



I HIGHWAY BOONDOGGLES 6

Big Projects. Bigger Price Tags. Limited Benefits.

U.S. PIRG | Education
Fund

FRONTIER GROUP

HIGHWAY BOONDOGGLES 6

Big Projects. Bigger Price Tags. Limited Benefits.

U.S. PIRG | Education
Fund

FRONTIER GROUP

WRITTEN BY:

GIDEON WEISSMAN AND BRYN HUXLEY-REICHER
FRONTIER GROUP

MATTHEW CASALE AND JOHN STOUT
U.S. PIRG EDUCATION FUND

DECEMBER 2020

ACKNOWLEDGMENTS

The authors wish to thank Kevin Brubaker of Environmental Law & Policy Center, Clint Richmond of Massachusetts Sierra Club, Chris DeScherer and Sarah Stokes of Southern Environmental Law Center, Wendy Landman of WalkBoston, Jenna Stevens of Environment Florida, Ben Hellerstein of Environment Massachusetts, Abe Scarr of Illinois PIRG and Bay Scoggin of TexPIRG for their review of drafts of this document, as well as their insights and suggestions. Thanks also to Frontier Group interns Christiane Paulhus and Hannah Scholl, and Susan Rakov, Tony Dutzik, David Lippeatt and Adrian Pforzheimer of Frontier Group for editorial support.

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

© 2020 U.S. 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, U.S. PIRG Education Fund offers an independent voice that works on behalf of the public interest. U.S. PIRG Education Fund, a 501(c)(3) organization, works to protect consumers and promote good government. We investigate problems, craft solutions, educate the public, and offer meaningful opportunities for civic participation. For more information about U.S. PIRG Education Fund or for additional copies of this report, please visit www.uspirgedfund.org.

Frontier Group provides information and ideas to build a healthier, more sustainable America. Our experts and writers deliver timely research and analysis that is accessible to the public, applying insights gleaned from diverse fields of knowledge to arrive at new ideas for solving pressing problems. We address the problems that emerge, paradoxically, from our nation's material and technological wealth and seek to ensure a future in which all people and all of our children can live healthy and meaningful lives. For more information about Frontier Group, please visit www.frontiergroup.org.

Layout: Alec Meltzer/meltzerdesign.net

Cover: Texas Department of Transportation

CONTENTS

EXECUTIVE SUMMARY.....	1
INTRODUCTION	4
THE PROBLEM WITH HIGHWAY BOONDOGGLES	5
HIGHWAY EXPANSIONS ARE EXPENSIVE AND SADDLE STATES WITH DEBT	5
HIGHWAY EXPANSION DOESN'T SOLVE CONGESTION	7
HIGHWAY EXPANSION DAMAGES THE ENVIRONMENT AND OUR COMMUNITIES.....	8
2020 HIGHWAY BOONDOGGLES	10
CINCINNATI EASTERN BYPASS, OHIO.....	11
LOOP 1604 EXPANSION, TEXAS.....	12
I-57 INTERCHANGE, ILLINOIS.....	13
BIRMINGHAM NORTHERN BELTLINE, ALABAMA	14
I-526 EXTENSION, SOUTH CAROLINA.....	15
M-CORES, FLORIDA.....	16
SOUTHEAST CONNECTOR, TEXAS.....	18
CONCLUSION.....	23
APPENDIX A: STATUS OF PREVIOUSLY COVERED BOONDOGGLE PROJECTS.....	24
APPENDIX B: STATE ROAD EXPANSION COSTS	26
APPENDIX C: STATE DEBT AND ROADS IN POOR CONDITION	27
NOTES	28

EXECUTIVE SUMMARY

AMERICA'S AGING ROADS AND BRIDGES

are in increasingly dire need of repair. Tens of thousands of people die on the roads each year and more are sickened or die from air pollution caused by vehicles. Tens of millions of Americans lack access to quality public transit or safe places to walk or bike, leaving them fully dependent on cars or – for those who cannot afford a car or are physically unable to drive – entirely shut off from critical services and opportunities.

America was already faced with the need to make critical transportation investments. And then COVID-19 hit, upending travel patterns and undercutting the traditional sources of government transportation revenue.

Now is no time to fritter away scarce public resources on wasteful boondoggle projects.

Yet across the country, state and local governments continue to move forward with tens of billions of dollars' worth of new and expanded highways that do little to address real transportation challenges, while diverting scarce funding from much-needed infrastructure repairs and key, future-oriented transportation priorities. *Highway Boondoggles 6* finds seven new budget-eating highway projects slated to cost a total of \$26 billion that will harm communities and the environment, while likely failing to achieve meaningful transportation goals.

Highway expansions are expensive and saddle states with debt.

- In 2014, the latest year for which data is available, federal, state and local governments spent \$26 billion on highway expansion projects – sucking money away from road repair, transit and other local needs.
- From 2008 to 2018, the highway debt of state transportation agencies more than doubled from \$111 billion to \$228 billion.¹
- New roadways are expensive to maintain and represent a lasting financial burden on the American people. The average new lane-mile costs \$24,000 per year to keep in a state of good repair.²

Highway expansion doesn't solve congestion.

- Expanding a highway sets off a chain reaction of societal decisions that ultimately lead to the highway becoming congested again – often in only a short time. Since 1980, the nation has added more than 870,000 lane-miles of highway – paving more than 1,652 square miles, an area larger than the state of Rhode Island – and yet pre-COVID congestion was worse than it was in the early 1980s.³

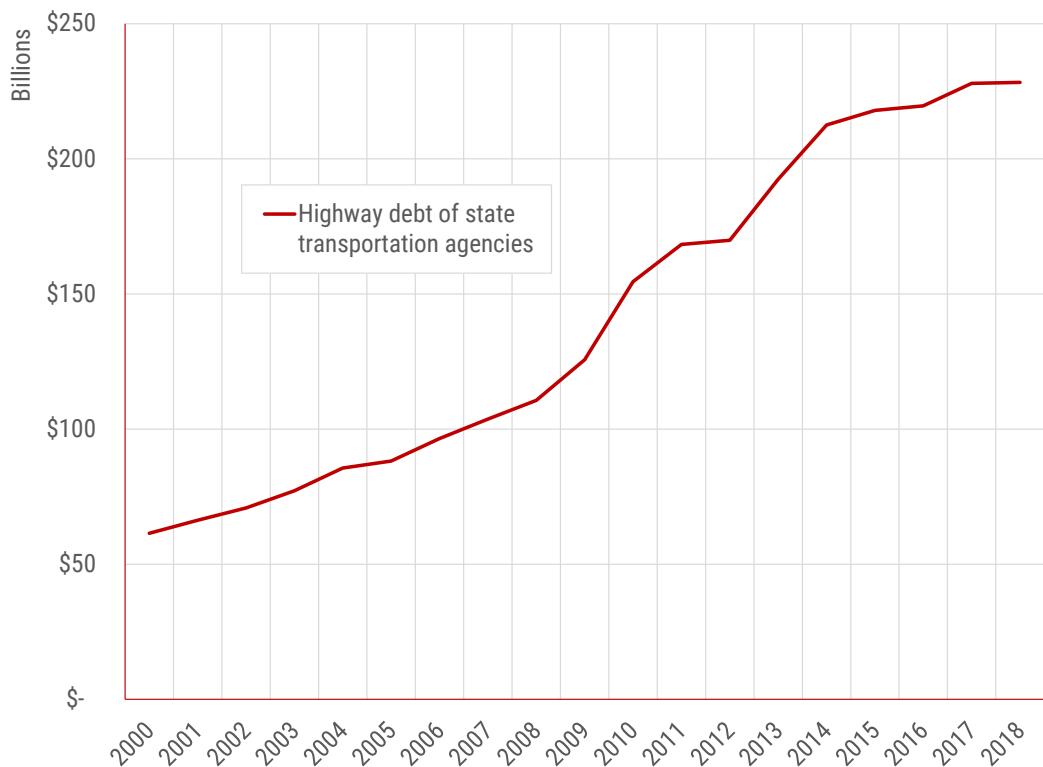
Highway expansion damages the environment and our communities.

- Highway expansion fuels additional driving that contributes to climate change. Transportation is the nation's number one source of global warming pollution.⁴
- Pollution from transportation causes tens of thousands of deaths in the U.S. each year and makes Americans more vulnerable to diseases like COVID-19.⁵
- Highway expansion can also cause irreparable harm to communities – forcing the relocation of homes and businesses, widening “dead zones” alongside highways, severing street connections for pedestrians and cars, and reducing the city’s base of taxable property.

States continue to spend billions of dollars on new or expanded highways that fail to address real problems with our transportation system and will create new problems for our communities and the environment. Questionable projects poised to absorb billions of scarce transportation dollars include:

- **Cincinnati Eastern Bypass; Ohio; \$7.3 billion:** Ohio’s plan to build a 75-mile bypass around the eastern side of Cincinnati would cause sprawling development and overwhelm the Ohio Department of Transportation’s construction budget.
- **Loop 1604 Expansion; Texas; \$1.36 billion:** A major expansion to a 23-mile section of Loop 1604 in San Antonio would threaten the Edwards Aquifer, which supplies drinking water to millions of people in the region.

