Ohio, whereas states gaining funds would include Wyoming, Montana, and the Dakotas. The change in factor weight would increase NHS funding for 21 states and reduce funding for 26 states.

The 0.5 percent small-state minimum reduces California's NHS apportionment by $10.7 million, the largest reduction of any state. As shown in Table D.1c, the minimum also reduces funds to Texas (–$9.2 million), Florida (–$5.1 million), Ohio (–$4.4 million), and Illinois (–$4.4 million). The only

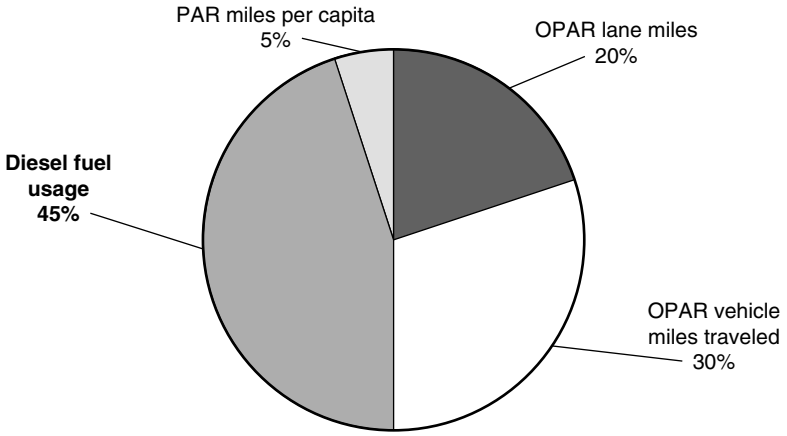

Figure 4.2d—NHS Factors: Hypothetical Increased Weight to Diesel Fuel Usage

[12]For simplicity, our hypothetical analysis raises and lowers factor weights in five-point increments, causing wider funding changes for factors with small initial statutory percentages. The sparsity factor began the analysis with the lowest percentage share (10 percent), and thus the increase to 25 percent results in greater median funding shifts than under any other simulation.

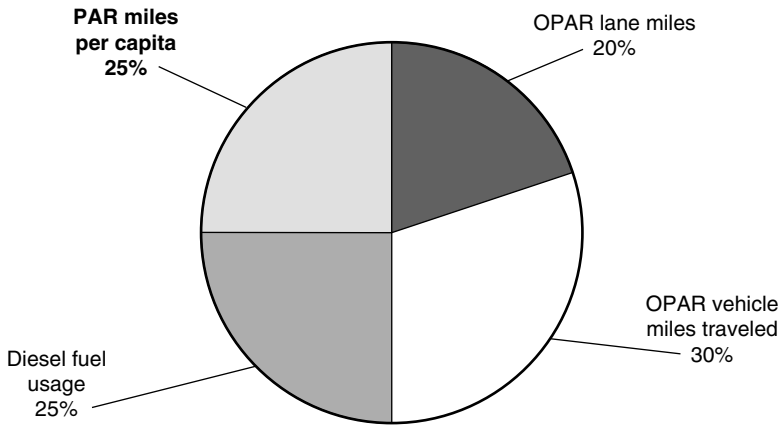

Figure 4.2e—NHS Factors: Increased Hypothetical Weight to PAR Lane Miles per Capita

beneficiaries of the small-state minimum on NHS funding are the District of Columbia (+$33.4 million), Hawaii (+$25.1 million), Delaware (+$19.0 million), Rhode Island (+$17.6 million), Vermont (+$12.6 million), and New Hampshire (+$6.6 million).

Surface Transportation Program

The STP supports all elements of the nation's intermodal transportation system, excluding aviation. FHWA states that funds may be used for projects on any federal-aid highway, including the NHS, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities, as well as environmental restoration and pollution abatement projects.[13] The distribution of STP funds is determined by a formula based 25 percent on each state's total lane miles of federal-aid highway divided by the national total, 40 percent based on the state's VMT on federal-aid highways, and 35 percent on the state's most recent annual contributions to the Highway Trust Fund, excluding

[13]In addition, a portion of funds reserved for rural areas may be spent on minor rural collector roads that feed larger highways. TEA-21 placed a number of restrictions on STP funds, including explicitly directing states to spend 10 percent of funds for safety improvements such as highway-rail crossings and 10 percent on transportation enhancements, and requiring that 50 percent of the funds be distributed within the state, based on population. For an examination of eligible STP activities and their use in California under ISTEA, see Paul G. Lewis and Mary Sprague, *Federal Transportation Policy and the Role of Metropolitan Planning Organizations in California*, Public Policy Institute of California, San Francisco, April 1997, p. 79.

the mass transit account (Figure 4.3a). Regardless of size, every state is assured a minimum apportionment of 0.5 percent of total STP funds.

In fiscal year 2002, California received a $539.8 million STP apportionment, 9.6 percent of the nation's $5.6 billion total (Table E.1). California's share reflects the state's 6.3 percent share of federal-aid highway lane miles, 11.8 percent of VMT, and 9.8 percent of HTF Highway Account tax contributions. (The small-state minimum reduces the state's STP funding by $9.6 million.)

Table E.2 examines hypothetical alternative apportionments if the factor-weighting mix were to change. A hypothetical increase from 25 percent to 35 percent in weight given to the factor measuring lane miles of federal-aid highways (Figure 4.3b) would reduce California's STP receipts by $25.3 million (4.7

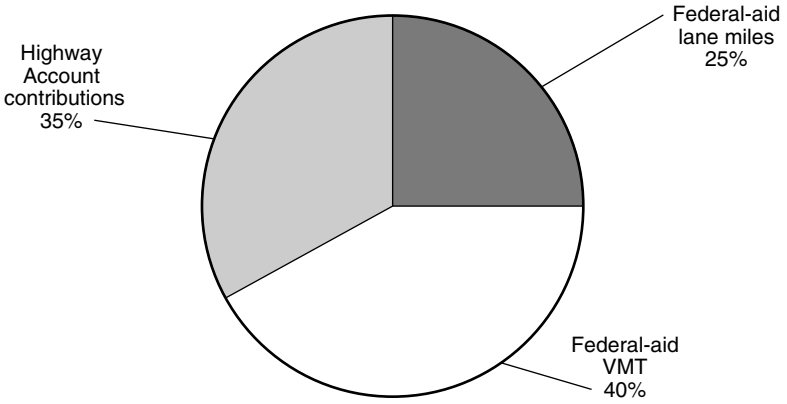

Figure 4.3a—STP Factors: Statutory Formula

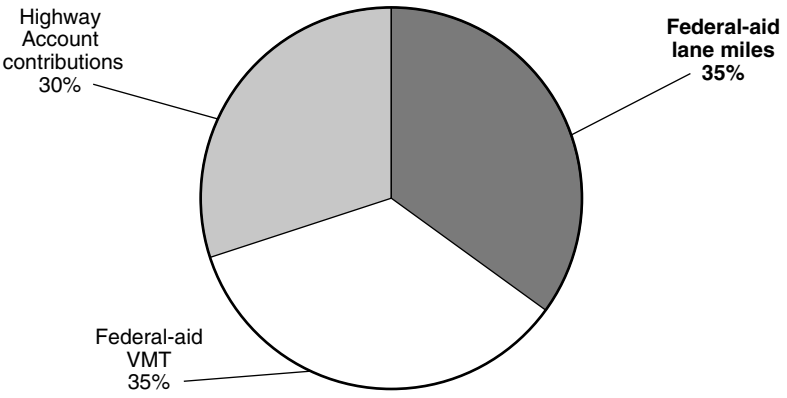

Figure 4.3b—STP Factors: Hypothetical Increased Weight to Lane Miles

percent) to a total of $514.4 million. Larger states such as Florida, New Jersey, and New York would also receive reduced STP apportionments as a result of an increase in this factor weight (Table 4.5), whereas more rural states such as Kansas, South Dakota, and Oklahoma would receive larger apportionments (Table 4.6). The change would increase STP funding for 24 states and reduce it for 20 states.

California would be the largest beneficiary of a hypothetical change to raise from 40 percent to 50 percent the weight of the federal-aid highways VMT factor (Figure 4.3c). California's fiscal year 2002 apportionment would rise by

Table 4.5

States Experiencing Greatest Fiscal Year 2002 Funding Losses from Hypothetical Increases in STP Factors

Increased Weight to Federal-Aid Lane Miles		Increased Weight to Other PAR VMT		Increased Weight to Highway Account Contributions	
State	Change ($)	State	Change ($)	State	Change ($)
California	–25,294,381	Kansas	–6,392,666	Minnesota	–6,550,653
Florida	–11,802,958	Oklahoma	–4,542,178	Kansas	–5,546,873
New Jersey	–8,358,112	South Dakota	–4,209,518	South Dakota	–4,125,486
New York	–7,355,242	North Dakota	–4,123,871	Oklahoma	–3,726,550
Pennsylvania	–5,822,686	Iowa	–4,118,409	North Dakota	–3,558,276
Maryland	–5,176,333	Nebraska	–3,665,001	Iowa	–3,546,772
Ohio	–4,408,760	Montana	–3,250,909	Nebraska	–2,839,336
Massachusetts	–4,136,216	Mississippi	–3,141,057	Montana	–2,354,309
North Carolina	–4,028,373	Texas	–2,995,165	Wisconsin	–2,119,980
Tennessee	–3,069,294	Arkansas	–2,846,350	Illinois	–1,633,212

Table 4.6

States Experiencing Greatest Fiscal Year 2002 Funding Gains from Hypothetical Increases in STP Factors

Increased Weight to Federal-Aid Lane Miles		Increased Weight to Other PAR VMT		Increased Weight to Highway Account Contributions	
State	Change ($)	State	Change ($)	State	Change ($)
Kansas	11,942,707	California	20,116,499	New Jersey	5,845,516
South Dakota	8,337,453	Florida	6,062,986	Florida	5,733,006
Oklahoma	8,270,412	New York	4,761,723	California	5,162,103
Minnesota	8,085,339	Maryland	3,258,854	Pennsylvania	4,292,928
North Dakota	7,684,438	Massachusetts	2,722,607	Georgia	2,895,976
Iowa	7,666,951	New Jersey	2,508,515	New York	2,588,397
Nebraska	6,505,995	Illinois	2,446,303	Ohio	2,486,338
Montana	5,606,803	Ohio	1,918,708	North Carolina	2,380,794
Mississippi	4,267,776	Connecticut	1,798,800	Tennessee	1,984,063
Wisconsin	4,259,732	North Carolina	1,644,494	Maryland	1,914,586

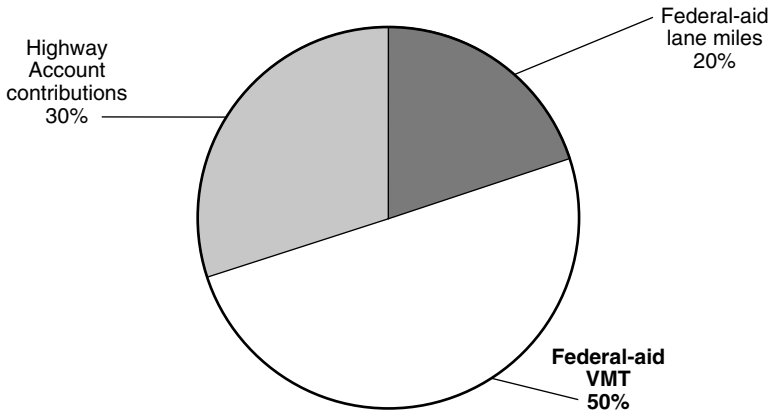

Figure 4.3c—STP Factors: Hypothetical Increased Weight to Vehicle Miles Traveled

$20.1 million, or 3.7 percent, to a total of $559.9 million. Other states that would see substantial increases from a VMT factor-weight increase include states with large numbers of vehicles. Increasing the VMT weighting would raise STP apportionments in 18 states and reduce them in 25 states.

Increasing the weight of the HTF Highway Account contributions factor of the STP formula from 35 percent to 45 percent (Figure 4.3d) would increase California's apportionment by $5.2 million (1 percent) to $544.9 million. An increase in the weight of the HTF Highway Account contributions factor would increase apportionments in 20 states and reduce them in 23 states.

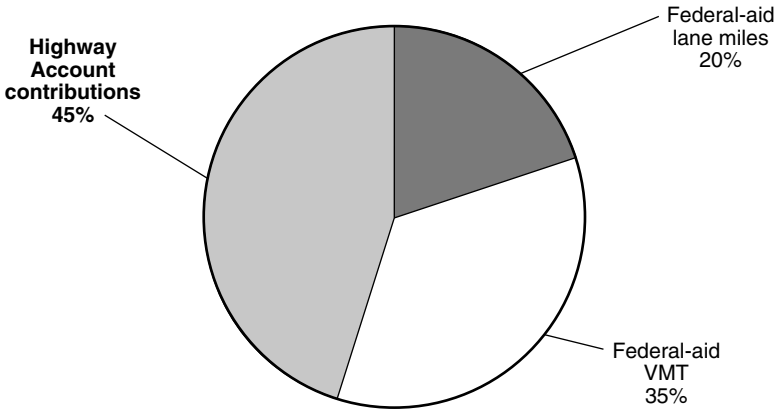

Figure 4.3d—STP Factors: Hypothetical Increased Weight to HTF Highway Account

Highway Bridge Replacement and Rehabilitation Program

The HBRRP provides funding to states for the replacement and repair of highway bridges. Funds may also be used for seismic retrofitting of existing bridges. Funds are apportioned entirely according to each state's relative share of FHWA's estimate of the cost to repair or replace deficient highway bridges. A state may receive no less than 0.25 percent and no more than 10 percent of apportioned HBRRP funds. States are required to spend between 15 and 35 percent of funds on off-system bridges—bridges that are not part of the federal-aid highway system.

TEA-21 also authorized $25 million in discretionary funds for the bridge program in 1998 and $100 million for every year thereafter until TEA-21's expiration. These funds are used for bridge projects at the Department of Transportation's discretion, although $25 million must be set aside for retrofitting activities.

As shown in Table F.1, California received $248.8 million (7.4 percent) of the nation's $3.4 billion in total HBRRP apportionments for fiscal year 2002. In addition to its apportioned funding, California received $5.9 million in 2002 discretionary funds for bridge projects, 4.9 percent of the U.S. total, as well as $6,522,620 in discretionary seismic retrofit funds, 27.7 percent of the U.S. total.

Congestion Mitigation and Air Quality Improvement Program

CMAQ was established under ISTEA to provide flexible federal funds for projects and programs that reduce transportation-related pollutant emissions and boost air quality. Eligible programs and projects include freeway management systems and various transit improvements, travel demand strategies, traffic flow improvements, high-occupancy vehicle lanes, bicycle facilities, and the conversion of government vehicle fleets to alternative fuels.[14] Projects and programs should help state and local governments achieve and maintain national ambient air quality standards in metropolitan areas that are classified as maintenance or nonattainment air quality areas designated by the Clean Air Act of 1990 (CAA).

Apportionment of CMAQ funds is determined annually by weighting the number of people in an area that the CAA classified as a nonattainment or maintenance area for ozone (smog), carbon monoxide (CO), or particulate matter (PC-10)—three nonpoint source air pollutants. The CAA subdivided noncompliance with safe ozone standards into five nonattainment subcategories

[14]For an examination of eligible CMAQ activities and their use in California under ISTEA, see Paul G. Lewis and Mary Sprague, *Federal Transportation Policy and the Role of Metropolitan Planning Organizations in California*, Public Policy Institute of California, San Francisco, April 1997, p. 82.

(marginal, moderate, serious, severe, and extreme).[15] Each subcategory is tagged with its own formula-weighting factor, graduated based on the level of pollution severity. Population counts for areas with extreme ozone problems are weighted 1.4, meaning that their value is raised 40 percent for formula calculation. Severe areas are weighted at 1.3, serious areas 1.2, moderate areas 1.1, and marginal areas at 1.0 (or no factor-weight change). The factor weighting for CO nonattainment is fixed at 1.0, whereas the CMAQ formula provides for a special multiplier if areas experience pollution problems for both ozone and CO. Maintenance areas that were previously classified as nonattainment are weighted at a lower overall rate and thus receive less money. With few exceptions, states are generally required to use CMAQ funds for programs within the nonattainment or maintenance area boundaries.

Before apportionments are distributed, up to 1.5 percent of CMAQ is taken for administration and another 1 percent is deducted for metropolitan planning costs. In addition, a $500,000 deduction is assessed from the annual total to fund a CMAQ evaluation study program. Each state is guaranteed a minimum apportionment of 0.5 percent of the total CMAQ funds available every year. Furthermore, up to 50 percent of a state's CMAQ funds, minus the amount the state would have received at the minimum authorized level for the applicable year, may be transferred to other core programs. An 80/20 percent federal/state funding ratio applies to the program; that ratio is increased to 90 percent federal for projects involving the interstate highway system, and it may be raised higher still if other conditions are met. Conversely, local decisionmaking bodies responsible for local CMAQ projects have the authority to increase the local match requirement beyond the federal minimum.

Greater Los Angeles remains one of the most polluted metropolitan regions in the country, still classified as an extreme ozone nonattainment area. But significant strides throughout the state signify overall progress in improved California air quality. According to the U.S. Environmental Protection Agency, California's smog-forming emissions from highway vehicles declined 36 percent between 1985 and 1999. Still, seven California areas retained CAA classification as nonattainment ozone areas during that period, and that total increased to 26 areas upon TEA-21's incorporation of tighter 1997 air quality standards to determine apportionment eligibility.

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[15]The Clean Air Act Amendments of 1990 (Public Law 101-549) defined an ambient air quality standard methodology for classifying areas according to ozone pollution levels. Areas that did not comply were designated as marginal (0.121 to 0.138 parts ozone per million or ppm), moderate (0.138 to 0.160 ppm), serious (0.160 to 0.180 ppm), severe (0.180 to 0.280 ppm), or extreme (0.280 ppm and above). Areas designated under these standards were given a certain time period after November 15, 1990, in which to bring air quality levels into compliance. The periods ranged from three years for marginal areas to 20 years for extreme areas. See 42 U.S.C. §7511.

With vast metropolitan populations residing in areas not in compliance with federal air quality standards, California receives by far the largest share of CMAQ funding. In fiscal year 2002, the state's apportionment of $292.5 million was 21.3 percent of the $1.4 billion total U.S. CMAQ apportionment (Table G.1).

As the recipient of the nation's largest share of CMAQ funding, California loses more funding than any other state as a result of the program's 0.5 percent small-state minimum. The apportionments of 22 states and the District of Columbia are increased, in many cases from zero, to ensure that no state receives less than 0.5 percent of funds (regardless of the fact that some states do not contain any nonattainment or maintenance areas). The apportionments of the remaining 28 states, including California, are reduced by 8.1 percent to accommodate the increases. As shown in Table G.2, California's apportionment would increase by $15.3 million if Congress were to reduce the minimum to 0.25 percent, and by $26 million if it were to eliminate the minimum entirely. Other states whose apportionments decline substantially because of the minimum include New York ($12.1 million), Texas ($7.1 million), New Jersey ($6.9 million), Pennsylvania ($6.7 million), and Illinois ($6.1 million).

Recreational Trails Program

The Recreational Trails Program (RTP) apportionment helps states develop and maintain motorized and nonmotorized recreational trails. Examples of recreational trails include those used by hikers, bikers, equestrians, cross-country skiers, and off-road vehicle riders. TEA-21 authorized $30 million in 1998, $40 million in 1999, and $50 million for each year thereafter in RTP funds. Program administration, trail-related research, and technical assistance are funded by a maximum 1.5 percent deduction from the total before distribution to the states.

The formula for RTP bases half of apportioned funds on the state's proportion of nonhighway recreational fuel use over the preceding year; the other half is distributed equally among the states regardless of population or other recreational trail–related factors. In essence, this creates a 1 percent small-state minimum for the program.

States are obliged to use 30 percent of RTP funds for motorized trail expenditures, 30 percent for nonmotorized trail use, and 40 percent for diverse trail uses. Generally, the FAHP share of project funds is set at 80 percent, although other federal agencies may provide additional funds that are counted toward the matching share for this program as long as the total federal share does not exceed 95 percent of the total.

As shown in Table H.1, California received $3.3 million, 6.8 percent of the nation's $49.3 million RTP total apportionments in 2002. Without the 1 percent small-state minimum, California would have received $5.7 million, reflecting the state's 11.6 percent of U.S. off-road recreational fuel consumption.

Metropolitan Planning

The establishment of a metropolitan planning (MP) structure for project oversight and facilitation of transportation investment decisions in metropolitan areas was a cornerstone of ISTEA's pledge to improve local and regional flexibility in the approval and adoption of transportation planning. Several Metropolitan Planning Organizations (MPOs) exist in California, working in partnership with the state and transit operators to help administer and implement the governor's long-term, federally certified Statewide Transportation Improvement Plan.

Funding for metropolitan planning is nontransferable and is drawn down from two sources: First, 1 percent is deducted from STP, HBRRP, CMAQ, IM, and NHS; second, funds are also deducted from transit authorizations originating from the Transit Account of HTF and the General Fund.

Funds are apportioned to states based on their share of metropolitan area population, with a 0.5 percent small-state minimum assurance. California received $30 million in MP funding in fiscal year 2002, 15.4 percent of the $195.5 million total distributed to all states (Table I.1).

Minimum Guarantee

After funds are initially apportioned based on the program formulas discussed above, some states are entitled to additional federal money to ensure compliance with the MG provision of TEA-21. The provision ensures that each state is guaranteed no less than a specified percentage rate of return of its total funds contributed to the Highway Account of the Highway Trust Fund.[16]

Apportionment of MG funding requires TEA-21's most complicated formula calculations. First, a table contained in TEA-21 explicitly demarks California's guaranteed return percentage as 9.1962 percent of total aggregate program apportionments, and it lists a specific numeric share for each other state as well.

[16]A state's rate of return is its percentage share of dollars received under the specified formula apportionment programs divided by a state's percentage share of dollars contributed to the Highway Account of HTF.

In addition, in separate language, TEA-21 also statutorily guarantees certain states a 90.5 percent aggregated minimum share return from contributions to the HTF Highway Account from two years prior for IM, NHS, HBRRP, CMAQ, STP, MP, High Priority Projects, Appalachian Development, Recreational Trails, and MG programs combined. Only 14 states are eligible for this secondary adjustment. California and 13 other states qualify for the adjustment because their statutorily prescribed percentage (California's being 9.1962 percent) constituted 90.5 percent of their HTF Highway Account contributions in 1996, the most current available year for taxation data when TEA-21 was created. Adjustments in state-designated obligations may be recalculated to meet the 90.5 percent guarantee. For instance, if a state receives less money than the specified 90.5 percent return, an adjusted increase is calculated and apportioned to the MG account to qualify the state's minimum guaranteed level. This adjustment requires that the share apportioned to other states be decreased as long as the result does not cause a state's level to fall below its designated return on highway contributions. In addition to the primary and secondary percentage guarantees, TEA-21 also guarantees each state at least $1 million in MG funds per year.

MG funds are subject to special rules and limitations. From the national total MG apportionment, $2.8 billion is distributed to the states as STP funds (STP program set-asides do not apply to these MG funds). The remainder of the MG funds are apportioned to the states, divided between IM, NHS, HBRRP, CMAQ, and STP, based on the state's relative share of each program's formulas.

Each year, $639 million nationally in MG funds are precluded from obligation limitation controls, whereas $2 billion above that amount is subject to special obligation limitations that do not expire (typical obligation limitations remain in effect for four years). All remaining funds are treated under normal obligation limitation rules.

California received $435.7 million in MG funding in fiscal year 2002, which was 7 percent of the nation's $6.2 billion total distributed among all states in that year (Table J.1b). Various calculations are required to determine this apportionment. First, each state's total apportionments from eight programs and a specified share of the High Priority Projects allocation are summed—California's total for those combined programs in 2002 was $2.1 billion, and the nation's total was $21.5 billion. Then, as shown in Table J.1a, an MG distribution requires calculation of each state's rate of return in 1996 to the HTF Highway Account (California's rate of return was 90.5 percent). The next calculation is of each state's percentage of total contributions to the HTF Highway Account for the most recent data year, which in this instance is 2000 (California contributed 9.97 percent of the total that year). Because the MG formula guarantees each state a 90.5 percent of its current-year Highway Account

contributions, that share is then multiplied by 0.905, resulting in an initial minimum guaranteed rate of return to California of 9.02 percent,[17] and a final rate of return on 2000 contributions of 90.6 percent. Final MG amounts for each state are shown in Table J.1b.

It is interesting to note that, after these calculations, California's final 90.6 percent rate of return is only slightly above the 90.5 percent MG level. As a result, California is one of two states[18] least helped by TEA-21's selection of the 90.5 percent level. In fact, no other rate of return level, whether higher or lower, would help California less. An increase to a 90.6 percent rate would raise California's 2002 funds to $439.2 million, and a decrease to a 90.4 percent rate would not reduce the state's MG apportionment below its $435.7 million level (but would reduce the overall cost of the nation's MG program by $21.1 million).[19]

A number of states and advocacy groups have suggested changing the MG formula to ensure each state a higher rate of return on HTF contributions, and some have proposed a 95 percent rate of return. Tables J.2a and J.2b show the effect on fiscal year 2002 funding of several hypothetical increases in the MG rate of return percentage. As shown, the nation's total MG funding required to guarantee a 95 percent rate of return would rise by $3.3 billion to $9.6 billion, of which California would receive $874 million (9.13 percent) of the total—more than twice its MG at the current 90.5 percent guarantee rate.

