

# A Roadmap to Job-Creating Transportation Infrastructure: Doing the Right Things Right



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## **EXECUTIVE SUMMARY**

*There is broad public concern about the status of transportation infrastructure in the United States. On election night, the future President said "We are going to fix our inner cities and rebuild our highways, bridges, tunnels, airports, schools, hospitals." This report ("A Roadmap to Job-Creating Transportation Infrastructure: Doing the Right Things Right") examines the condition of the nation's infrastructure and makes recommendations to improve efficiency and effectiveness in federal efforts to support ground transport.*

*Infrastructure is important to the accomplishment of such important public goals as increased economic growth, long-term job creation (beyond project employment benefits), a better standard of living, and the reduction of poverty. The United States used to lead the world in infrastructure, but has fallen behind some of its competitors. At the same time, past infrastructure policy in the United States has created an inertia that has prevented serious prioritization of federal resources.*

*All of this is made more arduous by the nation's strained finances. The national debt is now approximately \$20 trillion while budget deficits continue and could increase without significant reforms. This means it will be difficult to commit additional resources to the nation's highways and rail systems.*

## **ADMINISTRATION PROPOSALS**

*The Administration has proposed approaches that go beyond "business as usual". They would seek to focus federal resources on national and regional priorities, improving both the effectiveness and efficiency of federal programs.*

*Perhaps the most significant federal program is the Highway Trust Fund, which uses highway user fees to support highway and transit. In recent years, general funds have also been added to the program, because revenues have risen more slowly than needs, in part because of improved fuel economy and low gas prices. The Administration proposes no highway user fee increases and proposes to phase out general fund support.*

*In addition, the Administration proposes to phase out funding for "new starts," which are usually expensive urban rail transit programs, because these programs are not of sufficient national significance.*

*The Administration has proposed increasing funding through programs that attract private infrastructure development and has proposed \$200 billion over the next 10 years in infrastructure expenditures, including transportation.*

*Because there are sufficient travel alternatives, the Administration proposes ending support for Amtrak's long-distance trains.*

*The Administration has referred to the necessity of regulatory reform and streamlining permitting requirements, both to reduce costs and to speed project delivery.*

## **ANALYSIS AND RECOMMENDATIONS**

*It is expected that the Administration will propose further initiatives, consistent with the directions it has outlined. The proposals are analyzed below and additional recommendations are offered.*

**Highways and Transit:** *The Highway Trust Fund provides most of the federal contribution to highways and transit, from user fees from drivers and commercial vehicle operators, such as the trucking industry. As expenditures have risen faster than revenues, the Highway Trust Fund has received general fund support as well.*

*The highway system is the country's most comprehensive transportation system. Autos (including light trucks) using the highway and roadway system account for the overwhelming majority of ground passenger travel, both for commuting and other trips. These roads allow people to commute to jobs throughout metropolitan areas more quickly than any other mode. The employment opportunities available by auto, as will be shown below, dwarf those by any other mode. Perhaps surprisingly, autos provide by far the largest share of commuting by low income populations. Highways provide the infrastructure for much of the freight transport*

and service vehicles. In the long run, improving access to employment and reducing traffic congestion will be most efficiently accomplished by improvements that involve highways.

By contrast, transit, which has received funding from the Highway Trust Fund for more than three decades, is intensely concentrated in just a few local areas. Only two percent of motorized trips are on transit. Even in the largest metropolitan areas, transit provides far less access to jobs than autos, while new transit rail projects and additional transit funding has failed to reduce traffic congestion.

By virtually any measure, transit is less effective and efficient than highways for passenger travel. Transit moves no freight or other commercial traffic and does not provide emergency service access. Highway Trust Fund revenues should be used only on highways.

**Private Finance:** The programs the Administration has proposed for attracting private infrastructure capital include the Transportation Infrastructure Finance and Innovation Act (TIFIA) program and US Department of Transportation authorized private activity bonds. As currently designed and operated, these programs do not sufficiently prioritize transportation infrastructure. Process reforms are needed to ensure the limited funding available is used for the highest priority projects. Evaluation criteria should be adopted, with traffic congestion relief, critical bridge replacement and highway system maintenance being the highest priorities. Express toll lanes, added to existing roadways, are among the most promising approaches because of their additional capacity and ability to reduce traffic congestion.

Further, the tax exempt financing and interest subsidies of these programs have a federal budgetary impact that increases deficits and the national debt. The Administration should seek to minimize these impacts by ensuring that only the most productive projects are approved.

Another federal credit instrument, the Railroad Rehabilitation and Investment Financing program could impose substantial losses on taxpayers. Despite its success to date, there are now indications that privately sponsored high-speed rail projects will seek large taxpayer guaranteed loans from RRIF. Private, at risk investment has not proven profitable in high-speed rail, which suggests a potential for default, such as what occurred with Solyndra. Program reforms are needed.

**Amtrak and High-Speed Rail:** It will be important to eliminate unnecessary subsidies. For example, as an Administration document puts it: "communities are served by an expansive aviation, interstate highway and interstate bus network." In this environment, Amtrak subsidies are unnecessary. Subsidies to high-speed rail are similarly unnecessary.

**Regulatory Reform and Streamlined Permitting:** The Administration has also proposed regulatory reform and streamlined permitting. Among the most important opportunities are repeal of the Davis – Bacon labor requirements, prohibition of project labor agreements, and setting up a single point of contact in the federal government for project sponsors.

## **CONCLUSION: IMPROVING EFFICIENCY AND EFFECTIVENESS**

It will be important to better focus private funding programs on the highest infrastructure priorities, and to minimize serious risks to taxpayers and bond buyers that could emerge from insufficiently vetted projects. The recommendations suggest doing the right things by limiting federal support to genuine needs for programs for which there is no alternative, and doing them right by spending no more than necessary. The sooner the hard choices are made, the better for future generations.

## **Part 1: The Public Policy Context**

For some time, there have been proposals for increased taxation, user fees, and other funding sources to expand ground transportation infrastructure and provide maintenance. Certainly, there is a need to ensure adequate infrastructure in order to support economic growth and to better the lives of people.<sup>1</sup>

Yet, the nation faces serious budgetary challenges, and interests representing from virtually all fields of government expenditure seek higher levels of funding. As a result, substantial funding increases for infrastructure at the federal level are likely to be exceedingly difficult.

In his election night victory speech, President-Elect Trump said, "We are going to fix our inner cities and rebuild our highways, bridges, tunnels, airports, schools, hospitals."<sup>2</sup> He has proposed a \$1 trillion program intended to facilitate the infrastructure improvements and maintenance.<sup>3</sup> Part of this would be for ground transportation.

Legendary management consultant Peter F. Drucker said, "Efficiency is doing things right; effectiveness is doing the right things." This is an appropriate perspective for any review of national infrastructure policy.

This report examines ground transportation modes (highways, transit and railroads and related issues) and recommends infrastructure policies to spur greater economic growth and long-term job creation (beyond the project employment benefits), toward the objectives of a better standard of living and less poverty. Infrastructure proposals in the Fiscal Year 2018 budget are considered, along with additional issues consistent with the objective of improving economic growth.

### **1.1: The Importance of Infrastructure**

Quality transportation infrastructure is crucial to the economy and economic growth of the nation. The US emergence as the world's richest economy has been undergirded by its transportation infrastructure. This is obvious from the development in the past of the national canal and railroad systems. More recently, it is seen in both the US interstate highway system and state developed toll highway systems in the East and Midwest, much of which was constructed before the interstate highway system. Travel times for both people and goods were reduced by these highways as intercity traffic no longer encountered delays at traffic signals, nor contested city streets. The same was true in urban areas, where commuters were able to use freeways to shorten their travel times, again, avoiding traffic signals and arterial street congestion.

This led to lower costs, greater economic integration, more competitive markets, and economic improvement. At the most basic level, the infrastructure discussed in this report is crucial to accessing employment. A stronger economy, with greater labor participation depends very much on the ability of people to reach their jobs quickly and the availability of such access to as many people as possible.

A strong US transportation system facilitates economic growth, long-term job creation, a better standard of living, and less poverty by minimizing travel times and improving labor market efficiency. Freight efficiency is also supported by metropolitan and intercity transportation infrastructure that continues to encourage commerce and lower consumer costs.

### **1.2: Surface Transportation Infrastructure in the United States**

Historically a leader in world infrastructure, the US, according to the latest World Economic Forum *Global Competitiveness Index*, ranks 11th best out of 138 rated nations in the world in the overall quality of its infrastructure.<sup>4</sup> The US ranking in transportation infrastructure was somewhat better, at seventh, trailing such competitors as Japan and France, but leading Germany, the United Kingdom and Canada.

To be sure, America's infrastructure has performed well enough to provide the highest standard of living for the largest number of people in the world. The legacy of earlier infrastructure decisions, such as the completion of the interstate highway system, is still evident. Overall, America's workers reach their jobs in less time than that of international competitors (Figure 1).<sup>5</sup> Further, Americans spend less time in traffic congestion than in other parts of the world (Figure 2).<sup>6</sup>

Nevertheless, there is considerable concern about the state of US infrastructure. This is documented in congressionally mandated periodic reports by the US Department of Transportation, as well as reports by "think tanks" and industry associations.

Traffic congestion is growing in the nation's largest cities (metropolitan areas, which are labor markets). The latest data shows that traffic congestion imposed \$132 billion in excess fuel and time costs for automobile drivers and \$63 billion for trucks.<sup>7</sup> All of these costs are paid by consumers, whether through the cost of driving or the prices of goods and services.

Since 1982, when the first urban traffic congestion index was pioneered by the Texas A&M Transportation Institute, excess travel times due to congestion have tripled from 7.0 percent to 20.4 percent in 2014.<sup>8</sup> Congestion effectively reached a plateau starting with the Great Recession, a result of much higher gasoline prices and the long economic recovery. During that period, the increase in vehicle travel virtually stopped in the United States, but in the last two years has risen strongly. Traffic congestion, still severe in a number of urban areas, seems likely to begin its increase again.

The Trump Administration indicates "that the Nation's infrastructure needs to be rebuilt and modernized to create jobs, maintain America's economic competitiveness, and connect communities and people to more opportunities."<sup>9</sup>

Nonetheless, the trends and economic challenges require a renewed commitment to improving the transportation infrastructure.

### 1.3: The Politics of Federal Infrastructure Policy

Much of the discussion about federal infrastructure policy centers on funding. Generally, federal funding policy has an inertia of its own. Major programs, like highways, transit, and Amtrak typically receive allocations based on their previous funding levels.

