

Highway Boondoggles

Wasted Money and America's Transportation Future

Highway Boondoggles

Wasted Money and America's Transportation Future

Georgia PIRG Education Fund

Jeff Inglis,
Frontier Group
Phineas Baxandall, Ph.D.,
U.S. PIRG Education Fund

September 2014

Acknowledgments

The authors wish to thank Kevin Brubaker of Environmental Law and Policy Center; Patrick J. Kennedy of Space Between Design Studio; Julie Mayfield of the Western North Carolina Alliance; Cary Moon of People's Waterfront Coalition; Akshai Singh of Ohioans for Transportation Choice; Clark Williams-Derry of Sightline Institute; and several people who wished to remain anonymous for their review and comments. Thanks to Frontier Group intern Danielle Elefritz and MASSPIRG Education Fund intern Jess Nahigian for their contributions to this report. Thanks also to Tony Dutzik and Tom Van Heeke of Frontier Group for editorial support.

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

The authors bear responsibility for any factual errors. Policy recommendations are those of Georgia 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.

© 2014 Georgia PIRG Education Fund. Some Rights Reserved. This work is licensed under a Creative Commons Attribution Non-Commercial No Derivatives 3.0 Unported License. To view the terms of this license, visit creativecommons.org/licenses/by-nc-nd/3.0.

With public debate around important issues often dominated by special interests pursuing their own narrow agendas, Georgia PIRG Education Fund offers an independent voice that works on behalf of the public interest. Georgia 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 Georgia PIRG Education Fund or for additional copies of this report, please visit georgiapirgedfund.org.

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: Harriet Eckstein Graphic Design

Cover: Clockwise from top left: Washington State Department of Transportation, Ohio Department of Transportation, Michigan Department of Transportation, Transportation Corridor Agencies, Colorado Department of Transportation, Mode Shift

Table of Contents

Executive Summary	1
Introduction	6
Americans' Driving Habits Have Changed; Government Transportation Spending Habits Have Not	8
Why Americans Are Driving Less	8
The U.S. Still Spends Vast Amounts of Money on Highway Expansion	10
Eleven Questionable Highway Projects Demonstrate the Need for New Priorities	12
Seattle's Alaskan Way Viaduct	12
Extending California 241	15
Interstate 11 from Phoenix to Las Vegas	18
Dallas Trinity Parkway	19
Tolled Express Lanes on Colorado 470	21
Double-decking I-94 in Milwaukee	23
Widening Detroit's I-94	25
Illiana Expressway	28
Cleveland's Opportunity Corridor	30
Georgia's Effingham Parkway	34
North Carolina's I-26 Connector	36
Policy Recommendations	38
Notes	40

Executive Summary

Americans drive no more in total now than we did in 2005, and no more on average than we did at the end of Bill Clinton's first term as president. The recent stagnation in driving comes on the heels of a six decade-long Driving Boom that saw steady, rapid increases in driving and congestion across the United States, along with the investment of more than \$1 trillion of public money in highways.

But even though the Driving Boom is now over, state and federal governments continue to pour vast sums of money into the construction of new highways and expansion of old ones—at the expense of urgent needs such as road and bridge repairs, improvements in public transportation and other transportation priorities.

Eleven proposed highway projects across the country—slated to cost at least \$13 billion—exemplify the need for a fresh approach to transportation spending. These projects, some of them originally proposed decades ago, either address problems that do not exist, or have serious negative impacts on surrounding communities that undercut their value. They are but a sampling of

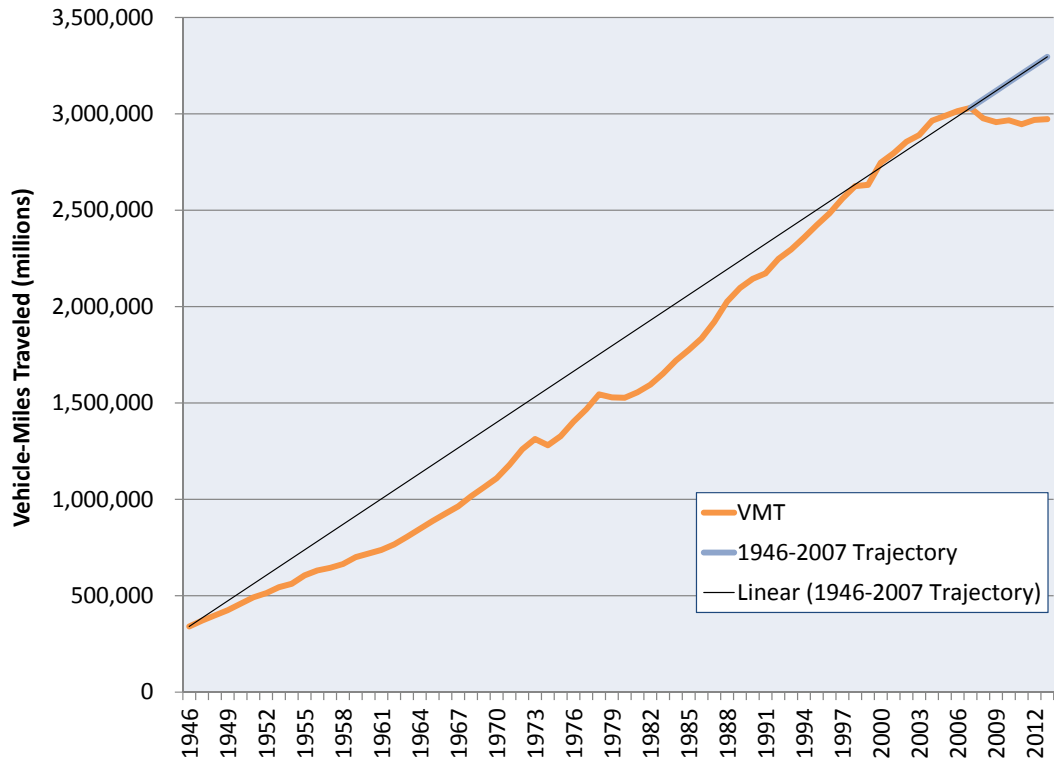
many questionable highway projects across the country that could cost taxpayers tens of billions more dollars to build, and many more billions over the course of upcoming decades to maintain.

With the federal Highway Trust Fund on life support, states struggling to meet basic infrastructure maintenance needs, and growing demands for investment in public transportation and other non-driving forms of transportation, America does not have the luxury of wasting tens of billions of dollars on new highways of questionable value. State and federal decision-makers should reevaluate the need for the projects profiled in this report and others that no longer make sense in an era of changing transportation priorities.

America's driving habits are changing, and those changes are likely to last.

The total number of miles Americans drive is lower than it was in 2005, while per-capita driving has fallen by 7 percent in the last nine years. (See Figures ES-1 and ES-2.) If old Driving Boom trends had continued, Americans would currently drive an average of about 11,300 miles annually instead of the current

Figure ES-1. Vehicle-Miles Traveled in the United States, 1946-2013

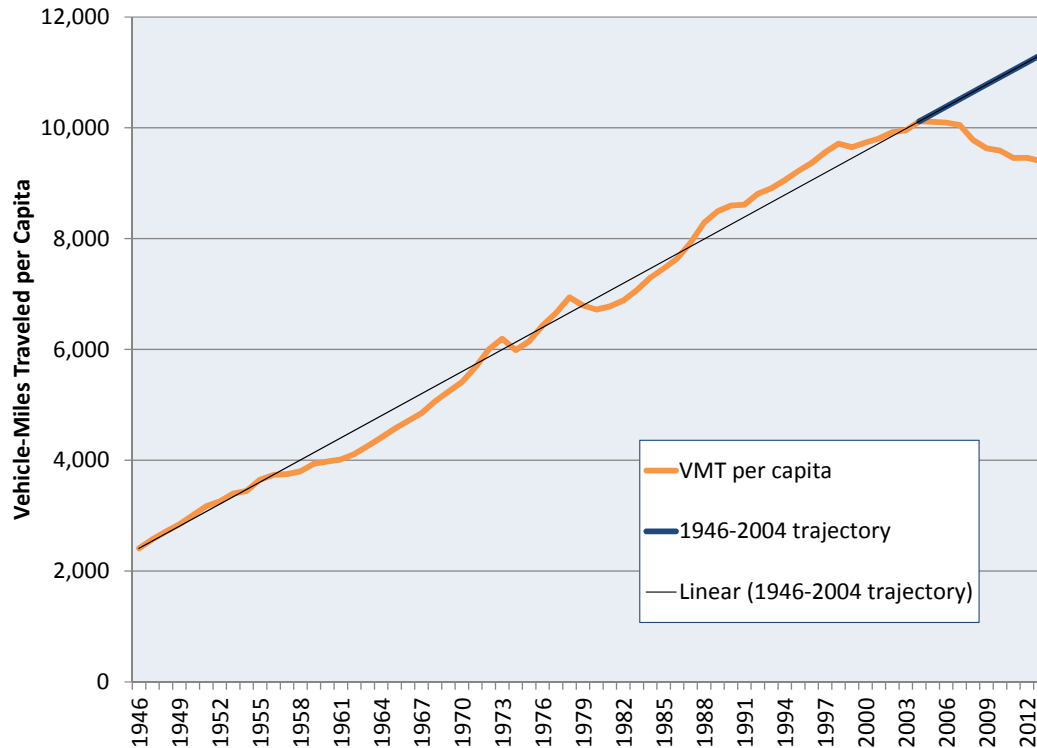


average which has fallen to just below 9,400. In fact, as Figure ES-1 shows, Americans are driving a total of about three hundred billion fewer annual miles today than if Driving Boom trends had continued. While the economic recession contributed to the fall in driving, the shift predates the recession by several years and many of the forces contributing to the fall in driving are likely to be lasting.

- The number of cars and licensed drivers per household both peaked during the 2000s and have subsequently declined. The workforce participation rate, which also increased during the Driving Boom years, has been falling and is expected to fall farther as the Baby Boomers age.

- Gasoline prices have been high for much of the last decade and government forecasters anticipate that they are unlikely to fall significantly in the foreseeable future.
- The long-term trend toward suburbanization has stopped. In the early 2010s, central cities grew faster than their suburbs for the first time in 90 years.
- The use of non-driving modes of transportation—transit, bicycling and walking—is on the rise. In addition, recent years have seen the emergence of new forms of mobility such as car-sharing, bikesharing and ridesharing whose influence is just beginning to be felt.

Figure ES-2. Vehicle-Miles Traveled per Capita in the United States, 1946-2013



- Transportation behaviors have been changing fastest among members of the Millennial generation. Americans aged 16 to 34 drove 23 percent fewer miles on average in 2009 than they did in 2001. Millennials are not only the largest generation in the United States, but they will be the primary users of transportation infrastructure we build today.

Despite the end of the Driving Boom, the United States continues to spend tens of billions of dollars each year on highway expansion.

- U.S. federal, state and local governments spent roughly as much money on highway expansion projects in 2010 as they did a decade earlier, despite a

dramatic change in anticipated future growth in driving. In 1999, the federal government anticipated that Americans would be driving 3.7 trillion miles per year by 2013—26 percent more miles than we actually did.

- States continued to spend \$20.4 billion a year constructing new roads or expanding the capacity of existing roads between 2009 and 2011, according to Smart Growth America and Taxpayers for Common Sense. During that same period, states spent just \$16.5 billion repairing and preserving existing roads, even as those roads' surface conditions worsened.
- If the states had spent their road expansion money on repairs instead,

they could have halved the portion of road surfaces in poor condition by 2011. If that practice had continued, no state-owned roads would have surfaces in poor condition by the end of 2014.

States continue to spend tens of billions of dollars on new or expanded highways that are often not justified in terms of their benefits to the transportation system, or 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 years or decades ago and have continued moving forward with no newer evaluation of whether their existence is justified.

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

- **Seattle's Alaskan Way Viaduct, Washington, \$3.1 billion to \$4.1 billion** – A cheaper transit-based alternative to an expensive highway tunnel has already been put in place as a stopgap during the much-delayed tunneling project. The stopgap's successes could be built upon in order to achieve nearly all the same goals as the tunnel project for far less money.
- **Tesoro Extension to Toll Road 241, California, \$200 million** – A proposed extension of a toll road already in danger of default because of lower-than-projected traffic.
- **Interstate 11, Arizona and Nevada, \$2.5 billion** – A long-distance Interstate highway would be built in a corridor already well served by a non-Interstate highway that is not projected to become congested in the foreseeable future.
- **Dallas Trinity Parkway, Texas, \$1.5 billion** – A nine-mile urban highway through the heart of Dallas would have a minimal impact on congestion while detracting from popular, ongoing efforts to make downtown Dallas an attractive place to live and work.
- **Tolled Express Lanes on Route 470, Colorado, \$153 million** – The state's own analysis assumes that the project won't deliver net benefits until at least the early 2030s.
- **Double-decking I-94 in Milwaukee, Wisconsin, \$800 million** – Insisting on a wider road despite its own data showing feared traffic increases are not materializing, the Wisconsin Department of Transportation wants to rebuild an existing highway as an eight-lane double-decker route through a narrow channel between three cemeteries, despite objections from local officials and citizen groups.
- **Widening I-94 through Detroit, Michigan, \$2.7 billion** – Motor City area residents say they would rather live with current traffic congestion than pay for road widening projects. Nevertheless, state highway planners want to expand a highway through Detroit, further disconnecting two rebounding neighborhoods and demolishing 11 pedestrian-usable bridges.
- **Illiana Expressway, Illinois and Indiana, \$1.3 billion to \$2.8 billion** – A new privatized toll road proposed primarily to speed freight trucks across the Midwest may instead charge tolls too high to attract trucks, and will likely require hundreds of millions of dollars in taxpayer subsidies.

- **Cleveland Opportunity Corridor, Ohio, \$331 million** – A \$100-million-a-mile road has been proposed for a community where driving has been stagnant for years, and where residents are calling instead for repairs to existing roads and investment in transit improvements.
- **Effingham Parkway, Georgia, \$49 million to \$100 million** – A new road north and west of Savannah is intended to relieve the traffic burden from an existing state highway, where traffic is not keeping up with projections.
- **I-26 Connector, North Carolina, \$400 million to \$600 million** – A large part of this massive project includes widening a highway that does not have enough use to justify the expansion, in the process destroying homes and businesses in a mature livable neighborhood.

The diversion of funds to these questionable projects is especially harmful given that there is an **enormous need for investment in repairs to existing roads, as well as transit improvements and investments in bicycling and pedestrian infrastructure**, even as the federal Highway Trust Fund runs on empty. Federal and state governments should eliminate or downsize unnecessary or low-priority highway projects to free up resources for true transportation priorities.

Specifically, policy-makers should:

- Reconsider all plans for new and expanded highways in light of new transportation trends and recent changes in traffic volumes. This includes projects proposed to be completed via public-private partnerships.
- Reorient transportation funding away from highway expansion and toward repair of existing roads and investment in other transportation options.
- Encourage transportation investments that can 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 reduce congestion more cheaply and effectively than highway expansion.
- Reevaluate transportation forecasting models to ensure that they reflect changing preferences for housing and transportation among Millennials and others, and incorporate the availability of new transportation options such as carsharing, bikesharing and ridesharing.
- Invest in research and data collection to more effectively track and react to ongoing shifts in how people travel.

Introduction

After World War II, the United States experienced decades of a self-perpetuating cycle: over and over again, new highways sparked new, automobile-oriented development that led Americans to drive more miles in their cars. As Americans drove more, they paid more in gasoline taxes, which was spent building more and bigger highways to alleviate the congestion that inevitably arose on the initial batch of highways. The newly uncongested highways sparked renewed development, which led to more driving, which further increased gas tax revenues and paid for more lane-miles to address the latest congestion problems.

This cycle continued until, early in the 21st century, the music stopped. The growth in vehicle travel in the U.S. slowed, then stopped, then reversed. Americans' appetite for sprawling development and ever-longer commutes, once seemingly endless, began to abate. Gas tax revenues declined, partly as a result of rising vehicle fuel economy and the slower growth in driving. Meanwhile, the roads and bridges built during the early years of America's highway building spree

began to show their age, requiring ever more expensive repairs.

But amid all those changes, one thing stayed the same: public officials' desire to build more, wider and bigger roads. Even as the federal government has been hurtling toward a "transportation fiscal cliff" with the potential insolvency of the Highway Trust Fund, many state and local officials have proven unwilling to change course, continuing to put forward expensive and fanciful proposals for new and bigger highways based on flimsy or outdated rationales.

Those rationales—of speculative and uncertain promises of economic development, of the urgent need to address hypothetical future congestion on roads that have recently seen *declines* in traffic—may once have been sufficient in the days when highway revenue seemed endless and the competing demands for transportation funds seemed few. Today, however, every dollar spent on a wasteful highway expansion project is a dollar that can't be spent fixing our existing roads and transit systems, adding a new light rail line in a growing American city, or

exploring ways to serve America's changing transportation needs more effectively and efficiently.

America faces tough choices. The good news, however, is that there is plenty of room for improvement. The 11 projects highlighted in this report

illustrate a problem but also represent an opportunity—the amount of money that can be saved by cutting or downsizing these projects and others like them is more than enough to make a down payment on America's 21st century transportation needs.

Americans' Driving Habits Have Changed; Government Transportation Spending Habits Have Not

During the six decades after World War II, with short interruptions for crises such as the OPEC oil embargoes, Americans drove more and more each year. Annual miles driven per capita skyrocketed from 5,400 in 1970 to just over 10,000 in 2004.¹ During this “Driving Boom,” government invested more than \$1 trillion in highway capital projects, often expanding highway capacity with the intention of relieving growing congestion, but with the actual result of fueling even greater dependence on cars.²

Today, however, the Driving Boom is over. Americans now drive no more in total than we did in 2005. (See Figure 1.) And we drive no more on average than we did at the end of Bill Clinton’s first term as president.⁴ (See Figure 2.) If old Driving Boom trends had continued, Americans would currently drive an average of about 11,300 miles annually instead of the current average which has fallen to just below 9,400. In fact, as Figure 1 shows, Americans are driving a total of about a three hundred billion fewer annual miles today than if Driving Boom trends had continued.⁵ Yet, despite those changes in behavior, and the likelihood that many

of those changes will continue, state and federal officials continue to spend vast amounts of money on new and expanded highways.