Figure 4.4 and Tables J.2a and J.2b show the total MG funding effect of various hypothetical percentage increases in the rate of return (from 90.5 percent to 92, 93, 94, 95, and 96 percent), and Table J.3 compares the amount of MG funding increases required to fund each scenario. As shown, an increase from a 90.5 percent to a 92 percent rate of return would require an additional $602.8 million, of which California would receive $94.9 million (15.7 percent of the total increase). In achieving the 92 percent rate of return, California's funding would rise by 21.8 percent, and the nation's funding would rise by 9.7 percent. As shown, the other hypothetical increases in the rate of return would produce similar results, with California's percentage growth in MG funding roughly twice that of other states.

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[17]Several recalculation iterations result in a small increase to California, from 9.02 percent to 9.03 percent. For a number of other states, the recalculations and other formula rules result in considerably larger increases.

[18]The other state is Washington, with a final rate of return of 90.52 percent, compared to California's 90.57 percent final rate of return.

[19]All subsequent hypothetical reductions below the 90.5 percent rate of return level would leave California's MG funding unchanged but would reduce funding in other states. Ultimately, a reduction to or below an 81 percent rate of return would eliminate current-year rate increases for all states and would reduce total MG funding by $501 million, to $5.7 billion.

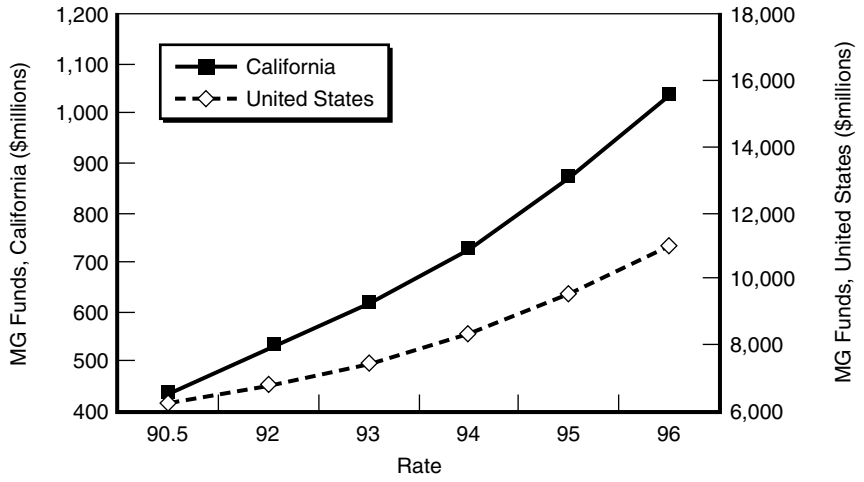

Figure 4.4—Effect on Fiscal Year 2002 Funding of Hypothetical Changes in Percentage Rate of Return for Minimum Guarantee, California and the United States

Total Apportionments

Finally, Table B.1 shows each state's FAHP apportionments for fiscal year 2002. California's apportionment from all ten formula programs[20] was $2.66 billion, or slightly less than 9 percent of the nation's $29.5 billion total. From fiscal years 1998 through 2002, the first five years of TEA-21's existence, the nation's highway formula apportionments increased by 37.3 percent, from $21.5 billion to $29.5 billion (Table B.6). During the same period, California apportionments for these programs increased at a slightly slower rate, 34.5 percent, from $1.97 billion to $2.66 billion.

Figures 4.5 and 4.6 show the components of FAHP apportionment growth under TEA-21 in California and the United States, respectively. A primary component of growth for both California and the nation was the creation and expansion of RABA. In 2000, the first year of RABA's existence, it added $125.1 million to California's and $1.4 billion to the nation's highway apportionments. In 2002, RABA represented $315.8 million for California and $3.5 billion nationwide, accounting for nearly half of highway formula program growth.

All FAHP apportionments grew between 1998 and 2002 for both California and the United States. MG grew 15.7 percent nationwide, to $6.2 billion, whereas California's rate was twice that: California's MG receipts grew 31.8

[20]IM, NHS, HBRRP, CMAQ, STP, MP, High Priority Projects, Appalachian Development, Recreational Trails, MG, and RABA.

Figure 4.5—Components of California TEA-21 Apportionments, Fiscal Years 1998–2002

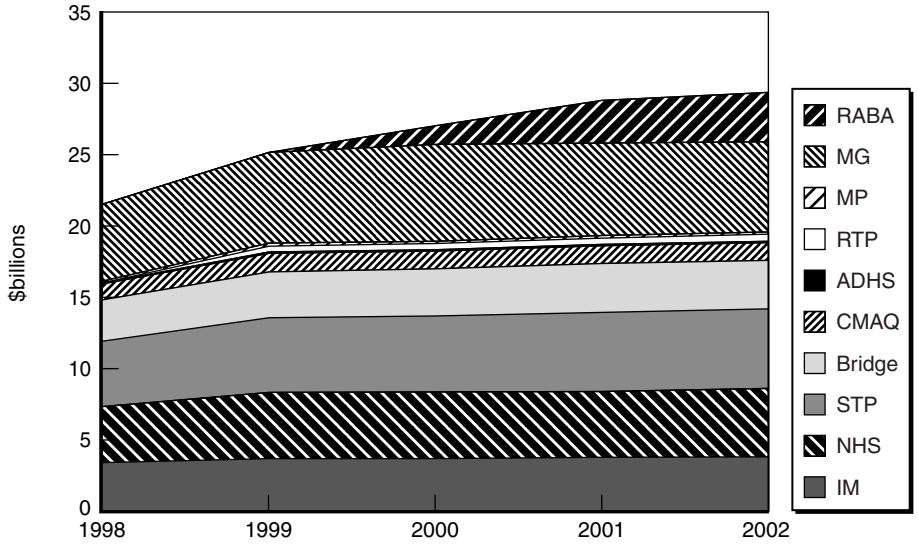

Figure 4.6—Components of U.S. TEA-21 Apportionments, Fiscal Years 1998–2002

percent, from $330.4 million to $435.7 million, and the state's share of MG funds increased from 6.1 percent of the nation's total to 7.0 percent.

As shown in Table B.6 and Figure 4.7, however, California's share of total funding from all programs declined from 1998 to 2002. California represented 9.18 percent of FAHP apportionments in 1998 and 9.00 percent in 2002. Despite the state's growing share of the nation's MG funds, California's portion of the four largest formulas—IM, NHS, STP, and HBRRP—declined somewhat during the period. For each program, the decline results from the rest of the nation's highway apportionments rising faster than California's. The state's share of the nation's IM funds declined from 9.04 percent to 8.81 percent, California's NHS apportionment fell from 9.62 percent of the U.S. total to 9.26 percent, the state's STP share declined from 9.93 percent to 9.60 percent, and its share of the HBRRP program declined from 8.15 percent to 7.40 percent.

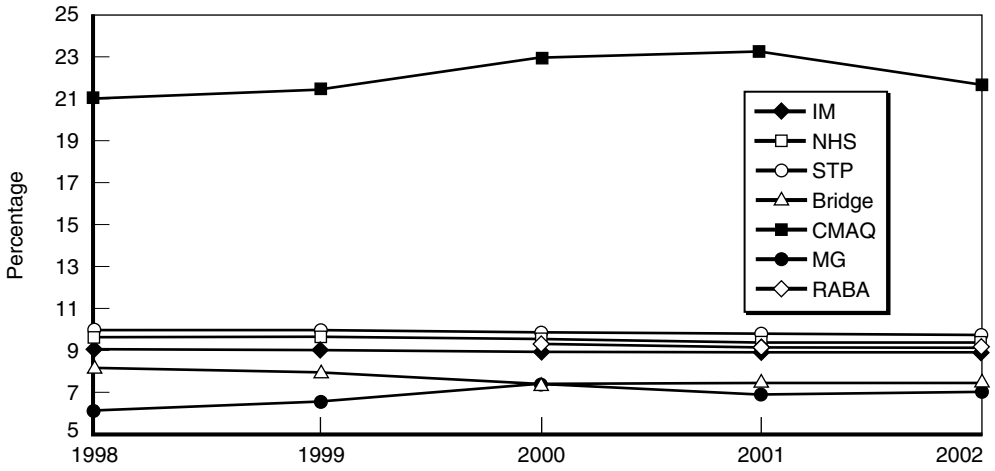

Figure 4.7—California Share of Major TEA-21 Apportionments, Fiscal Years 1998–2002

Conclusion

Congress will soon revise TEA-21, and California legislators and advocates will face a number of challenges as the process moves forward.[21] Whereas the

[21]In consultation with the state, a consortium of California MPOs, transportation organizations, and local governments met during 2002 to prepare a platform of TEA-21 reauthorization principles seeking a unified California position regarding TEA-21 renewal. Priorities identified include higher obligation limitations, retention of the RABA fiscal adjustment feature, increasing intermodal capacity (while recognizing California's important role as a world trade corridor), assurance of equitable returns on the state's support for HTF, better coordination across all levels of government, and expeditious agency review of environmental laws to accelerate delivery of projects.

state's population of 35 million persons now represents 12.2 percent of the nation's total, the state's share of highway funding is considerably less.

Over the life of TEA-21, from 1998 to 2002, highway funding to California from all programs rose by 34.5 percent, whereas total U.S. funding rose at a slightly faster 37.3 percent rate. When the TEA-21 era began in fiscal year 1998, California represented 9.2 percent of total funds; the state's share in 2002 was just below 9 percent.

The nation's funding for highway programs rose from $21.5 billion in 1998 to $29.5 billion in 2002. (RABA adjustments may reduce the total for 2003 to account for sharp reductions in fuel tax revenues.) During the same period, California's apportionments rose from $2 billion to $2.7 billion.

From 1998 through 2002, California's CMAQ funding rose slightly faster than in the nation as a whole, and the state's MG funding increased at twice the national rate. But California's growth in the other FAHP programs lagged the rest of the nation, resulting in a declining overall share for the state over the period.

California's share of federal highway funding varies across programs, as shown in Table B.6 and Figure 4.7. Notably, the state receives between one-fifth and one-fourth of the nation's apportionments for CMAQ because of the formula's reliance on air quality factors and the state's relatively high levels of unhealthful air. California also receives a large share (15.4 percent) of the nation's Metropolitan Planning apportionments because of the formula's use of urbanized area population as the primary apportioning factor.

For the remainder of the major apportionment programs, however, California's share is considerably lower. For each major program, the size of California's share is significantly related to the weight the program's formula gives to a vehicle miles traveled factor. The IM formula weights VMT at 33-1/3 percent, and California's share of the nation's apportionments in 2002 was 8.81 percent. The NHS program weights VMT slightly more, at 35 percent, and California's share of funding was 9.26 percent. And the STP program places the greatest weight on the VMT factor, 40 percent, and California's apportionment from the STP program was 9.60 percent of the U.S. total in 2002.

The state's large population and heavy vehicle usage make VMT a stronger factor for the state—one likely to increase the state's share of funding—than the lane mileage factors and tax contributions factors with which VMT is often paired.

The primary component of the MG formula benefits California less than any other state except one. As such, any increase in the current-year rate of return

percentage would raise California's apportionment, whereas any decrease would reduce other states' apportionments, but not California's.

As California advocates and legislators prepare to participate in the congressional revision of TEA-21, we hope that these findings may help illuminate whether one policy approach or another will be most effective and appropriate for the state.

Appendix A

High Priority Projects

Most federal highway funding is distributed to states via formula apportionment. A smaller portion (a total of $5.7 billion in fiscal year 2001, of which California received $610 million) is distributed without formula via a process known as allocation. Funding for a total of 30 programs is allocated without formula, but the largest of these is High Priority Projects (HPPs).[1] TEA-21 set aside $9.4 billion over its six-year life in designated funding for a list of 1,850 specific projects. Technically, HPP funds are neither discretionary allocations nor formula apportionments; rather, they are codified earmarks for predetermined highway, road, transit, and other transportation-related projects, each with its own specified amount of funding through the course of TEA-21's lifespan. Nevertheless, FHWA classifies HPPs as allocations for funding distribution purposes.

A distribution schedule spreads federal funding for each project over the TEA-21 era as follows: 11 percent in 1998, 15 percent in 1999, 18 percent in 2000, 18 percent in 2001, 19 percent in 2002, and 19 percent in 2003. An "Advance Construction" clause allows states to commence work on HPPs before funding is credited; the funds from the schedule are then drawn down and used as reimbursements when available. The maximum federal share of California-based projects is 80 percent; however, some projects designated as high priority bridge projects or state priority projects may also be eligible to receive funds from other core categories. For instance, the Golden Gate Bridge Seismic Retrofit High Priority Project is eligible to receive funds from High Cost Bridge set-asides

[1] In addition to the $1.8 billion High Priority Projects program, other allocations include the Federal Lands Highways Program ($706 million in fiscal year 2002), Woodrow Wilson Memorial Bridge ($225 million), National Corridor Planning and Development and Coordinated Border Infrastructure Program ($140 million), Transportation Infrastructure Finance and Innovation ($120 million), Intelligent Transportation Systems Deployment ($120 million), Safety Incentive Grants for Use of Seat Belts ($112 million), Commonwealth of Puerto Rico Highway Program ($110 million), ITS Standards, Research, Operational Tests, and Development ($105 million), Surface Transportation Research ($101 million), Interstate Maintenance Discretionary Program ($100 million), Bridge Discretionary Program ($100 million), Technology Deployment Program ($45 million), Construction of Ferry Boats and Ferry Terminal Facilities ($38 million), Territorial Highways ($36.4 million), Bureau of Transportation Statistics ($31 million), University Transportation Centers ($26.5 million), National Scenic Byways Program ($25.5 million), Transportation and Community and System Preservation Pilot Program ($25 million), Training and Education ($19 million), Alaska Highway ($18.8 million), Miscellaneous Studies-Reports-Projects ($18.8 million), Value Pricing Pilot Program ($11 million), Highway Skill Training ($10 million), On-the-Job Training Supportive Services ($10 million), and several programs at less than $10 million: Rail-Highway Crossing Hazard Elimination in High Speed Rail Corridors, Highway Use Tax Evasion Program, Operation Lifesaver, Study of CMAQ Program Effectiveness, and Magnetic Levitation Transportation Technology Deployment Program.

as well as formula funds from the Highway Bridge Replacement and Rehabilitation Program.

Obligation limitations for these projects are made available at the same pro rata share as other core highway programs although these funds are not subject to the typical four-year availability deadline as is the case with most other FAHPs.

In 2002, California received $164.4 million, or 9.4 percent of the U.S. total of $1.8 billion, in HPP allocation. Congress initially identified 156 HPPs for California, for a total of $877 million over six years. In practice, only a handful of these have received approval for construction. The remaining projects continue to be assigned their yearly allocation percentages, and these committed funds are stored accordingly in the HTF. Assuming that these uninitiated projects gain state and local approval, the unspecified availability deadline component for HPPs under TEA-21 allows indefinite storage of unobligated project arrears until they are expended.

Appendix B

Data Tables for All Federal-Aid Highway Apportionment Programs

Table B.1

Apportionment of FAHP Funding, Fiscal Year 2002 ($000)

State	IM	NHS	STP	HBRRP	CMAQ	Appalachian Highways	RTP	MP	MG	RABA	Program Total	% of Total
Alabama	78,994	88,985	114,870	68,677	6,858	48,772	986	2,171	104,914	70,200	585,427	1.98
Alaska	20,779	25,914	28,109	9,109	6,858	0	655	978	218,635	41,676	352,712	1.20
Arizona	81,081	86,578	97,107	10,542	27,250	0	1,062	3,133	163,452	64,066	534,272	1.81
Arkansas	50,036	70,020	79,814	41,204	6,858	0	823	978	84,408	45,043	379,182	1.28
California	346,535	443,257	539,768	248,795	292,486	0	3,333	30,044	435,684	315,753	2,655,655	9.00
Colorado	63,394	80,565	85,868	23,280	19,876	0	1,304	2,805	61,021	45,541	383,654	1.30
Connecticut	42,784	39,594	54,357	70,841	28,412	0	597	2,897	149,295	52,223	441,000	1.49
Delaware	6,812	36,786	28,109	12,471	6,858	0	524	978	26,123	15,829	134,491	0.46
District of Columbia	2,393	41,206	28,109	20,690	6,858	0	483	978	1,000	13,859	115,575	0.39
Florida	155,262	219,349	254,493	57,467	34,140	0	1,639	12,007	495,892	167,621	1,397,870	4.74
Georgia	149,091	145,214	199,161	58,107	27,340	19,491	1,296	3,847	325,279	126,552	1,055,378	3.58
Hawaii	7,092	36,506	28,109	19,200	6,858	0	534	978	31,887	17,871	149,034	0.50
Idaho	30,742	40,586	35,343	12,147	6,858	0	821	978	61,152	25,700	214,326	0.73
Illinois	171,753	149,810	204,004	113,983	69,317	0	1,244	10,003	129,313	115,734	965,161	3.27
Indiana	105,066	108,572	137,419	36,968	13,486	0	834	3,177	196,104	81,064	682,689	2.31
Iowa	53,750	76,777	81,450	53,909	6,858	0	854	1,112	31,511	41,262	347,484	1.18
Kansas	51,829	70,627	89,993	51,388	6,858	0	766	1,202	24,942	40,548	338,152	1.15
Kentucky	74,783	83,267	95,208	55,119	9,655	44,741	772	1,506	82,654	61,000	508,704	1.72
Louisiana	68,992	67,530	90,485	91,125	6,858	0	1,032	2,629	73,734	53,784	456,169	1.55
Maine	21,982	25,383	30,336	23,901	6,858	0	736	978	25,966	18,549	154,689	0.52
Maryland	66,940	73,742	90,390	60,345	39,979	7,627	689	4,225	78,872	56,543	479,352	1.62
Massachusetts	66,314	65,939	93,561	104,698	51,022	0	768	5,581	81,913	63,495	533,291	1.81
Michigan	117,678	142,083	199,382	98,660	28,662	0	1,485	6,857	234,191	112,951	941,950	3.19
Minnesota	71,656	87,300	111,243	23,907	14,451	0	1,170	2,797	61,455	50,343	424,322	1.44
Mississippi	51,091	70,431	81,625	47,523	6,858	5,470	1,026	978	67,265	44,797	377,064	1.28
Missouri	104,816	108,873	140,458	119,760	17,644	0	1,003	3,283	99,710	80,340	675,889	2.29
Montana	42,600	58,083	36,429	12,513	6,858	0	873	978	107,984	35,517	301,834	1.02
Nebraska	34,619	60,016	57,257	26,288	6,858	0	694	978	19,563	28,104	234,376	0.79
Nevada	33,646	38,493	37,811	8,404	10,984	0	666	1,075	58,484	25,828	215,390	0.73
New Hampshire	15,856	27,742	28,109	17,280	6,858	0	655	978	31,029	17,208	145,716	0.49
New Jersey	74,252	109,766	124,865	160,241	78,097	0	793	7,821	103,757	89,869	749,461	2.54
New Mexico	55,335	60,593	49,267	12,226	6,858	0	897	978	67,570	34,165	287,888	0.98
New York	142,829	164,454	216,698	336,140	136,763	10,512	1,181	16,654	266,031	174,710	1,465,972	4.97
North Carolina	99,936	119,478	154,534	85,821	14,170	28,715	1,163	2,965	220,548	99,099	826,428	2.80
North Dakota	23,329	64,621	35,672	8,404	6,858	0	625	978	33,855	23,468	197,808	0.67
Ohio	169,461	156,441	197,736	114,536	41,723	21,993	1,171	7,854	181,989	120,433	1,013,338	3.43

Table B.1 (continued)

State	IM	NHS	STP	HBRRP	CMAQ	Appalachian Highways	RTP	MP	MG	RABA	Program Total	% of Total
Oklahoma	67,802	83,439	108,982	81,677	6,858	0	904	1,598	46,451	54,188	451,899	1.53
Oregon	54,153	69,510	75,839	48,030	9,711	0	856	1,675	44,419	41,000	345,193	1.17
Pennsylvania	147,368	161,445	201,226	336,140	75,245	119,253	1,168	8,503	173,532	166,754	1,390,635	4.71
Rhode Island	9,127	34,472	28,109	39,406	7,749	0	521	978	37,194	21,296	178,851	0.61
South Carolina	69,830	70,871	98,964	48,292	6,858	2,389	776	1,683	141,902	59,546	501,111	1.70
South Dakota	27,736	54,226	38,956	12,724	6,858	0	625	978	41,098	24,675	207,877	0.70
Tennessee	101,693	105,263	127,451	66,122	12,157	54,679	918	2,617	116,009	78,393	665,302	2.25
Texas	301,033	378,661	458,294	131,250	79,957	0	2,221	13,417	669,989	277,244	2,312,067	7.83
Utah	53,082	38,428	46,256	24,219	8,843	0	820	1,557	24,489	26,936	224,630	0.76
Vermont	13,654	29,944	28,109	18,713	6,858	0	599	978	21,522	16,074	136,451	0.46
Virginia	114,930	113,809	149,757	64,257	27,197	11,493	898	4,518	192,326	90,651	769,837	2.61
Washington	77,150	87,390	110,067	90,920	20,945	0	1,129	3,793	57,139	61,112	509,645	1.73
West Virginia	35,262	35,897	44,385	48,241	6,858	67,816	720	978	33,034	36,701	309,892	1.05
Wisconsin	67,903	108,152	120,232	27,339	16,578	0	1,172	2,908	166,488	69,593	580,366	1.97
Wyoming	39,799	69,544	28,109	8,404	6,858	0	767	978	30,082	24,522	209,063	0.71
Total	3,934,028	4,785,634	5,621,889	3,361,404	1,371,569	442,950	49,250	195,510	6,232,855	3,519,430	29,514,519	100

SOURCE: Federal Highway Administration, *Highway Statistics*, 1997–2001.