However, infrastructure reports from interest groups sometimes read like "wish lists" of desired projects. As such they rarely provide meaningful prioritization between project categories, or address broader economic and political contexts. For example, the Senate Democratic proposal for a \$1 trillion infrastructure program does not seem to indicate concern with the national debt or the federal deficit.<sup>10</sup> In short, the nation does not



Figure 1

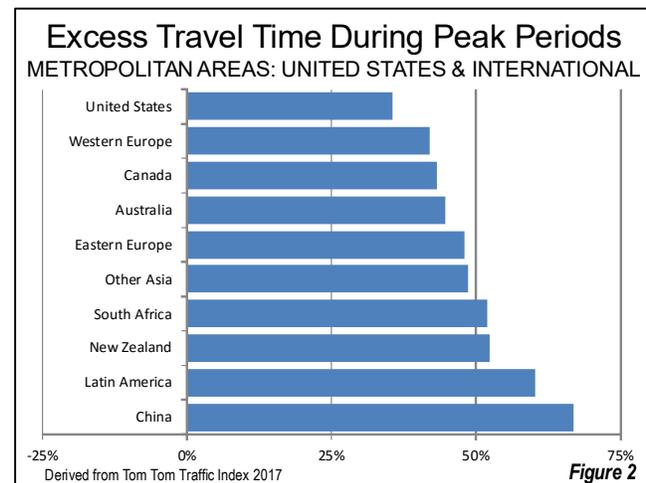


Figure 2

have a transportation infrastructure needs list that is prioritized based on economic considerations, without prejudice to any mode.

Further, there is a tendency to focus on the short-term employment impacts of federal funding. In fact, virtually any federal funding that supports construction will support short-term employment. But to focus on immediate project related employment can encourage short-term, “make work” projects that contribute little to long-term economic growth.

The real issue is longer term --- the impact of the resultant economic growth on the economy, long-term job creation, and people’s lives. While \$1 trillion in productive infrastructure could spur economic growth and long-term job creation, \$1 trillion in less productive infrastructure might have little more than temporary employment impacts during construction. This is about doing the *right things right*.

In fact, not all infrastructure is equal. This is illustrated by the differences in federal subsidies per passenger mile (person mile) between modes of travel. According to a US Department of Transportation study, the cost to the federal treasury of each 1000 miles of travel on transit was \$159 in 2002. By contrast, the federal subsidies for each 1000 miles of travel by highway was a negative \$1.79, indicating that there was a profit to the federal treasury relative to costs.<sup>11</sup>

Moreover, user fees differ from general fund expenditures in being paid only by users (such as highways, in the case considered here), as opposed to general revenue, which is financed by taxpayers. Unlike general fund revenues, user fees neither increase the national debt nor add to budget deficits.

There is also little serious prioritization relative to objectives, such as improved economic growth and greater labor participation. As a result, costlier and less effective approaches with strong special interest group support can displace spending on more efficient and effective alternatives. In the longer run, politically driven infrastructure shortchanges the nation, the economy, and the people.

This policy environment does not lend itself to the consideration of "opportunity costs," which consider alternative uses for funding that would produce more favorable results (including not spending). Yet, choices must be made to achieve the maximum contribution toward national objectives that could be achieved from both "doing the right things" and "doing them right."

#### **1.4: The Broader Context**

The United States has been living beyond its means for some time. America faces a national debt of \$20 trillion,<sup>12</sup> and the federal government deficit was nearly \$600 billion in 2017. While budget deficits have been reduced from their perilous levels above \$1 trillion in the early part of the decade, they remain high by historical standards. The Administration expresses concern that budget deficits will soon begin to rise again.<sup>13</sup>

According to the Administration:

We have borrowed from our children and their future for too long, the devastating consequences of which cannot be overstated. We are fast approaching having publicly held debt at or exceeding 100 percent of our Gross Domestic Product (GDP), a point at which hopes for a more prosperous future are irrevocably lost.<sup>14</sup>

The new Administration intends to substantially increase spending on national defense, citing threats such as the increase in international terrorism. Further, there are strong lobbies for additional spending across the spectrum of federal activities.

The proposed Administration 2018 budget indicates the necessity of making substantial changes to previous policies and spending priorities if people are to be "safe and prosperous in the future."<sup>15</sup>

Despite any justification, in a vacuum, of any particular spending program, deficit spending indicates a political process inherently unable to effectively prioritize the distribution of scarce resources available from the people and the economy.

The Administration also cites economic growth that has continued at well below historic levels in recent years. Labor force participation rates, even among people in the prime of their working careers has dropped. Many have left the workforce out of their inability to obtain sufficient employment. This is a larger problem in the inner cities, where unemployment rates are much higher than average.

In this fiscal environment, it will be difficult to increase government revenues for infrastructure. Consistent with these challenges, the Administration offers transformative proposals that would better align federal priorities with federal resources, and more appropriately place responsibilities for programs not inherently federal or national with state and local governments. The Administration also proposes to reform regulations that delay the delivery of important infrastructure or make them more costly.

## **Part 2: The Way Forward: Doing the Right Things Right**

This part of the report considers the Trump Administration infrastructure proposals and includes analyses and suggestions for further initiatives consistent with the Administration's direction. The context is infrastructure development in the broader public policy context, especially to better position the nation for improved economic growth.

Further, the role and performance of specific modes of passenger and freight transportation is considered. The choices made in infrastructure may add materially to national economic growth and better standards of living, both of which would contribute to reducing the national debt and federal deficits.

Hard choices are necessary to restore fiscal health the United States. The greatest long-term economic benefit should be sought for each dollar of federal spending. Most federal programs, including transportation programs, have strong political constituencies. The challenge is to evaluate programs for their efficiency and effectiveness, rather than their support by special interests.

### **2.1: The Administration's Proposals**

The Trump Administration has issued a number of policy statements on transportation infrastructure. Thus far, the proposals are principally conceptual, while some specific proposals have been made. Additional proposed measures are expected in the months to come.

An important foundation of the Trump Administration's proposals is that in the current environment, "business as usual" is not enough. According to the Administration: " .. we must ensure the Federal Government spends precious taxpayer dollars only on our highest national priorities, and always in the most efficient, effective manner."<sup>16</sup>

The Trump Administration's infrastructure program is intended to be "transformational." It is aimed at restoring economic growth to historical averages, by improving both national productivity and long-term job creation through encouraging business investment. The program would seek to improve households' finances, by increasing the work force participation rate, especially among the young and low-income segments which have been "left behind."<sup>17</sup>

Mindful of the present economic and social context (Section 1.4), the proposed policies would be anything but "business as usual." There would be an emphasis on programs of federal, national and regional significance, while transferring other programs to more appropriate levels, such as state and local government or the private sector. Federal regulations and permitting requirements would be streamlined. There would be a preference for user-fee funding, making important programs self-sustaining, to minimize the impact on the national debt and the federal deficit.

Effective prioritization requires attention to "outcomes" for people (such as better mobility or access) rather than inputs (such as modes of transportation). Such prioritization would lead to "doing the right things." Regulatory and permitting reforms would assist in "doing things right," by maximizing cost effectiveness, thus spending no more than necessary to achieve public objectives.

In short, the Administration sees the necessity for a departure from present approaches, indicating that: "Simply providing more Federal funding for infrastructure is not the solution. Rather, we will work to fix underlying incentives, procedures, and policies to spur better, and more efficient, infrastructure decisions and outcomes."<sup>18</sup>

## 2.2: Summary of Specific Administration Proposals

This section summarizes the specific proposals that have been offered by the Administration. Part 3, which follows, provides analysis and offers considerations for further policy initiatives to support and strengthen the general themes of the Administration.

**Highways and Transit:** The most significant surface transportation program is the Highway Trust Fund, which collects user fees from drivers and commercial operators (such as the trucking industry). These funds are used to support roads, transit and other projects. Until about a decade ago, Highway Trust Fund spending was wholly financed from user fees, however more recently these funds have been supplemented by general funds.

Significantly, the Administration has not called for highway user fee increases. This is appropriate, given difficulties with the program, principally diversions away from highways, the nation's prime passenger and freight system to non-highway programs (Section 3.1). Other difficulties include regulatory (Section 3.5) and permitting environment that raises costs (Section 3.6). Diversions and excessive regulatory and permitting burdens have interfered with efforts to provide sufficient highway capacity, safety and maintenance.

The Administration further proposes to end general fund support of the Highway Trust Fund starting in 2021 (the first year after the present Surface Transportation Act). The Administration further calls for a "comprehensive reevaluation of the surface transportation funding regime."<sup>19</sup>

The Trump Administration has also proposed to phase out the federal "new starts," program, which funds urban rail systems and other high-capacity transit expansions. The Administration suggests that, rather than rely on federal sources, local transit projects "should be" funded by the localities that use and benefit from these localized projects.<sup>20</sup> As is shown below (Section 3.1), these programs have generally not reduced traffic congestion, despite predictions by proponents. Transit work trip market shares have stagnated in metropolitan areas building systems, while driving alone has continued to increase.

**Private Financing:** In recent years, revenues for highways have not kept up with the costs of the program, as improved fuel economy has reduced federal user fees per mile of travel. With more electric and hybrid cars being used, this trend seems likely to continue.

The Administration has indicated that "Federal resources should be focused on making targeted investments that can leverage private sector investment and incentivize the creation of revenue streams where possible."<sup>21</sup>

The thrust is to substitute private finance for increased federal spending. According to the Administration: "The private sector can provide valuable benefits for the delivery of infrastructure, through better procurement methods, market discipline, and a long-term focus on maintaining assets."<sup>22</sup> The Administration proposes spending \$200 billion over the next ten years to leverage a total of \$1 trillion in infrastructure spending, including transportation.

The Administration indicates that two programs would be key to its private financing initiative, the TIFIA (Transportation Infrastructure Finance and Innovation Act) program and the US Department of Transportation (USDOT) authorization of private activity bonds.<sup>23</sup> Formal proposals have not yet been made. However, there are administrative and design difficulties with these programs that need to be addressed to achieve the Administration's objectives (Section 3.2).

**Amtrak:** According to the Administration, "Amtrak's long-distance trains do not serve a vital transportation purpose, and are a vestige of when train service was the only viable transcontinental transportation option." The Administration goes on to point out, "Today communities are served by an expansive aviation, interstate highway, and intercity bus network."<sup>24</sup> Indeed, financial support to highly subsidized modes when there are ample travel alternatives seems like an extravagance in the context of the large national debt and substantial budget deficit.

The Trump Administration would terminate "Federal support for Amtrak's long-distance train services, which have long been inefficient and incur the vast majority of Amtrak's operating losses."<sup>25</sup> Given the availability of alternative intercity travel alternatives, this proposal should be just a start (Section 3.3).