Why Americans Are Driving Less

Driving has declined for a variety of reasons. While the economic recession contributed to the fall in driving, the downturn began years before the economic decline. More importantly, many of the forces contributing to the fall in driving are likely to be lasting.

- **Market saturation:** The Driving Boom was driven in part by increases in the number of cars and licensed drivers per household, both of which peaked during the 2000s and have subsequently declined.⁷
- **Workforce participation declines:** The percentage of Americans in the workforce increased during the

Figure 1. Vehicle-Miles Traveled in the United States, 1946-2013³

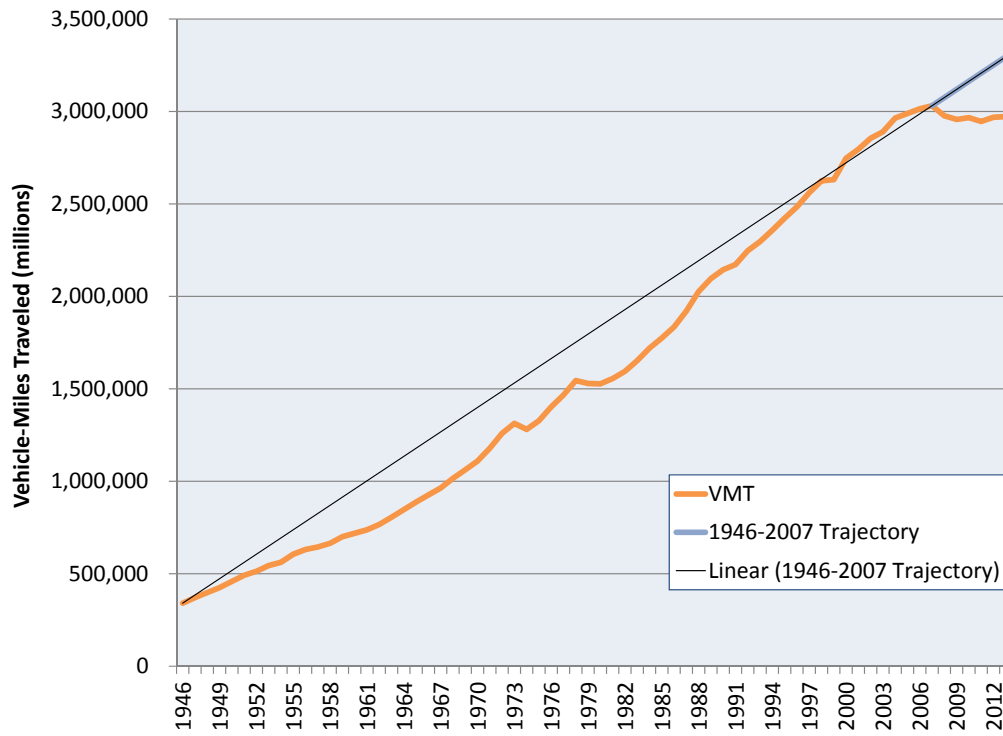
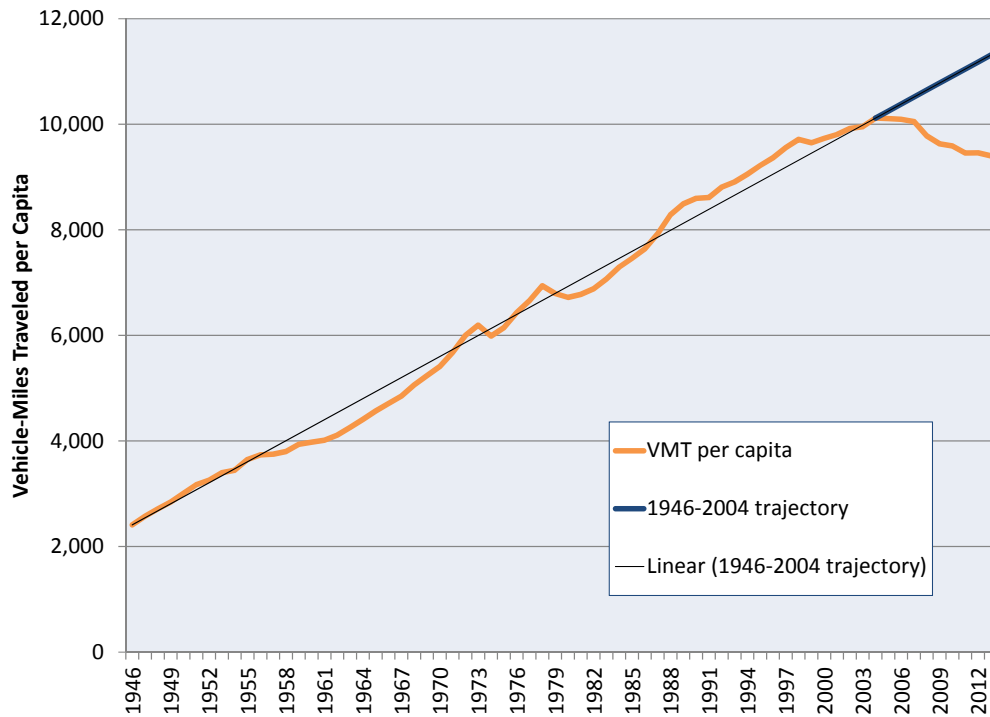


Figure 2. Vehicle-Miles Traveled per Capita in the United States, 1946-2013⁶



Driving Boom, but has been falling in recent years and is expected to fall farther as the Baby Boomers age.⁸

- **High gas prices:** Gasoline prices have been high for much of the last decade and government forecasters anticipate that they are unlikely to fall significantly in the foreseeable future. Gasoline prices can have a significant short- and long-term influence on individuals' driving habits.⁹
- **Urban resurgence:** The long-term trend toward automobile-oriented suburban development has slowed or stopped. In the early 2010s, central cities grew faster than their suburbs for the first time in 90 years.¹⁰
- **Increased use of transit and other non-driving modes:** The use of non-driving modes of transportation—transit, bicycling and walking—is on the rise. In 2013, transit ridership in the U.S. hit its highest point since 1956.¹¹ In addition, recent years have seen the emergence of new forms of mobility such as carsharing, bikesharing and ridesharing whose influence is just beginning to be felt.¹²
- **Changing preferences among young people:** These changes in transportation behaviors have been occurring fastest among members of the Millennial generation. Young Americans drove 23 percent fewer miles on average in 2009 than they did in 2001.¹³ Millennials are not only the largest generation in the United States, but they will be the primary users of the transportation infrastructure we build today.¹⁴

The U.S. Still Spends Vast Amounts of Money on Highway Expansion

Despite nine consecutive years of declining per-capita driving, the United States continues to spend about as much on highway expansion as we did in the last years of the Driving Boom.

Even with the dramatic change in driving trends, federal, state and local governments spent about as much money, in inflation-adjusted dollars, on highway expansion projects in 2010 (the most recent year for which a total is available) as they did a decade earlier.¹⁵ In 1999, the federal government anticipated that Americans would be driving 3.7 trillion miles per year by 2013—26 percent more miles than we actually did.¹⁶ The U.S. DOT now forecasts that we will not attain those vehicle-miles traveled (VMT) levels until sometime between 2021 and 2026, while another government agency forecasts that they may not be reached for another two decades.¹⁷ It is possible that, at least in areas that are experiencing little to no population growth, we may never surpass the peak levels of VMT of the mid-2000s, but existing transportation models have largely failed to incorporate recent changes in trends.

Meanwhile, the highway construction spree continues—often at the expense of other important transportation priorities. From 2009 to 2011, state governments spent \$20.4 billion a year constructing new roads or expanding the capacity of existing roads.¹⁸ During that same period, states spent just \$16.5 billion repairing and preserving existing roads, even as those roads' conditions worsened.¹⁹

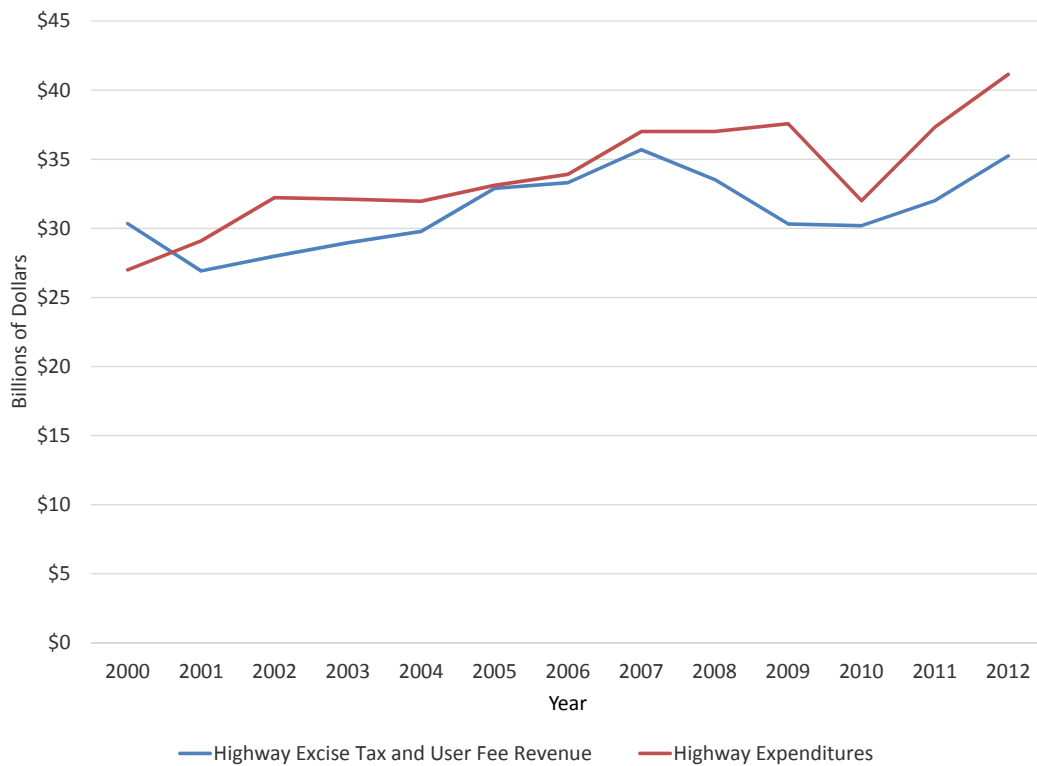
If the states had spent their road-building money on repairs instead, they could have halved the number of roads in poor condition by 2011. If that practice had continued, no state-owned roads would be in poor condition by the end of 2014, according to an analysis by Smart Growth

America and Taxpayers for Common Sense.²⁰

The United States has continued to spend big on highway expansion even as revenues from the gasoline tax, other truck-related excise taxes and highway user

fees have stayed stagnant or declined.²¹ (See Figure 3.) The total shortfall in the Highway Trust Fund that needed to be made up with revenues from the general fund between 2004 and 2014 topped \$50 billion.²²

Figure 3. Federal Highway Trust Fund Highway Excise Tax and User Fee Revenues and Highway Expenditures, 2000-2012²³



Eleven Questionable Highway Projects Demonstrate the Need for New Priorities

Across the United States, there are countless proposed highway projects—many of them originally conceived of during the Driving Boom—that represent unnecessary or inefficient expenditures of public resources. These projects come in several forms:

- 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 originally built in the mid-20th century are now nearing the end of their useful lives and require major reconstruction. In many cases, however, officials have added expansion proposals onto these reconstruction projects, making them more expensive than they might otherwise be.

This report highlights eleven pending highway projects that represent a questionable expenditure of public resources

at a time of strained transportation budgets and competing needs.

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 called into question by changing transportation trends or shifting priorities for transportation investment. The projects highlighted here are not necessarily the worst highway expansion projects in the country, but they are representative of the heavy potential costs in terms of money and community impacts of proceeding with disruptive projects that may no longer have a compelling transportation rationale.

Seattle's Alaskan Way Viaduct

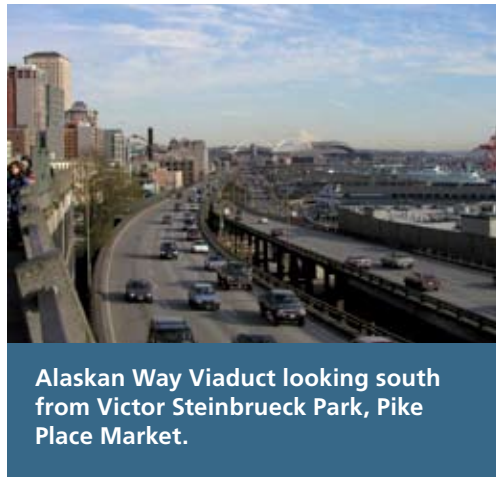
\$3.1 billion to \$4.1 billion

Seattle's aging Alaskan Way Viaduct is a crumbling and seismically vulnerable elevated highway along the city's downtown waterfront.²⁴ After an earthquake damaged

the structure in 2001, state engineers decided that the highway needed to come down, but the question of how (and whether) to replace it sparked nearly a decade of heated debate. The Washington State Department of Transportation (WSDOT) rejected calls to replace the Viaduct with a combination of surface street and transit improvements, choosing instead an option that would result in more capacity: boring a mammoth tunnel underneath the city's urban core. At 57 feet in diameter, it would be the widest bored tunnel ever attempted, with the full project carrying an estimated cost of at least \$3.1 billion²⁵ and perhaps as much as \$4.1 billion.²⁶

Digging a double-decker tunnel was always the riskiest option for replacing the Viaduct. Beyond its exorbitant cost, the tunnel carried a high risk of going over budget. In 2010, WSDOT acknowledged

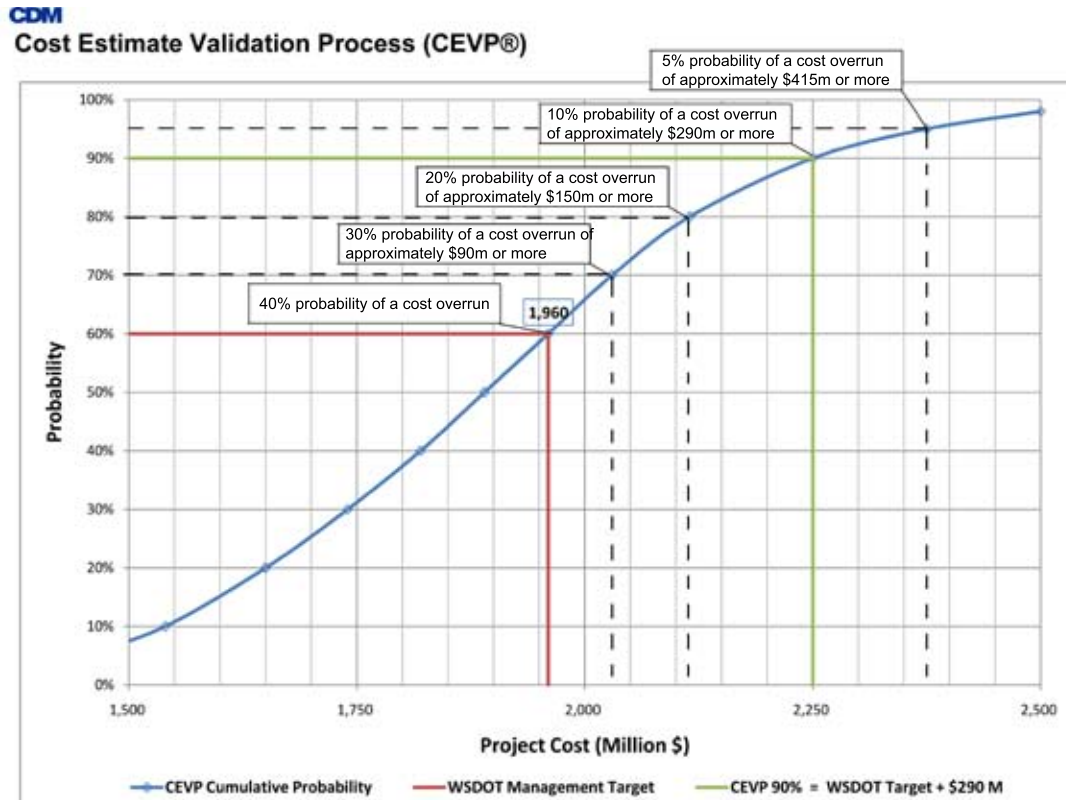
Credit: Washington State Department of Transportation



Alaskan Way Viaduct looking south from Victor Steinbrueck Park, Pike Place Market.

a 40 percent chance of a cost overrun, with a five percent risk that overruns could top \$415 million. (See Figure 4.)²⁷ Shortfalls from tunnel tolls represent an additional

Figure 4. Cost Overrun Probabilities³¹



financial risk: Soon after settling on the tunnel, the state cut its tolling revenue projections in half.²⁸ State officials later suggested that further reductions in estimated revenue might be forthcoming.²⁹ Together with other potential revenue shortfalls, some estimates projected that the funding gap could reach \$700 million.³⁰