Table B.2

Apportionment of FAHP Funding, Fiscal Year 2001 ($000)

State	IM	NHS	STP	HBRRP	CMAQ	Appalachian Highways	RTP	MP	MG	RABA	Program Total	% of Total
Alabama	77,704	87,673	113,709	66,152	6,753	48,805	992	2,137	110,918	58,617	573,459	1.99
Alaska	20,466	25,308	27,676	10,118	6,753	0	694	963	218,402	34,458	344,838	1.19
Arizona	78,203	83,353	93,800	10,244	27,520	0	922	3,085	156,728	49,615	503,471	1.74
Arkansas	50,637	69,954	78,841	41,513	6,753	0	901	963	84,420	38,215	372,195	1.29
California	342,528	437,644	536,184	245,409	310,431	0	2,959	29,583	443,530	267,044	2,615,313	9.06
Colorado	61,703	76,881	82,063	20,151	20,516	0	1,012	2,762	43,801	34,188	343,077	1.19
Connecticut	40,465	37,643	52,910	68,117	29,687	0	587	2,853	156,081	43,917	432,261	1.50
Delaware	7,042	35,875	27,676	13,535	6,753	0	525	963	25,882	12,794	131,045	0.45
District of Columbia	2,306	40,611	27,676	21,789	6,753	0	483	963	1,000	11,441	113,021	0.39
Florida	151,736	215,395	249,759	56,110	35,155	0	1,439	11,823	519,152	137,872	1,378,441	4.77
Georgia	147,389	140,914	195,132	60,189	27,714	19,504	1,323	3,788	325,953	103,871	1,025,777	3.55
Hawaii	6,947	35,970	27,676	19,272	6,753	0	533	963	32,974	14,972	146,060	0.51
Idaho	29,564	39,233	34,099	10,581	6,753	0	865	963	66,820	22,320	211,197	0.73
Illinois	164,189	141,518	196,875	111,325	72,912	0	1,347	9,849	151,307	97,804	947,126	3.28
Indiana	105,456	110,924	138,693	38,149	14,230	0	880	3,128	221,035	71,571	704,065	2.44
Iowa	53,773	75,702	80,497	52,714	6,753	0	846	1,095	34,578	34,762	340,719	1.18
Kansas	51,522	70,303	88,462	48,429	6,753	0	805	1,183	29,937	33,885	331,278	1.15
Kentucky	75,147	83,094	94,031	50,196	10,168	44,771	872	1,483	101,454	52,172	513,389	1.78
Louisiana	67,641	65,725	89,471	91,893	6,753	0	1,124	2,588	83,762	47,059	456,015	1.58
Maine	20,427	24,204	29,018	20,738	6,753	0	697	963	33,117	15,220	151,136	0.52
Maryland	65,903	71,873	88,769	54,106	42,340	7,632	698	4,160	80,598	46,937	463,016	1.60
Massachusetts	65,799	66,183	93,848	104,388	20,839	0	752	5,495	112,347	53,901	523,552	1.81
Michigan	117,295	140,741	196,159	98,606	30,047	0	1,559	6,752	230,793	93,662	915,614	3.17
Minnesota	71,069	85,621	108,816	24,609	15,135	0	1,201	2,754	64,865	43,359	417,429	1.45
Mississippi	50,081	68,322	80,343	47,227	6,753	5,473	1,085	963	68,444	37,304	365,995	1.27
Missouri	105,724	109,548	141,590	120,678	18,815	0	1,118	3,233	110,048	69,938	680,691	2.36
Montana	41,847	56,756	35,624	13,045	6,753	0	768	963	109,640	28,714	294,110	1.02
Nebraska	34,919	60,217	56,592	26,484	6,753	0	630	963	19,104	22,465	228,125	0.79
Nevada	32,233	37,436	36,535	8,271	10,265	0	632	1,058	62,714	20,961	210,105	0.73
New Hampshire	15,712	27,205	27,676	17,952	6,753	0	614	963	31,680	14,931	143,485	0.50
New Jersey	73,092	107,471	124,788	155,033	78,794	0	926	7,701	125,169	77,416	750,389	2.60
New Mexico	55,120	60,514	48,554	10,823	6,753	0	754	963	69,924	28,584	281,989	0.98
New York	131,219	166,404	214,421	330,825	123,725	10,519	1,203	16,398	296,677	149,307	1,440,698	4.99
North Carolina	100,541	119,165	152,258	86,886	14,394	28,735	1,123	2,919	220,349	81,837	808,207	2.80
North Dakota	23,526	63,849	35,382	8,271	6,753	0	589	963	34,477	18,951	192,758	0.67
Ohio	164,394	152,504	194,453	115,173	44,627	22,008	1,357	7,733	165,323	99,070	966,642	3.35

Table B.2 (continued)

State	IM	NHS	STP	HBRRP	CMAQ	Appalachian Highways	RTP	MP	MG	RABA	Program Total	% of Total
Oklahoma	66,398	81,951	107,260	76,514	6,753	0	951	1,573	55,714	44,591	441,706	1.53
Oregon	53,463	69,005	74,874	43,720	10,214	0	954	1,650	50,371	35,233	339,483	1.18
Pennsylvania	144,979	160,752	199,577	330,825	58,058	119,334	1,062	8,373	202,301	144,272	1,369,533	4.74
Rhode Island	8,604	34,313	27,676	38,108	6,753	0	526	963	40,179	17,230	174,351	0.60
South Carolina	68,775	69,913	97,141	40,830	6,753	2,391	801	1,657	153,298	48,801	490,360	1.70
South Dakota	27,611	53,727	38,571	13,677	6,753	0	583	963	41,105	20,675	203,663	0.71
Tennessee	100,089	102,773	124,662	66,789	12,685	54,716	972	2,577	120,995	66,715	652,972	2.26
Texas	297,009	369,741	447,521	120,897	83,037	0	2,415	13,211	658,233	221,875	2,213,939	7.67
Utah	53,154	38,806	45,482	20,458	9,378	0	753	1,533	28,054	22,647	220,264	0.76
Vermont	14,427	28,490	27,676	18,254	6,753	0	575	963	22,936	13,225	133,298	0.46
Virginia	114,411	111,608	146,946	78,311	28,368	11,501	1,123	4,449	170,562	75,009	742,288	2.57
Washington	73,166	82,560	106,037	95,763	22,053	0	1,177	3,734	64,009	51,694	500,194	1.73
West Virginia	36,146	36,552	44,755	49,622	6,753	67,861	693	963	30,397	32,734	306,475	1.06
Wisconsin	68,480	107,373	119,279	27,210	17,346	0	1,120	2,863	166,485	57,597	567,753	1.97
Wyoming	42,070	72,022	27,676	8,271	6,753	0	731	963	25,511	20,102	204,098	0.71
Total	3,872,100	4,711,320	5,535,190	3,308,251	1,350,514	443,250	49,250	192,508	6,473,150	2,941,534	28,877,066	100

SOURCE: Federal Highway Administration, *Highway Statistics*, 1997–2001.

Table B.3

Apportionment of FAHP Funding, Fiscal Year 2000 ($000)

State	IM	NHS	STP	HBRRP	CMAQ	Appalachian Highways	RTP	MP	MG	RABA	Program Total	% of Total
Alabama	75,733	85,231	110,977	62,170	6,619	48,805	958	2,096	118,315	26,999	537,904	1.98
Alaska	19,423	24,312	27,138	12,940	6,619	0	708	944	215,982	15,871	323,937	1.19
Arizona	76,872	81,884	90,428	8,751	26,361	0	967	3,026	149,049	22,199	459,538	1.69
Arkansas	49,608	68,368	78,068	36,687	6,619	0	890	944	90,230	17,601	349,015	1.28
California	335,221	437,310	529,354	239,065	300,955	0	3,229	29,011	499,214	125,129	2,498,488	9.20
Colorado	59,722	74,006	78,540	19,773	20,433	0	1,093	2,709	46,323	15,549	318,147	1.17
Connecticut	40,913	38,191	52,465	59,578	29,155	0	601	2,797	161,694	20,228	405,622	1.49
Delaware	7,249	34,823	27,138	13,865	6,619	0	526	944	26,227	5,893	123,284	0.45
District of Columbia	2,263	39,809	27,138	22,556	6,619	0	483	944	1,000	5,269	106,081	0.39
Florida	149,683	210,180	244,741	59,157	34,150	0	1,374	11,594	535,399	64,244	1,310,522	4.82
Georgia	144,268	138,451	190,672	61,097	26,521	19,504	1,254	3,715	328,306	47,786	961,574	3.54
Hawaii	6,932	35,140	27,138	17,153	6,619	0	531	944	35,625	6,896	136,978	0.50
Idaho	30,842	40,474	34,120	10,014	6,619	0	866	944	63,500	10,281	197,659	0.73
Illinois	163,375	140,499	193,906	106,665	71,221	0	1,170	9,659	156,258	45,048	887,801	3.27
Indiana	105,315	110,421	135,362	39,229	13,961	0	862	3,067	192,776	31,643	632,635	2.33
Iowa	52,881	76,834	78,686	49,123	6,619	0	796	1,074	37,610	16,011	319,634	1.18
Kansas	51,530	69,726	87,049	51,842	6,619	0	799	1,160	26,390	15,607	310,724	1.14
Kentucky	72,829	80,539	91,598	47,583	10,564	44,771	863	1,455	107,243	24,017	481,461	1.77
Louisiana	66,551	63,857	86,286	79,484	6,619	0	1,103	2,538	92,950	21,358	420,746	1.55
Maine	20,468	24,238	29,269	20,027	6,619	0	714	944	32,615	7,010	141,904	0.52
Maryland	64,974	69,444	87,283	50,797	41,392	7,632	691	4,080	92,712	21,920	440,924	1.62
Massachusetts	64,944	65,194	92,801	97,173	20,502	0	736	5,389	119,293	24,826	490,857	1.81
Michigan	113,769	138,110	192,983	108,266	29,481	0	1,417	6,621	238,644	43,815	873,107	3.21
Minnesota	68,704	83,536	105,934	25,071	18,149	0	1,175	2,701	65,888	19,971	391,129	1.44
Mississippi	47,730	64,971	77,668	50,442	6,619	5,473	1,077	944	62,124	16,729	333,778	1.23
Missouri	106,413	109,944	139,831	113,385	18,468	0	1,094	3,170	131,628	33,098	657,031	2.42
Montana	41,950	56,914	35,370	13,521	6,619	0	789	944	107,359	13,226	276,693	1.02
Nebraska	32,803	57,247	54,131	28,322	6,619	0	629	944	23,457	10,347	214,499	0.79
Nevada	31,789	37,501	36,161	8,106	9,704	0	646	1,038	62,792	9,654	197,391	0.73
New Hampshire	16,277	25,795	27,138	17,159	6,619	0	593	944	33,026	6,877	134,428	0.49
New Jersey	71,340	104,793	122,312	145,736	77,320	0	940	7,552	141,493	35,841	707,326	2.60
New Mexico	52,829	58,225	47,136	10,953	6,619	0	911	944	73,866	13,166	264,650	0.97
New York	128,955	164,527	214,299	324,230	121,421	10,519	1,320	16,081	300,011	68,770	1,350,133	4.97
North Carolina	96,777	116,056	147,842	88,829	13,920	28,735	1,119	2,863	225,344	37,724	759,208	2.79
North Dakota	23,156	62,684	34,338	8,106	6,619	0	593	944	36,095	8,729	181,263	0.67
Ohio	163,892	151,724	193,728	115,109	46,740	22,008	1,248	7,584	181,593	46,756	930,380	3.42

Table B.3 (continued)

State	IM	NHS	STP	HBRRP	CMAQ	Appalachian Highways	RTP	MP	MG	RABA	Program Total	% of Total
Oklahoma	66,548	81,334	106,252	67,283	6,619	0	963	1,543	64,814	20,600	415,956	1.53
Oregon	52,909	67,713	74,907	52,452	9,597	0	961	1,618	45,927	16,436	322,519	1.19
Pennsylvania	142,528	159,365	193,951	303,722	57,240	119,334	1,079	8,211	230,141	66,451	1,282,021	4.72
Rhode Island	8,281	33,791	27,138	30,493	6,619	0	527	944	48,170	7,936	163,900	0.60
South Carolina	66,336	67,927	94,548	38,642	6,619	2,391	801	1,625	155,366	22,278	456,534	1.68
South Dakota	27,394	52,487	37,633	11,893	6,619	0	586	944	44,044	9,523	191,122	0.70
Tennessee	97,451	99,813	121,835	68,874	12,352	54,716	985	2,527	125,650	30,848	615,050	2.26
Texas	285,242	355,287	436,412	119,467	80,340	0	2,474	12,955	675,597	101,729	2,069,503	7.62
Utah	52,590	37,957	45,089	17,065	9,118	0	771	1,503	39,416	10,798	214,306	0.79
Vermont	14,352	27,719	27,138	19,031	6,619	0	566	944	22,815	6,091	125,276	0.46
Virginia	110,056	110,677	143,219	85,425	27,457	11,501	1,134	4,363	175,452	34,897	704,181	2.59
Washington	72,999	81,548	105,994	109,971	21,470	0	1,147	3,662	48,237	23,810	468,838	1.73
West Virginia	34,910	34,874	43,975	53,910	6,619	67,861	698	944	27,750	15,077	286,619	1.06
Wisconsin	66,465	104,921	113,357	34,006	17,032	0	1,060	2,808	166,641	26,529	532,817	1.96
Wyoming	39,216	62,745	27,138	8,106	6,619	0	739	944	37,139	9,259	191,905	0.71
Total	3,795,260	4,619,112	5,427,614	3,242,299	1,323,888	443,250	49,250	188,784	6,719,189	1,358,350	27,166,997	100

SOURCE: Federal Highway Administration, *Highway Statistics*, 1997–2001.

Table B.4

Apportionment of FAHP Funding, Fiscal Year 1999 ($000)

State	IM	NHS	STIP	Bridge	CMAQ	Appalachian Highways	Recreational Trails	MP	MG	Program Total	% of Total
Alabama	74,889	85,449	109,903	61,717	6,557	48,805	806	2,076	113,570	503,773	1.99
Alaska	20,208	25,167	26,883	13,503	6,557	0	487	935	208,848	302,588	1.20
Arizona	74,706	79,610	89,142	9,258	25,149	0	723	2,997	138,713	420,297	1.66
Arkansas	48,922	66,886	77,280	36,525	6,557	0	741	935	89,207	327,053	1.29
California	336,416	438,478	530,519	253,894	279,690	0	2,755	28,740	416,980	2,287,472	9.05
Colorado	56,575	69,644	75,845	20,783	19,718	0	683	2,683	51,156	297,089	1.17
Connecticut	39,920	37,751	51,909	63,016	29,535	0	486	2,771	154,234	379,622	1.50
Delaware	6,991	34,679	26,883	14,008	6,557	0	429	935	24,383	114,866	0.45
District of Columbia	2,538	39,132	26,883	21,801	6,557	0	386	935	1,000	99,232	0.39
Florida	144,000	205,447	238,167	51,362	32,724	0	1,571	11,486	495,661	1,180,419	4.67
Georgia	142,484	138,500	187,793	57,916	25,304	19,504	1,073	3,680	328,399	904,653	3.58
Hawaii	6,590	35,080	26,883	18,047	6,557	0	450	935	33,788	128,330	0.51
Idaho	29,531	39,037	33,298	10,396	6,557	0	584	935	65,516	185,854	0.73
Illinois	170,154	147,022	199,250	113,654	68,775	0	1,013	9,569	123,041	832,476	3.29
Indiana	106,674	111,156	136,300	40,237	13,726	0	707	3,039	218,353	630,192	2.49
Iowa	52,795	73,442	78,331	48,822	6,557	0	603	1,064	37,662	299,276	1.18
Kansas	50,517	68,864	86,792	55,959	6,557	0	709	1,150	20,493	291,041	1.15
Kentucky	70,455	77,778	87,349	40,710	10,332	44,771	684	1,441	99,612	433,132	1.71
Louisiana	65,934	64,335	88,004	78,588	6,557	0	930	2,514	111,847	418,710	1.66
Maine	20,465	24,189	28,536	22,370	6,557	0	548	935	29,075	132,676	0.52
Maryland	63,864	68,542	85,585	51,718	40,425	7,632	615	4,042	74,379	396,801	1.57
Massachusetts	63,077	64,584	91,392	106,614	51,686	0	609	5,338	76,800	460,100	1.82
Michigan	113,349	137,662	191,491	87,103	30,088	0	1,077	6,560	234,337	801,667	3.17
Minnesota	68,122	81,438	104,769	27,433	17,675	0	804	2,676	64,080	366,997	1.45
Mississippi	47,085	63,561	76,187	46,297	6,557	5,473	704	935	55,945	302,746	1.20
Missouri	105,824	110,121	139,394	101,363	18,501	0	871	3,140	128,180	607,393	2.40
Montana	41,155	56,080	35,196	13,856	6,557	0	523	935	103,475	257,777	1.02
Nebraska	34,040	58,056	54,405	27,951	6,557	0	491	935	17,580	200,016	0.79
Nevada	32,393	37,355	37,074	8,027	9,145	0	508	1,028	58,821	184,353	0.73
New Hampshire	13,864	27,806	26,883	17,980	6,557	0	473	935	31,664	126,162	0.50
New Jersey	68,521	101,571	118,811	146,982	75,560	0	855	7,482	114,708	634,488	2.51
New Mexico	52,623	57,797	47,357	10,086	6,557	0	733	935	71,540	247,628	0.98
New York	131,061	168,849	215,190	321,098	118,718	10,519	908	15,931	284,267	1,266,542	5.01
North Carolina	95,301	114,371	145,171	86,453	13,428	28,735	935	2,836	222,430	709,660	2.81
North Dakota	22,684	61,692	34,020	8,027	6,557	0	447	935	34,652	169,015	0.67
Ohio	161,410	149,829	198,455	112,627	48,119	22,008	1,057	7,513	225,004	926,021	3.66

Table B.4 (continued)

State	IM	NHS	STIP	Bridge	CMAQ	Appalachian Highways	Recreational Trails	MP	MG	Program Total	% of Total
Oklahoma	64,764	79,707	103,662	59,056	6,557	0	663	1,528	73,060	388,997	1.54
Oregon	52,674	67,177	72,760	57,649	9,670	0	652	1,603	37,450	299,634	1.18
Pennsylvania	140,125	158,378	193,117	315,208	56,450	119,334	1,056	8,134	213,196	1,204,998	4.76
Rhode Island	8,569	33,101	26,883	26,878	7,675	0	442	931	48,426	152,905	0.60
South Carolina	63,721	65,307	91,499	35,284	6,557	2,391	716	1,610	137,780	404,865	1.60
South Dakota	27,532	52,606	37,888	10,551	6,557	0	465	935	42,313	178,847	0.71
Tennessee	96,793	99,510	120,818	61,608	12,052	54,716	747	2,503	124,319	573,066	2.27
Texas	283,715	347,568	422,473	122,955	77,593	0	1,852	12,834	640,274	1,909,264	7.55
Utah	51,294	36,385	43,804	15,253	8,825	0	574	1,489	35,945	193,570	0.77
Vermont	15,209	26,462	26,883	19,416	6,557	0	443	935	21,007	116,911	0.46
Virginia	108,924	108,779	143,095	80,469	22,506	11,501	1,144	4,322	162,810	643,551	2.54
Washington	73,632	82,490	105,328	97,293	20,740	0	781	3,628	65,258	449,150	1.78
West Virginia	32,450	31,961	41,824	59,901	6,557	67,861	603	935	27,753	269,847	1.07
Wisconsin	65,975	103,473	112,283	35,249	16,853	0	771	2,782	161,183	498,568	1.97
Wyoming	38,254	61,455	26,883	8,027	6,557	0	515	935	36,337	178,963	0.71
Total	3,758,769	4,575,322	5,376,526	3,210,979	1,311,481	443,250	39,400	187,015	6,386,511	25,289,255	100

SOURCE: Federal Highway Administration, *Highway Statistics*, 1997–2001.

Table B.5

Apportionment of FAHP Funding, Fiscal Year 1998 ($000)

State	IM	NHS	STP	HBRRP	CMAQ	RTP	MP	MG	Program Total	% of Total
Alabama	68,768	74,253	96,461	51,958	5,818	604	1,802	135,112	434,776	2.02
Alaska	17,663	21,804	23,275	9,335	5,818	365	812	181,235	260,307	1.21
Arizona	64,338	69,182	76,227	7,112	21,292	542	2,602	102,348	343,643	1.60
Arkansas	43,528	58,141	67,480	31,509	5,818	556	812	74,587	282,429	1.31
California	297,832	380,442	462,008	231,714	244,430	2,067	24,945	330,494	1,973,932	9.18
Colorado	50,326	60,385	67,663	24,410	16,694	512	2,329	33,182	255,502	1.19
Connecticut	34,488	30,842	44,416	44,287	25,005	365	2,405	145,533	327,341	1.52
Delaware	6,394	29,860	23,275	7,112	5,818	322	812	24,895	98,489	0.46
District of Columbia	2,276	33,979	23,275	18,078	5,818	290	812	1,000	85,527	0.40
Florida	126,906	178,291	206,684	56,202	27,706	1,179	9,969	400,111	1,007,048	4.69
Georgia	124,674	120,492	161,787	46,918	21,423	805	3,194	278,720	758,015	3.53
Hawaii	5,695	30,560	23,275	18,755	5,818	337	812	25,545	110,797	0.52
Idaho	25,403	33,879	28,442	7,112	5,818	438	812	59,271	161,176	0.75
Illinois	148,143	125,188	172,432	104,530	58,227	759	8,305	101,918	719,503	3.35
Indiana	90,627	94,761	115,787	34,921	11,621	530	2,638	156,260	507,145	2.36
Iowa	45,986	63,785	66,957	46,754	5,818	452	923	27,551	258,226	1.20
Kansas	44,545	59,766	74,866	44,293	5,818	531	998	20,379	251,196	1.17
Kentucky	62,188	67,622	78,019	32,394	8,747	513	1,251	122,877	373,610	1.74
Louisiana	57,633	55,949	74,719	66,626	5,818	697	2,182	74,383	338,008	1.57
Maine	17,963	21,000	24,567	19,248	5,818	411	812	24,439	114,258	0.53
Maryland	54,233	58,353	73,134	37,975	34,225	461	3,508	62,890	324,780	1.51
Massachusetts	55,923	56,031	79,307	128,636	43,760	456	4,634	28,744	397,492	1.85
Michigan	99,310	119,521	165,276	74,885	25,474	808	5,694	184,168	675,135	3.14
Minnesota	59,451	70,725	90,774	24,728	14,965	603	2,322	53,907	317,474	1.48
Mississippi	40,959	55,218	65,853	40,729	5,818	528	812	51,382	261,299	1.22
Missouri	90,271	92,828	119,060	93,482	15,663	653	2,726	89,127	503,809	2.34
Montana	36,565	48,582	30,625	13,934	5,818	392	812	84,317	221,043	1.03
Nebraska	29,451	50,420	46,840	28,447	5,818	368	812	9,572	171,728	0.80
Nevada	26,992	32,456	30,526	7,112	8,078	381	892	52,115	158,553	0.74
New Hampshire	12,359	23,179	22,577	14,198	5,643	355	812	27,600	106,723	0.50
New Jersey	61,234	88,190	102,514	155,297	66,530	641	6,494	67,611	548,511	2.55
New Mexico	46,055	49,787	40,926	8,212	5,818	549	812	61,289	213,449	0.99
New York	116,227	146,567	188,274	284,481	114,564	681	13,827	230,602	1,095,224	5.10
North Carolina	83,848	99,213	127,518	75,497	11,368	702	2,461	211,030	611,638	2.85
North Dakota	20,481	53,915	29,773	7,112	5,818	335	812	26,814	145,060	0.67
Ohio	140,538	128,713	167,585	100,924	40,512	793	6,521	147,667	733,252	3.41

Table B.5 (continued)

State	IM	NHS	STP	HBRRP	CMAQ	RTP	MP	MG	Program Total	% of Total
Oklahoma	57,074	69,239	89,657	48,398	5,818	497	1,327	62,073	334,082	1.55
Oregon	46,160	58,330	62,767	37,979	8,187	489	1,391	42,846	258,149	1.20
Pennsylvania	126,359	137,632	169,308	284,481	65,338	792	7,060	253,521	1,044,491	4.86
Rhode Island	7,586	28,669	23,275	18,337	6,498	331	812	45,828	131,336	0.61
South Carolina	56,813	56,744	79,821	31,183	5,818	537	1,398	115,868	348,182	1.62
South Dakota	24,165	45,574	32,800	9,884	5,818	349	812	34,804	154,204	0.72
Tennessee	85,177	86,511	104,469	54,329	10,204	560	2,173	142,084	485,507	2.26
Texas	243,133	297,614	361,813	112,880	65,693	1,389	11,140	475,300	1,568,962	7.30
Utah	45,571	31,610	38,235	10,897	7,752	431	1,293	31,400	167,187	0.78
Vermont	12,165	24,089	23,275	14,307	5,818	332	812	19,687	100,486	0.47
Virginia	93,982	94,552	125,179	63,616	23,978	858	3,751	148,645	554,561	2.58
Washington	64,790	71,625	90,652	71,570	17,560	586	3,149	60,112	380,043	1.77
West Virginia	30,205	27,730	37,979	56,307	5,818	452	812	75,081	234,383	1.09
Wisconsin	58,451	89,306	99,644	24,620	14,268	578	2,414	140,540	429,821	2.00
Wyoming	32,962	53,298	23,275	7,112	5,818	386	812	29,984	153,646	0.71
Total	3,293,868	3,956,404	4,654,326	2,844,815	1,163,398	29,550	162,327	5,386,451	21,491,138	100

SOURCE: Federal Highway Administration, *Highway Statistics*, 1997–2001.

Table B.6

California Share of FAHP Funding, Fiscal Years 1998–2002

Year	IM	NHS	STIP	Bridge	CMAQ	Appalachian Highways	Recreational Trails	MP	MG	RABA	Program Total
California Total											
1998	297,832	380,442	462,008	231,714	244,430		2,067	24,945	330,494		1,973,932
1999	336,416	438,478	530,519	253,894	279,690	0	2,755	28,740	416,980		2,287,472
2000	335,221	437,310	529,354	239,065	300,955	0	3,229	29,011	499,214	125,129	2,498,488
2001	342,528	437,644	536,184	245,409	310,431	0	2,959	29,583	443,530	267,044	2,615,313
2002	346,535	443,257	539,768	248,795	292,486	0	3,333	30,044	435,684	315,753	2,655,655
U.S. Total											
1998	3,293,868	3,956,404	4,654,326	2,844,815	1,163,398		29,550	162,327	5,386,451		21,491,138
1999	3,758,769	4,575,322	5,376,526	3,210,979	1,311,481	443,250	39,400	187,015	6,386,511		25,289,255
2000	3,795,260	4,619,112	5,427,614	3,242,299	1,323,888	443,250	49,250	188,784	6,719,189	1,358,350	27,166,997
2001	3,872,100	4,711,320	5,535,190	3,308,251	1,350,514	443,250	49,250	192,508	6,473,150	2,941,534	28,877,066
2002	3,934,028	4,785,634	5,621,889	3,361,404	1,371,569	442,950	49,250	195,510	6,232,855	3,519,430	29,514,519
California Share of U.S. Total											
1998	9.04	9.62	9.93	8.15	21.01		6.99	15.37	6.14		9.18
1999	8.95	9.58	9.87	7.91	21.33		6.99	15.37	6.53		9.05
2000	8.83	9.47	9.75	7.37	22.73		6.56	15.37	7.43	9.21	9.20
2001	8.85	9.29	9.69	7.42	22.99		6.01	15.37	6.85	9.08	9.06
2002	8.81	9.26	9.60	7.40	21.32		6.77	15.37	6.99	8.97	9.00

SOURCE: Authors' calculations based on Federal Highway Administration data.

