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Highway Robbery

How Congress Put Politics Before Need in Federal Highway and Transit Funding

Donna Cooper and John Griffith

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Introduction and summary

In July Congress passed the Moving Ahead for Progress for the 21st Century Act, which authorizes federal funding for highway, bridge, and transit projects over the next two years. The law breaks from a tradition of long-term surface transportation bills, inhibiting long-term planning on the state and local level, while the guaranteed $41 billion per year is grossly inadequate to meet our country's transportation needs.[1] But those aren't the law's only flaws.

To make matters worse, Congress also missed an opportunity to fix costly inefficiencies in current funding rules, which divert billions in scarce federal highway program dollars from our country's most pressing infrastructure repair and improvement needs.

Consider: Two of the formulas that Congress chose to continue in the two-year funding law distribute nearly one-quarter of all federal highway and transit funds according to factors that have little or nothing to do with a state's transportation needs.[2] Based on the latest data from 2010,[3] slightly more than $10 billion out of approximately $43 billion in federal highway funds were distributed in so-called equity bonuses and minimum payments to states that could not demonstrate sufficient need through the traditional needs based funding formulas, according to new analysis from the Center for American Progress.

The case for increased federal investment in transportation infrastructure is well established. It makes no sense to use federal tax dollars to pay for carefully contrived set-asides intended to meet political objectives rather than the real need for infrastructure repair.

This paper lays out specific recommendations for reforming federal highway funding, helping the government direct money where it's needed most. Specifically, we identify three inefficiencies in the current funding system:

- The equity bonus program, an overly complicated and remarkably inefficient formula that distributes billions of dollars without any consideration of need
- Minimum set-aside rules, which guarantee that certain small states get funding regardless of their share of total needs
- Imperfections in the funding formulas, which understate certain highway and transit costs relative to each state's need

These three problems with our surface transportation funding result in funds being siphoned from states with a larger share of objective and legitimate infrastructure needs to states that have much less need for this federal support. (see Table 1)

TABLE 1

The unequal "equity bonus"

This funding formula diverts federal funds from states with high needs to states with much lower levels of need

Low-need winners; funds gained*	High-need losers; funds lost*
Alaska - $106 million	California - $338 million
Arizona - $116 million	New York - $236 million
Wisconsin - $125 million	Pennsylvania - $178 million

Guaranteed slices of the pie, regardless of actual need

Certain highway and transit programs incorporate so-called minimum apportionments, which further divert federal funds from states with high needs to states with much lower levels of need

Low-need winners; funds gained*	High-need losers; funds lost*
Hawaii - $70 million	California - $119 million
Vermont - $56 million	New York - $102 million
Delaware - $55 million	Pennsylvania - $74 million

* "Funds gained or lost" refers to the difference in funding compared to what a state would receive if all funding were need based. The District of Columbia is by far the largest beneficiary for these "minimum-apportionment" rules, but we exclude the District from the above list because it is not a state.

Source: Author's analysis of Federal Highway Administration data. See Appendix I for more details.

The short-term horizon of the Moving Ahead for Progress for the 21st Century Act, or MAP-21 in congressional parlance, undermines good planning and project management for critical infrastructure investments. But there's also an upside: Since the law expires in just two years, Congress has a fast-approaching opportunity to improve the surface transportation formulas with an eye toward getting the biggest bang for every federal dollar invested. A new, sounder approach would:

- Eliminate the equity bonus program and redistribute all funds through programs with objective needs-based formulas
- Eliminate minimum set-aside rules for all highway and transit programs
- Make permanent the recent ban on explicit transportation earmarks and preclude legislative language that acts as earmarks
- Reform needs-based formulas to better account for the cost and relative share of funding needs

To be sure, every state has more need for repairs and improvement than they can make with current funding levels. But it's also true that some states have more needs than others, particularly those states that are densely populated and critical to moving products from manufacturers to retailers. Instead of continuing to siphon federal dollars from high-need states such as California, New York, and Pennsylvania to support low-need states such as Alaska, it's time lawmakers dedicated each federal dollar to the country's most pressing highway and transit needs.

A primer on federal highway and transit funding

Since 2005 federal highway and transit funding has been allocated each year according to a set of formulas laid out in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, also referred to on Capitol Hill as SAFETEA-LU. The law initially guaranteed $244 billion in transportation funding over five years.

In July 2012, after 10 temporary extensions of SAFETEA-LU, Congress replaced the law with the Moving Ahead for Progress for the 21st Century Act, or MAP-21. The new law, which is set to expire at the end of September 2014, allocates federal gas and diesel taxes to states for road, bridge, and mass-transit improvements, based on the share of funds states received in SAFETEA-LU, where specific formulas drove funds out to states from 2005 to 2012.

The federal government temporarily holds these tax revenues in the federal Highway Trust Fund and divvies up the funds each year across three types of programs:

- Need-based formula apportionments
- Nonformula allocations
- A special distribution program called the "equity bonus," which we'll discuss in more detail later in this report.

Of the $43 billion disbursed by the Federal Highway Administration in 2010 for roads, bridges and transit, 71 percent went to formula-based programs, 7 percent went to nonformula programs, and 22 percent went to the equity bonus program, making the equity bonus the largest of all federal surface transportation programs.

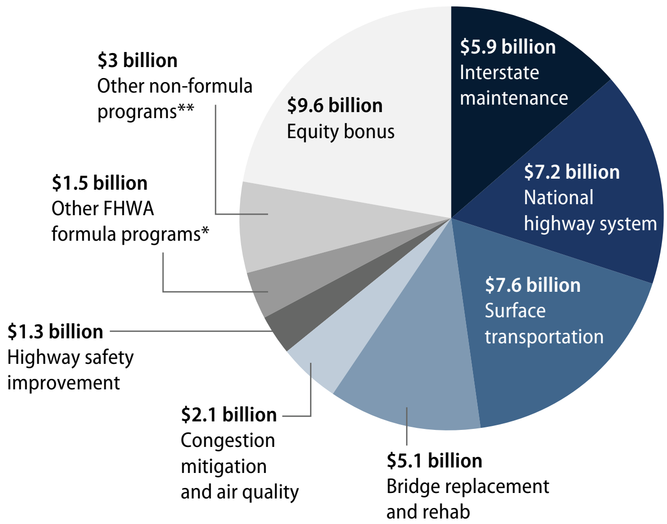
The core formula-based programs include funds for interstate highway maintenance, the national highway system, surface transportation, bridge replacement and repair, highway safety, congestion mitigation, and other purposes. These core program formulas allocate federal funds to states based on a limited set of objective factors intended to measure need, such as number of road miles, intensity of road usage, and population, which we summarize in Appendix II on page 20.

Nonformula allocations include surface transportation projects of "national or regional significance," which to date have been comprised of projects identified for funding by members of the House of Representatives and the Senate. Under MAP-21 the projects of national or regional significance are expected to be selected by a competitive process managed by the U.S. Department of Transportation. (see Figure 1 for a breakdown of federal highway and surface transportation funding by program in 2010.)

FIGURE 1

Federal highway and surface transportation funding by program

Distribution of $43.1 billion in apportionments and allocations in 2010



* Includes Railway-Highway Crossings, Appalachian Development Highway System, Recreational Trails, Coordinated Border Infrastructure, Safe Routes to School, and Metropolitan Planning

** Includes Emergency Relief, NHTSA/FHWA Highway Safety Programs, National Coordinated Infrastructure Improvement, Projects of Regional and National Significance, Transportation Improvement Programs, and other programs

Source: Author's analysis of Federal Highway Administration data.