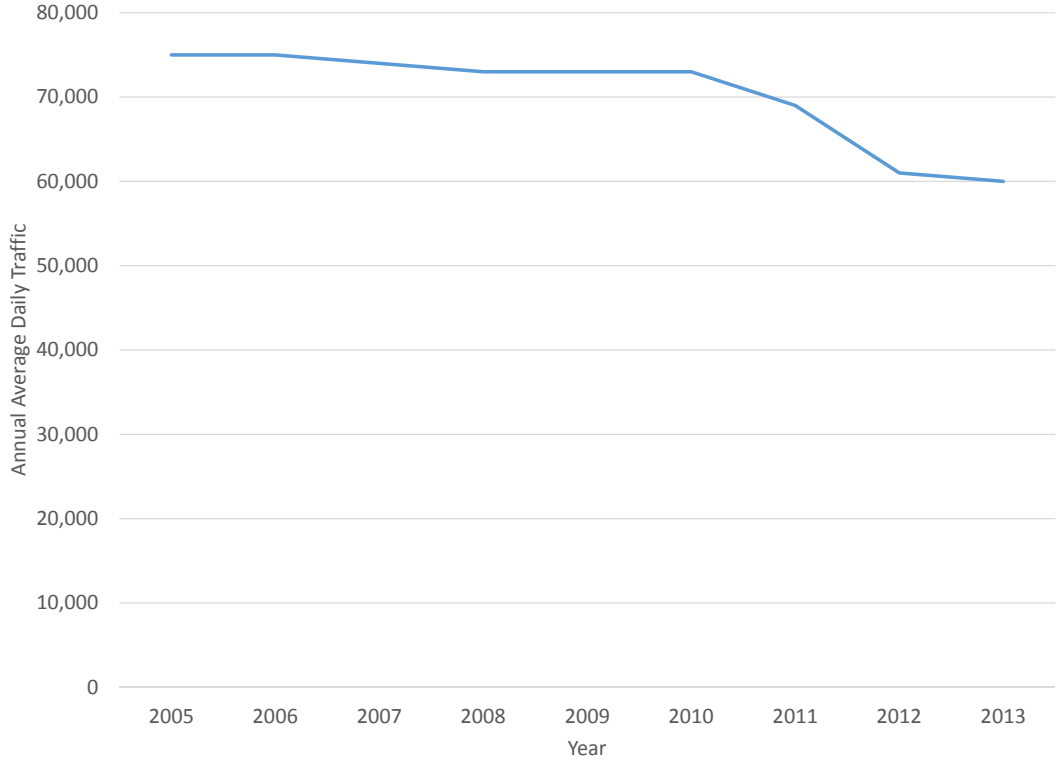
Since 2010, the financial risks of the project have only increased. “Bertha,” the “world’s largest tunneling machine,” has been stuck underground since December 2013 and is not expected to be able to resume work until March 2015—and then only if precarious on-site repairs can be successfully completed.³² The project is also stuck in disputes over whether taxpayers or the project’s contractor must pay the estimated \$125 million to repair the giant boring machine to get it going again, and in a lawsuit about whether the rescue operation should even be undertaken.³³

The expensive tunnel is not projected to improve traffic significantly compared with the rejected streets-and-transit hybrid alternative, a combination of a four-lane urban-scaled street on the waterfront, one additional lane on a nearby interstate highway, and hundreds of millions of dollars in improvements to city streets and area bus service.³⁴

WSDOT’s own statistics show that the tunnel, if completed, would likely *increase* traffic delays downtown compared with the rejected streets-and-transit plan. At best, the tunnel was projected to reduce traffic delays in the surrounding four-county region by only about 1 percent, compared with the rejected alternative; and those delays could have been further reduced by expanding transit service under the hybrid plan.³⁵

With the tunnel now stymied, some elements of the hybrid plan have been

Figure 5. Annual Average Daily Traffic, Washington State Route 99 at mile marker 29.37⁴⁰



temporarily put into place to relieve congestion caused by the construction, and have even been extended to accommodate the construction delays.³⁶ (Their ability to help is, however, hampered by the fact that other transit services in the community are on the chopping block.)³⁷ According to WSDOT's 2013 *Annual Traffic Report* data, traffic at one end of the Alaskan Way Viaduct was on a decline before tunnel construction began, and has since declined even more.³⁸ (See Figure 5.) In the region, average daily traffic has dropped 23 percent, and transit ridership has leapt 42 percent.³⁹

If the tunnel is ever finished, and if a proposal to charge tolls on the tunnel goes through, the project will have spent billions of taxpayer dollars to attract fewer drivers than are using the existing roadways right now. Traffic projections for even the cheapest tolls are at least 8 percent and perhaps as much as 35 percent below what the traffic volume has become during construction.⁴¹

While the money spent on the tunneling project thus far may never be recouped, state officials have an opportunity to revisit

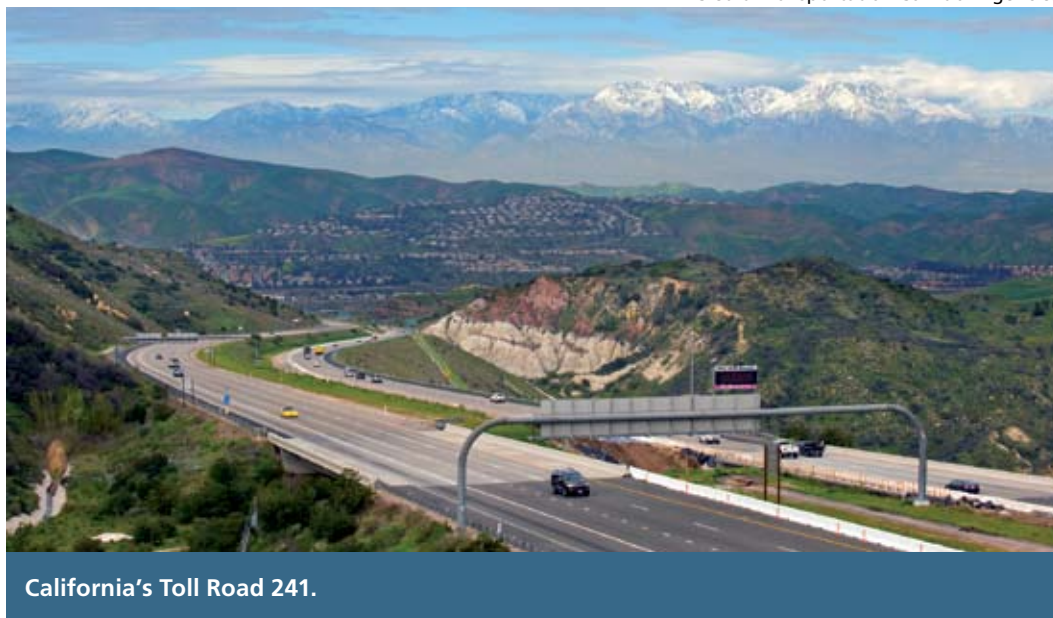
the scope of the project and select options that are less likely to cause financial and traffic turmoil.

Extending California 241 \$200 million

Southern California's toll road agency has proposed to extend an existing toll highway that might eventually span inland Orange County and connect to Interstate 5. The number of cars on previous sections of the highway, however, have failed to meet expectations. Also, the agency is already struggling to avoid default on its debts.

California 241 is one of several toll roads in Orange County built and operated by the legislature-created Transportation Corridor Agencies (TCA). California officials enabled the creation of toll roads in the area in the late 1980s amid both a shortage of state transportation funding and the perception of insatiable demand for more highway capacity.⁴²

Credit: Transportation Corridor Agencies



California's Toll Road 241.

Demand for travel on California 241, however, hasn't met official projections for a decade.⁴³ In recent years—and especially since the collapse of the housing bubble in 2007—traffic on existing sections of California 241 has been in decline.

The TCA measures road use by counting the number of transactions conducted by toll payers on the combined Foothill/Eastern Toll Roads, which includes not only Route 241 but also Routes 133 and 261. The TCA's count shows fewer transactions in fiscal year 2014 than in fiscal 2004.⁴⁴ (See Figure 6.) As indicated by the dotted trend line below, there were about 32 million fewer transactions in fiscal year 2014 than would have been expected if the trend from 2000 to 2006 had continued.

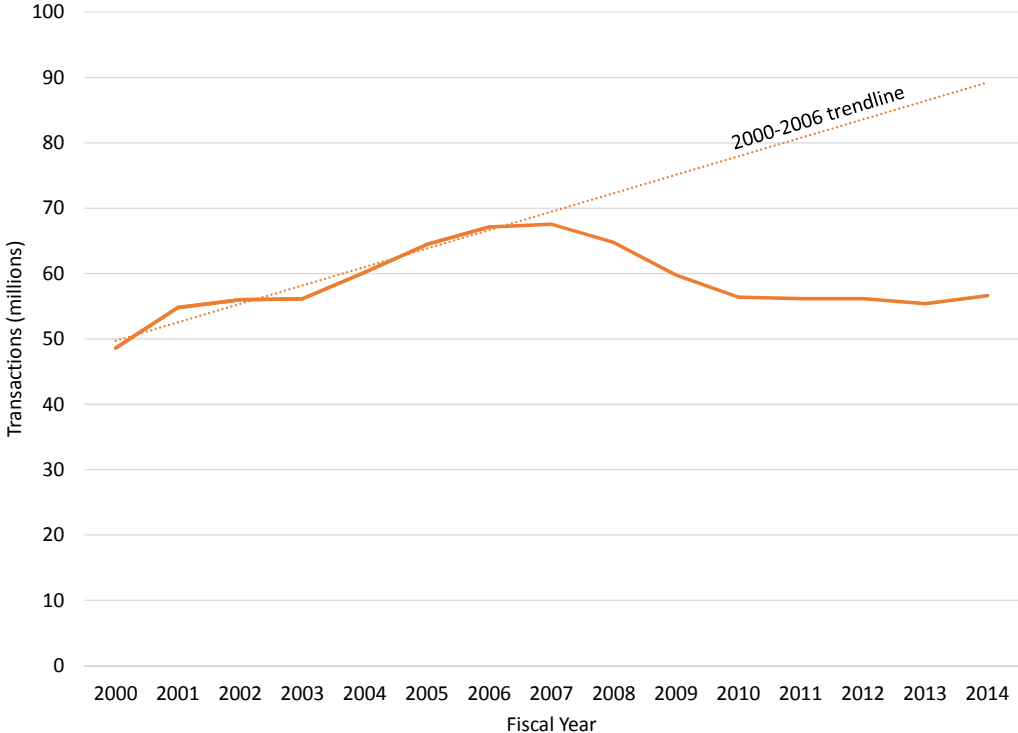
TCA data do not allow measurement of traffic on Route 241 alone, but California Department of Transportation data do and show a similar trend: Traffic peaked in 2007 and has not shown a return to

that level. By 2012, the most recent year for which data are available, traffic on Route 241 was lower than it was in 2002.⁴⁶ (See Figure 7.) Traffic is 36 percent lower than it would have been if pre-2006 trends had continued. As a result, since 2007 toll revenue has not met projections.⁴⁷ The toll roads' system-wide revenue has been so low that the TCA was recently at risk of defaulting on \$2.4 billion in bonds.⁴⁸

Despite the road's declining use trends, the TCA has proposed a \$200 million "Tesoro Extension" project to extend the road 5.5 miles, in what the agency intends to be the first stage of a 16-mile extension of Route 241.⁵⁰ The project would add to the financial liabilities of an agency that is already in trouble.

The TCA's financial woes come despite several attempts by the state of California to help the agency. The agreement between the Transportation Corridor Agencies and the state's transportation agency, Caltrans,

Figure 6. Toll Transactions on Foothill/Eastern Toll Roads (California Routes 133, 241 and 261)⁴⁵



lets the TCA borrow money to build roads, and then collect tolls until its roads' construction and operations debts are repaid, after which point the highways would become free to all drivers.⁵¹

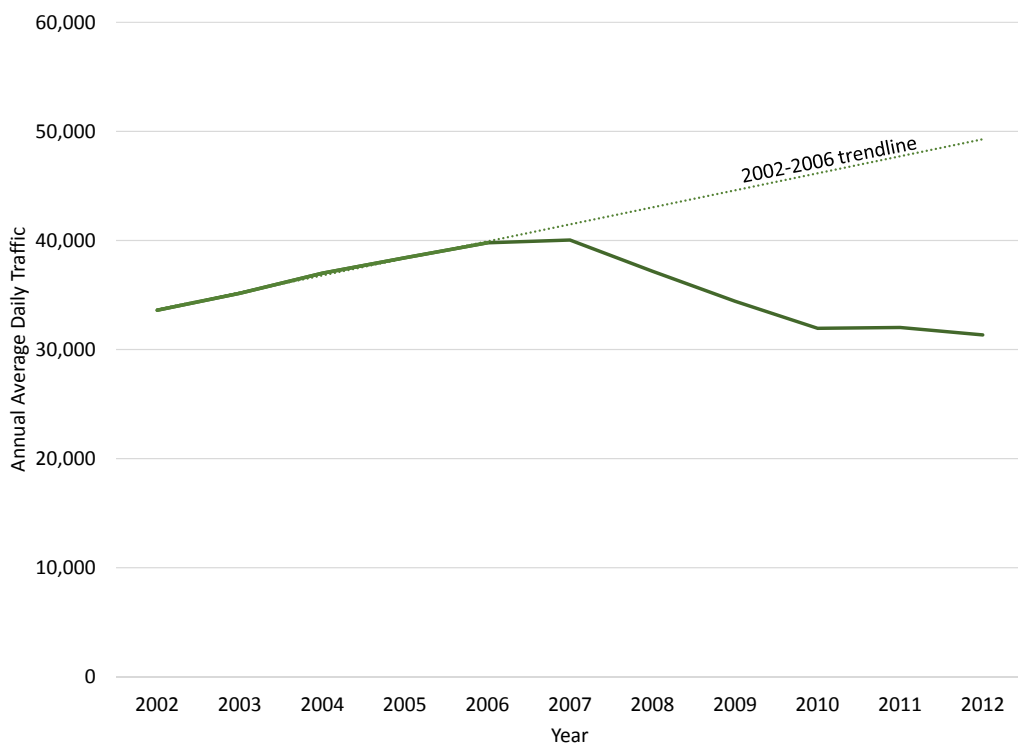
While the bonds are not backed by the state of California, Caltrans, which maintains the TCA's roads, must approve any re-financing that would extend the TCA's debt repayment schedule. In 1997, the TCA got permission to extend tolling on California 241 and two nearby toll roads (Routes 133 and 261) from 2033 to 2036, to get more time to pay off the roads' construction costs. In 2011, the TCA was allowed to extend that time further, to 2040.⁵² In 2013 it asked for and received approval to extend tolling even longer, to 2053.⁵³ As a result of stagnant driving and the TCA's financial woes, drivers in Orange County will be paying tolls on these roads for decades longer than originally anticipated.

The TCA has also raised toll rates,

which, Businessweek reported, "helped the agency's revenue reach a record \$111.8 million . . . even as the number of vehicles using the roads fell to a 12-year low."⁵⁴ The TCA's finances show no sign of improvement—income has been "about 75 percent of projections," according to Businessweek.⁵⁵

These facts have led critics to assail the financial case for the extension plan. An analysis by the free-market-supporting Pacific Research Institute found "there is scant evidence that the viability of the 241, which is currently questionable, is improved with the extension." Concluding that drivers are not willing "to pay a toll that is high enough to cover all maintenance, operational, and capital investments necessary to support the road," the Pacific Research Institute declared, "Spending money on plans to extend the 241 . . . is not justifiable and should cease immediately."⁵⁶

Figure 7. Average Annual Daily Traffic, average of California 241 traffic-count locations, 2002-2012⁴⁹



Credit: Nevada Department of Transportation and Arizona Department of Transportation



The I-11 project would expand the existing road between Phoenix and Las Vegas, part of which is shown here.

Interstate 11 from Phoenix to Las Vegas

\$2.5 billion

Arizona and Nevada have proposed a \$2.5 billion project to expand U.S. 93 through the desert between Phoenix and Las Vegas—a change that would mean the road could be added to the federal Interstate highway system and renamed I-11—despite planners’ acknowledgments that barely any of the existing 200-mile road has any congestion at present, and that even under conditions of rapid traffic growth, that will not change substantially.⁵⁷

Justifications for building Interstate 11 often begin by noting that Phoenix and Las Vegas are the two largest adjacent U.S. cities that are not linked by an Interstate highway.⁵⁸ But the two cities are linked by an existing highway—U.S. Route 93—which may not boast the designation of “Interstate,” but is a four-lane divided highway for all but 45 miles of its length between Phoenix and Las Vegas. The remaining 45 miles largely traverse sparsely populated areas. The Interstate 11 project would widen those remaining stretches, and make other modifications of varying scope to the entire length of the highway.⁵⁹

It is telling that in the official summary of reasons for constructing I-11, traffic and congestion are mentioned last, and

only in terms of the potential of “reaching unacceptable levels of congestion, threatening economic competitiveness.”⁶⁰ Recent trends in travel along the corridor show that at nearly all of the highway’s traffic counter locations, traffic growth has been slower than is forecast in project documents or has actually declined.⁶¹

The state Departments of Transportation (DOTs) show 12 locations between Phoenix and Las Vegas where they projected traffic counts and where actual traffic counts can be compared. In all 12 locations the DOTs projected that traffic would increase in the future. In 10 of those locations traffic counts failed to reach DOT forecasts. In only two locations did traffic counts actually surpass the forecasted level; the only such location in Arizona was the six-mile stretch of U.S. 93 between the Nevada border and the remote Kingman Wash Road. In six locations along the route, traffic counts were reduced altogether.⁶²

Indeed, the argument proponents make for I-11 seems to be as much about attracting *more* traffic to the Las Vegas-Phoenix corridor as reducing congestion.