Appendix C

Data Tables for the Interstate Maintenance Program

Table C.1

Apportionment of IM and NHS Funding, Fiscal Year 2002: Initial IM Component Derivation—Statutory Formula

State	IS Lane Miles[a]: Factor Weight, 33%		IS Miles Traveled[b]: Factor Weight, 33%		Commercial Contributions[c]: Factor Weight, 33%		IM Factor[d] (before SSM)	IM Component ($)
	No.	%	No.	%	No.	%		
Alabama	3,874	1.87	11,818	1.84	270,871	2.32	2.0080	78,994,347
Alaska	2,355	1.14	1,383	0.21	27,387	0.23	0.5282	20,778,586
Arizona	4,887	2.36	11,339	1.76	241,144	2.07	2.0610	81,081,402
Arkansas	2,266	1.09	6,357	0.99	202,620	1.74	1.2719	50,035,755
California	14,502	6.99	75,633	11.75	896,860	7.68	8.8087	346,535,049
Colorado	4,050	1.95	9,550	1.48	163,230	1.40	1.6114	63,394,022
Connecticut	1,843	0.89	9,686	1.51	101,454	0.87	1.0875	42,784,030
Delaware	253	0.12	1,402	0.22	20,974	0.18	0.1732	6,812,168
District of Columbia	80	0.04	481	0.07	8,072	0.07	0.0608	2,392,571
Florida	7,172	3.46	29,007	4.51	452,419	3.88	3.9466	155,261,942
Georgia	6,487	3.13	26,402	4.10	483,289	4.14	3.7898	149,090,863
Hawaii	337	0.16	1,773	0.28	12,010	0.10	0.1803	7,092,334
Idaho	2,465	1.19	3,121	0.49	78,367	0.67	0.7814	30,742,071
Illinois	9,484	4.57	28,885	4.49	471,360	4.04	4.3658	171,752,813
Indiana	5,015	2.42	15,964	2.48	363,553	3.11	2.6707	105,065,510
Iowa	3,193	1.54	6,498	1.01	180,973	1.55	1.3663	53,750,436
Kansas	3,664	1.77	6,456	1.00	138,124	1.18	1.3174	51,828,764
Kentucky	3,428	1.65	11,975	1.86	255,625	2.19	1.9009	74,783,120
Louisiana	3,751	1.81	10,440	1.62	213,746	1.83	1.7537	68,992,193
Maine	1,493	0.72	2,934	0.46	58,461	0.50	0.5588	21,981,967
Maryland	2,761	1.33	14,499	2.25	177,529	1.52	1.7016	66,939,892
Massachusetts	3,173	1.53	15,130	2.35	137,326	1.18	1.6857	66,314,154
Michigan	5,967	2.88	20,993	3.26	331,020	2.84	2.9913	117,677,536
Minnesota	3,941	1.90	11,411	1.77	209,148	1.79	1.8214	71,655,521
Mississippi	2,788	1.34	6,140	0.95	186,578	1.60	1.2987	51,090,731
Missouri	5,291	2.55	17,675	2.75	314,759	2.70	2.6644	104,816,403
Montana	4,765	2.30	2,418	0.38	67,276	0.58	1.0829	42,599,765
Nebraska	1,977	0.95	3,620	0.56	131,286	1.12	0.8800	34,618,768
Nevada	2,323	1.12	3,982	0.62	96,591	0.83	0.8553	33,646,328
New Hampshire	989	0.48	2,636	0.41	37,690	0.32	0.4031	15,856,283
New Jersey	2,676	1.29	12,692	1.97	280,197	2.40	1.8874	74,251,654
New Mexico	4,106	1.98	6,400	0.99	145,484	1.25	1.4066	55,334,793
New York	7,672	3.70	24,261	3.77	399,709	3.42	3.6306	142,828,894
North Carolina	4,596	2.22	17,099	2.66	320,863	2.75	2.5403	99,935,622

Table C.1 (continued)

State	IS Lane Miles[a]: Factor Weight, 33%		IS Miles Traveled[b]: Factor Weight, 33%		Commercial Contributions[c]: Factor Weight, 33%		IM Factor[d] (before SSM)	IM Component ($)
	No.	%	No.	%	No.	%		
North Dakota	2,290	1.10	1,490	0.23	51,806	0.44	0.5930	23,328,616
Ohio	7,428	3.58	29,607	4.60	553,543	4.74	4.3076	169,461,056
Oklahoma	3,898	1.88	8,835	1.37	223,999	1.92	1.7235	67,801,776
Oregon	3,089	1.49	8,294	1.29	157,818	1.35	1.3765	54,152,725
Pennsylvania	7,380	3.56	22,335	3.47	491,501	4.21	3.7460	147,368,266
Rhode Island	387	0.19	2,162	0.34	20,251	0.17	0.2320	9,126,783
South Carolina	3,526	1.70	11,425	1.78	215,989	1.85	1.7750	69,829,604
South Dakota	2,726	1.31	2,227	0.35	53,138	0.46	0.7050	27,735,841
Tennessee	4,759	2.29	17,894	2.78	312,915	2.68	2.5850	101,693,333
Texas	14,790	7.13	47,309	7.35	989,491	8.48	7.6520	301,033,441
Utah	4,066	1.96	7,401	1.15	109,513	0.94	1.3493	53,081,801
Vermont	1,281	0.62	1,564	0.24	21,104	0.18	0.3471	13,653,989
Virginia	5,308	2.56	20,804	3.23	347,073	2.97	2.9214	114,930,489
Washington	3,824	1.84	14,562	2.26	207,472	1.78	1.9611	77,149,767
West Virginia	2,254	1.09	5,046	0.78	95,549	0.82	0.8963	35,261,706
Wisconsin	3,204	1.54	9,825	1.53	245,990	2.11	1.7261	67,903,367
Wyoming	3,654	1.76	2,585	0.40	101,826	0.87	1.0117	39,799,188
Total	207,488	100.00	643,425	100.00	11,674,973	100.00	100.0000	3,934,028,039

SOURCE: Authors' calculations based on data from the Federal Highway Administration.

[a]Lane miles on the interstate highway system.

[b]Millions of vehicle miles traveled on the interstate highway system.

[c]Annual contributions to the Highway Account of the Highway Trust Fund attributable to commercial vehicles.

[d]Combined factor-weighting of interstate lane miles at one-third, interstate VMT at one-third, and commercial vehicle contributions at one-third.

Table C.2

Comparison of Alternative Factor-Weighting Mixes on Initial IM Funding, Fiscal Year 2002

	Current Statutory Formula Weight, 33/33/33%		Increased Weight to Interstate Lane Miles,[a] 40/30/30%			Increased Weight to Interstate Miles Traveled,[b] 30/40/30%			Increased Weight to Commercial Vehicle Contributions,[c] 30/30/40%		
State	Amount ($)	Factor	Amount ($)	Factor	Change ($)	Amount ($)	Factor	Change ($)	Amount ($)	Factor	Change ($)
Alabama	78,994,347	2.0080	80,222,249	2.0392	1,227,902	78,320,672	1.9909	–673,675	78,440,120	1.9939	–554,227
Alaska	20,778,586	0.5282	19,623,567	0.4988	–1,155,019	19,546,321	0.4969	–1,232,265	23,165,871	0.5889	2,387,284
Arizona	81,081,402	2.0610	81,098,911	2.0615	17,508	79,906,152	2.0312	–1,175,251	82,239,145	2.0905	1,157,743
Arkansas	50,035,755	1.2719	51,859,714	1.3182	1,823,959	48,918,976	1.2435	–1,116,780	49,328,577	1.2539	–707,179
California	346,535,049	8.8087	342,102,362	8.6960	–4,432,687	358,125,060	9.1033	11,590,011	339,377,724	8.6267	–7,157,325
Colorado	63,394,022	1.6114	62,554,859	1.5901	–839,163	62,893,679	1.5987	–500,343	64,733,528	1.6455	1,339,506
Connecticut	42,784,030	1.0875	41,924,247	1.0657	–859,784	44,427,840	1.1293	1,643,809	42,000,005	1.0676	–784,026
Delaware	6,812,168	0.1732	6,837,697	0.1738	25,528	6,988,162	0.1776	175,994	6,610,646	0.1680	–201,522
District of Columbia	2,392,571	0.0608	2,425,310	0.0616	32,739	2,447,407	0.0622	54,836	2,304,996	0.0586	–87,575
Florida	155,261,942	3.9466	154,980,571	3.9395	–281,371	157,471,203	4.0028	2,209,261	153,334,052	3.8976	–1,927,890
Georgia	149,090,863	3.7898	150,466,803	3.8248	1,375,940	150,324,483	3.8211	1,233,620	146,481,302	3.7234	–2,609,561
Hawaii	7,092,334	0.1803	6,787,793	0.1725	–304,541	7,467,148	0.1898	374,814	7,022,062	0.1785	–70,272
Idaho	30,742,071	0.7814	30,308,538	0.7704	–433,533	29,576,105	0.7518	–1,165,966	32,341,570	0.8221	1,599,499
Illinois	171,752,813	4.3658	170,460,596	4.3330	–1,292,217	172,238,394	4.3782	485,580	172,559,450	4.3863	806,637
Indiana	105,065,510	2.6707	106,809,332	2.7150	1,743,822	104,319,665	2.6517	–745,845	104,067,533	2.6453	–997,977
Iowa	53,750,436	1.3663	54,473,504	1.3847	723,068	52,348,399	1.3307	–1,402,038	54,429,406	1.3836	678,970
Kansas	51,828,764	1.3174	51,300,149	1.3040	–528,616	50,593,214	1.2860	–1,235,550	53,592,930	1.3623	1,764,166
Kentucky	74,783,120	1.9009	75,918,412	1.9298	1,135,292	74,626,561	1.8970	–156,560	73,804,388	1.8761	–978,732
Louisiana	68,992,193	1.7537	69,295,413	1.7614	303,219	68,476,197	1.7406	–515,996	69,204,971	1.7591	212,777
Maine	21,981,967	0.5588	21,753,687	0.5530	–228,280	21,577,676	0.5485	–404,291	22,614,539	0.5748	632,571
Maryland	66,939,892	1.7016	66,227,964	1.6835	–711,928	69,110,879	1.7567	2,170,987	65,480,833	1.6645	–1,459,059
Massachusetts	66,314,154	1.6857	64,310,110	1.6347	–2,004,044	68,933,520	1.7522	2,619,367	65,698,831	1.6700	–615,322
Michigan	117,677,536	2.9913	117,063,915	2.9757	–613,621	118,745,319	3.0184	1,067,783	117,223,374	2.9797	–454,162
Minnesota	71,655,521	1.8214	71,537,472	1.8184	–118,049	71,466,881	1.8166	–188,640	71,962,211	1.8292	306,689
Mississippi	51,090,731	1.2987	52,268,637	1.3286	1,177,906	49,735,776	1.2642	–1,354,955	51,267,780	1.3032	177,050
Missouri	104,816,403	2.6644	104,940,961	2.6675	124,557	105,141,608	2.6726	325,205	104,366,641	2.6529	–449,763
Montana	42,599,765	1.0829	40,606,738	1.0322	–1,993,028	39,818,202	1.0121	–2,781,563	47,374,356	1.2042	4,774,591
Nebraska	34,618,768	0.8800	35,580,737	0.9044	961,969	33,370,231	0.8482	–1,248,537	34,905,337	0.8873	286,568
Nevada	33,646,328	0.8553	33,536,450	0.8525	–109,878	32,716,369	0.8316	–929,959	34,686,165	0.8817	1,039,837
New Hampshire	15,856,283	0.4031	15,540,666	0.3950	–315,617	15,882,357	0.4037	26,074	16,145,825	0.4104	289,542
New Jersey	74,251,654	1.8874	76,268,077	1.9387	2,016,423	74,586,629	1.8959	334,975	71,900,256	1.8276	–2,351,398
New Mexico	55,334,793	1.4066	54,703,579	1.3905	–631,214	53,714,401	1.3654	–1,620,392	57,586,400	1.4638	2,251,607
New York	142,828,894	3.6306	142,014,699	3.6099	–814,195	143,379,661	3.6446	550,767	143,092,322	3.6373	263,428
North Carolina	99,935,622	2.5403	100,753,939	2.5611	818,318	100,396,727	2.5520	461,106	98,656,198	2.5078	–1,279,423

Table C.2 (continued)

State	Current Statutory Formula Weight, 33/33/33%		Increased Weight to Interstate Lane Miles,[a] 40/30/30%			Increased Weight to Interstate Miles Traveled,[b] 30/40/30%			Increased Weight to Commercial Vehicle Contributions,[c] 30/30/40%		
	Amount ($)	Factor	Amount ($)	Factor	Change ($)	Amount ($)	Factor	Change ($)	Amount ($)	Factor	Change ($)
North Dakota	23,328,616	0.5930	22,741,422	0.5781	–587,194	21,906,770	0.5569	–1,421,846	25,337,656	0.6441	2,009,040
Ohio	169,461,056	4.3076	171,167,274	4.3509	1,706,217	170,617,258	4.3370	1,156,201	166,598,638	4.2348	–2,862,419
Oklahoma	67,801,776	1.7235	68,569,525	1.7430	767,749	66,423,493	1.6884	–1,378,283	68,412,311	1.7390	610,535
Oregon	54,152,725	1.3765	54,055,327	1.3740	–97,398	53,808,569	1.3678	–344,156	54,594,279	1.3877	441,554
Pennsylvania	147,368,266	3.7460	149,193,180	3.7924	1,824,914	146,287,501	3.7185	–1,080,765	146,624,117	3.7271	–744,149
Rhode Island	9,126,783	0.2320	8,896,487	0.2261	–230,296	9,535,994	0.2424	409,211	8,947,867	0.2274	–178,916
South Carolina	69,829,604	1.7750	70,124,663	1.7825	295,059	69,832,115	1.7751	2,511	69,532,034	1.7675	–297,570
South Dakota	27,735,841	0.7050	26,752,808	0.6800	–983,033	26,323,889	0.6691	–1,411,952	30,130,826	0.7659	2,394,985
Tennessee	101,693,333	2.5850	102,068,061	2.5945	374,729	102,464,746	2.6046	771,413	100,547,191	2.5558	–1,146,142
Texas	301,033,441	7.6520	304,272,233	7.7344	3,238,792	299,855,758	7.6221	–1,177,683	298,972,333	7.5996	–2,061,108
Utah	53,081,801	1.3493	51,463,799	1.3082	–1,618,003	52,298,739	1.3294	–783,062	55,482,866	1.4103	2,401,065
Vermont	13,653,989	0.3471	12,999,715	0.3304	–654,273	13,244,850	0.3367	–409,138	14,717,400	0.3741	1,063,411
Virginia	114,930,489	2.9214	115,132,499	2.9266	202,010	116,157,418	2.9526	1,226,929	113,501,550	2.8851	–1,428,939
Washington	77,149,767	1.9611	76,425,819	1.9427	–723,948	78,338,286	1.9913	1,188,519	76,685,197	1.9493	–464,570
West Virginia	35,261,706	0.8963	34,955,178	0.8885	–306,528	34,820,760	0.8851	–440,946	36,009,180	0.9153	747,474
Wisconsin	67,903,367	1.7261	69,401,971	1.7641	1,498,604	67,120,230	1.7061	–783,137	67,187,900	1.7079	–715,467
Wyoming	39,799,188	1.0117	39,250,424	0.9977	–548,764	37,399,789	0.9507	–2,399,399	42,747,351	1.0866	2,948,163
Total	3,934,028,039	100	3,934,028,039	100	0	3,934,028,039	100	0	3,934,028,039	100	0

SOURCE: Authors' calculations based on data from the Federal Highway Administration.

[a]Lane miles on the interstate highway system.

[b]Millions of vehicle miles traveled on the interstate highway system.

[c]Annual contributions to the Highway Account of the Highway Trust Fund attributable to commercial vehicles.

Appendix D

Data Tables for the National Highway System Program

Table D.1a

Apportionment of IM and NHS Funding, Fiscal Year 2002: Initial NHS Component Derivation—Statutory Formula

State	OPAR Lane Miles[a]: Factor Weight, 25%		OPAR VMT[b]: Factor Weight, 35%		Diesel Fuel Usage[c]: Factor Weight 30%		PAR Miles Per Capita[d]: Factor Weight, 10%		NHS Factor[e] (before SSM)	Initial[f] NHS Component ($)
	No.	%	No.	%	No.	%	No.	%		
Alabama	9,133	1.91	13,372	1.65	745,713	2.32	1.1994	1.55	1.9069	91,255,044
Alaska	1,855	0.39	735	0.09	75,400	0.23	2.7537	3.56	0.5547	26,544,507
Arizona	7,972	1.67	15,884	1.97	663,876	2.07	1.0278	1.33	1.8565	88,843,601
Arkansas	7,600	1.59	8,870	1.10	557,820	1.74	1.5133	1.95	1.4970	71,642,013
California	40,629	8.49	114,840	14.21	2,469,082	7.68	0.6675	0.86	9.4852	453,928,598
Colorado	9,380	1.96	15,000	1.86	449,375	1.40	1.2804	1.65	1.7241	82,509,850
Connecticut	3,172	0.66	7,997	0.99	279,303	0.87	0.6039	0.78	0.8506	40,706,732
Delaware	1,344	0.28	3,239	0.40	57,741	0.18	0.8357	1.08	0.3723	17,814,837
District of Columbia	526	0.11	1,336	0.17	22,223	0.07	0.4344	0.56	0.1622	7,760,316
Florida	23,434	4.89	50,843	6.29	1,245,526	3.88	0.7853	1.01	4.6893	224,410,751
Georgia	14,426	3.01	22,794	2.82	1,330,511	4.14	1.0476	1.35	3.1175	149,190,523
Hawaii	871	0.18	2,539	0.31	33,061	0.10	0.4089	0.53	0.2391	11,441,818
Idaho	4,544	0.95	3,296	0.41	215,746	0.67	2.2212	2.87	0.8682	41,549,406
Illinois	14,880	3.11	26,075	3.23	1,297,666	4.04	0.8045	1.04	3.2212	154,155,010
Indiana	9,813	2.05	17,396	2.15	1,000,871	3.11	1.0000	1.29	2.3290	111,458,620
Iowa	10,812	2.26	8,271	1.02	498,225	1.55	1.9625	2.53	1.6412	78,541,039
Kansas	9,828	2.05	8,695	1.08	380,258	1.18	2.0580	2.66	1.5104	72,281,257
Kentucky	8,676	1.81	11,918	1.47	703,740	2.19	1.2281	1.59	1.7846	85,402,165
Louisiana	6,544	1.37	10,085	1.25	588,447	1.83	0.9447	1.22	1.4496	69,374,796
Maine	2,129	0.44	3,047	0.38	160,944	0.50	1.1650	1.50	0.5438	26,023,182
Maryland	6,247	1.30	16,354	2.02	488,744	1.52	0.6974	0.90	1.5806	75,642,865
Massachusetts	5,662	1.18	16,003	1.98	378,060	1.18	0.5706	0.74	1.4152	67,726,019
Michigan	15,458	3.23	29,337	3.63	911,306	2.84	0.8840	1.14	3.0423	145,593,147
Minnesota	11,363	2.37	13,246	1.64	575,792	1.79	1.2757	1.65	1.8691	89,447,878
Mississippi	7,975	1.67	9,464	1.17	513,653	1.60	1.5515	2.00	1.5060	72,073,286
Missouri	10,970	2.29	18,470	2.29	866,541	2.70	1.1918	1.54	2.3353	111,760,312
Montana	5,987	1.25	2,899	0.36	185,212	0.58	4.8871	6.31	1.2421	59,443,363
Nebraska	7,572	1.58	5,833	0.72	361,436	1.12	2.2882	2.95	1.2808	61,295,086
Nevada	4,075	0.85	4,484	0.55	265,918	0.83	1.3130	1.70	0.8247	39,467,293
New Hampshire	1,636	0.34	3,392	0.42	103,763	0.32	0.8711	1.12	0.4416	21,135,528
New Jersey	7,675	1.60	26,781	3.31	771,389	2.40	0.5045	0.65	2.3456	112,252,274
New Mexico	6,738	1.41	5,947	0.74	400,522	1.25	2.4446	3.16	1.2989	62,159,442
New York	15,944	3.33	36,894	4.56	1,100,407	3.42	0.5103	0.66	3.5232	168,605,752
North Carolina	12,699	2.65	22,104	2.73	883,343	2.75	0.8811	1.14	2.5585	122,442,320
North Dakota	7,100	1.48	2,240	0.28	142,621	0.44	5.9959	7.74	1.3751	65,809,047

Table D.1a (continued)

State	OPAR Lane Miles[a]: Factor Weight, 25%		OPAR VMT[b]: Factor Weight, 35%		Diesel Fuel Usage[c]: Factor Weight 30%		PAR Miles Per Capita[d]: Factor Weight, 10%		NHS Factor[e] (before SSM)	Initial[f] NHS Component ($)
	No.	%	No.	%	No.	%	No.	%		
Ohio	14,531	3.03	24,881	3.08	1,523,918	4.74	0.7932	1.02	3.3610	160,844,722
Oklahoma	10,062	2.10	10,877	1.35	616,674	1.92	1.6590	2.14	1.7862	85,482,357
Oregon	8,613	1.80	10,415	1.29	434,475	1.35	1.4025	1.81	1.4874	71,180,852
Pennsylvania	15,229	3.18	30,138	3.73	1,353,117	4.21	0.7549	0.97	3.4607	165,617,802
Rhode Island	1,410	0.29	3,137	0.39	55,754	0.17	0.7029	0.91	0.3523	16,858,893
South Carolina	7,008	1.46	10,638	1.32	594,622	1.85	1.0767	1.39	1.5206	72,772,007
South Dakota	5,969	1.25	2,264	0.28	146,292	0.46	4.7236	6.10	1.1562	55,333,652
Tennessee	10,734	2.24	17,302	2.14	861,463	2.68	1.1167	1.44	2.2580	108,059,363
Texas	44,075	9.21	71,838	8.89	2,724,099	8.48	1.1576	1.49	8.1043	387,844,167
Utah	3,391	0.71	4,469	0.55	301,493	0.94	1.3693	1.77	0.8288	39,664,294
Vermont	1,007	0.21	1,317	0.16	58,101	0.18	1.5411	1.99	0.3628	17,364,662
Virginia	11,047	2.31	19,668	2.43	955,500	2.97	0.9475	1.22	2.4427	116,899,311
Washington	9,605	2.01	16,563	2.05	571,177	1.78	0.9343	1.21	1.8725	89,612,999
West Virginia	3,409	0.71	4,176	0.52	263,051	0.82	1.2842	1.66	0.7702	36,858,827
Wisconsin	13,376	2.79	18,830	2.33	677,219	2.11	1.2676	1.64	2.3096	110,530,616
Wyoming	4,652	0.97	2,049	0.25	280,329	0.87	6.8979	8.91	1.4841	71,021,445
Total	478,787	100.00	808,242	100.00	32,141,519	100.00	77.4375	100.00	100.0000	4,785,633,646

SOURCE: Authors' calculations based on data from the Federal Highway Administration.

[a]Lane miles of principal arterial routes other than on the interstate highway system.

[b]Millions of vehicle miles traveled on principal arterial routes other than on the interstate highway system.

[c]Diesel fuel used on highways.

[d]Total lane miles of all principal arterial routes divided by state population (increases funds to states with sparse populations).

[e]Combined factor weighting OPAR lane miles at 25 percent, OPAR VMT at 35 percent, diesel fuel usage at 30 percent, and PAR sparsity at 10 percent.

[f]Excludes reduction for small-state minimum.

