Policy Analysis



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Principles for the 2020 Surface Transportation Reauthorization

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EXECUTIVE SUMMARY

merica's surface transportation infrastructure needs significant improvements and rehabilitation, yet Congress is uncertain about how to do this. Some want to significantly increase federal spending on infrastructure. Others want to end deficit financing of transportation and end federal restrictions that reduce the efficiency and effectiveness of the funds that are spent.

To resolve this conundrum, this paper presents three principles that Congress should apply to a new surface transportation funding bill. These principles are pay-as-you-go, user fees, and subsidiarity.

PAY-AS-YOU-GO. The Congressional Budget Office estimates that limiting transportation expenditures to actual transportation revenues, rather than relying heavily on borrowing, will reduce deficit spending by at least \$116 billion over the next decade. Putting transportation on a pay-as-you-go basis will also make transportation agencies

more responsive to the needs of transportation users.

USER FEES. Congress should rely on and encourage state and local governments to rely more on user fees for transportation. This can be done by eliminating restrictions on road tolling and incorporating user fees into the formulas for distributing funds to the states.

SUBSIDIARITY. Congress should give state and local transportation agencies greater latitude in deciding how to spend their shares of federal funds. This should promote the efficient use of those funds by reallocating decisionmaking closer to voters and taxpayers. Subsidiarity includes distributing funds using formulas that divide the funds between jurisdictions, not competitive grants that often reward inefficient proposals, and using as few funds as possible—preferably two, one for highways and one for transit—rather than the two dozen funds used today.

Together, these principles will increase the efficiency and effectiveness of federal transportation spending.

The nation does have infrastructure needs, but the claim that our highway infrastructure is crumbling is greatly exaggerated.

INTRODUCTION

Since Congress created the Interstate Highway System in 1956, it has passed laws authorizing or renewing highway excise fees and federal funding for surface transportation—that is, highways and transit—out of those fees about every six years. The current authorization expires in 2020. Congress is now wrestling with how to fund necessary infrastructure rehabilitation while avoiding unnecessary costs to federal taxpayers. This paper proposes three key principles for a 2020 reauthorization bill aimed at improving the efficiency and effectiveness of federal transportation spending.

The 2020 reauthorization will be written by a divided Congress, with fiscally liberal Democrats leading the House, fiscally moderate Republicans leading the Senate, and an ostensibly fiscal conservative Republican in the White House. Conventional wisdom in recent years is that American infrastructure is in decline and so Congress must pass a huge infrastructure bill.

The crumbling-infrastructure claim is exaggerated. The number of highway bridges considered "structurally deficient" has steadily declined by more than 60 percent: from 137,865 in 1990 to 54,560 in 2017. The average roughness of all categories of roads has also declined. Still, the nation does have infrastructure needs and Congress is likely to address some of those needs in transportation reauthorization. The goal of the three principles outlined here is to make sure those funds are spent as effectively as possible.

The reauthorization bill will include money for both highways and transit. In my previous books and papers, I have argued that virtually all transit and most highway needs should be funded locally. Yet Congress is not likely to give up federal funding of transit in this reauthorization. The principles outlined in this analysis will promote more efficient use of transit funds, benefiting both transit systems and riders.

PRINCIPLE 1: PAY AS YOU GO

As coauthor of the Federal Aid Highway Act of 1956, Sen. Albert Gore, Sr. (D-TN), insisted that the interstate highways be built on a pay-as-you-go basis: the roads would be built only as fast as the gas taxes and other highway user fees specified in the bill were collected. This meant two things. First, the federal government could not spend more than the collected revenues. Second, the states could not sell bonds to finance roadwork that would be repaid out of the states' future allocations of federal highway funds.

Gore had excellent reasons for this demand. First, the interest on bonds would increase the total cost of the system, either slowing its rate of construction or requiring higher fees from highway users. Second, and perhaps more important, a pay-as-you-go system would provide useful feedback to state highway agencies. In 1956 there was no guarantee that the interstate highways would be used enough to justify their cost. If states sold bonds to build them and then failed to collect enough revenues to repay the bonds, the federal government could be held liable for any state defaults.