The Corridor Justification Report released by the Nevada and Arizona Departments of Transportation claims that 9 percent of existing highways in the surrounding megaregion—which the report extends as far away as Los Angeles—were “unacceptably congested” in 2011. It claims that if no major road-building investment is made, and economic and population growth continue along current trend lines, 28 percent of the megaregion’s highways—again, many of them in the Los Angeles region—will be “unacceptably congested” by 2040.⁶³ In other words, the justification for the project in the middle of the desert is based largely on expectations for worsening traffic in Los Angeles. Project proponents argue that I-11 will reduce congestion in this broader region by siphoning off interstate traffic that had

once passed through southern California and directing it to the Phoenix-Las Vegas corridor instead.⁶⁴

Proponents of the project hope it will spur economic development by drawing long-distance truck traffic to the corridor. Regional economic-development planners have been trying since at least 1991 to take advantage of opportunities they see in the North American Free Trade Agreement (NAFTA) to create a high-capacity freight corridor running north-south between Canada and Mexico in the region between the Rocky Mountains and the Sierra Nevada and Cascade ranges.⁶⁵

Backers of the widening also include major real-estate developers along the highway route, who hope to build major new residential and commercial projects. One developer sees so much potential to develop sprawling housing and commercial projects in the desert between Las Vegas and Phoenix that he is offering to *donate* land on which to build the highway.⁶⁶

While construction of Interstate 11 might have a limited transportation benefit, other investments being made in the region are beating expectations at meeting pressing needs and could use additional support. From 2003 to 2013, Phoenix's transit ridership rose 45.9 percent, from 50.3 million to 73.4 million.⁶⁷ Its light rail system, opened in 2008, is already beating ridership expectations, a stark contrast with driving failing to reach forecasted levels.⁶⁸ With 20 miles of track in place, there are plans to add 10 more miles in the next decade, and to triple ridership in the next 30 years.⁶⁹

Dallas Trinity Parkway

\$1.5 billion

The Trinity Parkway is a proposed nine-mile, six-lane urban highway (with tolls) that would run along the Trinity River

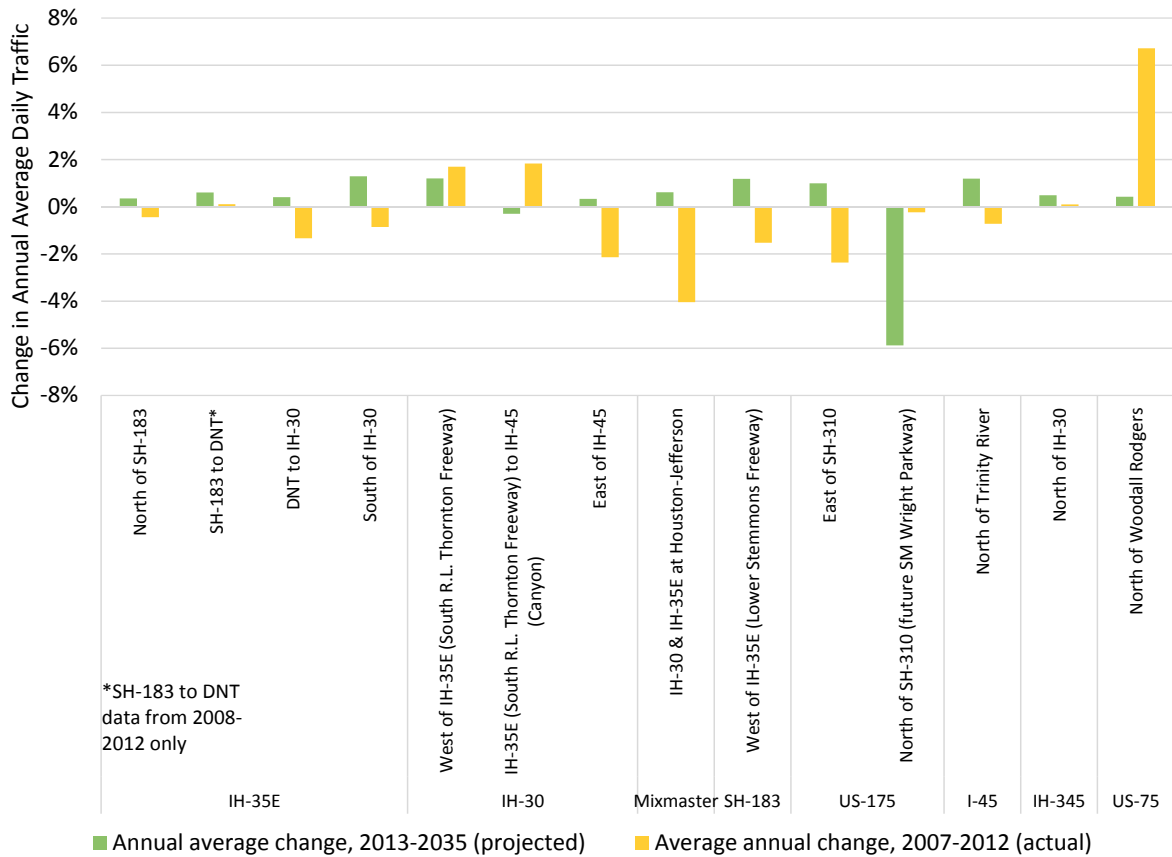
through the heart of Dallas. Proponents claim that it is needed to relieve crushing regional traffic congestion that they expect will only worsen over time.⁷⁰ But planning documents suggest that the \$1.5 billion project would have only very limited impact on congestion and would be susceptible to flood damage.⁷¹ A growing chorus of city leaders is asking whether the highway is really compatible with a Dallas that is experiencing major urban revitalization driven in part by expansion of public transportation and quality of life improvements that would be hampered by a vast new highway.⁷²

This project has been justified in part by forecasts of rapid growth in traffic in the project area in the decades to come. In most parts of the project area, however, planners are anticipating far greater growth in driving between now and 2035 than actually took place between 2007 and 2012, the most recent years for which traffic data are publicly available. Indeed, traffic actually declined between 2007 and 2012 at eight of 12 specific locations affected by the route where officials forecast traffic to increase by 2035.⁷³ (See Figure 8.)

The Trinity Parkway is part of a massive proposed highway expansion plan for the Dallas-Fort Worth area, with those additional projects costing as much as another \$5 billion.⁷⁵ Advocates of the Trinity Parkway have argued that it is an essential piece of that broader plan.⁷⁶

But Dallas community leaders have expressed concerns that building the Trinity Parkway would interfere with other important goals, including the goal of revitalizing downtown Dallas. The highway would run directly next to an area along the Trinity River where wildlife and habitat preservation are in the works, including protection of a 6,000-acre hardwood forest and 4,000 more acres for trails, parks and lakes.⁷⁷ Already, Dallas residents are taking advantage of new parks, trails and other amenities along the river, the enjoyment of which

Figure 8. Rates of Change of Dallas Area Traffic, 2007-2012 (Actual) and 2013-2035 (Projected)⁷⁴



would be threatened by construction of a major highway connector.

Even the original proposer of a Trinity roadway is horrified by the plan for a superhighway. Alex Krieger, a planning professor who originally discussed a modest access road outside the levees to approach the nature preserve recently apologized to the Dallas community, saying “a ... highway is not the thing to do.”⁷⁸

Some prominent Dallas leaders who originally supported the idea of the Trinity Parkway have changed their minds upon further consideration of what it would do to the fabric of the city. A magazine publisher who had strongly backed the proposal in the late 1990s now says that city officials have had in hand

since 2010 “expert advice [saying] not only not to build the [Trinity Parkway] but to tear down, depress or somehow link over most of its existing freeways,” to bolster connections within the community. And he observes that rather than sparking downtown development, highways in Dallas have killed the growth in areas that surround them.⁷⁹ A local city-planning advocate in Dallas who for a decade supported the parkway wrote in a June 2014 column for the *Dallas Morning News* that “I have changed my mind and now confess publicly my opposition to building this highway.” He argued that its construction would jeopardize the successes of recent major “quality of life” investments in the area where the highway

would go, including outdoor recreation opportunities.⁸⁰ Other developments in the city, such as improved light rail and infill development in urban neighborhoods could also benefit from funding for additional transportation options.⁸¹

The sacrifices Dallas would need to make in both quality of life and dollars-and-cents do not appear to be worth it for the congestion reduction benefit the project would deliver. According to the project's final environmental impact statement, the percentage of highway lane-miles in the project area that are subject to traffic congestion is expected to be the same in 2035 regardless of whether the project is built or not.⁸² In the aggregate, construction of the highway is anticipated to induce drivers to travel 1 million more vehicle-miles per day in the project area in 2035 compared with a "no build" scenario, with those drivers spending an additional 11,000 hours a day in their cars.⁸³

Tolled Express Lanes on Colorado 470

\$153 million

Local and state officials are eagerly pushing forward on a \$230 million project to add new tolled "express" lanes along an existing 12-mile stretch of a road southwest of Denver that was built in the late 1980s.⁸⁴ The original Colorado 470 encouraged the expansion of far-flung development, benefiting a set of suburban land developers.⁸⁵ But recent analysis suggests that expanding the highway would deliver little net benefit, and that the expanded highway may not receive as much use as planners anticipate.

The \$230 million C-470 project has two elements. The first is a \$77 million reconstruction effort that will add struc-

Credit: Colorado Department of Transportation



Express lanes on I-25 in Denver. The Colorado Department of Transportation wants to add express lanes to C-470 south of the city.

tural support to the existing two lanes in each direction, which will remain free to drivers.⁸⁶ The additional \$153 million would be used to build additional lanes on a 12-mile stretch between Platte Canyon Road and I-25, on which tolls would be charged to drivers.⁸⁷ Tolls would be assessed in-lane, at-speed, with variable rates based on time of day.⁸⁸

While the need to reconstruct the existing roadway has not been contested, the state's own analysis finds limited benefits from adding new lanes. According to the state's analysis, the benefits of building the additional lanes—including time and fuel savings for drivers—will not exceed the costs until 2032 at the earliest, and more likely not until 2040.⁸⁹ In other words, a Denver-area resident who turns 18 in 2014 would only begin to see the region benefit from the project when she is 36 years old, and more likely not until she is 44.⁹⁰

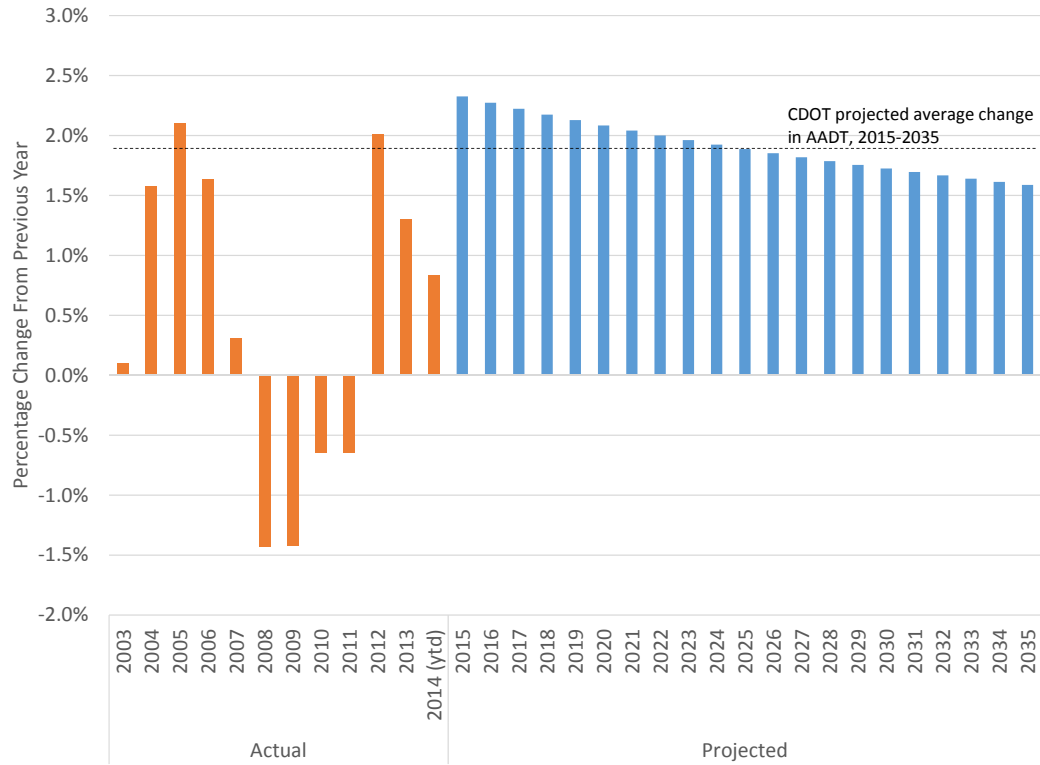
Nearly all of those benefits result from anticipated reductions in congestion that assume that traffic on the existing C-470 will increase at a brisk pace. But recent trends on the highway put that assumption

in doubt. Data are limited because CDOT operates just one continuous traffic counter on this section of C-470, but between 2002 and 2014, traffic at that location increased by an average of 0.5 percent per year.⁹¹ Yet CDOT assumes that traffic will increase by an average of 1.9 percent per year from 2015 through 2035.⁹² Traffic has increased at that projected rate in only two of the last 11 years, while actually declining in four of those years.⁹³ (See Figure 9.) CDOT does not explain why it expects an almost four-fold increase in traffic growth when current trends are moving in the opposite direction.

While the C-470 project would be paid

for in part by tolls, the public sector would also bear a significant share of the costs in taxes. Toll revenues are expected to support \$103 million in toll-revenue backed bonds, which would supplement \$80 million in federal funds, \$22 million in state funds, and \$10 million in contributions from nearby local and county governments (who have already started pitching in what is projected to be an additional \$20 million in planning costs and making related improvements).⁹⁵ If the increase in toll-paying traffic projected by CDOT does not occur, further general revenue tax dollars may be required to make up the difference.

Figure 9. Percentage Year-to-Year Change in C-470 Traffic (Average Annual Daily Traffic), Actual 2003-2014, Projected 2015-2035⁹⁴





The east-west stretch of I-94 where expansion has been proposed runs horizontally through the middle of this aerial view of Milwaukee. The Stadium interchange is at the center.

Double-decking I-94 in Milwaukee

\$800 million

In Milwaukee, the Wisconsin Department of Transportation has proposed expanding a segment of I-94 that runs east-west through the city. WisDOT wants to increase the capacity of I-94, widening the road in places and adding a second deck to the highway for a narrow stretch that is bounded by three cemeteries—at a cost of \$800 million over and above just repairing the existing road.⁹⁶ Local officials have registered their opposition publicly, and have asked WisDOT to study alternatives, including those that would not expand the highway.⁹⁷ Members of the community have advocated against the widening and in support of transit, bicycle and pedestrian projects—as well as repair of existing roads—instead.⁹⁸ WisDOT projects that traffic will increase in the corridor, but traffic counts have been declining in recent years.

Other transportation modes could use significant investment. State funding for the Milwaukee County Transit System (MCTS) budget has been slashed, leading to route restructuring, curtailment of service and fare increases, all of which have made MCTS buses less convenient and less useful.⁹⁹ Research by the University of Wisconsin-Madison Center for Economic Development found that at least 77,000 jobs in the Milwaukee metropolitan area became inaccessible by transit due to cuts in service since 2001.¹⁰⁰ (Fully 43 percent of MCTS riders use its buses to get to work; 52 percent do not have a valid driver's license and 23 percent choose to ride the bus despite the availability of a car.)¹⁰¹

Not surprisingly, ridership has dropped, which hurts all Milwaukeeans.¹⁰² To benefit not only riders but everyone in the community, MCTS seeks funds to expand transit in ways that also reduce car travel, such as by adding new local bus routes, extending service hours and frequency, and limiting fare increases to no more than inflation.¹⁰³

Since 2010, the funding situation has only partially improved: though the 2013–2015 biennial state budget bumped up statewide transit aid, it failed to restore the full 10 percent cut that hit local agencies in the previous budget.¹⁰⁴

Expanding the highway would also displace businesses, and residents who would live near the double-decker highway are concerned about lower property values.¹⁰⁵ City leaders have protested the plans and even encouraged state leaders to save the money for other, more pressing needs.¹⁰⁶ Both the city of Milwaukee and Milwaukee County have passed resolutions opposing the highway expansion and urging state leaders to invest in local transportation improvements such as road repair and transit instead.¹⁰⁷

WisDOT’s latest description of the

need for the project says, “This section of I-94 carries high traffic volumes, which currently vary between 138,000 and 156,000 AADT (Average Annual Daily Traffic). These traffic volumes are expected to grow to a range from 171,000 to 181,000 by 2030.”¹⁰⁸

That 2014 statement about traffic count numbers, however, oddly uses 2010 figures, while WisDOT’s own data show traffic instead dropping on that stretch of I-94 between 2010 and 2012, the latest year for which data are available.¹⁰⁹ It is not clear why WisDOT ignores its own most recent data. (See Figure 10.)

The decline in traffic on that stretch is matched by statewide trends: vehicle-miles traveled in Wisconsin peaked in 2004, and have remained stagnant for a decade.¹¹¹ (See Figure 11.)

