Highway Boondoggles 3

Big Projects. Bigger Price Tags. Limited Benefits.

U.S. PIRG Education Fund

FRONTIER GROUP

HIGHWAY BOONDOGGLES 3

Big Projects. Bigger Price Tags. Limited Benefits.

Written by:

Tony Dutzik, Abigail Bradford and Gideon Weissman, Frontier Group

Lauren Aragon, U.S. PIRG Education Fund

April 2017

Acknowledgments

The authors wish to thank Matt Casale of U.S. PIRG; Kate Cohen of ConnPIRG; Joe Cortright of City Observatory; Kevin DeGood of the Center for American Progress; Jennette Gayer of Environment Georgia; Brian Gist of the Southern Environmental Law Center; Mary Mathews of the League of Women Voters of Lake County, Illinois; Beth Osborne of Transportation for America; Abe Scarr of Illinois PIRG; Peter Skopec of WISPIRG, members of Livable Lake County and many others for providing review or insights for this report. Thanks also to Rachel Cross and Susan Rakov of Frontier Group for editorial support. Frontier Group also thanks ESRI for making possible the ArcGIS mapping conducted for this report.

U.S. PIRG Education Fund and Frontier Group gratefully acknowledge the support of the Rockefeller Foundation for earlier projects upon which this research draws.

The authors bear responsibility for any factual errors. Policy recommendations are those of U.S. PIRG Education Fund. The views expressed in this report are those of the authors and do not necessarily reflect the views of our funders or those who provided review. Project maps included in this report should be considered approximations based on publicly available information and not used for planning purposes.

U.S. PIRG Education Fund

With public debate around important issues often dominated by special interests pursuing their own narrow agendas, U.S. PIRG Education Fund offers an independent voice that works on behalf of the public interest. U.S. PIRG Education Fund, a 501(c)(3) organization, works to protect consumers and promote good government. We investigate problems, craft solutions, educate the public, and offer meaningful opportunities for civic participation. For more information about U.S. PIRG Education Fund or for additional copies of this report, please visit www.uspirgedfund.org.

FRONTIER GROUP

Frontier Group provides information and ideas to help citizens build a cleaner, healthier, fairer and more democratic America. We address issues that will define our nation's course in the 21st century – from fracking to solar energy, global warming to transportation, clean water to clean elections. Our experts and writers deliver timely research and analysis that is accessible to the public, applying insights gleaned from a variety of disciplines to arrive at new ideas for solving pressing problems. For more information about Frontier Group, please visit www.frontiergroup.org..

Layout: To the Point Publications, www.tothepointpublications.com

Cover photo: Overpass bridging the Katy Freeway in Houston, Texas. Credit: Trong Nguyen, Shutterstock

Table of Contents

Executive Summary 4

Introduction 7

The Problem with Highway Boondoggles 8

Highway Expansion Doesn't Solve Our Transportation Problems 8

Highway Expansion Takes Money from Other Transportation Priorities 11

Highway Expansion Damages Communities and the Environment 12

Highway Boondoggles 2017 13

Interstate 405 Expansion, Orange County, California 14

Interstate 4 "Beyond the Ultimate," Florida 17

Interstate 75 North Truck Lanes, Georgia 19

Interstate 84 Expansion, Connecticut 21

Illinois State Route 53/120 24

Interstate 66 Expansion "Within the Beltway," Virginia 26

Interstate 30 Widening, Arkansas 29

Madison Beltline, Wisconsin 31

Interstate 73 in South Carolina 32

Catching Up on Old Boondoggles 35

2016 Projects 35

2014 Projects 39

Conclusion and Recommendations 42

Appendix: Safeguarding the Public from the Potential Pitfalls of Privatization 43

Notes 45

Executive Summary

America's infrastructure is in rough shape. Many of our roads, bridges and transit systems are aging and in need of repair.

Yet, year after year, state and local governments propose billions of dollars' worth of new and expanded highways that often do little to reduce congestion or address real transportation challenges, while diverting scarce funding from infrastructure repairs and 21st century transportation priorities.

Nine proposed highway projects across the country – slated to cost at least $10 billion – exemplify the need for a fresh approach to transportation planning and spending. These projects, some originally proposed decades ago, double down on the failed transportation strategies of the past while causing harm to local communities and absorbing scarce transportation dollars. They are but a sampling of many questionable highway projects nationwide that could cost taxpayers tens of billions of dollars to build, and even more money over the course of upcoming decades to maintain.

Local, state and federal decision-makers should reevaluate the need for the projects profiled in this report, along with others that no longer make sense in an era of changing transportation needs. Instead, they should focus on real, long-term transportation solutions, including maintaining our existing roads and bridges, repairing potholes, and investing in public transportation, bicycling, walking and other options.

Americans' transportation needs are changing. America's transportation spending priorities aren't.

- **State governments continue to spend billions on highway expansion projects that fail to solve congestion.**
  - Expanding highways draws new drivers to the roads, often resulting in a rapid return to the congested conditions the expansion projects were originally supposed to solve.
  - In Texas, for example, a $2.8 billion project widened Houston's Katy Freeway to 26 lanes, making it one of the widest freeways in the world. But, just a few years after completion, morning commute times were 30 percent longer and afternoon commute times were 50 percent longer.[1] And in California, the $1.6 billion widening of Interstate 405 in Los Angeles delivered little benefit in terms of reducing rush-hour congestion.[2]
- **Highway expansion is not a national transportation priority.**
  - Highway expansion is often pitched as a way to deal with projected future increases in travel. Over the last decade, however, growth in driving has slowed, with the average American in 2016 driving fewer miles than he or she did in 2002.[3]
  - Forecasts of future growth in driving are often inflated. Americans are now expected to drive

nearly a trillion fewer miles per year in 2020 than federal officials projected in 2004.[4]

- **Highway expansion absorbs money that can be used for more pressing needs.**
  - In 2012, federal, state and local governments spent $27.2 billion on expanding the highway system – consuming more than one out of every four capital dollars spent on the nation's road network.[5]
  - Continued spending on highway expansion diverts funds that could be used to address the nation's roughly half trillion-dollar backlog of road and bridge repair needs and its $90 billion backlog of transit repair needs, as well as to expand transportation choices for Americans through investments in public transportation.[6]

States continue to spend billions of dollars on new or expanded highways that fail to address real problems with our transportation system, or that pose serious harm to surrounding communities. In some cases, officials are proposing to tack expensive highway expansions onto necessary repair and reconstruction projects, while other projects represent entirely new construction. Many of these projects began or were first proposed years or decades ago, or are based on long-outdated data.

Questionable projects poised to absorb billions of scarce transportation dollars include:

- **I-405 Widening, California, $1.9 billion** – Widening one of the nation's busiest stretches of Interstate highway in Orange County would draw new traffic to the road, create new bottlenecks, and replicate the failed approach to congestion relief of an earlier I-405 widening project in Los Angeles.
- **I-4 "Beyond the Ultimate," Florida, $2.2 billion** – The construction of tolled express lanes along 40 miles of highway has been pitched, in part, as a way to avoid bottlenecks created by another $2 billion highway expansion project now underway in Orlando.
- **I-75 North Truck Lanes, Georgia, $2 billion** – Construction of the nation's first long-haul, truck-only lanes would represent a giveaway to the trucking industry, while undermining a rail-based approach to freight movement in Georgia that is intended to get trucks off the roads.
- **I-84 Expansion, Connecticut, $715 million** – Proposed widening of I-84 in Danbury directs state funds to a road where traffic has barely increased in the last decade, even amid growing demand for better rail service and severe state budget woes.
- **State Routes 53/120, Illinois, $2.3 billion** – A proposed toll road in the Chicago suburbs would jeopardize the environment and lacks a viable funding plan.
- **I-66 "Inside the Beltway" Expansion, Virginia, $140 million** – A bold plan to reimagine a suburban D.C. highway and expand access to transportation options is accompanied by a politically motivated highway widening project.
- **I-30 Widening, Arkansas, $632 million** – Widening a highway that cuts through the heart of Little Rock would impede the city's downtown revival while potentially causing as many transportation problems as it solves.
- **I-73, South Carolina, $1.3 billion** – A proposal for a new Interstate linking I-95 to Myrtle Beach is unnecessary, environmentally damaging, and would divert money from a growing crisis in road maintenance in the Palmetto State.
- **Madison Beltline widening, $1 billion** – The budget-strapped state of Wisconsin, which has already delayed other highway projects, continues to consider widening a highway around Madison, even as demands grow for more and better public transportation.

Previous *Highway Boondoggles* reports in 2014 and 2016 identified 23 dubious highway expansion projects costing an estimated $37 billion that merited additional scrutiny. Of those projects, six have been canceled, are on hold, or are under significant revision. Among projects put on hold or facing new scrutiny are the following:

- An **extension to an existing toll road in southern California** was denied on the grounds that it and a future additional extension would threaten local water resources.
- Plans for the **Dallas Trinity Parkway** are uncertain after community-led opposition to the proposed toll road resulted in a new, downscaled design and new questions about how the project would be funded.
- The **Illiana Expressway** tollway in Indiana and Illinois was suspended amid budget concerns and has been the subject of court challenges that leave its future in severe doubt.
- A proposal to **widen I-94 in Milwaukee** was denied funding by lawmakers and the governor due to the state budget crunch and following strong opposition from community advocacy groups. The land-use group 1000 Friends of Wisconsin found that the state Department of Transportation systematically overestimated traffic projections to justify the expansion.
- The future of the proposed **Mon-Fayette Expressway** outside Pittsburgh is in question as the region's planning agency is reconsidering the project and local officials are looking into the possibility of repurposing the funds currently dedicated toward its construction.

Federal, state and local governments should stop or downsize unnecessary or low-priority highway projects to free up resources for pressing transportation priorities.

Specifically, policy-makers should:

- **Invest in transportation solutions that reduce the need for costly and disruptive highway expansion projects.** Investments in public transportation, changes in land-use policy, road pricing measures, and technological measures that help drivers avoid peak-time traffic, for example, can often address congestion more cheaply and effectively than highway expansion.
- **Adopt fix-it-first policies** that reorient transportation funding away from newer and wider highways and toward repair of existing roads and investment in other transportation options.
- **Use the latest transportation data and require full cost-benefit comparisons, including future maintenance needs**, to evaluate all proposed new and expanded highways. This includes projects proposed as public-private partnerships.
- **Revise transportation forecasting models** to ensure that all evaluations of proposed projects use up-to-date travel information, reflect a range of potential future trends for housing and transportation demand, and incorporate the potential impacts of shifts in other transportation options, including public transit, biking and walking, along with newer options such as carsharing, bikesharing and ridesharing.
- **Give funding priority to transportation projects that reduce growth in vehicle-miles traveled**, to account for the public health, environmental and climate benefits resulting from reduced driving.
- **Invest in research and data collection** to better track and react to ongoing shifts in how people travel.

Introduction

The future of America's infrastructure is at the center of political debate in a way it hasn't been in decades. Talk of a potential trillion-dollar federal infrastructure package – and rising concern about the deteriorating condition of the nation's aging roads, bridges, railroads, transit systems and water infrastructure – have led some to believe that a new wave of investment in infrastructure is right around the corner.

But will that investment be smart, helping to meet the goals of enhancing the quality of life in our cities and towns, improving the quality of our air and water, assuring the sustainability of our communities in an era of growing concern about climate change, and meeting the needs of a 21st century economy? Or will it be wasted on "bridges to nowhere," on showpiece infrastructure heavy on glitz but light on impact, and on projects that double down on failed approaches that have left our nation and its people poorer, sicker and more miserable than we otherwise would be?

The track record of local, state and federal spending on transportation does not inspire confidence. For decades, governments have continued to spend tens of billions of dollars on highway expansion projects that do little to address real transportation problems, even as they help push the nation toward an ever-more car-dependent future. Such unwise infrastructure spending often creates additional problems – from damage to public health to increased congestion on local streets – that require the expenditure of even more public money to fix.

Cities and towns around the country are increasingly embracing new approaches to transportation problems that were once thought to be best solved by pouring new concrete. Revitalizing walkable urban areas, expanding access to public transportation, improving safety and comfort for pedestrians and people on bikes, and, in recent years, experimenting with new tools such as shared mobility services and information technology solutions, all have the potential to address transportation problems in ways that are popular, effective and often cheaper than highway expansion.

The projects highlighted in this report put a spotlight on the tension between extravagant highway expansion binges and smarter transportation approaches that deliver greater benefits for the public, but are often starved of necessary investment. The "boondoggle" highway projects featured in this report have been proposed in Red and Blue states; in urban, suburban and rural areas; and in fast-growing and slow-growing areas. In nearly every case, local residents and, in many cases, local officials have proposed alternative approaches that better meet local needs.

As the nation considers new investment in infrastructure, it is critical that those investments flow toward critical maintenance and repair projects, as well as new projects that meet today's 21st century priorities and needs. To achieve that goal, we must take a hard look at how today's transportation dollars are spent, and learn the lessons of the recent past. The projects highlighted here, as well as the nearly two dozen projects included in previous *Highway Boondoggles* reports, stand out as cautionary tales with lessons that should be taken to heart by public officials at every level of government.

The Problem with Highway Boondoggles

The United States continues to spend tens of billions of dollars each year to expand our highway network, even as existing roads and bridges crumble and other pressing transportation needs go unmet.

Highway Expansion Doesn't Solve Our Transportation Problems

Highway Widening Does Not Solve Congestion

Building a new highway or widening an existing one is often billed as a way to reduce traffic congestion. Nearly a century of highway construction in the United States, however, suggests that it does not work. Since 1980, the nation has added more than 800,000 lane-miles of highway – paving more than 1,500 square miles, an area larger than the state of Rhode Island – and yet congestion today is worse than it was in the early 1980s.[7]

For decades, transportation researchers have understood why building and widening highways does not eliminate congestion.[8] Expanding a highway sets off a chain reaction of societal decisions that ultimately lead the highway to become congested again – often in only a short time. Businesses may choose to move or establish new locations on the outskirts of the city in order to take advantage of the new highway. People may choose to move farther away in pursuit of cheaper housing (after spending more on transportation in the process). Commuters who had left early for work in order to avoid traffic might travel at rush hour once again. People who had taken transit might get back into their cars.

The ability of these changes – collectively termed "induced demand" – to take up additional space on highways, ultimately resulting in the return of congestion, is so predictable that it has been called the "Fundamental Law of Road Congestion."[9] Examples of recent highway expansion projects that failed to relieve congestion include the following:

Katy Freeway

In Texas, the Katy Freeway was known as far back as 2002 to be a very congested highway.[10] A $2.8 billion highway widening project was promoted as a fix for the congestion.[11] The highway became one of the world's widest – with 26 lanes in parts.[12]

And yet, travel times worsened considerably. By 2014, 85 percent of commutes along that highway took longer than they had in 2011.[13] Morning commutes took more than 30 percent longer, and afternoon commutes took more than 50 percent longer.[14]

I-405 in Los Angeles

The $1.6 billion widening of I-405 that disrupted commutes for five years – including two complete shutdowns of a 10-mile stretch of one of the nation's busiest highways – had no success in reducing rush hour congestion (though it did shorten the length of rush hour somewhat).[15]

Just five months after the widened road reopened, the rush-hour trip took longer than it had while construction was still ongoing.[16]

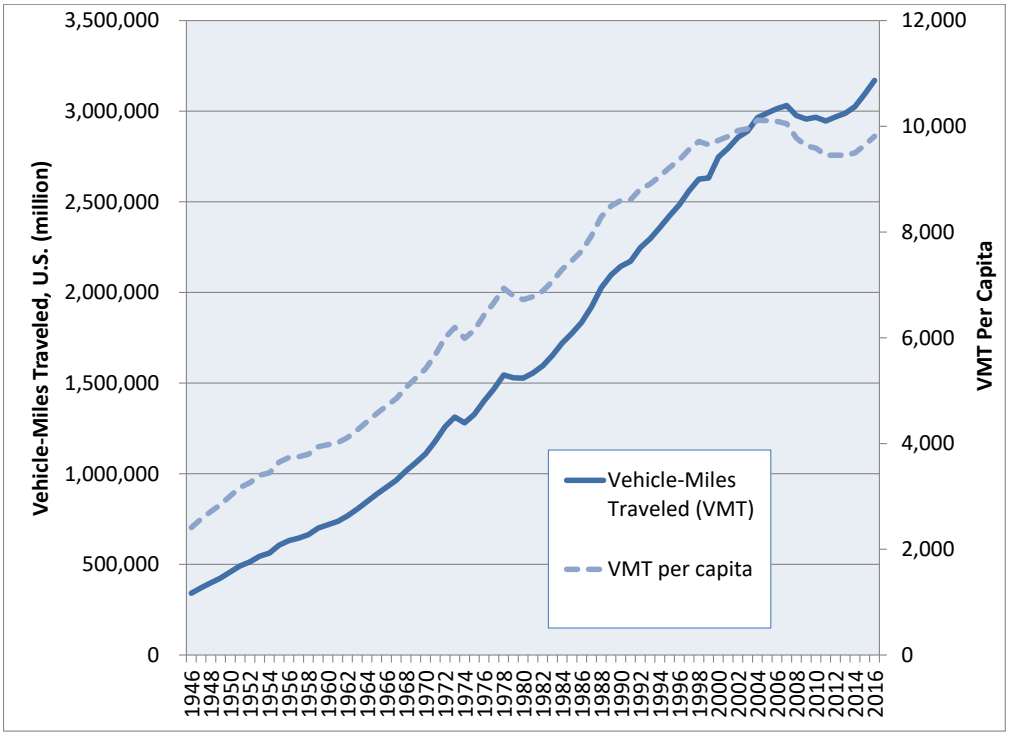
Highway Expansion Is Not a Pressing Priority

Complaints about traffic congestion are as common as complaints about the weather. Yet, in much of the country, traffic congestion is not demonstrably worse than it was a decade ago. Slower growth in driving could make highway expansion even less of a priority in the years to come.

According to the Texas A&M Transportation Institute, the average automobile commuter in America's metropolitan areas spent as much time in congestion in 2014 (42 hours a year) as he or she did in 2006.[17] After doubling between 1982 and 1999, the average number of hours spent in congestion increased 17 percent between 1999 and 2014.

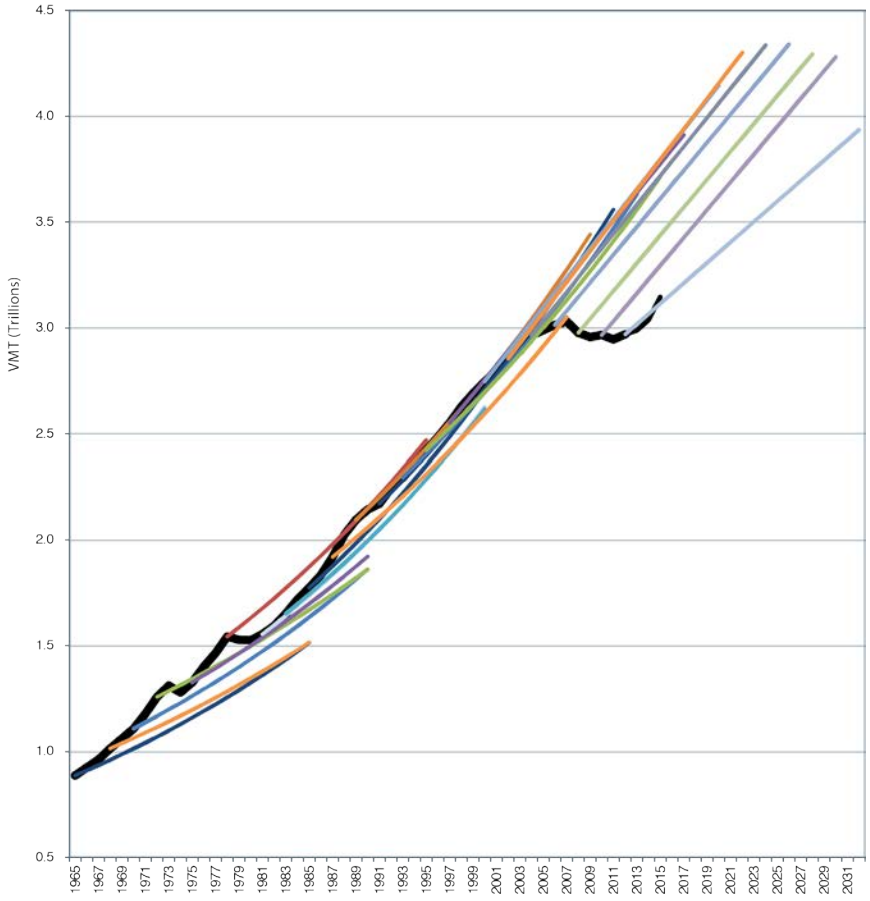
Part of the reason for the slowdown in the growth of congestion is the slowing of the rate of growth in the number of miles Americans drive each year. After roughly six decades of nearly continuous, rapid increases in the number of miles driven by the average American, the early 2000s saw this "Driving Boom" come to an end. Between 2004 and 2013, the number of miles driven by the average American fell by 6.5 percent.[18] Despite recent increases in driving, especially following the decline in gasoline prices in 2014, the average American drove fewer miles in 2016 than he or she did in 2002.[19]

Figure 1. Total and Per-Capita Vehicle-Miles Traveled, United States[20]



For years, highway agencies have justified highway expansion based on the assumption that driving will continue to increase steadily and rapidly in the years to come. These forecasts shape transportation agencies' estimates of the funding needed for infrastructure maintenance, repairs and expansion. At a more local level, highway agencies regularly cite forecasts of congestion 20 to 30 years in the future to justify a highway widening project today. But those assumptions are changing. In its most recent biannual report to Congress, the U.S. Department of Transportation (U.S. DOT) issued markedly lower traffic forecasts for the next two decades than it has in recent years. In 2004, the U.S. DOT forecast that Americans would be driving 4.2 trillion miles per year by 2020; today, the U.S. DOT forecasts that we will drive only 3.26 trillion miles – a difference of 24 percent, or nearly a trillion fewer miles per year.[21]

Figure 2. Travel Growth Forecasts Have Not Corresponded to Reality[22]



The colored lines on this chart indicate vehicle travel forecasts made by the U.S. Department of Transportation in its biannual* Conditions and Performance *report to Congress, while the black line indicates actual vehicle-miles traveled. After underestimating the rate of growth in vehicle travel in the late 1960s and early 1970s, the report has dramatically overestimated the long-term rate of travel growth since the early 1990s. U.S. DOT recently revised its procedures in the hopes of producing more accurate forecasts in the future.