FIGURE ES-1. THE HIGHWAY DEBT OF STATE TRANSPORTATION AGENCIES HAS DOUBLED SINCE 2008 (NOMINAL)⁶



- **I-57 Interchange; Illinois; \$205.5 million:** Dubbed the “Exit to Nowhere,” the proposed interchange would connect drivers to a non-existent and heavily criticized proposed third airport outside of Chicago.
- **Birmingham Northern Beltline; Alabama; \$5.3 billion:** The Alabama Department of Transportation is pushing a project reliant on intermittent and insufficient federal funding, which could take 40 years to complete.
- **I-526/Mark Clark Extension; South Carolina; \$725 million:** The project, which will cost Charleston County more than it has spent on any single project in its history, would save commuters just seconds of travel time.
- **M-CORES; Florida; \$10+ billion:** Florida’s 330-mile, three-highway construction project, which is already straining the state budget, would destroy critical open spaces and threaten the survival of the endangered Florida panther.
- **Southeast Connector; Texas; \$1.6 billion:** The expansion of three highways in the Fort Worth area by up to six lanes in each direction would induce sprawl and damage local communities, but is still moving forward even as the city’s transit system struggles to provide basic service.

In addition, the Allston Multimodal Project in Boston is a \$1 billion project that, in its current form, is inconsistent with the city and state’s commitment to reduce greenhouse gas emissions and encourage a shift away from driving. There is no escaping the need for major investment in transportation

infrastructure in this section of Boston – yet without changes, the project could make it more costly and difficult for Massachusetts meet the transportation challenges of the 21st century.

Federal, state and local governments should stop or downsize unnecessary or low-priority highway projects. Specifically, policymakers should:

- **Invest in transportation solutions that reduce the need for costly and disruptive highway expansion projects.** Investments in public transportation, changes in land-use policy, road pricing measures, and technological measures that help drivers avoid peak-time traffic, for example, can often address congestion more cheaply and effectively than highway expansion.
- **Adopt fix-it-first policies** that reorient transportation funding away from newer and wider highways and toward repair of existing roads, bridges and transit systems.
- **Use the latest transportation data and require full cost-benefit comparisons, including future maintenance needs,** to evaluate all proposed new and expanded highways. This includes projects proposed as public-private partnerships.
- **Give priority funding to transportation projects that reduce growth in vehicle-miles traveled,** to account for the public health, environmental and climate benefits resulting from reduced driving.
- **Invest in research and data collection** to better track and react to ongoing shifts in how people travel.

Introduction

COVID-19 HAS RESHAPED EVERY CORNER of American life – including transportation.

Americans drove 17 percent fewer miles in the first half of 2020 than they did the year before, and loss of transit ridership was even greater in many places, as businesses and schools shut down and more Americans worked from home.⁷ In many American cities, “rush hour” disappeared – and with American workers and employers now seeing the benefits of working from home, it may be years before commuting returns to pre-COVID levels.

Reduced gas tax and transit fare revenues deepened the already gaping budgetary hole many transportation agencies face: state transportation officials anticipate a 30 percent decline in transportation revenue in 2020 and 2021.⁸ Redirecting money from general state budgets to transportation may not be a viable solution, as the Center on Budget and Policy Priorities predicted that states would face \$555 billion in cumulative deficits over fiscal years 2020-2022.⁹

The documented role of air pollution in worsening COVID-19 reinforces the urgency and importance of cleaning up our transportation system. A study found that areas with increased local air pollution have experienced disproportionate numbers of deaths.¹⁰ As a Harvard researcher told the American Lung Association, continued high levels of pollution mean that “Americans are more vulnerable to COVID-19, and are more likely to end up in the hospital or die.”¹¹

Meanwhile, COVID-19 reinforced the critical role that public transportation plays in serving the needs of essential workers in cities large and small. Yet the stunning drop in fare revenue has left transit systems

needing tens of billions of dollars just to survive or provide basic service.¹²

Fewer people on the roads. Less money for transportation. Growing needs for clean and sustainable transportation and for system repair. And a desperate need for continued transit operations to serve people who rely on it, including essential workers.

How have many state and local agencies proposed to respond to these dramatic shifts? By building more roads.

Even amidst the global pandemic, transportation agencies have continued to build and plan for a series of massive, costly highway expansion projects – spending tens of billions of dollars on new concrete even as other transportation needs grow more dire.

Many of these highway expansion projects didn’t make sense even before COVID-19. Our five previous *Highway Boondoggles* reports have illustrated the immense amount of money spent on highway projects of dubious value. But the COVID-19 pandemic – and the deep, lasting changes it is likely to make on American life – provides even more reason to take a step back and evaluate the wisdom of highway expansion.

The seven projects highlighted in this report are indicative of a broken transportation funding and policy system – one that continues to pump out highway projects that are wasteful and damaging while failing to make critical, high priority investments in infrastructure repair and sustainable forms of transportation. The costs of that failed approach were already steep, even before the pandemic. Now, with the nation facing new challenges and strains, they have become far too much to bear.

I The problem with highway boondoggles

EVERY YEAR, THE UNITED STATES SPENDS billions of dollars expanding our existing highway network. These new highways typically impose financial, social and environmental costs, while their claimed benefits, such as reduced congestion, often fail to materialize.

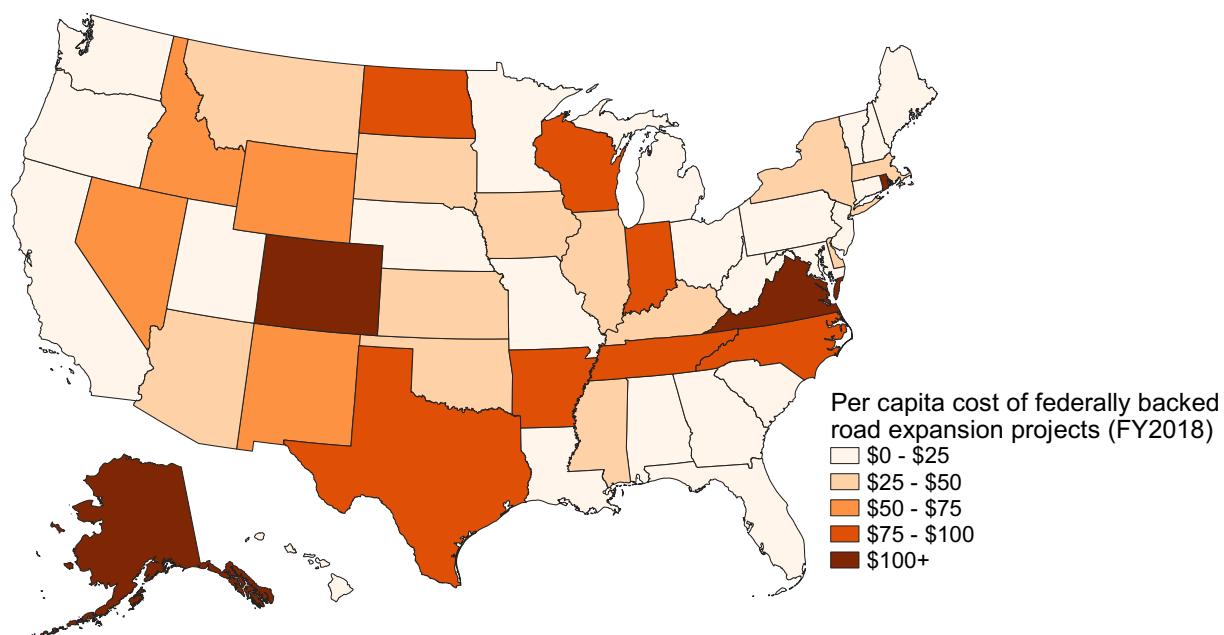
Highway expansions are expensive and saddle states with debt

Highway expansion costs the United States tens of billions of dollars each year. In 2014, the last year for which data is available, federal, state and local governments spent \$26 billion expanding the highway system – including new roads, new bridges and widening of existing highways.¹³ Those expansion projects absorbed one out of every four capital dollars spent on highways in 2014, the rest of which went to repairs and maintenance.

For fiscal year 2018, the American Road and Transportation Builders Association published data on road projects that received federal funding, aggregated by state. This data reveals that in 2018, there were more than 1,000 federally backed road expansion projects (either added capacity on existing roads, or new roads) in the United States, costing a total of more than \$13 billion including state contributions.¹⁴ In four states – Rhode Island, Colorado, Virginia and Alaska – state and federal spending on these projects was more than \$100 per capita.¹⁵ (See Figure 1 and Appendix B.)

Even as road expansion costs continue to amount to billions of dollars each year, the traditional sources of funding for highway programs – gas taxes and other so-called “user fees” – are increasingly failing to keep up. Fuel and vehicle taxes brought in less

FIGURE 1. PER CAPITA COSTS OF FEDERALLY BACKED CAPACITY EXPANSION PROJECTS IN FY2018, BY STATE¹⁶



revenue in 2018 than in 2000 when adjusted for inflation, the result of slower growth in driving, more fuel-efficient cars, and the unwillingness of the federal government and many states to increase gasoline taxes.¹⁷ Yet highway spending has continued to increase.¹⁸ The result has been increased borrowing for highway expenses and a growing dependence on revenue from general funds supplied by taxpayers, regardless of how much or how little they drive.