Figure 10. Annual Average Daily Traffic, I-94, Milwaukee, 2009-2012¹¹⁰

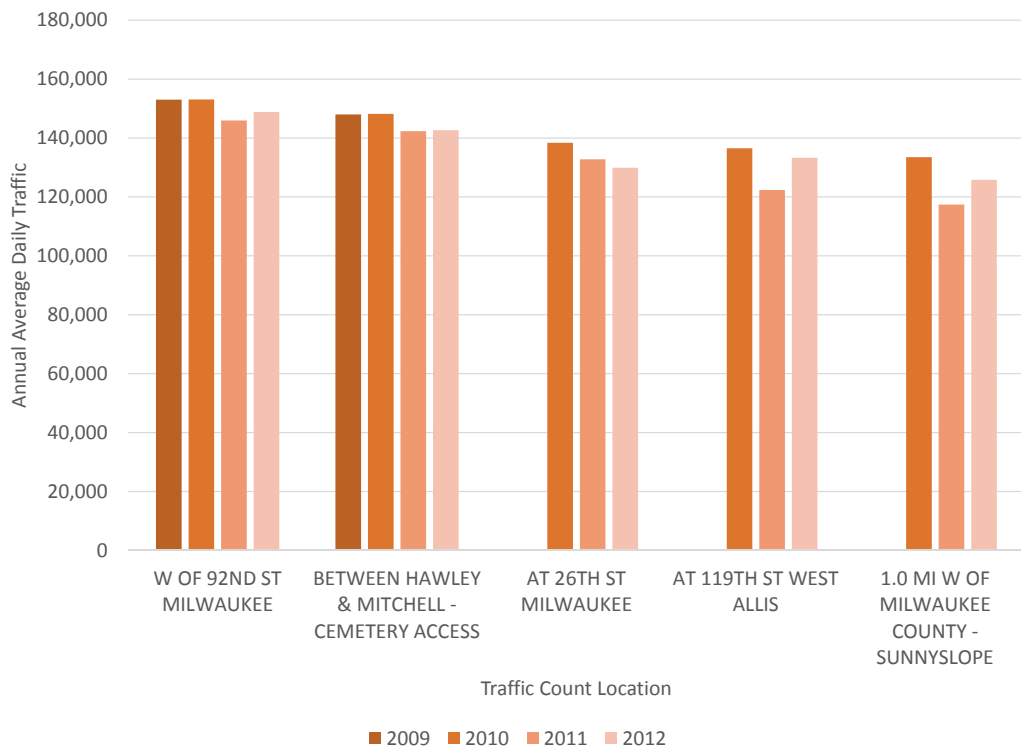
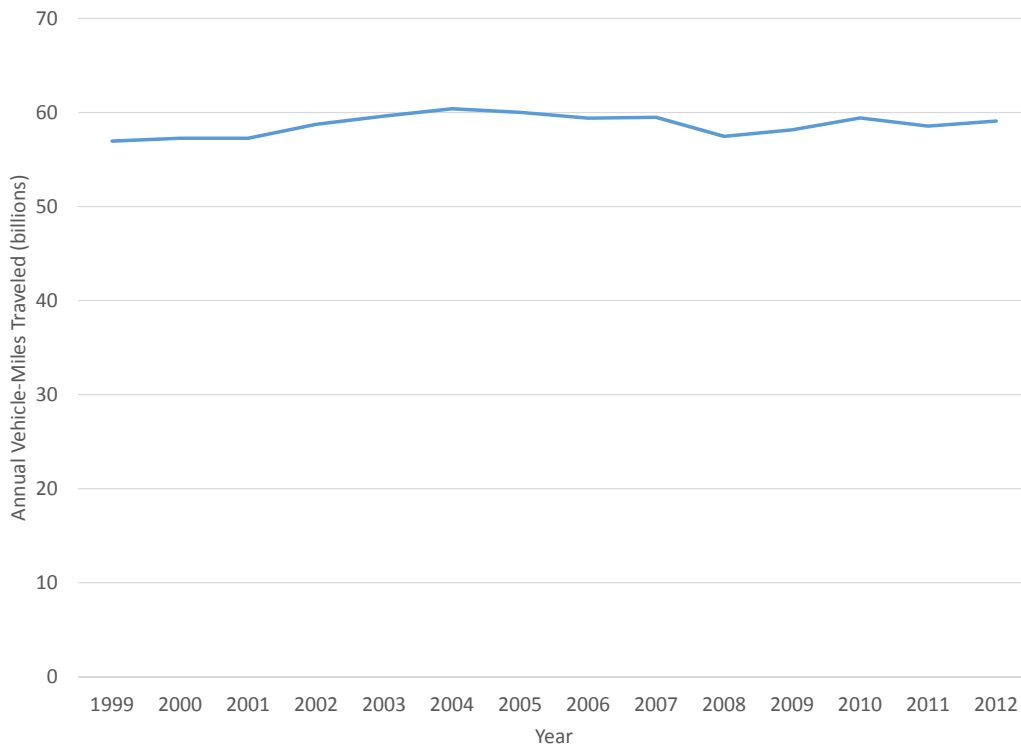


Figure 11. Vehicle-Miles Traveled in Wisconsin, 1999-2012¹¹²



Unfortunately, WisDOT has a recent track record of justifying highway expansion projects based on projections of future traffic increases that turn out not to materialize. For instance, WISPIRG Foundation research from 2013 found that traffic counts on seven recently completed highways in Wisconsin were well below the projected amounts that were used to justify the expansions.¹¹³

Expanding I-94 through Milwaukee is an expensive and community-damaging solution to a congestion problem that has not gotten appreciably worse for at least a decade—one that will take money away from other transportation projects of greater use to the public.

Widening Detroit's I-94 **\$2.7 billion**

Michigan highway planners want to spend \$2.7 billion to widen Interstate 94 through the heart of Detroit, saying that the existing road needs not just resurfacing and better bridges, but also more capacity.¹¹⁴ State officials continue to push forward with the project despite Detroit's rapid population loss and other woes, and despite the fact that traffic volume on the stretch of road being considered for expansion is no higher than it was in 2005.¹¹⁵ Expanding the highway might even make Detroit's economic recovery more difficult by further separating two neighborhoods that have been leading the city's nascent revitalization.



Several buildings, including Detroit's oldest recording studio, at left, would be destroyed by the proposed expansion of I-94 as it runs through the city.

The proposal would widen a seven-mile segment of I-94 (called the Edsel Ford Expressway) that runs in a trench sunk through the center of the city between the Midtown and New Center neighborhoods.¹¹⁶ Those areas are important for the city's revitalization because of their central location; their efforts including boosting arts and culture, retail and commercial space, innovative planning, and promotion of downtown living have been gaining steam in recent years.¹¹⁷ In fact, better connecting the neighborhoods is one reason for a \$140 million streetcar project that broke ground in late July 2014. Officials have already begun calling for expansion of that project, but funds are currently lacking.¹¹⁸ The proposed expansion of the highway would meanwhile have the opposite effect, widening the physical trench between the neighborhoods and removing

11 bridges across the freeway that would not be replaced.¹¹⁹ As a result, bicycle riders and pedestrians in the area would have to travel as much as six blocks out of their way to reach destinations.¹²⁰

Transportation officials say many buildings in the neighborhoods would have to be removed to make room for the wider road. The project requires displacing or demolishing 12 commercial buildings, 14 single-family homes, two duplexes and two apartment buildings with 14 units between them, as well as three buildings either on or eligible for inclusion in the National Register of Historic Places, including the city's oldest recording studio.¹²¹

These impacts could be lessened—along with the project's cost—if state officials opted to rebuild the highway on its existing footprint. Despite Detroit's plummeting population and the reduced use of the high-

way in recent years, planners—citing data compiled as early as 2002—say the road could not handle the traffic it previously handled, nor the level of use they predict for its future.¹²²

The project’s original documentation, from 2003, anticipated that vehicle-miles traveled in the region would increase by more than 11 percent by 2025. In fact, VMT in the region decreased by 14 percent by 2013.¹²³

Traffic counts throughout that section of road show that of 11 segments where comparisons are possible, 10 saw 2012 traffic lower than it was in 2000, and the 11th saw less traffic in 2012 than in 2003.¹²⁴ (See Figure 12.)

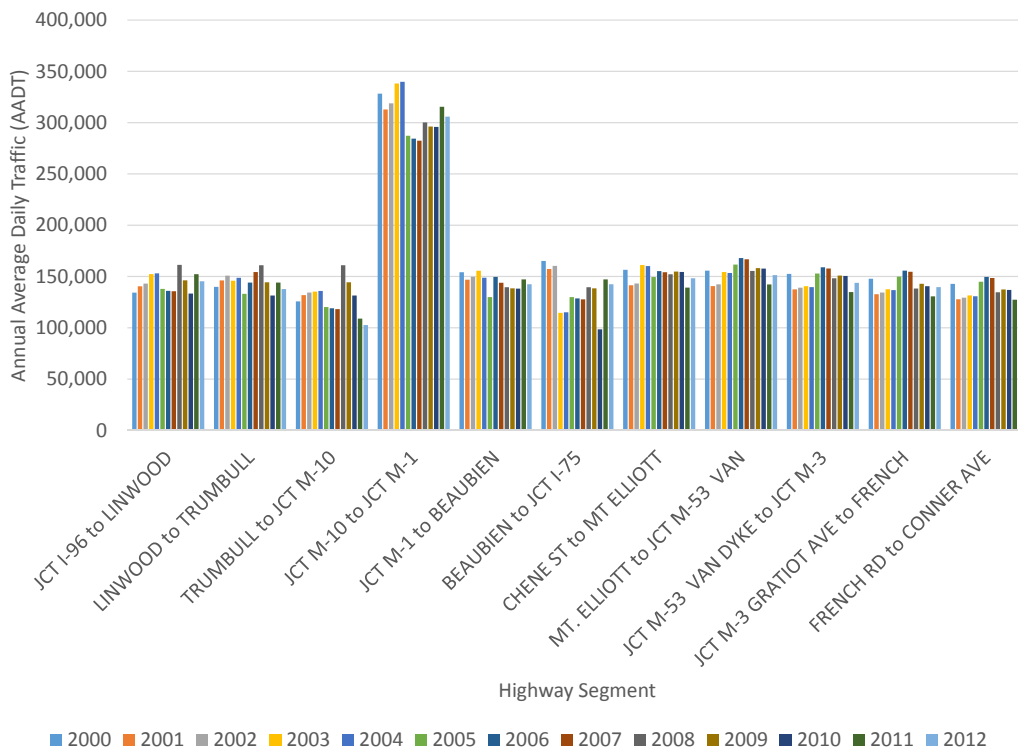
Questionable and outdated as the project’s future traffic projections seem, they remain crucial as the justification for not

simply rebuilding the existing road surface and pedestrian bridges, which do need major work, but also adding a full travel lane in each direction on the highway, plus wider shoulders, additional lanes for entering and exiting the highway, and parallel service roads on both sides running the length of the project distance.¹²⁶

Southeastern Michigan residents have questioned the merit of prioritizing highway expansion in the region. A November 2012 survey of residents of the city of Detroit and seven surrounding counties found that more people say they “would rather live with current levels of traffic congestion (63 percent) than pay more to reduce traffic congestion (37 percent).”¹²⁷

Plenty of other transportation priorities lack funding. Other than the streetcar, there is no rail transit in the region. A

Figure 12. Annual Average Daily Traffic (AADT), I-94 from I-76 to Conner Avenue, Detroit, 2000-2012¹²⁵



March 2014 Wall Street Journal article highlighted the advanced age and poor repair of Detroit’s buses—and noted that almost two-thirds of Detroit residents with jobs commute to workplaces outside the city limits. Public transportation in Detroit has long been of low quality, and recent efforts to improve transit service in the city have fallen victim to the city’s fiscal woes—a problem that does not seem to be slowing down the progress of the highway project.¹²⁸

Credit: Environmental Law and Policy Center



The Illiana Expressway would run right next to the Midwin National Tallgrass Prairie, a 19,000-acre area being restored to its natural state.¹²⁹

Illiana Expressway

\$1.3 billion to \$2.8 billion

Illinois and Indiana are proposing to build a new highway across the far southern extent of the Chicago metropolitan area at a cost of more than \$1 billion—and perhaps as much as \$3 billion. Intended to divert truck traffic from Interstate 80, the tolls charged to finance the highway could

instead discourage trucks from using the roadway.

The proposed Illiana Expressway would extend from I-55 in Wilmington, Illinois, to I-65 in Hebron, Indiana, at the southernmost reach of the Chicago metropolitan area, traversing a largely rural and thinly populated area.

The wisdom of the project has been questioned by staff of the region’s metropolitan planning organization, the Chicago Metropolitan Agency for Planning (CMAP), which said the project “expose[s] the State of Illinois to extensive financial risk,” even as it offered “unsubstantiated economic development potential” and “negligible impacts on regional transportation performance.”¹³⁰ Further, the staff criticized the planning process for significantly underestimating potential costs—by at least 30 percent and possibly as much as 400 percent as compared with other similar highway projects around the country.¹³¹ A memo from the CMAP staff also notes that the staff projections show an economic impact only one-fifth as large in 2040 as that projected by the highway’s planners.¹³²

Despite objections from Chicago Mayor Rahm Emanuel and Cook County Board President Toni Preckwinkle, and the CMAP board’s resounding rejection of the tollway in a 10 to 4 vote, the Illinois Department of Transportation (IDOT) is proceeding with the tollway on the basis of a vote of approval by CMAP’s policy committee.¹³³ In October, the CMAP board will consider a regional comprehensive plan that includes the Illiana.¹³⁴ Environmental groups have brought a lawsuit challenging IDOT’s continued development of the tollway, alleging that the committee vote violated the required approval process laid out in Illinois law.¹³⁵ Cost estimates for the highway range between \$1.3 billion and \$2.8 billion if related work on connecting roads is included.¹³⁶ Illinois taxpayers are already on the hook for \$250 million of that

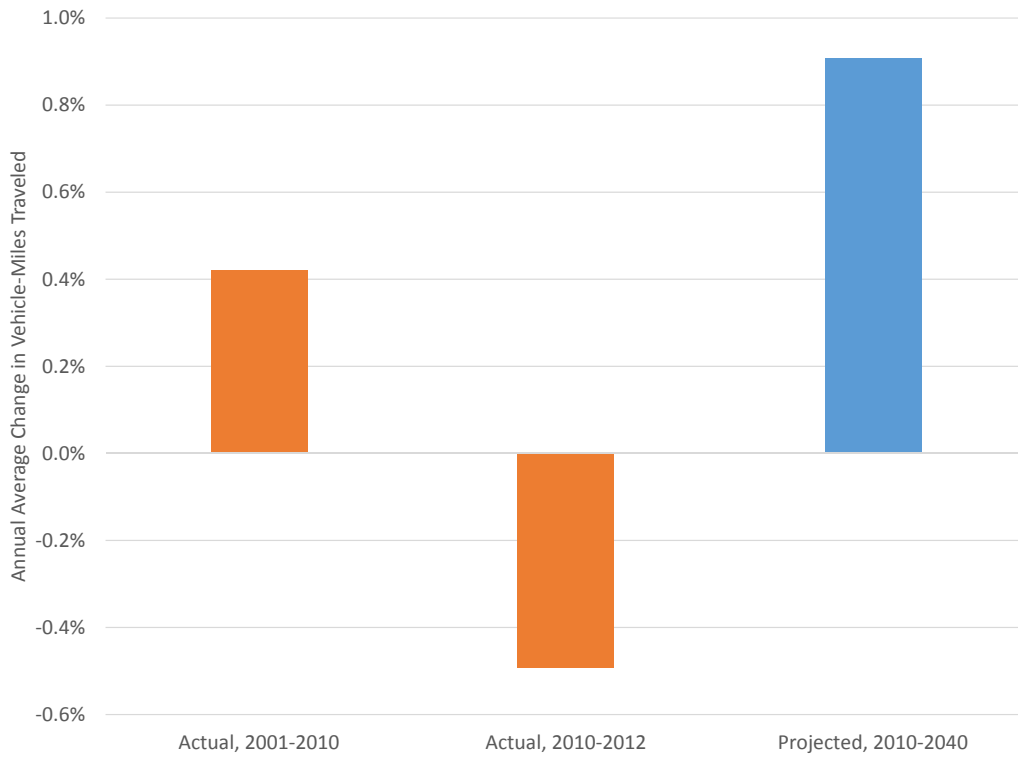
cost, and Indianans will pay an additional \$80 million to \$110 million, even though the road is set to be built and operated by a private company that will charge tolls and profit from the proceeds.¹³⁷ (See text box, “Protecting the Public from the Potential Pitfalls of Privatization.”)

Those cost numbers are just starting points. To make the project attractive for potential private-sector partners, Illinois taxpayers would have to kick in between \$440 million and \$1.1 billion in subsidies, and Indiana taxpayers will need to contribute additional amounts.¹³⁸ According to CMAP staff, too few details of a proposed public-private partnership are available to make a more precise estimate of the public contribution, but the lower the toll rates will be, the more public support will be needed.¹³⁹ This is

problematic because higher toll rates will reduce actual use of the road.

It is unclear how much demand there actually is from drivers for the new route. The financing of the road is premised on strong and growing toll proceeds, yet tolling will reduce the number of drivers using the road—and therefore reduce the road’s potential benefit to the transportation system. Many drivers avoid toll roads, especially when tolls are high and there are toll-free alternatives. Trucks are even more likely than passenger cars to stay away and the larger the truck, the more likely it will go elsewhere. At even the lowest level of toll considered by the proposal, more than half the tractor-trailer trucks that would use the road if it were free are expected to avoid it; at the highest considered toll, more than

Figure 13. Average Annual Change in Vehicle-Miles Traveled, Actual and Projected¹⁴⁵



80 percent will use other roads instead.¹⁴⁰ Further undermining the arguments for the road's utility are planners' traffic projections for the 18-county region that is designated as being affected by the Iliana project.¹⁴¹ The data show that from 2001 to 2010, the number of vehicle-miles traveled (VMT) in the region grew by an average rate of 0.42 percent a year.¹⁴² But official IDOT projections still anticipate rates of driving increase from the Driving Boom era. IDOT projects that from 2010 to 2040, VMT would grow more than twice as fast as last decade, at an annual rate of 0.91 percent.¹⁴³ So far, since 2010, the region's VMT has actually dropped by an average rate of 0.49 percent per year.^{en} (See Figure 13.)