The emergence of new transportation technologies, changes in patterns of development in and around U.S. cities, and broader shifts in demographics and the structure of the U.S. economy make it particularly difficult to predict future demand for transportation. Many of the factors that drove rapid and sustained increases in driving in the 20th century – growing availability of cars, rising workforce participation due to the Baby Boom and the entrance of women into the workforce, and mass suburbanization – are unlikely to be present in the same way in the 21st century. While recent trends such as sustained lower prices for gasoline and the advent of automated vehicles may alter Americans' driving behaviors in the years to come, it is much too early to assume that they will result in a return to the torrid growth in driving that took place in the second half of the 20th century.

Highway Expansion Takes Money from Other Transportation Priorities

Highway Expansion Is Costly

Highway expansion costs the United States tens of billions of dollars each year. In 2012, federal, state and local governments spent $27.2 billion expanding the highway system – including new roads, new bridges and widenings of existing highways.[23] Those expansion projects absorbed more than one out of every four capital dollars spent on highways in 2012, a lower share than previous years, but still a massive investment during a period of minimal growth in driving.

The Transportation Funding Gap Is Growing

At the same time, the traditional sources of funding for highway programs – gas taxes and other so-called "user fees" – are increasingly failing to keep up.

Many Americans believe that the taxes they pay at the pump are sufficient to cover the cost of the roads they use. While that has never been entirely true, today, so-called "user fees" cover a smaller share of highway costs than has been true historically. The real value of gas taxes and other charges on highway users actually declined between 2002 and 2012, the result of slower growth in driving, more fuel-efficient cars, inflation, and the unwillingness of the federal government and many states to increase gasoline taxes.[24]

The result has been increased borrowing for highway expenses and a growing dependence on revenue from general funds supplied by taxpayers, regardless of how much or how little they drive.

Highway Maintenance, Transit and Other Needs Are Growing

Continued highway expansion amid stagnating gas tax revenues means that limited funding is available for other transportation needs – including needs that are increasingly urgent in the 21st century.

- **Road repairs** – As many of the roads and bridges the nation built in the mid-20th century near the end of their useful lives, local governments are struggling to meet day-to-day infrastructure maintenance needs and often defer action to a later date. This has caused a roughly half trillion-dollar backlog of highway and bridge repair and rehabilitation.[25] As streets, roads and bridges continue to age, the cost and urgency of maintenance and repairs can only be expected to grow.
- **Transit repair and expansion** – Similarly, the nation faces a nearly $90 billion repair and rehabilitation backlog for its public transportation systems.[26] Americans also are increasingly demanding expanded access to public transportation. According to a 2014 ABC News poll, Americans favor transit improvements over road

expansion as a solution to congestion by a margin of 54 to 41 percent.[27] In November 2016, voters across the country approved $170 billion in new investment in transit on local ballots.[28]

- **Local needs** – Local governments also clamor for funding to expand bike lanes, improve conditions for pedestrians, fix potholes, and engage in "complete streets" transformations and other improvements to local streetscapes. Often, these improvements cost just a tiny share of the cost of a major highway project, but deliver significant improvements in quality of life and expand the mobility options available to local residents.

Highway Expansion Damages Communities and the Environment

Highway expansion can cause irreparable harm to communities – forcing the relocation of homes and businesses, widening "dead zones" alongside highways, severing street connections for pedestrians and cars, reducing the city's base of taxable property, and creating noise, pollution and disruption that degrades quality of life.

According to former U.S. Transportation Secretary Anthony Foxx, roughly 1 million Americans were displaced by highway construction during the first 20 years of the Interstate Highway System.[29] Many of those who were not displaced found their community life disrupted. A 2006 study found that U.S. cities would have added 8 percent to their population between 1950 and 1990 if urban freeways had not been built, compared to the 17 percent decline that occurred amidst the urban highway boom.[30]

Such displacement and disruption continues. In Tampa, the Florida Department of Transportation's "Tampa Bay Express" project threatens to displace a community center built by local residents and disrupt a resurgent urban neighborhood.[31] (See page 36.) In Detroit, a proposal to expand Interstate 94 through the heart of the city would destroy a historic recording studio once used by Charlie Parker, Aretha Franklin and a parade of other American musicians.[32] (See page 40.)

Highway expansion also fuels additional driving that contributes to climate change. Americans drive more per-capita – and produce more carbon pollution from transportation per-capita – than residents of any other major industrial nation.[33] By encouraging sprawling development patterns and nudging more people to take to the roads, highway expansion makes it more difficult for the nation to meet its national clean air goals and international commitments to reduce greenhouse gas emissions, such as the Paris Climate Agreement. In order to achieve the dramatic reductions in carbon pollution needed to prevent the worst impacts of global warming, the United States and the world must promote low-carbon forms of transportation wherever possible. Highway expansion does just the opposite.

Highway Boondoggles 2017

Boondoggle (n): Work or activity that is wasteful or pointless but gives the appearance of having value.

– Google Dictionary[34]

America's continued construction of ever-wider highways costs tens of billions of dollars each year – money that increasingly comes out of the pockets of ordinary taxpayers, regardless of how much they drive, and is diverted from more pressing needs such as highway repair, transit repair and expansion, and local street improvements. Those highway expansion projects are a relic of outdated thinking and often fail to do the job they are intended to perform: reducing congestion. They also degrade the quality of life in many communities and contribute to environmental problems such as global warming.

In this report, we identify nine highway "boondoggles" – projects with large price tags that are unnecessary and/or threaten to damage the communities surrounding them.

Some of these projects were originally proposed decades ago, at a time when concepts such as induced demand and the impact of driving on the global climate were not well understood. Others represent more recent trends, such as the use of tolled "express lanes" to expand highway capacity in areas where widening would otherwise be politically or financially impossible.

In this report, we address three types of projects:

- New highways or relocations of existing highways.
- Projects that add new lanes to existing roads.
- Highway expansions that are unnecessarily tacked onto needed highway reconstruction and repair projects. Many highways are currently reaching the end of their useful lives and require major reconstruction. In many cases, however, highway agencies have added expansion onto these reconstruction projects, making them more expensive and disruptive than they should be.

While not every state or region is included in the list of misguided highway projects below, nearly every state has one or more highway expansion projects whose wisdom is questionable. The projects highlighted in this report are not necessarily the worst highway boondoggles in the nation, but they are representative of the costs of proceeding with disruptive projects that do not have a compelling transportation rationale.

Figure 3. I-405 Widening, Orange County, California

Interstate 405 Expansion, Orange County, California

Estimated cost: $1.9 billion

A failed approach to reducing congestion on the nation's busiest Interstate would create bottlenecks elsewhere.

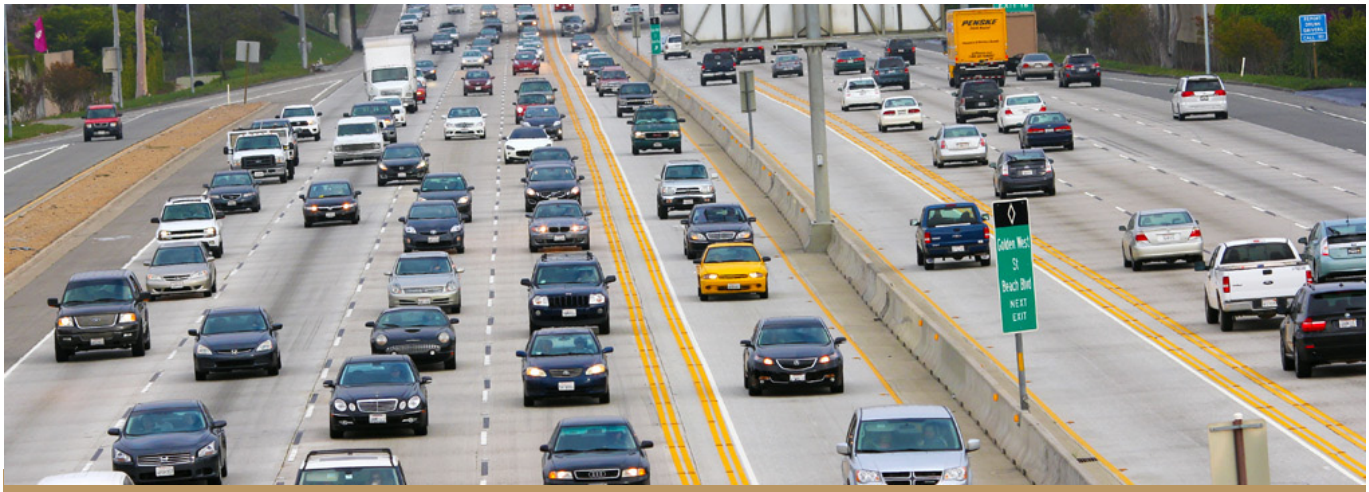
Interstate 405 in southern California is the busiest Interstate highway in the nation, carrying more than 370,000 vehicles a day as it crosses from Los Angeles County into Orange County.[35] The American Highway Users Alliance – a pro-highway group – labeled the stretch of "the 405" between Interstate 605 and California state highway 22 the second-most congested highway in the United States in 2015.[36]

For as difficult as congestion is on the 405, local officials forecast a horrific future in which drivers spend hours each day stalled out on the highway. A 2011 traffic study forecast that, by 2040, traffic along the 16-mile stretch of I-405 between Interstate 605 and State Route 73 in Orange County would slow to just 5 to 8 miles per hour during rush hour – slower than a bike ride. A morning northbound rush hour trip that took 18 minutes in 2009 is forecast to take an hour and 54 minutes by 2040, while a morning southbound trip that took 37 minutes is forecast to take 2 hours and 43 minutes. A traveler going north on that stretch in the morning and south in the evening would spend 3 hours and 41 minutes on I-405 every day if those projections were to bear out.[37]

The idea that hundreds of thousands of people would voluntarily spend that much time on their daily commutes without seeking out other options defies common sense. Nonetheless, in an effort to forestall this dystopia, the Orange County Transportation Authority (OCTA) has proposed a $1.9 billion expansion of I-405 – tacking on an additional lane for three-quarters of the segment's length, and creating two tolled "express lanes" in both directions by adding a new lane and converting an existing carpool lane.

Would it work? A cautionary tale can be found just a few miles up the road, where, in 2014, Los Angeles County completed the rehabilitation and expansion of I-405 through Sepulveda Pass – a project that wound up costing more than $1.6 billion, 55 percent more than its budget.[38]

Photo: Orange County Transportation Authority



Interstate 405 south of Los Angeles is the busiest Interstate highway in the country. A plan to expand the highway in Orange County could draw even more traffic to the road.

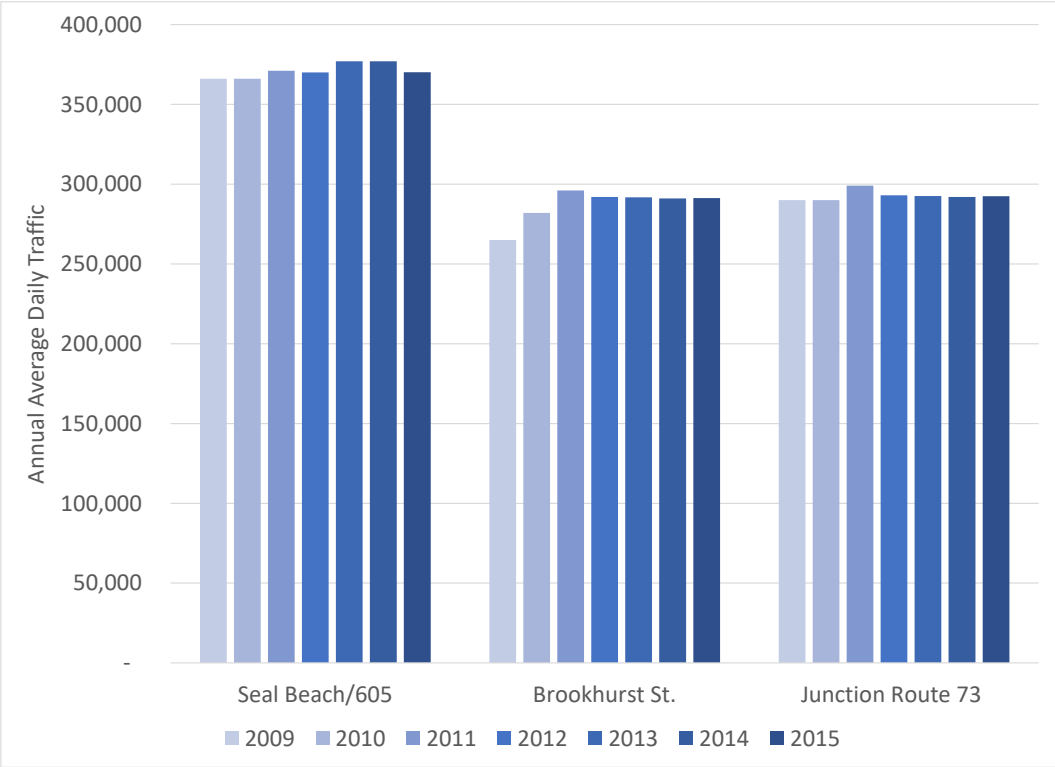
The project, which added a carpool lane to the northbound side of the highway and caused five years of construction delays, has not made rush hour traffic appreciably better, though it has reduced the length of the period each day during which drivers suffer from delays.[39] A 2015 study sponsored by LA Metro, the agency that implemented the project, estimated that the project had produced less than half the total reduction in vehicle delay anticipated by its 2008 environmental impact statement.[40]

Planners of the Sepulveda Pass widening did not account for the phenomenon of induced demand – when drivers shift their behavior to take advantage of new capacity. Indeed, the project's 2008 environmental impact statement found that it "would not generate traffic but rather facilitate the redistribution of existing and future traffic."[41]

Orange County planners are not making the same mistake. Widening I-405, they assume, will increase vehicle travel in the corridor by 4.5 percent, or 80 million miles per year, by 2040 versus a scenario in which the highway is not expanded.[42] They also, however, assume that traffic on I-405 will increase even without widening, with 34 to 37 percent more cars using the road by 2040 (compared with 2009 traffic levels).[43] It is this assumed increase in driving that contributes to the horrific projections of future gridlock used to justify the expense of the project.

In reality, however, traffic on I-405 hasn't been growing that quickly. Between 2009 and 2015, traffic counts from the California Department of Transportation (Caltrans) suggest increases of only 1 percent during that time period at two locations at either end of the corridor.[44] (See Figure 4, page 16.) The stagnation in traffic growth on the highway suggests that regional growth may not be taking place in the ways planners initially expected, or that congestion in the corridor may be encouraging people to make alternate travel, living and work decisions that reduce the amount of time they spend on the 405. Expanding the highway could very well bring many of those who currently avoid the 405 back to the highway – generating new traffic that causes congestion to return.

Figure 4. Annual Average Daily Traffic for Interstate 405 in Orange County[45]



Communities along the 405 are worried that bringing more cars to the road will affect their quality of life. The cities of Seal Beach and Long Beach on the northern end of the project area have filed suit against the project, arguing that the expansion will cause traffic headaches at the Los Angeles/Orange County line where the new lanes are planned to disappear.[46] One possible action to address their concerns – widening the 405 on the *other side* of the border within Los Angeles County – would further increase the cost of the project and increase the potential for even more drivers to hit the road, creating bottlenecks at other points of the system.

Those additional cars will also make it harder for California to meet its goals for cutting greenhouse gas emissions. California has been a national leader in reevaluating transportation and land use planning in light of its strong commitment to addressing climate change.[47] Widening the 405 runs counter to that emerging priority.

Interstate 4 "Beyond the Ultimate," Florida

Estimated cost: $2.2 billion

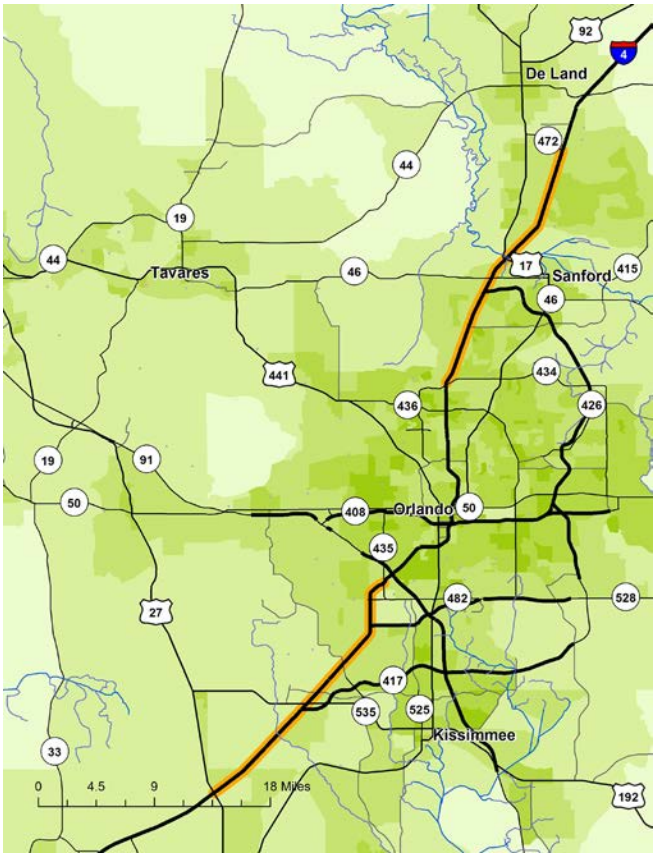
Widening 40 miles of highway in central Florida, in part to avoid bottlenecks created by another $2.3 billion expansion project down the road, would only waste more money.

When Interstate 4 was built through Orlando in the 1960s, few could imagine the city's future growth. The population of Orange County, where Orlando is located, has more than quadrupled since 1960, while the Orlando area has simultaneously experienced the growth of a tourism economy that draws more than 66 million visitors each year – more than any other U.S. city.[48]

Like many other Sunbelt cities, Orlando grew up during the age of the automobile – with locals and tourists trapped on highways like the congested I-4, which connects Florida's east and west coasts. Today, the state of Florida is in the midst of yet another attempt to build its way out of congestion with the construction of the I-4 Ultimate project through downtown Orlando – a project whose effect of pushing congestion outwards is now being used to justify another multi-billion dollar highway expansion.