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

- **Road repairs** – As many of the roads and bridges the nation built in the mid-20th century near the end of their useful lives, governments are struggling to meet day-to-day infrastructure maintenance needs and often defer necessary repairs. This has led to an almost \$800 billion backlog of highway and bridge repair and rehabilitation.¹⁹ As streets, roads and bridges continue to age, the cost and urgency of maintenance and repairs can only be expected to grow. And Americans agree – according to a 2020 YouGov poll, fully 79 percent of Americans believe that we should be fixing roads before we build new ones.²⁰
- **Transit repair and expansion** – Similarly, the nation faces a nearly \$100 billion repair and rehabilitation backlog for its public transportation systems.²¹ Americans also are increasingly demanding expanded access to public transportation. According to a 2020 YouGov poll, Americans favor government action to reduce the number of cars on the road, and support increasing the share of funding for public transportation.²² Voters across the country ap-

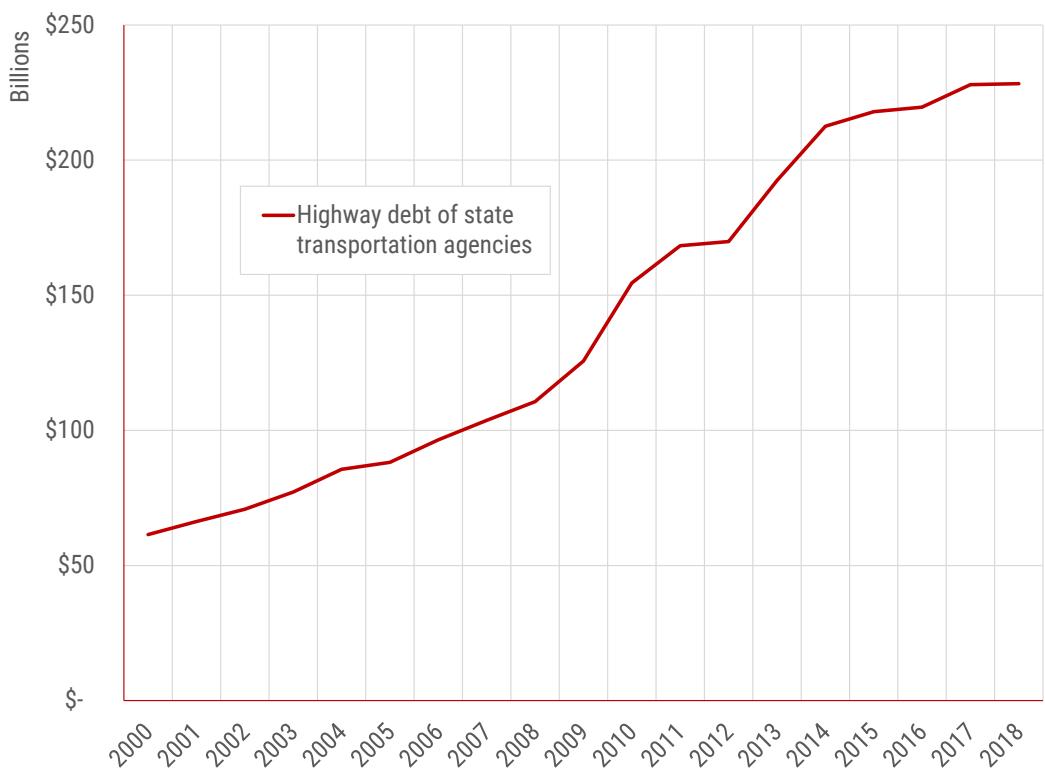
proved \$170 billion in new investment in transit on local ballots in November 2016, and \$9 billion more in 2018.²³

- **Continued transit operation** – COVID-19 reinforced the critical role that public transportation plays in serving the needs of essential workers in cities large and small. Yet the precipitous drop in ridership and fare revenue caused by the pandemic has left transit systems needing tens of billions of dollars just to survive or provide basic service.²⁴
- **Local needs** – Local governments also clamor for funding to expand bike lanes, improve conditions for pedestrians, fix potholes, and engage in “complete streets” transformations and other improvements to local streetscapes. Often, these improvements cost just a tiny fraction of the cost of a major highway project but deliver significant improvements in quality of life and expand the mobility options available to local residents, which can be especially important as residents seek safe ways to travel during COVID-19.

Costly highway expansions also saddle states with debt. High spending for road expansions and other projects, combined with stagnant revenue from gas taxes and other sources, has led to ballooning state highway debt. From 2008 to 2018, the highway debt of state transportation agencies more than doubled from \$111 billion to \$228 billion.²⁵ As a result, the cost to retire old debt has become increasingly steep. In 2018, \$15.89 billion, or 6.6 percent, of all highway spending was spent just to retire old debt, compared to \$5.1 billion or 4.2 percent in 2000.²⁶

Highways built using public-private partnerships (PPPs), in which private companies build roads, often in exchange for the right to raise and collect toll revenue,

FIGURE 2. THE HIGHWAY DEBT OF STATE TRANSPORTATION AGENCIES HAS DOUBLED SINCE 2008 (NOMINAL)³¹



are sometimes presented to the public as a way to build new highways without public costs.²⁷ Yet while some privatized toll roads do cover their own costs, PPP projects can require new spending when they must be propped up or rescued in cases where tolls do not generate enough revenue to pay off investors or cover costs, as has been the case with state Highway 130 and the Camino Colombia toll road in Texas.²⁸ Some toll roads have also reported revenue shortfalls resulting from COVID-19 impacts on travel.²⁹

The new roadway created by highway expansions is also expensive to maintain and creates a lasting financial burden. The average lane-mile of road costs \$24,000 per year to keep in a state of good repair.³⁰

Highway expansion doesn't solve congestion

Building a new highway or widening an existing one is often billed as a way to reduce traffic congestion. Nearly a century of highway construction in the United States, however, suggests that it does not work. Since 1980, the nation has added more than 870,000 lane-miles of highway – paving more than 1,652 square miles, an area larger than the state of Rhode Island – yet congestion prior to the COVID pandemic was worse than it was in the early 1980s.³²

For decades, transportation researchers have understood why building and widening highways does not eliminate congestion.³³ Expanding a highway sets off a chain reaction of societal decisions that

ultimately lead to the highway becoming congested again – often in only a short time. Businesses may choose to move or establish new locations on the outskirts of the city to take advantage of the new highway. People may choose to move farther away in pursuit of cheaper housing. Commuters who had left early for work to avoid traffic might travel at rush hour once again. People who had taken transit might get back into their cars. This “induced travel” (sometimes referred to as “induced demand”) takes up additional space on highways, ultimately resulting in the return of congestion. This phenomenon is so predictable that it has been called the “Fundamental Law of Road Congestion.”³⁴

Highway expansion damages the environment and our communities

Highway expansion fuels additional driving that contributes to global warming. Americans drive more per capita – and produce more carbon pollution from transportation per capita – than any other major industrialized nation.³⁵ In 2018, transportation was the nation’s number one source of the carbon pollution that is the leading cause of climate change.³⁶

By encouraging more people to take to the roads, highway expansion makes it more difficult for the nation to meet its clean air and greenhouse gas emission reduction goals. To achieve the dramatic reductions in carbon pollution needed to prevent the worst impacts of global warming, the United States and the world must promote

low-carbon forms of transportation wherever possible. Highway expansion does just the opposite.

Highway expansion can also cause irreparable harm to communities by forcing the relocation of homes and businesses, widening “dead zones” alongside highways where street life is unpleasant or impossible, severing street connections for pedestrians and cars, reducing the city’s base of taxable property, creating noise and disruption that degrade quality of life, and facilitating the emission of pollutants that cause tens of thousands of American deaths each year and make people more vulnerable to diseases including COVID-19.³⁷

According to former U.S. Transportation Secretary Anthony Foxx, roughly 1 million Americans were displaced by highway construction during the first 20 years of the Interstate Highway System.³⁸ Many of those who were not displaced found their community life disrupted. A 2006 study found that U.S. cities would have added 8 percent to their population between 1950 and 1990 if urban freeways had not been built, compared to the 17 percent decline that occurred amidst the urban highway boom.³⁹

Such displacement and disruption continue, including through many projects in this report. In Ohio, for example, the proposed Cincinnati Eastern Bypass could impact three churches, 4,195 acres of farmland, 712 homes, and three cemeteries.⁴⁰ (See page XXX)

NOT ALL BOONDOGGLES ARE BIG

The vast majority of road building projects are not multibillion-dollar projects like those covered in this and previous *Highway Boondoggles* reports, but rather smaller projects for roads running through and connecting communities. From 2008 to 2018, the U.S. added 310,000 lane-miles of new roadway, of which 267,000 lane-miles were not freeways or interstates but smaller arterial, collector, and local roads.⁴¹

Smaller road capacity expansion projects can cause many of the same problems as the biggest highway boondoggles, albeit on a smaller scale: They damage communities and the environment, drain public finances, and fail to improve the transportation system or relieve congestion.

Because smaller roads are often tightly integrated into neighborhoods, even “small” boondoggle projects can create enormous community disruption. In Toledo, Ohio, for example, a proposed widening of an arterial road from four to five lanes was to require the demolition of 12 homes before it was stopped by opposition from a local citizens group.⁴²

Unlike major highways, smaller roads are often used not just by people driving, but by people traveling on bike or on

foot. Road widening projects can make roads more dangerous for these users by increasing vehicle speeds and making roads more difficult to cross. Bigger, faster roads may have contributed to increases in pedestrian deaths in recent years. A study assessed pedestrian fatality trends from 1977 to 2016 and found that the share of pedestrian fatalities that occurred on wide roads with four or more lanes increased from 41 percent in the 1970s to 58 percent in the 2010s.⁴³

Yet despite their costs and impacts, smaller road projects are less likely to receive the same level of scrutiny applied to larger, more expensive projects. In the case of federally funded roads, projects with a smaller size and scope are less likely to require detailed environmental impact statements that assess both environmental and community impacts.⁴⁴ In many cases, capacity expansion projects are based on outdated transportation metrics that prioritize vehicle speed without thoughtfully evaluating the need for more roadway, and often project impacts are not assessed following completion. A 2017 study assessed a Los Angeles policy requiring road widenings following new residential development, and found that often no traffic data was collected to assess project impact.⁴⁵

2020 Highway Boondoggles

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

— GOOGLE DICTIONARY⁶⁴

AMERICA'S CONTINUED CONSTRUCTION of ever-wider highways costs tens of billions of dollars each year – money that is diverted from more pressing needs, such as highway repair, transit repair and expansion, and local street improvements. These highway expansion projects often fail to reduce congestion, the job they are frequently intended to perform. They also create new infrastructure with high maintenance costs, and many are funded with reckless borrowing that creates a debt burden for future generations.