Until 2010 highway funding also included congressionally mandated earmarks, known as "high priority projects."[4] For years, these earmarks were a key ingredient of each surface transportation bill because congressional members inserted earmarks to fund "pet" projects that states had not included in their Transportation Improvement Plans. In fact, the original SAFETEA-LU bill was considered one of the most earmarked pieces of legislation in U.S. history, including over 6,300 projects totaling over $20 billion.[5] While traditional forms of earmarking ended in 2010, Congress continued to select the projects that received funding under the Federal Highway Administration program of Projects of National and Regional Significance.

Congress took a critical first step toward renewing its commitment to fiscal discipline in 2010 by ending explicit highway earmarks and we anticipate a fair competition for funds for large scale project. (see box on following page)

Some critics argue that Highway Trust Fund resources can't meet our repair needs because too much is spent on nonhighway improvements—say, sidewalks that enable kids to walk to school safely or bike routes that are used for commuting or recreation. But these and other "specialty" programs accounted for less than 2 percent of total highway and transit funding last year.[10]

America's crumbling highway and transit systems

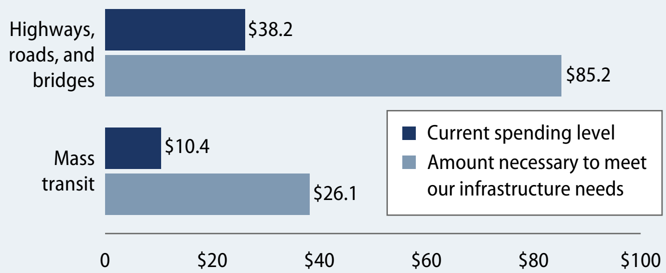
Our country is in desperate need of an infrastructure upgrade. When the American Society of Civil Engineers graded the condition of our nation's infrastructure in 2009, our roads got a "D-," our transit systems got a "D," and our bridges a "C."[6] More than 20 percent of American roads inspected last year were in poor condition,[7] and about a quarter of the nation's 600,000 bridges were are in some way deficient, according to the Federal Highway Administration.[8]

A recent Center for American Progress report found that it will take an *additional* federal investment of $63 billion a year to meet current highway and mass transit needs.[9] That's about one and a half times the total amount the federal government distributed to states for highway, road, bridge, and transit improvements last year. (see Figure 2)

FIGURE 2

Highway and transit needs for federal funds far surpass current funding levels

Federal highway and transit funding compared to estimated need in 2010 in billions of dollars



Source: Donna Cooper, "Meeting the Infrastructure Imperative" (Washington: Center for American Progress, 2012)

In reality, the largest disconnect between money and need comes from the "equity bonus" program, a $9.6 billion annual fund to direct money to individual states that cannot demonstrate sufficient highway and transit needs. To understand the equity bonus, one first needs to know a bit about the mechanics of the Highway Trust Fund. Here's how it works.

"Donors" and "donees" in the Highway Trust Fund

In simple terms, the Highway Trust Fund is a repository for revenues from federal fuel taxes. Each year the Treasury Department takes in the revenues from these taxes and reports totals to the Federal Highway Administration, which redistributes the available funds to states based on a series of need formulas and program rules. It takes these agencies about two years to collect, account for, and allocate all of these gas tax revenues, according to the Government Accountability Office, the investigative arm of Congress.[11]

Traditionally, some states end up getting back more from the Federal Highway Administration than they paid into the Highway Trust Fund three years earlier.

These states are often referred to as "donees" to the trust fund. States that paid more than they get back in funds are considered "donors."

But since SAFETEA-LU was signed into law in 2005, very few states have actually been donors to the trust fund.[12] That's especially true since 2008, when Congress began allocating general funds from the U.S. Department of Treasury to make up for shortfalls in gas tax revenues; between 2008 and 2011, $34.5 billion in general funds have been added to the Highway Trust Fund.

As a result, every state received more from the Federal Highway Administration in 2010 than they paid into the Highway Trust Fund in 2008, as the map on page 8 shows.[13] The same will likely be true for 2011 and will remain the case through 2014, since $18 billion in new non-gas-tax revenues were dedicated to the Highway Trust Fund in MAP-21.[14]

As a result, every state received more from the Federal Highway Administration in 2010 than they paid into the Highway Trust Fund in 2008.

Still, some claim that the current system is unfair, as certain states consistently receive *shares* that are less than the *share* that they paid in. Texas, for example, received $1.19 in 2010 for every dollar it paid into the trust fund in 2008.[15] But Texas got back just 8 percent of the total money allocated in 2010, despite accounting for more than 9 percent of payments to the trust fund in 2008.[16] Some analysts, such as the Heritage Foundation's Ronald Utt, point to this lack of parity between the share of funds paid and the share of funds received a "serious flaw" in the highway funding formulas.[17]

While Utt and other analysts tend to overstate the problem, there is an argument for considering gas tax receipts in the federal allocation formulas. Indeed, a state with very high gas consumption (and thus high revenues from federal gas taxes) is probably a state with heavy road usage, specifically with trucks and other large vehicles that cause significant wear on roads and bridges.

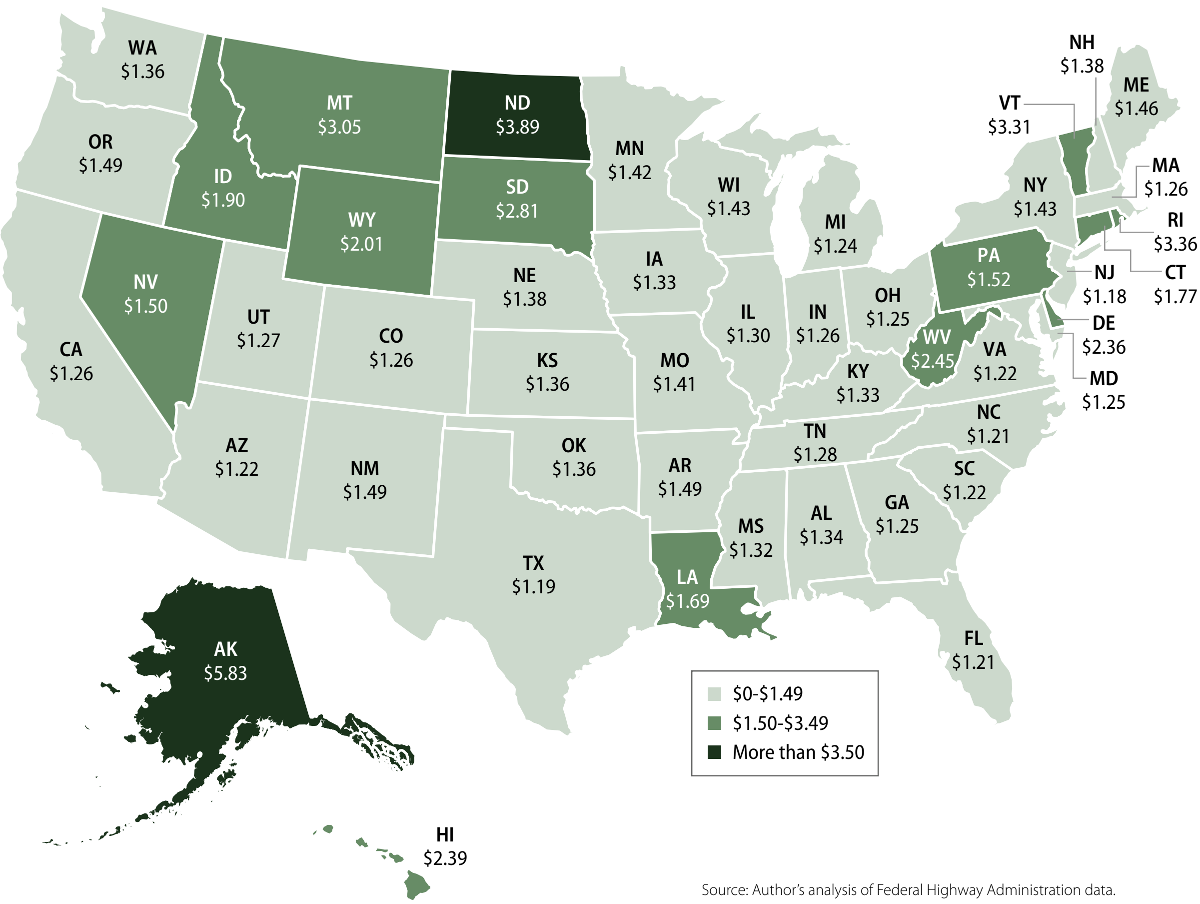
The core highway formulas do account for gas consumption by commercial vehicles and diesel consumption on federal highways—alongside a state's miles of road and general highway usage, as presented in Appendix II. But the formulas could be improved upon, both in terms of how these factors are calculated and weighted. Likewise, other measures such as congestion and passenger miles on transit which can also serve as objective indicators of need are not considered when funds are allocated.