"I-4 Ultimate" is a massive, six-year reconstruction and expansion project that will transform 21 miles of highway – adding two tolled "express lanes" in both directions and rebuilding bridges and interchanges along the highway's length. The $2.3 billion project is being completed as a design-build public-private partnership, with the concessionaire, I-4 Mobility Partners, receiving availability payments over the course of the project's life, and toll revenue from the dynamically priced express lanes expected to cover half of the cost of the project.[49] The project is the beneficiary of a $950 million federal loan under the Transportation Infrastructure Finance and Innovation Act (TIFIA).[50]

Figure 5. I-4 "Beyond the Ultimate," Florida



Florida transportation leaders see I-4 Ultimate as a "signature corridor" in the words of a Florida Department of Transportation (FDOT) spokesman, quoted in 2015 in *Orlando Weekly*. "The DOT wants the drive on I-4 to be just as much of the Florida experience as palm trees, sunshine, the great weather, Mickey Mouse, Harry Potter, all the things that people come to Central Florida for," said FDOT public information official David Parks. To achieve that goal, FDOT is reportedly spending $40 million on "decorative touches" such as "a signature pedestrian bridge, accent lighting, fountain illumination, art sculptures and monuments, and other architectural treatments."[51]

The construction of I-4 Ultimate may, however, create bottlenecks and congestion farther up and down the highway as the widened road – which will almost certainly attract more cars – narrows from 10 lanes to six north and south of the city. Former U.S. Representative John Mica described the situation this way

Illustration: Florida Department of Transportation

The "I-4 Ultimate" widening project in Orlando is intended to create a "signature corridor" with tens of millions of dollars' worth of special architectural features. It may also create bottlenecks north and south of the city, lending momentum to calls for the "Beyond the Ultimate" express lanes project.

in comments to the *Orlando Business Journal*: "Once the I-4 Ultimate is done, just close your eyes and imagine four more lanes plus increased traffic pouring in from Kirkman Road in the next four years; you're looking at a disastrous situation if we don't do something about it right now."[52]

The proposed solution: spend an additional $2.2 billion or more on a project called "I-4 Beyond the Ultimate." "Beyond the Ultimate" would extend the new express lanes north and south of the section currently under construction, affecting 40 additional miles of highway.[53] The southern section of the project passes through a tourism-heavy area with resorts such as EPCOT and Sea World, while the northern section travels through a suburban area with heavy commuter traffic into and out of central Orlando each day.[54] Construction of the project could affect several hundred properties, including a shopping center popular with visitors to Disney World.[55]

The majority of the project received federal approval in the late 1990s and early 2000s, but FDOT is now in the midst of a re-evaluation study needed to obtain approval for changes to the project, which was originally slated to have high-occupancy vehicle lanes in place of the currently proposed toll lanes.[56]

Orlando has been making headway in adding new transportation options for residents and visitors that do not require being stuck on I-4 or adjoining roads. The city of Orlando has committed to a complete streets policy, has planned expansions of bus rapid transit and considered light rail transit, and has added carsharing and bikesharing options.[57] In 2014, the region launched its SunRail commuter rail service, which serves a north-south corridor roughly parallel to I-4, and expansions of the line to the north and south are planned. SunRail service, however, has been extremely limited – with trains once every half hour during rush hours, service ending mid-evening on weekdays, and no service on weekends. Ridership on the line has struggled but could be improved with investments in additional service.

The reconstruction and expansion of I-4 through Orlando reflects a big bet that highway expansion and tolled express lanes can finally address congestion – a bet that hasn't worked out well elsewhere in Florida, with the spread of express lanes generating complaints among drivers in parts of the state.[58] The "Beyond the Ultimate" project would be yet another big bet in favor of car-dependency and automobile-oriented sprawl.

Interstate 75 North Truck Lanes, Georgia

Estimated cost: $2 billion

An expensive experiment with toll-free truck-only lanes competes with a rail-based solution to move freight across Georgia.

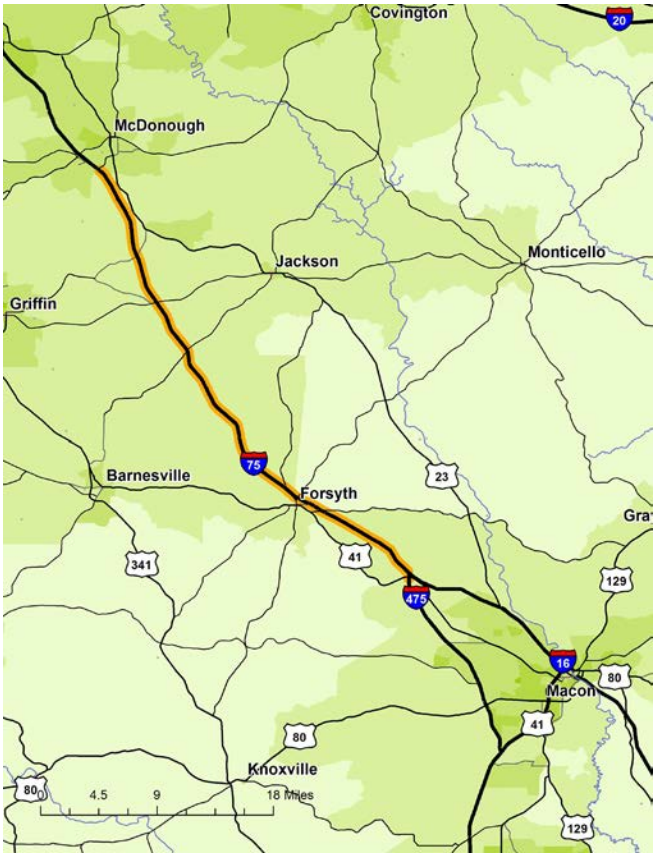
Interstate 75, which runs north-to-south through Georgia and bisects Atlanta, is one of the busiest trucking corridors in the United States.[59] The Port of Savannah, Georgia – which sits to the south and east of Atlanta – is not only the nation's fourth-largest container port, but also one of its fastest-growing.[60]

Freight from ships unloaded in Savannah is often transported up Interstate 16 where it eventually merges with truck-laden Interstate 75 headed north toward the Atlanta area. State officials hope that freight traffic through Savannah will continue to grow in the future, with a major dredging project, scheduled to be completed in 2019, equipping the harbor to handle the larger ships enabled by expansion of the Panama Canal.[61]

The Georgia Department of Transportation (GDOT) is in the early stages of considering a $2 billion plan to build the nation's first long-haul truck-only lanes along a nearly 40-mile stretch of I-75 from just north of Macon until just south of Atlanta. However, the project would represent a major giveaway to the trucking industry at the expense of Georgia taxpayers, largely duplicates rail-based solutions that are already being implemented in the state, and, along with other highway expansion projects across Georgia, appears to be moving forward in the absence of rigorous analysis to determine whether it is a wise use of funds.

Officials tout several potential benefits from the truck-only lanes: the prospect of reduced congestion on general traffic lanes, as well as improved safety.[62] A GDOT-commissioned study by Cambridge Systematics estimated that the project would reduce the number of hours vehicles spend in delay in the corridor by 40 percent in 2030.[63]

Figure 6. I-75 Truck Lanes, Georgia



But there may be a better way to alleviate truck congestion: remove the trucks from the road altogether by distributing freight by rail from the Port of Savannah to other parts of Georgia.

The Port of Savannah is uniquely located along two Class I freight rail lines (CSX and Norfolk Southern). To take advantage of that location, and to reduce congestion from trucks exiting the port, the Georgia Ports Authority has proposed a plan, called Network Georgia, to create six "inland ports" – locations where freight could be offloaded from trains serving the Port of Savannah and loaded onto trucks for distribution to regional markets across the Southeast.

One of those proposed inland ports, in Murray County in northwest Georgia, would directly reduce the need for truck shipping between Savannah and points to the north and west of Atlanta – the same trips that would be served by truck lanes on I-75.

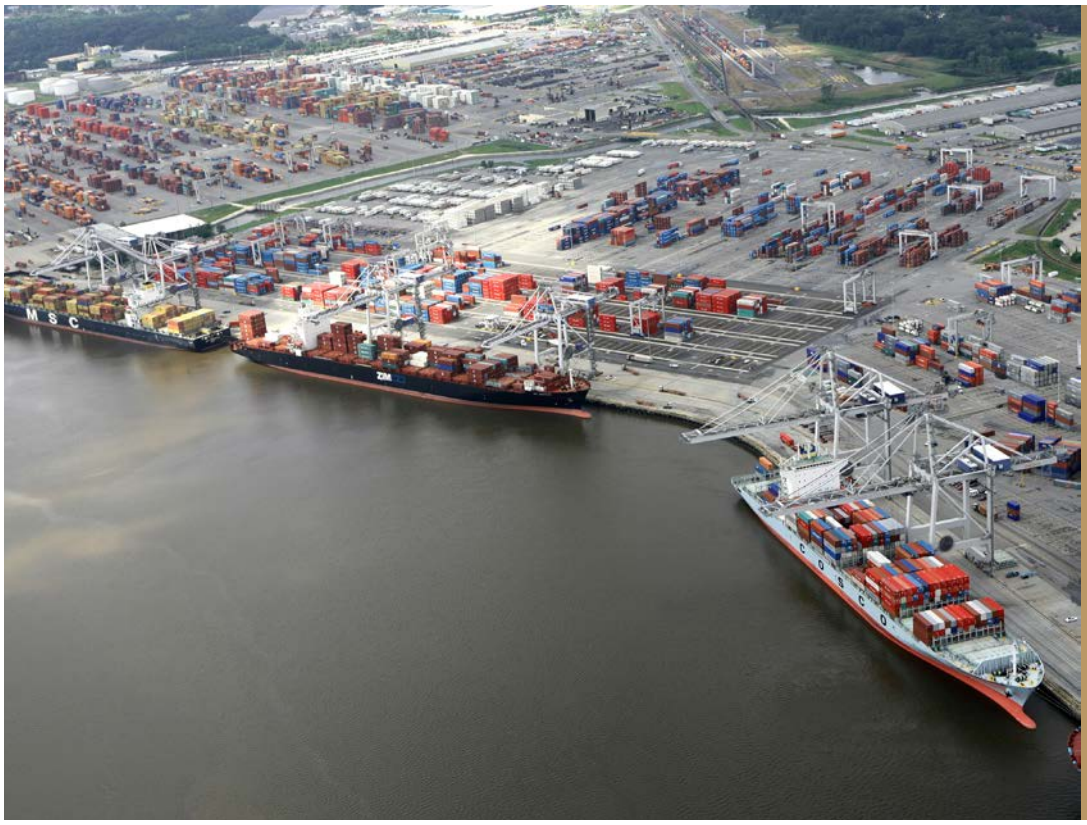
The inland port would sit at the end of a 388-mile freight rail line operated by CSX, enabling cargo to be unloaded from ships and placed on trains to bypass congested portions of Interstate 75 and other highways around Atlanta, providing ready access to regional markets in Appalachia and beyond.[64] The Ports Authority estimates that, when fully up and running in 2018, the facility will have a capacity of 50,000 containers per year. The state of Georgia is contributing $10 million toward construction of the facility.[65]

Implementing two solutions – one rail-based, one highway-based – to address the same challenge of truck traffic on the state's highways has raised eyebrows. One Georgia-based logistics analyst, quoted at Trucks.com, said that the truck lane project "makes no sense." "When you have GDOT coming out with this plan and the Georgia Port[s] Authority coming out with the strategy of building an inland port," said Cathy Morrow Roberson of the firm Logistics Trends & Insights. "It doesn't appear they got together to discuss this." [222]

Duplication of effort isn't the only issue with the proposal. Under the proposal, the truck-only lanes would be untolled – likely a necessity if they are to attract traffic from cost-conscious truckers. But the result would be a giveaway to the trucking industry, with Georgia taxpayers covering the cost of construction and upkeep of the lanes in part through revenue from a 2015 package of gas tax increases and other fees, while receiving only indirect benefits from the investment.[66] (The package also included new highway impact fees of $50 to $100 on large trucks that generate only a small portion of the additional revenue in the package.)[67]

The project would also represent a risky endeavor for the state of Georgia, adopting a concept that has not been tried in the United States at anywhere near a similar scale. A March 2016 article in the *Atlanta Journal-Constitution* labeled the plan a "$2 Billion Gamble," noting that it would be twice as expensive as the costliest highway construction project in Geor-

Photo: US Army Corps of Engineers



Georgia DOT's plan to build $2 billion truck-only lanes is one of two competing projects being developed to alleviate truck traffic originating from the Port of Savannah.

gia's history to date.[68] The project is also contingent upon continued growth in traffic at the Port of Savannah, which could be jeopardized by more protectionist trade policies.

Nor is the I-75 project the only highway project moving forward in Georgia without rigorous evaluation. A December 2016 audit by the Georgia Department of Audits and Accounts alleged that GDOT had failed to adopt best practices in the evaluation and selection of highway expansion projects. According to the audit, GDOT's planning department "lacks detailed policies and procedures to guide key selection and programming decisions, and the basis for the decisions are not well-documented." The audit specifically called out the I-75 truck lanes proposal, noting that the project "was programmed without a full and complete assessment of the need for the project, evaluation of options and the pros and cons of each, and an explanation for the option selected."[69]

The need for more data-driven and results-oriented transportation decision-making in Georgia is especially urgent as the state prepares to spend as much as $750 million to $1 billion per year generated by a 2015 transportation funding bill.[70]

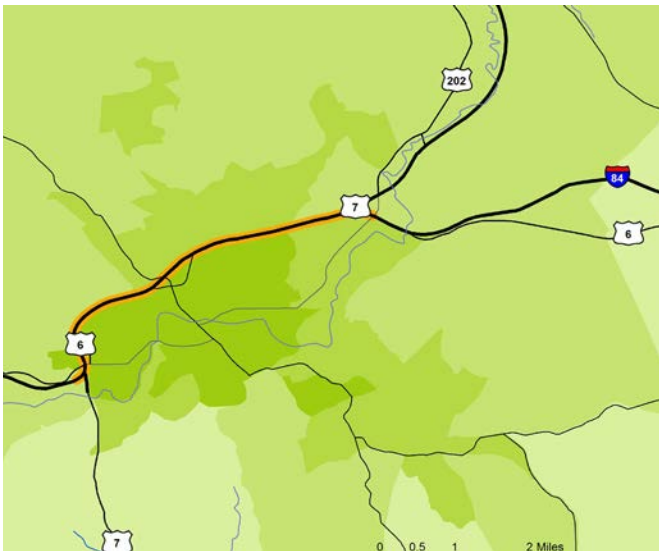
It will likely be several years before the project goes forward. But with millions of dollars being spent elsewhere to support freight traffic to the Port of Savannah and major questions about the effectiveness of the concept, the speculative giveaway to the trucking industry should be put on hold.

Interstate 84 Expansion, Connecticut

Estimated cost: At least $715 million

Connecticut faces tough decisions about whether to expand highways like I-84 or invest in improved public transit.

Figure 7. I-84 Widening, Connecticut



Connecticut is struggling. A third consecutive year of population decline, the loss of major corporations such as General Electric and declines in manufacturing, as well as persistent fiscal woes have left the Nutmeg State looking for ways to turn the tide.

One idea has been to reinvest in the state's infrastructure. Connecticut Gov. Dannel Malloy has proposed a 30-year, $100 billion plan to invest in transportation across Connecticut.[71] Unveiled in 2015, the "Let's Go CT" plan includes an estimated $36 billion in investment in bridges, $31 billion in highway investments, $22 billion in expenditures on the state's rail system, and $2.8 billion in bus system investments.[72]

For the Danbury area in western Connecticut, which sits along both Interstate 84 and a commuter rail line to New York City, the long-term plan includes major investments in widening I-84 and electrifying and extending the Danbury branch line of the Metro-North commuter railroad. But with funding for the full "Let's Go CT" plan uncertain, Connecticut may be soon be forced to make difficult choices about its transportation priorities.

The state's five-year "ramp-up" investment plan includes $30 million to improve the connection between the Danbury branch line and the main New Haven Line serving New York City – an investment intended to reduce delays and improve service.[73] But it also includes the expensive widening of an eight-mile stretch of I-84 in Danbury, while falling short of the long-time goal of electrifying and extending the Danbury branch rail line.

In December 2016, the state of Connecticut took the first steps toward widening I-84, hiring consultants to begin planning for a project that is estimated to cost more than $700 million, without counting the potentially substantial costs of acquiring additional right-of-way for the road.[74]

I-84 serves as a key transportation link in Danbury, carrying both north-south and east-west traffic across the region, as well as local traffic. But while congestion is a problem on I-84, traffic on the road has been roughly stable over the last 15 years. On I-84 in Danbury, daily traffic at one of the highway's busiest points increased by only 5 percent in total between 2000 and 2015.[75] Statewide, vehicle-miles traveled in Connecticut increased by only 0.2 percent per year between 2001 and 2015.[76] (See Figure 8.)

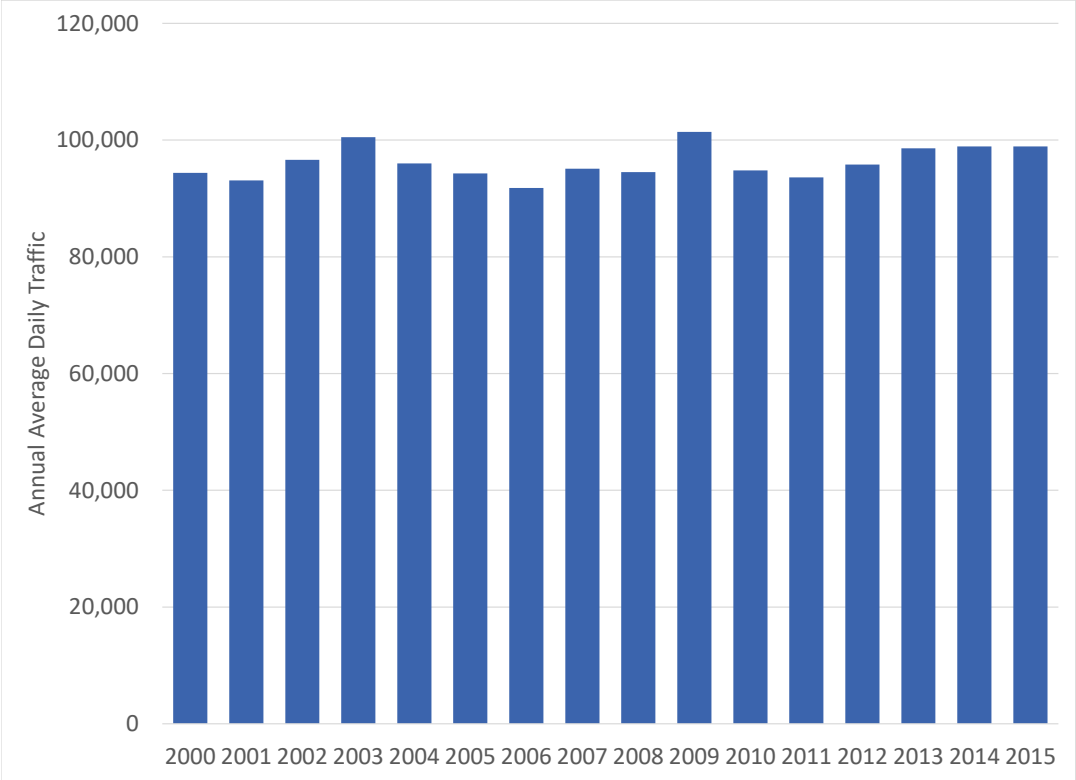
Meanwhile, ridership on the Metro-North rail system has been rising sharply, including on the Danbury branch. Ridership on Metro-North's New Haven Line (which includes the Danbury branch) has skyrocketed over the last two decades, increasing by an average of 1.6 percent per year between 1996 and 2007 (with the exception of 2001, the year of the terrorist attacks on New York City), and 1.5 percent per year from 2007 to 2016.[78] Ridership on the Danbury branch itself increased by 9.4 percent in 2015 following investments made to improve service on the line, before dropping slightly in 2016.[79]

There is even more potential for growth in ridership. A 2013 study estimated that electrification of the current Danbury branch line and expansion of service

Photo: Daniel Case at the English language Wikipedia (CC BY-SA 3.0)

Ridership on rail lines like the Danbury branch of Metro-North is rising, even as growth in driving has stagnated. Yet Connecticut is preparing to spend tens of billions of dollars to widen and rebuild highways, including I-84 in Danbury.