The pay-as-you-go system survived for more than 40 years. Congress would authorize a funding bill every six years based on projections of what gas tax and other collections would be. This authority, however, was only the ceiling on how much could be spent. Congress would then appropriate funds every year, tempering those appropriations based on actual fee revenues. If revenues fell short of expectations, Congress would appropriate less than was authorized.

In 1998, however, Congress added a new wrinkle to the reauthorization bill: it made the authorized spending both a ceiling and a floor. If revenues failed to meet expectations, appropriators were required to find funds elsewhere in order to fund the full amount authorized. This provision was repeated in the 2005 reauthorization bill.

This first became an issue in 2008, when the financial crisis led to a reduction in total driving and therefore gas taxes fell short of the anticipated revenues. Since then, Congress has transferred \$140 billion in general funds, including \$70 billion in the 2015 reauthorization, to keep the highway trust fund solvent.² In 2016, for example, \$36.3 billion in fuel taxes and other user fees were collected for the highway portion of the trust fund.³ Yet Congress required that \$39.7 billion be spent from that fund.⁴ The resulting gap was filled with borrowed money.

The Congressional Budget Office estimates that limiting expenditures to expected revenues would reduce the federal deficit by at least \$116 billion over the next decade.⁵ The agency noted that this system would arguably be fairer because—at least with respect to highways—"those who benefit pay the costs." This leads to the next principle: expanded use of user fees.

PRINCIPLE 2: PROMOTE USER FEES

Ever since Oregon first created a gasoline tax to pay for roads in 1919, user fees have been a major source of funding for surface transportation. As noted in a 2010 Reason Foundation report on restoring trust to the highway trust fund, user fees have several advantages: fairness (those who get the benefits pay the costs); proportionality (those who use transport services most pay the most); selflimiting (fees are set just high enough to cover the costs and do not raise general funds); and predictability (revenues depend on users, not on political whims). Perhaps most important, user fees provide signals to both users and producers, telling users the relative cost of the resources they use and telling producers where more investments are needed.⁷

These signals impose a discipline on both users and producers. Users who aren't willing to pay for transportation can't complain that the transportation system isn't serving their needs. Transportation providers whose revenues are limited to user fees have incentives to find the most cost-effective means of providing transportation. The departure from the

user-fee principle in recent years has reduced that discipline and led to bridges to nowhere and streetcar lines that almost no one rides even when the fares are zero.

Arguably, some forms of infrastructure are what economists call *public goods*, meaning that if the goods were provided privately, people would receive benefits from the goods even if they avoided contributing to the goods' cost. That, in turn, would mean not enough of the goods would be supplied—and perhaps none at all. Storm sewers, for example, benefit everyone in a floodplain whether they pay for them or not, so few people will have incentive to pay. As a result, such forms of infrastructure may have to be funded through taxes. Transportation, however, is not a public good. It is relatively easy to exclude people from highways and transit lines if they refuse to pay a user fee.

Some argue that transportation can provide benefits to people who aren't necessarily users, so some subsidies are justified. Such benefits are called externalities, and virtually everything in the economy has externalities. If Congress accepts the principle that externalities justify subsidies, then the advocates of every infrastructure project-indeed, every project of any kind-will attempt to show that their projects produce the greatest externalities. Since such demonstrations cannot be rigorously proven, this will result in transportation funds being allocated on purely political grounds. That, in turn, likely means an outsized portion of transportation's benefits will go to the wealthy and powerful rather than to the users who are willing to pay for them. However, the truth is that the vast majority of transportation benefits go to transport users, and not to some mythical side beneficiaries. Thus, the user-fee principle is perfectly applicable to transportation infrastructure.

One quantifiable benefit of user fees is that infrastructure funded by them is better maintained than infrastructure funded with tax dollars. Nationwide, 8.9 percent of bridges are considered structurally deficient. Only 2.6 percent of toll bridges are in this category, along with 5.5 percent of bridges owned by

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the states, which rely mainly on user fees to pay for roads and bridges. However, local governments rely more on general funds to maintain roads, and 12.2 percent of locally owned bridges are structurally deficient. State roads are also smoother than locally owned roads. In contrast to roads, transit systems rely exclusively on non-user fees to fund maintenance, and they have a maintenance backlog of nearly \$100 billion. To

To improve maintenance, then, what is needed is not a huge infusion of federal dollars but an increased reliance on user fees to pay for infrastructure. One way that Congress can apply this principle is to limit federal transportation expenditures to the fees collected from transport users by the federal government, as described above in Principle 1. Beyond this, Congress can incorporate user fees into the formulas for distributing funds to state and local governments, promote mileage-based user fees, and eliminate all restrictions on the use of highway tolling.