**High-Speed Rail:** The President has spoken admiringly of foreign high-speed rail systems, but has not proposed public funding. This is appropriate. As with Amtrak, travel alternatives already exist, rendering subsidies inappropriate. This issue is analyzed further in Section 3.4.

**Regulatory Reform and Streamlining Permitting:** The Administration has referred to the necessity of regulatory reform and streamlining permitting requirements, both to reduce costs and to speed project delivery. These issues are discussed in Sections 3.5 and 3.6.

### **Part 3: Analysis and Additional Recommendations**

This part analyzes the Administration proposals and directions and suggests supplemental measures that should be a part of the eventual approach; to improve economic growth, long term job creation and the higher standard of living, while reducing poverty. Additional recommendations are provided consistent with the directions of the Administration, especially the need for a "comprehensive reevaluation of the surface transportation funding regime", as noted above.<sup>26</sup>

#### **3.1: Highways and Transit**

The focus of transportation policy should be on outcomes, rather than inputs. This requires a focus on generic needs such as personal and freight mobility, rather than modes of transport, such as autos or transit.

The Highway Trust Fund was established in 1956 to assist states in building the more than 40,000-mile controlled access interstate highway system. The program featured user fees charged per gallon on motor fuels, principally gasoline and diesel. These funds were provided to states for the construction and support of the interstate highway system. The user fee approach requires that only those who use the system pay for it. Originally, the fee was three cents per gallon, which rose to four cents in 1956. As late as 1982, 97 percent of the collected funding was forwarded to the states for highways. By this time, the interstate highway system was largely complete, apart from a few relatively short and expensive urban gaps.

Until changes to the law became effective in 1983, funding was principally dedicated to the interstate highway system. From 1983, part of an increased user fee was placed in the newly established Mass Transit Account in the Highway Trust Fund. Since that time, user fees have risen to 18.4 cents per gallon for gasoline and 24.4 cents per gallon for diesel fuel.<sup>27</sup> There are additional user fees for commercial trucks.

The Mass Transit Trust Account receives 16 percent of the gasoline user fees and 11 percent of the diesel user fees, though contributes virtually no use revenue. Part of the justification for this was the expectation that expanded transit could reduce traffic congestion by attracting drivers from their cars. Moreover regional transportation strategies and rail transit referenda have routinely been justified for their claimed potential to reduce traffic congestion. In fact, congestion has not been reduced, as is indicated below (See: “New Urban Rail”).

Considerable revisions have been made to the program since the early 1980s. In addition to diversion of funding to the Mass Transit Account of the Highway Trust Fund, additional programs have taken funds from the Highway Account, including the Congestion Mitigation, Air Quality Improvement Program, the Transportation Alternatives Set Aside, and others. A natural consequence of these diversions is that sufficient attention has not been paid to critical traffic congestion. Both mobility and access are limited by failure to expand and better manage both urban and rural traffic.

As it became more politically difficult to increase user fees, Congress "topped up" the Highway Trust Fund with general funds so that they would have enough funding for the intended purposes. From 2008 to 2020, the total general fund expenditure will have been \$140 billion.<sup>28</sup> Until this time, the Highway Trust Fund was self-supporting, relying on revenue from users, not from taxpayers.

### **3.1a: Comparing Highways and Transit**

The nation has a single virtually comprehensive national transportation system, the highways (including local roads). Virtually every settled part of the nation can be reached by this system, which moves nearly all motorized personal travel and service vehicle traffic, as well as a large share of local and intercity freight. Even goods that are transported for most of their distance by non-highway modes (such as rail and air freight) often rely heavily on trucks for pickup and delivery.

This analysis focuses on the work trip because of its economic importance. Work trips are overwhelmingly concentrated in morning and evening peak hours and are the proximate cause of most traffic congestion. If the highway system effectively and efficiently handles the work trip, it will better handle other trip purposes, which tend to be more dispersed across time and geography. The system will also better serve commercial travel, such as trucks and service vehicles.

Research indicates that economic growth, including long-term job creation, tends to be stronger in a labor market where a larger percentage of the jobs can be reached in a particular period of time (such as 30 minutes, which is more than the 26-minute national one way work trip travel time average).<sup>29</sup> Autos provide by far the shortest travel times and greatest employment access (See “Access to Jobs,” below). Thus, to encourage greater economic growth and job creation, a top priority should be to reduce traffic congestion (both urban and rural), along with safety measures such critical bridge replacement and refurbishment and system maintenance.

In addition, autos on highways provide “seamless” door-to-door travel, from within walking distance of the virtually any origin to within walking distance of the trip destination in the United States. In contrast, most urban trips, taken by transit, would require one or more transfers from one transit route to another. The necessity for transfers is an important factor in rendering transit generally incapable of competing with auto travel times, and keeping ridership small compared to auto use.

**Summary of Travel by Mode:** Autos (all personal vehicles, including pickups, vans and sport utility vehicles) account for 85.6 percent of work access. Transit accounts for just 5.2 percent (Figure 3).<sup>30</sup> Autos carry more people to work than transit in more than 99 percent of the nation's 3,100 counties. Transit exceeds highway use only in two counties, Manhattan and Brooklyn, both within the city of New York (as opposed to the New York metropolitan area).<sup>31</sup>

Commuting by auto pervades national employment. In *all* of the more than 900 urban labor markets, the metropolitan and micropolitan areas that constitute 94 percent of the US population, workers use autos to a greater extent for commuting than transit. The time that labor markets consisted of “bedroom” suburbs from which people commuted to downtowns has long since passed. Downtowns contain less than 10 percent of employment in the major metropolitan areas.<sup>32</sup> By 2000, more than three-quarters of major metropolitan area employment was dispersed outside downtowns and the polycentric “edge cities”, such as Atlanta’s Buckhead, Las Colinas in Dallas-Fort Worth, Denver Tech Center, Overland Park in Kansas City, and White Plains in New York.<sup>33</sup> Jobs continued to disperse from 2000 to 2015.<sup>34</sup>

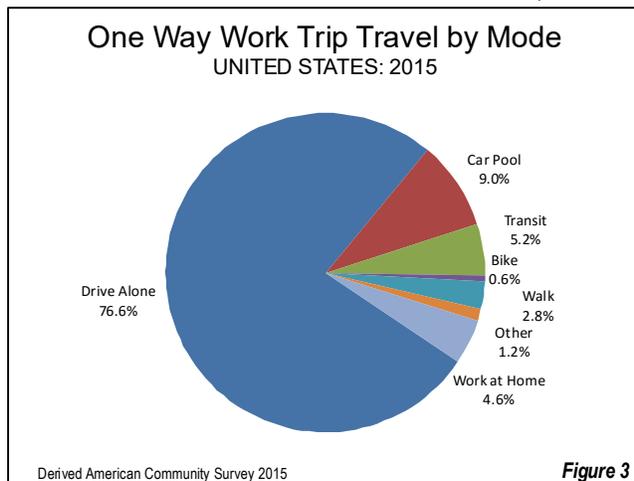


Figure 3

**Concentration of Transit Commuting:** In contrast to commuting by auto, transit commuting is extraordinarily concentrated in just a few local areas.

By far the largest share of transit commuting (35 percent) is concentrated to destinations in the city of New York (as opposed to the metropolitan area). Another 20 percent of transit commuting is to destinations in five other core municipalities (Chicago, Philadelphia, San Francisco, Boston and Washington). Taken together these six municipalities constitute 55 percent of the nation's transit commuting destinations, while comprising only five percent of employment.<sup>35</sup> While national transit ridership rose as gasoline prices increased, the concentration of transit commuting destinations only intensified, with 70 percent of the transit commuting increase over the past five years in these municipalities.<sup>36</sup>

This concentration is not surprising, given that these six municipalities contain the six largest downtowns (central business districts or CBD's) in the nation. These areas have the highest concentration of work trip destinations in the nation, which makes them superlative transit markets. However, these municipalities contain only six percent of the national employment. Their share of national transit commuting (55 percent) is nearly ten times their national share of employment.<sup>37</sup>

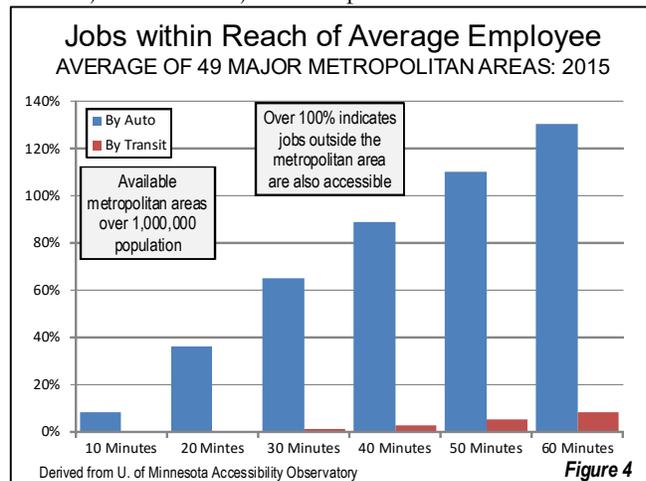
As for the rest of the nation, commuting by transit is thinly spread across areas with the remaining 95 percent of employment. Only 22 of the 384 metropolitan areas had a transit work trip market share above the national average in 2011-2015. All were either larger metropolitan areas or smaller metropolitan areas with major universities.<sup>38</sup>

**Travel Times:** Highways have a considerable advantage over transit in travel time. On average, work trips by transit take about twice as long as driving alone (48.8 minutes compared to 24.8 minutes). In New York, with by far the most comprehensive transit system in the nation, transit commuting averages 22 minutes longer than driving alone.<sup>39</sup>

The longest commutes are disproportionately on transit. Among the 9% of commuters with one-hour or more one-way commutes, 38% were on transit, more than seven times their overall five percent share of commuting.<sup>40</sup>

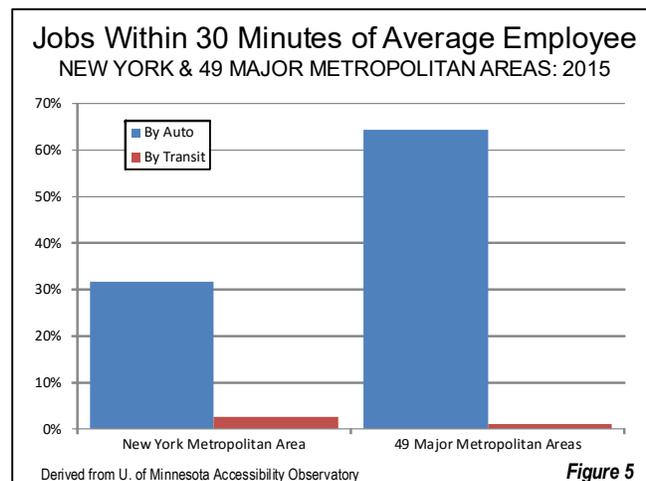
**Access to Jobs:** Computer modeling advances have made it possible to provide detailed transportation access information in metropolitan areas. The groundbreaking work of the University of Minnesota Accessibility Observatory estimates the number of jobs that can be reached via auto and transit, by residents of metropolitan areas. The results indicate that auto access to jobs in all major metropolitan areas is far superior to that of transit, over the entire spectrum of travel times from 10 minutes to 60 minutes (Figure 4), even in the metropolitan areas with the best transit systems.<sup>41</sup>

On average, employees can reach 65.1 percent of jobs in the major metropolitan areas by auto within in 30 minutes.<sup>42</sup> This compares to the average overall national one-way work trip travel time of 26 minutes.<sup>43</sup> The least accessible metropolitan area was Chicago with 30 percent of jobs accessible within 30 minutes by car. In New York, 32 percent of jobs are accessible in 30 minutes by car, making it the second least accessible metropolitan area.