Table D.1b

Apportionment of IM and NHS Funding, with 0.5 Percent Small-State Minimum Applied, Fiscal Year 2002

State	IM Component ($)	Initial NHS Component ($)	Initial Combined IM/NHS ($)	Initial %	Initial SSM Additions	Non-SSM %	Share with 0.5% Minimum	Adjusted IM/NHS Funding Combined ($)	IM Component ($)	Adjusted NHS Component ($)
Alabama	78,994,347	91,255,044	170,249,391	1.9525	0.0000	1.9525	1.9264	167,979,763	78,994,347	88,985,416
Alaska	20,778,586	26,544,507	47,323,094	0.5427	0.0000	0.5427	0.5355	46,692,220	20,778,586	25,913,634
Arizona	81,081,402	88,843,601	169,925,003	1.9488	0.0000	1.9488	1.9228	167,659,700	81,081,402	86,578,298
Arkansas	50,035,755	71,642,013	121,677,769	1.3954	0.0000	1.3954	1.3768	120,055,659	50,035,755	70,019,904
California	346,535,049	453,928,598	800,463,647	9.1800	0.0000	9.1800	9.0576	789,792,512	346,535,049	443,257,463
Colorado	63,394,022	82,509,850	145,903,872	1.6733	0.0000	1.6733	1.6510	143,958,800	63,394,022	80,564,778
Connecticut	42,784,030	40,706,732	83,490,762	0.9575	0.0000	0.9575	0.9447	82,377,731	42,784,030	39,593,700
Delaware	6,812,168	17,814,837	24,627,005	0.2824	0.2176	0.0000	0.5000	43,598,308	6,812,168	36,786,140
District of Columbia	2,392,571	7,760,316	10,152,887	0.1164	0.3836	0.0000	0.5000	43,598,308	2,392,571	41,205,738
Florida	155,261,942	224,410,751	379,672,693	4.3542	0.0000	4.3542	4.2962	374,611,203	155,261,942	219,349,261
Georgia	149,090,863	149,190,523	298,281,386	3.4208	0.0000	3.4208	3.3752	294,304,939	149,090,863	145,214,076
Hawaii	7,092,334	11,441,818	18,534,153	0.2126	0.2874	0.0000	0.5000	43,598,308	7,092,334	36,505,974
Idaho	30,742,071	41,549,406	72,291,477	0.8291	0.0000	0.8291	0.8180	71,327,745	30,742,071	40,585,675
Illinois	171,752,813	154,155,010	325,907,823	3.7376	0.0000	3.7376	3.6878	321,563,083	171,752,813	149,810,270
Indiana	105,065,510	111,458,620	216,524,130	2.4832	0.0000	2.4832	2.4501	213,637,605	105,065,510	108,572,095
Iowa	53,750,436	78,541,039	132,291,475	1.5172	0.0000	1.5172	1.4969	130,527,872	53,750,436	76,777,436
Kansas	51,828,764	72,281,257	124,110,021	1.4233	0.0000	1.4233	1.4044	122,455,487	51,828,764	70,626,722
Kentucky	74,783,120	85,402,165	160,185,285	1.8371	0.0000	1.8371	1.8126	158,049,824	74,783,120	83,266,704
Louisiana	68,992,193	69,374,796	138,366,989	1.5868	0.0000	1.5868	1.5657	136,522,392	68,992,193	67,530,199
Maine	21,981,967	26,023,182	48,005,150	0.5505	0.0000	0.5505	0.5432	47,365,184	21,981,967	25,383,216
Maryland	66,939,892	75,642,865	142,582,757	1.6352	0.0000	1.6352	1.6134	140,681,959	66,939,892	73,742,067
Massachusetts	66,314,154	67,726,019	134,040,172	1.5372	0.0000	1.5372	1.5167	132,253,257	66,314,154	65,939,103
Michigan	117,677,536	145,593,147	263,270,683	3.0193	0.0000	3.0193	2.9790	259,760,971	117,677,536	142,083,435
Minnesota	71,655,521	89,447,878	161,103,399	1.8476	0.0000	1.8476	1.8230	158,955,699	71,655,521	87,300,177
Mississippi	51,090,731	72,073,286	123,164,017	1.4125	0.0000	1.4125	1.3937	121,522,094	51,090,731	70,431,363
Missouri	104,816,403	111,760,312	216,576,716	2.4838	0.0000	2.4838	2.4507	213,689,490	104,816,403	108,873,086
Montana	42,599,765	59,443,363	102,043,129	1.1703	0.0000	1.1703	1.1547	100,682,772	42,599,765	58,083,007
Nebraska	34,618,768	61,295,086	95,913,854	1.1000	0.0000	1.1000	1.0853	94,635,208	34,618,768	60,016,440
Nevada	33,646,328	39,467,293	73,113,621	0.8385	0.0000	0.8385	0.8273	72,138,930	33,646,328	38,492,602
New Hampshire	15,856,283	21,135,528	36,991,811	0.4242	0.0758	0.0000	0.5000	43,598,308	15,856,283	27,742,026
New Jersey	74,251,654	112,252,274	186,503,928	2.1389	0.0000	2.1389	2.1104	184,017,608	74,251,654	109,765,954
New Mexico	55,334,793	62,159,442	117,494,236	1.3475	0.0000	1.3475	1.3295	115,927,897	55,334,793	60,593,104
New York	142,828,894	168,605,752	311,434,646	3.5716	0.0000	3.5716	3.5240	307,282,851	142,828,894	164,453,957
North Carolina	99,935,622	122,442,320	222,377,942	2.5503	0.0000	2.5503	2.5163	219,413,379	99,935,622	119,477,757

Table D.1b (continued)

State	IM Component ($)	Initial NHS Component ($)	Initial Combined IM/NHS ($)	Initial %	Initial SSM Additions	Non-SSM %	Share with 0.5% Minimum	Adjusted IM/NHS Funding Combined ($)	IM Component ($)	Adjusted NHS Component ($)
North Dakota	23,328,616	65,809,047	89,137,663	1.0223	0.0000	1.0223	1.0086	87,949,352	23,328,616	64,620,736
Ohio	169,461,056	160,844,722	330,305,779	3.7881	0.0000	3.7881	3.7376	325,902,409	169,461,056	156,441,352
Oklahoma	67,801,776	85,482,357	153,284,133	1.7579	0.0000	1.7579	1.7345	151,240,673	67,801,776	83,438,897
Oregon	54,152,725	71,180,852	125,333,577	1.4374	0.0000	1.4374	1.4182	123,662,731	54,152,725	69,510,006
Pennsylvania	147,368,266	165,617,802	312,986,068	3.5894	0.0000	3.5894	3.5416	308,813,591	147,368,266	161,445,324
Rhode Island	9,126,783	16,858,893	25,985,675	0.2980	0.2020	0.0000	0.5000	43,598,308	9,126,783	34,471,526
South Carolina	69,829,604	72,772,007	142,601,611	1.6354	0.0000	1.6354	1.6136	140,700,562	69,829,604	70,870,958
South Dakota	27,735,841	55,333,652	83,069,492	0.9527	0.0000	0.9527	0.9400	81,962,077	27,735,841	54,226,236
Tennessee	101,693,333	108,059,363	209,752,696	2.4055	0.0000	2.4055	2.3734	206,956,442	101,693,333	105,263,110
Texas	301,033,441	387,844,167	688,877,608	7.9003	0.0000	7.9003	7.7950	679,694,048	301,033,441	378,660,607
Utah	53,081,801	39,664,294	92,746,095	1.0636	0.0000	1.0636	1.0495	91,509,679	53,081,801	38,427,878
Vermont	13,653,989	17,364,662	31,018,650	0.3557	0.1443	0.0000	0.5000	43,598,308	13,653,989	29,944,320
Virginia	114,930,489	116,899,311	231,829,800	2.6587	0.0000	2.6587	2.6233	228,739,232	114,930,489	113,808,744
Washington	77,149,767	89,612,999	166,762,766	1.9125	0.0000	1.9125	1.8870	164,539,620	77,149,767	87,389,852
West Virginia	35,261,706	36,858,827	72,120,533	0.8271	0.0000	0.8271	0.8161	71,159,080	35,261,706	35,897,374
Wisconsin	67,903,367	110,530,616	178,433,982	2.0463	0.0000	2.0463	2.0191	176,055,245	67,903,367	108,151,878
Wyoming	39,799,188	71,021,445	110,820,633	1.2709	0.0000	1.2709	1.2540	109,343,262	39,799,188	69,544,074
Total	3,934,028,039	4,785,633,646	8,719,661,685	100.0000	1.3106	98.3106	100.0000	8,719,661,685	3,934,028,039	4,785,633,646

SOURCE: Authors' calculations based on data from the Federal Highway Administration.

Table D.1c

Apportionment of NHS Totals With and Without Small-State Minimum, Fiscal Year 2002

State	Initial NHS Component ($) with No SSM	Adjusted NHS Component ($) with SSM of 0.5 %	Difference with 0.5 % SSM	
			$	%
Alabama	91,255,044	88,985,416	(2,269,627)	–2.49
Alaska	26,544,507	25,913,634	(630,873)	–2.38
Arizona	88,843,601	86,578,298	(2,265,303)	–2.55
Arkansas	71,642,013	70,019,904	(1,622,110)	–2.26
California	453,928,598	443,257,463	(10,671,135)	–2.35
Colorado	82,509,850	80,564,778	(1,945,073)	–2.36
Connecticut	40,706,732	39,593,700	(1,113,031)	–2.73
Delaware	17,814,837	36,786,140	18,971,303	106.49
District of Columbia	7,760,316	41,205,738	33,445,422	430.98
Florida	224,410,751	219,349,261	(5,061,490)	–2.26
Georgia	149,190,523	145,214,076	(3,976,447)	–2.67
Hawaii	11,441,818	36,505,974	25,064,155	219.06
Idaho	41,549,406	40,585,675	(963,732)	–2.32
Illinois	154,155,010	149,810,270	(4,344,740)	–2.82
Indiana	111,458,620	108,572,095	(2,886,525)	–2.59
Iowa	78,541,039	76,777,436	(1,763,603)	–2.25
Kansas	72,281,257	70,626,722	(1,654,535)	–2.29
Kentucky	85,402,165	83,266,704	(2,135,461)	–2.50
Louisiana	69,374,796	67,530,199	(1,844,597)	–2.66
Maine	26,023,182	25,383,216	(639,966)	–2.46
Maryland	75,642,865	73,742,067	(1,900,798)	–2.51
Massachusetts	67,726,019	65,939,103	(1,786,915)	–2.64
Michigan	145,593,147	142,083,435	(3,509,712)	–2.41
Minnesota	89,447,878	87,300,177	(2,147,700)	–2.40
Mississippi	72,073,286	70,431,363	(1,641,923)	–2.28
Missouri	111,760,312	108,873,086	(2,887,226)	–2.58
Montana	59,443,363	58,083,007	(1,360,357)	–2.29
Nebraska	61,295,086	60,016,440	(1,278,646)	–2.09
Nevada	39,467,293	38,492,602	(974,692)	–2.47
New Hampshire	21,135,528	27,742,026	6,606,498	31.26
New Jersey	112,252,274	109,765,954	(2,486,320)	–2.21
New Mexico	62,159,442	60,593,104	(1,566,338)	–2.52
New York	168,605,752	164,453,957	(4,151,795)	–2.46
North Carolina	122,442,320	119,477,757	(2,964,563)	–2.42
North Dakota	65,809,047	64,620,736	(1,188,311)	–1.81
Ohio	160,844,722	156,441,352	(4,403,370)	–2.74
Oklahoma	85,482,357	83,438,897	(2,043,460)	–2.39
Oregon	71,180,852	69,510,006	(1,670,846)	–2.35
Pennsylvania	165,617,802	161,445,324	(4,172,478)	–2.52
Rhode Island	16,858,893	34,471,526	17,612,633	104.47
South Carolina	72,772,007	70,870,958	(1,901,050)	–2.61
South Dakota	55,333,652	54,226,236	(1,107,415)	–2.00
Tennessee	108,059,363	105,263,110	(2,796,254)	–2.59
Texas	387,844,167	378,660,607	(9,183,560)	–2.37
Utah	39,664,294	38,427,878	(1,236,416)	–3.12
Vermont	17,364,662	29,944,320	12,579,658	72.44
Virginia	116,899,311	113,808,744	(3,090,568)	–2.64
Washington	89,612,999	87,389,852	(2,223,147)	–2.48
West Virginia	36,858,827	35,897,374	(961,453)	–2.61
Wisconsin	110,530,616	108,151,878	(2,378,738)	–2.15
Wyoming	71,021,445	69,544,074	(1,477,371)	–2.08
Total	4,785,633,646	4,785,633,646	0	0.00

SOURCE: Authors' calculations based on data from the Federal Highway Administration.

Table D.2

Comparison of Alternative Factor-Weighting Mixes on NHS Funding, with 0.5 Percent Small-State Minimum Applied, Fiscal Year 2002

	Initial NHS Component, Including 0.5 Percent SSM, Assuming:								
	Statutory Formula Weight, 25/35/30/10%	Increased Weight to OPAR Lane Miles,[a] 40/30/25/5%		Increased Weight to OPAR VMT,[b] 20/50/25/5%		Increased Weight to Diesel Fuel Usage,[c] 20/30/45/5%		Increased Weight to PAR Miles Per Capita,[d] 20/30/25/25%	
State	Amount ($)	Amount ($)	Change ($)	Amount ($)	Change ($)	Amount ($)	Change ($)	Amount ($)	Change ($)
Alabama	88,985,416	89,162,115	176,699	86,801,491	–2,183,926	92,946,813	3,961,397	80,999,008	–7,986,409
Alaska	25,913,634	22,819,722	–3,093,912	22,819,722	–3,093,912	22,819,722	–3,093,912	70,481,676	44,568,042
Arizona	86,578,298	85,430,973	–1,147,325	88,286,832	1,708,535	89,102,418	2,524,120	72,467,631	–14,110,667
Arkansas	70,019,904	69,751,288	–268,616	65,150,363	–4,869,541	71,074,398	1,054,494	86,030,828	16,010,925
California	443,257,463	448,256,187	4,998,724	502,335,002	59,077,539	440,198,808	–3,058,655	355,473,074	–87,784,389
Colorado	80,564,778	82,599,792	2,035,015	81,648,555	1,083,778	77,225,522	–3,339,256	85,014,285	4,449,507
Connecticut	39,593,700	37,916,560	–1,677,140	41,011,255	1,417,554	39,812,748	219,047	30,187,985	–9,405,715
Delaware	36,786,140	36,786,140	0	36,786,140	0	36,786,140	0	36,786,140	0
District of Columbia	41,205,738	41,205,738	0	41,205,738	0	41,205,738	0	41,205,738	0
Florida	219,349,261	226,953,623	7,604,362	240,175,090	20,825,828	217,117,671	–2,231,591	199,254,959	–20,094,303
Georgia	145,214,076	146,413,547	1,199,471	144,640,210	–573,867	156,847,220	11,633,143	95,592,993	–49,621,084
Hawaii	36,505,974	36,505,974	0	36,505,974	0	36,505,974	0	36,505,974	0
Idaho	40,585,675	37,868,216	–2,717,459	32,775,220	–7,810,454	35,208,947	–5,376,728	73,060,415	32,474,740
Illinois	149,810,270	151,656,626	1,846,357	152,820,961	3,010,692	160,217,188	10,406,918	76,115,229	–73,695,040
Indiana	108,572,095	107,235,859	–1,336,236	108,237,070	–335,025	117,134,936	8,562,841	81,970,618	–26,601,476
Iowa	76,777,436	80,478,331	3,700,895	68,855,509	–7,921,927	73,725,268	–3,052,168	100,578,722	23,801,286
Kansas	70,626,722	73,339,529	2,712,806	64,147,723	–6,478,999	65,070,366	–5,556,356	95,015,648	24,388,925
Kentucky	83,266,704	83,430,353	163,649	80,271,998	–2,994,706	86,890,041	3,623,337	76,846,540	–6,420,164
Louisiana	67,530,199	66,825,348	–704,850	65,723,786	–1,806,413	71,114,440	3,584,241	53,305,700	–14,224,498
Maine	25,383,216	22,830,353	–2,552,863	22,199,077	–3,184,140	23,331,365	–2,051,852	39,005,683	13,622,467
Maryland	73,742,067	72,246,902	–1,495,165	79,043,902	5,301,835	74,195,832	453,765	60,813,671	–12,928,396
Massachusetts	65,939,103	64,894,602	–1,044,501	72,432,956	6,493,852	64,755,112	–1,183,991	47,175,680	–18,763,423
Michigan	142,083,435	146,530,781	4,447,347	150,353,215	8,269,780	142,664,794	581,360	118,951,405	–23,132,030
Minnesota	87,300,177	91,836,195	4,536,017	84,936,387	–2,363,790	86,254,771	–1,045,407	86,685,291	–614,886
Mississippi	70,431,363	70,748,359	316,996	66,102,205	–4,329,158	70,037,659	–393,705	86,336,479	15,905,115
Missouri	108,873,086	109,333,547	460,461	109,309,472	436,386	113,017,230	4,144,144	86,175,426	–22,697,660
Montana	58,083,007	49,671,572	–8,411,435	41,277,375	–16,805,632	43,263,378	–14,819,629	137,721,270	79,638,264
Nebraska	60,016,440	59,717,973	–298,467	51,625,477	–8,390,962	55,355,154	–4,661,286	100,018,997	40,002,558
Nevada	38,492,602	37,131,193	–1,361,408	34,347,993	–4,144,609	36,864,162	–1,628,440	50,237,773	11,745,172
New Hampshire	27,742,026	27,742,026	0	27,742,026	0	27,742,026	0	32,370,591	4,628,565
New Jersey	109,765,954	105,778,367	–3,987,587	121,933,178	12,167,224	113,177,496	3,411,542	105,895,993	–3,869,961
New Mexico	60,593,104	58,230,236	–2,362,868	51,916,023	–8,677,081	56,642,561	–3,950,543	83,662,187	23,069,083
New York	164,453,957	167,083,306	2,629,349	178,771,315	14,317,358	167,776,204	3,322,247	122,176,314	–42,277,642

Table D.2 (continued)

	Initial NHS Component, Including 0.5 Percent SSM, Assuming:								
	Statutory Formula Weight, 25/35/30/10%	Increased Weight to OPAR Lane Miles,[a] 40/30/25/5%		Increased Weight to OPAR VMT,[b] 20/50/25/5%		Increased Weight to Diesel Fuel Usage,[c] 20/30/45/5%		Increased Weight to PAR Miles Per Capita,[d] 20/30/25/25%	
State	Amount ($)	Amount ($)	Change ($)	Amount ($)	Change ($)	Amount ($)	Change ($)	Amount ($)	Change ($)
North Carolina	119,477,757	122,244,180	2,766,423	123,055,729	3,577,972	123,013,195	3,535,438	101,451,489	–18,026,268
North Dakota	64,620,736	55,004,822	–9,615,914	43,647,940	–20,972,796	45,166,516	–19,454,220	187,071,890	122,451,155
Ohio	156,441,352	156,488,377	47,025	156,947,500	506,148	172,366,159	15,924,806	88,242,848	–68,198,504
Oklahoma	83,438,897	85,291,585	1,852,688	78,188,644	–5,250,253	83,474,921	36,023	91,689,351	8,250,454
Oregon	69,510,006	71,522,170	2,012,165	66,729,599	–2,780,406	67,232,789	–2,277,217	79,134,915	9,624,909
Pennsylvania	161,445,324	162,388,717	943,393	167,603,443	6,158,119	171,896,232	10,450,908	117,194,099	–44,251,225
Rhode Island	34,471,526	34,471,526	0	34,471,526	0	34,471,526	0	34,471,526	0
South Carolina	70,870,958	70,235,683	–635,275	68,866,129	–2,004,829	73,790,145	2,919,187	60,041,369	–10,829,589
South Dakota	54,226,236	46,788,947	–7,437,289	37,686,737	–16,539,499	39,286,124	–14,940,112	143,274,551	89,048,315
Tennessee	105,263,110	105,993,064	729,955	105,070,214	–192,896	109,996,225	4,733,116	82,240,503	–23,022,606
Texas	378,660,607	398,117,443	19,456,836	395,231,121	16,570,515	390,812,437	12,151,830	305,973,271	–72,687,335
Utah	38,427,878	35,594,647	–2,833,231	34,143,650	–4,284,228	37,705,484	–722,394	32,253,290	–6,174,588
Vermont	29,944,320	29,944,320	0	29,944,320	0	29,944,320	0	41,292,970	11,348,650
Virginia	113,808,744	114,098,543	289,800	115,322,633	1,513,890	120,229,268	6,420,525	79,357,335	–34,451,409
Washington	87,389,852	89,425,689	2,035,837	89,857,824	2,467,972	87,166,471	–223,381	75,630,745	–11,759,107
West Virginia	35,897,374	33,752,611	–2,144,763	31,921,381	–3,975,994	34,713,155	–1,184,219	44,219,458	8,322,084
Wisconsin	108,151,878	113,283,394	5,131,516	108,936,198	784,320	106,703,143	–1,448,735	122,316,025	14,164,147
Wyoming	69,544,074	52,576,593	–16,967,481	45,819,819	–23,724,255	51,583,439	–17,960,635	195,658,087	126,114,013
Total	4,785,633,646	4,785,633,646	0	4,785,633,646	0	4,785,633,646	0	4,785,633,646	0

SOURCE: Authors' calculations based on data from the Federal Highway Administration.

NOTE: For simplicity, this analysis raises and lowers factor weights in five-point increments, causing wider funding changes for factors with small initial statutory percentages. For example, raising the sparsity factor from 10 percent to 25 percent results in greater median funding shifts than under any other simulation.

[a]Lane miles of principal arterial routes other than on the interstate highway system.

[b]Vehicle miles traveled on principal arterial routes other than on the interstate highway system.

[c]Diesel fuel used on highways.

[d]Total lane miles of all principal arterial routes divided by state population (increases funds to states with sparse populations).

Appendix E

Data Tables for the Surface Transportation Program

Table E.1

Apportionment of STP Funding, Fiscal Year 2002: STP Component Derivation—Statutory Formula

State	Federal-Aid Highway Lane Miles[a]: Factor Weight, 25%		Federal-Aid VMT[b]: Factor Weight, 40%		Highway Account Tax Contributions[c]: Factor Weight, 35%		Initial STP Factor[d]	Initial SSM Additions	Non-SSM State Totals	Adjusted Factor with 0.5% SSM	STP Apportionment
	No.	%	No.	%	No.	%					
Alabama	53,919	2.39	42,338	1.86	638,977	2.11	2.0797	0.0000	2.0797	2.0433	114,870,261
Alaska	8,808	0.39	3,685	0.16	65,940	0.22	0.2386	0.2614	0.0000	0.5000	28,109,446
Arizona	32,556	1.44	41,188	1.81	583,068	1.92	1.7581	0.0000	1.7581	1.7273	97,106,755
Arkansas	44,938	1.99	26,568	1.17	415,571	1.37	1.4450	0.0000	1.4450	1.4197	79,813,753
California	141,506	6.28	267,923	11.78	3,025,732	9.97	9.7724	0.0000	9.7724	9.6012	539,767,529
Colorado	39,500	1.75	35,689	1.57	423,763	1.40	1.5546	0.0000	1.5546	1.5274	85,868,181
Connecticut	14,366	0.64	26,397	1.16	312,507	1.03	0.9841	0.0000	0.9841	0.9669	54,357,355
Delaware	3,897	0.17	6,971	0.31	79,594	0.26	0.2577	0.2423	0.0000	0.5000	28,109,446
District of Columbia	1,817	0.08	2,910	0.13	33,728	0.11	0.1102	0.3898	0.0000	0.5000	28,109,446
Florida	67,552	3.00	117,434	5.17	1,554,162	5.12	4.6076	0.0000	4.6076	4.5268	254,493,361
Georgia	72,274	3.21	81,419	3.58	1,189,533	3.92	3.6058	0.0000	3.6058	3.5426	199,160,595
Hawaii	3,758	0.17	6,768	0.30	69,351	0.23	0.2407	0.2593	0.0000	0.5000	28,109,446
Idaho	22,872	1.01	10,254	0.45	178,492	0.59	0.6399	0.0000	0.6399	0.6287	35,343,272
Illinois	80,351	3.56	90,214	3.97	1,053,743	3.47	3.6935	0.0000	3.6935	3.6287	204,004,010
Indiana	50,776	2.25	59,104	2.60	767,408	2.53	2.4880	0.0000	2.4880	2.4444	137,418,777
Iowa	56,693	2.51	24,926	1.10	353,281	1.16	1.4746	0.0000	1.4746	1.4488	81,449,899
Kansas	73,279	3.25	23,689	1.04	346,783	1.14	1.6293	0.0000	1.6293	1.6008	89,992,570
Kentucky	34,550	1.53	38,373	1.69	577,037	1.90	1.7237	0.0000	1.7237	1.6935	95,208,404
Louisiana	35,342	1.57	36,244	1.59	527,753	1.74	1.6382	0.0000	1.6382	1.6095	90,485,162
Maine	13,819	0.61	11,837	0.52	162,787	0.54	0.5492	0.0000	0.5492	0.5396	30,336,287
Maryland	20,897	0.93	44,322	1.95	541,915	1.79	1.6365	0.0000	1.6365	1.6078	90,389,723
Massachusetts	25,375	1.13	44,516	1.96	545,690	1.80	1.6939	0.0000	1.6939	1.6642	93,561,417
Michigan	78,600	3.49	85,219	3.75	1,074,219	3.54	3.6098	0.0000	3.6098	3.5465	199,382,058
Minnesota	69,733	3.09	44,057	1.94	403,760	1.33	2.0140	0.0000	2.0140	1.9787	111,242,711
Mississippi	46,459	2.06	26,614	1.17	428,679	1.41	1.4778	0.0000	1.4778	1.4519	81,625,047
Missouri	65,953	2.93	53,529	2.35	754,241	2.49	2.5430	0.0000	2.5430	2.4984	140,458,209
Montana	32,065	1.42	8,072	0.36	140,430	0.46	0.6595	0.0000	0.6595	0.6480	36,428,866
Nebraska	43,299	1.92	15,821	0.70	241,167	0.79	1.0366	0.0000	1.0366	1.0185	57,256,690
Nevada	16,126	0.72	14,622	0.64	215,455	0.71	0.6846	0.0000	0.6846	0.6726	37,810,648
New Hampshire	7,517	0.33	10,365	0.46	137,452	0.45	0.4242	0.0758	0.0000	0.5000	28,109,446
New Jersey	25,525	1.13	55,698	2.45	865,079	2.85	2.2607	0.0000	2.2607	2.2211	124,865,034
New Mexico	24,845	1.10	17,373	0.76	269,496	0.89	0.8920	0.0000	0.8920	0.8763	49,266,676
New York	65,639	2.91	99,688	4.38	1,249,954	4.12	3.9233	0.0000	3.9233	3.8545	216,698,475
North Carolina	50,689	2.25	66,858	2.94	918,638	3.03	2.7978	0.0000	2.7978	2.7488	154,534,037

Table E.1 (continued)

State	Federal-Aid Highway Lane Miles[a]: Factor Weight, 25%		Federal-Aid VMT[b]: Factor Weight, 40%		Highway Account Tax Contributions[c]: Factor Weight, 35%		Initial STP Factor[d]	Initial SSM Additions	Non-SSM State Totals	Adjusted Factor with 0.5% SSM	STP Apportionment
	No.	%	No.	%	No.	%					
North Dakota	38,093	1.69	6,054	0.27	101,377	0.33	0.6458	0.0000	0.6458	0.6345	35,672,186
Ohio	67,117	2.98	85,270	3.75	1,158,013	3.82	3.5800	0.0000	3.5800	3.5173	197,736,312
Oklahoma	69,775	3.09	35,331	1.55	500,974	1.65	1.9731	0.0000	1.9731	1.9385	108,981,732
Oregon	39,511	1.75	28,116	1.24	381,740	1.26	1.3731	0.0000	1.3731	1.3490	75,838,961
Pennsylvania	64,361	2.85	85,295	3.75	1,238,907	4.08	3.6432	0.0000	3.6432	3.5793	201,225,709
Rhode Island	4,088	0.18	7,508	0.33	82,095	0.27	0.2721	0.2279	0.0000	0.5000	28,109,446
South Carolina	40,831	1.81	39,764	1.75	554,376	1.83	1.7917	0.0000	1.7917	1.7603	98,963,557
South Dakota	41,397	1.84	7,363	0.32	101,194	0.33	0.7053	0.0000	0.7053	0.6929	38,956,186
Tennessee	42,600	1.89	54,497	2.40	759,820	2.50	2.3075	0.0000	2.3075	2.2670	127,450,921
Texas	192,615	8.54	181,530	7.98	2,573,239	8.48	8.2974	0.0000	8.2974	8.1520	458,294,463
Utah	19,999	0.89	18,626	0.82	249,715	0.82	0.8375	0.0000	0.8375	0.8228	46,256,085
Vermont	8,528	0.38	5,457	0.24	70,411	0.23	0.2718	0.2282	0.0000	0.5000	28,109,446
Virginia	53,943	2.39	63,259	2.78	867,264	2.86	2.7113	0.0000	2.7113	2.6638	149,757,130
Washington	44,602	1.98	46,582	2.05	588,415	1.94	1.9928	0.0000	1.9928	1.9578	110,066,928
West Virginia	22,571	1.00	17,001	0.75	220,408	0.73	0.8036	0.0000	0.8036	0.7895	44,385,397
Wisconsin	62,030	2.75	45,131	1.99	602,560	1.99	2.1768	0.0000	2.1768	2.1386	120,232,358
Wyoming	17,139	0.76	6,122	0.27	151,317	0.50	0.4723	0.0277	0.0000	0.5000	28,109,446
Total	2,254,495	100.00	2,273,591	100.00	30,347,210	100.00	100.0000	1.7124	97.7124	100.0000	5,621,889,254

SOURCE: Authors' calculations based on data from the Federal Highway Administration.