Figure 8. Annual Average Daily Traffic, I-84 at Milepost 5.59 (Exit 5), Danbury, CT[77]



would reduce trip times along the line by 19 percent, increase ridership by 46 percent by 2030, and reduce vehicle-miles traveled by 4 million miles per year, at a cost of approximately $400 million.[80]

But, despite their inclusion in the long-term "Let's Go CT" plan, the Danbury branch electrification plan and extension of the branch to New Milford – both of which have been sought by local officials for years – do not appear to be in the state's immediate plans. A 2016 state study concluded that "investment in these two improvements is not justified at this time."[81]

Danbury is not the only place in Connecticut where public transportation is in high demand and the potential for increased ridership is high. The launch of Connecticut's first "bus rapid transit" service, called *CTfastrak*, in 2015, topped ridership expectations, with weekday ridership from May to November of 2016 up 20 percent from the year before.[82] The early success of *CTfastrak* has prompted calls for expanding express bus service in the state, including from Hartford to Storrs, which is home to the University of Connecticut.[83]

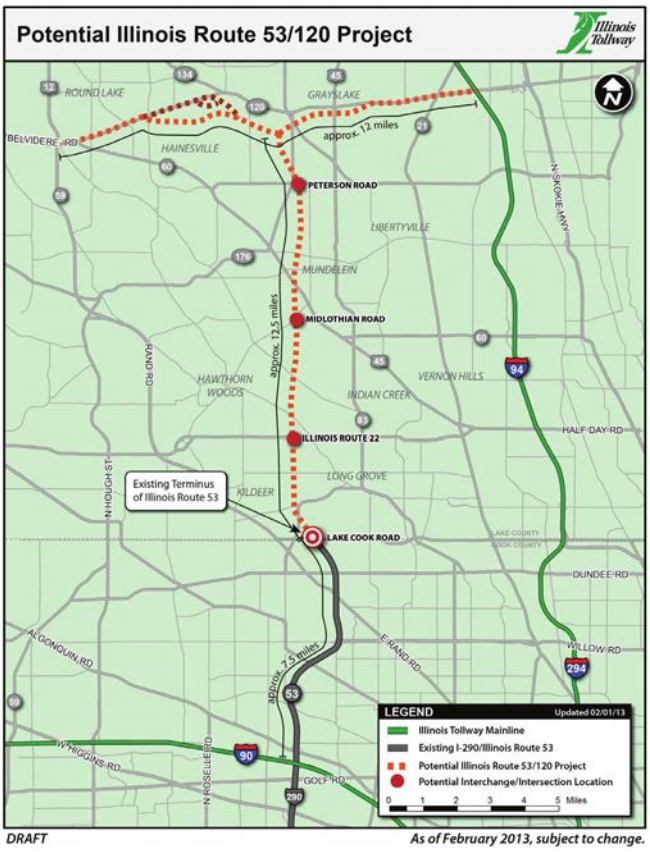
Those plans for better transit – along with continuation of existing transit services – have been jeopardized by the state's budget woes. In late 2016, the state Department of Transportation – which runs the transit system in several Connecticut cities – was asked to plan for a 10 percent budget cut. Proposed changes included increasing transit fares, reducing service, putting off plans to extend *CTfastrak*, and cutting back on commuter rail service across the state.[84] The announcement of the proposed fare hikes and service cuts came just two weeks before Connecticut announced its intention to move forward with the I-84 expansion in Danbury.

Like many other states, Connecticut also faces large and growing road repair needs. Nearly three out of four of the state's roads (73 percent) are in mediocre or poor condition.[85]

Connecticut's long-term plans to improve rail transit and serve growing demand for better public transportation are promising, and the investments the state has made thus far appear to be paying off. But tensions between transit and highway investments are already appearing, even though the numerous big-ticket highway renovation and expansion projects identified in "Let's Go CT" – including the I-84 widening in Danbury – have barely begun to move forward.

Recent trends in rail ridership and vehicle travel, along with ample research documenting the inability of highway widening to reduce congestion, suggest that Connecticut should be firm in prioritizing public transportation, as well as expensive and necessary repairs to existing highway infrastructure, over expansion projects. As a 2003 state government-commissioned study found, "… adding capacity to highways induces additional traffic, as people take additional automobile trips and new development creates even more demand. It is now generally accepted that states cannot build their way out of congestion."[86]

Figure 9. Illinois State Route 53/120 Project Map[87]



Illinois State Route 53/120

Estimated cost: $2.3 billion to $2.65 billion

An unaffordable and unneeded road project would threaten the environment and fuel sprawl.

Illinois State Route 53 travels north-to-south across Chicago's western suburbs. Northwest of the city, an expressway portion of Route 53 ends at the border between Cook County (home to Chicago) and suburban Lake County. For decades, local, county and state officials have considered extending Route 53 northward along a new right-of-way, where it would branch east-to-west as a bypass of existing Route 120, paving over open space from Interstate 94 to rural lake communities.

In 1993, the Illinois Legislature authorized the Illinois State Toll Highway Authority to build the 23-mile highway as a toll road – a measure that touched off heated debate within the county. Proponents argued that existing and anticipated traffic congestion in Lake County required action; opponents argued that the road would accelerate suburban sprawl and result in more traffic on local roads.[88] The plan was eventually shelved.

In 2006, Lake County officials initiated new conversations about the proposal. A 2009 non-binding referendum in Lake County saw 76 percent of voters express support for the concept of extending Route 53, though the referendum did not specify how the road would be paid for.[89] The Toll Highway Authority and the Chicago Metropolitan Agency for Planning (CMAP) both added the highway to their transportation plans.

In an effort to surmount the controversy around the project, the Illinois State Toll Highway Authority convened a Blue Ribbon Advisory Council (BRAC) to recommend how best to proceed. In 2012, the BRAC accounted for the first time for the environmental damage the extension would inflict, recommending the construction of a "modern boulevard" with a number of environmental features and integration into comprehensive plans for multi-modal mobility and future development in the area.[90]

The proposed roadway had several novel features. It was to be designed as a tolled, four-lane, limited access highway, but with a maximum speed of 45 miles an hour, with tolls varied based on congestion levels.

A feasibility analysis produced in 2015 identified several possible sources of funding:

- A value capture mechanism that would direct one-quarter of the additional real estate tax revenue from non-residential development in the corridor to a "Sustainable Transportation Fund" that would support environmental impact mitigation;
- An additional four cents per gallon county gas tax, charged to drivers throughout the county, half of which would be used to fund the highway;
- Tolling and congestion pricing along the Route 53/120 corridor; and,
- Funding from increased tolls charged elsewhere in the county.[91]

Several of these options, however, come with great uncertainty. Dependence on tolling and value from property taxation would create incentives to maximize traffic and commercial development in the area – that is, to encourage further sprawl and automobile dependence. Some of the funding mechanisms would require legislative approval. Moreover, toll revenue, which is always difficult to forecast, is made especially uncertain given the road's relatively low speed limit and high (proposed 20 cents per mile) toll rates, compared to the 6 cents per mile average for the rest of Illinois' toll roads.[92] Even with this package of funding options, the feasibility study identified a considerable "funding gap" of $1.36 billion to $1.91 billion, which the study recommended come from tolls on other segments of the Illinois Tollway system, as well as state and federal funding.[93]

The Illinois State Toll Highway Authority has continued momentum toward building the project, voting to allocate $10 million in late 2016 toward the $50 million, four-year process for developing an environmental impact statement for the project.[94] But concerns about the project's costs and impacts, and rising local opposition, threaten its continuation. Local residents concerned about the project's costs and environmental impacts have pushed local officials and organizations to reverse their prior support for the project and the Toll Highway Authority to abandon it.

In mid-2016, Lake County Board Chairman Aaron Lawlor, who co-chaired the BRAC, reversed course and urged that plans for the highway be scrapped, stating that it has become clear that "the financial and political realities have become insurmountable."[95] Lawlor called instead for a new vision for the corridor – where the Illinois Department of Transportation had been acquiring land for highway right-of-way for decades – that would include a trail system, coupled with other road and transit improvements throughout the county.

Interstate 66 Expansion "Within the Beltway," Virginia

Estimated cost: $140 Million

A promising approach to the D.C.-area's congestion challenges is accompanied by an unnecessary road-widening project.

The Washington, D.C., area experiences legendary traffic congestion. For decades, the Capital region has been of two minds about how to address traffic: lay more asphalt or provide alternatives to driving through investments in transit, smart land use, and transportation demand management.

Arlington County, Virginia, located across the Potomac River from Washington, has long exemplified the latter approach. When the D.C. region began planning the Metrorail system in the 1960s, with two lines running through Arlington County, county officials lobbied for what would later be called a "smart growth" approach to the region's future – pushing for the Metro Orange Line to connect existing town centers as opposed to being built in a highway median, and focusing intense new development near the Metro stations while preserving the suburban feel of much of the county.[96] Over the decades, Arlington County also became a national leader in transportation demand management – investing in infrastructure and partnering with local businesses

Figure 10. I-66 Widening "Inside the Beltway"

and institutions to encourage travel by means other than single-occupancy driving.

Those efforts paid off. By 2011, the county's transportation demand management programs were shifting more than 40,000 car trips each day to other modes, reducing traffic and congestion.[97] In 2013, 46 percent of workers in Arlington County used modes other than driving to work, compared with just 34 percent in the D.C. region as a whole.[98] And, despite 40 percent growth in jobs and population over the previous three decades, the number of cars traveling on major streets in the county increased only modestly, and on some streets even declined.[99]

Interstate 66, which travels through the county between Washington, D.C., and more-distant Virginia suburbs, has long been an example of this approach to encouraging shared rides and reducing vehicle trips. Since its opening in Arlington County in 1982, the roadway has been dedicated entirely to high-occupancy vehicles (along with vehicles serving Dulles International Airport) heading into D.C. in the morning and out of the city in the evening.

Today, while traffic in the peak direction is much reduced by the HOV restrictions, I-66 experiences congestion at other periods. Indeed, the highest traffic levels are often in the "reverse commute" direc-

Rebuilding Crumbling Roads and Bridges Can Mean Repeating Mistakes of the Past

In recent years, transportation reformers have argued for a "fix-it-first" approach to transportation spending that prioritizes maintenance and reconstruction of existing infrastructure over highway widening and other forms of system expansion.

There are, however, existing pieces of highway infrastructure that were bad ideas in the first place – including the many freeways that were plowed through the heart of American cities in the 1950s, 1960s and 1970s. Organizations such as the Congress for the New Urbanism, in its *Freeways Without Futures* series of reports, have argued for removal of these freeways, while cities around the country have grappled with options such as depressing highways, capping them, or rerouting the traffic they carry.[107]

Money spent to rebuild highways that shouldn't have existed in the first place does not fall within the definition of "boondoggle" spending as defined in this report. But, it does represent the potential misuse of public resources – as well as a missed opportunity to improve transportation and quality of life in our cities. Among the cities dealing with aging, misguided highways are the following:

- **Birmingham, Alabama** – Birmingham's booming downtown is severed from the economically challenged neighborhoods to its north by a bridge that carries Interstates 20 and 59 through the heart of the city. Built in 1971, the bridge has been seen by downtown and neighborhood interests alike as a hindrance to the city's further revitalization and growth – creating a "dead zone" of parking lots and highway ramps, and a wider area where property values are low, dragging down the city's tax base.[108]

  Over the last decade, recognizing that the bridge was coming to the end of its useful life, people in Birmingham have put forward several ideas for how the elevated structure could be eliminated and the city knit back together. But the Alabama Department of Transportation, arguing that the current bridge is unsafe, has proposed reconstruction on close to its current alignment. The proposed widening of the bridge would bring it even closer to renovated downtown buildings, hotels, entertainment complexes and cultural venues. It would perpetuate the separation of downtown from the city's northern neighborhoods. And it would come at an estimated cost of $750 million.[109]

- **Hartford, Connecticut** – Interstate 84 slices through Hartford along a viaduct built in 1965 that divides the city. The viaduct has reached the end of its useful life, providing an opportunity to rethink the interaction between I-84 and the surrounding city. Options on the table include replacement of I-84 on its current layout, replacement with a different elevated highway, reconstruction of the highway at ground level, and tunneling. In 2016, the state Department of Transportation announced its preference to replace the highway with one that runs slightly below ground level, at a cost of $4.3 billion to $5.3 billion.[110] Construction could begin as soon as 2022, but as yet there is no plan in place for financing the project.

- **Providence, Rhode Island** – For years, Providence residents pushed for a new vision for the interchange of U.S. Route 6 and State Route 10, which currently divides the city. Among the solutions considered were converting the expressway into an "urban boulevard" and a proposal favored by the state Department of Transportation to rebuild and cap the highway, at a cost of $595 million.[111] However, citing deterioration of the existing highway, Rhode Island Gov. Gina Raimondo announced in September 2016 the abandonment of both concepts in favor of an immediate reconstruction of the 6-10 interchange on roughly its current footprint. The state's subsequent plans for the reconstruction of the road have addressed some of residents' most serious concerns, but the ambitions of Providence residents for a transformational rethinking of the relationship between the highway and the city are unlikely to be met.

tion during rush hours.[100] Moreover, the success of Arlington's efforts to promote transit-oriented development has led to more demands for improved transit, bicycling and pedestrian connections.

To address those challenges, the state of Virginia initiated a process to evaluate alternatives for the I-66 corridor. The result was a 2012 state-commissioned report that recommended a package of improvements, including the conversion of I-66 to a high-occupancy/toll road – with tolls varying based on the level of congestion – during rush hours. In 2015, regional planners and Arlington County officials expressed support for the plan under the assumption that toll revenue from the road would be used to support expanded multimodal transportation options in the corridor and that the study's proposed widening of parts of I-66 would be deferred until the success of the tolling and multimodal portions of the plan were evaluated, or at least until 2025.[101]

The plan was consistent with Arlington County's successful track record of addressing traffic through demand management, providing resources to expand the range of transportation choices available to people along the corridor. It would also have averted the expenditure of $140 million by the Commonwealth of Virginia on a road widening that might never have become necessary.

The proposal, however, attracted opposition from some leaders in the Virginia Legislature, including representatives of counties in D.C.'s exurbs, who filed legislation to block it.

The objections led to several compromises in the plan – including the elimination of tolls in the reverse commute direction (which often experiences significant congestion) and abandonment of a plan to raise the HOV threshold from two to three occupants.[102] It was, however, legislators' insistence that widening of the eastbound side of I-66 happen immediately – not years in the future – that nearly brought the effort to a screeching halt. In February 2016, however, Virginia Gov. Terry McAuliffe reached a compromise with the Legislature in which the widening was permitted to proceed.[103]

The overall project may still deliver net benefits for the D.C. area. The region is already moving forward with a series of multimodal projects, including expanded bus service and the installation of transit information screens in key areas, that will be in place when tolling begins on I-66.[104]

But the expensive widening of I-66 will create problems that the previous plan did not. Arlington County has expressed concern about the potential for increased noise, the impact on local streets, and other issues.[105] The environmental assessment for the project also forecasts that construction of the additional lane will result in 2.7 percent more vehicle-miles traveled along roads affected by the project by 2040 compared with a "no build" alternative.[106] The political process that led to the addition of widening to the I-66 project also undercuts Virginia's recent efforts to minimize the impact of politics in transportation planning through the implementation of a data-driven process for project selection.

Figure 11. Interstate 30, Little Rock, Arkansas

Interstate 30 Widening, Arkansas

Estimated cost: $632 million

Widening I-30 through the heart of Little Rock would reverse momentum toward urban revitalization.

Interstate 30 runs north-south through the heart of Little Rock and North Little Rock, linking the communities by a bridge across the Arkansas River. The Arkansas Highway and Transportation Department (AHTD) has proposed to replace the bridge, which was built in the 1950s, with a wider span connected to expanded highway links on both sides of the river, encompassing 6.7 miles of highway.

Like many urban downtowns around the country, downtown Little Rock has been revitalized over the past decade, with much of the new growth centered on the banks of the Arkansas River, including in the River Market cultural and entertainment district on the west side of I-30 and the area surrounding the Clinton Presidential Center on the east side.

The AHTD plan to widen I-30 from six to 10-12 lanes threatens that revitalization and reverses regional policies that had encouraged a shift away from auto-oriented development. Regional plans dating from the mid-1990s had expressed the desire to limit all freeways in the Little Rock area to no more than six lanes, with additional travel needs addressed by improvements to local streets and transit. [112]

Arkansas transportation officials' justification for further widening the barrier created by I-30 is that the existing highway is crowded and its antiquated design creates safety issues. But congestion problems on the existing highway – while they exist, especially at rush hour – are not especially severe. The typical rush-hour trip through the corridor currently takes 11 to 12 minutes, compared with 5 to 7 minutes at "free-flow" speeds.[113]

Conditions, AHTD predicts, will get worse in the years to come, with travel times increasing to 16 to 18 minutes.[114] But those estimates are based on projected increases in vehicle travel through the corridor of 15 to 25 percent under a "no build" scenario by 2041 – a pace of traffic growth much faster than has been experienced in the corridor over the last decade.[115] Daily traffic on I-30 south of its connection with I-630 increased by about 5 percent between 2007 and 2016 (state officials project a 25 percent traffic increase near this location by 2041), while traffic on the I-30 bridge itself has been stable over the last decade (officials forecast 15 percent traffic growth by 2041).[116] If traffic does not increase as quickly as AHTD predicts, the projected growth in congestion may not materialize.

Ironically, widening the highway could bring even more cars to the road. The state's traffic and safety study assumes that a 10-lane road will attract 4 to 7 percent more traffic than an 8-lane road, and that an 8-lane road would attract 15 to 18 percent more traffic than a 6-lane road.[118] An analysis commissioned by the Arkansas Policy Panel suggested that expanding I-30 would pull in rush hour traffic that currently travels on roads outside the city center and that travels at different times of day.[119]

The potential for significant "induced demand" on I-30 has led local officials to express concern about the impact of the widening on city streets and on connecting highway traffic. Regional planners have estimated the potential costs of widening other freeways in the system in order to avoid the formation of bottlenecks created by the I-30 project to be as much as $4 billion.[120]

Local residents and elected officials have expressed many concerns about the plan, which is currently in the midst of an environmental analysis required to receive federal approval for the project.[121]

Figure 12. Annual Average Daily Traffic on Interstate 30 Bridge, Little Rock[117]

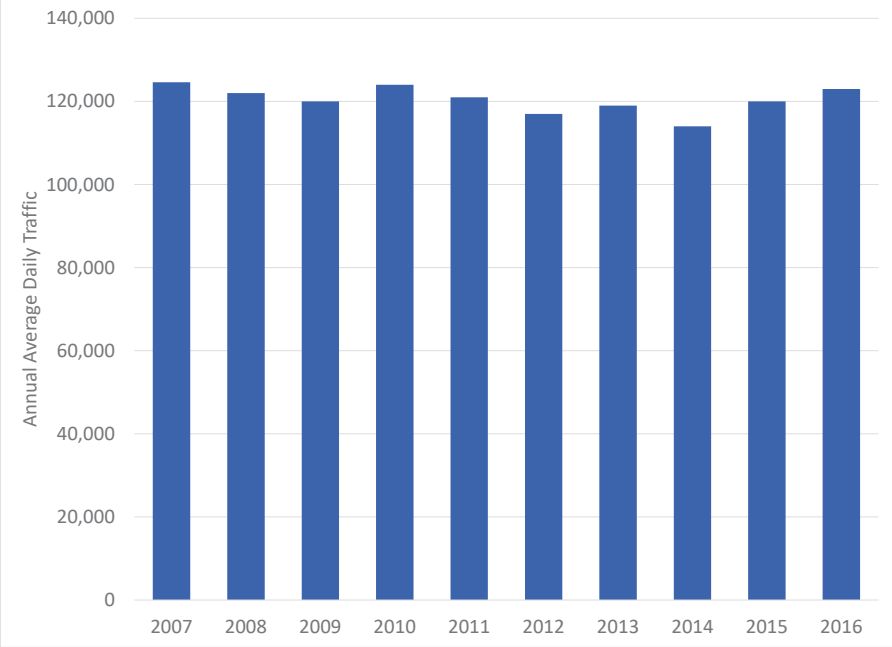
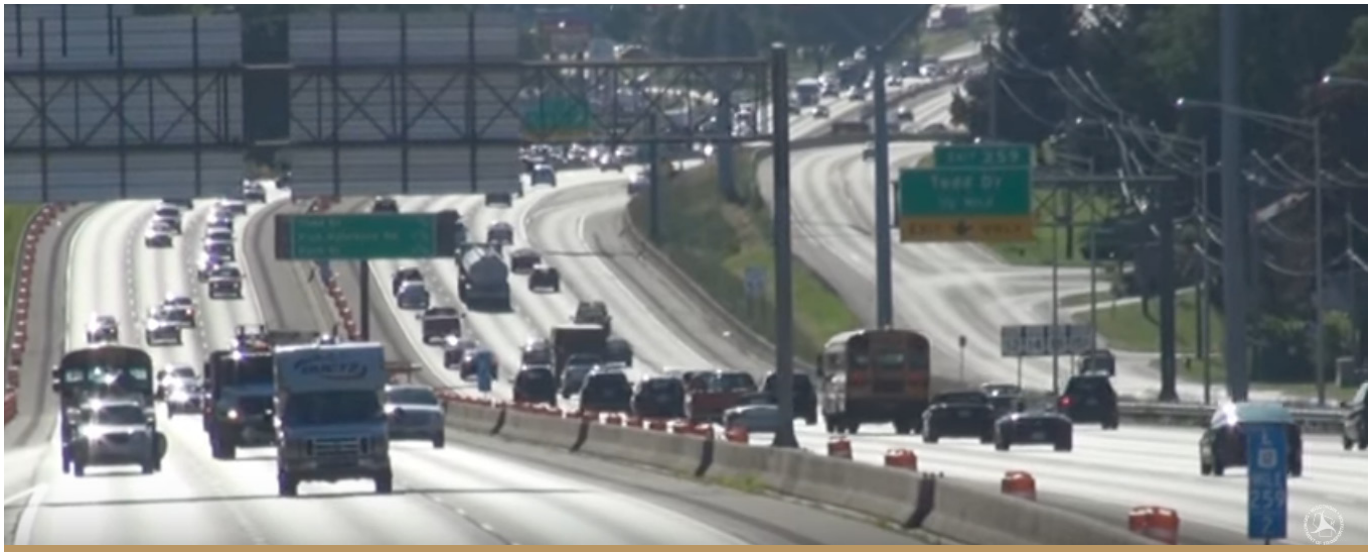


Photo: Arkansas State Highway and Transportation Department via Arkansas Times

Widening of Interstate 30 in Little Rock would represent a step back from years of efforts to shift away from auto-centric transportation planning.