Principle 2a: Incorporate User Fees into Funding Formulas

Early formulas for distributing highway funds to the states relied on such factors as population, land area, and road miles. The 2015 reauthorization, known as the FAST Act, based 2016–2020 distributions on the amount each state received in 2015 with a variety of modifications. One modification, for example, required that states receive no less than 95 percent of the gas taxes their residents pay into the Highway Trust Fund. Transit funds were distributed using a variety of formulas that used such factors as vehicle revenue miles and passenger miles.

To simplify the formulas, both highway and transit funds should be distributed primarily based on the recent distributions of funds. Because grants to transit agencies can vary widely from year to year, a 10-year average should be used as the funding benchmark rather than just a single year, as was done in the FAST Act. Beyond this, Congress should encourage state and local transportation

agencies to rely more on user fees by incorporating those fees into the formulas.

User fees include funds collected from highway users and spent on highways, as well as funds collected from transit users and spent on transit. General funds collected for roads and transit and user fees collected for roads that are spent on transit or other purposes should not count toward the federal formula. This would give state and local government a powerful incentive to emphasize user fees for their own funding of transportation facilities, maintenance, and operation.

Basing the distribution of funds solely on user fees would result in a wildly different distribution of funds from historic levels. Because of that, the incorporation of user fees into the formula should be phased in over the six-year reauthorization period. In the first year, the distribution could be 90 percent based on historic funding and 10 percent based on user fees. With each successive year, user fees would be boosted by 5 percent until, in the sixth year, user fees would account for 35 percent of the funding. This would give state and local transportation agencies time and incentives to substitute user fees for other sources of funding.

The federal transit fund could be distributed to transit agencies based on the population and land area served by each transit system, as well as on the total fares collected by each transit agency. To simplify distribution in urban areas that are served by several transit agencies, Congress could give the Department of Transportation the option of distributing funds to states or metropolitan planning organizations, which would then be passed through to the transit agencies.

Principle 2b: Eliminate Tolling Restrictions

While gas taxes are a user fee, they are a poor sort of user fee, roughly similar to charging for groceries based on how far people push their shopping carts through the supermarket rather than what they put into those cards. Specifically, gas taxes suffer from four faults:

- Unlike income taxes, sales taxes, and property taxes, gas taxes don't automatically adjust for inflation. The value of the 18.4 cent gas tax that Congress set in 1993 has declined to about 11 cents, in 1993 dollars, today.
- Gas taxes do not automatically adjust for more fuel-efficient cars. Although a 3,000-pound plug-in hybrid Prius puts about the same wear and tear on a road as a 7,000-pound Chevrolet Suburban, the former pays a lot less to use the road, and electric cars pay nothing at all. This also creates an equity problem because low-income families tend to own older, less fuel-efficient cars.
- Gas taxes don't go to the owners of the roads. Although close to half of all driving takes place on minor roads and streets that are mostly owned by local governments, nearly all gas taxes go to the states. While the states share some of the taxes with local governments, it isn't enough, and so local governments have to supplement them with general funds. That supplement was \$43 billion in 2016 alone. In Not coincidentally, as noted above, local roads and bridges tend to have the biggest maintenance backlogs.
- Gas taxes don't fix congestion. Although
 it costs far more to provide a road network that can support peak-period traffic than off-peak traffic, auto drivers pay
 about the same whether they drive during rush hour or well outside of rush hour.

Increasing gas taxes can temporarily solve the first problem but would do nothing to solve the other three. Especially because the nation's auto fleet is becoming increasingly electrified, a new system of user fees must be found. Two promising candidates are tolling and mileage-based user fees.

When Oregon started collecting gas taxes to pay for roads in 1919, gas taxes made more sense than tolls because the fuel tax collection costs were much lower and more convenient than collecting tolls. That was still

true in 1956, when Congress first created the Interstate Highway System and the Bureau of Public Roads opposed tolling because of its high collection costs. As a result, Congress forbade states receiving federal highway funds from tolling the roads built with those funds, with a few existing toll roads grandfathered in.