But instead of adjusting those formulas to address objective needs, in 2005 Congress established a separate system for redistributing dollars without any consideration of need, all under the veil of promoting "equity." The result is the equity bonus—an overly complicated, remarkably inefficient fund that accounts for almost one-quarter of highway funding each year.

FIGURE 3

Every state receives more in highway funding than they paid into the Highway Trust Fund

Dollars received from the Federal Highway Administraton in 2010 per dollar paid by state in 2008 (adjusted for 2-year lag in payments)



Source: Author's analysis of Federal Highway Administration data.

$9.6 billion in wasteful equity bonuses

The equity bonus program was created in 2005 as a means of returning money to states that were deemed "donors" to the Highway Trust Fund. If a state paid a significant amount into the Highway Trust Fund but could not demonstrate sufficient need to get that money back through the need-based formulas, the equity bonus would, in theory, help fill the gap.[18] In other words, the equity bonus program was designed to transfer money from states that need it most to states that need it less.

Under initial rules for the equity bonus, each state was guaranteed to receive at least 92 cents back for every dollar it put in to the trust fund, regardless of its demonstrated need for the funds. Under MAP-21, each state is guaranteed at least 95 cents back on every dollar of federal gas taxes collected.[19]

Here's how the equity bonus is supposed to work. Say a state paid $100 million into the Highway Trust Fund two years ago. After assessing that state's share of total highway and bridge needs today, the Federal Highway Administration estimates that the state should get back $90 million in funding. But under current rules, that state is entitled to at least $95 million. That means Federal Highway Administration must take a combined $5 million from other states with higher demonstrated need to reach that (somewhat arbitrary) 95-cents-on-the-dollar mark.[20]

There's a strong argument against the basic purpose of the equity bonus program: divvying up dollars regardless of need is rarely good public policy. But even if you agree with the premise of "equity" in funding, it would be difficult to defend the program's complicated web of eligibility requirements. Through so-called "hold-harmless" provisions, certain states are guaranteed allocations through the equity bonus, even if the state is actually a "donee" to the Highway Trust Fund.

Let's consider that for a moment. Nearly all states received some money through the equity bonus in 2010.[21] Presumably, that means that most of those states would be "donors" to the Highway Trust Fund without the equity bonus support, based on the basic rationale for the program. But that's not the case.

Based on Federal Highway Administration data, we analyzed what each state's funding level would be if the $9.6 billion in equity bonus funds were instead distributed according to the core needs-based formulas only. It turns out only two states, Texas and Florida, would technically be "donors" without equity bonus money, and both states would get still at least 96 cents back for each dollar paid into the trust fund in 2008.[22] In other words, even without the equity bonus, every state would still be above the 95-cents-on-the-dollar mark defined in MAP-21.

How is that possible? The culprit is a set of eligibility requirements for the equity bonus that are completely disconnected from any reasonable measures of need, perhaps in an effort to obfuscate who the recipient states will be. Here's a quick rundown of how the Federal Highway Administration determines if a state is eligible for support through the equity bonus program:

1. Did you get back less than 95 percent of the money you put into the Highway Trust Fund this year? (*0 states in 2010)*

2. If not, did you get more highway money in 2004 than you did this year? (*0 states in 2010*)

3. If not, did you fit any of the following "hold harmless" criteria back in 2005? (27 *states in 2010*)
   - Less than 40 people per square mile and federal land ownership in the state exceeds 1.25 percent total state acreage (12 states in 2010)
   - Total population under 1 million (eight states in 2010)
   - Median income less than $35,000 (10 states in 2010)
   - Over 1 highway fatality per 100 million Interstate Highway vehicle miles traveled (18 states in 2010)
   - State motor fuel tax over 150 percent of the federal motor fuel tax rate (one state in 2010) (see Appendix IV for states meeting criteria)

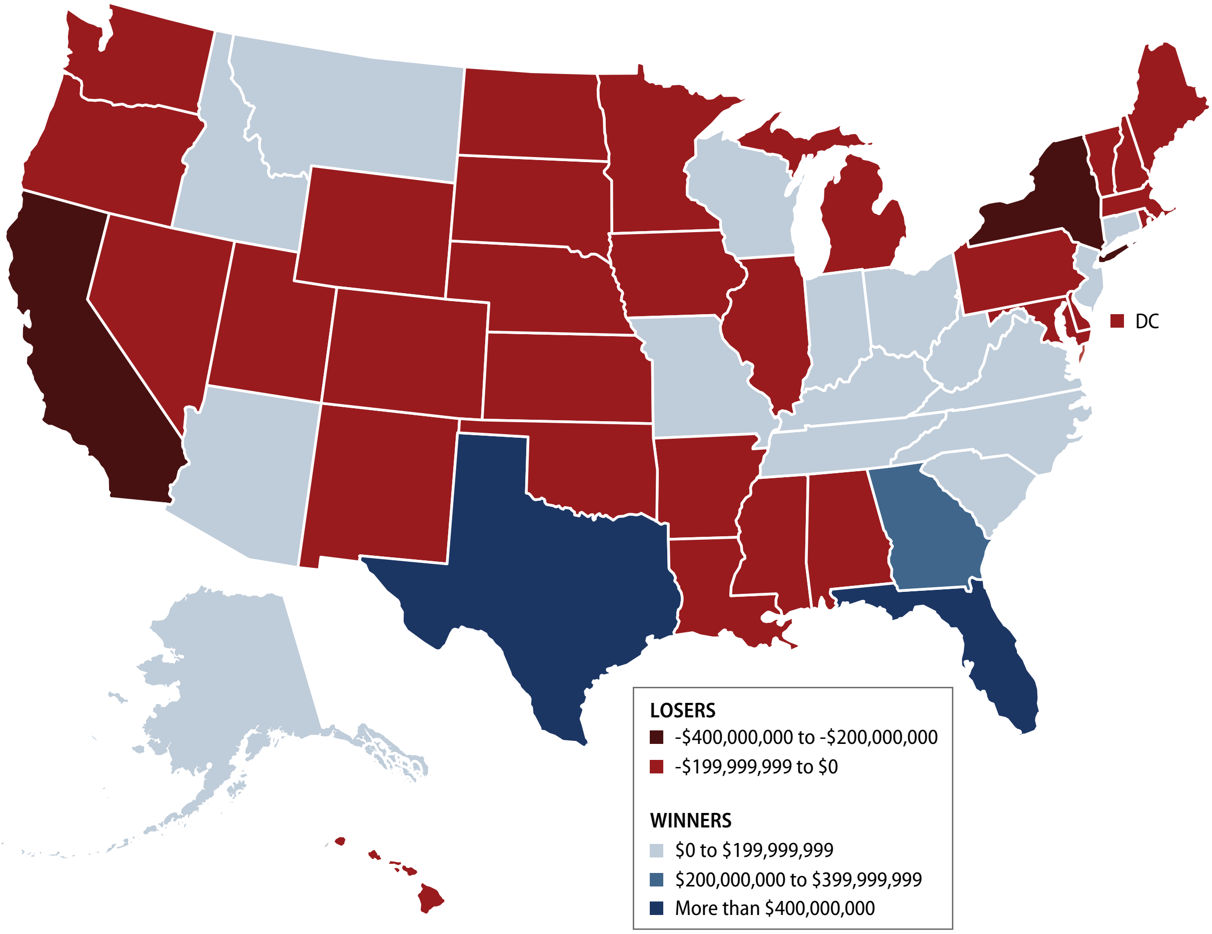
These benchmarks were not established to ensure the equitable distribution of highway funds; they were carefully constructed to drive funds out to states that fared poorly under the core highway program formulas. As a result, dozens of states benefitted from the equity bonus in 2010, and none of them would have fallen below the 95-cents-on-the-dollar benchmark without that support.