In this report, we identify seven highway “boondoggles” slated to cost \$26 billion – projects with large price tags that are unnecessary and/or threaten to damage the communities, environments and historical resources around them.

Some of these projects were originally proposed decades ago, at a time when concepts such as induced travel and the impact of driving on the global climate were less well known. Others represent more recent trends, such as highway projects that are bundled with other more desirable changes like improved walking and transit infrastructure designed to overcome political objections.

In this report, we address four types of projects:

- New highways or relocations of existing highways.

- Projects that add new lanes to existing roads.
- Highway expansions that are unnecessarily tacked onto needed highway reconstruction and repair projects. Many highways are currently reaching the end of their useful lives and require major reconstruction, or were built in a way that no longer meets safety standards. In many cases, however, highway agencies have added expansion onto these reconstruction projects, making them more expensive and disruptive than they could be.
- Highway reconstruction projects that are out of step with state policy goals. America's 20th century highway-building spree saw the construction of many roads that should never have been built. Some cities have begun to remove destructive freeways that cut through city centers or reimagine them for the 21st century, yet others are planning to spend billions to rebuild them essentially as they were before – perpetuating their impacts on communities and the environment and making it more difficult to reach air quality, equity or climate goals. Spending public resources to create problems that then require the expenditure of more public resources to fix is the epitome of waste, and as a result, wasteful and counterproductive reconstruction projects will be included beginning with this edition of *Highway Boondoggles*.

While not every state or region is included in the list of misguided highway projects below, nearly every state has one or more highway expansion projects whose wisdom is questionable, particularly at a time of deep budget pressure created by the COVID-19 pandemic. The projects highlighted in this report are not necessarily the worst highway boondoggles in the nation, but they are representative of the costs of proceeding with destructive projects that do not have compelling transportation rationales.

Cincinnati Eastern Bypass, Ohio

Estimated cost: \$7.3 billion

Ohio and Kentucky transportation officials are considering a new four-lane bypass around the eastern side of Cincinnati that would cause sprawling development and damaging community impacts, while overwhelming Ohio's state transportation budget. The proposed Cincinnati Eastern Bypass (CEB) would entail approximately 75 miles of new freeway.⁴⁷

The Ohio Department of Transportation (ODOT) estimates the project will cost as much as \$7.3 billion, including the costs of mitigating environmental and community impacts.⁴⁸ This is more than three times the department's annual construction program budget, which averages \$2 billion, and according to ODOT, the project would hinder ODOT's "ability to fund the rest of our program" even if built more cheaply.⁴⁹ In large part because of these cost impacts, ODOT has concluded that "no further expenditures of funding and staff time be put toward the CEB."⁵⁰ Yet some state politicians are still working to move the project forward.⁵¹

If built, the highway is likely to increase pollution and sprawl, and to draw economic activity away from downtown Cincinnati. A 2000 study of similar highway bypass proj-

ects found that all such surveyed projects led to "increases in sprawled, low density commercial and residential development entailing high environmental and infrastructure costs."⁵² In the case of a bypass around Richmond, Virginia, the study concluded that "relocations of retailing, local industries, offices, and residents facilitated by the outer belt have weakened the city's downtown business district. ... Without the bypass, local planners agree there would have likely been more redevelopment at high densities in the downtown area."⁵³

The project would also lead to more driving and more pollution. The Kentucky Transportation Cabinet found that the project is likely to increase the number of vehicles traveling in the area by thousands of trips per day.⁵⁴

These impacts would be at odds with goals set by the city of Cincinnati. Cincinnati's Green City Plan aims to improve "sustainability, equity, and resilience" and includes the goal of "population density and transit-oriented development."⁵⁵ The plan also includes goals to "decrease the consumption of fossil fuels, including gas, diesel, and natural gas, by 20%."⁵⁶

Finally, the project would damage the environment and the communities along its proposed route. ODOT has concluded that the new highway will have "significant impacts to property and environmental resources."⁵⁷ The project would affect three churches, 4,195 acres of farmland, 712 homes, and three cemeteries, which a map analysis reveals would likely include Plainview Cemetery in Goshen and Greenmound Cemetery in New Richmond.⁵⁸ Building the highway would also require four new river crossings over the Licking River, the Ohio River, the East Fork Little Miami River, and the Little Miami River.⁵⁹ These new crossings could also put those rivers at risk of runoff pollution and construction damage.⁶⁰

Loop 1604 Expansion, Texas

Estimated cost: \$1.36 billion



The Loop 1604/I-10 interchange would be five levels high.⁶¹ Credit: Texas Department of Transportation via YouTube⁶²

The Texas Department of Transportation (TxDOT) is currently reviewing plans for a major expansion to a 23-mile section of Loop 1604, a suburban highway loop that encircles San Antonio. The project, which would expand Loop 1604 between state Highway 16 and Interstate 35 north of the city, includes four to six additional lanes along the entire length of roadway, new frontage roads and a five-level interchange with Interstate 10.⁶³ This \$1.36 billion expansion, while likely failing to solve local congestion problems, would threaten one of the region's primary sources of drinking water.⁶⁴

Expanding Loop 1604 is unlikely to alleviate congestion, the project's stated primary purpose.⁶⁵ As a 2019 San Antonio Express-News article noted, "scores of urban planners have lamented similar suburban

highway loops in Houston, Austin and Dallas" as "no amount of widening Loop 1604 could keep up with the explosive growth of vehicle traffic."⁶⁶ San Antonio can look to a recent local example of the phenomenon of induced travel, in which additional capacity causes more driving and congestion. Despite a project to widen the northern section of Loop 410, which was completed in 2010, that section of the loop is still among the most congested highways in Texas.⁶⁷

Even as the Loop 1604 project will likely fail to achieve its transportation goals, it will pose a pollution threat to the Edwards Aquifer, an important source of drinking water for the region. The Edwards Aquifer is an underground body of fresh water stored in interconnected caves and porous limestone that serves as the primary water source for

residents of San Antonio and much of the surrounding area.⁶⁸ The Loop 1604 expansion would add 198 acres of impervious surface to the aquifer's recharge zone, which is the primary area in which rainfall and streams enter and refill the aquifer.⁶⁹

The risks of developing the recharge zone have been known for decades. For example, a 1999 study found that "increasing residential and commercial development on the recharge zone increases the potential for runoff containing toxic substances, oil spills, or leakage of hazardous materials to contaminate the regional drinking water supply."⁷⁰ In 2010, the organization Aquifer Guardians in Urban Areas filed a motion to block an interchange project in this section of Loop 1604 on the grounds that it threatened the aquifer. One affidavit supporting the motion noted that past research found the aquifer suffered from pollution similar to that originating from "roadway construction, operation, or indirect effects", and that the aquifer "is most susceptible to contamination by pollutants that originate on the Edwards Aquifer Recharge Zone, where the proposed roadway project would be sited."⁷¹ The project's Draft Environmental Assessment, released in August 2020, also notes that during construction the project "may indirectly affect underlying groundwater quality ... through the erosion of disturbed soils and spills of construction related materials," and that during regular use "the additional impervious cover would accumulate pollutants which may infiltrate to the underlying groundwater if the runoff is not treated."⁷²

I-57 Interchange, Illinois

Estimated cost: \$206 million



The proposed interchange would be built in farmland near Peotone in Will County, Illinois.
Credit: Ken Lund via Flickr (CC BY-SA 2.0)

Illinois officials have budgeted \$206 million for a new interchange on I-57 that would take drivers onto a road through undeveloped farmland 44 miles south of Chicago in Will County, Illinois. The project has been deemed "The Exit to Nowhere" by the Illinois Policy Center, as the destination of the proposed interchange is an unbuilt airport which itself is an object of controversy. The project also represents a large unnecessary cost at a time when key local transportation priorities are in desperate need of funding, and will require paving over rural areas of farmland and floodplains.

Illinois' most recent multi-year highway plan allocates \$205.5 million for this interchange between I-57 and Eagle Lake Road.⁷³ This money comes from the governor's \$45 billion infrastructure plan and is partially funded by a recent doubling of the state's gasoline tax.⁷⁴ But there are much more important transportation needs in the state.