Today, however, tolls can be collected electronically, greatly reducing the cost and inconvenience. In recent reauthorizations, Congress has allowed a few areas to toll roads on a demonstration basis. The Oregon Transportation Commission, for example, has applied for federal approval for a large-scale variable-priced tolling program of major freeways in the Portland area; the varying toll rates are intended to shift users to less congested times of the day. For the 2020 reauthorization, Congress should lift all restrictions on tolling and leave it to the states, who are technically the owners of the roads, to decide whether tolling is a good way of funding infrastructure.

Principle 2c: Promote Mileage-Based User Fees

In addition to pioneering gas taxes, Oregon has also become the first state to experiment with mileage-based user fees on a large scale. The author is a volunteer in Oregon's program and is satisfied that the state's system protects the privacy of auto users while making it possible to collect different fees based on road owner and the time of use or the amount of traffic.¹³

Variable pricing can be applied using either tolls or mileage-based user fees in order to eliminate congestion. Economists often note that congestion results from poorly priced roads; just as airfares are higher at Thanksgiving than in February and Florida hotels are priced higher in the winter than the summer, roads should be priced higher when demand for them is highest. However, this leads many people to charge that, if such policies were enacted, roads will be used only by the wealthy.

To the contrary, roads have a unique characteristic that guarantees this won't happen. Unlike airplanes and hotels, the ability of roads to accommodate demand *declines* when demand is

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By keeping traffic moving at high speeds, road pricing can double the number of vehicles using the roads during peak periods, effectively pricing people onto the roads rather than off the roads.

the highest. Numerous studies show that the throughput of roads falls when traffic slows: at 50 miles per hour, a freeway lane can move about 2,000 vehicles per hour, but at 25 miles per hour it can only move about 1,000 vehicles per hour. By keeping traffic moving at high speeds, road pricing can double the number of vehicles using the roads during peak periods. Instead of pricing people off the roads, variable charges actually price people onto the roads.¹⁴

The federal government, as well as the states, has long collected gas taxes, and some have suggested that the federal government begin a mileage-based user-fee program. But the main justification for having a federal fuel tax is the low cost of collection: the federal government collects its fees directly from importers and refineries, something the states couldn't do because not all fuel imported at one port or refined in one refinery are used in that state.

No such cost advantage exists for a federal mileage-based user fee, so the subsidiary principle (see below) suggests those fees should be collected by the states. The only possible federal role might be to help ensure that state systems are interoperable with other states, but that is likely to happen even without federal intervention. Oregon and Washington, for example, have both experimented with mileage-based user fees and ensured that their systems are interoperable.

Because of the advantages of mileagebased user fees over gas taxes, Congress may want to promote mileage-based user fees by offering a small bonus in the state highway formula. For example, for every 10 percent of highway users in a state that has mileagebased user fees instead of gas taxes, the state could get a 1 percent increase in federal funds. This would encourage states to convert to mileage-based user fees in order to maintain their share of federal funds.

PRINCIPLE 3: SUBSIDIARITY

Subsidiarity is the "the principle that decisions should always be taken at the lowest possible level or closest to where they will have their effect, for example in a local area rather than for a whole country."¹⁵ In other words, state and local governments are better equipped to know state and local transportation priorities than Congress, so Congress should not hamstring the state and local governments by telling them how to spend transportation funds. This principle requires:

- · no earmarking
- abolishing competitive grant funds
- reducing the number of formula funds to an absolute minimum, preferably just one for highways and one for transit
- ending the requirement for long-range transportation planning, and
- removing all restrictions on highway tolling.

The highway tolling issue is discussed under Principle 2. The others are discussed in more detail below.

Principle 3a: No Earmarking

In 1956, Congress created a formula for distributing highway funds based on each state's population, land area, and road miles. While the formula changed over time, each state had some discretion in how to use the federal funds it received so long as they were spent on highways. In 1982, Congress supplemented the formula by adding 10 earmarks—requirements that some of the funds be spent on specific projects.