Photo: WisDOT



The Wisconsin Department of Transportation is considering widening the Madison Beltline, even in the midst of a transportation funding crisis.

Madison Beltline, Wisconsin

Estimated cost: $1 billion

Expanding Madison's beltway would strain state transportation funds, even as demands for sustainable transportation options and better maintenance are growing.

The Madison Beltline was originally built in 1950 as a two-lane rural highway to bypass downtown Madison, Wisconsin. Over time, the road has been expanded and has become more congested, and today, state officials are working on a study to determine when to rebuild the 19-mile stretch of the Beltline from Middleton to Highway N east of Interstates 39 and 90, and to consider whether more lanes should be added.

Rebuilding and widening the Madison Beltline would be a massive endeavor, lasting years and costing as much as a billion dollars. It is also one of many highway widening projects the state of Wisconsin has considered or teed up in recent years – despite a serious transportation funding crunch.

Michael Davies, head of the Federal Highway Administration's Wisconsin office, wrote to state officials in December 2016, in relation to Wisconsin's highway spending spree, that "[t]here are so many projects under development, we do not believe all of them can advance on a reasonable schedule based on likely funding scenarios."[122] These projects include the Beltline on the south side of Madison, I-39/90/94 between Madison and Wisconsin Dells, and Highway 100 between Layton Ave. and Silver Spring Drive in Milwaukee County.

Major projects have been delayed, such as the $1.1 billion reconstruction and expansion of I-94 from Milwaukee to the Illinois border, originally scheduled to be completed by 2016 and now delayed until at least 2021 and possibly 2028. Governor Scott Walker has indicated opposition to an increase in the gas tax or registration fees as a way to keep all projects on schedule, leaving the state with a limited transportation budget and funding obligations for ongoing major projects.[123]

Wisconsin also faces increasingly critical demand for repair and maintenance of existing roads. Former Wisconsin transportation secretary Mark Gottlieb warned in late 2016 that the state's limited transportation budget combined with current spending plans would lead to a doubling of the number of roads in poor condition over the next decade. Gottlieb testified that 42 percent of the state's 12,000 miles of Interstate, state and U.S. highways in Wisconsin could be in poor condition by 2027.[124]

The state's financial problems are magnified by recent findings that state transportation officials underestimated the cost of a series of highway projects by a combined $3 billion.[125]

Wisconsin has also underfunded public transportation – an especially attractive alternative in the Madison area, where transit ridership increased by 24 percent between 2005 and 2015.[126] The share of state transportation spending dedicated to transit decreased between 2000 and 2013, leaving many systems struggling to provide quality service for increasing numbers of riders.

Transit-based alternatives to Beltline widening have been studied, including a Bus Rapid Transit corridor along the Beltline, additional express bus service and the creation of rail line. One study found that a bus rapid transit system could attract about 2,600 riders a day.

Wisconsin faces difficult choices regarding both how it will raise money for transportation and how it will prioritize spending it. Moving forward with Madison Beltline expansion in the face of those challenges will only make those challenges worse.

Interstate 73 in South Carolina

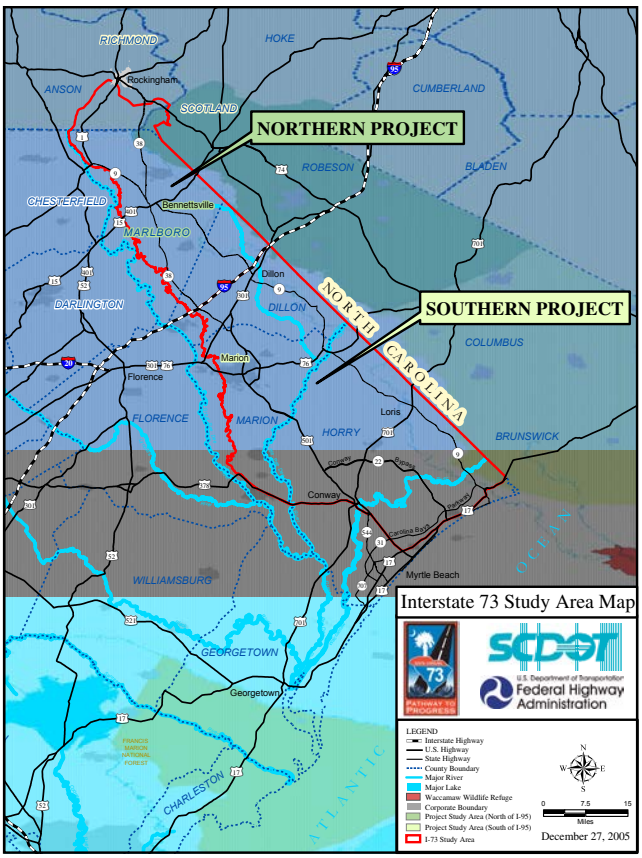
Estimated cost: $1.3 billion

A new Interstate highway route would cost more than a billion dollars even as highway maintenance elsewhere in the state is lacking.

Interstate 73 is a planned highway originally authorized in 1991, intended to run from Charleston, South Carolina, to Detroit, Michigan. With the exception of 82 miles in North Carolina, grand plans for the highway have so far come to naught. Michigan decided to postpone the road and instead upgrade existing roads.[127] Ohio is addressing individual congestion issues along the corridor.[128] Although the Virginia Assembly passed its first funding bill for the project, to the tune of $40 million a year in 2017, it remains far from having the approximately $4 billion needed to build its portion of the road.[129]

South Carolina hopes to be the next state, after North Carolina, to build a significant share of the route. In 2003, the South Carolina Department of Transportation (SCDOT) held public meetings and came up with

Figure 13. Interstate 73 Study Area in South Carolina[131]



Map: South Carolina Department of Transportation

Photo: Pendragon1998 at English Wikipedia (public domain)

The southern portion of I-73 would negatively impact 325 acres of wetlands and divide existing ecosystems.

five possible routes for the road, to be followed by environmental impact studies. Upon completion of the studies, the state again adjusted the plans. The current plan is to convert State Route 22 (an expressway that runs from Myrtle Beach to just north of Conway, South Carolina) into part of the Interstate 73 route and build a new highway north of Conway parallel to U.S. 501 and State Route 38.[130]

Due to the complexities of planning such a massive project, the route has been split into two segments. The I-73 Southern Project is the portion of the road between Interstate 95 and the Myrtle Beach region, while the I-73 Northern Project will link Interstate 95 in South Carolina to the future I-73/I-74 in North Carolina.[132]

The 42-mile I-73 Southern portion claims to connect the Myrtle Beach/Conway area to the northwest between Mullins and Marion with the intention of serving residents, businesses, tourists and hurricane evacuation, with an anticipated opening date of 2025.[133] Right-of-way plans are complete and construction plans are available for the southern portion of the route.[134]

The road that I-73 would be replacing on its southern leg – U.S. 501 – serves daily traffic of about 26,000 vehicles per day at its busiest point (near the intersection with SC 22), a figure that has increased only modestly since 2009.[135] The lack of heavy traffic for most of the year, coupled with the availability of alternative routes to and from Myrtle Beach, has taken one option for financing the highway – tolling – largely off the table. A tolling study conducted for the South Carolina Department of Transportation found that only 52 percent of drivers traveling to Myrtle Beach would pay a toll capped at $2, while 22 percent would not pay a toll even if it shaved 15 minutes from their trip.[136] Further, the report found that the southern portion would only generate $5.2 million in tolls in its first year, increasing to $32.7 million by 2050.[137] Such revenues would be unlikely ever to cover the cost of the project, estimated at $1.29 billion in the project's 2007 final environmental impact statement.[138]

More than just an unnecessary expense, the southern portion of I-73 would negatively impact 325 acres of wetlands and divide existing ecosystems. This project represents the most extensive proposal to affect

the state's wetlands in recent years. The wetlands' benefits are especially crucial in times of increased flooding – an especially sensitive issue given the devastating floods that affected the state in 2015 and 2016.

Plans for the highway also come as South Carolina struggles to pay for basic highway maintenance and safety improvements. In early 2017, S.C. Department of Transportation Secretary Christy Hall made an urgent call to improve thousands of miles of rural highways that were increasingly dangerous.[139] Hall claimed more than half of the state's pavement is beyond rehabilitation and needs to be replaced, a costly problem that could have been avoided if the state had acted proactively on maintenance needs. Quoted in the *Charleston Post and Courier*, Hall said, "We doubled our paving program to $415 million a year, but we should be investing close to $900 million a year."

The governor's office also recently said about 35 percent of the state's highway system is rated as in "poor" condition and in need of immediate repair.[140] The state also has an extensive backlog of structurally deficient bridges – bridges with one or more key elements that are considered to be in "poor" or worse condition – that require funding. The Federal Highway Administration's 2016 bridge inventory found over 10 percent of all bridges, or 964 bridges, in the state were structurally deficient.[141]

Catching Up on Old Boondoggles

Previous *Highway Boondoggles* reports in 2014 and 2016 identified 23 dubious highway expansion projects costing an estimated $37 billion that merited additional scrutiny. Of those projects, as of February 2017, one had been canceled, three were on hold with significant potential for cancellation, two were under revision, 10 were in the midst of further study and review in advance of construction,[142] and seven were under construction.

A review of those projects follows.

2016 Projects

California: 710 Tunnel

Status: Study and Review

The proposal to drill a highway tunnel to link I-210 and I-710 is still the most expensive, most polluting and least effective option to address the San Gabriel Valley's transportation issues.[143] Previous attempts to build a highway in this area have been repeatedly stopped due to opposition by residents. The project was reanimated by the passage of Measure R, a half-cent sales tax increase that is intended to improve Los Angeles County's transportation system, with specific focus on the region's transit system.

A five-city coalition, including Glendale, Pasadena, Sierra Madre, South Pasadena and La Cañada Flintridge, joined together with other organizations to oppose the tunnel.[144] Studies have shown the tunnel would add 40,000 cars and trucks to the area, leading South Pasadena to adopt a resolution opposing the tunnel and instead endorsing multi-modal alternatives such as "Beyond the 710" and "Connecting Pasadena," which would alleviate congestion without inducing more driving."[145] Among the ideas in those proposals: removing the freeway stub of Route 710 through Pasadena entirely – leaving the area with fewer miles of freeway, rather than more.

Colorado: Widening I-70 in Denver

Status: Study and Review

In January 2017, the Federal Highway Administration gave its final approval to the Colorado Department of Transportation's (CDOT) I-70 reconstruction and expansion project.[146] The approval clears the way for CDOT to use federal funds to widen I-70 between Brighton Boulevard and Tower Road, a 12-mile stretch of road estimated to cost $1.2 billion, with one new, tolled express lane in each direction.[147]

Construction of the project is now expected to start in 2018 and will require the destruction of 56 homes and 17 businesses in the surrounding neighborhood.[148] But the highway still faces considerable and growing local opposition. Neighborhood residents and the Sierra Club Rocky Mountain Chapter filed a lawsuit in March 2016 against the Environmental Protection Agency to stop the project from moving forward.[149] That lawsuit was followed by a November 2016 civil rights complaint filed with the Federal Highway Administration.[150]

Residents claim the expanded highway will worsen air quality in an area already affected by poor health outcomes closely linked to air pollution from transportation. A recent study showed that the 80216 zip code, which is home to two neighborhoods around the I-70 project area, had elevated levels of pollution compared even to parts of Los Angeles.[151] CDOT argued that moving part of the currently elevated portion of the roadway below street level with a park over it compensates for the negative impacts of the road. However, the park only covers a small portion of the expansion near Swansea Elementary School and concerns remain regarding highway pollution rising on either side of the park.[152]

Connecticut: Widening I-95 across the State

Status: Study and Review

Widening I-95 in Connecticut is part of Connecticut Gov. Dannel Malloy's $100 billion, 30-year plan to fix the state's transportation system. (See I-84, Connecticut, page 31.) The project – to add an additional lane on both sides of I-95 along the length of the entire 110-mile corridor – would cost the state $11.2 billion – over 10 percent of the total funding for the governor's proposed plan.[153]

Despite criticism, the State Bond Commission approved a second $1 million allocation to develop a plan for the widening of I-95 along the Greenwich-New Haven corridor.[154] In 2002, a state-commissioned study examined the issue of congestion on I-95 and concluded that "adding capacity to highways induces additional traffic, as people take additional automobile trips."[155] The report instead endorsed improved rail service along Metro-North rail for passengers and freight as a way to alleviate congestion.[156]

Florida: Tampa Bay Express Lanes

Status: Study and Review

The Tampa Bay Express project, estimated to cost at least $3.3 billion, is a plan to expand I-275, building tolled express lanes on the highway (including on the Howard Frankland Bridge), as well as I-75 and I-4. The highway would have significant negative impacts on urban neighborhoods adjacent to I-275, which tore a hole through the historic Central Avenue business district, Seminole Heights and West Tampa when it was first built.[157] In 1996, the Federal Highway Administration approved plans to expand I-275 but the state never moved forward, enabling a resurgence in some of the areas that would have been destroyed by the road.[158] Residents have indicated a strong preference for improving the area's existing transit system instead of spending on expensive highway projects. In a recent analysis of public transit coverage and usage in the country's 30 largest metro areas, Tampa Bay ranked 29th in four of the six main measures of transit coverage and usage, and 30th in two others, highlighting the area's desperate need for transit investment.[159]

In June 2016, the Hillsborough County Metropolitan Planning Organization voted to keep the project in the region's long-term transportation plan. In December 2016, Florida Department of Transportation (FDOT) Secretary Jim Boxold told a state Senate panel that he wants to "hit the reset button" on the Tampa Bay Express project following widespread opposition, though it does not appear that the "reset" includes major substantive changes to the overall project.[160] One portion of the project, changes to the Howard Frankland Bridge, which were scheduled to begin construction in 2019, came under such fire from critics that it had to be revised by the state.[161] Despite intense opposition from local residents, as of February 2017, the Tampa Bay Express project was still on the FDOT's work program, meaning that the state is still funding early portions of the plan, such as land acquisition.[162]

Iowa: U.S. Route 20 Widening

Status: Under Construction

The state of Iowa is currently spending $286 million in scarce transportation funding to widen another 40 miles of U.S. Route 20, with construction expected to be completed in 2018. Based on traffic forecasts, only a small portion of U.S. 20 might have enough traffic in 2039 to justify widening.[163]

In 2015, Iowa's governor and legislature joined together to pass a 10-cent increase to Iowa's gas tax, promising that the funds would be used to address the pressing need to repair crumbling roads and bridges throughout the state.[164] However, since the tax took effect, highway construction projects such as the U.S. 20 widening have been accelerated, indicating that some of the additional funding is instead being used to continue needlessly increasing a state road system that is already too expensive to maintain.

New Mexico: Paseo del Volcan Extension

Status: On Hold

Lawmakers in the Rio Rancho area are struggling to get funding for a $96 million, 30-mile road that would start near the Santa Ana Star Center on Unser Boulevard in Rio Rancho and connect with I-40 beyond the Petroglyph National Monument.[165] One of the central purposes of the new highway would be to connect new sprawling development to Albuquerque. This development, however, would consume precious water resources and was shown to be unpopular during the Albuquerque and Bernalillo Comprehensive Plan meetings. The meetings instead highlighted a general preference for urban revitalization over suburban sprawl.[166]

North Carolina: I-77 Express Lanes

Status: Under Construction

The $650 million, 26-mile I-77 Express Lanes project is moving forward after a lawsuit, a tense gubernatorial race, and organized opposition. The project includes the conversion of existing carpool lanes into tolled express lanes as well as the construction of an additional toll lane in each direction between Charlotte and Cornelius.[167] The I-77 Express Lanes' design and construction phase is expected to take over three years, with all lanes opening to traffic by late 2018.[168]

Opposition to the express lanes has come in multiple forms, including attempts by North Carolina legislators to cancel the contract with I-77 Mobility Partners, the private entity charged with building the express lanes.[169] A lawsuit regarding the legal authority of I-77 Mobility Partners has also gone before the courts, with the attorney for Widen I-77 saying the private company shouldn't have the sole authority to set toll prices because it has no responsibility to act in the public's interest; North Carolina law requires all public projects to primarily serve the public interest.[170]

Ohio: Portsmouth Bypass

Status: Under Construction

The 16-mile, four-lane highway to bypass Portsmouth, Ohio, is currently being built for $429 million in an area where driving has declined and existing roads desperately need funding for repairs.[171] The Portsmouth Bypass, now renamed the Southern Ohio Veterans Memorial Highway, will be Ohio's first public-private partnership and one of the most expensive road projects undertaken in the state.[172] It is projected that the bypass will be completed by December 2018.[173]

Pennsylvania: Mon-Fayette Expressway: Route 51 to I-376

Status: Under Revision

In November 2016, the Pennsylvania Turnpike Commission put the $853.4 million Mon-Fayette Expressway, a 14-mile toll road expected to run from Route 51 in Jefferson Hills to I-376 in Monroeville, on its list of six projects that officials might suspend if future financial conditions worsen.[174] A prior part of the project, to connect the highway along the Monongahela River into Pittsburgh, had already been cancelled due to cost and environmental and community concerns.[175] According to officials with the Pennsylvania Turnpike Commission, the entity responsible for building the road, construction of the expressway would require the acquisition of 600 to 650 properties, with areas like Duquesne and Dravosburg being the most affected.[176]

In March 2017, the Southwestern Pennsylvania Commission, the regional planning organization for the Pittsburgh area, voted to table consideration of whether to keep the highway in the region's transportation plan, prompting the Turnpike Commission to cease engineering work on the project. Regional leaders are inquiring about whether funding for the project – provided through legislation passed decades ago – can be repurposed for other transportation needs in the Monongahela Valley.[177]

Texas: State Highway 249 Extension

Status: Study and Review

Following the 2015 opening of the six-mile portion of the 249 Tomball Tollway, the Texas Department of Transportation is still looking to further extend State Highway 249 all the way to College Station, home to Texas A&M University.[178] The expansion would mean a two-phased approach to the approximately $350 million, 30-mile, six-lane highway from Pinehurst in Montgomery County through Todd Mission in Grimes to College Station.