It's no coincidence, for example, that Alaska received nearly $200 million from the equity bonus program in 2011, despite the fact that with these funds the state received $5 for every dollar it paid into the Highway Trust fund and it accounts for only one half of 1 percent of the nation's road, bridge and transit needs.[23] Alaska's Rep. Don Young (R-AK) was SAFETEA-LU's most outspoken supporter and helped usher the bill through Congress in 2005—the year that the hold-harmless rules were established. In fact, the "LU" in the bill's title was added to honor Rep. Young's wife, Lu Young.[24]

FIGURE 4

Equity bonus program: Winners and losers

States in red lost needs-based program funds to pay for "equity bonus" payments to states in blue



Note: To see how much each state wins or loses under the equity bonus formula, please see Appendix IV on page 25.
Source: Author's analysis of Federal Highway Administration data.

Every dollar inefficiently doled out through the equity bonus program is taking away from an important project elsewhere. In total the equity bonus program deprived 32 states of scarce resources (including the District of Columbia), and transferred them to 19 other states with less need, based on our analysis of the Federal Highway Administration data.[25] While Texas, Florida, Georgia, and Indiana benefitted the most from the program, California, New York, Pennsylvania, and Washington found themselves short-changed.

It's worth noting that these "winner" and "loser" states are often quite similar, at least when it comes to factors of highway need such as road miles and road usage. But their needs are often markedly different for transit improvements and the cost of repairing bridges, which is one reason why the "loser" states receive a smaller share of the formula-based grants.

The map on page 11 shows how much each state's highway funding was gained or lost because of the equity bonus program in 2011. States with a positive number benefitted from the program, while states with a negative number would have benefitted more had the $9.6 billion dollars been distributed through the needs formulas instead.

Nearly half a billion more federal dollars are wasted on minimum guarantees each year

The equity bonus program is by far the biggest inefficiency in federal highway and transit funding, but it's hardly the only problem. For instance, 8 of the 11 core highway programs funded by the Federal Highway Administration have so-called "minimum-apportionment" rules, meaning each state is guaranteed at least a certain percentage of the total dollars available, regardless of their share of the total need. As a result, federal money is transferred from states with heavy need to small and scarcely populated ones.[26] (see Table 2)

TABLE 2

Summary of the minimum apportionment rules for Federal Highway Administration funding programs

Federal Highway Administration Program	Minimum-apportionment rule	Estimated amount guaranteed per eligible state in 2010 (millions)	States benefitting from the minimum guarantee in 2010
Interstate Maintenance and National Highway system	0.5 percent (combined)	$65.7	6
Surface transportation	0.5%	$37.9	8
Bridge replacement and rehabilitation	0.25%	$12.6	6
Congestion mitigation and air quality	0.5%	$10.3	24
Metropolitan planning	0.5%	$1.5	18
Highway safety improvement	0.5%	$6.3	8
Railway - highway crossings	0.5%	$1.1	9
Safe routes to school	$1 million	$ 1.0	14

Source: Author's analysis of Federal Highway Administration data

Making sure everyone gets a piece of the pie is often a winning political strategy, but it's rarely the most efficient way to allocate scarce government resources. To further understand the impact of these rules, consider Delaware, the only state to receive the minimum apportionment for all eight highway programs in 2010. On a purely needs-based allocation, Delaware should have received about $36 million through the program. But because of minimum apportionments and other adjustments, it received about $66 million.

In simple terms, that money was taken away from all other states above the minimum level. So reductions were made in the allocation of funds to California, New York, Pennsylvania, and other states with high highway and transit needs to ensure an inflated share of funds to states with much less need.

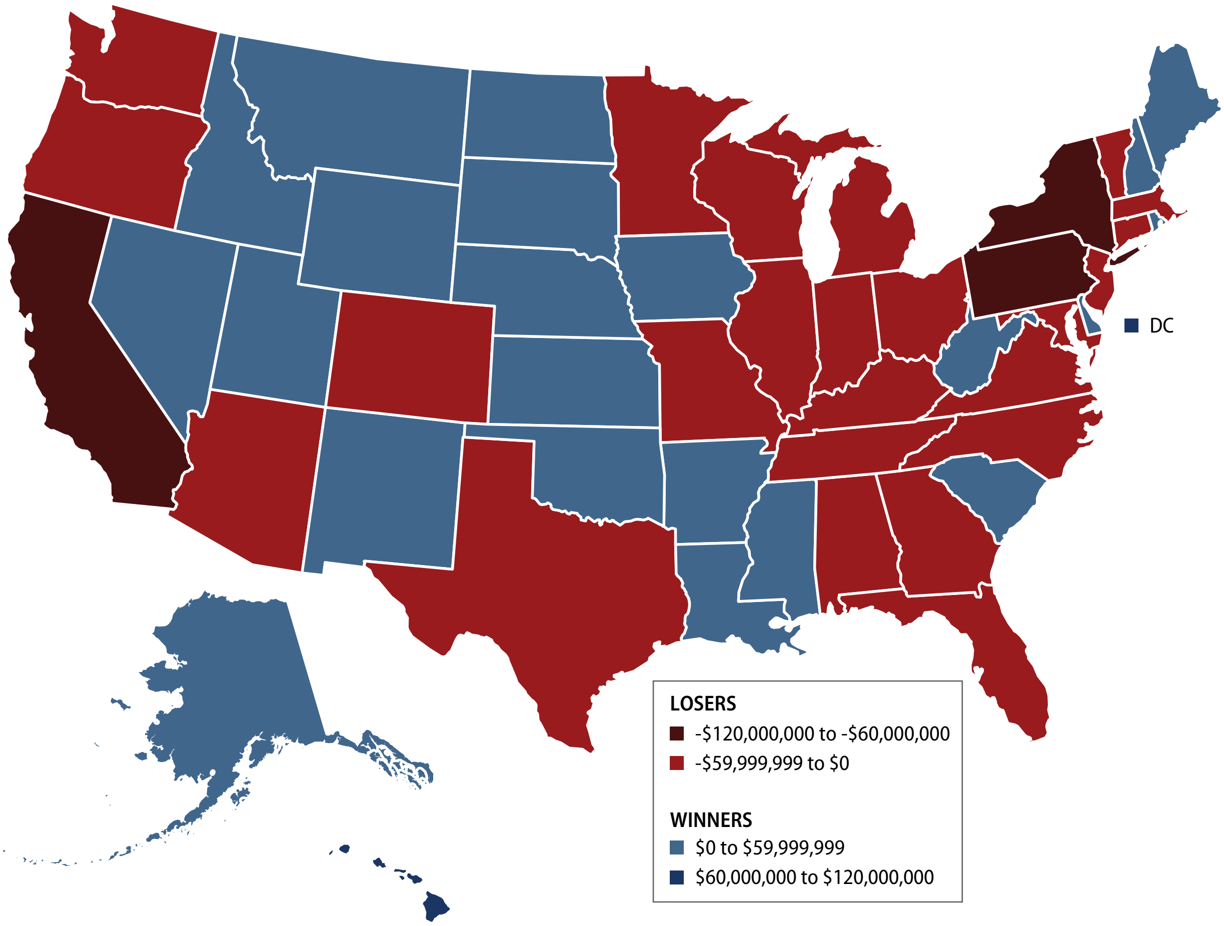
It may not seem like a lot of money at first, but it adds up. Across all highway programs, definite winners emerge—namely Hawaii, Vermont, Delaware, and Rhode Island—all of which gained more than $50 million from minimum apportionment rules across all highway and transit programs. The biggest loser, California, gave up about $120 million in potential highway funding in 2010 simply due to minimum-apportionment rules, while New York lost more than $100 million, based on our analysis.[27]