In the 1987 reauthorization bill, the number of earmarks grew to 187, which contributed to President Reagan's veto of the bill—a veto that was overridden by Congress. There were 538 earmarks in 1991, and 1,850 in 1998. ¹⁶

Most of these earmarks didn't increase the funding received by a state. Instead, they came out of the funds the states were to receive under the highway formulas. In some cases, the states would have carried out the earmarked projects anyway. But often, those earmarks had little or nothing to do with transportation, including earmarks for museums, national park visitor centers, and other non-transportation-related

projects. Thus, while the earmarks clearly benefited some constituencies, they reduced the efficiency and effectiveness of the state transportation systems.

By 2005, the number of earmarks had increased to more than 8,000, or an average of 15 for each congressional district.¹⁷ From Congress's point of view, earmarks appeared to be cost-free because members appeared to be working hard to get projects for their constituents when, in fact, those funds were going to go to the states anyway.

One problem with this system was that earmarks tended to divert funds away from needed infrastructure maintenance toward new construction. New construction is more visible than maintenance, so politicians prefer to bring home funding for new projects rather than maintaining existing ones. As Sen. Tom Coburn (R-OK) noted after the 2005 reauthorization, the money earmarked by the bill "could have repaired more than 30,000 structurally deficient bridges." ¹⁸

Earmarks clearly violate the principle of subsidiarity. In 2010, Congress recognized this and decided to ban earmarks. That ban should remain in place for the 2020 reauthorization.

Principle 3b: Abolish Competitive Grant Funds

At first glance, competitive grant funds such as the New Starts and TIGER/BUILD programs sound like a good idea. Congress identifies a potential need but recognizes that some states or regions have that need more than others. Then it creates a fund and authorizes the Department of Transportation to distribute money from the fund to the projects according to specific criteria.

Yet those criteria are necessarily subjective. The result is that the distribution of funds turns out to be highly politicized. A Cato study of New Starts funds found that they disproportionately go to states that have members on the House Transportation and Infrastructure Committee. ¹⁹ A Reason Foundation study made similar findings regarding TIGER grants. ²⁰

Moreover, once a fund is created, interest groups lobby for it to continue operating long after it has fulfilled its original purpose. The TIGER (Transportation Investment Generating Economic Recovery) program was created to help the economy recover from the 2008 recession. The economy has recovered, yet the program lives on, albeit under the new name of BUILD (Better Utilizing Investment to Leverage Development).

In addition, Congress isn't always correct in identifying needs. Light rail and streetcars were rendered obsolete in 1927 when advancements made buses less expensive to buy and operate than streetcars. Between that year and 1975, hundreds of American cities converted their streetcar lines to buses, leaving just six cities with streetcars, and those cities retained them either because they went through tunnels that couldn't handle the exhaust fumes from buses or because the transit agency or company owned a private right of way for the streetcars.²¹

With everyone in the industry in agreement that buses were superior to streetcars (a belief that also applied to light rail), Congress nonetheless created a fund in 1991 to help cities build new light rail and streetcar lines. This decision resulted from former Massachusetts governor Francis Sargent's (R-MA) successful effort in 1973 to convince Congress to allow cities to cancel urban interstate freeways and use the federal funds to make transit capital improvements. Sargent wanted to cancel a freeway in Boston, and since Boston already had lots of rail transit, it had plenty of places where it could reallocate that federal transit money, such as the purchase of new railcars, signaling systems, and capital improvements.

Other cities, including Buffalo, Portland, Sacramento, and San Jose, also wanted to cancel freeways, but their transit systems centered on buses. Unlike rails, buses are not capital-intensive, so spending the cancelled freeway money on buses didn't make sense. These cities decided to build light rail, not because it was an efficient or effective way of moving people, but because it was expensive and could absorb the federal funds while at the

Cities decided to build light rail, not because it was efficient, but because it was expensive and could absorb the federal funds that had been dedicated to interstate freeways.

The average cost of light rail has risen from \$30 million per mile in the 1980s to \$200 million per mile today because cities are seeking a larger share of New Starts funds.

same time creating work for the contractors who otherwise would have built the freeways.

By 1991, all of the cities that wanted to cancel freeways had done so, but in the meantime a lobby had grown for more rail construction, regardless of its cost-effectiveness. So, Congress repealed the 1973 freeway law and created a new fund called New Starts for transit capital grants. Most of the money in this fund went for the construction of new rail transit lines.