Cleveland's Opportunity Corridor

\$331 million

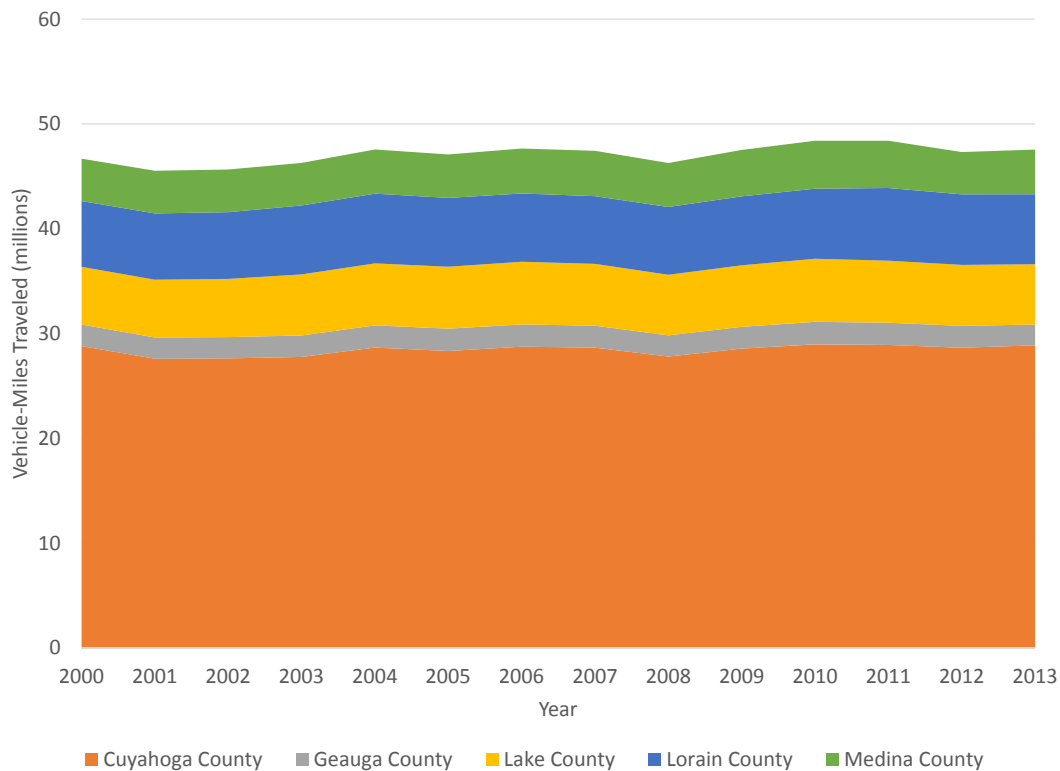
The Ohio Department of Transportation (ODOT) is promoting a \$331 million, three-mile, five-lane road construction project starting at I-490's terminus south of the city's downtown and running northeast to the University Circle neighborhood.¹⁴⁸ But it's hard to see what need it would be meeting. The number of miles driven in and around Cleveland has been stagnant for more than a decade. And though project proponents have tried to package the project as an "opportunity corridor" that would help the disadvantaged neighborhoods

Credit: Bob Perkoski



Residents of this troubled Cleveland neighborhood that would have to be destroyed to make room for a large road have not had their voices heard or their needs met by Ohio Department of Transportation officials.

Figure 14. Daily Vehicle-Miles Traveled, Cleveland-Elyria Metropolitan Statistical Area, Ohio, 2000-2013¹⁵²



the road would traverse, the communities that would supposedly benefit have other priorities. Part of the neighborhood would also have to be destroyed to make room for the road.

Expanding road capacity is a questionable investment given recent travel trends in the Cleveland area. While ridership on the regional transit authority has been increasing,¹⁴⁹ vehicle-miles traveled (VMT) in Cuyahoga County rose an anemic 0.3 percent from 2000 to 2013, an annual average of 0.02 percent.¹⁵⁰ In the five counties making up the Cleveland-Elyria Metropolitan Statistical Area, VMT climbed just 1.9 percent from 2000 to 2013, an annual average increase of 0.14 percent.¹⁵¹ (See Figure 14.)

Critics of the project point out that the \$100 million per mile set aside for constructing the new road could instead

provide more than enough money to fix all the roads in Cleveland that need repaving and repair.¹⁵³ (ODOT declared that it has a “fix-it-first” policy that is supposed to prioritize repair of existing roads over construction of new highways, but the agency lacks policies to ensure the principle is actually followed.)¹⁵⁴ The \$331 million price tag is also larger than the annual budget of the city’s public transit system.¹⁵⁵ That system already does not adequately serve the existing neighborhoods, and in fact is slated to serve them worse with the expected closing of a key rail rapid-transit stop.¹⁵⁶

The positive economic effects that project backers claim will flow to the neighborhoods traversed by the Opportunity Corridor are vague at best.¹⁵⁷ And local developers are skeptical that any benefit of the road would arrive without

significant additional public investment.¹⁵⁸ The project design documents acknowledge that some impacts on the local neighborhood will be “disproportionately high and adverse,” including relocating 76 households and 16 businesses, as well as a church, and turning nine roads that currently connect with other streets into dead ends.¹⁵⁹

In an effort to mitigate those impacts, and provide options for local residents without cars, ODOT proposes to build

two pedestrian/bicycle bridges over the new road, improve bus shelters along the new road, and “create a new entrance to the St. Hyacinth neighborhood by constructing enhancements . . . [that] will include street trees and sidewalk and pavement repairs or improvements.”¹⁶⁰ Community residents, however, say most of that work wouldn’t be needed if not for the new road itself, and in any case it’s not enough to boost local economic development measurably.¹⁶¹ And those

Protecting the Public from the Potential Pitfalls of Privatization¹⁴⁶

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 an “availability payment” model, where the government assumes the chief risk of lower-than-projected traffic

are just the community members who have gotten involved in a process that has taken significant criticism for leaving out the voices of local residents.¹⁶²

A highway construction project makes little sense as an economic development tool for the neighborhood, where as many as 40 percent of residents do not drive at all.¹⁶³ It also goes against the expressed desires of residents around the region, who are calling for increased investments in public transportation and in the de-

velopment of communities that are less dependent on cars.

A 2012 survey by the Natural Resources Defense Council found that “a combined 68 percent of Cuyahoga County respondents say improving public transportation (35 percent) and developing communities where people don’t have to drive as much (33 percent) are the best ‘long term solutions to reducing traffic’ in their area—rather than other options like building roads (21 percent).”¹⁶⁴

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 typically include provisions that are intended to assure private entities of revenue. Those provisions include “non-compete” or “compensation” clauses that bar government from making 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.¹⁴⁷ 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 still 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 at least as rigorous evaluation and transparency as more traditional publicly financed projects.



Georgia officials hope the Port of Savannah and nearby roads will see more freight traffic after the Panama Canal is widened.

Georgia's Effingham Parkway

\$49 million to \$100 million

Transportation officials in a rural area northwest of Savannah, Georgia, are worried that an existing state highway will be unable to cope with growing traffic volumes if hoped-for industrial expansion and resulting population increase occurs. Their proposal is a new \$37.4 million highway. Recent trends, however, suggest that traffic isn't growing as quickly as had been anticipated, raising questions about whether the new highway is necessary.

The proposed Effingham Parkway is a \$37.4 million road that would run parallel to the existing Georgia Route 21.¹⁶⁵ Connecting the new highway to other existing local roads will require spending an additional \$11.5 million on nearby road work.¹⁶⁶ State plans include expansion to four lanes in the future, and specify a total price tag of \$100 million.¹⁶⁷

Traffic on Route 21, however, has

failed to grow at the rate anticipated by officials along most of the relevant length.¹⁶⁸ Of five locations on Route 21 parallel to the proposed parkway where both projections and traffic counts were available, only one saw traffic increase at an average rate higher than is expected to happen if the Effingham Parkway is not built. The other locations saw traffic rise far less than projected, stay flat, or even drop.¹⁶⁹ (See Figure 15.)

The project's official justification is partly based on hopes that the nearby port of Savannah will benefit from increased container ship traffic that could come as a result of the present widening of the Panama Canal, but it is no sure thing that Savannah will receive funding to adapt the harbor to wider ships, or—even if it does—that the harbor would outcompete the other East Coast ports that are also angling for these giant ships.¹⁷¹ And even if both those things occur, the Effingham Parkway would not be a major recipient of any traffic

resulting from the shipping, as it is not a designated freight corridor. The two nearby interstate highways—I-95 going north-south and I-16 going west—are already the key carriers of freight in the region, in addition to rail routes.¹⁷²

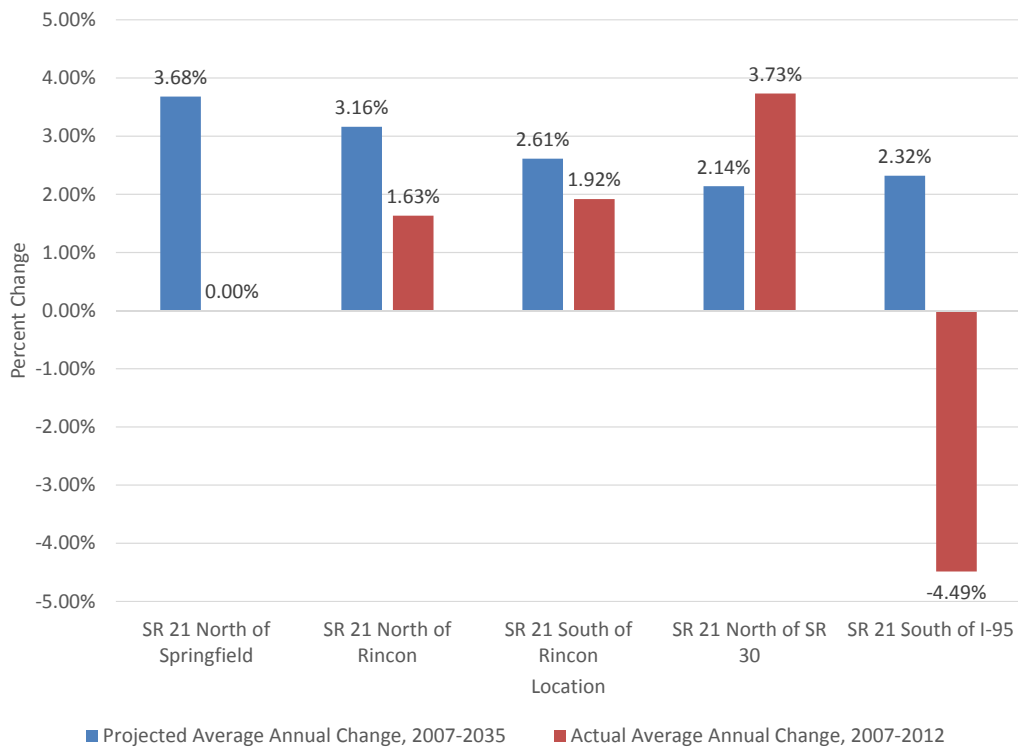
The Effingham Parkway project has been downscaled to two lanes from an originally planned combination of two- and four-lane segments, but the current proposal leaves room for future widening.¹⁷³ State funding has not yet been secured, but the current timeline is for work to start in late 2017.¹⁷⁴ The interim county administrator in June 2014 said officials are hoping “to avoid having to do a Federal Highway Administration environmental impact statement, which would lead to a lengthy timeline and an even bigger price tag.”¹⁷⁵

Georgia is already struggling to pay

for its transportation infrastructure—the state had enough money to resurface just 2 percent of its highways in 2013, leading state Transportation Commissioner Keith Golden to tell a legislative committee that meant roads would only get resurfaced every 50 years.¹⁷⁶

Georgia has a long history of encouraging road expansion with little consideration of its specific merits. For instance, there is a longstanding “balancing” system that encourages dividing highway funds equally among Congressional districts, regardless of relative needs.¹⁷⁷ Likewise, the Governor’s Road Improvement Program places highway access at the pinnacle of transportation access needs, and is premised on the idea that living within 20 miles of a four-lane highway should be a nearly universal entitlement for Georgians.¹⁷⁸

Figure 15. Average Annual Change in Traffic (Average Annual Daily Traffic), Projected and Actual, Georgia State Route 21¹⁷⁰





Georgia An aerial view of downtown Asheville, North Carolina.

North Carolina's I-26 Connector

\$400 million to \$600 million

North Carolina officials have proposed expanding I-240, which runs through downtown Asheville and connects I-26 southwest of Asheville to other highway routes northwest of the city.¹⁷⁹ Local residents, however, have questioned whether the project as currently designed would damage a mature, livable neighborhood to build road space that is not actually needed.¹⁸⁰

The I-26 project is a complex mix of reconstruction, rerouting and expansion of Asheville's highway network. The \$400 million to \$600 million project is divided into three major subsections, each of which has been the subject of intense debate, including the proposed widening of 4.3 miles of four-lane highway through West Asheville to eight lanes.¹⁸¹

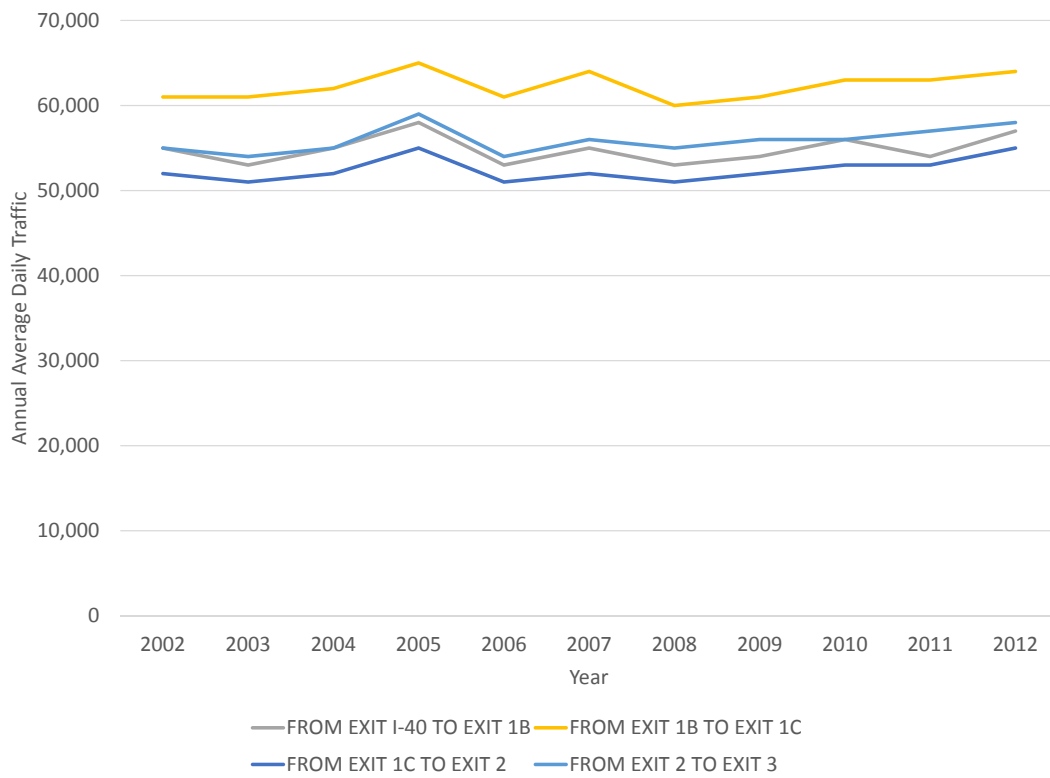
State officials cite federal requirements to justify doubling the width of that 4.3 mile stretch to eight lanes plus an additional auxiliary lane on each side, and wider shoulders than the existing highway.¹⁸² Yet traffic data as old as 2004

suggest that six lanes could be more than enough to address the perceived need.¹⁸³ And since that study, traffic has not increased significantly along that stretch of road. In fact, from 2005 to 2012, traffic has dropped on three of the four segments—and stayed flat on the fourth.¹⁸⁴ (See Figure 16.)

The cost of going to eight, rather than six, lanes appears to be unjustified by the reduction in congestion that would result. The time saved by adding the two extra lanes would be just 9.6 seconds per driver (out of a 6.5-minute travel time) during the morning rush hour and 17.4 seconds during the evening.¹⁸⁶

In light of the lack of justification for expanding this segment, and controversies over other areas of the proposal, the whole project's review process is being redone, with a new Draft Environmental Impact Statement expected to be issued in the summer of 2015. It will include a new traffic analysis.¹⁸⁷ That undertaking is an important step to ensure that decisions about the future shape of the highway are made with full, updated information that reflects recent changes in transportation trends.

Figure 16. Annual Average Daily Traffic on I-240 in West Asheville, 2005-2012¹⁸⁵



Policy Recommendations

America has a tremendous need for investment in transportation. Across the nation, aging roads and bridges—many of them nearing the end of their useful lives—need to be repaired or rebuilt. Our transit and passenger rail systems require repairs and technology upgrades to meet 21st century needs. And an increasing number of Americans are seeking more and better transportation options, including improved public transportation, better infrastructure for bicycling and walking, and access to new transportation services such as carsharing and bikesharing.

Expanding highway capacity at a time of stagnant driving should be low on the nation's list of transportation priorities. Yet, current state and federal transportation policies result in tens of billions of dollars being spent each year on new highway capacity—even as the federal Highway Trust Fund receives repeated bailouts as it teeters on the edge of insolvency.

The 11 projects highlighted in this report illustrate the need for a fundamental rethink of America's transportation policy priorities—one that focuses resources

on maintaining existing infrastructure and expanding the transportation choices available to Americans. The projects profiled in this report should be cancelled or updated to be more in tune with driving trends and community demands.

Specifically, policy-makers should:

- **Reconsider all plans** for new and expanded highways in light of new transportation trends and recent changes in traffic volumes. This includes highway expansion projects proposed to be completed via public-private partnerships. Just because a project has been in the planning pipeline for several years does not mean it deserves to receive scarce taxpayer dollars.
- **Reorient transportation funding** away from highway expansion and toward repair of existing roads and investment in other transportation options.
- **Encourage transportation investments** that can 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 reduce congestion more cheaply and effectively than highway expansion.

- **Reevaluate transportation forecasting models** to ensure that they reflect

changing preferences for housing and transportation among Millennials and others and incorporate the availability of new transportation options such as carsharing, bikesharing and ridesharing into new models.

- **Invest in research and data collection** to more effectively track and react to changes in transportation demand.