[a]Total lane miles of federal-aid highways.

[b]Millions of total vehicle miles traveled on federal-aid highways.

[c]Estimated tax payments ($000) attributable to highway users paid into the Highway Account of the Highway Trust Fund.

[d]Combined factor weighting federal-aid lane miles at 25 percent, VMT at 40 percent, and HTF Highway Account contributions at 35 percent.

Table E.2

Comparison of Alternative Factor-Weighting Mixes on STP Funding, Fiscal Year 2002

State	Current Statutory Formula Weight, 25/40/35%	Surface Transportation Program Apportionment, Assuming:					
		Increased Weight to Federal-Aid Lane Miles,[a] 35/35/30%		Increased Weight to Other PAR VMT,[b] 20/50/30%		Increased Weight to Highway Account Contributions,[c] 20/35/45%	
	Amount ($)	Amount ($)	Change ($)	Amount ($)	Change ($)	Amount ($)	Change ($)
Alabama	114,870,261	117,149,041	2,278,781	112,715,260	–2,155,001	114,746,106	–124,155
Alaska	28,109,446	28,109,446	0	28,109,446	0	28,109,446	0
Arizona	97,106,755	94,795,149	–2,311,606	97,800,794	694,039	98,722,488	1,615,734
Arkansas	79,813,753	83,833,301	4,019,548	76,967,403	–2,846,350	78,641,153	–1,172,600
California	539,767,529	514,473,147	–25,294,381	559,884,027	20,116,499	544,929,632	5,162,103
Colorado	85,868,181	87,373,799	1,505,618	85,827,613	–40,568	84,402,593	–1,465,588
Connecticut	54,357,355	51,838,393	–2,518,962	56,156,155	1,798,800	55,075,964	718,610
Delaware	28,109,446	28,109,446	0	28,109,446	0	28,109,446	0
District of Columbia	28,109,446	28,109,446	0	28,109,446	0	28,109,446	0
Florida	254,493,361	242,690,403	–11,802,958	260,556,347	6,062,986	260,226,366	5,733,006
Georgia	199,160,595	196,196,848	–2,963,746	199,225,279	64,685	202,056,571	2,895,976
Hawaii	28,109,446	28,109,446	0	28,109,446	0	28,109,446	0
Idaho	35,343,272	38,085,537	2,742,265	33,402,146	–1,941,127	34,542,757	–800,515
Illinois	204,004,010	203,188,079	–815,931	206,450,313	2,446,303	202,370,798	–1,633,212
Indiana	137,418,777	135,726,466	–1,692,311	138,548,354	1,129,577	137,979,342	560,565
Iowa	81,449,899	89,116,850	7,666,951	77,331,490	–4,118,409	77,903,127	–3,546,772
Kansas	89,992,570	101,935,277	11,942,707	83,599,905	–6,392,666	84,445,698	–5,546,873
Kentucky	95,208,404	93,781,901	–1,426,503	95,029,712	–178,692	96,812,148	1,603,744
Louisiana	90,485,162	89,958,930	–526,231	90,141,636	–343,526	91,353,796	868,634
Maine	30,336,287	30,809,613	473,326	30,032,228	–304,060	30,166,852	–169,436
Maryland	90,389,723	85,213,390	–5,176,333	93,648,576	3,258,854	92,304,309	1,914,586
Massachusetts	93,561,417	89,425,201	–4,136,216	96,284,024	2,722,607	94,972,460	1,411,042
Michigan	199,382,058	198,556,487	–825,570	200,644,114	1,262,057	198,942,932	–439,126
Minnesota	111,242,711	119,328,050	8,085,339	109,709,246	–1,533,465	104,692,058	–6,550,653
Mississippi	81,625,047	85,892,822	4,267,776	78,483,990	–3,141,057	80,499,013	–1,126,034
Missouri	140,458,209	143,282,884	2,824,674	138,494,121	–1,964,089	139,597,089	–861,120
Montana	36,428,866	42,035,668	5,606,803	33,177,957	–3,250,909	34,074,557	–2,354,309
Nebraska	57,256,690	63,762,684	6,505,995	53,591,688	–3,665,001	54,417,353	–2,839,336
Nevada	37,810,648	38,033,229	222,582	37,419,917	–390,730	37,978,483	167,836
New Hampshire	28,109,446	28,109,446	0	28,109,446	0	28,109,446	0
New Jersey	124,865,034	116,506,922	–8,358,112	127,373,550	2,508,515	130,710,550	5,845,516
New Mexico	49,266,676	50,802,304	1,535,628	47,982,490	–1,284,186	49,015,276	–251,400
New York	216,698,475	209,343,233	–7,355,242	221,460,198	4,761,723	219,286,872	2,588,397

Table E.2 (continued)

State	Current Statutory Formula Weight, 25/40/35%	Surface Transportation Program Apportionment, Assuming:					
		Increased Weight to Federal-Aid Lane Miles,[a] 35/35/30%		Increased Weight to Other PAR VMT,[b] 20/50/30%		Increased Weight to Highway Account Contributions,[c] 20/35/45%	
	Amount ($)	Amount ($)	Change ($)	Amount ($)	Change ($)	Amount ($)	Change ($)
North Carolina	154,534,037	150,505,664	–4,028,373	156,178,531	1,644,494	156,914,831	2,380,794
North Dakota	35,672,186	43,356,624	7,684,438	31,548,314	–4,123,871	32,113,910	–3,558,276
Ohio	197,736,312	193,327,552	–4,408,760	199,655,020	1,918,708	200,222,649	2,486,338
Oklahoma	108,981,732	117,252,144	8,270,412	104,439,555	–4,542,178	105,255,182	–3,726,550
Oregon	75,838,961	78,647,593	2,808,632	74,341,817	–1,497,143	74,527,600	–1,311,360
Pennsylvania	201,225,709	195,403,023	–5,822,686	202,751,367	1,525,657	205,518,638	4,292,928
Rhode Island	28,109,446	28,109,446	0	28,109,446	0	28,109,446	0
South Carolina	98,963,557	99,114,326	150,769	98,558,962	–404,595	99,216,363	252,806
South Dakota	38,956,186	47,293,639	8,337,453	34,746,668	–4,209,518	34,830,699	–4,125,486
Tennessee	127,450,921	124,381,627	–3,069,294	128,533,713	1,082,793	129,434,984	1,984,063
Texas	458,294,463	460,120,918	1,826,454	455,299,298	–2,995,165	459,458,912	1,164,449
Utah	46,256,085	46,631,343	375,257	46,050,284	–205,801	46,086,241	–169,845
Vermont	28,109,446	28,109,446	0	28,109,446	0	28,109,446	0
Virginia	149,757,130	147,429,949	–2,327,181	150,597,234	840,104	151,241,758	1,484,628
Washington	110,066,928	110,006,104	–60,824	110,544,774	477,846	109,648,588	–418,340
West Virginia	44,385,397	45,854,688	1,469,292	43,736,889	–648,508	43,564,610	–820,787
Wisconsin	120,232,358	124,492,090	4,259,732	118,092,726	–2,139,632	118,112,377	–2,119,980
Wyoming	28,109,446	28,170,235	60,789	28,109,446	0	28,109,446	0
Total	5,621,889,254	5,621,889,254	0	5,621,889,254	0	5,621,889,254	0

SOURCE: Authors' calculations based on data from the Federal Highway Administration.

NOTE: For simplicity, this analysis raises and lowers factor weights in five-point increments, causing wider changes for factors with smaller statutory percentages.

[a]Total lane miles of federal-aid highways.

[b]Millions of total vehicle miles traveled on federal-aid highways.

[c]Thousands of dollars of estimated tax payments attributable to highway users paid into the Highway Account of the Highway Trust Fund.

Appendix F

Data Tables for the Highway Bridge Replacement and Rehabilitation Program and Appalachian Development Highway System Program

Table F.1

Apportionment of HBRRP and Appalachian Development Highway Program Funding, Fiscal Year 2002

State	Bridge Program		Appalachian Development	
	Factor[a]	Apportionment	Factor[b]	Apportionment
Alabama	2.0431	68,676,838	11.0107	48,771,798
Alaska	0.2710	9,109,207	—	—
Arizona	0.3136	10,541,859	—	—
Arkansas	1.2258	41,204,332	—	—
California	7.4015	248,794,639	—	—
Colorado	0.6926	23,279,963	—	—
Connecticut	2.1075	70,841,200	—	—
Delaware	0.3710	12,471,253	—	—
District of Columbia	0.6155	20,690,298	—	—
Florida	1.7096	57,466,563	—	—
Georgia	1.7287	58,107,151	4.4003	19,491,090
Hawaii	0.5712	19,199,935	—	—
Idaho	0.3614	12,146,695	—	—
Illinois	3.3909	113,982,503	—	—
Indiana	1.0998	36,967,563	—	—
Iowa	1.6038	53,909,379	—	—
Kansas	1.5288	51,388,022	—	—
Kentucky	1.6398	55,119,143	10.1006	44,740,518
Louisiana	2.7109	91,125,243	—	—
Maine	0.7110	23,900,828	—	—
Maryland	1.7952	60,344,827	1.7218	7,626,698
Massachusetts	3.1147	104,698,163	—	—
Michigan	2.9351	98,660,446	—	—
Minnesota	0.7112	23,907,488	—	—
Mississippi	1.4138	47,522,697	1.2348	5,469,536
Missouri	3.5628	119,760,275	—	—
Montana	0.3723	12,513,321	—	—
Nebraska	0.7820	26,287,554	—	—
Nevada	0.2500	8,403,511	—	—
New Hampshire	0.5141	17,280,123	—	—
New Jersey	4.7671	160,241,244	—	—
New Mexico	0.3637	12,226,315	—	—
New York	10.0000	336,140,407	2.3732	10,512,068
North Carolina	2.5531	85,821,130	6.4827	28,715,062
North Dakota	0.2500	8,403,511	—	—
Ohio	3.4074	114,535,690	4.9652	21,993,309
Oklahoma	2.4299	81,677,170	—	—
Oregon	1.4289	48,029,759	—	—
Pennsylvania	10.0000	336,140,407	26.9225	119,253,418
Rhode Island	1.1723	39,406,345	—	—
South Carolina	1.4367	48,291,901	0.5394	2,389,268
South Dakota	0.3785	12,724,257	—	—
Tennessee	1.9671	66,121,623	12.3443	54,678,968
Texas	3.9046	131,250,406	—	—
Utah	0.7205	24,218,792	—	—
Vermont	0.5567	18,713,185	—	—
Virginia	1.9116	64,257,386	2.5946	11,492,758
Washington	2.7048	90,919,899	—	—
West Virginia	1.4351	48,241,017	15.3100	67,815,509
Wisconsin	0.8133	27,339,098	—	—
Wyoming	0.2500	8,403,511	—	—
Total	100.0000	3,361,404,072	100.0000	442,950,000

SOURCE: Federal Highway Administration.

[a]Factor is set by FHWA as a measure of state needs. States may receive a maximum of 10 percent and a minimum of 0.25 percent of total bridge program funds.

[b]Factor is set by FHWA as a measure of state needs.

Appendix G

Data Tables for the Congestion Mitigation and Air Quality Improvement Program

Table G.1

Apportionment of CMAQ Funding, Fiscal Year 2002

State	Weighted Population		SSM, Iteration 1			SSM, Iteration 2			Base CMAQ Apportionment
	No.	%	SSM States	Non-SSM States	Adjusted % Share	SSM States	Non-SSM States	Adjusted % Share	
Alabama	805,340	0.39	0.11	0.00	0.50	0.00	0.00	0.50	6,857,847
Alaska	343,123	0.17	0.33	0.00	0.50	0.00	0.00	0.50	6,857,847
Arizona	4,423,895	2.16	0.00	2.16	1.99	0.00	1.99	1.99	27,250,213
Arkansas	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
California	47,483,210	23.22	0.00	23.22	21.33	0.00	21.33	21.32	292,486,077
Colorado	3,226,800	1.58	0.00	1.58	1.45	0.00	1.45	1.45	19,876,375
Connecticut	4,612,469	2.26	0.00	2.26	2.07	0.00	2.07	2.07	28,411,792
Delaware	971,689	0.48	0.02	0.00	0.50	0.00	0.00	0.50	6,857,847
District of Columbia	755,118	0.37	0.13	0.00	0.50	0.00	0.00	0.50	6,857,847
Florida	5,542,395	2.71	0.00	2.71	2.49	0.00	2.49	2.49	34,139,930
Georgia	4,438,415	2.17	0.00	2.17	1.99	0.00	1.99	1.99	27,339,654
Hawaii	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Idaho	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Illinois	11,253,179	5.50	0.00	5.50	5.06	0.00	5.06	5.05	69,317,098
Indiana	2,189,376	1.07	0.00	1.07	0.98	0.00	0.98	0.98	13,486,072
Iowa	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Kansas	487,174	0.24	0.26	0.00	0.50	0.00	0.00	0.50	6,857,847
Kentucky	1,567,357	0.77	0.00	0.77	0.70	0.00	0.70	0.70	9,654,575
Louisiana	928,529	0.45	0.05	0.00	0.50	0.00	0.00	0.50	6,857,847
Maine	930,337	0.45	0.05	0.00	0.50	0.00	0.00	0.50	6,857,847
Maryland	6,490,392	3.17	0.00	3.17	2.92	0.00	2.92	2.91	39,979,381
Massachusetts	8,283,012	4.05	0.00	4.05	3.72	0.00	3.72	3.72	51,021,523
Michigan	4,653,074	2.28	0.00	2.28	2.09	0.00	2.09	2.09	28,661,905
Minnesota	2,346,056	1.15	0.00	1.15	1.05	0.00	1.05	1.05	14,451,186
Mississippi	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Missouri	2,864,456	1.40	0.00	1.40	1.29	0.00	1.29	1.29	17,644,415
Montana	95,802	0.05	0.45	0.00	0.50	0.00	0.00	0.50	6,857,847
Nebraska	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Nevada	1,783,148	0.87	0.00	0.87	0.80	0.00	0.80	0.80	10,983,799
New Hampshire	1,060,745	0.52	0.00	0.52	0.48	0.02	0.00	0.50	6,857,847
New Jersey	12,678,475	6.20	0.00	6.20	5.70	0.00	5.70	5.69	78,096,602
New Mexico	620,024	0.30	0.20	0.00	0.50	0.00	0.00	0.50	6,857,847

Table G.1 (continued)

State	Weighted Population		SSM, Iteration 1			SSM, Iteration 2			Base CMAQ Apportionment
	No.	%	SSM States	Non-SSM States	Adjusted % Share	SSM States	Non-SSM States	Adjusted % Share	
New York	22,202,531	10.86	0.00	10.86	9.97	0.00	9.97	9.97	136,762,681
North Carolina	2,300,447	1.12	0.00	1.12	1.03	0.00	1.03	1.03	14,170,243
North Dakota	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Ohio	6,773,430	3.31	0.00	3.31	3.04	0.00	3.04	3.04	41,722,835
Oklahoma	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Oregon	1,576,538	0.77	0.00	0.77	0.71	0.00	0.71	0.71	9,711,123
Pennsylvania	12,215,525	5.97	0.00	5.97	5.49	0.00	5.49	5.49	75,244,936
Rhode Island	1,257,983	0.62	0.00	0.62	0.57	0.00	0.57	0.56	7,748,896
South Carolina	42,030	0.02	0.48	0.00	0.50	0.00	0.00	0.50	6,857,847
South Dakota	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Tennessee	1,973,649	0.97	0.00	0.97	0.89	0.00	0.89	0.89	12,157,241
Texas	12,980,420	6.35	0.00	6.35	5.83	0.00	5.83	5.83	79,956,517
Utah	1,435,667	0.70	0.00	0.70	0.64	0.00	0.64	0.64	8,843,393
Vermont	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Virginia	4,415,271	2.16	0.00	2.16	1.98	0.00	1.98	1.98	27,197,091
Washington	3,400,361	1.66	0.00	1.66	1.53	0.00	1.53	1.53	20,945,473
West Virginia	411,030	0.20	0.30	0.00	0.50	0.00	0.00	0.50	6,857,847
Wisconsin	2,691,304	1.32	0.00	1.32	1.21	0.00	1.21	1.21	16,577,838
Wyoming	0	0.00	0.50	0.00	0.50	0.00	0.00	0.50	6,857,847
Total	204,509,774	100.00	7.88	96.88	100.00	0.02	88.52	100.00	1,371,569,338

SOURCE: Authors' calculations based on data from the Federal Highway Administration.

Table G.2

Comparison of Alternative Small-State Minimum Levels on CMAQ Funding, FY 2002

State	Weighted Population No.	Weighted Population %	Current Statutory SSM of 0.5%	Hypotetical CMAQ Funds ($) Assuming SSM of 0.25% Total	Hypotetical CMAQ Funds ($) Assuming SSM of 0.25% Change	Hypotetical CMAQ Funds ($) Assuming SSM Eliminated Total	Hypotetical CMAQ Funds ($) Assuming SSM Eliminated Change
Alabama	805,340	0.39	6,857,847	5,220,269	(1,637,578)	5,401,109	(1,456,737)
Alaska	343,123	0.17	6,857,847	3,428,923	(3,428,923)	2,301,196	(4,556,651)
Arizona	4,423,895	2.16	27,250,213	28,675,988	1,425,775	29,669,380	2,419,167
Arkansas	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
California	47,483,210	23.22	292,486,077	307,789,419	15,303,342	318,451,843	25,965,765
Colorado	3,226,800	1.58	19,876,375	20,916,339	1,039,964	21,640,921	1,764,547
Connecticut	4,612,469	2.26	28,411,792	29,898,343	1,486,551	30,934,079	2,522,287
Delaware	971,689	0.48	6,857,847	6,298,552	(559,295)	6,516,746	(341,100)
District of Columbia	755,118	0.37	6,857,847	4,894,726	(1,963,121)	5,064,289	(1,793,558)
Florida	5,542,395	2.71	34,139,930	35,926,186	1,786,256	37,170,738	3,030,809
Georgia	4,438,415	2.17	27,339,654	28,770,109	1,430,455	29,766,761	2,427,107
Hawaii	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Idaho	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Illinois	11,253,179	5.50	69,317,098	72,943,879	3,626,782	75,470,797	6,153,700
Indiana	2,189,376	1.07	13,486,072	14,191,685	705,613	14,683,312	1,197,240
Iowa	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Kansas	487,174	0.24	6,857,847	3,428,923	(3,428,923)	3,267,294	(3,590,553)
Kentucky	1,567,357	0.77	9,654,575	10,159,718	505,143	10,511,670	857,095
Louisiana	928,529	0.45	6,857,847	6,018,787	(839,059)	6,227,290	(630,557)
Maine	930,337	0.45	6,857,847	6,030,506	(827,340)	6,239,415	(618,432)
Maryland	6,490,392	3.17	39,979,381	42,071,166	2,091,785	43,528,593	3,549,212
Massachusetts	8,283,012	4.05	51,021,523	53,691,051	2,669,528	55,551,014	4,529,491
Michigan	4,653,074	2.28	28,661,905	30,161,542	1,499,637	31,206,396	2,544,491
Minnesota	2,346,056	1.15	14,451,186	15,207,296	756,109	15,734,106	1,282,920
Mississippi	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Missouri	2,864,456	1.40	17,644,415	18,567,599	923,184	19,210,817	1,566,402
Montana	95,802	0.05	6,857,847	3,428,923	(3,428,923)	642,508	(6,215,339)
Nebraska	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Nevada	1,783,148	0.87	10,983,799	11,558,489	574,690	11,958,897	975,099
New Hampshire	1,060,745	0.52	6,857,847	6,875,819	17,973	7,114,011	256,164
New Jersey	12,678,475	6.20	78,096,602	82,182,741	4,086,140	85,029,711	6,933,110
New Mexico	620,024	0.30	6,857,847	4,019,041	(2,838,806)	4,158,268	(2,699,579)
New York	22,202,531	10.86	136,762,681	143,918,324	7,155,643	148,903,935	12,141,254
North Carolina	2,300,447	1.12	14,170,243	14,911,653	741,410	15,428,222	1,257,979
North Dakota	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Ohio	6,773,430	3.31	41,722,835	43,905,841	2,183,006	45,426,824	3,703,989
Oklahoma	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Oregon	1,576,538	0.77	9,711,123	10,219,224	508,102	10,573,238	862,115
Pennsylvania	12,215,525	5.97	75,244,936	79,181,872	3,936,936	81,924,886	6,679,950
Rhode Island	1,257,983	0.62	7,748,896	8,154,331	405,435	8,436,813	687,917
South Carolina	42,030	0.02	6,857,847	3,428,923	(3,428,923)	281,877	(6,575,970)
South Dakota	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Tennessee	1,973,649	0.97	12,157,241	12,793,328	636,086	13,236,514	1,079,272
Texas	12,980,420	6.35	79,956,517	84,139,971	4,183,453	87,054,743	7,098,226
Utah	1,435,667	0.70	8,843,393	9,306,093	462,701	9,628,474	785,082
Vermont	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Virginia	4,415,271	2.16	27,197,091	28,620,086	1,422,995	29,611,542	2,414,451
Washington	3,400,361	1.66	20,945,473	22,041,374	1,095,901	22,804,930	1,859,457
West Virginia	411,030	0.20	6,857,847	3,428,923	(3,428,923)	2,756,625	(4,101,222)
Wisconsin	2,691,304	1.32	16,577,838	17,445,217	867,379	18,049,553	1,471,715
Wyoming	0	0.00	6,857,847	3,428,923	(3,428,923)	—	(6,857,847)
Total	204,509,774	100.00	1,371,569,338	1,371,569,338	0	1,371,569,338	0

SOURCE: Authors' calculations based on Federal Highway Administration data.