Some regional transportation plans report the population living within walking distance of a transit access point (stop or station). Brookings Institution research indicated that in 2008 approximately two thirds of employees in major metropolitan areas lived within walking distance of a transit stop.<sup>44</sup> This was a generous estimate, based on a walking distance of 0.75 miles. Research indicates that this approximately three times the normal distance people are willing to walk to transit.<sup>45</sup> Even so, having transit within walking distance is no indication that a significant percentage of a metropolitan areas employment locations can be reached by transit in a reasonable amount of time.

The University of Minnesota research also indicates that the average employee in major metropolitan areas can reach only a small fraction of the jobs by transit within 30 minutes compared to by auto. On average, only 1.2 percent of jobs can be reached by the average employee in 30 minutes by transit. This compares to the 65.1 percent average by car, which is 50 times as high. This is a research conclusion that should be very surprising, especially to a media and public policy environment that routinely refers to transit as an alternative to driving (See: “Transit as an Alternative to the Auto?”).<sup>46</sup>



The ability to reach work by transit in metropolitan areas with the highest levels of transit service is extremely limited. The San Francisco metropolitan area does best, where 3.5 percent of jobs can be reached in 30 minutes by transit. By comparison, 16 times as many jobs can be reached by the average employee in 30 minutes by car (56.5 percent).

Transit access to employment is even less in the New York metropolitan area, where only 2.5 percent of jobs can be reached in 30 minutes (Figure 5). New Yorkers can reach 13 times as many jobs by auto (31.8

percent). Even if a commute time of 60 minutes is assumed, the jobs that can be reached by transit are less than one-fifth those that can be reached by auto (15 percent by transit compared to 79 percent by auto).

**New Urban Rail:** New urban rail lines have been built in a number of cities. Invariably, the proponents of such systems have promoted the expectation that traffic congestion would be reduced, as drivers are attracted from their cars.<sup>47</sup> At least partly to achieve this goal, the federal government has provided billions in subsidies to metropolitan areas like Honolulu, Boston, Seattle, Miami, Minneapolis-St. Paul, and Houston. Contrary to expectations by proponents, the new systems have had little impact on travel behavior.

Among 19 metropolitan areas that have built new light rail or metro (subway) systems since 1980 there has been virtually *no improvement* in transit's market share, falling from 4.7 to 4.6 percent according to the last data before system opening.<sup>48</sup> Driving alone has increased from an average of 73.0 percent to 76.6 percent in the same cities.<sup>49</sup> Without reducing the number of people driving alone, new rail systems cannot reduce traffic congestion.

These results are not surprising, considering transit's generally slower travel (See: "Travel Times," above) and the much smaller number of jobs that can be reached (See: "Getting to Work," above). Moreover, with new rail systems, additional transfers between routes can be required, which lengthens travel times. Drivers are not likely to be attracted to services that take longer, or in many cases cannot take them within walking distance of where they need to go.<sup>50</sup>

**Working at Home:** Meanwhile, the percentage of people working at home exceeds that of transit in all but 39 of the more than 900 labor markets that comprise 94 percent of the population.<sup>51</sup> If New York's richly transit-served Manhattan is excluded, more people work at home than commute by transit in the United States. Since 1980, just before transit funding from the Highway Trust Fund was established, the share of people using transit to get to work has declined more than 15 percent. Yet, national transit spending per passenger mile increased 60 percent between 1982 and 2014.<sup>52</sup> At the same time, working at home increased more than 90 percent and required virtually no government expenditure.<sup>53</sup>

**Overall Travel:** The share of overall personal travel for all trips by autos is even greater than for work trips (above), at 94.2 percent, followed by 1.9 percent on transit and 1.7 percent on school buses.<sup>54</sup>

**The "Left Behind:"** The Administration's budget refers to the "left behind", including the low-income citizens of inner cities. One of transit's principal purposes is to provide mobility to low-income people who are unable to afford autos.<sup>55</sup>

However, it is not well understood that the overwhelming majority of employees with below-poverty incomes (77 percent) already *use autos* to get to work. This is nearly as high as the average for all employees (86%). By contrast, transit's share of work trips by employees with below-poverty incomes is only 8%, although still above the overall average of 5 percent.<sup>56</sup> Among the more than 900 labor markets that constitute 94 percent of the US population, only in one (New York, NY-NJ-PA) do more employees below the poverty level commute by transit than by car.<sup>57</sup>

Indeed, the paucity of transit access to jobs (see "The Work Trip," above) in even the largest metropolitan areas represents a significant burden for low income workers. For example, a Federal Transit Administration study on Boston found that low-income core city workers could reach virtually no entry level jobs in the high growth suburbs within 30 minutes by transit. This is despite Boston having one of the best transit systems in the nation.<sup>58</sup>

Low-income residents dependent on transit have a far more limited number of employment opportunities than people who have cars. Their effective employment mobility in 30 minutes may be limited to single routes (mainly buses) that have a bus or rail stop (or station) within walking distance of their homes and a

stop within walking distance of their jobs. The chances that a day care facility will be along the same route are even less, and if it were, stopping would require waiting for the next bus or train, which would make the trip even longer. These factors could be serious impediments to working at all.

This inflexibility is much of the reason for the small percentage of jobs that the average commuter can reach by transit, as indicated by the University of Minnesota research. This deficit in access can amount to hundreds of thousands of jobs. Having a car is crucial to employment access throughout the metropolitan area.

Some researchers have concluded that the key to providing access for low-income workers without cars is programs to make cars available. As Progressive Policy Institute research put it: "The shortest distance between a poor person and a job is along a line driven in a car."<sup>59</sup>

The reality is that people without autos generally have far more limited employment prospects and face longer commutes. This leads to lower labor participation rates, which means a lower standard of living and greater poverty. Autos are the only alternative for accessing the dispersed job locations throughout the metropolitan area. States and local governments should examine whether some transit funding would be more effectively used to assist those without autos to obtain cars, following the example of some innovative programs.<sup>60</sup> Even greater opportunities may be on the horizon, with the anticipated advent of autonomous cars, which might provide door-to-door service more cost effectively, for people unable to afford their own cars.

Fortunately, there has been significant progress in auto access. Over the last half-century, there has been a 50 percent decline in the share of households without a vehicle, from 18 percent to nine percent. Much of that improvement has been in improved access by African-American and Hispanic households.

### **3.1b: Assessment**

The reality is that the most effective way for transportation to facilitate economic growth and long-term job creation in metropolitan areas by improving access to jobs. This requires reducing traffic congestion.

Traffic congestion can be reduced by expanding highway capacity. Texas A&M Transportation Institute analysis shows that urban areas that have expanded highway capacity at higher rates relative to demand have done better in keeping traffic congestion under control.<sup>61</sup> For example, in fast growing Dallas-Fort Worth, Houston, and Phoenix, pro-active roadway expansion programs have kept increases in traffic congestion at less than one-third the national average, despite more than doubling their populations over the past three decades.<sup>62</sup> Another means of improving traffic congestion is better traffic management, which is continually improving due to information technology advancements.

#### **Transit as an Alternative to the Auto?**

Transit is often characterized as an alternative to autos for urban trips. This is implicit in the characterization of the "love affair with the automobile." In fact, it is not preference that explains why so many people drive, but necessity. Without the car, most trips in metropolitan areas would be much longer, while many might not even be possible, as both the University of Minnesota and Brookings Institution research indicates (above). It is misleading to suggest otherwise. Except to very small, local geographic locations (such as Manhattan and Chicago's Loop), transit is not a viable alternative to the auto.

Part of the misconception may be due to the concentration of the national media, much of it located in Manhattan (in the city of New York). No place is more atypical than the rest of the nation than Manhattan. With a land area one-half that of Walt Disney World in Orlando, and less than two percent of the jobs, Manhattan is the destination of more than one-quarter of all the nation's transit commuters. In a nation where nearly 80 percent of residents drive to work, fewer than five percent do in Manhattan.<sup>63</sup>

Finally, despite sometimes espoused utopian urban ideals, the modern metropolitan areas cannot be reconfigured to replace auto use with travel by transit, bicycle or walking. The nation has a single transportation system, the highways, which account for nearly all commuting and 60 percent of the surface transportation freight movement (trucks and rail) and virtually all of the local emergency service travel.<sup>64</sup> To duplicate this with transit is virtually impossible and, not surprisingly, no regional transportation plan seriously proposes measures to accomplish that objective.

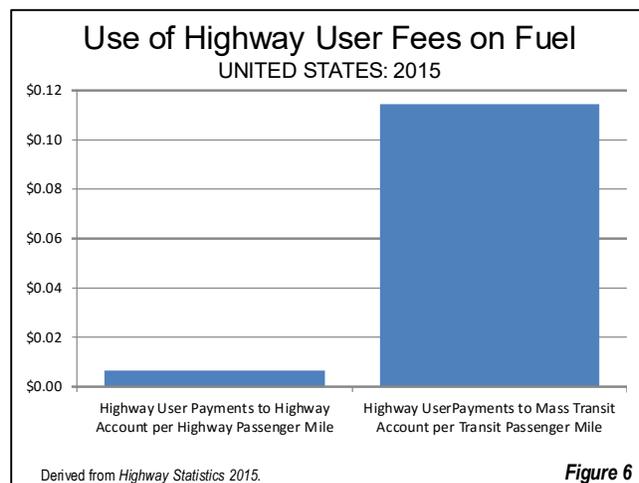
Congress has been unable to muster the support to increase highway user fees in recent years. Robert Poole and Adrian Moore of the Reason Foundation surmise that " .. there does appear to be a connection between motorist/taxpayer confidence in a government's highway program and their willingness to support increases in fuel taxes."<sup>65</sup> The political support may be limited because people lack confidence that higher user fees will improve highways to a corresponding degree.