As Howard Learner of the Chicago-based Environmental Law and Policy Center told Crain's Chicago Business, "Illinois has a huge backlog of vital transit, rail, highway and bridge projects that improve community mobility," and in 2020, Chicago-area transit systems are facing almost \$1 billion in revenue losses resulting from the COVID-19 pandemic.⁷⁵

The project would connect travelers to the proposed South Suburban Airport (SSA) in rural agricultural Will County — an airport that does not exist, may never exist and is unnecessary according to many observers.⁷⁶ So far, more than \$100 million has been spent on land acquisition and studies for the airport, though neither process is complete and construction has not been started.⁷⁷ The airport was originally proposed as a passenger airport, but when no commercial airlines showed interest its proponents shifted to propose a cargo airport instead.⁷⁸ But it has yet to see commitments from either airlines or shipping companies like Amazon and UPS, which already rely on nearby airports including O'Hare and Rockford.⁷⁹ In the FAA's review of the forecast use of the SSA, they stated that the only category with high projected use is general aviation — i.e. private planes — but the general aviation demand is already being met by an existing private airfield.⁸⁰

The airport, and likely the interchange, would also be environmentally destructive. The South Suburban Airport would be built over farmland, more than 1,000 acres of floodplains and nearly 200 acres of wetlands.⁸¹ Judy Ogalla, who farms soy, corn and wheat land that is part of the proposed airport site and serves as a Republican member of the Will County Board, told the Chicago Tribune, "we have great soil. It doesn't have any sense to pave over that when we have an airport in Gary."⁸²

Birmingham Northern Beltline, Alabama

Estimated cost: \$5.3 billion



Construction on the Birmingham Northern Beltline was forced to pause after initial funding ran out. Credit: Alabama Department of Transportation

The Alabama Department of Transportation (ALDOT) is pushing forward with the \$5.3 billion Birmingham Northern Beltline (BNB), a 52-mile, 6-lane expressway connecting I-59 northeast and southwest of Birmingham.⁸³ The project is almost entirely reliant on intermittent and insufficient federal funding, scheduled to take at least 40 years to complete, and, if built, will threaten damage to two watersheds that are important sources of drinking water for Birmingham.

The BNB project relies on intermittent federal funding, raising the specter of a highway project that is not only expensive and environmentally damaging, but is also never finished. The BNB is funded solely by the federal Appalachian Development Highway System (ADHS), which pays for roadways throughout Appalachia.⁸⁴ To date, Alabama policymakers have declined

to provide state funding for the project, which suggests that the project is not a high priority for state transportation needs.⁸⁵ Between 2014 and 2016, ALDOT completed a 1.3-mile grade and drain project as the first phase of the BNB, using all of the funding available at the time, and then paused work when federal funding for the ADHS was not renewed.⁸⁶ ADHS recently received funding again, but allocated just \$30 million to the BNB, a tiny fraction of the multibillion dollar project cost.⁸⁷ In 2014 the estimated completion year of the project was 2054, not accounting for the most recent four-year pause, nor for any future stoppages in funding.⁸⁸

If it is built, the BNB's construction, operation and the development it spurs would degrade Birmingham's water quality, forests and wetlands. According to the Southern Environmental Law Center and the Black Warrior Riverkeepers, the BNB would "cross and permanently alter Black Warrior and Cahaba river tributaries in 90 places and wetlands in 35 places" and will "destroy 3,078 football fields' worth of forest."⁸⁹ The Cahaba and Black Warrior watersheds are two of the major sources of drinking water for residents of Birmingham, and construction or development in the watersheds increases the risks of damage to streams, chemical or gasoline spills and stormwater runoff pollution.⁹⁰ The Regional Planning Commission of Greater Birmingham (RPCGB), which receives funding from local governments to provide planning and economic development services for central Alabama, notes that the "level of potential environmental impacts may be significant."⁹¹

The BNB's project website claims the project will spur economic development and will address "future traffic growth," but analyses of the project have questioned whether the project would actually bring such benefits.⁹² One study from the Ochs Center for Metro-

politan Studies determined that the project's economic impacts had been "overstated," in part because "if the [BNB] corridor gains jobs (or employers) at the expense of other locations within Jefferson County, those jobs are not net new jobs for the county or the region."⁹³ And the RPCGB estimates that the BNB would accomplish little in terms of congestion relief for other roadways, only taking between 1 and 3 percent of the vehicles that currently travel on I-59 and I-20 through downtown Birmingham.⁹⁴

I-526 Extension, South Carolina

Estimated cost: \$725 million

Charleston County in South Carolina is moving forward with an eight-mile, \$725 million extension to I-526 across Johns and James Islands that would, as the Charleston Post and Courier wrote in a 2019 editorial about the project, "create negative environmental and community impacts while providing minimal traffic relief in the immediate term and little or no improvement over the long term."⁹⁵ The so-called Mark Clark extension, which will cost Charleston County more than it has spent on any single project in its history, would be a four-lane parkway from near Citadel Mall in West Ashley to the James Island connector at Folly Road.⁹⁶

The I-526 extension would have minimal impact on travel times. According to a 2016 environmental project re-evaluation, the project would save drivers mere seconds of travel time. Trips to the West Ashley area of the region would be reduced by an average of just 42 seconds, while current travel times are more than 20 minutes.⁹⁷ No trips assessed for the project's Recommended Preferred Alternative would reduce travelers' trip times by more than 9 percent on average.⁹⁸

The project would, however, have significant negative impacts on the communities it is meant to serve. In the same 2016 re-evaluation, the South Carolina Department of Transportation (SCDOT) and Charleston County wrote that their preferred alternative option for the extension would cut through four communities and pass alongside 13 communities, forcing relocations of 15 residences, four businesses, and one community facility.⁹⁹ South Carolinians living along the route are worried about these impacts, with the Post and Courier writing that residents of Johns Island argue it will bring “more residential development” and “urban sprawl” to a place that has already seen “quiet woodlands ... replaced by rooftops.”¹⁰⁰

Finally, the new roadway would damage the wetlands and floodplains of Johns and James Islands. The islands are coastal, and the communities living on them value their natural resources highly and want to protect them.¹⁰¹ But the SCDOT and Charleston County evaluation of the preferred route found that the construction of the road will require filling in 26 acres of wetland, shading 43 acres and impacting 346 acres of floodplain.¹⁰² The roadway would also impact three parks and wildlife refuges: the James Island County Park, the West Ashley Greenway, and the Fenwick Hall Historic District.¹⁰³

M-CORES, Florida

Estimated cost: \$10+ billion



Florida’s M-CORES highway project would threaten the habitat and the survival of the endangered Florida Panther. Credit: U.S. Fish and Wildlife Service

On May 17, 2019, Florida Governor Ron DeSantis signed legislation kickstarting what would be one of the most expensive, damaging and wasteful highway-building sprees in the country. The bill provided funding and set in motion plans for building three separate highways, totaling approximate 330 miles, that are already draining the state budget and could destroy large swaths of natural areas and threaten the survival of the endangered Florida panther.

According to the legislation behind the highways – called M-CORES, or Multi-use Corridors of Regional Economic Significance – the project’s first two goals are to facilitate hurricane evacuation and address congestion.¹⁰⁴ The project’s ability to achieve either has been questioned by outside analysis, including a series of reports released in September 2020 by Cornell Consulting. The organization found that

previous hurricane evacuations have not been hampered by a shortage of roadway, but rather by fuel shortages and last-minute sharing of emergency plans.¹⁰⁵ Cornell Consulting found that the highways would fail to reduce congestion because of the well-known phenomenon of induced travel, noting that in Pensacola, Florida, “highways expanded three times faster than the population grew and still resulted in a 233 percent increase in congestion.”¹⁰⁶

Although exact costs are not available, the highways would, by any account, be enormously expensive. Cornell Consulting estimated the cost of the project at \$10.3 billion, and an analysis by environmental groups Sierra Club and 1000 Friends of Florida (1000 Friends) applied the cost-per-mile of a similar road to estimate that the project costs could total upwards of \$26 billion.¹⁰⁷ While the roads would eventually collect driver tolls to pay back construction bonds, an early analysis by Florida TaxWatch estimated that, in order to cover costs, per-mile toll revenue for one of the highways would have to be as much as 60 percent higher than the average state turnpike system road.¹⁰⁸ Similarly, Cornell Consulting’s analysis found that even “under the best-case scenarios in which simulated project costs were 25% below similar projects” and “usage and growth were far higher than expected,” the highways would not be economically feasible.

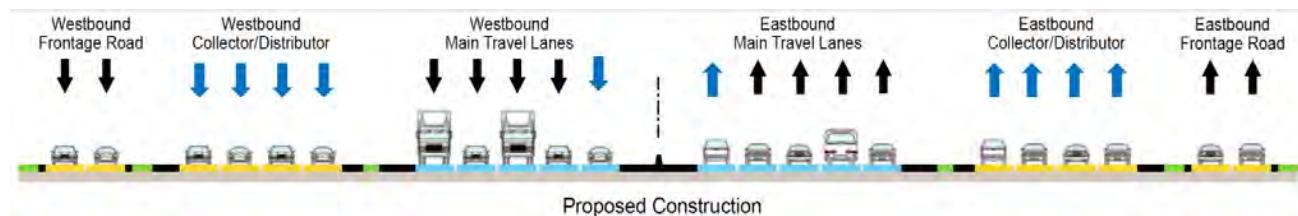
The roads are being paid for in part through a bill provision that will eventually divert more than \$100 million in general state funding each year towards M-CORES.¹⁰⁹ This diverted revenue is already straining the state budget. In 2020, a coalition of 80 organizations and businesses called on Governor Ron DeSantis to shift M-CORES funds to more pressing needs.¹¹⁰ Yet despite \$1 billion in budget cuts in response to the COVID-19 pandemic, the 2020-21 budget still includes \$90 million for M-CORES.¹¹¹