All told, we found that the minimum-guarantee rules transferred more than $500 million dollars from states with demonstrated needs to smaller states with less need in 2010. Half of all states benefitted from these inefficient rules, while half saw their funding decrease. The map on page 14 shows how each state's highway funding was affected by minimum highway apportionments in 2010. Again, states with a positive number benefitted from the set-asides, while states with a negative number would have benefitted had all funding been distributed based on need.

FIGURE 5

Minimum guarantee rule: Winners and losers

States in red lost needs-based program funds to pay for minimum guarantees to states in blue



Note: To see how much each state wins or loses under the minimum guarantee formula, please see Appendix V on page 27.
Source: Author's analysis of Federal Highway Administration data.

Policy recommendations

In just two years the Moving Ahead for Progress for the 21st Century Act will expire. It's time to start working on a long-term highway and transportation funding bill that distributes adequate funding for needed infrastructure improvements based on objective measures of need. Such a bill would include the following changes:

- End the equity bonus program and minimum apportionments
- Make permanent recent bans on transportation earmarks
- Improve needs-based funding formulas

Let's now detail briefly why these reforms are key to improving our nation's overall infrastructure.

End the equity bonus program and minimum apportionments

The equity bonus and minimum guarantees allocate slightly more than $10 billion in highway funding each year. As federal and state transportation departments face tight budgets in the coming years, the critical first step is to eliminate these wasteful provisions and reinvest that money through objective need formulas.

This will not be easy. Absent increases in the overall funding for surface transportation, reallocating the billions wasted on the equity bonus and minimum guarantees will immediately decrease the highway money going to individual states. Of course, those states that have benefitted from inflated apportionments for years will not welcome a reduction in their federal highway and transit aid.

Make permanent recent bans on transportation earmarks

Congress in 2010 made significant progress in weeding out wasteful highway spending by banning explicit earmarks from surface transportation bills. But lawmakers missed an opportunity to make that ban permanent in the Moving Ahead for Progress for the 21st Century Act. They should not repeat that mistake next time.

Improve needs-based funding formulas

The Federal Housing Administration's current need formulas are far from perfect. When the agency determines highway allocations, for example, it considers the total miles of road and vehicle miles traveled in each state. But the formulas do not account for whether those roads are actually in need of repair, the expected cost of those repairs, or the expected level of congestion on those roads.

These formulas can and should be revised to more carefully direct limited federal funds to meet real needs. When reconsidering the needs formula, Congress should include these factors:

- Miles of road in need of heavy, medium, and light repair
- Expected per-unit cost of road repairs (similar to what was required for bridge repairs under SAFETEA-LU)
- Estimated level of congestion on highways
- Estimated weight of vehicles traveling on the roads (since roads with heavy truck and other large-vehicle traffic will likely deteriorate faster)
- Passenger miles traveled on transit systems

To be sure, these changes alone will not solve our infrastructure problems. For starters, any long-term solution will also have to acknowledge that today's gas tax revenues are nowhere near sufficient to fund our necessary highway and transit investments.[28]

But these reforms offer a rare opportunity for Congress to reduce government waste while continuing to fund critical infrastructure projects. After all, in an era of strict fiscal discipline, we can no longer afford to steer scarce highway and transit dollars where they're not actually needed most.

Appendix I

Methodology

This report identifies waste in the annual distribution of federal highway and transit funding. We consider a funding rule or program "wasteful" if the government allocates money without a reasonable estimation of a state's highway or transit needs.

After closely examining every aspect of program eligibility and the funding formulas, we uncovered two main areas of waste: the equity bonus program and minimum guarantees. Approximately $9.6 billion was allocated through the equity bonus in 2010, while another $500 million were set aside through minimum guarantees, according to our analysis.

To show the economic impact of these inefficient programs and funding rules, we started with the total federal dollars distributed through them. We then estimated how much each state would lose or gain if those dollars were disbursed through the general need formula instead of the special rule. For this analysis, we used data reported by the Federal Highway Administration on each state's payments into the Highway Trust Fund,[29] apportionments to formula-based programs and the equity bonus,[30] allocations to nonformula programs,[31] and program-level need estimates for fiscal year 2010.[32] Here's a rundown of our calculations.

Equity bonus

Each year, the Federal Highway Administration divvies up funds to states for each of the core highway and transit programs through a series of need-based formulas. In theory, each state's initial share of the total funding allocated to those core programs (before corrections like the equity bonus) reflects that state's share of the relevant need.

For this analysis, we redistributed the $9.6 billion allocated to the Equity Bonus across the need-based highway and transit programs, based on the Federal Highway Administration's need estimates for each state. For example, about $5 billion was allocated to the bridge replacement and rehabilitation program in 2010, which accounts for about 17 percent of funding for needs-based programs (which totaled about $30 billion that year). So we allocated 17 percent of the equity bonus funds to the bridge program, then distributed that money based on each state's share of the total bridge need.

We repeated this analysis for each needs-based program, totaled the amount each state would have gained or lost without the equity bonus, then calculated the total amount of money that went from high-need states to lower-need states because of the equity bonus. That total was about $2.2 billion, according to our analysis.

Once we had an estimate for each state's funding level without the equity bonus, we compared that number to each state's payments into the Highway Trust Fund two years earlier (accounting for the two-year processing lag). In theory, any states that benefitted from the equity bonus should have been "donors" to the trust fund without that support. In reality, we found that only two states (Florida and Texas) would have been "donors" without the equity bonus, even though 19 states benefitted from the program. Once more, both of these states would have gotten back more than 95 cents for every dollar they put into the trust fund in 2008, which is supposed to be the current threshold for equity bonus support.

Minimum guarantees

Consider a hypothetical "minimum guarantee" rule. Assume the Federal Highway Administration estimates that a state accounts for 0.5 percent of the total need for a highway program. An efficient funding formula would allocate 0.5 percent of the total dollars available to that state. So if the program has a total of $1 billion at its disposal, the state would receive $5 million.

But that's not how funding works for most highway programs. Say this program has a minimum-allocation rule, ensuring that each state is given at least 1 percent of the total allocation regardless of its needs. So instead of getting $5 million, the state is guaranteed at least $10 million. That additional money has to come from somewhere.