**The Use of Highway User Fees:** Based on the 2016 authorizations, the share of funding transferred to the states for highway purposes has dropped to less than 70 percent.<sup>66</sup>

**Transit:** By far the largest diversion is highway user fees that are dedicated to mass transit.<sup>67</sup> Transit receives nearly 16 percent of Highway Trust Fund revenues by law through the Mass Transit Account. In addition, transit receives funding from the Highway Account itself. As a result, transit receives a disproportionate share of federal funding relative to its less than two percent share of travel and zero percent share of freight movement.

In 2015, users of cars, buses, and trucks paid less than \$0.007 per highway passenger mile to support highways. However, highway users paid more than 15 times that amount (more than \$0.11) per transit passenger mile (Figure 6).<sup>68</sup>

Taxes on diesel fuel replicate this pattern, in this case having trucks subsidize transit while taking funds from potential highway improvement. The same 2.86 cents per gallon is diverted to transit from diesel fuel user fees, mainly paid by trucks, as is diverted from gasoline fees, paid mainly by auto users. Given transit's failure to reduce traffic congestion, this results in trucks subsidizing higher congestion levels, by virtue of not being able to take advantage of the congestion relief that could be financed with the diverted user fees.



**Other Diversions:** There are other diversions, including the Congestion Mitigation and Air Quality Improvement program (\$2.3 billion annually) and the Transportation Alternatives Set-Aside (\$0.8 billion annually) and other smaller programs. These programs finance transit (in addition to transit diversion noted above), bicycle, pedestrian, off-road facilities, recreational trails and other programs.

**Highway and Transit Recommendation:** In evaluating surface transportation programs, the Trump Administration should seek to require that highway fuel user-fee funding be spent on highways, such as additional capacity, improved traffic management, and maintenance. Highway user funding should not be available to transit or other programs that divert funding from highways. This would provide the maximum possible level of support to the nation's basic transportation system with the most potential to facilitate economic growth and better people's lives.

In the long run, the continuing decline of Highway Trust Fund resources relative to highway expenditures could be an opportunity for a gradual, defacto devolution of the program to the states. As the Administration indicates, states and localities have already raised revenues for transportation functions.

Despite this hard choice, there is no question of transit's importance in some local areas, but that is a matter for state and local funding.

***Recommendation: Highway user fees should be used only for highways. Diversions to transit and other programs should be discontinued.***

### **3.2: Private Finance**

State departments of transportation have seen highway expenditures race ahead of funding, as fuel economy has improved, costs have risen, and highway user funding has been used for non-highway uses from transit to bike paths. As a result, a larger share of expenditures has been on maintenance, with critical bridge replacements and highway system expansions deferred. Traffic congestion has worsened in this environment (See Section 1.2).

The Administration proposes a program to attract greater private sector funding involvement. Among other things, this would make it possible to deliver high priority projects that might otherwise be deferred for years. Specifically, \$200 billion is recommended to augment private funding over the next ten years. Many details are yet to come. However, to ensure the effectiveness of any such program, the following difficulties need to be addressed.

#### **TIFIA and Private Activity Bonds Reform**

The Administration focuses on two programs.

The first program, TIFIA (Transportation Infrastructure Finance and Innovation Act), provides below market rate loans, which are limited to 33 percent of project costs. In addition, TIFIA provides loan guarantees and standby letters of credit to public and private project developers.<sup>69</sup> The Administration has referred to increasing from \$275 million to \$1 billion annually over the next 10 years. USDOT indicates that each dollar of TIFIA funding supports \$14 in loans and with other attracted capital, supports \$40 in infrastructure investment.<sup>70</sup>

The second program is the US Department of Transportation authorization for tax exempt state and local private activity bonds on behalf of privately developed infrastructure. There is a limit of \$15 billion in total bond exposure on this program, and approximately \$4 billion of that amount remains.<sup>71</sup> Generally, there is no federal, state or local government liability, since collateral is limited to that of the private developer. Usually bond holders suffer no losses, but that is not guaranteed.<sup>72</sup> The Administration has suggested raising the \$15 billion cap, but has not made a formal proposal.

These two programs are examined together because of their similar intended outcomes and the fact that some projects use funding from both programs.

**Recent Administration:** Currently, neither of these programs are geared toward identification and funding of the most important priorities. This can only be identified in a formal federally led process, in collaboration with the states (below).

**Higher Priority Approvals:** The two programs have funded some critically important projects that are illustrative of the types of infrastructure likely to best serve economic growth and long-term job creation. For example:

- The new Goethals Bridge between New York and New Jersey replaced a nearly 90 year old span, which had substandard width lanes, and no shoulders. This was both a traffic bottleneck and a safety hazard, especially in this part of metropolitan New York, with its heavy freight traffic, much of it related to the ocean ports and Newark Liberty International Airport. The fully completed bridge will have six lanes, rather than the four on the old bridge.<sup>73</sup>
- The new Interstate I-635 express toll lanes in Dallas-Fort Worth have provided important added capacity.<sup>74</sup> Projects such as these have helped Dallas-Fort Worth retain the lowest traffic congestion level in the world among urban areas with more than 5 million population.<sup>75</sup>
- An under-construction segment of Interstate 69 in Indiana will facilitate better trade connections between Canada, the United States, and Mexico.<sup>76</sup>
- Express toll lanes are under construction on State Highway 288 in Houston, which will expand highway capacity, and include some reconstruction of existing highway segments.<sup>77</sup> As noted above, Houston had been able to control traffic congestion better than most urban areas, despite substantial population growth (above).
- The “Ultimate Interstate 4” project will provide four new express toll lanes across Orlando and reconstruct the existing lanes, providing much needed congestion relief in the nation’s third fastest growing major metropolitan area.<sup>78</sup>
- The Interstate 595 project in Broward County, Florida expands roadway capacity with express toll lanes in the nation’s 8<sup>th</sup> largest metropolitan area (Miami).<sup>79</sup>

**Other Approvals:** At the same time, other projects approved under TIFIA and the USDOT private activity bond authority might not have been approved had the programs been administered principally to support the highest priority projects. Two potential examples follow:

- An intercity passenger rail project between Miami and Orlando was approved requiring a particularly large share of the remaining federal (USDOT) private activity bonding authority.<sup>80</sup> Moreover, the market (Miami to Orlando) already includes multiple commercial alternatives (autos, buses and airlines).<sup>81</sup>
- In Los Angeles, federal TIFIA loans were executed for rail expansion in a transit system that has experienced a substantial ridership *decline*<sup>82</sup> despite having opened *seven* new rail lines.<sup>83</sup> This contrasts with a principal purpose for building urban rail systems, which is to *increase* transit ridership.

**The Need for Reform:** None of this is an inherent criticism of TIFIA or private activity bonds, which have achieved their purpose of increasing private funding involvement in transportation infrastructure.<sup>84</sup> The challenges in the future are likely to be greater, as private alternatives replace more traditional funding approaches.

The scarce federal private financing resources in the years ahead should be committed to the highest priority projects, such as urban traffic congestion relief and critical bridge replacement. Otherwise, suggestions that the US infrastructure crisis has been exaggerated could find greater support.<sup>85</sup> The administration of the TIFIA and the private activity bond programs need to be reformed to achieve the broader purposes envisaged by the Trump Administration (below).

## **Moving Forward: Reforms to Achieve Genuine Prioritization**

The Trump Administration's private finance initiative will require carefully managing scarce program resources and focusing on the highest priority needs in order to be successful. As is noted above (Section 1.3), not all infrastructure is equally productive. The Administration's private initiative should focus on the projects most likely to have the strongest impact on economic growth and long-term job creation.

***Recommendation: The Administration's private finance initiative should support the highest priority project in terms of economic productivity and safety.***

Achieving the Administration's intention to "fix underlying incentives, procedures, and policies to spur better, and more efficient, infrastructure decisions and outcomes" will require a serious effort to identify the most important priorities.<sup>86</sup> The key is to identify projects that are just as critical as the New York-New Jersey Goethals Bridge replacement, the Dallas-Fort Worth I-635 express lanes or the I-4 expansion in Orlando. The Administration should develop a list of the highest priority projects of national significance based on their potential economic contribution, regardless of transportation mode.

One approach would be for the Administration to propose reforms to focus on a more competitive process aimed at identifying and funding the highest priority projects. This could include a call for proposals to state governments and their prospective private partners. It would also require adoption of evaluation criteria to identify projects that provide the greatest public benefit in reducing traffic congestion (both urban and rural), along with critical bridge replacement and highway system maintenance.<sup>87</sup>

***Recommendation: Develop a list of the highest priority projects of national significance based on their potential economic contribution or safety benefits (such as critical bridge replacement).***

A particularly good use of such financing would be express toll lanes,<sup>88</sup> such as those in Atlanta, Miami and Los Angeles. Toll express lanes have the advantage of increasing roadway capacity, and providing faster movement for toll paying drivers and people sharing rides, while preserving mobility for others, including the many low-income commuters forced to drive because transit service is not practically available (Section 3.1a, "Getting to Work" and "The Left Behind"). Express toll lanes can also be used by transit and intercity buses to speed travel. Projects approved under these two programs should be exempt from Davis-Bacon prevailing wage requires and should not be subject to project labor agreements (Section 3.5).

***Recommendation: Develop a competitive process to ensure that the TIFIA and private activity bonds programs support projects of national significance. This should include the adoption of criteria geared toward expanding capacity to reduce traffic congestion and critical bridge replacement.***

***Recommendation: Approved projects should be exempt from Davis-Bacon prevailing wage requirements and be prohibited from using project labor agreements.***

***The Larger Context:*** Further, tax exempt financing and interest subsidies are not without their difficulties. Their very availability can encourage approval of politically driven projects that would not survive a genuine prioritization based on economic growth and long-term job creation impacts. In addition, tax exempt bonds produce a loss in income tax revenue for the US Treasury, which contributes to higher deficits and the national debt. In addition, tax exempt financing, or below market rate financing (as in TIFIA) competes with conventional commercial financing. These are not generally desirable results. In the longer run, tax reform might deal with these issues. In the meantime, the Administration should craft strong enough criteria to ensure that the projects approved are very high priority from an economic perspective, and that their impact on the federal treasury and commercial competition is as slight as possible.