The roads will, according to 1000 Friends, impact “vast tracts of some of Florida’s last remaining undeveloped lands,” including springsheds, wetlands and wildlife corridors.¹¹² The Southwest-Central Florida Connector section of the project could even threaten the Florida panther with extinction, according to emails from a U.S. Fish and Wildlife Service biologist obtained through a Freedom of Information Act request made by the South Florida Wildlands Association. The Florida panther is endangered, with only 120 to 130 animals left in the wild.¹¹³ In an email sent on March 1, 2019, biologist John Wrublik wrote that the project could “jeopardize the species,” as it would “directly result in the loss of a significant amount of habitat,” indirectly destroy habitat by “inducing new residential and commercial development,” and would also “significantly increase the potential for vehicle-related injuries and mortalities of panthers and other wildlife species.”¹¹⁴ From 2017 through 2019, 73 Florida panthers were killed by vehicles.¹¹⁵

Despite their enormous costs and destructive impacts, the highways are being rushed toward construction with insufficient study or planning. The previously mentioned Sierra Club and 1000 Friends analysis found that the “M-CORES legislation allows millions of dollars to be spent without the typical preliminary corridor planning analysis to determine the need for the system from a transportation perspective or the financial feasibility of the roads.”¹¹⁶ Because the highways are subject to special rules for planning and permitting, another 1000 Friends analysis found that some steps in the planning process will be “conducted simultaneously instead of sequentially.”¹¹⁷ And the Naples Daily News has reported that some members of the project’s planning task force are “still confused” about the process and need for the highways, and have called for the process to be put on hold.¹¹⁸

Southeast Connector, Texas

Estimated cost: \$1.6 billion



The proposed construction of I-20 from I-820 to US-287 would add an additional five lanes in each direction. Credit: Texas Department of Transportation

The Texas Department of Transportation (TxDOT) is moving ahead with a \$2 billion expansion of three highways in Fort Worth that would induce sprawl and damage communities, even as the local transit system scrambles for funding to provide adequate service.¹¹⁹ Referred to as the Southeast Connector, the project involves expansion of 16 miles of I-820, I-20 and I-287 on the east side of Fort Worth, adding up to six lanes in each direction in some places, as well as interchange renovations.¹²⁰

A TxDOT analysis of the Southeast Connector suggests it will lead to sprawling development, including the development of 126 acres along all three highways, which are in outlying Fort Worth.¹²¹ These impacts would run counter to city efforts to reduce sprawl. In its economic development strategic plan, the city of Fort Worth set out the goal of “rapidly increasing the density” of the city, and is continuing to buy land outside the city to prevent sprawl and preserve land.¹²² The Dallas Morning News has described the area’s sprawling development as causing longer commutes, degraded air quality, strained water supplies and poorly maintained infrastructure.¹²³ A 2014 report by Smart Growth America ranked Fort Worth among the most sprawling cities in the country.¹²⁴

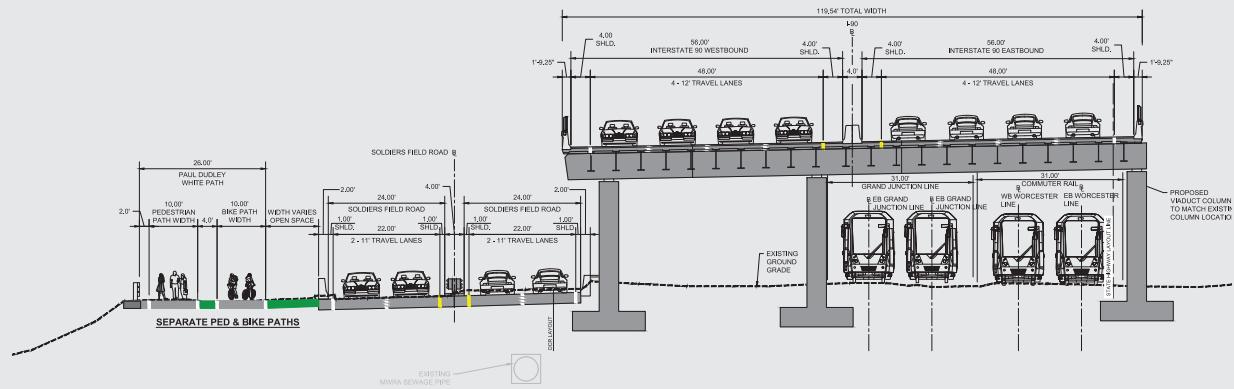
The \$1.6 billion project would also use valuable resources even as basic transit needs in Fort Worth go unmet.¹²⁵ In 2020, Jeff Davis, board chairman of the Trinity Metro system, told the Fort Worth Star Telegram that the current system is “bare bones” and that “we don’t have the funds to meet the needs” of current demand.¹²⁶ Fort Worth has too few bus routes, inadequate passenger rail service and receives too little funding to expand with the growth of the city.¹²⁷ Service on some routes is too infrequent and ends too early to be useful.¹²⁸

In a plan designed to address these shortcomings, the transit authority and the city laid out goals to develop high-capacity transit services, increase the length and frequency of current services, add new routes and make the whole system more accessible and easier to use.¹²⁹ But although the transit authority requested \$10 million from the 2021 budget in order to make short-term improvements and additional funding to begin longer-term work, the budget ultimately approved allocated just \$1.5 million for transit work.¹³⁰ Transit in Fort Worth is primarily funded by trip fares, local sales tax and federal grants, while the Southeast Connector is funded by a mix of state and federal dollars.¹³¹

Finally, local residents worry about impacts of the construction and larger roads on the community. The TxDOT Community Impacts Assessment states that the construction of the Southeast Connector, which is expected to last five years, will require displacing 23 families from their homes, eight of which are not anticipated to be able to find other housing in the neighborhood.¹³² Residents are worried that the already uncomfortably loud noise from the highway will get even louder, while

TxDOT does not plan to put sound barriers in place to protect them.¹³³ Other residents worry about the 15 acres of trees in danger of removal, since those trees separate them from the highway aurally and visually.¹³⁴ Some residents are also concerned that the project will create a whole new “traffic nightmare,” as reported by NBC Dallas-Fort Worth, because the removal of two on-ramps will create a new traffic bottleneck at the connection of I-820 with Brentwood Stair Road.¹³⁵

IN BOSTON, A CHOICE BETWEEN TWO TRANSPORTATION FUTURES



Plans for the \$1 billion Allston Multimodal Project would rebuild 12 lanes of traffic along the Charles River in Boston, reinforcing the region's reliance on personal vehicles. Some of the designs under consideration, including the alternative pictured, include a new raised viaduct that would continue to divide the Allston neighborhood and hinder future efforts to improve transit and river access. Credit: Massachusetts Department of Transportation.¹³⁶

Around 90 acres of Boston's Allston neighborhood will soon be transformed by the massive Allston Multimodal Project, which will bring some long overdue changes along the Charles River. The project will entail tearing down a crumbling highway viaduct nearing the end of its life, giving new life to an out-of-use commercial railyard, adding a new commuter rail station and providing nicer river paths for walking and biking.¹³⁷ Sitting just across the river from Cambridge and a few minutes by train from downtown Boston, the site provides a once-in-a-lifetime opportunity to imagine and build an urban neighborhood and transportation network that can support Massachusetts' ambitious goals to cut carbon pollution and promote sustainability.

One section of the existing site is a narrow corridor in which four train tracks, eight lanes of Interstate 90 and four lanes of the adjacent Soldiers Field Road run just feet from the river. The corridor is known as "the throat," and in addition to the rail and roads, it also contains a well-used eight-foot

bike and pedestrian path just feet from busy traffic. Because of the very constrained area between the river and the Boston University campus, there is extreme competition for space between transit, active transportation, parkland and highway. Yet the state of Massachusetts is currently planning to rebuild all existing lanes of traffic, reinforcing the region's reliance on personal vehicles and reducing the project's potential to deliver expanded access to clean and sustainable transportation.

Both the state of Massachusetts and the city of Boston have established goals for reducing carbon pollution and encouraging a shift away from reliance on personal vehicles that adds to congestion and reduces quality of life. Boston's current climate plan calls for cutting carbon emissions 50 percent by 2030, and the state of Massachusetts set a net zero greenhouse gas emissions limit for 2050.¹³⁸ Boston and Massachusetts have both set goals to shift transportation away from driving – Boston's goal is to reduce the number of

commuters who drive alone to work by 50 percent by 2030, and in 2012 Massachusetts set a goal to triple the share of people who walk, bike or take transit by 2030.¹³⁹

In its current form, the Allston project will do relatively little to achieve those goals. Instead it will:

- Maintain current vehicle capacity. The current construction plan will likely reduce capacity of the I-90 highway by at least two lanes for much of the eight to ten years of construction.¹⁴⁰ Yet when construction is finished, the project will restore all 12 lanes of roadway along the river, in effect adding traffic capacity back to the city at the same time Boston is reaching its 2030 mode shift deadline.¹⁴¹
- Prioritize driving over other forms of travel. MassDOT has suggested it may reduce rail capacity for some portion of the construction period, which could worsen the already-difficult commutes for both the adjacent neighborhoods and the commuters who travel via the corridor.¹⁴² Early versions of the project would have delayed the opening of the accompanying West Station commuter rail station for a decade after the highway was reconstructed.¹⁴³ But MassDOT moved this investment to an earlier phase of the project following public pressure.¹⁴⁴
- Potentially limit future river access and expanded transit. As of October 2020, state officials were deciding between either building the new roads at ground level, or once again building a raised road viaduct – an option that would perpetuate many of the site’s existing problems.¹⁴⁵ With a new viaduct, the project would continue to divide the Allston community and limit

access to the Charles River’s bike and pedestrian path, just as the current road does. As a local coalition of environmental, business and transportation advocacy groups wrote in a letter to the Massachusetts Department of Transportation, a new viaduct would reinforce “the legacy of inequitable highway policies that tore communities apart decades ago.”¹⁴⁶ A viaduct could also hinder the state’s ability to eventually build future passenger rail connections from West Station, including to Kendall Square in Cambridge, the heart of the region’s biotech industry.¹⁴⁷

The rebuilding of I-90 and other transportation infrastructure in Allston could improve life for pedestrians and bicyclists by replacing Soldiers Field Road with a surface street safe for crossing by foot and bike. It could help more people travel to the city without sitting in traffic by prioritizing construction of the new West Station, ensuring reliable transit service during construction and making possible more transit connections in the future. And it could finally allow local residents to safely enjoy access to the Charles River by substantially expanding open space. Yet in its current form, which is still being shaped as of this writing, whether the project will be able to fulfill even a fraction of this potential is an open question.