During a June 2016 public hearing, nearby residents expressed opposition to the road and showed preference for the no-build alternative. While Grimes County Commissioners previously opposed the road, they changed their mind following commitments from Texas Department of Transportation for $4 million in new frontage roads and intersection improvements.[179] The Texas Department of Transportation cleared the official route and the agency expects selection of a design-build consulting team in spring 2017 with construction set to begin in summer 2017.[180] Construction of the road will require the acquisition of over 600 acres of right-of-way, much of which is currently owned by ranchers and farmers, and would result in divisions of existing grazing areas.[181]

Texas: State Highway 45 Southwest

Status: Under Construction

Construction of the 3.6-mile, $109 million State Highway 45 Southwest project started on November 8, 2016.[182] The Central Texas Regional Mobility Authority contracted with McCarthy Building Companies for the construction portion of the project. Construction is expected to last three years, with the new expressway slated to open in late 2019.[183] Models suggest the new road will cause increased traffic on Austin's MoPac Expressway, a road already suffering from heavy congestion. Future plans to further expand State Highway 45 Southwest across Farm-to-Market Route 1626 and connecting directly to I-35 would draw even more traffic to the road and consequently to the MoPac expressway.[184]

Washington: Puget Sound Gateway

Status: Under Revision

The Puget Sound Gateway is a $2.8 billion to $3.1 billion project between Seattle and Tacoma, expanding State Route 167 between Tacoma and Puyallup by two lanes and State Route 509 from

Kent to Burien by two lanes as well as converting the existing HOV lane to an express lane on Interstate 5 between the ports of Tacoma and Seattle.[185] Evaluations of toll revenue potential for the project estimate that tolls would only contribute about $330 million toward the total project cost between 2021 and 2060.[186] Even after passage of a $16 billion statewide transportation package in 2015, which included funds for the project, additional funds are still needed to build portions of the project.[187]

2014 Projects

Arizona and Nevada: I-11

Status: Arizona: Study and Review

Nevada: Under Construction

The first phase of the Interstate 11 project between Phoenix and Las Vegas – a 15-mile, $318 million segment in Nevada – has been under construction since April 2015.[188] The second phase will be built in Arizona, where an environmental impact statement is currently being assembled by the Arizona Department of Transportation.[189] In January 2017, the Arizona Department of Transportation opened a 45-day public comment period and collected hundreds of comments from residents, tribal nations and agency representatives in accordance with the National Environmental Policy Act process for Tier 1 of the Environmental Impact Statement.[190] No funding had been identified as of June 2016 for the Arizona portion of the road.[191]

California: Tesoro Extension

Status: Canceled

In 2016, an agreement between the Orange County Transportation Corridor Agencies, the California Attorney General and a coalition of national and local environmental groups succeeded in protecting the San Onofre State Beach and canceling prior approval of the Tesoro Extension project.[192] The plaintiffs claimed the environmental impact statement was lacking accuracy and that the project would damage the surrounding environment – specifically, a highly popular park that is home to 11 endangered and threatened species.[193] Even before the agreement, tollway officials had started reaching out to groups opposed to the extension to discuss a reassessment of the project.

Colorado: C-470 Express Lanes

Status: Under Construction

Construction on the new C-470 Express toll lanes started in November 2016 and is expected to last until spring 2019. The $230 million project will add new tolled express lanes along 12 miles of the existing highway southwest of Denver.[194] In 2015, residents expressed concerns with CDOT that the additional lanes would increase noise pollution in the area. In December 2016, a federal judge ruled that the residents had failed to show that noise barriers were needed and did not approve the injunction to halt construction of the express lanes.[195]

Georgia: Effingham Parkway

Status: Study and Review

The 6.36-mile parkway is intended to connect State Route 30 to Bluejay Road.[196] In 2016, the state officially pledged $44 million for the parkway project following a gas tax increase passed by the legislature.[197] The project had previously been stalled by local opposition to the displacement of homes and because the Chatham County Commission Chairman hadn't wanted to make the parkway a priority.[198]

Illinois and Indiana: Illiana Expressway

Status: On Hold

The organizations Openlands, Midewin Heritage Association and Sierra Club Illinois won a major lawsuit in October 2016 against the Illiana Toll Road project – a $1.3 billion highway intended to stretch from I-55 in Illinois to I-65 in Indiana.[199] The project was cancelled last year after facing harsh public criticism, though concerns remained that it could be resurrected. The decision follows an earlier case in which a court ruled the environmental review of one portion of the project violated U.S. environmental law, calling it "arbitrary and capricious."[200] Because the environmental review for another portion of the project relied on that initial review, the judge declared it to be invalid.

Michigan: Widening I-94 through Detroit

Status: Study and Review

The I-94 expansion project in Detroit is a proposed $2.7 billion widening of a 6.7-mile stretch of highway through the heart of the city.[201] The project was reanimated by the Michigan Department of Transportation after it was abandoned in the 1990s and involves moving existing interchanges, adding a lane in each direction, and demolishing buildings along the way in an area struggling to recover from economic recession.[202] Two neighborhoods that had been making significant headway in economic recovery – Midtown and New Center – would be even further separated by the highway, creating large losses in land development potential.[203] Currently, the project is slated to begin in 2019, with construction expected to end in 2036.[204]

North Carolina: I-26 Connector

Status: Study and Review

The I-26 Connector project is a 7-mile, $750 million proposed freeway that would connect I-26 in southwest Asheville to U.S. 19/23/70 in northwest Asheville.[205] In January 2017, the North Carolina Department of Transportation (NCDOT) proposed changes that would accelerate the project completion date to 2024. The state now plans to use bonds to finance the connector, with anticipated federal highway fund receipts expected to repay the bonds. NCDOT is also changing the project to a "design-build" project, meaning that the construction company that wins the contract will draw up final project designs as well as build the connector.[206] Previous plans to widen I-240 as part of the I-26 Connector project were dropped after better congestion measures and data were used to rank proposed projects, though the potential for widening remains on the table for the future.[207]

Ohio: Cleveland Opportunity Corridor

Status: Under Construction

The Cleveland Opportunity Corridor is a $331 million, five-lane, three-mile planned boulevard that would connect I-490's eastern end to the northeastern University Circle neighborhood.[208] Critics had previously pointed out that the road is unnecessary since there are several routes in the area that connect the two points already. A dispute over hiring local residents for the project had led the City of Cleveland to temporarily withhold funding and support for the project in mid-2016, but an agreement with state officials in February 2017 cleared the path for the project to continue moving forward.[209]

Texas: Dallas Trinity Parkway

Status: On Hold

The proposal for a $1.5 billion, nine-mile toll-road along the Trinity River between I-35 and U.S. 75 has gotten swept into the larger conversation about the future of toll roads in Texas and the future of urban development in Dallas. In August 2015, the Dallas City Council voted unanimously to revise and downscale the road to a four-lane version, instead of the previously proposed six-lane toll road.[210]

Previous analysis of the toll road showed it would increase traffic on other highways in Dallas and increase overall vehicle-miles traveled in the area considerably.[211] Published reports in November 2016 indicated that the North Texas Tollway Authority, one of the entities taking part in building the project, was no longer interesting in building and managing the Trinity toll road due to its small revenue potential.[212]

Washington: Alaskan Way Viaduct

Status: Under Construction

The Alaskan Way Viaduct includes the construction of a two-mile tunnel to bypass downtown Seattle, a mile-long stretch of new highway to connect to the tunnel, a new overpass to bypass train blockages near Seattle's busiest port terminal, demolition of the viaduct's downtown waterfront section, and a new Alaskan Way boulevard along the waterfront.[213] The purpose of this massive project is to replace the existing Alaskan Way Viaduct, an elevated section of State Route 99 that is aging and vulnerable to damage from earthquakes.

The project, a $3.1 billion undertaking, has been mired in controversy and delays from the start.[214] Bertha, the boring machine being used for the project, was stuck underground for two years after only advancing one-ninth of the way to its final destination. Bertha was eventually fixed and completed tunneling for the project in April 2017, but the previous delay is sure to cause millions in damages due to time wasted. As of December 2016, it was estimated that $149 million more would be needed to complete the project.[215]

Wisconsin: I-94 East-West Expansion in Milwaukee

Status: Study and Review

The Wisconsin Department of Transportation wants to add two lanes along a 3.5-mile corridor of I-94 west of downtown Milwaukee.[216] The new version of the plan is a scaled-down idea of the previously proposed double-decker highway. The project is expected to cost between $825 million and $1.15 billion but no funding sources have been identified.[217] Gov. Scott Walker did not include any funding for the project in the 2017 to 2019 state budget.[218] Previous estimates of a possible completion date for the project were as late as 2028.[219]

Conclusion and Recommendations

America spends tens of billions of dollars each year on highway expansion projects that do little to address congestion, create other problems for our communities, and absorb scarce resources that could be used to meet other, more pressing transportation needs.

Officials at all levels of government – local, state and federal – should reexamine proposed highway expansion projects in light of changing transportation needs, and adopt a series of other policy changes to prioritize real transportation improvements. Specifically, they should:

- **Invest in transportation solutions that reduce the need for costly and disruptive highway expansion projects.** Investments in public transportation, changes in land-use policy, road pricing measures, and technological measures that help drivers avoid peak-time traffic, for instance, can often address congestion more cheaply and effectively than highway expansion.
- **Adopt fix-it-first policies** that reorient transportation funding away from highway expansion and toward repair of existing roads and investment in other transportation options.
- **Use the latest transportation data and require full cost-benefit comparisons for all projects, including future maintenance needs**. This includes projects proposed to be completed via public-private partnerships.
- **Revise transportation forecasting models** to ensure that all evaluations of proposed projects use up-to-date travel information, reflect a range of potential future trends for housing and transportation, and incorporate the impact of all transportation options, from public transit, biking and walking, to newer options such as carsharing, bikesharing and ridesharing.
- **Give funding priority to transportation projects that reduce growth in vehicle-miles traveled**, to account for the public health, environmental and climate benefits resulting from reduced driving.
- **Invest in research and data collection** to better track and react to ongoing shifts in how people travel.

Appendix: Safeguarding the Public from the Potential Pitfalls of Privatization[220]

With federal and state transportation budgets stretched thin, public officials eager to pursue highway expansion projects increasingly consider so-called "public-private partnerships," or PPPs.

The idea behind PPPs is to share the cost, risks and rewards of transportation projects between government and private entities. PPPs can take many forms – from structures in which the vast majority of the risk and reward accrue to the public to those in which the private sector takes near-complete responsibility for financing, building and operating a road.

Several of the projects highlighted in this report are toll roads to be built through PPPs. At their best, PPPs promise to leverage the experience and unique capabilities of private sector firms to build transportation projects more quickly and cheaply than the public sector could do through traditional forms of private contracting. However, PPPs also bring with them a number of potential dangers for the public interest:

- **Risk may turn back on the public**: PPPs are often sold to the public and decision-makers as ways to reduce the financial risk to the public of transportation projects, but private investors seek to minimize potential risk on their long-term investment. Since events over several decades may unfold in unanticipated ways, the public sector can end up taking on a greater share of risk than originally understood. Whereas high-profile highway PPPs in the middle of last decade generally took the form of granting long-term leases for toll concessions, in recent years private toll road financiers have been far less willing to assume the risk that projected driving increases won't materialize. Recent deals are far more likely to be based on an "availability payment" model, where the government assumes the chief risk of lower-than-projected traffic volume and promises to pay the toll road builder and operator for ongoing availability of the lanes.
- **Loss of control over transportation policy**: Especially when private sector entities structure deals to recoup their investment in highway projects through tolls or other user fees, PPP contracts often include provisions that are intended to assure private entities of revenue. Those provisions include "non-compete" or "compensation" clauses that limit government's ability to make improvements on adjacent roads without also compensating the private entity. These provisions limit the public's control over transportation policy by adding potentially prohibitive costs to normal policy decisions. At worst, public officials may feel compelled to make transportation decisions based on what is best for the toll road operator as opposed to what is best for the public as a whole.
- **Poor decisions based on less visible costs:** Politicians can view private investment through

PPPs as "free money" that enables the construction of projects that would otherwise be more politically difficult to finance through the traditional method of issuing public bonds or raising public tolls. The money that will be paid to PPPs is a kind of off-budget debt that will be paid later in some form by the public.[221] That disconnection can grease the wheels for projects that might otherwise not get built, but it can also create a bias in favor of projects favored by PPP financiers, even when they do not merit being the highest priority.

Projects that shift responsibilities toward the private sector have broad and long-term ramifications for the transportation system as a whole, and are typically locked in with multigenerational contracts. It is imperative that governments subject PPP projects to evaluation and transparency standards at least as rigorous as those that apply to more traditional publicly financed projects.

Notes

1. Jay Blazek Crossley, "It Took 51% More Time to Drive Out Katy Freeway in 2014 than in 2011," *Houston Tomorrow*, 26 May 2015, archived at web.archive.org/web/20151221162251/http://www.houstontomorrow.org/livability/story/it-took-51-more-time-to-drive-out-katy-freeway-in-2014-than-2011/; Joe Cortright, "Reducing Congestion: Katy Didn't," *City Observatory*, 16 December 2015, archived at web.archive.org/web/20151221162414/http://cityobservatory.org/reducing-congestion-katy-didnt/.

2. Adam Nagourney, "Los Angeles Drivers on the 405 Ask: Was $1.6 Billion Worth It?" *New York Times*, 20 December 2016.

3. Vehicle-miles traveled data from U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* series of reports (through 2015), and U.S. Department of Transportation, Federal Highway Administration, *Traffic Volume Trends: January 2017* (2016 data); population data from U.S. Census Bureau, American Community Survey and intercensal estimates.

4. U.S. Department of Transportation, *2015 Status of the Nation's Highways, Bridges and Transit: Conditions and Performance Report to Congress*, December 2016; U.S. Department of Transportation, *2004 Status of the Nation's Highways, Bridges and Transit: Conditions and Performance Report to Congress*, February 2006.

5. U.S. Department of Transportation, *2015 Status of the Nation's Highways, Bridges and Transit: Conditions and Performance Report to Congress*, December 2016.

6. Ibid.

7. 1,500 square miles based on expansion of public road lane-miles from U.S. Department of Transportation, *Highway Statistics 2015*, Table HM-260, December 2016, and a conservative assumption of 10-foot wide traffic lanes.

8. See, for example, Gilles Duranton and Matthew Turner, "The Fundamental Law of Road Congestion: Evidence from U.S. Cities," *American Economic Review*, 101(6): 2616-2652, October 2011.

9. Ibid.

10. "No. 2 Bottleneck in U.S.: Katy Freeway at Loop," *Houston Chronicle,* 19 February 2004, archived at web.archive.org/web/20151221155504/http://www.chron.com/news/nation-world/article/No-2-bottleneck-in-U-S-Katy-Freeway-at-Loop-1567498.php.

11. Tony Freemantle, "Expanded Katy Freeway Shaves Minutes from Commute," *Houston Chronicle*, 12 October 2012, archived at web.archive.org/web/20151221160102/http://www.chron.com/news/houston-texas/article/Expanded-Katy-Freeway-shaves-minutes-from-commute-3941203.php.

12. Carol Christian, "Bragging Rights or Embarrassment? Katy Freeway at Beltway 8 Is World's Widest," *Houston Chronicle*, 13 May 2015, archived at web.archive.org/web/20151221160214/http://www.chron.com/neighborhood/katy/news/article/Bragging-rights-or-embarrassment-Katy-Freeway-at-6261429.php.

13. Jennifer Reyna, "Houston Commute Times Quickly Increasing," *Click2Houston*, 4 February 2014, archived at web.archive.org/web/20151221161745/http://www.click2houston.com/news/houston-commute-times-quickly-increasing_20151123154243235.

14. See note 1.

15. See note 2.

16. Zev Yaroslavsky, Los Angeles County Supervisor,

"405 Speeds Little Changed" (blog post), *Zev.LACounty.gov*, 8 October 2014, archived at web.archive.org/web/20141101133339/http://zev.lacounty.gov/news/405-speeds-little-changed.

17. David Schrank, et al., Texas A&M Transportation Institute and INRIX, *2015 Urban Mobility Scorecard*, August 2015, archived at web.archive.org/web/20170314134655/http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/mobility-scorecard-2015.pdf.

18. See note 3.

19. Ibid.

20. Ibid.

21. See note 4.

22. See note 5.

23. Ibid.

24. Based on data from U.S. Department of Transportation, *2015 Status of the Nation's Highways, Bridges and Transit: Conditions and Performance Report to Congress*, December 2016, Chapter 6, and consumer price index, calculated via the U.S. Bureau of Labor Statistics' *CPI Calculator*, accessed at data.bls.gov/cgi-bin/cpicalc.pl, 14 March 2017.

25. See note 5, Chapter 8.

26. Ibid.

27. ABC News/Washington Post poll conducted September 4-7, 2014, archived at web.archive.org/web/20170314141558/http://www.langerresearch.com/wp-content/uploads/1162a4Transportation.pdf.

28. Aarian Marshall, "U.S. Cities, Spurned by Washington, Fund Transit Themselves," *Wired*, 10 November 2016.

29. Alan Pyke, "Top Infrastructure Official Explains How America Used Highways to Destroy Black Neighborhoods," *Think Progress*, 31 March 2016, archived at web.archive.org/web/20170314142030/https://thinkprogress.org/top-infrastructure-official-explains-how-america-used-highways-to-destroy-black-neighborhoods-96c1460d1962?gi=2ff8b3982a42 .

30. Nathaniel Baum-Snow, "Did Highways Cause Suburbanization?" *Quarterly Journal of Economics*, 122 (2): 775-805, May 2007, DOI: 10.1162/qjec.122.2.775.

31. Jeff Inglis, Frontier Group, and John Olivieri, U.S. PIRG Education Fund, *Highway Boondoggles 2: More Wasted Money and America's Transportation Future*, January 2016.

32. Eric D. Lawrence, "MDOT Says it Would Move Historic Studio to Widen I-94," *Detroit Free Press*, 8 April 2015.

33. Tony Dutzik and Alana Miller, Frontier Group, *A New Way Forward: Envisioning a Transportation System without Carbon Pollution*, May 2016.

34. Based on Google search conducted 4 April 2017.

35. See U.S. Department of Transportation, Federal Highway Administration, *New FHWA Report Reveals States with the Busiest Highways* (news release), 20 August 2013.

36. American Highway Users Alliance, *Unclogging America's Arteries 2015: Prescriptions for Healthier Highways*, 2015, archived at web.archive.org/web/20170314144546/http://www.highways.org/wp-content/uploads/2015/11/unclogging-study2015-hi-res.pdf.

37. California Department of Transportation, *San Diego Freeway (I-405) Improvement Project: Final Environmental Impact Report/Environmental Impact Statement*, March 2015, Volume 1, Chapter 3.1.6, accessed at dot.ca.gov/dist12/DEA/405/index.php.

38. Laura J. Nelson, "'Lessons Learned': Metro will Pay Nearly $300 Million More to Company that Widened the 405 Freeway," *Los Angeles Times*, 28 November 2016.

39. See note 2.

40. 2015: System Metrics Group for Los Angeles Metropolitan Transportation Authority, *I-405 Corridor Evaluation (I-405 Sepulveda Pass Improvement Project Before/After Study) Final Report*, May 2015, accessed at: www.scribd.com/document/266814689/I-405-Sepulveda-Pass-Improvements-Project-Evaluation, 3 March 2017; 2008: California Department of Transportation, *Interstate 405 Sepulveda Pass Widening Project, Final Environmental*

Impact Report/Environmental Impact Statement and Section 4(f) Evaluation, Volume 1, January 2008, 122. In reality, the congestion delay reductions delivered by the project are likely much lower than the 6,000 vehicle-hours per day claimed by LA Metro. The 6,000 vehicle-hours of delay claimed in the 2015 study were a comparison between actual delay in 2014 and projected delay for 2015 from the environmental impact statement for the project. However, *actual* delay never approached the 16,000 vehicle-hours per day forecast in the environmental impact statement, with delay increasing only from 11,000 hours a year in 2009 to 11,500 hours per year in 2013 (in the midst of construction).

41. California Department of Transportation, *Interstate 405 Sepulveda Pass Widening Project: Final Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation*, January 2008, Volume 1, archived at web.archive.org/web/20170314150247/http://www.dot.ca.gov/d7/env-docs/docs/Final%20LA405DOC_022208.pdf.

42. California Department of Transportation, *San Diego Freeway (I-405) Improvement Project: Final Environmental Impact Report/Environmental Impact Statement*, March 2015, Volume 1, Chapter 3.2.8, accessed at dot.ca.gov/dist12/DEA/405/index.php.

43. California Department of Transportation, *Traffic Study: San Diego Freeway (I-405) Improvement Project, SR-73 to I-605*, May 2011.

44. Ibid.; California Department of Transportation, *2015 Traffic Volumes on California State Highways*, undated, accessed at www.dot.ca.gov/trafficops/census/, 28 March 2015, and comparable reports for previous years.