Appendix H

Data Table for the Recreational Trails Program

Table H.1

Apportionment of RTP Funding, Fiscal Year 2002

State	Off-Road Recreational Fuel Usage			Equal Amount to All States' Component ($)	Total RTP Apportionment	% of U.S.
	Amount	%	Component ($)			
Alabama	36,713,672	2.04	502,832	482,843	985,675	2.00
Alaska	12,551,596	0.70	171,907	482,843	654,750	1.33
Arizona	42,318,546	2.35	579,596	482,843	1,062,439	2.16
Arkansas	24,800,543	1.38	339,669	482,843	822,512	1.67
California	208,121,492	11.58	2,850,439	482,843	3,333,282	6.77
Colorado	59,934,247	3.33	820,861	482,843	1,303,705	2.65
Connecticut	8,301,633	0.46	113,699	482,843	596,543	1.21
Delaware	3,009,427	0.17	41,217	482,843	524,060	1.06
District of Columbia	—	0.00	—	482,843	482,843	0.98
Florida	84,431,892	4.70	1,156,382	482,843	1,639,225	3.33
Georgia	59,405,368	3.30	813,618	482,843	1,296,461	2.63
Hawaii	3,709,097	0.21	50,800	482,843	533,643	1.08
Idaho	24,668,260	1.37	337,857	482,843	820,700	1.67
Illinois	55,540,939	3.09	760,691	482,843	1,243,534	2.52
Indiana	25,640,511	1.43	351,173	482,843	834,016	1.69
Iowa	27,082,356	1.51	370,921	482,843	853,764	1.73
Kansas	20,658,558	1.15	282,940	482,843	765,783	1.55
Kentucky	21,113,132	1.17	289,166	482,843	772,009	1.57
Louisiana	40,087,771	2.23	549,043	482,843	1,031,887	2.10
Maine	18,484,419	1.03	253,163	482,843	736,006	1.49
Maryland	15,077,808	0.84	206,506	482,843	689,349	1.40
Massachusetts	20,823,728	1.16	285,202	482,843	768,046	1.56
Michigan	73,146,275	4.07	1,001,814	482,843	1,484,657	3.01
Minnesota	50,150,274	2.79	686,860	482,843	1,169,703	2.38
Mississippi	39,689,575	2.21	543,590	482,843	1,026,433	2.08
Missouri	37,956,123	2.11	519,848	482,843	1,002,691	2.04
Montana	28,511,818	1.59	390,499	482,843	873,342	1.77
Nebraska	15,422,664	0.86	211,229	482,843	694,072	1.41
Nevada	13,385,263	0.74	183,325	482,843	666,168	1.35
New Hampshire	12,600,180	0.70	172,572	482,843	655,416	1.33
New Jersey	22,672,657	1.26	310,525	482,843	793,369	1.61
New Mexico	30,228,097	1.68	414,005	482,843	896,848	1.82
New York	50,961,838	2.83	697,975	482,843	1,180,818	2.40
North Carolina	49,648,522	2.76	679,988	482,843	1,162,831	2.36
North Dakota	10,398,151	0.58	142,413	482,843	625,257	1.27
Ohio	50,236,555	2.79	688,042	482,843	1,170,885	2.38
Oklahoma	30,781,827	1.71	421,589	482,843	904,432	1.84
Oregon	27,263,715	1.52	373,405	482,843	856,248	1.74
Pennsylvania	50,031,658	2.78	685,235	482,843	1,168,078	2.37
Rhode Island	2,799,898	0.16	38,347	482,843	521,191	1.06
South Carolina	21,415,362	1.19	293,306	482,843	776,149	1.58
South Dakota	10,405,205	0.58	142,510	482,843	625,353	1.27
Tennessee	31,789,781	1.77	435,394	482,843	918,237	1.86
Texas	126,921,933	7.06	1,738,327	482,843	2,221,170	4.51
Utah	24,628,486	1.37	337,313	482,843	820,156	1.67
Vermont	8,493,861	0.47	116,332	482,843	599,175	1.22
Virginia	30,339,551	1.69	415,532	482,843	898,375	1.82
Washington	47,176,605	2.62	646,132	482,843	1,128,976	2.29
West Virginia	17,335,546	0.96	237,428	482,843	720,271	1.46
Wisconsin	50,342,632	2.80	689,494	482,843	1,172,338	2.38
Wyoming	20,756,687	1.15	284,284	482,843	767,127	1.56
Total	1,797,965,734	100.00	24,625,000	24,625,000	49,250,000	100.00

SOURCE: Authors' calculations based on Federal Highway Administration data.

Appendix I

Data Table for the Metropolitan Planning Program

Table I.1

Apportionment of MP Funding, Fiscal Year 2002

State	Urbanized Population		SSM, Iteration 1			SSM, Iteration 2			MP Apportionment
	No.	%	SSM at 0.5	Non-SSM State %	Adjusted Factor	SSM at 0.5	Non-SSM State %	Adjusted Factor	
Alabama	1,839,966	1.16	0	1.16	1.11	0	1.11	1.11	2,170,742
Alaska	221,883	0.14	0.3598	0.00	0.50	0	0.00	0.50	977,549
Arizona	2,655,997	1.68	0	1.68	1.60	0	1.60	1.60	3,133,474
Arkansas	591,420	0.37	0.1263	0.00	0.50	0	0.00	0.50	977,549
California	25,466,131	16.09	0	16.09	15.37	0	15.37	15.37	30,044,254
Colorado	2,377,820	1.50	0	1.50	1.43	0	1.43	1.43	2,805,288
Connecticut	2,455,697	1.55	0	1.55	1.48	0	1.48	1.48	2,897,165
Delaware	458,749	0.29	0.21013	0.00	0.50	0	0.00	0.50	977,549
District of Columbia	606,900	0.38	0.11651	0.00	0.50	0	0.00	0.50	977,549
Florida	10,177,624	6.43	0	6.43	6.14	0	6.14	6.14	12,007,286
Georgia	3,260,674	2.06	0	2.06	1.97	0	1.97	1.97	3,846,855
Hawaii	747,109	0.47	0.02792	0.00	0.50	0	0.00	0.50	977,549
Idaho	278,200	0.18	0.32421	0.00	0.50	0	0.00	0.50	977,549
Illinois	8,478,687	5.36	0	5.36	5.12	0	5.12	5.12	10,002,926
Indiana	2,692,676	1.70	0	1.70	1.62	0	1.62	1.62	3,176,746
Iowa	942,653	0.60	0	0.60	0.57	0	0.57	0.57	1,112,117
Kansas	1,018,604	0.64	0	0.64	0.61	0	0.61	0.61	1,201,722
Kentucky	1,276,855	0.81	0	0.81	0.77	0	0.77	0.77	1,506,399
Louisiana	2,228,018	1.41	0	1.41	1.34	0	1.34	1.34	2,628,556
Maine	266,732	0.17	0.33146	0.00	0.50	0	0.00	0.50	977,549
Maryland	3,581,461	2.26	0	2.26	2.16	0	2.16	2.16	4,225,311
Massachusetts	4,730,382	2.99	0	2.99	2.85	0	2.85	2.85	5,580,777
Michigan	5,812,473	3.67	0	3.67	3.51	0	3.51	3.51	6,857,399
Minnesota	2,370,935	1.50	0	1.50	1.43	0	1.43	1.43	2,797,165
Mississippi	617,412	0.39	0.10987	0.00	0.50	0	0.00	0.50	977,549
Missouri	2,782,738	1.76	0	1.76	1.68	0	1.68	1.68	3,282,999
Montana	208,883	0.13	0.36801	0.00	0.50	0	0.00	0.50	977,549
Nebraska	687,875	0.43	0.06535	0.00	0.50	0	0.00	0.50	977,549
Nevada	911,095	0.58	0	0.58	0.55	0	0.55	0.55	1,074,885
New Hampshire	339,454	0.21	0.28551	0.00	0.50	0	0.00	0.50	977,549
New Jersey	6,629,540	4.19	0	4.19	4.00	0	4.00	4.00	7,821,352
New Mexico	649,793	0.41	0.08941	0.00	0.50	0	0.00	0.50	977,549
New York	14,116,042	8.92	0	8.92	8.52	0	8.52	8.52	16,653,725
North Carolina	2,512,866	1.59	0	1.59	1.52	0	1.52	1.52	2,964,611
North Dakota	202,334	0.13	0.37215	0.00	0.50	0	0.00	0.50	977,549
Ohio	6,656,974	4.21	0	4.21	4.02	0	4.02	4.02	7,853,718
Oklahoma	1,354,343	0.86	0	0.86	0.82	0	0.82	0.82	1,597,817
Oregon	1,420,059	0.90	0	0.90	0.86	0	0.86	0.86	1,675,347
Pennsylvania	7,207,497	4.55	0	4.55	4.35	0	4.35	4.35	8,503,210
Rhode Island	824,534	0.52	0	0.52	0.50	0.00243	0.00	0.50	977,549
South Carolina	1,426,739	0.90	0	0.90	0.86	0	0.86	0.86	1,683,228
South Dakota	163,986	0.10	0.39638	0.00	0.50	0	0.00	0.50	977,549
Tennessee	2,218,007	1.40	0	1.40	1.34	0	1.34	1.34	2,616,745
Texas	11,372,246	7.19	0	7.19	6.86	0	6.86	6.86	13,416,669
Utah	1,319,551	0.83	0	0.83	0.80	0	0.80	0.80	1,556,771
Vermont	87,088	0.06	0.44497	0.00	0.50	0	0.00	0.50	977,549
Virginia	3,829,739	2.42	0	2.42	2.31	0	2.31	2.31	4,518,223
Washington	3,214,738	2.03	0	2.03	1.94	0	1.94	1.94	3,792,661
West Virginia	388,840	0.25	0.2543	0.00	0.50	0	0.00	0.50	977,549
Wisconsin	2,464,721	1.56	0	1.56	1.49	0	1.49	1.49	2,907,811
Wyoming	114,138	0.07	0.42788	0.00	0.50	0	0.00	0.50	977,549
Total	158,258,878	100.00	4.31016	95.81	100.00	0.00243	91.00	100.00	195,509,842

SOURCE: Authors' calculations based on Federal Highway Administration data.

Appendix J

Data Tables for the Minimum Guarantee Program

Table J.1a

Apportionment of MG Funding, Fiscal Year 2002: Assuming Statutory 90.5 Percent Guarantee Level: Initial Calculations

State	Minimum Level Specified[a] in TEA-21	Rate of Return to 1996 HTF Highway Account	Eligible[b] for Initial Adjustment Due to 90.5% Return in 1996	FY 2000 HTF Highway Account Contributions		HTF 2000 %	90.5% Rate of Return	Initial Adjusted %[c]	Equalized to 100%[d]	Final Adjusted %[e]	Final Rate of Return
				$ (000)	%						
Alabama	2.0269	0.9185		638,977	2.1056	2.1056	1.9055	2.0269	1.99830609	1.99025349	0.9452
Alaska	1.1915	5.1362		65,940	0.2173	0.2173	0.1966	1.1915	1.17469126	1.16995759	5.3844
Arizona	1.5581	0.9050	X	583,068	1.9213	1.9213	1.7388	1.7388	1.73879754	1.73879754	0.9050
Arkansas	1.3214	0.9184		415,571	1.3694	1.3694	1.2393	1.3214	1.30275873	1.29750898	0.9475
California	9.1962	0.9050	X	3,025,732	9.9704	9.9704	9.0232	9.1962	9.06646725	9.02993197	0.9057
Colorado	1.1673	0.9185		423,763	1.3964	1.3964	1.2637	1.1673	1.15083265	1.26372578	0.9050
Connecticut	1.5186	1.5247		312,507	1.0298	1.0298	0.9319	1.5186	1.49717679	1.49114359	1.4480
Delaware	0.4424	1.5422		79,594	0.2623	0.2623	0.2374	0.4424	0.43615897	0.43440137	1.6563
District of Columbia	0.3956	3.1475		33,728	0.1111	0.1111	0.1006	0.3956	0.39001919	0.38844752	3.4951
Florida	4.6176	0.9050	X	1,554,162	5.1213	5.1213	4.6347	4.6347	4.63474768	4.63474768	0.9050
Georgia	3.5104	0.9050	X	1,189,533	3.9197	3.9197	3.5474	3.5474	3.54736849	3.54736849	0.9050
Hawaii	0.5177	2.0105		69,351	0.2285	0.2285	0.2068	0.5177	0.51039670	0.50833994	2.2244
Idaho	0.7718	1.4122		178,492	0.5882	0.5882	0.5323	0.7718	0.76091205	0.75784579	1.2885
Illinois	3.3819	0.9239		1,053,743	3.4723	3.4723	3.1424	3.3819	3.33419082	3.32075498	0.9564
Indiana	2.3588	0.9050	X	767,408	2.5288	2.5288	2.2885	2.3588	2.32552391	2.31615271	0.9159
Iowa	1.2020	1.0434		353,281	1.1641	1.1641	1.0535	1.2020	1.18504313	1.18026774	1.0139
Kansas	1.1717	1.0187		346,783	1.1427	1.1427	1.0342	1.1717	1.15517058	1.15051557	1.0068
Kentucky	1.7365	0.9050	X	577,037	1.9014	1.9014	1.7208	1.7365	1.71200283	1.72081218	0.9050
Louisiana	1.5900	0.9061		527,753	1.7390	1.7390	1.5738	1.5900	1.56756953	1.57383979	0.9050
Maine	0.5263	1.0111		162,787	0.5364	0.5364	0.4855	0.5263	0.51887537	0.51678445	0.9634
Maryland	1.5087	0.9050	X	541,915	1.7857	1.7857	1.6161	1.6161	1.61607303	1.61607303	0.9050
Massachusetts	1.8638	1.0141		545,690	1.7982	1.7982	1.6273	1.8638	1.83750698	1.83010235	1.0178
Michigan	3.1535	0.9050	X	1,074,219	3.5398	3.5398	3.2035	3.2035	3.20348459	3.20348459	0.9050
Minnesota	1.4993	1.0565		403,760	1.3305	1.3305	1.2041	1.4993	1.47814906	1.47219254	1.1065
Mississippi	1.2186	0.9234		428,679	1.4126	1.4126	1.2784	1.2186	1.20140895	1.27838604	0.9050
Missouri	2.3615	0.9185		754,241	2.4854	2.4854	2.2493	2.3615	2.32818582	2.31880389	0.9330
Montana	0.9929	2.0827		140,430	0.4627	0.4627	0.4188	0.9929	0.97889295	0.97494829	2.1069
Nebraska	0.7768	0.9669		241,167	0.7947	0.7947	0.7192	0.7768	0.76584152	0.76275539	0.9598
Nevada	0.7248	1.1375		215,455	0.7100	0.7100	0.6425	0.7248	0.71457509	0.71169556	1.0024

Table J.1a (continued)

State	Minimum Level Specified[a] in TEA-21	Rate of Return to 1996 HTF Highway Account	Eligible[b] for Initial Adjustment Due to 90.5% Return in 1996	FY 2000 HTF Highway Account Contributions $ (000)	FY 2000 HTF Highway Account Contributions %	HTF 2000 %	90.5% Rate of Return	Initial Adjusted %[c]	Equalized to 100%[d]	Final Adjusted %[e]	Final Rate of Return
New Hampshire	0.5163	1.2705		137,452	0.4529	0.4529	0.4099	0.5163	0.50901645	0.50696525	1.1193
New Jersey	2.5816	0.9375		865,079	2.8506	2.8506	2.5798	2.5816	2.54518082	2.57979727	0.9050
New Mexico	0.9884	1.1442		269,496	0.8880	0.8880	0.8037	0.9884	0.97445643	0.97052965	1.0929
New York	5.1628	1.1895		1,249,954	4.1188	4.1188	3.7276	5.1628	5.08996728	5.06945617	1.2308
North Carolina	2.8298	0.9050	X	918,638	3.0271	3.0271	2.7395	2.8298	2.78987941	2.77863699	0.9179
North Dakota	0.6553	1.8308		101,377	0.3341	0.3341	0.3023	0.6553	0.64605554	0.64345212	1.9262
Ohio	3.4257	0.9050	X	1,158,013	3.8159	3.8159	3.4534	3.4534	3.45337105	3.45337105	0.9050
Oklahoma	1.5419	0.9184		500,974	1.6508	1.6508	1.4940	1.5419	1.52014809	1.51402233	0.9171
Oregon	1.2183	0.9246		381,740	1.2579	1.2579	1.1384	1.2183	1.20111318	1.19627304	0.9510
Pennsylvania	4.9887	1.2058		1,238,907	4.0824	4.0824	3.6946	4.9887	4.91832335	4.89850391	1.1999
Rhode Island	0.5958	2.1766		82,095	0.2705	0.2705	0.2448	0.5958	0.58739492	0.58502789	2.1626
South Carolina	1.5910	0.9050	X	554,376	1.8268	1.8268	1.6532	1.6532	1.65323363	1.65323363	0.9050
South Dakota	0.7149	2.0104		101,194	0.3335	0.3335	0.3018	0.7149	0.70481475	0.70197455	2.1052
Tennessee	2.2646	0.9050	X	759,820	2.5038	2.5038	2.2659	2.2659	2.26589891	2.26589891	0.9050
Texas	7.2131	0.9050	X	2,573,239	8.4793	8.4793	7.6738	7.6738	7.67379042	7.67379042	0.9050
Utah	0.7831	0.9194		249,715	0.8229	0.8229	0.7447	0.7831	0.77205264	0.76894149	0.9345
Vermont	0.4573	1.7625		70,411	0.2320	0.2320	0.2100	0.4573	0.45084877	0.44903198	1.9353
Virginia	2.5627	0.9050	X	867,264	2.8578	2.8578	2.5863	2.5863	2.58631327	2.58631327	0.9050
Washington	1.7875	0.9154		588,415	1.9389	1.9389	1.7547	1.7875	1.76228336	1.75518186	0.9052
West Virginia	1.1319	1.4111		220,408	0.7263	0.7263	0.6573	1.1319	1.11593205	1.11143516	1.5303
Wisconsin	1.9916	0.9929		602,560	1.9856	1.9856	1.7969	1.9916	1.96350408	1.95559171	0.9849
Wyoming	0.6951	1.5011		151,317	0.4986	0.4986	0.4513	0.6951	0.68529408	0.68253254	1.3688
Total	100.0000		14	30,347,210	100.0000	100.0000	90.5000	100.9677	100.0000	100.0000	

SOURCE: Authors' calculations based on Federal Highway Administration data.

[a]Amount explicitly listed for each state in TEA-21 (23 U.S.C. §105(b)) for initial Minimum Guarantee calculation.

[b]Pursuant to TEA-21 provisions (23 U.S.C. §105(f)(2)), states for which the initial Minimum Guarantee amount (column 2) equaled 90.5 of 1996 HTF Highway Account receipts.

[c]Greater of guaranteed rate of return percentage for 2000 or statutory table amount for eligible states; statutory table amount for other states. 23 U.S.C. §105(f)(1).

[d]Adjusted percentage reduced pro rata to sum to 100 percent, pursuant to 23 U.S.C. §105(f)(3).

[e]Recalculated iterations to reach guaranteed rate of return percentage and reduce sums to 100 percent. 23 U.S.C. §105(f)(4).

Table J.1b

Apportionment of MG Funding, Fiscal Year 2002: Assuming Statutory 90.5 Percent Guarantee Level: Final Calculations

State	Subtotal from All Apportionments	Initial Guaranteed Minimum	Minimum Subtotal	Target %	Target Program Total	Base Target Subtotal	Minimum Guarantee	% Share
Alabama	446,464,984	1,000,000	447,464,984	1.9902535	22,482,813,708	551,379,122	104,914,138	1.683
Alaska	105,489,360	1,000,000	106,489,360	1.1699576	9,101,984,634	324,124,636	218,635,276	3.508
Arizona	318,263,880	1,000,000	319,263,880	1.7387975	18,361,187,709	481,715,855	163,451,975	2.622
Arkansas	275,053,902	1,000,000	276,053,902	1.2975090	21,275,683,311	359,461,430	84,407,528	1.354
California	2,065,965,531	1,000,000	2,066,965,531	9.0299320	22,890,156,172	2,501,649,161	435,683,630	6.990
Colorado	289,081,501	1,000,000	290,081,501	1.2637258	22,954,465,813	350,102,142	61,020,641	0.979
Connecticut	263,810,905	1,000,000	264,810,905	1.4911436	17,758,913,801	413,105,893	149,294,988	2.395
Delaware	94,223,384	1,000,000	95,223,384	0.4344014	21,920,599,220	120,346,403	26,123,019	0.419
District of Columbia	106,615,364	1,000,000	107,615,364	0.3884475	27,703,964,638	107,615,364	1,000,000	0.016
Florida	788,117,308	1,000,000	789,117,308	4.6347477	17,026,111,522	1,284,008,857	495,891,549	7.956
Georgia	657,482,425	1,000,000	658,482,425	3.5473685	18,562,560,587	982,761,712	325,279,287	5.219
Hawaii	108,943,739	1,000,000	109,943,739	0.5083399	21,627,995,242	140,830,318	31,886,579	0.512
Idaho	148,801,309	1,000,000	149,801,309	0.7578458	19,766,726,963	209,953,331	61,152,022	0.981
Illinois	790,667,516	1,000,000	791,667,516	3.3207550	23,839,985,820	919,980,785	129,313,269	2.075
Indiana	445,562,519	1,000,000	446,562,519	2.3161527	19,280,357,368	641,666,127	196,103,608	3.146
Iowa	295,470,277	1,000,000	296,470,277	1.1802677	25,118,900,246	326,980,959	31,510,681	0.506
Kansas	293,796,651	1,000,000	294,796,651	1.1505156	25,623,004,003	318,738,427	24,941,776	0.400
Kentucky	394,079,453	1,000,000	395,079,453	1.7208122	22,958,894,542	476,733,197	82,653,744	1.326
Louisiana	362,282,035	1,000,000	363,282,035	1.5738398	23,082,529,659	436,016,018	73,733,982	1.183
Maine	117,203,701	1,000,000	118,203,701	0.5167845	22,872,921,293	143,169,782	25,966,081	0.417
Maryland	368,844,538	1,000,000	369,844,538	1.6160730	22,885,385,233	447,716,300	78,871,762	1.265
Massachusetts	425,097,534	1,000,000	426,097,534	1.8301023	23,282,716,077	507,010,907	81,913,374	1.314
Michigan	653,300,835	1,000,000	654,300,835	3.2034846	20,424,659,994	887,492,237	234,191,402	3.757
Minnesota	346,400,620	1,000,000	347,400,620	1.4721925	23,597,499,040	407,855,700	61,455,080	0.986
Mississippi	286,898,702	1,000,000	287,898,702	1.2783860	22,520,482,402	354,163,615	67,264,913	1.079
Missouri	542,690,370	1,000,000	543,690,370	2.3188039	23,447,018,170	642,400,610	99,710,240	1.600
Montana	162,115,647	1,000,000	163,115,647	0.9749483	16,730,697,264	270,099,329	107,983,683	1.732
Nebraska	191,750,760	1,000,000	192,750,760	0.7627554	25,270,324,071	211,313,485	19,562,725	0.314
Nevada	138,683,830	1,000,000	139,683,830	0.7116956	19,626,907,705	197,167,886	58,484,055	0.938
New Hampshire	109,420,189	1,000,000	110,420,189	0.5069653	21,780,622,665	140,449,475	31,029,286	0.498
New Jersey	610,949,459	1,000,000	611,949,459	2.5797973	23,720,835,211	714,706,123	103,756,664	1.665
New Mexico	201,305,633	1,000,000	202,305,633	0.9705296	20,844,868,846	268,875,191	67,569,558	1.084
New York	1,138,409,275	1,000,000	1,139,409,275	5.0694562	22,475,966,616	1,404,440,343	266,031,068	4.268
North Carolina	549,244,394	1,000,000	550,244,394	2.7786370	19,802,672,867	769,792,609	220,548,216	3.538
North Dakota	144,406,921	1,000,000	145,406,921	0.6434521	22,597,939,359	178,261,749	33,854,828	0.543

Table J.1b (continued)

State	Subtotal from All Apportionments	Initial Guaranteed Minimum	Minimum Subtotal	Target %	Target Program Total	Base Target Subtotal	Minimum Guarantee	% Share
Ohio	774,731,407	1,000,000	775,731,407	3.4533711	22,463,019,349	956,720,695	181,989,287	2.920
Oklahoma	372,993,201	1,000,000	373,993,201	1.5140223	24,701,960,806	419,444,210	46,451,008	0.745
Oregon	286,996,418	1,000,000	287,996,418	1.1962730	24,074,472,027	331,415,060	44,418,642	0.713
Pennsylvania	1,183,547,900	1,000,000	1,184,547,900	4.8985039	24,181,830,261	1,357,079,790	173,531,890	2.784
Rhode Island	124,882,406	1,000,000	125,882,406	0.5850279	21,517,334,134	162,075,919	37,193,514	0.597
South Carolina	316,109,102	1,000,000	317,109,102	1.6532336	19,181,142,748	458,011,259	141,902,157	2.277
South Dakota	153,376,349	1,000,000	154,376,349	0.7019746	21,991,730,099	194,474,781	41,098,433	0.659
Tennessee	511,734,597	1,000,000	512,734,597	2.2658989	22,628,308,585	627,743,832	116,009,235	1.861
Texas	1,455,954,993	1,000,000	1,456,954,993	7.6737904	18,986,119,152	2,125,944,186	669,989,192	10.749
Utah	188,537,876	1,000,000	189,537,876	0.7689415	24,649,193,491	213,027,278	24,489,403	0.393
Vermont	102,877,431	1,000,000	103,877,431	0.4490320	23,133,637,614	124,399,661	21,522,230	0.345
Virginia	524,185,695	1,000,000	525,185,695	2.5863133	20,306,344,955	716,511,314	192,325,620	3.086
Washington	429,116,346	1,000,000	430,116,346	1.7551819	24,505,514,577	486,254,961	57,138,615	0.917
West Virginia	274,877,270	1,000,000	275,877,270	1.1114352	24,821,715,245	307,911,603	33,034,333	0.530
Wisconsin	375,288,127	1,000,000	376,288,127	1.9555917	19,241,650,723	541,776,437	166,488,310	2.671
Wyoming	159,006,203	1,000,000	160,006,203	0.6825325	23,443,014,671	189,088,573	30,082,370	0.483
Total	21,471,109,771	51,000,000	21,522,109,771	100.00000	27,703,964,638	27,703,964,638	6,232,854,867	

SOURCE: Authors' calculations based on Federal Highway Administration data.