Notes

- 1 U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* series of reports, available at www.fhwa.dot.gov/policyinformation/statistics.cfm.
- 2 “More than \$1 trillion in highway capital projects”: Congressional Budget Office, *Detailed Data on Infrastructure Spending, by Level of Government and Type of Infrastructure, 1956 to 2009*, accessed at www.cbo.gov/publication/21902, 11 July 2014; “greater dependence on cars”: Tony Dutzik, Frontier Group, and Phineas Baxandall, U.S. PIRG Education Fund, *A New Direction*, Spring 2013, 10.
- 3 See note 1.
- 4 Tony Dutzik, Frontier Group, and Phineas Baxandall, U.S. PIRG Education Fund, *A New Direction*, Spring 2013, 11.
- 5 See note 1.
- 6 Ibid.
- 7 Michael Sivak, University of Michigan Transportation Research Institute, *Has Motorization in the U.S. Peaked?*, June 2013; Tony Dutzik, Frontier Group, and Phineas Baxandall, U.S. PIRG Education Fund, *A New Direction*, Spring 2013, 12.
- 8 Congressional Budget Office, *CBO’s Labor Force Projections Through 2021*, March 2011.
- 9 For further information and discussion, see Todd Litman, Victoria Transport Policy Institute, *Understanding Transport Demand and Elasticities: How Prices and Other Factors Affect Travel Behavior*, 10 September 2012.
- 10 William H. Frey, Brookings Institution, *Will This Be The Decade of Big City Growth?*, 23 May 2014, accessed at www.brookings.edu/research/opinions/2014/05/23-decade-of-big-city-growth-frey, 10 July 2014; Conor Dougherty and Robbie Whelan, “Cities Outpace Suburbs in Growth,” *Wall Street Journal*, 28 June 2012.
- 11 American Public Transportation Association, *Record 10.7 Billion Trips Taken on U.S. Public Transportation in 2013* (press release), 10 March 2014.
- 12 Transit, 2011 data: U.S. Department of Transportation, Federal Transit Administration, *National Transit Database: Historical Data Files*, Table TS2.1, downloaded from www.ntdprogram.com.

- gov/ntdprogram/data.htm, 10 December 2012; through 2012: American Public Transportation Association, *Public Transportation Ridership Report, Fourth Quarter 2012*, 1 March 2013. Biking and walking: Alliance for Biking & Walking, *Bicycling and Walking in the U.S. 2012 Benchmarking Report*, 12 October 2012, accessed at blog.bikeleague.org/blog/2012/10/infographic-bike-commuting-growing-faster-in-bicycle-friendly-communities.
- 13 Federal Highway Administration, *National Household Travel Survey*, downloaded from nhts.ornl.gov/det, as cited in Benjamin Davis and Tony Dutzik, Frontier Group, and Phineas Baxandall, U.S. PIRG Education Fund, *Transportation and the New Generation: Why Young People Are Driving Less and What it Means for Transportation Policy*, April 2012. Note that both 2001 and 2009 are recession years.
- 14 Floyd Norris, “Younger Turn for a Graying Nation,” *New York Times*, 23 May 2014.
- 15 U.S. Federal Highway Administration, *2013 Status of the Nation’s Highways, Bridges, and Transit: Conditions and Performance*, 2013, 6-15.
- 16 U.S. Federal Highway Administration, *1999 Status of the Nation’s Highways, Bridges, and Transit: Conditions and Performance*, 1999, 9-6.
- 17 U.S. DOT estimate: U.S. Federal Highway Administration, *2013 Status of the Nation’s Highways, Bridges, and Transit: Conditions and Performance*, 2013, 7-9; other government estimate: U.S. Energy Information Administration, *Annual Energy Outlook 2014*, April 2014.
- 18 Smart Growth America and Taxpayers for Common Sense, *Repair Priorities 2014*, March 2014, iii.
- 19 Ibid. Nationwide, the percent of roads designated as in “good” condition fell from 41 percent in 2008 to 37 percent in 2011; meanwhile the number of roads in poor condition fell from 21 percent to 17 percent.
- 20 Ibid.
- 21 U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2012*, July 2013, FE-210.
- 22 Congressional Budget Office, *The Highway Trust Fund and the Treatment of Surface Transportation Programs in the Federal Budget*, June 2014, 1.
- 23 U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2012*, FE-210.
- 24 U.S. Federal Highway Administration, Washington State Department of Transportation, and City of Seattle, *Alaskan Way Viaduct Replacement Project: Final Environmental Impact Statement and Section 4(f) Evaluation*, July 2011, Chapter 2, 40-41.
- 25 Washington State Department of Transportation, *Budget*, accessed at www.wsdot.wa.gov/Projects/Viaduct/Budget, 13 August 2014.
- 26 Associated Press, “Murray: No Way Congress Will Chip In \$1 Billion for Viaduct,” *Wenatchee World*, 21 January 2005.
- 27 Clark Williams-Derry, “WashDOT Says: 40% Chance of Tunnel Cost Overruns,” *Sightline.org*, 19 July 2010.
- 28 See note 25.
- 29 Alaskan Way Viaduct Replacement Program Review Panel, *Updated Report*, 27 February 2013, 12.
- 30 Clark Williams-Derry, “Alaskan Way Viaduct: More Revenue Shortfalls Expected,” *Sightline.org*, 18 September 2012.
- 31 Mike O’Brien, “40% Chance AWW Will Go Over Budget,” obrien.seattle.gov, 15 July 2010; CDM, *Cost Estimate Validation Process*, accessed at cosobrien.wpengine.netdna-cdn.com/wp-content/uploads/2010/07/AWVSRP-WSDOT-CEVP_ANNOTATION1.pdf, 10 June 2014.

- 32 Washington State Department of Transportation, *Follow Bertha*, accessed at www.wsdot.wa.gov/Projects/Viaduct/About/followbertha, 20 May 2014.
- 33 Joel Millman, "Seattle Tunnel Project Isn't Boring," *Wall Street Journal*, 16 May 2014.
- 34 Martin H. Duke, "Licata Dismisses Chances of Surface/Transit," *SeattleTransitBlog.com*, 26 January 2011.
- 35 Tunnel's projected traffic reduction: U.S. Federal Highway Administration, Washington State Department of Transportation, and City of Seattle, *Alaskan Way Viaduct Replacement Project: Final Environmental Impact Statement and Section 4(f) Evaluation*, July 2011, Chapter 2, 57; delays further reduced by transit: Clark Williams-Derry, "Rush Hour by the Numbers," *Sightline.org*, 19 April 2006.
- 36 Elements of the hybrid plan put in place: King County Department of Transportation, Metro Transit Division, *Getting You Through the Construction: Alaskan Way Viaduct*, accessed at metro.kingcounty.gov/tops/get-you-there/alaskan-way-viaduct, 20 May 2014; extended by construction delays: King County Metro, *State Funding for Extra Service Extended through 2015*, accessed at metro.kingcounty.gov/tops/get-you-there/alaskan-way-viaduct/index.html, 13 August 2014.
- 37 King County Department of Transportation, Metro Transit Division, *Service Cuts Are Coming*, accessed at metro.kingcounty.gov/am/future, 15 August 2014.
- 38 Washington State Department of Transportation, *Annual Traffic Report*, 2013, 121.
- 39 King County Department of Transportation, Metro Transit Division, *Getting You Through the Construction: Alaskan Way Viaduct*, accessed at metro.kingcounty.gov/tops/get-you-there/alaskan-way-viaduct, 20 May 2014.
- 40 See note 38.
- 41 Alaskan Way Viaduct Replacement Program Advisory Committee on Tolling and Traffic Management, *Advisory Recommendations for Tolling the SR 99 Tunnel*, March 2014, 27-28.
- 42 The Toll Roads, *Background and History*, accessed at www.thetollroads.com/aboutus/toll-roads-history.php, 28 July 2014.
- 43 Donna Arduin and Wayne Winegarden, Pacific Research Institute, *Orange County Toll Roads: Serious Concerns Should Lead to Significant Review by State and Local Officials*, April 2013, 10.
- 44 The Toll Roads, *Annual Results (133/241/261)*, accessed at www.thetollroads.com/aboutus/investorinformation/transactiontables/fe_annualresults.php, 28 July 2014.
- 45 *Ibid.*
- 46 California Department of Transportation, *Traffic Counts*, accessed at traffic-counts.dot.ca.gov, 8 July 2014.
- 47 Donna Arduin and Wayne Winegarden, Pacific Research Institute, *Orange County Toll Roads: Serious Concerns Should Lead to Significant Review by State and Local Officials*, April 2013, 11.
- 48 James Nash, "California Road Near Biggest Default Since Detroit," *Businessweek*, 11 September 2013.
- 49 See note 46.
- 50 Transportation Corridor Agencies, *State Route 241 Tesoro Extension*, accessed at www.thetollroads.com/report/wb/images/004_13_Factsheet_Tesoro_Fact_Sheet_Web.pdf, 26 June 2014; Bob Filner, U.S. Congressman, 51st District of California, *TCA's Contradictory Statements Smack of Formal Project Segmentation* (letter to Lt. Gen. Thomas P. Bostick, U.S. Army Corps of Engineers), 30 May 2012, as cited in Donna Arduin and Wayne Winegarden, Pacific Research Institute, *Orange County Toll Roads: Serious Concerns Should Lead*

to *Significant Review by State and Local Officials*, April 2013, 15.

51 Doug Irving, "Refinancing Plan Extends Tolls on the 241," *Orange County Register*, 10 October 2013.

52 Nicole Santa Cruz, "Tolls on Orange County Road May Be Extended Another 6 Years," *Los Angeles Times*, 6 May 2011.

53 James Nash, "California Road Near Biggest Default Since Detroit," *Businessweek*, 11 September 2013; Foothill/Eastern Transportation Corridor Agency, *\$2.3 Billion in Bonds Refinanced by Foothill/Eastern Transportation Corridor Agency* (press release), 16 December 2013.

54 See note 48.

55 See note 48.

56 Donna Arduin and Wayne Winegarden, Pacific Research Institute, *Orange County Toll Roads: Serious Concerns Should Lead to Significant Review by State and Local Officials*, April 2013.

57 Project cost: Parsons Brinckerhoff for Arizona Department of Transportation, *Arizona's Key Commerce Corridors*, March 2014, 21-22; congestion at present and projected: CH2MHILL and Aecom, for Arizona Department of Transportation and Nevada Department of Transportation, *I-11 and Intermountain West Corridor Study: Corridor Justification Report*, 21 August 2013, xi.

58 Reid Wilson, "Nevada Governor Wants to Make New Interstate a Presidential Priority," *Washington Post*, 25 February 2014.

59 Arizona Department of Transportation and Nevada Department of Transportation, *I-11 and Intermountain West Corridor Study: Final Corridor Concept Report*, August 2014, 37.

60 Nevada Department of Transportation, *Project Background*, accessed at i11study.com/wp/?page_id=34, 20 May 2014.

61 Actual: Nevada Department of

Transportation, *Traffic Records Information Access (TRINA)*, accessed at apps.nevadadot.com/Trina, 8 July 2014 and Arizona Department of Transportation, *Annual Average Daily Traffic (AADT)*, accessed at www.azdot.gov/planning/DataandAnalysis/average-annual-daily-traffic, 19 May 2014; Projected: CH2MHILL and Aecom, for Arizona Department of Transportation and Nevada Department of Transportation, *I-11 and Intermountain West Corridor Study: Corridor Justification Report*, 21 August 2013, Appendix C, 1-14.

62 Ibid.

63 CH2MHILL and Aecom, for Arizona Department of Transportation and Nevada Department of Transportation, *I-11 and Intermountain West Corridor Study: Corridor Justification Report*, 21 August 2013, x.

64 CH2MHILL and Aecom, for Arizona Department of Transportation and Nevada Department of Transportation, *I-11 and Intermountain West Corridor Study: Corridor Justification Report*, 21 August 2013, 3-28.

65 CH2MHILL and Aecom, for Arizona Department of Transportation and Nevada Department of Transportation, *I-11 and Intermountain West Corridor Study: Corridor Justification Report*, 21 August 2013, viii.

66 Mike Sunnucks, "Phoenix-Vegas I-11 Connection Sought to Boost Business," *Phoenix Business Journal*, 25 May 2012.

67 Valley Metro, *Official Ridership Reports*, accessed at www.valleymetro.org/valleymetro/ridership_reports, 5 August 2014.

68 Caitlin McGlade, "Citizen Panel to Draft Light-Rail Growth Plan," *Arizona Republic*, 13 August 2014.

69 Adding track: Valley Metro, *Current Valley Metro Projects*, accessed at www.valleymetro.org/projects_and_planning/current_projects, 7 August 2014; growing ridership: Caitlin McGlade, "Citizen Panel to Draft Light-Rail Growth Plan," *Arizona Republic*, 13 August 2014.

- 70 North Texas Tollway Authority, *Roads & Projects: Future Projects: Trinity Parkway*, accessed at www.ntta.org/roadsprojects/futproj/trihwy/Pages/default.aspx, 22 May 2014.
- 71 U.S. Federal Highway Administration, Texas Department of Transportation and North Texas Tollway Authority, *Final Environmental Impact Statement: Trinity Parkway*, March 2014, 6-4.
- 72 Expansion of public transit: U.S. Department of Transportation, U.S. Department of Transportation Approves \$120 Million Loan to Strengthen Public Transit in Dallas (press release), 14 December 2012; quality of life improvements: Trinity Corridor Project, *Trinity Corridor Project*, accessed at www.trinityrivercorridor.com, 18 July 2014.
- 73 Texas Department of Transportation, *Statewide Planning Map*, accessed at www.txdot.gov/apps/statewide_mapping/StatewidePlanningMap.html, 18 July 2014.
- 74 Ibid. The projections assume completion of the Dallas Horseshoe Project, an \$818 million project revamping the I-30 and I-35E interchange known locally as the “Mixmaster,” which is already under way and slated to be complete in 2017.
- 75 Transportation Department, North Central Texas Council of Governments, *10 Reasons to Build the Trinity Parkway* (press release), 11 October 2007.
- 76 Eric Nicholson, “Trinity Parkway Should Be Built Because Other Roads Were Built Elsewhere, Vonciel Hill Says,” *Dallas Observer*, 28 April 2014.
- 77 Trinity Corridor Project, *Trinity Corridor Project*, accessed at www.trinityrivercorridor.com, 18 July 2014.
- 78 Eric Celeste, “Balanced Vision Plan Co-Author On Trinity River Toll Road: ‘I Want to Apologize to Dallas,’” *D Magazine*, 2 September 2014.
- 79 Jim Schutze, “How D Magazine’s Wick Allison Changed His Mind on the Trinity Parkway,” *Dallas Observer*, 15 May 2014.
- 80 Larry Good, “After 10 Years, I’ve Dropped My Support of the Trinity Tollway,” *Dallas Morning News*, 1 June 2014.
- 81 Tim Rogers, “What Dallas Architects Think of the Trinity Parkway,” *D Magazine*, 4 April 2014.
- 82 See “Percent Lane-Miles at LOS D, E or F” in Table 4-21, U.S. Federal Highway Administration, Texas Department of Transportation and North Texas Tollway Authority, *Final Environmental Impact Statement: Trinity Parkway*, March 2014, 4-70.
- 83 See “Vehicle Hours of Travel” in Table 4-21, U.S. Federal Highway Administration, Texas Department of Transportation and North Texas Tollway Authority, *Final Environmental Impact Statement: Trinity Parkway*, March 2014, 4-70.
- 84 Colorado Department of Transportation, *C-470 Tolled Express Lanes Project* (application to U.S. Department of Transportation TIGER program), 28 April 2014.
- 85 Susan Carey, “C-470’s Long and Winding History,” *Denver Business Journal*, 9 August 1998.
- 86 \$77 million part of the project: Colorado Department of Transportation, *C-470 Tolled Express Lanes Project* (application to U.S. Department of Transportation TIGER program), 28 April 2014, 9; free to drivers: Colorado Department of Transportation, *C-470 Tolled Express Lanes Project* (application to U.S. Department of Transportation TIGER program), 28 April 2014, 2.
- 87 Colorado Department of Transportation, *C-470 Tolled Express Lanes Project* (application to U.S. Department of Transportation TIGER program), 28 April 2014, 1.
- 88 Colorado Department of

Transportation, *C-470 Tolled Express Lanes Project* (application to U.S. Department of Transportation TIGER program), 28 April 2014, 16.

89 Colorado Department of Transportation, *C-470 Tolled Express Lanes Project* (application to U.S. Department of Transportation TIGER program), 28 April 2014, Appendix B, 26-27.

90 At a 7 percent discount rate, the project is expected to deliver only \$17 million in net benefits over 30 years, for a benefit to cost ratio of 1.1:1. Colorado Department of Transportation, *C-470 Tolled Express Lanes Project* (application to U.S. Department of Transportation TIGER program), 28 April 2014, Appendix B, 23.

91 Colorado Department of Transportation, *Online Transportation Information System (OTIS)—Traffic Data Explorer*, for traffic counter location 105548, accessed at dtdapps.coloradodot.info/Otis, 25 June 2014.

92 Ibid.

93 Ibid.

94 Ibid.; 2014 YTD data through 30 June 2014.

95 Colorado Department of Transportation, *C-470 Tolled Express Lanes Project* (application to U.S. Department of Transportation TIGER program), 28 April 2014, 3.

96 Rehabilitating the existing highway on its current footprint would cost approximately \$370 million. See Wisconsin Department of Transportation, *I-94 East-West Corridor; Draft Environmental Impact Statement*, February 2014. The state ruled out that option in September 2013, leaving in place options costing up to \$1.2 billion, as much as \$800 million more than the now-discarded rebuild option. See Lydia Mulvany, “I-94 Expansion Plan Riles Milwaukee Residents, City Leaders,” *Milwaukee Journal-Sentinel*, 2 September 2013.

97 Steve Schultze, “County Board Opposes Double-Deck Option for I-94,” *Milwaukee Journal-Sentinel*, 19 December 2013; Bill Glauber and Don Walker, “Scott Walker, Tom Barrett Square Off Over I-94 Traffic Plan,” *Milwaukee Journal-Sentinel*, 18 June 2014; Lydia Mulvany, “I-94 Expansion Plan Riles Milwaukee Residents, City Leaders,” *Milwaukee Journal-Sentinel*, 2 September 2013.

98 Brandon Cruz, “‘We Want More and Better Options:’ Some Not Happy With DOT’s Plan to Expand I-94,” *Fox6Now.com*, 16 June 2014.