45. California Department of Transportation, *2015 Traffic Volumes on California State Highways*, undated, accessed at www.dot.ca.gov/trafficops/census/, 28 March 2015, and comparable reports for previous years. Traffic counts at Seal Beach/605 and Brookhurst St. based on "back" or south direction; counts at junction with State Route 73 based on "ahead" or north direction.

46. Erika Aguilar, KPCC, "Legal Fight Over the 405 Expansion in Orange County Moves to San Diego," 6 April 2016, archived at web.archive.org/web/20170314145920/http://www.scpr.org/news/2016/04/06/59284/legal-fight-over-the-405-expansion-in-orange-count/.

47. Melanie Curry, "Statewide Transportation Plan: Are We Doing Enough?" *StreetsblogCal*, 23 March 2016, archived at web.archive.org/web/20170314150040/http://cal.streetsblog.org/2016/03/23/statewide-transportation-plan-are-we-doing-enough/.

48. Caitlin Dineen, "Visit Orlando Hits 66 Million Tourists in 2015," *Orlando Sentinel*, 2 May 2016.

49. Florida Department of Transportation, *I-4 Ultimate Improvement Project: FAQ*, accessed 14 March 2017, archived at web.archive.org/web/20170314151125/http://i4ultimate.com/project-info/faqs/.

50. U.S. Department of Transportation, *U.S. Transportation Secretary Foxx Announces $950 Million TIFIA Loan to Rebuild and Widen Key Segment of Florida's I-4* (news release), 9 September 2014.

51. Dan Tracy, "The Road Taken," *Orlando Magazine*, February 2017, archived at web.archive.org/web/20170314151424/www.orlandomagazine.com/Orlando-Magazine/February-2017/The-Road-Taken/; U.S. Department of Transportation, Build America Bureau, *I-4 Ultimate Project*, web.archive.org/web/20170314151723/https://www.transportation.gov/tifia/financed-projects/i-4-ultimate-project.

52. Anjali Fluker, "Beyond I-4 Ultimate: Mica Pushes to Start $2B Next Phase," *Orlando Business Journal*, 27 April 2015.

53. Dan Tracy, "Leaders Want to Push Expansion of I-4 into Osceola, Polk, Volusia," *Orlando Sentinel*, 27 April 2015.

54. Florida Department of Transportation, *SR-400 (I-4) Project Development and Environment Study, Reversible Express Lanes Evaluation, Segment 3,* 24 November 2014.

55. Several hundred properties: Florida Department of Transportation, *SR-400 (I-4) Project Development and Environment Study, Conceptual Stage Relocation Plan: Segment 1: State Road 400 (SR-400) and Interstate 4 (I-4) from*

West of CR 532 (Osceola/Polk County Line) to West of SR 528 (Beachline Expressway), September 2016 and similar conceptual stage relocation plans for other segments of I-4 Beyond the Ultimate project available at www.i4express.com; Sandra Pedicini, "Crossroads Plaza Faces Demolition for Disney-Area Road Project," *Orlando Sentinel*, 16 December 2016.

56. Florida Department of Transportation, *I-4 Beyond the Ultimate PD&E Reevaluation Study*, accessed 14 March 2017, archived at web.archive.org/web/20170314152638/http://www.i4express.com/.

57. Anjali Fluker, "Dyer: 7 Ways Orlando Is Becoming a More Connected City Through Transportation," *Orlando Business Journal*, 5 April 2016.

58. In South Florida, for example, poorly designed express lanes on I-95 have been blamed for a series of crashes. See, for example, Jerry Iannelli, "I-95 Express Lanes Could Be Banned Under Proposed Law (Finally)," *Miami New Times*, 6 January 2017.

59. U.S. Department of Transportation, Federal Highway Administration, *Major Truck Routes on the National Highway System: 2011 Map*, accessed 14 March 2017, archived at web.archive.org/web/20170314155548/https://ops.fhwa.dot.gov/freight/freight_analysis/nat_freight_stats/nhsmajortrkrts2011.htm.

60. Georgia Ports Authority, *Savannah Harbor Expansion Project*, accessed 14 March 2017, archived at web.archive.org/web/20170314155954/http://www.gaports.com/Media/Publications/GatewayToTheWorld/SavannahHarborExpansionProject.aspx.

61. Ibid.

62. Maggie Lee, "Georgia Pitches Safer Travel with $2 Billion Interstate 75 Project," *The Telegraph* (Macon, GA), 11 May 2016, archived at web.archive.org/web/20170406173004/http://www.macon.com/news/local/article77024272.html.

63. Tracy Selin, Cambridge Systematics, *Memorandum to Cindy Van Dyke, Georgia Department of Transportation RE: Impact Analysis for Roadway Improvements, 2 May 2016*, archived at web.archive.org/web/20170314162043/http://www.dot.ga.gov/InvestSmart/TransportationFundingAct/Documents/Factsheet/CambridgeReport-v2.pdf.

64. Georgia Ports Authority, *Appalachian Regional Port*, accessed 14 March 2017, archived at web.archive.org/web/20170314162159/http://www.gaports.com/IntermodalRail/AppalachianRegionalPort.aspx.

65. Tim Omarzu, "'Inland Port' to Be Built in Landlocked, Chatsworth, Ga.," *Times Free Press* (Chattanooga, TN), 29 July 2015, archived at web.archive.org/web/20170406174158/http://www.timesfreepress.com/news/business/aroundregion/story/2015/jul/29/inland-port-be-built-landlocked-chatsworth-wi/316998/.

66. See note 62.

67. The heavy truck impact fee is expected to bring in $20 million in revenue over the period from 2015 to 2020, or less than $4 million per year out of a funding package estimated to produce approximately $1 billion per year. Source: Cambridge Systematics, *2040 Statewide Transportation Plan/2015 Statewide Strategic Transportation Plan: Revenue Forecast*, prepared for Georgia Department of Transportation, 14 October 2015.

68. Andria Simmons, "Truck Lanes for I-75 a $2 Billion Gamble," *Atlanta Journal-Constitution*, 30 March 2016.

69. Georgia Department of Audits and Accounts, Performance Audit Division, *Special Examination Report: Transportation Project Selection and Prioritization*, Report 16-17, December 2016, accessed at www.audits.ga.gov/rsaAudits/download/19729, 28 March 2017.

70. Atlanta Regional Commission, *TIP/RTP Amendment #3 Update* (PowerPoint presentation), 17 March 2017.

71. Christopher Keating and Don Stacom, "Malloy's Transportation Plan Includes Upgrades, Longer Busway," *Hartford Courant*, 18 February 2015.

72. Connecticut Governor's Office and Connecticut Department of Transportation, *Let's Go CT: Connecticut's Bold Plan for a Transportation Future*, February 2015, archived at web.archive.org/web/20170406174441/http://

transformct.info/img/documents/CTDOT%2030%20YR%20Corrected_02.17.2015.pdf.

73. Robert Koch, "Connecticut Department of Transportation Prepares to Rebuild Metro-North 'Dock Yard,'" *The Hour* (Norwalk, CT), 15 August 2015.

74. Connecticut Department of Transportation, *Let's Go CT: Transportation Ramp Up Dashboard*, accessed 14 March 2017, archived at web.archive.org/web/20170314162920/http://www.transformct.info/RampUpDashboard.html.

75. Based on traffic counts at I-84 milepost 5.59. Connecticut Department of Transportation, *2015 Traffic Volumes, State Maintained Highway Network (Traffic Log)*, undated, archived at web.archive.org/web/20170314183932/http://www.ct.gov/dot/lib/dot/documents/dpolicy/traflog/TRAFFICLOG2015.pdf; Connecticut Department of Transportation, *2000 Traffic Log* (text file), downloaded from ct.gov/dot/LIB/dot/Documents/dpolicy/traflog/traflog00.zip, 14 March 2017.

76. U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* series of reports, 2001 and 2015 editions.

77. See note 75.

78. 1.6 percent: Connecticut Department of Transportation, *Waterbury and New Canaan Branch Lines Needs and Feasibility Study, Phase I Report*, January 2010, archived at web.archive.org/web/20170314182742/http://www.ct.gov/dot/lib/dot/documents/dpolicy/waterburynewcanaan/Phase_I_Report_web_part1.pdf; 1.5 percent based on ridership of 36 million from same source; and 40.5 million from: "Metro North's New Haven Line Sets Ridership Record for 2016," *New Haven Register*, 23 January 2017.

79. Connecticut Department of Transportation and U.S. Department of Transportation, *Danbury Branch Line: Final Implementation Plan: Final Draft*, September 2016, archived at web.archive.org/web/20170314163253/http://www.danburybranchstudy.com/Danbury%20RR%20-%20Final%20Report.pdf; Dropping slightly: Bill Cummings, "Ridership Off on Rail Branch Lines, New Canaan, Danbury," *Connecticut Post*, 28 February 2017.

80. Connecticut Department of Transportation and U.S. Department of Transportation, *FTA Environmental Assessment: Danbury Branch Improvement Program: Technical Summary Report*, May 2013, archived at web.archive.org/web/20170314163432/http://www.danburybranchstudy.com/documents/2013-0520_Danbury%20Branch%20Tech%20Summary%20Report_FINAL_for%20website.pdf.

81. See note 79.

82. Don Stacom, "DOT: CTfastrak Ridership Numbers Keep Climbing Steadily," *Hartford Courant*, 27 December 2016.

83. Don Stacom, "DOT: Hartford to UConn Bus Route Could Cost $1.4 Million a Year," *Hartford Courant*, 28 September 2016.

84. Joseph Cutrufo, Tri-State Transportation Campaign, "Even During a Budget Crisis, Connecticut Somehow Finds Money to Start I-84 Widening in Danbury," *Mobilizing the Region* (blog), 12 January 2017, archived at web.archive.org/web/20170314163724/http://blog.tstc.org/2017/01/12/even-budget-crisis-connecticut-somehow-finds-money-start-84-widening-danbury/.

85. U.S. Department of Transportation, *Road and Bridge Data by State*, accessed 5 April 2017, archived at web.archive.org/web/20170405180025/https://www.transportation.gov/policy-initiatives/grow-america/road-and-bridge-data-state.

86. Connecticut Transportation Strategy Board, *Transportation: A Strategic Investment*, January 2003.

87. Illinois State Toll Highway Authority, *Illinois Route 53/120 Project Overview* (fact sheet), accessed at www.illinoistollway.com/documents/20184/96146/IL_Route53_120_FactSheet_FINAL_081613.pdf/d704f34b-bdb2-4532-bb47-ec94c80f272c, 5 April 2017.

88. Casey Bukro, "Illinois 53 Extension Plan Still Faces Bumpy Road with Officials," *Chicago Tribune*, 11 May 1999.

89. Chicago Metropolitan Agency for Planning, *Summary of the FAP 342/Route 53 Extension Analyses*, 7 November 2011, archived at web.archive.org/web/20170314184459/https://www.illinoistollway.com/documents/20184/96209/LCTIP+Summary.pdf/75873aa4-a01a-47a3-8159-9774f366e378?version=1.0.

90. IL Route 53/120 Blue Ribbon Advisory Council, *Illinois Route 53/120 Project: Blue Ribbon Advisory Council Resolution and Summary Report*, 7 June 2012, archived at web.archive.org/web/20170314185003/https://www.illinoistollway.com/documents/20184/96209/2012-06_FinalCouncilSummaryReport_web.pdf.

91. Illinois Route 53/120 Finance Committee, *Illinois Route 53/120 Feasibility Analysis*, updated 15 April 2015, downloaded from https://www.illinoistollway.com/documents/20184/96146/201503+53-120+Finance+Committee_Final+Report/9173fbe2-173a-47ee-85b5-1639f9221997?version=1.0.

92. "20 cents": Ibid.; "6 cents per mile" based on Jocelyn Durkay, National Conference of State Legislatures, *Comparison of Toll Rates by State and Regional Tolling Authorities*, 20 February 2013, archived at web.archive.org/web/20170406174740/http://www.ncsl.org/documents/transportation/NCSL_Comparison_of_Tolling_Rates_Feb_2013.pdf.

93. See note 91.

94. Marni Pyke, "Tollway Budgets $10 Million for Route 53 Extension Study," *Daily Herald* (Arlington Heights, IL), 16 December 2016.

95. Stop the Rt. 53 Tax Hike, *Lawlor Pulls Rt. 53 Support*, 16 May 2016, archived at web.archive.org/web/20170314190309/http://www.stopthert53taxhike.org/lawlor-pulls-rt-53-support/.

96. Arlington County (Virginia), *Planning and Development History*, accessed 14 March 2017, archived at web.archive.org/web/20170314190633/https://projects.arlingtonva.us/planning/history/.

97. Arlington County Department of Environmental Services, *Arlington Transportation Demand Management Strategic Plan FY2013-2040, Full Report*, undated, accessed 14 March 2017, archived at web.archive.org/web/20170314190928/http://www.commuterpage.com/tasks/sites/cp/assets/File/ACCS_TDM_Plan_2013_FINAL_061512.pdf.

98. Arlington County (Virginia), *Commute Mode Share*, accessed 14 March 2017, archived at web.archive.org/web/20170314191351/https://transportation.arlingtonva.us/key-performance-measures/mobility/mode-share/.

99. Stephen Crim, Mobility Lab, *Arlington Is Booming, and Traffic Fantastically Remains at 1970s Level*, 14 March 2013, web.archive.org/web/20170314191624/http://mobilitylab.org/2013/03/14/arlington-is-booming-but-traffic-fantastically-remains-at-1970s-levels/; more recent trends: Arlington County (Virginia), *FY2015- FY2024 Proposed Capital Improvement Plan, County Board Worksession – Transportation* (Powerpoint presentation), 18 June 2014, accessed at www.slideshare.net/slideshow/embed_code/36079630?rel=0&startSlide=6.

100. Robert Thomson, "Traffic Study Shows Why I-66 Is a Mess," *Washington Post* (Dr. Gridlock blog), 21 January 2016, archived at web.archive.org/web/20170406175142/https://www.washingtonpost.com/news/dr-gridlock/wp/2016/01/21/traffic-study-shows-why-i-66-is-a-mess/?utm_term=.6216b5b2d913.

101. Arlington County (Virginia), *Resolution Regarding the Virginia Department of Transportation's Transform66: Inside the Beltway Project and Memorandum of Agreement Between the Commonwealth and the Northern Virginia Transportation Commission*, 19 November 2015; archived at web.archive.org/web/20170314192104/https://countyboard.arlingtonva.us/board-actions/resolutions/transform66_resolution_2015/.

102. Chris Slatt, "I-66 Widening Will Happen Soon Whether it Makes Sense or Not," *Greater Greater Washington*, 10 February 2016.

103. Dick Uliano, "Va. Residents Voice Concerns Over I-66 Widening," *WTOP*, accessed 14 March 2017, web.archive.org/web/20170314193322/http://wtop.com/dc-transit/2016/05/va-residents-voice-concerns-over-i-66-widening/slide/1/,

104. Northern Virginia Transportation Commission, *NVTC Endorses 10 Transform 66 Multimodal Applications for Funding* (news release), 2 June 2016, archived at web.archive.org/web/20170314193729/http://www.novatransit.org/uploads/MediaReleases/NVTCMediaRelease060216.pdf.

105. Arlington County (Virginia), *Arlington County Board Weighs-in on Environmental Assessment of I-66 Eastbound Widening Plan* (news release), 28 January 2017, archived at web.archive.org/web/20170314193944/https://newsroom.arlingtonva.us/release/10974/.

106. U.S. Department of Transportation and Virginia Department of Transportation, *Transform I-66: Inside the Beltway, Eastbound Widening Environmental Assessment*, November 2016, archived at https://web.archive.org/web/20170314194615/http://inside.transform66.org/documents/ebw_environmental_technical_reports_nov._2016/i66itbebw_environmentalassessment_final113016.pdf,

107. Congress for the New Urbanism, *Freeways Without Futures 2017*, 2017, archived at https://web.archive.org/web/20170314195843/https://www.cnu.org/sites/default/files/FreewaysWithoutFutures2017_0.pdf.

108. Goody Clancy, *The I-20/59 Viaduct in Downtown Birmingham, Alabama: Economic Development and Transportation Review*, prepared for REV Birmingham and City of Birmingham, April 2014.

109. Erin Edgemon, "I-20/59 Bridge Replacement $150 Million Over Projections, To Be Rebid," *AL.com*, 24 February 2017.

110. Don Stacom, "No Tunnel for New I-84 in Hartford," *Hartford Courant*, 14 June 2016.

111. Patrick Anderson, "State to Fast Track Route 6-10 Connector Project, Abandon Surface Boulevard," *Providence Journal*, 7 September 2016.

112. Mid-1990s: Regional Planning Advisory Council, minutes of Wednesday, July 20, 2016 meeting, archived at web.archive.org/web/20170314204055/http://metroplanrpac.org/meetings/DraftMinutes-7-20-2016.pdf.

113. Arkansas State Highway and Transportation Department, *Planning and Environmental Linkages Traffic and Safety Report: Interstate 30, CA0602, Interstate 530-Highway 67*, May 2015.

114. Arkansas State Highway and Transportation Department, *Planning and Environmental Linkages Level 3 Screening Methodology and Results Memorandum: Interstate 30, CA0602, Interstate 530-Highway 67*, May 2015.

115. See note 113.

116. Data for 2012 through 2016 for I-30 bridge, and 2013 through 2016 for I-30 south of I-630 from Arkansas State Highway and Transportation Department, *Average Daily Traffic Stations* (web application), accessed at ahtd.maps.arcgis.com/apps/webappviewer/index.html?id=8deb09579210490bafb97bd03c3c0792, 28 March 2017; remaining years from Arkansas State Highway and Transportation Department, *Annual Average Daily Traffic Estimates* (PDF files), downloaded from www.arkansashighways.com/System_Info_and_Research/traffic_info/traffic_map.aspx, 28 March 2017. Traffic station used for the "south of I-630" comparison is site #600389.

117. Data for 2012 through 2016 from Arkansas State Highway and Transportation Department, *Average Daily Traffic Stations* (web application), accessed at http://ahtd.maps.arcgis.com/apps/webappviewer/index.html?id=8deb09579210490bafb97bd03c3c0792, 28 March 2017; data for 2007 through 2012 from Arkansas State Highway and Transportation Department, *Annual Average Daily Traffic Estimates* (PDF files), downloaded from https://www.arkansashighways.com/System_Info_and_Research/traffic_info/traffic_map.aspx, 28 March 2017.

118. See note 113.

119. Norman L. Marshall, Smart Mobility, *I-30 Alternatives Analysis*, prepared for the Arkansas Policy Panel, May 2016, archived at web.archive.org/web/20170314205236/http://posting.arktimes.com/media/pdf/i-30_alternatives_may_2016.pdf.

120. Leslie Newell Peacock, "Highway Widening Prediction: $4 Billion will Be Needed in Future," (blog post) *Arkansas Times*, 15 October 2015; web.archive.

org/web/20170314203738/http://www.arktimes.com/ArkansasBlog/archives/2015/10/15/highway-widening-prediction-4-billion-will-be-needed-in-future.

121. Alana Semuels, "The Cities Doubling Down on Highways," *The Atlantic*, 28 March 2016, archived at web.archive.org/web/20170406175510/https://www.theatlantic.com/business/archive/2016/03/the-cities-doubling-down-on-highways/475488/.

122. Patrick Marley, "Federal Agency Warns State on Road Plan," *Journal Sentinel* (Milwaukee, WI), 15 January 2017.

123. Opposition to gas tax increase: Associated Press, "Walker Continues to Oppose Gas Tax Increase for Roads," *Daily News* (Iron Mountain, MI), 10 February 2017, archived at web.archive.org/web/20170406170624/http://www.ironmountaindailynews.com/news/local-news/2017/02/walker-continues-to-oppose-gas-tax-increase-for-roads/.

124. Jason Stein, "Walker Official Predicts Worsening Roads, Rising Debt," *Journal Sentinel* (Milwaukee, WI), 6 December 2016.

125. Jessie Opoien, "Audit: Wisconsin DOT Significantly Underestimated Highway Project Costs," *Capital Times*, 26 January 2017.

126. U.S. Department of Transportation, Federal Transit Administration, *National Transit Database*, Table TS2.2 (Excel file), accessed at www.transit.dot.gov/ntd/data-product/ts22-service-data-and-operating-expenses-time-series-system-0, 5 April 2017.

127. South Carolina Department of Transportation, I-73 Environmental Impact Study, *Welcome to the I-73 Project,* accessed at www.i73insc.com/download/finalimpactstatement-north/Chapter-1-North-part-1.pdf, 1-1.