***Recommendation: Projects should be evaluated in relation their impact on federal revenues, with only the most important approved.***

### **Rail Rehabilitation and Investment Financing Program**

Another federal credit initiative, the Rail Rehabilitation and Investment Financing (RRIF) program could impose significant costs on the nation's taxpayers unless reformed. The program has been operating successfully for at least 15 years, offering taxpayer guaranteed financial assistance mainly to small railroads and state and local governments in the form direct loans with below market rate interest or loan guarantees. Loans may be for up to 35 years, covering up to 100 percent of projects costs and at US Treasuring borrowing rates, which are below market rates. Payments may be deferred for the first six years.<sup>89</sup>

However, this program has attracted the attention of privately financed high-speed rail proposals. One such application, for \$5.5 billion, was reportedly suspended for failure to observe Buy America requirements.<sup>90</sup> There are reports that another high-speed rail application could be received as well as an intercity rail application.<sup>91</sup> As is discussed below (Section 3.5), "at risk" private investment has not succeeded in building and operating high-speed rail.

The security of the RRIF program should be reformed to better protect taxpayers. Alternatives might include applying the strong loan, credit rating and collateral standards as already govern the TIFIA program, and a maximum loan limit (such as \$1 billion) for any loan not backed by the full faith and credit of a US state or local government.

***Recommendation: Strengthen financial safeguards in the Reform the Railroad Rehabilitation and Investment Financing (RRIF) program to minimize potential taxpayer losses from large projects with a high degree of risk, such as high-speed rail.***

The nation already has had unfortunate experiences with risky federal guarantees, such as the loan guarantee to Solyndra. In the subsequent default, taxpayers lost more than \$0.5 billion.<sup>92</sup> The potential risks from passenger rail could dwarf those of the Solyndra debacle.

### **3.3: Amtrak**

Amtrak is highly subsidized, having received \$1.4 billion in federal grants in 2016. Amtrak's total costs in 2016 were approximately \$0.65 per passenger mile of travel, supported principally by revenues from passengers, other commercial revenue, and federal and state subsidies.<sup>93</sup>

By comparison, domestic airline fares per passenger mile in 2016 were \$0.15 per passenger mile, which, along with freight revenues, contribute user fee funding for airport construction and operations. This includes support by the Airport and Airway Trust Fund. Federal Aviation Administration operations are federally subsidized. However, the Trump Administration has appropriately proposed corporatization of the Air Traffic Control system, which would erase much or all of the taxpayer funding (general fund) by conversion to user-fee financing.<sup>94</sup>

As noted above, the Administration would discontinue funding Amtrak's long-distance trains, pointing out the array of intercity transportation alternatives to Amtrak. The same logic supports ending Amtrak federal subsidies entirely, including the Northeast Corridor. In addition to highways and airlines, the Northeast Corridor is served by intercity buses operating between Washington, Baltimore, Philadelphia, New York, Boston and other cities. These services operate without virtually any subsidy. One estimate is that there may be as many as 24 million annual passengers in the Northeast. This would be about double the corresponding Amtrak 2016 ridership in the Northeast Corridor.<sup>95</sup>

Moreover, the Northeast Corridor may not need subsidies at all. Amtrak reports that services in the Northeast Corridor (Washington to New York and Boston) are profitable, earning a 38 percent profit (excluding depreciation and reconciling items).<sup>96</sup> With this favorable financial performance the Northeast Corridor should be attractive to private investors.

The Administration should propose phasing out all subsidies to Amtrak and take steps to convert the Northeast Corridor to fully commercial operation. Should this be infeasible, the states should be offered the opportunity to continue operations, under an interstate compact.

***Recommendation: Northeast Corridor subsidies should be discontinued (in addition to all other federal subsidies).***

Federal subsidies to Amtrak are unnecessary and because they subsidize travel preference, in markets with alternatives that are either commercial or require far lower subsidy levels. Even in the Northeast Corridor, no one would be denied intercity mobility, because multiple alternatives are available, autos, intercity buses and airline service.

### **3.4: High-Speed Rail**

As is noted above, the Administration has not recommended funding for high-speed rail.<sup>97</sup> Yet high-speed rail remains popular among some interest groups.

In 2017 President Obama recommended \$7 billion for high-speed rail, though Congress declined the appropriation.<sup>98</sup> Japan's Prime Minister Shinzo Abe used a high-profile February U.S. visit to President Trump to urge development of high-speed rail in the United States. There are frequent calls from interest groups for developing high-speed rail.

One of the most often repeated justifications for developing high-speed rail is that the United States trails other nations in its development. Envy is hardly a sufficient justification for the subsidies that would be necessary.

High-speed rail is an effective means of intercity transportation, yet is routinely subsidized. All but three of the world's high-speed rail segments have been subsidized, with only Tokyo to Osaka, Paris to Lyon, and Beijing to Shanghai having been profitable.<sup>99</sup> However, each of these lines is part of a much larger system that relies on government subsidy support. Most or all of the comparatively rare private investment in high-speed rail has been guaranteed, lost, or subsequently assumed by governments. There is no example of a genuine high-speed rail system both constructed and operated profitably relying only on at risk commercial investment.<sup>100</sup> It thus seems likely that taxpayer subsidies could ultimately be sought. Moreover, there are indications that high-speed rail and intercity rail projects could seek taxpayer backed federal loan guarantees through the RRIF program (Section 3.2).

International research led by Oxford University Professor Bent Flyvbjerg showed that new intercity passenger rail lines, including high-speed rail, typically cost far more than projected and attract lower ridership (revenue) than projected.<sup>101</sup> This puts taxpayers at considerable financial risk. For example, by 2012, the cost of California's high-speed rail line doubled from the level indicated by advocates of the 2008 high-speed rail referendum. Since that time, the project has been significantly scaled back, eliminating some high-speed segments.<sup>102</sup>

As the Administration has said of Amtrak, there are travel alternatives, with communities "... served by an expansive aviation, interstate highway, and intercity bus network."<sup>103</sup> The same is true of high-speed rail. Without it, no one is denied intercity mobility in the United States.

Further, government loans or guarantees are inappropriate, especially in view of the high degree of taxpayer risk (Section 3.2). Government funding for high-speed rail is unnecessary and would be a subsidy of a travel preference, not of a travel need.

***Recommendation: Despite the strong special interest support of high-speed rail, no federal funding or loan guarantees should be provided.***

Private high-speed rail lines should be built only if they do not require public support, whether in the form of subsidies, loans or financial guarantees.

### **3.5: Regulatory Reform**

The Trump Administration seeks to reduce transportation infrastructure costs and speed up project delivery by reducing federal regulations. There is considerable potential in regulatory reform.

Davis-Bacon prevailing wage requirements may be the most significant opportunity for savings and expanding the productivity ground transportation infrastructure. If the assumptions used by Michael Sargent and Nicholas Loris of the Heritage Foundation are used, savings based on state and local highway construction spending in 2016 could have been \$2.8 billion.<sup>104</sup> These savings would have been distributed among many state and local government agencies, and, as a result, would not likely have the larger projects. However, the impacts could be great. A \$2.8 billion savings could pay for the replacement of more than 1,200 average cost structurally deficient bridges each year.<sup>105</sup>

Another costly regulation is "project labor agreements" (PLAs). Project labor agreements are between project developers and labor unions that impose restrictions that limit competition in bidding. A report by the Beacon Hill Institute found that PLAs add as much as 20 percent to the cost of projects.<sup>106</sup>

The most important reason for repealing Davis-Bacon and prohibiting PLAs is to more efficiently deliver projects. This means more infrastructure can be produced, which can spur additional economic growth, long-term job creation, a higher standard of living, and less poverty.

***Recommendation: The Davis Bacon Act prevailing wage requirements should be repealed.***

***Recommendation: Project Labor Agreements should be prohibited***

### **3.6: Permit Streamlining**

The Trump Administration is also interested in streamlining the permitting of projects. In a speech to the US Department of Transportation, the President cited a Maryland highway (the "Intercounty Connector") for the volume of review and analysis documents (70 pounds).<sup>107</sup> It took more than two decades after a 1983 environmental impact statement for construction to start. There is a need to review permitting requirements, both for content and to minimize the approvals and agencies that are required. The 2018 budget suggests a "one-stop" federal agency approval process for projects, which would be an important improvement.<sup>108</sup> This reform should be implemented.

***Recommendation: The one-stop federal agency proposal should be implemented.***

### **3.7: Unsubsidized Surface Transportation**

Three modes of transport that are within the purview of this report are virtually unsubsidized. This includes the freight railways, highway freight (trucks) and intercity buses. The Administration has made no significant proposals for any of these sectors, which is appropriate.

However, for all its useful transportation statistical reporting, the federal government does not provide specific data on the intercity bus industry, which, at least by one estimate, carries about double the Amtrak volume of ridership.<sup>109</sup> Intercity buses should be comprehensively reported upon, as well as school buses, which carry nearly as many rides each year as transit (Section 3.1a).

#### **Part 4: Conclusion: Improving Efficiency and Effectiveness**

The Trump Administration transportation infrastructure plan is an important philosophical step in the right direction, with its emphasis on more efficient and effective project delivery, user-fee financing and fiscal responsibility. At the same time, the proposals are largely conceptual and their success will depend upon details that put people first through economic growth, long-term job creation, a better standard of living and less poverty. This report includes additional recommendations for consideration as the Administration further refines its proposals (Box).

At the same time, it will be important to better focus private funding programs on the highest infrastructure priorities, and to minimize serious risks to taxpayers and bond buyers that could emerge from insufficiently vetted projects. As is recommended above, the Administration should lead an inter-modal prioritization project, the results of which would be used in approving private finance transactions. This would do much to ensure that outcome-driven, rather than politically driven, projects emerge and that the nation is provided with productive infrastructure that puts people first.

The recommendations suggest doing the focusing federal support on genuine needs for programs for which there is no alternative, and doing them right by spending no more than necessary. The sooner the hard choices are made, the better for future generations.

##### **Box: Recommendations**

The recommendations should be a part of any infrastructure plan, to facilitate greater economic growth, to improve the standard of living, and to reduce poverty.

Highway user fees should be used only for highways. Diversions to transit and other programs should be discontinued.

Develop a list of the highest priority projects of national significance based on their potential economic contribution or safety benefits (such as critical bridge replacement).

Develop a competitive process to ensure that the TIFIA and private activity bonds programs support projects of national significance. This should include the adoption of criteria geared toward expanding capacity to reduce traffic congestion and critical bridge replacement.