To make matters worse, in order to be eligible for the largest possible share of the New Starts fund, cities began planning increasingly expensive rail projects. In the 1980s, after adjusting for inflation to today's dollars, the average light-rail project cost about \$30 million per mile. In the 1990s, costs grew to more than \$50 million per mile. In the 2000s, costs reached well over \$100 million per mile, and in the 2010s, average costs reached \$200 million per mile.

Seattle's Sound Transit 3 program, approved by voters in 2016, calls for spending \$32 billion to build 62 miles of light-rail lines, for an average cost of more than \$500 million per mile.²² Sound Transit is counting on federal matching funds for these lines. Without the New Starts fund, cities and transit agencies would be much more cautious with how they spend their resources.

Principle 3c: Reduce the Number of Formula Funds to a Minimum

Federal surface transportation dollars are currently distributed through at least two dozen different funds, including funds for such things as freight highways, transitoriented developments, and transportation planning.²³ The multiplicity of these funds has the same effect as earmarking: incentivizing states to spend transportation money in certain ways, which often results in less-efficient spending than if the states were free to prioritize transportation spending. Yet each fund creates a constituency of interest groups that benefit from the fund even if the overall benefits to the nation are negligible.

The division of funds into so many different

categories also increases the overhead costs to state and local governments because the Department of Transportation requires recipients to carefully document that the money they received was spent only on projects allowed under each fund. For example, Jay Schlosser, the city engineer in Tehachapi, California, reports that the administrative costs associated with federal funds are at least five times greater than those associated with the city's own funds.²⁴

To minimize these problems, Congress should reduce the number of funds. Ideally, there should be just two: one for highways that is distributed to the states, and one for transit that is distributed to metropolitan planning organizations or, for those transit agencies outside of metropolitan areas, the transit agencies themselves.

Congress should also minimize the requirements limiting the use of these funds, thus allowing state and local governments to set their own priorities. Historically, for example, most federal transit funds have been dedicated to capital improvements, and many transit agencies have also had to dedicate a large share of their funds to capital improvements to match federal funds. The result of this emphasis on capital is the nearly \$100 billion maintenance deficit faced by the nation's transit industry. Liberalizing these restrictions would allow individual agencies to make their own determinations of the appropriate ratios of capital, maintenance, and operating costs.

Principle 3d: End the Requirement for Long-Range Transportation Planning

Congress currently requires states and metropolitan planning organizations to prepare short-term (3-year) transportation plans, also known as transportation improvement plans, as well as long-range (20-year) transportation plans. Under the above simplified formulas, neither of these is necessary, but it is especially important to abolish the requirement for long-range planning, as its results have been pernicious.

Given rapidly changing technologies, no one can say for certain what our transportation

system will look like in 10 years, much less in 20 years. Just a decade ago, no one would have predicted the huge effect that ride-hailing services such as Uber and Lyft would have on cities and transit systems. Ten years from now, driverless ride hailing may have an even greater effect. Since these new technologies and their effects are unpredictable, no one can write an effective long-range transportation plan.

Congress requires that the long-range transportation plans be revised every five years to take such changes into account. However, once set in motion, government plans are difficult to change, even when they fail. Interest groups that benefit from a plan will lobby to keep it in place even if the plan is otherwise a failure.

For example, the Sacramento Area Council of Government's 2006 long-range transportation plan admitted that the plans written for the region "during the past 25 years have not worked out." Despite transit improvements and a deliberate decision not to build more roads, transit's share of travel had declined, and driving had doubled since 1980. Despite attempts to promote infill and discourage sprawl, low-density development "continues to out-pace infill." Yet the council learned

nothing from these failures. Instead, the 2006 plan "continues the direction of" previous plans by giving "first priority to expanding the transit system" and attempting to "reduce the number and length of auto trips." ²⁶

Rather than force state and metropolitan governments to devote funds to pointless and often counterproductive plans, Congress should simply let the states and regions decide for themselves how much planning they need to do. This is another case of affirming the principle of subsidiarity.

CONCLUSION

A surface transportation reauthorization bill based on the principles of pay-as-yougo, user fees, and subsidiarity would greatly increase the efficiency and effectiveness of federal transportation spending. While these principles may reduce the total amount of federal dollars being spent on transportation, the increased efficiency would more than offset that decline, thus improving public welfare. Congress should seriously consider incorporating these principles into the 2020 surface transportation reauthorization.

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