To give this state the additional $5 million, every other state that's above the 1 percent threshold must give up money. So while one state gets more than it needs, dozens of other states with greater needs get less. We calculated how much each state gained or lost due to minimum guarantees in each program, summed those gains or losses across programs for each state, then calculated the total amount that's transferred from high-need states to states with lesser needs due to the minimum guarantees. That total was about $510 million, according to our analysis.

Limitations to our methodology

This research method makes one critical assumption: that the need formulas currently used by the Federal Highway Administration are reasonably accurate estimates of a state's highway or water needs. To be sure, this assumption has its limits, and critics will argue that the formulas do not take into account important aspects of need. That's why we offer a few suggestions on how the agency can improve these needs estimates in the main pages of this report.

Appendix II

Federal Highway Administration funding formulas by program, fiscal year 2010

Fund	Factors	Weight
Interstate Maintenance (IM)	Interstate System lane miles	33.33%
	Vehicle miles traveled on the Interstate System	33.33%
	Annual contributions to the Highway Account of the Highway Trust Fund attributable to commercial vehicles	33.33%
National Highway System (NHS)	Lane miles on principal arterial routes (excluding the Interstate System)	25%
	Vehicle miles traveled on principal arterial routes (excluding the Interstate System)	35%
	Diesel fuel used on highways	30%
	Total lane miles on principal arterials divided by the State's total population	10%
Surface Transportation Program (STP)	Total lane miles of Federal-aid highways	25%
	Total vehicle miles traveled on Federal-aid highways	40.%
	Estimated tax payments attributable to highway users paid into the Highway Account of the Highway Trust Fund	35%
Bridge Replacement and Rehabilitation Program (BRR)	Relative share of total cost to repair or replace deficient bridges	100%
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	Weighted nonattainment and maintenance area population	100%
Highway Safety Improvement Program (HSIP)	Total lane miles of Federal-aid highways	33.33%
	Total vehicle miles traveled on Federal-aid highways	33.33%
	Number of fatalities on the National Highway system	33.33%
Railway - Highway Crossings	Formula used for Surface Transportation Program	50%
	Total number of public railway-highway crossings	50%
Safe Routes to School Program	Total School enrollment in primary and middle schools (grades K-8)	100%
Recreational Trails Program (RT)	Equal shares to each eligible State	50%
	Nonhighway recreational fuel use during the preceding year	50%

Fund	Factors	Weight
Metropolitan Planning (MP)	Urbanized area population*	100%
Coordinated Border Infrastructure Program	Incoming commercial trucks passing through land border ports of entry (POEs)	20%
	Incoming buses and personal motor vehicles passing through land border POEs	30%
	Total weight of incoming commercial truck cargo passing through land border POEs	25%
	Total number of land border POEs within boundaries of border states	25%
Equity Bonus	Each States share of High Priority Projects funding and apportionments for IM, NHS, STP, BRR, CMAQ, HSIP, Safe Routes to Schools, Highway Railway Crossing, MP, RT, Coordinated Border Infrastructure, Appalachian Development, and Equity Bonus must be at least a specified share (currently 92%) of its estimated payments into the Highway Account of the Highway Trust Fund or for certain States, no less than the share of High Priority Project funding and apportionments it received under TEA-21, except that no State may receive an amount less than the specified percentage (currently 121%) of the average annual amount it received in apportionments and High Priority Projects under TEA-21.	100%
Appalachian Development Highway System	Latest available cost-to-complete estimates under section 14501 of Title 23, U.S.C.	100%

* Usually places of 50,000 or more persons. Definition contained in 23 U.S.C. 101(a).

Source: Federal Highway Administration, available at http://www.fhwa.dot.gov/policyinformation/statistics/2009/fa4a.cfm.

Appendix III

Federal Highway Administration highway and transit funding by state, fiscal year 2010

State	2008 HTF payments	2010 FHWA funding	2010 equity bonus	Equity bonus gain/ loss	Minimum guarantees received	Minimum guarantees gain/loss	Total gain/ loss
Alabama	$623,894,000	$833,407,000	$165,825,732	-$29,209,866	1	-$1,852,979	-$31,062,845
Alaska	$103,595,000	$604,383,000	$199,131,127	$106,174,012	6	$28,058,143	$134,232,155
Arizona	$662,118,000	$810,783,000	$269,561,560	$115,886,549	0	-$11,039,111	$104,847,438
Arkansas	$387,250,000	$577,539,000	$124,218,487	-$5,410,192	2	$7,615,505	$2,205,313
California	$3,180,213,000	$3,999,691,000	$650,706,567	-$338,412,556	0	-$119,658,926	-$458,071,482
Colorado	$476,782,000	$598,641,000	$94,435,187	-$50,074,031	0	-$8,649,865	-$58,723,895
Connecticut	$312,941,000	$553,993,000	$130,370,001	$7,724,315	0	-$1,147,802	$6,576,513
Delware	$84,859,000	$200,054,000	$26,227,072	-$20,632,247	8	$54,694,780	$34,062,532
Dist. of Col.	$24,338,000	$172,458,000	$3,258,667	-$47,682,999	7	$95,324,373	$47,641,373
Florida	$1,697,353,000	$2,062,252,000	$803,328,953	$438,424,166	1	-$3,785,599	$434,638,567
Georgia	$1,142,137,000	$1,433,381,000	$497,845,389	$233,592,000	0	-$14,851,038	$218,740,962
Hawaii	$83,459,000	$199,864,000	$10,963,971	-$40,674,650	7	$69,600,860	$28,926,210
Idaho	$168,981,000	$321,107,000	$95,260,697	$32,009,821	3	$9,242,724	$41,252,544
Illinois	$1,171,228,000	$1,527,179,000	$336,923,812	-$20,040,766	0	-$16,782,200	-$36,822,966
Indiana	$829,270,000	$1,042,196,000	$382,148,298	$191,774,083	0	-$9,700,184	$182,073,899
Iowa	$403,321,000	$537,751,000	$61,393,738	-$76,047,523	1	$7,539,265	-$68,508,258
Kansas	$319,141,000	$435,388,000	$21,858,082	-$94,345,380	1	$7,062,103	-$87,283,277
Kentucky	$559,710,000	$744,958,000	$173,863,642	$12,045,760	0	-$4,561,763	$7,483,998
Louisiana	$515,642,000	$870,966,000	$129,007,987	-$59,077,077	1	$5,025,013	-$54,052,064
Maine	$152,349,000	$221,680,000	$0	-$60,232,063	4	$3,857,651	-$56,374,412
Maryland	$556,367,000	$694,160,000	$85,867,484	-$82,344,799	0	-$6,289,620	-$88,634,418
Massachusetts	$540,595,000	$679,614,000	$42,722,045	-$141,652,280	0	-$3,765,236	-$145,417,516
Michigan	$940,101,000	$1,163,503,000	$229,611,366	-$41,194,020	0	-$13,469,091	-$54,663,111
Minnesota	$561,344,000	$797,416,000	$147,911,710	-$15,754,960	0	-$8,399,779	-$24,154,739
Mississippi	$412,099,000	$544,862,000	$82,175,541	-$49,543,889	2	$7,908,965	-$41,634,924