Approved projects should be exempt from Davis-Bacon prevailing wage requirements and be prohibited from using project labor agreements.

Projects should be evaluated in relation their impact on federal revenues, with only the most important approved.

Strengthen financial safeguards in the Reform the Railroad Rehabilitation and Investment Financing (RRIF) program to minimize potential taxpayer losses from large projects with a high degree of risk, such as high-speed rail.

Amtrak Northeast Corridor subsidies should be discontinued (in addition to all other federal subsidies).

Despite the strong special interest support of high-speed rail, no federal funding or loan guarantees should be provided.

The Davis Bacon Act prevailing wage requirements should be repealed.

Project Labor Agreements should be prohibited.

The one-stop federal agency proposal should be implemented.

## BIOGRAPHICAL INFORMATION

Wendell Cox is a senior fellow with the Center for Opportunity Urbanism in Houston. He was appointed by Mayor Tom Bradley to three terms on the Los Angeles County Transportation Commission, where he was instrumental in the establishment of the Los Angeles urban rail system. Speaker of the House of Representatives New Gingrich appointed him to the Amtrak Reform Council to complete the unexpired term of New Jersey Governor Christine Todd Whitman, where he participated in fashioning the majority report required by Congress. He has been a public policy consultant for more than three decades and has produced (or participated in producing) reports on the California High-Speed Rail Proposal, the Xpress West Victorville to Las Vegas high-speed rail proposal, the Las Vegas Monorail and the 2009 Heritage Foundation update of the US Department of Transportation *Federal Subsidies to Passenger Transportation* report (all of which are referenced in this report). He has a BA in Government from California State University, Los Angeles and earned a Masters in Business Administration from Pepperdine University in Los Angeles.

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<sup>1</sup> There is not complete consensus on the extent of the infrastructure crisis. For example, see: Paul L. Gregory, “What Infrastructure Crisis,” *Defining Ideas: A Hoover Institution Journal*, August 18, 2016.

<http://www.hoover.org/research/what-infrastructure-crisis>.

<sup>2</sup> “Transcript: Donald Trump Speaks At Victory Rally,” NPR, November 9, 2016,

<http://www.npr.org/2016/11/09/500715254/transcript-donald-trump-speaks-at-victory-rally>.

<sup>3</sup> *Budget of the U.S. Government: A New Foundation for American Greatness: Fiscal Year 2018*, Office of Management and Budget, <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/budget.pdf>.

<sup>4</sup> *Fact Sheet: 2018 Infrastructure Initiative*, The White House,

[https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/fact\\_sheets/2018%20Budget%20Fact%20Sheet\\_Infrastructure%20Initiative.pdf](https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/fact_sheets/2018%20Budget%20Fact%20Sheet_Infrastructure%20Initiative.pdf); “2<sup>nd</sup> pillar: Infrastructure,” *World Economic Forum: The Global Competitiveness Report 2016-2017*, <http://reports.weforum.org/global-competitiveness-index/competitiveness-rankings/#series=GCI.A.02/>.

<sup>5</sup> Sources: Data from Statistics Canada, Eurostat (latest data available), New South Wales Department of Transport, Korea Statistics Bureau, Hong Kong Transport Department, Census of Singapore, US Bureau of the Census American Community Survey, U.S. Census Bureau (2007 data, last year before the Great Recession).

<sup>6</sup> Derived from Tom Tom Traffic Index, 2017. [https://www.tomtom.com/en\\_gb/trafficindex/](https://www.tomtom.com/en_gb/trafficindex/).

<sup>7</sup> <sup>7</sup> David Schrank, et al., *2015 Urban Mobility Scorecard*, The Texas A&M Transportation Institute and INRIX, August 2015, <https://static.tti.tamu.edu/tti.tamu.edu/documents/mobility-scorecard-2015.pdf>; *Trucking Industry Congestion Costs Top \$63.4 Billion*, American Transportation Research Institute, May 16, 2017, <http://atri-online.org/2017/05/16/trucking-industry-congestion-costs-top-63-4-billion/>.

<sup>8</sup> *2015 Urban Mobility Scorecard*.

<sup>9</sup> *A New Foundation for American Greatness*,

<https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/budget.pdf>, p. 19.

<sup>10</sup> *A Blueprint to Rebuild America’s Infrastructure: Creating Over 15 Million New Jobs*, United States Senate, January 24, 2017,

<https://www.dpcc.senate.gov/files/documents/ABlueprinttoRebuildAmericasInfrastructure1.24.17.pdf>.

<sup>11</sup> Ken Notis, *Federal Subsidies to Passenger Transportation*, U.S. Department of Transportation and Bureau of Transportation Statistics, December 2004,

[https://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/federal\\_subsidies\\_to\\_passenger\\_transportation/pdf/entire.pdf](https://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/federal_subsidies_to_passenger_transportation/pdf/entire.pdf); An update of the report by the Heritage Foundation for 2006 indicated similar results. Wendell Cox and Ronald Utt, *Federal Transportation Programs Shortchange Motorists: Update of a USDOT Study*, The Heritage Foundation, June 8, 2009, <http://origin.heritage.org/research/reports/2009/06/federal-transportation-programs-shortchange-motorists-update-of-a-usdot-study>.

<sup>12</sup> Includes both debt federal held by the public and intergovernmental debt.

<sup>13</sup> *A New Foundation for American Greatness*, p. 8.

<sup>14</sup> *Ibid.*, p. 6.

<sup>15</sup> *Ibid.*, p. 5.

<sup>16</sup> *Ibid.*, p. 1.

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- <sup>17</sup> Ibid., p. 8.
- <sup>18</sup> Ibid., p. 19.
- <sup>19</sup> *Analytical Perspectives: Budget of the U.S. Government, Fiscal Year 2018*, Office of Management and Budget, <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/spec.pdf>, p. 121.
- <sup>20</sup> *Major Savings and Reforms: Budget of the U.S. Government, Fiscal Year 2018*, Office of Management and Budget, <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/msar.pdf>, p. 76.
- <sup>21</sup> Ibid.
- <sup>22</sup> *Fact Sheet: 2018 Infrastructure Initiative*.
- <sup>23</sup> Ibid.
- <sup>24</sup> *Major Savings and Reforms*, p. 78.
- <sup>25</sup> *America First: A Budget Blueprint to Make America Great Again*, Office of Management and Budget, [https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018\\_blueprint.pdf](https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018_blueprint.pdf), p. 35.
- <sup>26</sup> *Analytical Perspectives*, p. 121.
- <sup>27</sup> *Federal Tax Rates on Motor Fuels and Lubricating Oil*, Federal Highway Administration, August 2016, <https://www.fhwa.dot.gov/policyinformation/statistics/2015/pdf/fe101a.pdf>.
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- <sup>36</sup> Derived from the American Community Survey 2011 – 2015 and 2006 – 2010.
- <sup>37</sup> Derived from American Community Survey, 2011-2015.
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- <sup>39</sup> Derived from American Community Survey, 2011-2015.
- <sup>40</sup> Derived from the American Community Survey, 2015.
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- <sup>44</sup> Adie Tomer, Elizabeth Kneebone, Robert Puentes, and Alan Berube, *Missed Opportunity: Transit and Jobs in Metropolitan America*, Brookings Institution, May 12, 2011, <https://www.brookings.edu/research/missed-opportunity-transit-and-jobs-in-metropolitan-america/>.
- <sup>45</sup> 0.28 miles. From *Planning Commission TOD Committee*, <http://www.reconnectingamerica.org/assets/Uploads/20060908walkingdistanceabstracts.pdf>.
- <sup>46</sup> The Brookings Institution report indicates an average of 6.3 percent of jobs accessible to the average employee in the major metropolitan areas in 45 minutes (the shortest travel time for which data is provided). This is similar to the 5.1 percent in 50 minutes from the University of Minnesota research (<https://www.brookings.edu/research/missed->

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<sup>50</sup> As the Brookings Institution data above indicates.

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<sup>54</sup> 2009. Excludes working at home. <http://nhits.ornl.gov/tables09/FatCat.aspx>

"Transportation mode used on trip: travel day person miles"

<sup>55</sup> Employees unable to use autos due to physical disabilities now have widely available "dial-a-ride" services that provide door to door access, under the auspices of transit agencies and other organizations.

<sup>56</sup> Derived from the American Community Survey, 2015.

<sup>57</sup> Derived from the American Community Survey, 2011-2015.

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<sup>59</sup> Margy Waller and Mark Alan Hughes, *Working Far from Home: Transportation and Welfare Reform in the Ten Big States*, Progressive Policy Institute, August 1, 1999, [http://www.progressivefix.com/wp-content/uploads/2014/06/1999.08.01-Waller-and-Alan-Hughes\\_Working-Far-From-Home\\_Transportation-and-Welfare-Reform-in-the-Ten-Big-States.pdf](http://www.progressivefix.com/wp-content/uploads/2014/06/1999.08.01-Waller-and-Alan-Hughes_Working-Far-From-Home_Transportation-and-Welfare-Reform-in-the-Ten-Big-States.pdf). See also Anne Kim, "Why People Need Affordable Cars," *Blueprint: Ideas for a New Century*, February 11, 2003, p. 35-36, [www.ndol.org/ndol\\_ci.cfm?contentid=251220&kaid=114&subid=143](http://www.ndol.org/ndol_ci.cfm?contentid=251220&kaid=114&subid=143).

<sup>60</sup> For example, <http://www.workingcarsforworkingfamilies.org/> and *2011 Evaluation of the National Ways to Work Program*, <https://waystowork.org/docs/evaluations/2011EvalReport.pdf>

<sup>61</sup> *Adding New Lanes or Roads*, Mobility Investment Priorities, <https://mobility.tamu.edu/mip/strategies-pdfs/added-capacity/technical-summary/adding-new-lanes-or-roads-4-pg.pdf>.

<sup>62</sup> Calculated from Texas A&M Transportation Institute data for 1984 to 2014, using excess travel time from the Travel Time Index.

<sup>63</sup> Derived from American Community Survey, 2015.

<sup>64</sup> Derived from "Table 1-50M: U.S. Tonne-Kilometers of Freight (BTS Special Tabulation) (Millions)," Bureau of Transportation Statistics, [https://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national\\_transportation\\_statistics/html/table\\_01\\_50\\_m.html](https://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/html/table_01_50_m.html).

<sup>65</sup> Robert W. Poole, Jr and Adrian T. Moore, *Restoring Trust in the Highway Trust Fund*, Reason Foundation, August 2010, [http://reason.org/files/restoring\\_highway\\_trust\\_fund.pdf](http://reason.org/files/restoring_highway_trust_fund.pdf).