99 Public Policy Forum, *Milwaukee County’s Transit Crisis: How Did We Get Here and What Do We Do Now?*, May 2008.

100 “Milwaukee metropolitan area” is Milwaukee County, Ozaukee County, Waukesha County and Washington County, per Joel Rast, University of Wisconsin-Milwaukee Center for Economic Development, *Out of Service: The Impact of Transit Cuts on Access to Jobs in Metropolitan Milwaukee*, October 2008, 3. Total job number combines low-range estimates of 40,507 jobs from 2001 to 2007, per Joel Rast, University of Wisconsin-Milwaukee Center for Economic Development, *Out of Service: The Impact of Transit Cuts on Access to Jobs in Metropolitan Milwaukee*, October 2008, 3; 24,350 jobs from 2011 cuts, per Joel Rast, University of Wisconsin-Milwaukee Center for Economic Development, *An Analysis of the Impact of Proposed 2011 Milwaukee County Transit Service Reductions on Access to Employment*, September 2010, 3; and 13,553 jobs from 2012 cuts, per Joel Rast, University of Wisconsin-Milwaukee Center for Economic Development, *An Analysis of the Impact of Proposed 2012 Milwaukee County Transit Service Reductions on Access to Employment*, September 2011, 3.

101 Public Policy Forum, *Milwaukee County’s Transit Crisis: How Did We Get Here and What Do We Do Now?*, May 2008, 21.

102 Southeastern Wisconsin Regional Planning Commission, *Milwaukee County*

- Transit System Development Plan*, October 2010.
- 103 Southeastern Wisconsin Regional Planning Commission, *Milwaukee County Transit System Development Plan*, October 2010, 239.
- 104 Wisconsin Department of Transportation, Office of Policy, Budget and Finance, *2013-15 Biennial Budget Highlights: 2013 Wisconsin Act 20*, 2013.
- 105 See note 96.
- 106 Ibid.
- 107 City of Milwaukee Common Council, *Substitute Resolution Setting Forth the City of Milwaukee's Position on the Draft Findings of a Study Entitled "A Regional Freeway Reconstruction System Plan for Southeastern Wisconsin," a.k.a. SEWRPC Planning Report No. 47 (Resolution 011729)*, 26 March 2002; Milwaukee County Board of Supervisors, *Weishan Freeway Expansion Resolution (Resolution 13-940)*, 26 November 2013.
- 107 Wisconsin Department of Transportation, *I-94 East-West Corridor – Need/Purpose*, 25 July 2013, accessed at www.dot.wi.gov/projects/seregion/94stadiumint/need.htm, 20 June 2014.
- 109 Data for traffic count locations 401920, 400002, 401947, 400050, 401953, 400003, 400033 from Wisconsin Traffic and Operations Safety Laboratory, *Hourly Traffic Data for Milwaukee County*, accessed at transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/milwaukee.html, 28 July 2014.
- 110 Ibid.
- 111 Wisconsin Department of Transportation, *Vehicle Miles of Travel (VMT)*, accessed at www.dot.wisconsin.gov/travel/counts/vmt.htm, 29 July 2014.
- 112 Ibid.
- 113 Tom Van Heeke and Tony Dutzik, Frontier Group, and Bruce Speight, WISPIRG Foundation, *Road Overkill: Wisconsin Spends Big on Questionable Highways, Even as Driving Declines*, May 2013.
- 114 Michigan Department of Transportation, *I-94 Rehabilitation Project, Final Environmental Impact Statement and Section 4(f) Evaluation*, December 2004, 2-13.
- 115 Michigan Department of Transportation, *Traffic Monitoring Information System*, accessed at mdotnetpublic.state.mi.us/tmispublic, 12 June 2014.
- 116 Ashley Woods, "I-94 Expansion: Controversial SEMCOG Vote Passes, Will Widen Freeway Through Detroit," *Huffington Post*, 20 June 2013.
- 117 Arts and culture: Courtney Balestier, "As Detroit Flounders, Its Art Scene Flourishes," *New York Times*, 6 August 2013; retail and commercial space: CBS Detroit, *Rock Ventures, Detroit Planners Show Off New Retail Plan for Downtown Detroit*, 28 March 2013, accessed at detroit.cbslocal.com/2013/03/28/rock-ventures-detroit-planners-show-off-new-retail-plan-for-downtown-detroit, 28 July 2014; innovative planning: Trent Design, Midtown Detroit Inc., *Detroit Revitalization Fellows Program*, 6 April 2014, accessed at midtowndetroitinc.org/newsroom/latest-news/detroit-revitalization-fellows-program-0, 28 July 2014; promotion of downtown living: Dawn Jamison, Opportunity Detroit, *The Live Downtown Games Return to Detroit*, 21 July 2014, accessed at opportunitydetroit.com/blog/live-downtown-games-return-detroit, 28 July 2014; national attention: Michigan State Housing Development Authority, *Detroit Sets Perfect Backdrop for Downtown Revitalization Conference Starting Sunday* (press release), 14 May 2014, accessed at www.michigan.gov/mshda/0,4641,7-141-7559_9637-328618--,00.html, 28 July 2014
- 118 Jon Zemke, "M-1 Rail Construction Comes Alive, Duggan Calls for Expansion," *ModelDMedia.com*, 29 July 2014.

- 119 Tommy O'Flynn, "Opinion: Heart of Midtown Threatened by Widening of I-94," *ModelDMedia.com*, 18 June 2013.
- 120 The project would provide crossings "in three blocks or less of existing" crossings, but that is on each side of the trench; people used to riding or walking directly across the trench would have to go down the street three blocks, cross, and then back up three blocks. Michigan Department of Transportation, *I-94 Rehabilitation Project, Final Environmental Impact Statement and Section 4(f) Evaluation*, December 2004, 5-24.
- 121 Number of business and residential properties: Michigan Department of Transportation, *I-94 Rehabilitation Project, Final Environmental Impact Statement and Section 4(f) Evaluation*, December 2004, 5-21, 5-24; National Register of Historic Places eligible buildings: Timothy Boscarino, "I-94 Freeway Expansion: Is Your House on the Demo List?," *WeAreModeShift.org*, 13 July 2012; "oldest recording studio": Ashley Woods, "I-94 Expansion: Controversial SEMCOG Vote Passes, Will Widen Freeway Through Detroit," *Huffington Post*, 20 June 2013.
- 122 See note 114.
- 123 Angie Schmitt, "Detroit Advocates Challenge Michigan DOT's Highway Expansions Plan," *Streetsblog.org*, 5 December 2013.
- 124 See note 115.
- 125 Ibid.
- 126 Michigan Department of Transportation, *I-94 Rehabilitation Project, Final Environmental Impact Statement and Section 4(f) Evaluation*, December 2004, 2-12, 2-13.
- 127 Southeast Michigan Council of Governments, *What the Public Thinks*, accessed at www.semco.org/Sustainability_Infrastructure.aspx, 13 June 2014.
- 128 Matthew Dolan, "Broken Buses Vex a Broke City," *Wall Street Journal*, 19 March 2014, A3.
- 129 Route: Illinois Department of Transportation and Indiana Department of Transportation, *Tier Two Preferred Alternative Map*, accessed at www.illianacorridor.org, 3 September 2014; prairie: U.S. Forest Service, *Midewin National Tallgrass Prairie*, accessed at www.fs.usda.gov/main/midewin/home, 3 September 2014.
- 130 Chicago Metropolitan Agency for Planning, *Recommendation on Proposed Illiana Corridor* (staff memorandum), 27 September 2013.
- 131 Chicago Metropolitan Agency for Planning, *Re: Proposed Amendment to GO TO 2040 – Illiana Corridor* (staff memorandum), 30 July 2013, 4.
- 132 The CMAP staff analysis found an improvement in the regional economy in 2040 of one-twentieth of a percent, compared to one quarter percent by the highway planners. Chicago Metropolitan Agency for Planning, *Re: Proposed Amendment to GO TO 2040 – Illiana Corridor* (staff memorandum), 30 July 2013, 14.
- 133 Greg Hinz, "Environmental Groups Sue to Block Illiana Expressway," *Crain's Chicago Business*, 17 April 2014.
- 134 Greg Hinz, "War Breaks Out Again Over Illiana Expressway," *Crain's Chicago Business*, 29 August 2014.
- 135 See note 133.
- 136 \$1.3 billion estimate: Illinois Department of Transportation, *A Close Look at the Illiana Facts*, 26 August 2013; \$2.8 billion estimate: Greg Hinz, "Federal Transit Watchdog Dings Illiana Expressway," *Crain's Chicago Business*, 1 August 2013, accessed at www.chicagobusiness.com/article/20130801/BLOGS02/130739924/federal-transit-watchdog-dings-illiana-expressway, 19 May 2014.

- 137 Richard Wronski, "Illiana Agreement Commits Illinois to Spend \$250M," *Chicago Tribune*, 7 May 2014.
- 138 Chicago Metropolitan Agency for Planning, *Recommendation on Proposed Illiana Corridor* (staff memorandum), 27 September 2013, 6-7.
- 138 Chicago Metropolitan Agency for Planning, *Recommendation on Proposed Illiana Corridor* (staff memorandum), 27 September 2013, 7.
- 140 U.S. Department of Transportation, Illinois Department of Transportation and Indiana Department of Transportation, *Tier Two Draft Environmental Impact Statement*, January 2014, Appendix C, 4.
- 141 Definition of 18-county region: Illinois Department of Transportation and Indiana Department of Transportation, *Draft Transportation System Report (TSP)*, 25 April 2012, 4.
- 142 Indiana Department of Transportation, *Historical Indiana VMT by County (1992-2012)*, accessed at www.in.gov/indot/2469.htm, 25 July 2014; Illinois Department of Transportation, *Illinois Travel Statistics*, accessed at www.dot.state.il.us/adtravelstats.html, 25 July 2014.
- 143 Illinois Department of Transportation and Indiana Department of Transportation, *Draft Transportation System Report (TSP)*, 25 April 2012, 114.
- 144 See note 142.
- 145 Indiana Department of Transportation, *Historical Indiana VMT by County (1992-2012)*, accessed at www.in.gov/indot/2469.htm, 25 July 2014; Illinois Department of Transportation, *Illinois Travel Statistics*, accessed at www.dot.state.il.us/adtravelstats.html, 25 July 2014; Illinois Department of Transportation and Indiana Department of Transportation, *Draft Transportation System Report (TSP)*, 25 April 2012, 114; Indiana Department of Transportation, *Historical Indiana VMT by County (1992-2012)*, accessed at www.in.gov/indot/2469.htm, 25 July 2014; Illinois Department of Transportation, *Illinois Travel Statistics*, accessed at www.dot.state.il.us/adtravelstats.html, 25 July 2014.
- 146 Except where otherwise noted, this text box 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.
- 147 John B. Gilmous, "The Indiana Toll Road Lease as an Intergenerational Cash Transfer," *Public Administration Review*, 16 August 2012.
- 148 Ohio Department of Transportation and U.S. Federal Highway Administration, *Cleveland Opportunity Corridor Project: Draft Environmental Impact Statement*, August 2013, project location: ES-2, ES-3; project cost: 2-6.
- 149 Greater Cleveland Regional Transit Authority, Annual Reports 2013.
- 159 Ohio Department of Transportation, Division of Planning, Office of Technical Services, *Daily Vehicle Miles Traveled Report (DVMT)*, accessed at www.dot.state.oh.us/Divisions/Planning/TechServ/traffic/Pages/DVMT.aspx, 17 July 2014.
- 151 Counties in MSA: White House Office of Management and Budget, *Revised Delineations of Metropolitan Statistical Areas, Micropolitan Statistical Areas, and Combined Statistical Areas, and Guidance on Uses of the Delineations of These Areas* (OMB Bulletin 13-01), 28 February 2013, 28, accessed at www.whitehouse.gov/sites/default/files/omb/bulletins/2013/b-13-01.pdf, 17 July 2014; VMT: Ohio Department of Transportation, Division of Planning, Office of Technical Services, *Daily Vehicle Miles Traveled Report (DVMT)*, accessed at www.dot.state.oh.us/Divisions/Planning/TechServ/traffic/Pages/DVMT.aspx, 17 July 2014.
- 152 See note 150.

- 153 Michael O'Malley, "Jackson Targets Street Repaving as a Citywide Priority This Year," *Cleveland Plain Dealer*, June 4, 2013, A1.
- 154 Ohio Department of Transportation, *Transportation Review Advisory Council Policy and Procedures*, 2 June 2011, 6.
- 155 Greater Cleveland Rapid Transit Authority, *Annual Report, 2005-2013*, accessed at www.riderta.com/annual, 23 June 2014.
- 156 Alison Grant, "Fate of Opportunity Corridor Rapid Transit Stops in Limbo," *Plain Dealer*, 17 June 2014.
- 157 "The Big Road Solution: A Critical Look at the Opportunity Corridor," *RustWire.com*, 3 April 2014.
- 158 Chris Stocking, "Opportunity Nowhere: The Beginner's Guide to Being Outraged Over the \$330 Million Opportunity Corridor," *Cleveland Scene*, 2 July 2014.
- 159 "Disproportionately high and adverse": Ohio Department of Transportation and U.S. Federal Highway Administration, *Cleveland Opportunity Corridor Project: Draft Environmental Impact Statement*, August 2013, ES-9; number and types of buildings relocated: Angie Schmitt, "The Ohio Department of Transportation Is Completely Tone Deaf," *OpportunityCorridor.com*, 11 April 2014 and Angie Schmitt, "Institutional Barriers to Addressing Neighborhood Level Public Health Concerns," *OpportunityCorridor.com*, 3 June 2014; nine roads dead-ending: Chris Stocking, "Opportunity Nowhere: The Beginner's Guide to Being Outraged Over the \$330 Million Opportunity Corridor," *Cleveland Scene*, 2 July 2014.
- 160 Ohio Department of Transportation and U.S. Federal Highway Administration, *Cleveland Opportunity Corridor Project: Draft Environmental Impact Statement*, August 2013, 2-6.
- 161 Chris Stocking, "A Call for the Opportunity Corridor To Be Reevaluated With More Transparency and Honesty," *EatRighteous.org*, 18 March 2014.
- 162 Steven Litt, "Opportunity Corridor Project Director Says the \$331 Million Project Is In 'Catch-Up' Mode on Neighborhood Economic Benefits," *Plain Dealer*, 29 August 2014; Chris Stocking, "Opportunity Nowhere: The Beginner's Guide to Being Outraged Over the \$330 Million Opportunity Corridor," *Cleveland Scene*, 2 July 2014.
- 163 Mike Piepsny, Kim Foreman and Mandy Metcalf, Environment Health Watch, "Opportunity Corridor Will Not Help Residents Who Don't Own a Car" (letter to the editor), *Cleveland Plain Dealer*, 6 November 2013.
- 164 Natural Resources Defense Council, *National Survey of Transportation Options: Cuyaboga County Key Findings*, 27 August 2012, accessed at docs.nrdc.org/energy/ene_12090401.asp, 23 June 2014.
- 165 Georgia Department of Transportation, *Project Concept Report CSMSL-0006-00 (700)*, 10 November 2009, 3, 7.
- 166 JE Jacobs Carter Burgess for Georgia Department of Transportation Office of Planning, *Multi-modal Transportation Study for Effingham County, Final Report*, July 2008, E-1.
- 167 Georgia Department of Transportation, *State Transportation Improvement Program* (draft), 28 July 2014.
- 168 Projections: Georgia Department of Transportation, *Project Concept Report CSMSL-0006-00 (700)*, 10 November 2009, 3; actual numbers: Georgia Department of Transportation, *State Traffic And Report Statistics (STARS)*, for traffic count locations 103-0151, 103-0137, 103-0131, 051-0109, 051-0112, 051-0307, 051 0387, 051-0386, and 051-0388, accessed at www.dot.ga.gov/informationcenter/Statistics/stars/Pages/default.aspx, 24 June 2014.
- 169 Ibid.

- 170 Ibid.
- 171 Greg Bluestein, "Georgia, Savannah Move to Benefit from Panama Canal Expansion," *Savannah Morning News*, 27 September 2013.
- 172 JE Jacobs Carter Burgess for Georgia Department of Transportation Office of Planning, *Multi-modal Transportation Study for Effingham County*, July 2008, 5-19.
- 173 Georgia Department of Transportation, *Project Concept Report CSMSL-0006-00 (700)*, 10 November 2009, 7.
- 174 Patrick Donahue, "County Approves Parkway Concept," *Effingham Herald*, 5 June 2014.
- 175 Ibid.
- 176 Jay Bookman, "Ga.'s Road to Decline Is Full of Potholes and Traffic Jams," *Atlanta Journal-Constitution*, 7 August 2014.
- 177 Atlanta Regional Commission, *Financing Transportation*, accessed at www.atlantaregional.com/transportation/financing-transportation, 16 July 2014.
- 178 Georgia Department of Transportation, *Governor's Road Improvement Project*, accessed at www.dot.ga.gov/Projects/programs/Pages/GRIP.aspx, 14 August 2014.
- 179 North Carolina Department of Transportation, *I-26 Connector: Draft Environmental Impact Statement*, March 2007, 1-4.
- 180 I26ConnectUs Project, *Project History*, accessed at www.i26connectusproject.org/Home/documents/project-history, 9 July 2014; I26ConnectUs Project, *NCDOT Traffic Modeling*, accessed at www.i26connectusproject.org/Home/documents/ncdot-traffic-modeling, 9 July 2014.
- 181 North Carolina Department of Transportation, *I-26 Connector*, accessed at www.ncdot.gov/projects/i26connector, 9 July 2014.
- 182 North Carolina Department of Transportation, *I-26 Connector: Draft Environmental Impact Statement*, March 2007, 8-26.
- 183 North Carolina Department of Transportation, *I-26 Connector: Draft Environmental Impact Statement*, March 2007, 1-45.
- 184 North Carolina Department of Transportation, *AADT Stations Shapefile*, accessed at www.ncdot.gov/projects/trafficsurvey, 18 June 2014.
- 185 Ibid.
- 186 North Carolina Department of Transportation, *I-26 Connector: Draft Environmental Impact Statement*, March 2007, 1-45.
- 187 Michael Wray, North Carolina Department of Transportation, *I-26 Connector Project: Newsletter #10*, April 2014.