State	2008 HTF payments	2010 FHWA funding	2010 equity bonus	Equity bonus gain/ loss	Minimum guarantees received	Minimum guarantees gain/loss	Total gain/ loss
Missouri	$763,212,000	$1,077,106,000	$244,925,349	$15,448,422	0	-$5,656,153	$9,792,270
Montana	$141,690,000	$431,969,000	$133,117,110	$46,505,203	3	$8,208,706	$54,713,909
Nebraska	$236,488,000	$326,414,000	$34,366,188	-$48,981,024	2	$8,004,329	-$40,976,696
Nevada	$273,745,000	$410,421,000	$82,371,257	-$10,035,178	2	$1,831,259	-$8,203,920
New Hampshire	$135,345,000	$186,587,000	$29,213,400	-$15,423,221	6	$25,379,948	$9,956,727
New Jersey	$910,174,000	$1,074,263,000	$258,579,494	$16,138,486	0	-$9,294,772	$6,843,714
New Mexico	$280,178,000	$416,431,000	$90,350,169	-$888,421	2	$698,510	-$189,911
New York	$1,223,182,000	$1,752,770,000	$236,430,979	-$235,986,811	0	-$102,226,642	-$338,213,452
North Carolina	$946,919,000	$1,149,695,000	$316,352,875	$76,614,892	0	-$9,042,141	$67,572,752
North Dakota	$98,218,000	$381,812,000	$29,708,178	-$41,821,788	4	$14,694,992	-$27,126,796
Ohio	$1,179,086,000	$1,473,065,000	$357,393,199	$33,028,689	0	-$14,083,349	$18,945,340
Oklahoma	$493,590,000	$670,233,000	$116,438,282	-$53,563,420	1	$6,963,769	-$46,599,651
Oregon	$377,759,000	$561,463,000	$55,975,908	-$89,238,229	0	-$2,991,575	-$92,229,804
Pennslyvania	$1,174,199,000	$1,784,735,000	$270,902,111	-$178,384,864	0	-$74,267,703	-$252,652,567
Rhode Island	$75,643,000	$254,072,000	$0	-$71,224,139	6	$54,640,208	-$16,583,932
South Carolina	$565,074,000	$687,554,000	$202,571,852	$61,687,085	1	$3,948,396	$65,635,481
South Dakota	$116,437,000	$326,838,000	$58,254,260	-$15,306,310	4	$9,277,043	-$6,029,268
Tennessee	$740,664,000	$948,059,000	$241,516,555	$42,115,071	0	-$9,150,002	$32,965,069
Texas	$2,921,406,000	$3,465,384,000	$1,203,985,564	$554,143,650	0	-$37,131,091	$517,012,560
Utah	$288,438,000	$366,401,000	$68,265,126	-$15,233,137	2	$989,020	-$14,244,118
Vermont	$68,165,000	$225,843,000	$1,827,617	-$63,696,947	7	$56,428,575	-$7,268,372
Virginia	$906,546,000	$1,108,700,000	$280,575,911	$37,228,274	0	-$9,623,288	$27,604,986
Washinton	$588,698,000	$798,105,000	$49,609,807	-$154,028,737	0	-$3,620,165	-$157,648,902
West Virginia	$201,315,000	$493,738,000	$141,379,597	$43,428,237	3	$4,784,403	$48,212,640
Wisconsin	$574,955,000	$821,197,000	$279,353,296	$125,202,908	0	-$8,571,187	$116,631,720
Wyoming	$151,489,000	$303,800,000	$45,972,724	-$23,030,099	6	$17,832,721	-$5,197,378
Total	**$31,341,702,000**	**$43,123,881,000**	**$9,594,053,923**				

Source: Author's analysis of Federal Highway Administration data

Appendix IV

Federal Highway Administration equity bonus "hold harmless" designations by state, fiscal year 2010

	Population density	Federal land ownership	Population	Median household income	Fatalities per 100M VMT	Indexed state motor fuel tax	Meets at least one criteria	Total criteria
Criteria	<40 per MI2	> 1.25%	< 1M	< $35,000	> 1.0	> 150% federal		
Alabama		•		•	•		YES	2
Alaska	•	•	•		•		YES	3
Arizona		•			•		YES	1
Arkansas		•		•	•		YES	2
California		•						0
Colorado		•			•		YES	1
Connecticut								0
Delaware		•	•				YES	1
Dist. of Col.		•	•				YES	1
Florida		•			•		YES	1
Georgia		•						0
Hawaii		•						0
Idaho	•	•			•		YES	2
Illinois		•						0
Indiana		•						0
Iowa								0
Kansas	•							0
Kentucky		•		•			YES	1
Louisiana		•		•	•		YES	2
Maine								0
Maryland		•						0
Massachusetts		•						0
Michigan		•						0

	Population density	Federal land ownership	Population	Median household income	Fatalities per 100M VMT	Indexed state motor fuel tax	Meets at least one criteria	Total criteria
Criteria	<40 per MI2	> 1.25%	< 1M	< $35,000	> 1.0	> 150% federal		
Minnesota		•						0
Mississippi		•		•	•		YES	2
Missouri		•			•		YES	1
Montana	•	•	•	•	•		YES	4
Nebraska	•	•			•		YES	2
Nevada	•	•			•		YES	2
New Hampshire		•						0
New Jersey		•						0
New Mexico	•	•		•	•		YES	3
New York								0
North Carolina		•						0
North Dakota	•	•	•	•			YES	3
Ohio		•						0
Oklahoma		•		•	•		YES	2
Oregon	•	•					YES	1
Pennsylvania		•						0
Rhode Island								0
South Carolina		•						0
South Dakota	•	•	•				YES	2
Tennessee		•						0
Texas		•			•		YES	1
Utah	•	•			•		YES	2
Vermont		•	•				YES	1
Virginia		•						0
Washington		•						0
West Virginia		•		•			YES	1
Wisconsin		•				•	YES	1
Wyoming	•	•	•		•		YES	3
Total	**12**	**45**	**8**	**10**	**18**	**1**	**27**	**48**

Source: Federal Highway Administration

Appendix V

Federal Highway Administration minimum apportionments by state, fiscal year 2010

	Interstate maintenance and nat hwy system	Surface transportation	Bridge replacement and rehab	Congestion mitigation and air quality	Metro planning	Highway safety improvement	Railway - highway crossings	Safe routes to school	Total FHWA min apports	Bridge replacement and rehab - max
Minimum apportionment	.05% (Comb)	0.05%	0.025%	0.05%	0.05%	0.05%	0.05%	$1 million		10%
Alabama				•					1	
Alaska		•		•	•	•	•	•	6	
Arizona									0	
Arkansas				•	•				2	
California									0	•
Colorado									0	
Connecticut									0	
Delaware	•	•	•	•	•	•	•	•	8	
Dist. Of Col.	•	•		•	•	•	•	•	7	
Florida				•					1	
Georgia									0	
Hawaii	•	•		•	•	•	•	•	7	
Idaho				•	•			•	3	
Illinois									0	
Indiana									0	
Iowa				•					1	
Kansas				•					1	
Kentucky									0	
Louisiana				•					1	
Maine				•	•	•		•	4	
Maryland									0	
Massachusetts									0	
Michigan									0	

	Interstate maintenance and nat hwy system	Surface transportation	Bridge replacement and rehab	Congestion mitigation and air quality	Metro planning	Highway safety improvement	Railway - highway crossings	Safe routes to school	Total FHWA min apports	Bridge replacement and rehab - max
Minimum apportionment	.05% (Comb)	0.05%	0.025%	0.05%	0.05%	0.05%	0.05%	$1 million		10%
Minnesota									0	
Mississippi				•	•				2	
Missouri									0	
Montana				•	•			•	3	
Nebraska				•	•				2	
Nevada			•				•		2	
New Hampshire	•	•			•	•	•	•	6	
New Jersey									0	
New Mexico				•	•				2	
New York									0	•
North Carolina									0	
North Dakota			•	•	•			•	4	
Ohio									0	
Oklahoma				•					1	
Oregon									0	
Pennsylvania									0	•
Rhode Island	•	•			•	•	•	•	6	
South Carolina				•					1	
South Dakota			•	•	•			•	4	
Tennessee									0	
Texas									0	
Utah			•	•					2	
Vermont	•	•		•	•	•	•	•	7	
Virginia									0	
Washington									0	
West Virginia				•	•			•	3	
Wisconsin									0	
Wyoming		•	•	•	•		•	•	6	
Total	**6**	**8**	**6**	**24**	**18**	**8**	**9**	**14**	**93**	**3**

SOURCE: Author's analysis of Federal Highway Administration data. For more details, see Appendix I.