Unlike some other projects in this report, there is no escaping the need for major investment in transportation infrastructure in this section of Boston. The question is whether the commonwealth will invest in a bold, transformative plan that will help it meet its transportation and climate goals, or rebuild the auto-intensive infrastructure of generations ago, making it more costly and difficult to meet the transportation challenges of the 21st century.

WISCONSIN REVIVES A CANCELLED HIGHWAY EXPANSION

One of the projects included in the first edition of *Highway Boondoggles*, released in 2014, was the proposed expansion of Interstate 94 in Milwaukee. The project made little sense: I-94 had stagnant traffic levels, the project would damage the surrounding community and it came with a price tag of \$800 million even as the local Milwaukee County Transit System was curtailing service and coping with a slashed budget.

Four years later, in 2018, then-Governor Scott Walker pulled the plug on the project and asked the federal government to rescind its approval for the project. According to the Milwaukee Journal Sentinel, Walker said, “There are some groups out there that want to spend billions and billions and billions of dollars on more, bigger, wider interchanges across the state. I actually think we should be fixing and maintaining our infrastructure. I

don’t know that we need bigger and better and broader right now when we have a changing transportation system.”¹⁴⁸

Today, the project that seemed dead may be coming back to life, as in July 2020, Governor Tony Evers reversed Walker’s position and asked the federal government to once again approve the project.¹⁴⁹ The reasons for the change of heart are not clear. Aside from the state backing away from its earlier plan to build a double-decked road, little about the project has changed since 2014. With inflation, project costs are now estimated to reach or exceed \$1 billion.¹⁵⁰ Local transit service continues to struggle for funding to maintain service levels.¹⁵¹ The project’s revival also comes amid budget shortfalls related to the COVID-19 pandemic: Wisconsin has suffered steep decreases in revenue and in July, Governor Evers ordered state agencies to cut their budgets by \$250 million.¹⁵²

I Conclusion

OVER A YEAR DOMINATED BY COVID-19,

much of American public life has been on pause. Policymakers have had to reevaluate spending across government in light of multibillion-dollar revenue shortfalls. And throughout, Americans have had to worry about their health. Despite all this, highway boondoggles that in normal times represented wasteful and damaging spending have continued to move forward, and to absorb billions of dollars of scarce public funds while delivering few benefits.

Now more than ever, policymakers must choose a different path. Officials at all levels of government – local, state and federal – should reexamine proposed highway expansion projects in light of changing transportation needs and growing realization of the damage caused by our current transportation system. Instead, they should adopt a series of policy changes to prioritize real transportation improvements.

Specifically, they should:

- **Invest in transportation solutions that reduce the need for costly and disruptive highway expansion projects.** Investments in public transportation, road pricing measures and technological measures that help drivers avoid peak-time traffic, for instance, can often address congestion more cheaply and effectively than highway expansion.

- **Adopt fix-it-first policies** that reorient transportation funding away from highway expansion and toward repair of existing roads and investment in other transportation options.
- **Use the latest transportation data and require full cost-benefit comparisons for all projects, including future maintenance needs.** This includes projects proposed to be completed via public-private partnerships.
- **Give priority funding to transportation projects that reduce growth in vehicle-miles traveled**, to account for the public health, environmental and climate benefits resulting from reduced driving and fossil fuel use.
- **Invest in research and data collection** to better track and react to ongoing shifts in how people travel.
- **Revise transportation forecasting models** to ensure that all evaluations of proposed projects use up-to-date travel information, reflect a range of potential future trends for housing and transportation, and incorporate the impact of all transportation options, from public transit, biking and walking, to newer options such as car-sharing and bike-sharing.

Appendix A: Status of previously covered boondoggle projects

Status	Project	Year Included in Boondoggles Report
Cancelled¹⁵³		
	Dallas Trinity Parkway, Texas	2014
	Tesoro Extension, California	2014
	710 Tunnel, California	2016
	High Desert Freeway, California	2019
Completed¹⁵⁴		
	Alaskan Way Viaduct, Washington	2014
	I-11, Nevada	2014
	C-470 Express Lanes, Colorado	2014
	I-77 Express Lanes, North Carolina	2016
	Portsmouth Bypass, Ohio	2016
	State Highway 45 Southwest, Texas	2016
	Route 20 Widening, Iowa	2016
On Hold¹⁵⁵		
	Illiana Expressway, Illinois and Indiana	2014
	I-94 East-West Expansion in Milwaukee, Wisconsin	2014
	Paseo del Volcan Extension, New Mexico	2016
	Interstate 73, South Carolina	2017
	Illinois State Route 53/120, Illinois	2017
Study and Review¹⁵⁶		
	Effingham Parkway, Georgia	2014
	I-11, Arizona	2014
	I-26 Connector, North Carolina	2014
	Widening I-94 Through Detroit, Michigan	2014
	Mon-Fayette Expressway: Route 51 to I-376, Pennsylvania	2016
	Tampa Bay Express Lanes, Florida	2016
	Widening I-95 Across the State, Connecticut	2016
	Interstate 30, Arkansas	2017
	Interstate 75 North Truck Lanes, Georgia	2017

Status	Project	Year Included in Boondoggles Report
	Interstate 84 Expansion, Connecticut	2017
	Madison Beltline, Wisconsin	2017
	“Traffic Relief Plan,” Maryland	2018
	I-49 Inner City Connection, Shreveport, Louisiana	2018
	Interstate 35 Expansion, Austin, Texas	2018
	North Houston Highway Improvement Project, Texas	2019
	I-83 Widening, Pennsylvania	2019
	I-5 Rose Quarter Widening, Oregon	2019
Under Construction¹⁵⁷		
	Cleveland Opportunity Corridor, Ohio	2014
	State Highway 249 Extension, Texas	2016
	Widening I-70 in Denver, Colorado	2016
	Puget Sound Gateway, Washington	2016
	Interstate 4 “Beyond the Ultimate,” Florida	2017
	Interstate 405 Improvement, Orange County CA	2017
	Interstate 66 Expansion “Inside the Beltway,” Virginia	2017
	I-285 & SR 400 Interchange Rebuilding, Atlanta, Georgia	2018
	I-94 North South Expansion, Wisconsin	2018
	North Spokane Corridor, Spokane, Washington	2018
	Pennsylvania Turnpike Expansion	2018
	U.S. Highway 101 Expansion, San Mateo, California	2018
	LBJ East Expansion, Dallas, Texas	2018
	Complete 540, North Carolina	2019
	I-75 Widening, Michigan	2019
	Tri-State Tollway Widening, Illinois	2019
	“Connecting Miami” Widening Project, Florida	2019
	Interstate 81 Widening, Virginia	2019

Appendix B: State road expansion costs

Per capita and total cost of federally backed road expansion projects (FY2018)¹⁵⁸
Cost includes both federal and state contributions

State	Per capita cost	Per capita rank	Total cost (millions)	State	Per capita cost	Per capita rank	Total cost (millions)
Alabama	\$23.22	29	\$113.5	Montana	\$26.12	26	\$27.7
Alaska	\$105.42	4	\$77.5	Nebraska	\$10.70	39	\$20.6
Arizona	\$26.64	25	\$190.7	Nevada	\$52.65	14	\$159.4
Arkansas	\$95.56	5	\$287.6	New Hampshire	\$2.73	46	\$3.7
California	\$18.37	35	\$725.1	New Jersey	\$7.67	42	\$68.2
Colorado	\$162.62	2	\$925.5	New Mexico	\$69.81	12	\$146.1
Connecticut	\$1.71	48	\$6.1	New York	\$46.89	16	\$915.8
Delaware	\$35.73	21	\$34.5	North Carolina	\$78.11	10	\$810.9
District of Columbia	\$0.00	49	\$0.0	North Dakota	\$89.96	6	\$68.2
Florida	\$24.38	28	\$518.0	Ohio	\$7.68	41	\$89.7
Georgia	\$19.88	33	\$209.0	Oklahoma	\$25.02	27	\$98.6
Hawaii	\$0.00	49	\$0.0	Oregon	\$21.62	31	\$90.4
Idaho	\$57.35	13	\$100.4	Pennsylvania	\$22.41	30	\$286.9
Illinois	\$34.14	22	\$434.4	Rhode Island	\$383.45	1	\$405.8
Indiana	\$77.90	11	\$521.6	South Carolina	\$13.10	36	\$66.6
Iowa	\$41.48	17	\$130.6	South Dakota	\$36.53	20	\$32.1
Kansas	\$28.13	24	\$81.9	Tennessee	\$84.29	7	\$570.8
Kentucky	\$39.18	19	\$174.8	Texas	\$79.23	9	\$2,268.2
Louisiana	\$9.98	40	\$46.5	Utah	\$11.35	37	\$35.8
Maine	\$0.00	49	\$0.0	Vermont	\$7.05	43	\$4.4
Maryland	\$19.15	34	\$115.6	Virginia	\$137.09	3	\$1,165.4
Massachusetts	\$40.46	18	\$278.5	Washington	\$20.27	32	\$152.5
Michigan	\$10.98	38	\$109.6	West Virginia	\$5.32	44	\$9.6
Minnesota	\$4.48	45	\$25.1	Wisconsin	\$81.64	8	\$474.1
Mississippi	\$28.61	23	\$85.3	Wyoming	\$50.21	15	\$29.0
Missouri	\$2.40	47	\$14.7				