<sup>66</sup> Estimated from *Federal-Aid Highway Program Authorizations Under the Fixing America's Surface Transportation (Fast) Act*, U.S. Department of Transportation: Federal Highway Administration, <https://www.fhwa.dot.gov/fastact/estfy20162020auth.pdf>.

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<sup>68</sup> Calculated from *Highway Statistics* Table FE-10 data, 2016.

<sup>69</sup> *Transportation Infrastructure Finance and Innovation Act (TIFIA)*, United States Department of Transportation, <https://www.transportation.gov/buildamerica/programs-services/tifia>.

<sup>70</sup> *Transportation Infrastructure Finance and Innovation Act: 2016 Report to Congress*, The Secretary of Transportation, August 11, 2016, <https://cms.dot.gov/sites/dot.gov/files/docs/TIFIA%20Report%20to%20Congress%202016.pdf>.

<sup>71</sup> *Private Activity Bonds*, United States Department of Transportation, May 25, 2017, <https://www.transportation.gov/buildamerica/programs-services/pab>.

<sup>72</sup> For example, a private activity bond project, the Las Vegas Monorail filed for bankruptcy. It is reported that bondholder recovered \$13 million of the \$650 million investment. See: *Project Profiles: Las Vegas Monorail*, United States Department of Transportation, Federal Highway Administration,

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[https://www.fhwa.dot.gov/ipd/project\\_profiles/nv\\_lasvegas\\_monorail.aspx](https://www.fhwa.dot.gov/ipd/project_profiles/nv_lasvegas_monorail.aspx); “Monorail Pulls Out of Bankruptcy,” CBS Las Vegas, November 20, 2012, <http://lasvegas.cbslocal.com/2012/11/20/monorail-pulls-out-of-bankruptcy/>; and IN RE LAS VEGAS MONORAIL CO, United States Bankruptcy Court, D. Nevada, November 18, 2011, *Leagle*, <http://www.leagle.com/decision/In%20BCO%2020120315760/IN%20RE%20LAS%20VEGAS%20MONORAIL%20CO>.

<sup>73</sup> *Project Profiles: Goethals Bridge Replacement*, United States Department of Transportation, Federal Highway Administration, [https://www.fhwa.dot.gov/ipd/project\\_profiles/ny\\_goethals.aspx](https://www.fhwa.dot.gov/ipd/project_profiles/ny_goethals.aspx); “It’s done! New Goethals Bridge opens this weekend. Here are the details.” NJ.com, June 8, 2017, [http://www.nj.com/traffic/index.ssf/2017/06/its\\_done\\_new\\_goethals\\_bridge\\_opens\\_this\\_weekend.html](http://www.nj.com/traffic/index.ssf/2017/06/its_done_new_goethals_bridge_opens_this_weekend.html) (this link includes a video of crossing the old Goethals Bridge).

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<sup>80</sup> *Guidebook on Financing of Highway Public-Private Partnership Projects*, U.S. Department of Transportation, December 2016, p. 3-7, [https://www.fhwa.dot.gov/ipd/pdfs/p3/p3-toolkit\\_p3\\_project\\_financing\\_guidebook\\_122816.pdf](https://www.fhwa.dot.gov/ipd/pdfs/p3/p3-toolkit_p3_project_financing_guidebook_122816.pdf).

<sup>81</sup> The project (“All Aboard Florida,” also referred to as “Brightline”) was approved by USDOT to sell \$1.75 billion in private activity bonds. This was equal to nearly one-third of USDOT’s remaining authority as of December 2015. The bonds were characterized as “high risk” and were not purchased. According to the *Sun Sentinel*, the All Aboard Florida bonds were characterized as having a ‘high degree of risk,’” (see Michael Mayo, *Sun Sentinel*, August 4, 2015, <http://www.sun-sentinel.com/news/michael-mayo-blog/sfl-mayo-aaf-bonds-20150804-story.html> and “Board of Director Meeting, August 5, 2015,” Orlando, Florida, Florida Development Finance Corporation,” <https://www.enterpriseflorida.com/wp-content/uploads/FDFC-Agenda-Packet-2015-08-05.pdf>). The *Palm Beach Post* reported that a new, smaller bond issue was approved in the waning months of the Obama administration, and a new application for the \$1.15 billion balance was mentioned by a company official (see Jennifer Sorentrou, “Brightline opponents call financing plan shift a ‘scheme’ to avoid lawsuit,” *PalmBeastPost.com*, December 22, 2016, <http://malled.blog.palmbeachpost.com/2016/12/22/brightline-opponents-call-financing-plan-shift-a-scheme-to-avoid-lawsuit/>).

<sup>82</sup> Laura J. Nelson and Dan Weikel, “Billions Spent but Fewer People are Using Public Transportation in Southern California,” *Los Angeles Times*, January 27, 2016, <http://www.latimes.com/local/california/la-me-ridership-slump-20160127-story.html>

<sup>83</sup> Six radial lines and one cross-town line.

<sup>84</sup> “Tools and Programs: Federal Debt Financing Tools,” Federal Highway Administration, [https://www.fhwa.dot.gov/ipd/finance/tools\\_programs/federal\\_debt\\_financing/private\\_activity\\_bonds/](https://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_debt_financing/private_activity_bonds/).

<sup>85</sup> For example, see: Paul L. Gregory, “What Infrastructure Crisis,” *Defining Ideas: A Hoover Institution Journal*, August 18, 2016. <http://www.hoover.org/research/what-infrastructure-crisis>.

<sup>86</sup> *A New Foundation for American Greatness*, p. 19.

<sup>87</sup> Projects of insufficiently high priority or national significance would still benefit from liberalization of federal regulations and other reforms that do not have financial limits. More substantial assistance could also be offered by state or local governments.

<sup>88</sup> Called high occupancy toll lanes (HOT Lanes) where car pools operate without charge.

<sup>89</sup> Loans may be for up to 35 years, covering up to 100 percent of projects costs and at US Treasuring borrowing rates, which are below market rates. Payments may be deferred for the first six years. 45 U.S.C. 821 et seq.

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- <sup>90</sup> Natalie Rodriguez, “Feds Halt Review Of \$5.5B Loan for Vegas Rail Plan,” Law 360, <https://www.law360.com/articles/458185/feds-halt-review-of-5-5b-loan-for-vegas-rail-plan>.
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- <sup>92</sup> Gregory H. Friedman, Inspector General, *The Department of Energy’s Loan Guarantee to Solyndra, Inc.*, U.S. Department of Energy, August 24, 2015, <https://energy.gov/sites/prod/files/2015/08/f26/11-0078-I.pdf>.
- <sup>93</sup> Calculated from data at <https://www.transtats.bts.gov/DataElements.aspx?Data=3>.
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- <sup>95</sup> May 25, 2017 email to author from Professor Joseph Schweiterman, DePaul University, <https://las.depaul.edu/centers-and-institutes/chaddick-institute-for-metropolitan-development/research-and-publications/Documents/2015%20Year%20in%20Review%20of%20Intercity%20Bus%20Service%20in%20the%20United%20States-110116.pdf>; *Amtrak Monthly Report for September 2016*, <https://www.amtrak.com/ccurl/188/327/Amtrak-Monthly-Performance-Report-September-2016-Final-Audited.0.pdf>.
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- <sup>97</sup> As described in this report, high-speed rail includes “Mag Lev” (Magnetic Levitation systems).
- <sup>98</sup> *Budget of the U.S. Government*, Office of Management and Budget, Fiscal Year 2017, <https://obamawhitehouse.archives.gov/sites/default/files/omb/budget/fy2017/assets/budget.pdf>.
- <sup>99</sup> See: Victoria Burnett, “Spain’s High-Speed Rail Offers Guideposts for U.S.,” *The New York Times*, May 29, 2009, <http://www.nytimes.com/2009/05/30/business/energy-environment/30trains.html>; “Beijing-Shanghai High-Speed Railway reaps 6.58b yuan,” *ShanghaiDaily.com*, July 20, 2016, <http://www.shanghaidaily.com/nation/BeijingShanghai-HighSpeed-Railway-reaps-658b-yuan/shdaily.shtml>.
- <sup>100</sup> Government assumptions of financial liability have occurred for private high-speed rail investments in the United Kingdom and Taiwan (Wendell Cox, *The Tampa to Orlando High-Speed Rail Project: Florida Taxpayer Risk Assessment*, Reason Foundation, January 2011, [http://reason.org/files/florida\\_high\\_speed\\_rail\\_analysis.pdf](http://reason.org/files/florida_high_speed_rail_analysis.pdf)). A recent public-private partnership in France (with the third most successful system, after China and Japan) involved less than one-half of the capital costs contributed by the private partner, of which less than half was at-risk (the balance being guaranteed by government and infrastructure bank sources), “High-speed rail between Tours and Bordeaux - Réseau Ferré de France and VINCI sign world’s biggest rail concession contract,” Vinci, June 16, 2011, <https://www.vinci.com/vinci.nsf/en/press-releases/pages/20110616-1740.htm>.
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- <sup>103</sup> *Major Savings and Reforms*, p. 78.
- <sup>104</sup> *Driving Investment, Fueling Growth: How Strategic Reforms Can Generate \$1.1 Trillion in Infrastructure Investment*, Heritage Foundation, May 3, 2017, <http://www.heritage.org/government-regulation/report/driving-investment-fueling-growth-how-strategic-reforms-can-generate>. In 2016, state and local highway construction was \$89 billion. (<https://www.census.gov/construction/c30/c30index.html>). This approach assumes that 32 percent of state and local government construction spending is subject to Davis-Bacon provisions and that savings would equal approximately 10 percent of project costs. This yields savings of \$2.8 billion.
- <sup>105</sup> Calculated from *2017 Infrastructure Report Card*, American Society of Civil Engineers, <https://www.infrastructurereportcard.org/wp-content/uploads/2017/01/Bridges-Final.pdf>.
- <sup>106</sup> Paul Bachman and David G. Tuerck, *Project Labor Agreement and Public Construction Costs in New York State*, The Beacon Hill Institute, April 2006, <http://www.beaconhill.org/BHISTudies/PLA2006/NYPLAReport0605.pdf>.
- <sup>107</sup> “Remarks by President Trump on Regulatory Relief”.
- <sup>108</sup> *Fact Sheet: 2018 Infrastructure Initiative*.
- <sup>109</sup> In a May 25, 2017 email to the author from Professor Joseph Schweiterman, DePaul University estimates that that intercity buses carry approximately 62 million annual passengers, compared to the Amtrak 2016 ridership of 31 million.