128. Ibid.

129. Carmen Forman, "I-73 Funding Bill Passes in Assembly," *The Franklin News-Post,* 27 February 2017, archived at web.archive.org/web/20170406175842/http://www.thefranklinnewspost.com/news/i--funding-bill-passes-in-assembly/article_e0a8cb54-fc4e-11e6-84ed-ab89421d460e.html.

130. See note 127, 1-2.

131. South Carolina Department of Transportation, *Interstate 73 Study Area Map*, 27 December 2015.

132. Ibid., ES-1.

133. Ibid.

134. Ibid, 1-1.

135. South Carolina Department of Transportation, *SCDOT Traffic Counts 2009-15* (interactive website), accessed at scdot.maps.arcgis.com/apps/MapSeries/index.html?appid=fe2e97641eac493094342c502369814b, 14 March 2017.

136. Michael Smith, "Report: I-73 Would Collect $5.2 Million in Tolls in First Year; 22 Percent of Drivers Would Never Use a Toll Road," *MyHorryNews.com*, 25 September 2015, accessed at www.myhorrynews.com/news/business/article_4591eb0a-6389-11e5-8566-33c190ee7fee.html.

137. Ibid.

138. Federal Highway Administration and South Carolina Department of Transportation, *Interstate 73 Final Environmental Impact Statement: From I-95 to the Myrtle Beach Region*, undated, accessed at www.i73insc.com/draft_envir_statement.shtml. A subsequent value engineering study provided options to cut the cost of the highway by approximately $46 million

139. Andrew Knittle, "Deadly Rural Roads in Dire Need of Funding, Transportation Boss Says," *The Post and Courier,* 1 February 2017, accessed at www.postandcourier.com/news/deadly-rural-roads-in-dire-need-of-funding-transportation-boss/article_6a479c96-e8a4-11e6-8b68-535a315f6449.html.

140. Andrew Knittle, "South Carolina Gov. McMaster Asks Trump for $5.18 Billion," *The Post and Courier,* 6 February 2017, accessed at www.postandcourier.com/

news/south-carolina-gov-mcmaster-asks-trump-for-billion/article_8f410de0-ecb7-11e6-95e2-cbe4c9735a56.html.

141. U.S. Department of Transportation, Federal Highway Administration, *Deficient Bridges by Highway System 2016,* 31 December 2016, accessed at www.fhwa.dot.gov/bridge/nbi/no10/defbr16.cfm.

142. Interstate 11 in Arizona and Nevada is classified as under "study and review" though part of the highway in Nevada is under construction.

143. City of South Pasadena, *State Route 710*, 2015, accessed at www.ci.south-pasadena.ca.us/index.aspx?page=57.

144. South Pasadena Review Online, "710 Tunnel Serves No Useful Trasnportation Function," *South Pasadena Review,* 8 February 2017, archived at web.archive.org/web/20170221172037/http://southpasadenareview.com/710-tunnel-serves-no-useful-transportation-function/.

145. South Pasadena Review Online, "It's Finally Time to End 710 Tunnel Tak," *South Pasadena Review,* 12 January 2017, archived at web.archive.org/web/20170222164705/http://southpasadenareview.com/its-finally-time-to-end-710-tunnel-talk/

146. "Federal Highway Administration Approves I-70 Project," *CBS Local,* 19 January 2017, archived at web.archive.org/web/20170221184810/http://denver.cbslocal.com/2017/01/19/federal-highway-administration-approves-i-70-project/.

147. Colorado Department of Transportation, *Information about the I-70 East (Central 70) Project,* undated, archived at web.archive.org/web/20170406180050/https://www.codot.gov/projects/i70east/fact-sheets-8-2.16/Central%2070%20Will%20and%20Will%20Not.pdf.

148. Jon Murray, "Shouting and Anger Over I-70 Project Greet CDOT Officials at Denver Community Meeting," *The Denver Post,* 16 February 2017, archived at web.archive.org/web/20170221171720/http://www.denverpost.com/2017/02/16/i-70-project-meeting-shouting-anger/.

149. David Sachs, "North Denver Neighbords, Sierra Club File Suit to Squash I-70 Boondoggle," *Streetsblog Denver,* 16 March 2016, archived at web.archive.org/web/20170221171810/http://denver.streetsblog.org/2016/03/16/north-denver-neighbors-sierra-club-file-suit-to-squash-i-70-boondoggle/.

150. Jon Murray, "I-70 Expansion Opponents File Federal Civil Rights Complaint Over Project," *Denver Post*, 16 November 2016.

151. Aldo Svaldi, "Northeast Denver Neighborhood is Nation's Most Polluted," *The Denver Post,* 16 February 2017, archived at http://web.archive.org/web/20170221171938/http://www.denverpost.com/2017/02/16/denver-most-polluted-zip-code/.

152. David Sachs, "Feds Approve CDOT Plan to Shove Wider I-70 Through Mostly Latino Neighborhoods," *Streetsblog Denver,* 19 January 2017, archived at web.archive.org/web/20170221190040/http://denver.streetsblog.org/2017/01/19/feds-approve-cdot-plan-to-shove-wider-i-70-through-mostly-latino-neighborhoods/.

153. Office of the Governor of Connecticut and Connecticut Department of Transportation, *Let's Go CT: Connecticut's Bold Vision for a Transportation Future*, February 2015, 56, 57, 69, 70, archived at web.archive.org/ web/20151001201011/http://www.transformct.info/img/documents/CTDOT%2030%20YR%20Corrected_02.17.2015. pdf

154. Ken Dixon, "Commission Approves Study for I-95 Widening in SW CT," *Connecticut Post*, 2 February 2017, accessed at http://www.ctpost.com/local/article/Commission-approves-study-for-I-95-widening-in-SW-10900695.php

155. Coastal Corridor Transportation Investment Area Board, *Twenty-Year Strategic Plan for Transportation in the Coastal Corridor Investment Area*, 6 November

2002, 1, included as Appendix B to Connecticut Transportation Strategy Board, Transportation: A Strategic Investment, January 2003, archived at web.archive.org/web/20150831135151/ http://www.ct.gov/opm/lib/opm/tsb/reports_tsb/tsb2003report.pdf.

156. Ibid.

157. Sherri Day, "Wider Roads Are Not the Answer for Traffic-Clogged Tampa," *Tampa Bay Times*, 26 June 2015, archived at web.archive.org/web/20150831183206/http://www.tampabay.com/opinion/columns/day-wider-roads-arenot-the-answer-for-traffic-clogged-tampa/2235247.

158. Linda Saul-Sena, "Transforming Tampa Bay: Their Way or the Highway?" *Creative Loafing Tampa*, 4 June 2015, archived at web.archive.org/web/20151002135542/http://cltampa.com/politicalanimal/archives/2015/06/04/transforming-tampa-bay-their-way-or-the-highway-tampaheights-faces-an-intrusive-freeway-expansion#.Vg6M-vlVhHw.

159. Caitlin Johnston, "Tampa Bay Has One of the Worst Public Transit Systems in America. Here's Why." *Tampa Bay Times,* 16 February 2017, archived at web.archive.org/web/20170406180418/http://www.tampabay.com/projects/2017/data/public-transportation-worst/.

160. Caitlin Johnston, "Lawmakers Endorse Pausing Tampa Bay Express Plan, But Not Stopping It," *Tampa Bay Times,* 19 December 2016, accessed at www.tampabay.com/news/transportation/lawmakers-endorse-pausing-tampa-bay-express-plan-but-not-stopping-it/2306753; http://www.tampabay.com/news/transportation/state-officials-unveil-a-new-vision-for-the-future-of-the-howard-frankland/2310247

161. Ibid.

162. Ibid.

163. Iowa Department of Transportation, Office of Design, *Rural Two-Lane Highways (Rural Arterials)* (design criteria worksheet), Design Manual, 6 June 2014, archived at web.archive.org/web/20151022155402/http://www.iowadot.gov/design/dmanual/01C-01/Two_laneRural.pdf

164. Erin Murphy, "Iowa's Gas Tax Increase Working as Planned, Officials Say," *The Gazette,* 28 February 2016, archived at web.archive.org/web/20170221193202/http://www.thegazette.com/subject/news/government/iowas-gas-tax-increase-working-as-planned-officials-say-20160228.

165. Damon Scott, "$96M Paseo del Volcan Project Could Open Access to Thousands of Acres," *Albuquerque Business Journal*, 29 January 2015, archived at web.archive.org/web/20170221193514/http://www.bizjournals.com/albuquerque/news/2015/01/29/96m-paseodel-volcan-project-could-open-access-to.html.

166. Contra Santolina Working Group, "Top Five Reasons Santolino Doesn't Make Sense," *The NM Political Report,* 11 May 2016, archived at web.archive.org/web/20170221194002/http://nmpoliticalreport.com/43248/top-five-reasons-santolina-doesnt-make-sense/.

167. North Carolina Department of Transportation, *I-77 Express Lanes*, undated, archived at web.archive.org/web/20151002150627/http://www.ncdot.gov/projects/i-77expresslanes/.

168. Ibid.

169. Jim Morrill, "Lawmakers Try Again to Kill I-77 Toll Contract," *The Charlotte Observer,* 15 December 2016, archived at web.archive.org/web/20170221190649/http://www.charlotteobserver.com/news/politics-government/article121033393.html.

170. Joe Bruno, "Widen I-77 Attorney Says Toll Lane Battle is Like 'David vs. Goliath,'" *WSOCTV,* 8 February 2017, archived at web.archive.org/web/20170221190921/http://www.wsoctv.com/news/local/widen-i-77-attorney-says-toll-lane-battle-is-like-david-vs-goliath/492264241

171. Ohio Department of Transportation, *Southern Ohio Veterans Memorial Highway DBFOM Procurement*, undated, archived at web.archive.org/web/20151002155005/ http://www.dot.state.oh.us/Divisions/InnovativeDelivery/ Pages/PortsmouthDBFOM.aspx; population.

172. Rick Rouan, "State's Share of Portsmouth Bypass Rises to $1.2B over 35 Years," *Columbus Dispatch*, 25 May 2015, archived at web.archive.org/web/20151002174011/http://www.dispatch.com/content/stories/local/2015/05/25/states-share-rises-to-1-2b-over-35-years.html.

173. Wayne Allen, "ODOT Releases Construction Schedule," *Portsmouth Daily Times,* 10 February 2017, archived at web.archive.org/web/20170406180624/http://portsmouth-dailytimes.com/news/13722/odot-releases-construction-schedule.

174. Michael Walton, "Turnpike Debt Puts Projects at Risk," *TribLive,* 16 November 2016, archived at web.archive.org/web/20170221194705/http://triblive.com/local/regional/11489484-74/turnpike-debt-billion.

175. Jon Schmitz, "Pennsylvania Turnpike Officials Revive Mon-Fayette Expressway Extension," *Pittsburgh Post-Gazette*, 18 June 2015, archived at web.archive.org/web/20151002163624/http://www.post-gazette.com/news/transportation/2015/06/18/Turnpike-officials-revive-MonFayette-Expressway-extension/stories/201506180044.

176. "Proposed Mon-Fayette Expressway Worries Residents in its Path," *wpxi.com,* archived at web.archive.org/web/20170221195123/http://www.wpxi.com/news/proposed-mon-fayette-expressway-worries-residents-in-its-path/428560311.

177. Dan Majors and Karen Langley, "Lawmakers Might Have to Decide Whether to Repurpose Mon-Fay Money," *Pittsburgh Post-Gazette*, 23 March 2017.

178. Texas Department of Transportation, *SH 249 Extenson,* undated, archived at web.archive.org/web/20170222165447/http://www.txdot.gov/insidetxdot/projects/studies/houston/sh249-extension.html.

179. Gail Delaughter, "TxDOT to Move Ahead with 249 Toll Road Despite Local Opposition, " *Houston Public Media,* 1 May 2015, archived at web.archive.org/web/20170221192733/http://www.houstonpublicmedia.org/articles/news/2015/05/01/59957/txdot-to-move-ahead-with-249-toll-road-despite-local-opposition-2/.

180. Nicole Shupe, "TxDOT Picks Final 249 Route," *The Examiner,* 14 September 2016, archived at web.archive.org/web/20170221192521/http://www.navasotaexaminer.com/news/article_2447eda0-7a12-11e6-a4ae-b77209559503.html.

181. Ibid.

182. Central Texas Regional Mobility Authority, *What's Happening Now*, undated, archived at web.archive.org/web/20170221170750/http://www.sh45sw.com/about/.

183. Ibid.

184. Texas Department of Transportation, *State Highway 45 Southwest Final Environmental Impact Statement*, January 2015, 45, accessed from www.sh45sw.com/about/environment.php.

185. Washington State Department of Transportation, *SR 167, SR 509 and I-5 Puget Sound Gateway Project*, September 2015, archived at web.archive.org/web/20151002171427/http://www.wsdot.wa.gov/Projects/ Gateway/.

186. Ibid.

187. Steve Hunter, "State Needs More Funds for SR 509 Extension to Kent," *Kent Reporter,* 9 February 2017, archived at web.archive.org/web/20170221192258/http://www.kentreporter.com/news/state-needs-more-funds-for-sr-509-extension-to-kent/.

188. I-11 Study, *I-11 & Intermountain West,* undated, archived at web.archive.org/web/20170222170905/http://i11study.com/.

189. Steven Slivka, "Interstate 11 Project Nearing Construction," *Las Vegas Review-Journal*, 27 February 2015, archived at web.archive.org/web/20170221200051/http://www.reviewjournal.com/news/traffic-transportation/interstate-11-project-nearing-construction

190. "Public Comments on I-11 Plan Available to Read," *Green Valley News,* 30 January 2017, archived at web.archive.org/web/20170221200216/http://www.gvnews.com/news/public-comments-on-i--plan-available-to-read/article_7668a9e0-e712-11e6-98ae-9786e4112d04.html.

191. Gabriela Rico, "Here's the First Glimpse of Arizona's Proposed Interstate 11 Routes," *Arizona Daily Star,* 8 June 2016, archived at web.archive.org/web/20170221200436/http://tucson.com/news/local/here-s-the-first-glimpse-of-arizona-s-proposed-interstate/article_323f367e-259b-5989-acec-ee7f0daa993d.html.

192. Save San Onofre Coalition, *Landmark Agreement Ends 15-Year Dispute Over SR 241 Toll Road Extension (press release)*, 16 November 2016, archived at web.archive.org/web/20170221200720/http://voiceofoc.org/2016/11/landmark-agreement-ends-15-year-dispute-over-sr-241-toll-road-extension/.

193. Dan Weikel, "Settlement Ends the Threat of a Toll Road Through San Onofre State Beach," *Los Angeles Times,* 10 November 2016, archived at web.archive.org/web/20170221201202/http://www.latimes.com/local/lanow/la-me-ln-tollway-lawsuits-20161109-story.html.

194. Jeff Inglis, Frontier Group, and John C. Olivieri, U.S. PIRG Education Fund, *Highway Boondoggles 2: More Wasted Money and America's Transportation Future*, January 2016.

195. "New Toll Lanes Coming Soon to C-470," *The Villager,* 14 December 2016, archived at web.archive.org/web/20170221201851/http://www.villagerpublishing.com/84670/news/government/new-toll-lanes-coming-soon-to-c-470/.

196. G.G. Rigsby, "First Effingham Parkway Open House Held," *Savannah Morning News*, 30 March 2015, archived at web.archive.org/web/20151002175107/http://savannahnow.com/effingham-now/2015-03-20/first-effingham-parkwayopen-house-held.

197. Andrew Davis, "Effingham Parkway a Key to Easing Traffic on Highway 21/I-95," *WSAV 3,* 27 January 2016, archived at web.archive.org/web/20170221202429/http://wsav.com/2016/01/27/effingham-parkway-a-key-to-easing-traffic-on-highway-21i-95/.

198. Walter Jones, "Effingham Parkway Gets $44 Million in State Funds," *Savannah Morning News,* 25 January 2016, archived at web.archive.org/web/20170221202653/http://savannahnow.com/news-latest-news/2016-01-25/effingham-parkway-gets-44-million-state-funds#

199. Zak Koeske, "Environmental Groups Happy with Judge's Ruling on Illiana Project," *Daily Southtown,* 4 November 2016, archived at https://web.archive.org/web/20170406181150/http://www.chicagotribune.com/suburbs/daily-southtown/news/ct-sta-illiana-tollway-decision-st-1106-20161104-story.html.

200. Ibid.

201. Tommy O'Flynn, "I-94 Detroit Widening Would Threaten Midtown Development, Waste Funds," *The Huffington Post*, 19 June 2013, archived at https://web.archive.org/web/20170406181129/http://www.huffingtonpost.com/2013/06/19/i-94-detroit-widening-midtown-development_n_3466887.html.

202. Michael Jackman, "MDOT to Hold Open Houses on 20-Year, $3 Billion Plan to Widen I-94," *Detroit Metro Times*, 4 November 2016.

203. Ibid.

204. Ashley Woods, "I-94 Expansion: Controversial SEMCOG Vote Passes, Will Widen Freeway Through Detroit (UPDATE)," *The Huffington Post,* June 20 2013, archived at web.archive.org/web/20170406181247/http://www.huffingtonpost.com/2013/06/20/i-94-expansion-vote-semcog-detroit-freeway_n_3473150.html.

205. North Carolina Department of Transportation *Asheville I-26 Connector, undated,* accessed at www.ncdot.gov/projects/I26Connector/.

206. Mark Barrett, "NCDOT Trying to Speed Work on I-26 Connector," *Citizen-Times,* 16 January 2017, accessed at www.citizen-times.com/story/news/local/2017/01/16/ncdot-trying-speed-work--26-connector/96553882/.

207. Ibid.

208. Steven Litt, "Is There Still Time to Get Design and Planning Right for the Opportunity Corridor?," *Plain Dealer*, 29 May 2015.

209. Robert Higgs, "Cleveland, State, JobsOhio Reach Deal that Clears Way for Opportunity Corridor," *Cleveland.com* 25 February 2017, accessed at www.cleveland.com/metro/index.ssf/2017/02/cleveland_state_jobsohio_reach.html.

210. Elizabeth Findall, "Dallas Council Agrees on Trinity Parkway Compromise Limiting Funds to 4-lane Road," *Dallas Morning Times,* August 2015.

211. Brendon Formby, "Federal Study: Trinity Toll Road Will Increase Traffic on Other Major Roads," *Dallas Morning News,* April 2015.

212. Peter Simek, "The NTTA Doesn't Want to Build the Trinity Parkway," *D Magazine,* 23 November 2016, accessed at www.dmagazine.com/frontburner/2016/11/the-ntta-doesnt-want-to-build-the-trinity-parkway/.

213. Washington State Department of Transportation, *Viaduct: Program Overview,* undated, accessed at www.wsdot.wa.gov/Projects/Viaduct/About.

214. Ibid.

215. Ibid.

216. Justin Williams, "What's Next for the I-94 EastWest Corridor? WisDOT Unveils Preferred Alternative," *Fox6Now*, 17 February 2015, archived at web.archive.org/web/20151002184546/http://fox6now.com/2015/02/17/i-94-east-west-preferred-alternative/.

217. Sean Ryan, "Stadium Interchange, I-94 Rebuild to Cost $825 million to $1.2 billion," *Milwaukee Business Journal,* 14 November 2014, accessed at www.bizjournals.com/milwaukee/news/2014/11/14/stadium-interchange-i-94-rebuild-to-cost-825.html.

218. Rich Kirchen and Sean Ryan, "Gov. Walker Drops Funding for I-94 East-West Project; MMAC Preps Fight," *Milwaukee Business Journal,* 8 February 2017, archived at web.archive.org/web/20170221212254/http://www.bizjournals.com/milwaukee/news/2017/02/08/gov-walker-expected-to-drop-funding-for-i-94-east.html

219. Ibid.

220. Except where otherwise noted, this appendix is adapted and condensed from Phineas Baxandall, U.S. PIRG Education Fund, and Kari Wohlschlegel and Tony Dutzik, Frontier Group, *Private Roads, Public Costs: The Facts About Toll Road Privatization and How to Protect the Public*, Spring 2009.

221. John B. Gilmous, "The Indiana Toll Road Lease as an Intergenerational Cash Transfer," *Public Administration Review*, 16 August 2012.

222. Clarissa Hawes, "Georgia Plans $2 Billion Truck-Only Roadway to Fight Traffic Bottleneck," Trucks.com, 2 May 2016, archived at web.archive.org/web/20170411191105/https://www.trucks.com/2016/05/02/georgia-plans-truck-only-roadway-to-fight-traffic/.