About the authors

Donna Cooper is a Senior Fellow with the Economic Policy Team at the Center for American Progress. Her portfolio of policy work includes federal infrastructure policy. Before coming to the Center in 2010, she served for eight years as the secretary of policy and planning for the Commonwealth of Pennsylvania, where she was responsible for crafting the state's plan for accelerating infrastructure improvements as well as measures to promote smart infrastructure policy. She was the co-leader of the state's implementation team for managing the state's infrastructure improvements supported with federal Recovery Act resources. She also served as lead member of the state's Sustainable Infrastructure Task Force.

John Griffith is a Policy Analyst with the Economic Policy Team at the Center for American Progress, where his work focuses on housing policy, federal credit programs, and budget analysis. Prior to joining the Center, he worked as an analyst with the Social and Economic Policy Division of Abt Associates, where he conducted research on federal homeless assistance, affordable housing, and community development programs.

Endnotes

1 For more on the gap between our country's infrastructure needs and current funding, see the recent Center for Donna Cooper, "Meeting the Infrastructure Imperative" (Washington: Center for American Progress, 2012), available at http://www.americanprogress.org/issues/2012/02/infrastructure.html.

2 In fiscal year 2011 about $43 billion was allocated by the Federal Highway Administration to states for highway, road and bridge program. Of that total, $9.6 billion was distributed through the Equity Bonus program. Another estimated $150 million was disbursed through minimum guarantees. Federal Highway Administration tables found at http://www.fhwa.dot.gov/legsregs/directives/notices/n4510746/n4510746t1.htm

3 As of the date of this report's publication, the Federal Highway Administration had not yet released all relevant funding and need data for fiscal year 2011. It's worth noting, though, that Congress did not change any funding rules between FY 2010 and FY 2011, and the Federal Highway Administration used the same needs data for both years when determining funding levels. In other words, one would expect all findings in this report for FY 2010 to be relevant to FY 2011 as well.

4 Roughly $3 billion was disbursed for "high-priority projects" in 2009.

5 "Statement of Senator John McCain on the conference report accompanying H.R. 3, SAFETEA-LU," July 29, 2005. available at http://mccain.senate.gov/public/index.cfm?FuseAction=PressOffice.FloorStatements&ContentRecord_id=c09110f4-e095-4cfc-9725-6209b5720a15&Region_id=&Issue_id=b3a8e8b2-187f-4776-ae38-fc0ad8a1d59e.

6 American Society of Civil Engineers, "Report Card for America's Infrastructure" (2009), available at http://www.infrastructurereportcard.org/sites/default/files/RC2009_full_report.pdf.

7 Author's analysis of the Federal Highway Administration data. See http://www.fhwa.dot.gov/policyinformation/statistics/2009/hm63.cfm.

8 Author's analysis of Bureau of Transportation Statistics data. See http://www.bts.gov/current_topics/national_and_state_bridge_data/html/bridges_by_state.html

9 Cooper, "Meeting the Infrastructure Imperative."

10 Of the $43 billion in Federal Highway Administration apportionments in 2010, about $780 million went to the Recreational Trails, Metropolitan Planning, Coordinated Border Infrastructure, and Safe Routes to School programs combined.

11 Government Accountability Office, "Highway Trust Fund: Nearly All States Received More Funding Than They Contributed in Highway Taxes Since 2005" (2010), available at http://www.gao.gov/mobile/products/GAO-10-780.

12 Ibid.

13 Author's analysis of Federal Highway Administration data.

14 Larry Ehi, "MAP-21 Annotated – Funding Sources," Transportation Issues Daily, July 5, 2012 available at http://www.transportationissuesdaily.com/map-21-annotated-funding-sources/.

15 Technically, there is no way for Treasury to know how much fuel tax should be attributed to each state. Since federal fuel taxes are collected at the first point of distribution (usually a refinery or a tank farm) rather than at the retail level, most of the revenue is collected from a small number of corporations located in just a few states. To estimate how much fuel tax revenue came from which state, the Federal Highway Administration FHWA divides total revenues by the relative share of overall gas and diesel consumption in each state. See http://www.aashtojournal.org/Documents/June2011/CRSreport.pdf.

16 Author's analysis of Federal Highway Administration data. For more information, see Appendix I.

17 Ronald Utt, "Federal Highway Program Shortchanges More Than Half the States" (Washington: Heritage Foundation, 2011), available at http://www.heritage.org/research/reports/2011/04/federal-highway-program-shortchanges-more-than-half-the-states.

18 The Surface Transportation Assistance Act of 1982 for the first time mandated that each state would receive a minimum allocation of 85 percent of its share of estimated tax payments to the Highway Account of the Highway Trust Fund. The Equity Bonus Program established by SAFETEA-LU raised the guarantee to 92 percent by fiscal year 2008. For more information, see Government Accountability Office, "Highway Trust Fund" (2010), available at http://www.gao.gov/new.items/d10780.pdf.

19 Federal Highway Administration, Office of Policy and Governmental Affairs, "Moving Ahead for Progress in the 21st Century Act (MAP-21), A Summary of Highway Provisions" (2012), available at http://www.fhwa.dot.gov/map21/summaryinfo.cfm.

20 As an example of how unnecessarily complicated the equity bonus program has become, one Federal Highway Administration official told us that the agency had to run 1,600 calculation scenarios to come up with last year's final allocations.

21 Maine and Rhode Island were the only states that did not receive money through the equity bonus program in 2010.

22 Based on our calculations, if all funds were allocated to the formula programs, Florida would get 96 cents back for every dollar it put into the Highway Trust Fund, while Texas would get 99 cents back.

23 Author's analysis of Federal Highway Administration data. See Appendix I for a full explanation.

24 Greg Gordon and Erika Bolstad, "Alaska lawmaker promoted earmarks, raked in cash," McClatchy Newspapers, November 11, 2007, available at http://www.mcclatchydc.com/2007/11/11/21221/alaska-lawmaker-promoted-earmarks.html#storylink=cpy.

25 Based on estimations of Federal Highway Administration funds if all equity bonus dollars were re-allocated through the need-based program formulas.

26 We omit the District of Columbia from this section of the report. Since the District does not have a state department of transportation and has limited control over its highway revenues, it makes to allocate a slightly disproportional total of federal funds to the city. But no other "states" should be given this special consideration.

27 Author's analysis of Federal Highway Administration data. See Appendix I for a full explanation of this analysis.

28 For more detail on what should go into a long-term surface transportation bill, see Cooper, "Meeting the Infrastructure Imperative."

29 See FHWA Table FE-221B at http://www.fhwa.dot.gov/policyinformation/statistics/2010/fe221b.cfm.

30 See FHWA Table FA-4 at http://www.fhwa.dot.gov/policyinformation/statistics/2010/fa4.cfm.

31 See FHWA Table FE-221B at http://www.fhwa.dot.gov/policyinformation/statistics/2010/fe221b.cfm.

32 State-level need estimates for highway and transit programs are reported in the "Computational Tables" for annual FHWA apportionments, available at http://www.fhwa.dot.gov/safetealu/revfy10comptables.pdf.

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