Table J.2a

Apportionment of MG Funding, Fiscal Year 2002: Assuming Statutory Formula and Hypothetical Guarantee Levels

	Statutory 90.5% Rate of Return			Assuming 92% Rate of Return				Assuming 93% Rate of Return			
State	Target %	Minimum Guarantee ($)	% of Total	Target %	Minimum Guarantee ($)	% of Total	% Change	Target %	Minimum Guarantee ($)	% of Total	% Change
Alabama	1.990	104,914,138	1.68	1.948	104,914,138	1.53	0.00	1.958	120,585,669	1.61	14.94
Alaska	1.170	218,635,276	3.51	1.145	218,635,276	3.20	0.00	1.119	218,635,276	2.92	0.00
Arizona	1.739	163,451,975	2.62	1.768	182,090,601	2.66	11.40	1.787	199,171,161	2.66	21.85
Arkansas	1.298	84,407,528	1.35	1.270	84,407,528	1.23	0.00	1.274	93,738,412	1.25	11.05
California	9.030	435,683,630	6.99	9.173	530,538,758	7.76	21.77	9.272	619,175,412	8.27	42.12
Colorado	1.264	61,020,641	0.98	1.285	74,566,848	1.09	22.20	1.299	86,980,682	1.16	42.54
Connecticut	1.491	149,294,988	2.40	1.459	149,294,988	2.18	—	1.427	149,294,988	1.99	—
Delaware	0.434	26,123,019	0.42	0.425	26,123,019	0.38	0.00	0.416	26,123,019	0.35	0.00
District of Columbia	0.388	1,000,000	0.02	0.380	1,000,000	0.01	0.00	0.372	1,000,000	0.01	0.00
Florida	4.635	495,891,549	7.96	4.712	545,572,622	7.98	10.02	4.763	591,100,686	7.89	19.20
Georgia	3.547	325,279,287	5.22	3.606	363,304,458	5.31	11.69	3.645	398,150,976	5.32	22.40
Hawaii	0.508	31,886,579	0.51	0.498	31,886,579	0.47	0.00	0.486	31,886,579	0.43	0.00
Idaho	0.758	61,152,022	0.98	0.742	61,152,022	0.89	0.00	0.725	61,152,022	0.82	0.00
Illinois	3.321	129,313,269	2.07	3.250	129,313,269	1.89	—	3.229	144,461,065	1.93	11.71
Indiana	2.316	196,103,608	3.15	2.326	212,981,649	3.12	8.61	2.352	235,462,317	3.14	20.07
Iowa	1.180	31,510,681	0.51	1.155	31,510,681	0.46	0.00	1.129	31,510,681	0.42	0.00
Kansas	1.151	24,941,776	0.40	1.126	24,941,776	0.36	—	1.101	24,941,776	0.33	0.00
Kentucky	1.721	82,653,744	1.33	1.749	101,099,580	1.48	22.32	1.768	118,003,466	1.58	42.77
Louisiana	1.574	73,733,982	1.18	1.600	90,604,383	1.33	22.88	1.617	106,064,529	1.42	43.85
Maine	0.517	25,966,081	0.42	0.506	25,966,081	0.38	0.00	0.499	27,259,205	0.36	4.98
Maryland	1.616	78,871,762	1.27	1.643	96,194,872	1.41	21.96	1.661	112,069,884	1.50	42.09
Massachusetts	1.830	81,913,374	1.31	1.791	81,913,374	1.20	—	1.751	81,913,374	1.09	—
Michigan	3.203	234,191,402	3.76	3.257	268,530,392	3.93	14.66	3.292	299,998,869	4.01	28.10
Minnesota	1.472	61,455,080	0.99	1.441	61,455,080	0.90	0.00	1.408	61,455,080	0.82	0.00
Mississippi	1.278	67,264,913	1.08	1.300	80,968,267	1.18	20.37	1.314	93,526,112	1.25	39.04
Missouri	2.319	99,710,240	1.60	2.287	104,554,658	1.53	4.86	2.311	126,649,608	1.69	27.02
Montana	0.975	107,983,683	1.73	0.954	107,983,683	1.58	—	0.933	107,983,683	1.44	—
Nebraska	0.763	19,562,725	0.31	0.747	19,562,725	0.29	0.00	0.739	22,269,314	0.30	13.84
Nevada	0.712	58,484,055	0.94	0.697	58,484,055	0.86	—	0.681	58,484,055	0.78	0.00
New Hampshire	0.507	31,029,286	0.50	0.496	31,029,286	0.45	—	0.485	31,029,286	0.41	—
New Jersey	2.580	103,756,664	1.66	2.623	131,410,186	1.92	26.65	2.651	156,752,056	2.09	51.08
New Mexico	0.971	67,569,558	1.08	0.950	67,569,558	0.99	—	0.928	67,569,558	0.90	0.00
New York	5.069	266,031,068	4.27	4.962	266,031,068	3.89	0.00	4.850	266,031,068	3.55	0.00
North Carolina	2.779	220,548,216	3.54	2.785	239,076,419	3.50	8.40	2.815	265,987,261	3.55	20.60
North Dakota	0.643	33,854,828	0.54	0.630	33,854,828	0.50	0.00	0.616	33,854,828	0.45	0.00

Table J.2a (continued)

State	Statutory 90.5% Rate of Return			Assuming 92% Rate of Return				Assuming 93% Rate of Return			
	Target %	Minimum Guarantee ($)	% of Total	Target %	Minimum Guarantee ($)	% of Total	% Change	Target %	Minimum Guarantee ($)	% of Total	% Change
Ohio	3.453	181,989,287	2.92	3.511	219,006,875	3.20	20.34	3.549	252,930,038	3.38	38.98
Oklahoma	1.514	46,451,008	0.75	1.519	56,913,062	0.83	22.52	1.535	71,588,737	0.96	54.12
Oregon	1.196	44,418,642	0.71	1.171	44,418,642	0.65	—	1.170	51,773,077	0.69	16.56
Pennsylvania	4.899	173,531,890	2.78	4.794	173,531,890	2.54	0.00	4.686	173,531,890	2.32	0.00
Rhode Island	0.585	37,193,514	0.60	0.573	37,193,514	0.54	0.00	0.560	37,193,514	0.50	—
South Carolina	1.653	141,902,157	2.28	1.681	159,623,601	2.34	12.49	1.699	175,863,649	2.35	23.93
South Dakota	0.702	41,098,433	0.66	0.687	41,098,433	0.60	—	0.672	41,098,433	0.55	0.00
Tennessee	2.266	116,009,235	1.86	2.303	140,297,998	2.05	20.94	2.328	162,556,382	2.17	40.12
Texas	7.674	669,989,192	10.75	7.801	752,246,559	11.00	12.28	7.886	827,627,755	11.05	23.53
Utah	0.769	24,489,403	0.39	0.757	25,752,772	0.38	5.16	0.765	33,067,994	0.44	35.03
Vermont	0.449	21,522,230	0.35	0.439	21,522,230	0.31	0.00	0.430	21,522,230	0.29	0.00
Virginia	2.586	192,325,620	3.09	2.629	220,048,988	3.22	14.41	2.658	245,454,867	3.28	27.62
Washington	1.755	57,138,615	0.92	1.784	75,826,614	1.11	32.71	1.803	93,063,810	1.24	62.87
West Virginia	1.111	33,034,333	0.53	1.088	33,034,333	0.48	0.00	1.063	33,034,333	0.44	0.00
Wisconsin	1.956	166,488,310	2.67	1.914	166,488,310	2.44	—	1.871	166,488,310	2.22	0.00
Wyoming	0.683	30,082,370	0.48	0.668	30,082,370	0.44	0.00	0.653	30,082,370	0.40	0.00
Total	100.000	6,232,854,867		100.000	6,835,608,896		9.67	100.000	7,487,149,345		20.12

SOURCE: Authors' calculations based on Federal Highway Administration data.

Table J.2b

Apportionment of MG Funding, Fiscal Year 2002: Assuming Hypothetical Guarantee Levels

	Assuming 94% Rate of Return				Assuming 95% Rate of Return				Assuming 96% Rate of Return			
State	Target %	Minimum Guarantee ($)	% of Total	% Change	Target %	Minimum Guarantee ($)	% of Total	% Change	Target %	Minimum Guarantee ($)	% of Total	% Change
Alabama	1.979	144,029,438	1.72	37.28	2.000	174,567,138	1.82	66.39	2.021	209,634,556	1.91	99.82
Alaska	1.086	218,635,276	2.61	0.00	1.044	218,635,276	2.28	0.00	0.999	218,635,276	1.99	(0.00)
Arizona	1.806	220,563,655	2.64	34.94	1.825	248,429,377	2.59	51.99	1.844	280,428,478	2.55	71.57
Arkansas	1.287	108,985,519	1.30	29.12	1.301	128,846,301	1.35	52.65	1.315	151,653,071	1.38	79.67
California	9.372	730,188,116	8.73	67.60	9.472	874,792,531	9.14	100.79	9.572	1,040,846,409	9.47	138.90
Colorado	1.313	102,528,350	1.23	68.02	1.327	122,780,639	1.28	101.21	1.341	146,036,992	1.33	139.32
Connecticut	1.385	149,294,988	1.79	0.00	1.331	149,294,988	1.56	—	1.273	149,294,988	1.36	(0.00)
Delaware	0.403	26,123,019	0.31	0.00	0.388	26,123,019	0.27	—	0.371	26,123,019	0.24	(0.00)
District of Columbia	0.361	1,000,000	0.01	0.00	0.347	1,000,000	0.01	0.00	0.332	1,000,000	0.01	0.00
Florida	4.814	648,122,168	7.75	30.70	4.865	722,397,976	7.54	45.68	4.916	807,691,263	7.35	62.88
Georgia	3.685	441,794,390	5.28	35.82	3.724	498,644,013	5.21	53.30	3.763	563,926,255	5.13	73.37
Hawaii	0.472	31,886,579	0.38	0.00	0.454	31,886,579	0.33	0.00	0.434	31,886,579	0.29	—
Idaho	0.704	61,152,022	0.73	0.00	0.676	61,152,022	0.64	0.00	0.647	61,152,022	0.56	(0.00)
Illinois	3.264	183,122,407	2.19	41.61	3.299	233,482,416	2.44	80.56	3.333	291,312,426	2.65	125.28
Indiana	2.377	263,618,161	3.15	34.43	2.402	300,293,777	3.14	53.13	2.428	342,409,561	3.12	74.61
Iowa	1.096	31,510,681	0.38	0.00	1.106	47,889,261	0.50	51.98	1.118	67,277,494	0.61	113.51
Kansas	1.074	26,674,082	0.32	6.95	1.086	43,247,376	0.45	73.39	1.097	62,279,024	0.57	149.70
Kentucky	1.787	139,174,686	1.66	68.38	1.806	166,752,177	1.74	101.75	1.825	198,420,293	1.81	140.06
Louisiana	1.635	125,427,542	1.50	70.11	1.652	150,649,675	1.57	104.32	1.669	179,613,057	1.63	143.60
Maine	0.504	33,231,784	0.40	27.98	0.510	41,011,627	0.43	57.94	0.515	49,945,469	0.45	92.35
Maryland	1.679	131,952,494	1.58	67.30	1.696	157,851,450	1.65	100.14	1.714	187,592,051	1.71	137.84
Massachusetts	1.699	81,913,374	0.98	0.00	1.708	105,267,435	1.10	28.51	1.726	135,215,168	1.23	65.07
Michigan	3.327	339,411,465	4.06	44.93	3.363	390,750,054	4.08	66.85	3.398	449,703,799	4.09	92.02
Minnesota	1.367	61,455,080	0.73	0.00	1.314	61,455,080	0.64	0.00	1.277	68,178,823	0.62	10.94
Mississippi	1.328	109,254,146	1.31	62.42	1.342	129,741,379	1.35	92.88	1.356	153,267,524	1.39	127.86
Missouri	2.336	154,322,360	1.85	54.77	2.361	190,368,705	1.99	90.92	2.386	231,761,876	2.11	132.44
Montana	0.905	107,983,683	1.29	—	0.870	107,983,683	1.13	—	0.832	107,983,683	0.98	0.00
Nebraska	0.747	31,117,619	0.37	59.07	0.755	42,643,363	0.45	117.98	0.763	55,878,744	0.51	185.64
Nevada	0.667	60,423,455	0.72	3.32	0.674	70,720,381	0.74	20.92	0.682	82,544,674	0.75	41.14
New Hampshire	0.471	31,029,286	0.37	—	0.452	31,029,286	0.32	—	0.435	31,715,073	0.29	2.21
New Jersey	2.680	188,491,404	2.25	81.67	2.708	229,834,868	2.40	121.51	2.737	277,310,891	2.52	167.27
New Mexico	0.901	67,569,558	0.81	0.00	0.866	67,569,558	0.71	0.00	0.853	75,411,976	0.69	11.61

Table J.2b (continued)

State	Assuming 94% Rate of Return				Assuming 95% Rate of Return				Assuming 96% Rate of Return			
	Target %	Minimum Guarantee ($)	% of Total	% Change	Target %	Minimum Guarantee ($)	% of Total	% Change	Target %	Minimum Guarantee ($)	% of Total	% Change
New York	4.707	266,031,068	3.18	0.00	4.524	266,031,068	2.78	0.00	4.327	266,031,068	2.42	—
North Carolina	2.845	299,691,663	3.58	35.88	2.876	343,594,795	3.59	55.79	2.906	394,010,167	3.59	78.65
North Dakota	0.597	33,854,828	0.40	—	0.574	33,854,828	0.35	0.00	0.549	33,854,828	0.31	0.00
Ohio	3.587	295,416,997	3.53	62.33	3.625	350,760,231	3.66	92.74	3.663	414,312,637	3.77	127.66
Oklahoma	1.552	89,969,241	1.08	93.69	1.568	113,911,564	1.19	145.23	1.585	141,405,299	1.29	204.42
Oregon	1.182	65,778,941	0.79	48.09	1.195	84,022,886	0.88	89.16	1.208	104,972,993	0.96	136.33
Pennsylvania	4.549	173,531,890	2.07	0.00	4.371	173,531,890	1.81	0.00	4.181	173,531,890	1.58	0.00
Rhode Island	0.543	37,193,514	0.44	0.00	0.522	37,193,514	0.39	0.00	0.499	37,193,514	0.34	—
South Carolina	1.717	196,203,448	2.35	38.27	1.735	222,697,935	2.33	56.94	1.754	253,122,402	2.30	78.38
South Dakota	0.652	41,098,433	0.49	—	0.626	41,098,433	0.43	0.00	0.599	41,098,433	0.37	(0.00)
Tennessee	2.354	190,433,825	2.28	64.15	2.379	226,746,799	2.37	95.46	2.404	268,446,149	2.44	131.40
Texas	7.971	922,038,700	11.02	37.62	8.055	1,045,017,774	10.91	55.98	8.140	1,186,238,581	10.80	77.05
Utah	0.773	42,229,921	0.50	72.44	0.782	54,164,188	0.57	121.17	0.790	67,868,688	0.62	177.13
Vermont	0.417	21,522,230	0.26	0.00	0.401	21,522,230	0.22	0.00	0.383	21,522,230	0.20	0.00
Virginia	2.686	277,274,380	3.32	44.17	2.715	318,722,269	3.33	65.72	2.743	366,318,207	3.33	90.47
Washington	1.823	114,652,483	1.37	100.66	1.842	142,773,747	1.49	149.87	1.861	175,066,294	1.59	206.39
West Virginia	1.032	33,034,333	0.39	0.00	0.992	33,034,333	0.34	—	0.949	33,034,333	0.30	(0.00)
Wisconsin	1.866	181,552,446	2.17	9.05	1.886	210,349,721	2.20	26.35	1.906	243,418,554	2.22	46.21
Wyoming	0.634	30,082,370	0.36	0.00	0.609	30,082,370	0.31	0.00	0.583	30,082,370	0.27	(0.00)
Total	100.000	8,363,577,497		34.19	100.000	9,576,201,987		53.64	100.000	10,987,659,151		76.29

SOURCE: Authors' calculations based on Federal Highway Administration data.

Table J.3

Comparison of MG Funding Increases in Statutory Formula Assuming Hypothetical Guarantee Levels, Fiscal Year 2002

State	92%		93%		94%		95%		96%	
	Increase Required ($)	% Change	Increase Required ($)	% Change	Increase Required ($)	% Change	Increase Required ($)	% Change	Increase Required ($)	% Change
Alabama	0	0.00	15,671,530	14.94	39,115,300	37.28	69,653,000	66.39	104,720,418	99.82
Alaska	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Arizona	18,638,626	11.40	35,719,186	21.85	57,111,680	34.94	84,977,402	51.99	116,976,503	71.57
Arkansas	0	0.00	9,330,884	11.05	24,577,992	29.12	44,438,773	52.65	67,245,544	79.67
California	94,855,128	21.77	183,491,783	42.12	294,504,486	67.60	439,108,901	100.79	605,162,779	138.90
Colorado	13,546,207	22.20	25,960,041	42.54	41,507,709	68.02	61,759,999	101.21	85,016,351	139.32
Connecticut	—	—	—	—	0	0.00	—	—	0	0.00
Delaware	0	0.00	0	0.00	0	0.00	—	—	0	0.00
District of Columbia	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Florida	49,681,073	10.02	95,209,137	19.20	152,230,619	30.70	226,506,427	45.68	311,799,714	62.88
Georgia	38,025,171	11.69	72,871,689	22.40	116,515,103	35.82	173,364,726	53.30	238,646,968	73.37
Hawaii	0	0.00	0	0.00	0	0.00	0	0.00	—	—
Idaho	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Illinois	—	—	15,147,796	11.71	53,809,138	41.61	104,169,147	80.56	161,999,157	125.28
Indiana	16,878,041	8.61	39,358,709	20.07	67,514,553	34.43	104,190,169	53.13	146,305,953	74.61
Iowa	0	0.00	0	0.00	0	0.00	16,378,580	51.98	35,766,813	113.51
Kansas	—	—	0	0.00	1,732,305	6.95	18,305,600	73.39	37,337,248	149.70
Kentucky	18,445,836	22.32	35,349,722	42.77	56,520,942	68.38	84,098,433	101.75	115,766,549	140.06
Louisiana	16,870,400	22.88	32,330,547	43.85	51,693,560	70.11	76,915,692	104.32	105,879,075	143.60
Maine	0	0.00	1,293,124	4.98	7,265,703	27.98	15,045,546	57.94	23,979,389	92.35
Maryland	17,323,110	21.96	33,198,122	42.09	53,080,732	67.30	78,979,688	100.14	108,720,289	137.84
Massachusetts	—	—	—	—	0	0.00	23,354,062	28.51	53,301,794	65.07
Michigan	34,338,989	14.66	65,807,466	28.10	105,220,063	44.93	156,558,652	66.85	215,512,396	92.02
Minnesota	0	0.00	0	0.00	0	0.00	0	0.00	6,723,743	10.94
Mississippi	13,703,354	20.37	26,261,199	39.04	41,989,233	62.42	62,476,465	92.88	86,002,611	127.86
Missouri	4,844,417	4.86	26,939,368	27.02	54,612,120	54.77	90,658,465	90.92	132,051,636	132.44
Montana	—	—	—	—	—	—	—	—	0	0.00
Nebraska	0	0.00	2,706,589	13.84	11,554,894	59.07	23,080,639	117.98	36,316,020	185.64
Nevada	—	—	0	0.00	1,939,399	3.32	12,236,326	20.92	24,060,619	41.14
New Hampshire	—	—	—	—	—	—	—	—	685,788	2.21
New Jersey	27,653,522	26.65	52,995,392	51.08	84,734,739	81.67	126,078,204	121.51	173,554,227	167.27
New Mexico	—	—	0	0.00	0	0.00	0	0.00	7,842,417	11.61
New York	0	0.00	0	0.00	0	0.00	0	0.00	—	—
North Carolina	18,528,203	8.40	45,439,046	20.60	79,143,447	35.88	123,046,579	55.79	173,461,951	78.65
North Dakota	0	0.00	0	0.00	—	—	0	0.00	0	0.00

Table J.3 (continued)

State	92%		93%		94%		95%		96%	
	Increase Required ($)	% Change	Increase Required ($)	% Change	Increase Required ($)	% Change	Increase Required ($)	% Change	Increase Required ($)	% Change
Ohio	37,017,588	20.34	70,940,750	38.98	113,427,710	62.33	168,770,943	92.74	232,323,350	127.66
Oklahoma	10,462,054	22.52	25,137,729	54.12	43,518,233	93.69	67,460,556	145.23	94,954,291	204.42
Oregon	—	—	7,354,436	16.56	21,360,299	48.09	39,604,245	89.16	60,554,351	136.33
Pennsylvania	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Rhode Island	0	0.00	—	—	0	0.00	0	0.00	—	—
South Carolina	17,721,444	12.49	33,961,492	23.93	54,301,290	38.27	80,795,777	56.94	111,220,245	78.38
South Dakota	—	—	0	0.00	—	—	0	0.00	0	0.00
Tennessee	24,288,763	20.94	46,547,146	40.12	74,424,590	64.15	110,737,564	95.46	152,436,914	131.40
Texas	82,257,367	12.28	157,638,563	23.53	252,049,508	37.62	375,028,582	55.98	516,249,389	77.05
Utah	1,263,369	5.16	8,578,591	35.03	17,740,519	72.44	29,674,785	121.17	43,379,285	177.13
Vermont	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Virginia	27,723,369	14.41	53,129,247	27.62	84,948,761	44.17	126,396,650	65.72	173,992,587	90.47
Washington	18,687,998	32.71	35,925,195	62.87	57,513,868	100.66	85,635,132	149.87	117,927,679	206.39
West Virginia	0	0.00	0	0.00	0	0.00	—	—	0	0.00
Wisconsin	—	—	0	0.00	15,064,136	9.05	43,861,411	26.35	76,930,244	46.21
Wyoming	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	602,754,029	9.67	1,254,294,478	20.12	2,130,722,630	34.19	3,343,347,120	53.64	4,754,804,284	76.29

SOURCE: Authors' calculations based on Federal Highway Administration data.

Appendix K

Data Table for the Revenue Aligned Budget Authority

Table K.1

Apportionment of RABA Funding, Fiscal Year 2002

State	Grand Total Less High Priority Projects	% Share of Grand Total	Distribution of RABA
Alabama	515,227,074	1.994629692	70,199,591
Alaska	305,880,605	1.184174062	41,676,174
Arizona	470,206,425	1.820338534	64,065,536
Arkansas	330,589,977	1.279832946	45,042,822
California	2,317,454,178	8.971700338	315,752,693
Colorado	334,249,196	1.293999102	45,541,390
Connecticut	383,287,264	1.483843136	52,222,817
Delaware	116,178,103	0.449767308	15,829,245
District of Columbia	101,716,294	0.393780433	13,858,826
Florida	1,230,249,144	4.762737820	167,621,213
Georgia	928,826,053	3.595820402	126,552,374
Hawaii	131,163,311	0.507780448	17,870,976
Idaho	188,625,835	0.730238588	25,700,234
Illinois	849,426,442	3.288435892	115,734,192
Indiana	594,968,265	2.303336581	81,064,313
Iowa	302,843,613	1.172416771	41,262,385
Kansas	297,603,214	1.152129298	40,548,382
Kentucky	447,704,627	1.733225965	60,999,671
Louisiana	394,745,753	1.528203077	53,784,034
Maine	136,139,785	0.527046173	18,549,020
Maryland	414,991,603	1.606582059	56,542,527
Massachusetts	466,017,920	1.804123322	63,494,853
Michigan	828,998,856	3.209353344	112,950,937
Minnesota	369,489,696	1.430427778	50,342,901
Mississippi	328,789,230	1.272861606	44,797,470
Missouri	589,654,981	2.282766944	80,340,379
Montana	260,672,575	1.009157485	35,516,589
Nebraska	206,271,649	0.798551894	28,104,473
Nevada	189,562,000	0.733862820	25,827,787
New Hampshire	126,300,327	0.488954085	17,208,396
New Jersey	659,591,888	2.553517917	89,869,270
New Mexico	250,753,467	0.970757043	34,165,112
New York	1,282,274,565	4.964146975	174,709,666
North Carolina	727,329,526	2.815754726	99,098,510
North Dakota	172,241,805	0.666810103	23,467,913
Ohio	883,915,169	3.421954184	120,433,274
Oklahoma	397,710,688	1.539681409	54,188,006
Oregon	300,921,386	1.164975138	41,000,482
Pennsylvania	1,223,881,269	4.738085481	166,753,591
Rhode Island	156,298,443	0.605087603	21,295,633
South Carolina	437,035,220	1.691920845	59,545,966
South Dakota	181,101,190	0.701107976	24,675,003
Tennessee	575,358,729	2.227421000	78,392,518
Texas	2,034,822,510	7.877531290	277,244,181
Utah	197,694,283	0.765345819	26,935,809
Vermont	117,970,817	0.456707549	16,073,501
Virginia	665,329,211	2.575729162	90,650,979
Washington	448,532,182	1.736429728	61,112,425
West Virginia	269,364,832	1.042808344	36,700,907
Wisconsin	510,773,008	1.977386397	69,592,726
Wyoming	179,978,957	0.696763407	24,522,099
Total	25,830,713,140	100.000000000	3,519,429,770

SOURCE: Authors' calculations based on Federal Highway Administration data.

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