Appendix C: State debt and roads in poor condition

State debt from bonds issued; percent of roads in poor condition via Transportation for America

State	2018 debt of state transportation agencies (millions) ¹⁵⁹	Percent of roads in poor condition in 2017 ¹⁶⁰
Alabama	\$1,207	14%
Alaska	\$263	20%
Arizona	\$1,718	19%
Arkansas	\$880	9%
California	\$22,592	45%
Colorado	\$1,003	22%
Connecticut	\$5,540	34%
Delaware	\$2,178	19%
Florida	\$11,840	8%
Georgia	\$2,376	5%
Hawaii	\$401	42%
Idaho	\$523	5%
Illinois	\$11,679	19%
Indiana	\$1,068	13%
Iowa	-	9%
Kansas	\$2,317	10%
Kentucky	\$1,891	10%
Louisiana	\$3,582	25%
Maine	\$566	22%
Maryland	\$5,062	11%
Massachusetts	\$8,797	30%
Michigan	\$1,278	24%
Minnesota	\$2,201	15%
Mississippi	\$991	30%
Missouri	\$1,832	23%
Montana	\$39	11%

State	2018 debt of state transportation agencies (millions) ¹⁵⁹	Percent of roads in poor condition in 2017 ¹⁶⁰
Nebraska	-	7%
Nevada	\$785	14%
New Hampshire	\$571	25%
New Jersey	\$37,892	34%
New Mexico	\$1,091	31%
New York	\$18,794	19%
North Carolina	\$1,695	13%
North Dakota	\$10	10%
Ohio	\$4,151	18%
Oklahoma	\$2,358	33%
Oregon	\$2,594	7%
Pennsylvania	\$15,851	30%
Rhode Island	\$506	53%
South Carolina	\$355	18%
South Dakota	-	14%
Tennessee	-	5%
Texas	\$28,460	11%
Utah	\$2,317	22%
Vermont	\$31	17%
Virginia	\$3,992	10%
Washington	\$8,386	29%
West Virginia	\$1,166	31%
Wisconsin	\$3,993	29%
Wyoming	-	8%

Notes

1 2018 data from: U.S. Department of Transportation, *Highway Statistics 2018, Table SB-2*, January 2020, corrected version of data provided by DOT Office of Highway Policy Information staff on 20 October 2020; 2008 data from U.S. Department of Transportation, *Highway Statistics 2008, Table SB-2*, February 2010, archived at <http://web.archive.org/web/20201019152933/> <https://www.fhwa.dot.gov/policyinformation/statistics/2008/sb2.cfm>.

2 Rayla Bellis et al., Transportation for America, *Repair Priorities 2019*, May 2019, archived at <http://web.archive.org/web/20200716003059/> <http://t4america.org/wp-content/uploads/2019/05/Repair-Priorities-2019.pdf>.

3 1,652 square miles based on a conservative assumption of 10-foot wide traffic lanes and the expansion of public road lane miles from: U.S. Department of Transportation, *Highway Statistics 2018, Table HM-260*, March 2020, archived at <https://web.archive.org/web/20200915170539/> <https://www.fhwa.dot.gov/policyinformation/statistics/2018/hm260.cfm>; congestion trends since 1980s: U.S. Federal Highway Administration, *Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation*, 1 September 2005, archived at <http://web.archive.org/web/20201018192006/> https://ops.fhwa.dot.gov/congestion_report/chapter3.htm.

4 U.S. Environmental Protection Agency, *Sources of Greenhouse Gas Emissions*, archived on 12 September 2020 at <http://web.archive.org/web/20200912074549/> <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>.

5 Tens of thousands of deaths each year: Susan C. Anenberg, et al., "The Global Burden of Transportation Tailpipe Emissions on Air Pollution-Related Mortality in 2010 and 2015," *IOP Science*, 6 September 2019, Table 2, archived at <http://web.archive.org/web/20200517052004/> <https://iopscience.iop.org/article/10.1088/1748-9326/ab35fc>; more vulnerable to diseases like COVID-19: Xiao Wu, et al., "COVID-19 PM2.5: A National Study on Long-Term Exposure to Air Pollution and COVID-19 Mortality in the United States," *Harvard T.H. Chan School of Public Health*, 24 April 2020, archived at <http://web.archive.org/web/20200909100940/> <https://projects.iq.harvard.edu/covid-pm>.

6 U.S. Federal Highway Administration, *Highway Statistics Series Table SB-2* (for years 2000-2017), available at <https://www.fhwa.dot.gov/policyinformation/statistics.cfm>; 2018 data from: U.S. Department of Transportation, *Highway Statistics 2018, Table SB-2*, January 2020, corrected version of data provided by DOT Office of Highway Policy Information staff on 20 October 2020.

7 Federal Highway Administration, *June 2020 Traffic Volume Trends*, 20 August 2020, archived at <http://web.archive.org/web/20200824154713/> https://www.fhwa.dot.gov/policyinformation/travel_monitoring/20juntvt/.

8 American Association of State Highway and Transportation Officials, *Letter to Congressional Leadership*, 6 April 2020, archived at <http://web.archive.org/web/20200923034913/> <https://policy.transportation.org/wp-content/uploads/sites/59/2020/04/2020-04-06-AASHTO-Letter-to-Congress-on-COVID-19-Phase-4-FINAL.pdf>.

9 Elizabeth McNichol and Michael Leachman, Center on Budget and Policy Priorities, *States Continue to Face Large Shortfalls Due to COVID-19 Effects*, 7 July 2020, archived at <http://web.archive.org/web/20200910154820/> <https://www.cbpp.org/research/state-budget-and-tax/states-continue-to-face-large-shortfalls-due-to-covid-19-effects>.

10 Xiao Wu, et al., "COVID-19 PM2.5: A National Study on Long-Term Exposure to Air Pollution and COVID-19 Mortality in the United States," *Harvard T.H. Chan School of Public Health*, 24 April 2020, archived at <http://web.archive.org/web/20200909100940/> <https://projects.iq.harvard.edu/covid-pm>.

11 Editorial Staff, "The Important Link Between Air Pollution and Increased COVID-19 Deaths," *American Lung Association*, 7 August 2020, archived at <http://web.archive.org/web/20200914215133/> <https://www.lung.org/blog/air-pollution-and-covid-19-link>.

12 Jenna Fortunati, "Transit Agencies, Riders, Unions, and Members of Congress Rally to Save Transit," *Transportation for America*, 11 August 2020, archived at <http://web.archive.org/web/20200911065833/><http://t4america.org/2020/08/11/transit-agencies-riders-unions-and-members-of-congress-rally-to-save-transit/>.

13 U.S. Department of Transportation, *Status of the Nation's Highways, Bridges and Transit: Conditions and Performance Report to Congress 23rd Edition*, November 2019, Exhibit 2-14, archived at <http://web.archive.org/web/20200128153913/><https://www.fhwa.dot.gov/policy/23cpr/pdfs/23cpr.pdf>.

14 Based on sum of costs categorized as "added capacity" or "new construction," using state-level data accessed at: American Road and Transportation Builders Association, *Federal Highway Investment Benefits by State – FY 2018*, accessed at <https://www.artba.org/economics/federal-investment/> on 10 June 2020; per capita calculation made using 2018 population data from: U.S. Census Bureau, *Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2019 (NST-EST2019-01)*, downloaded on 1 October 2020 from <https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-total.html>.

15 Ibid.

16 Ibid.

17 U.S. Department of Transportation, *Highway Statistics, Table HF-10*, versions 2000 and 2018; real value measured using *CPI Inflation Calculator* available at <https://data.bls.gov/cgi-bin/cpicalc.pl>.

18 Federal Highway Administration, *Highway Statistics 2018 - Total Disbursements for Highways, By Function 1958- 2018*, 2 June 2020, available at <https://www.fhwa.dot.gov/policyinformation/statistics/2018/disbc.cfm>.

19 See note 13.

20 Emily Mangan, "Voters Want and Need More Transportation Options," *Transportation for America*, 17 March 2020, archived at <http://web.archive.org/web/20200410191321/><http://t4america.org/2020/03/17/voters-want-and-need-more-transportation-options/>.

21 See note 13.

22 See note 20.

23 2016: Arian Marshall, "U.S. Cities, Spurned by Washington, Fund Transit Themselves," *Wired*, 10 November 2016; 2018: Eno Center for Transportation, *Transportation at the Ballot Box 2018*, archived on 11 August 2020 at <http://web.archive.org/web/20200811164102/><https://www.enotrans.org/transportation-at-the-ballot-box-2018/>.

24 See note 12.

25 See note 1.

26 Debt payments: U.S. Federal Highway Administration, *Highway Statistics 2018, Total Disbursements for Highways, By Function 1958-2018*, 2 June 2020, archived at <https://web.archive.org/web/20200915171442/><https://www.fhwa.dot.gov/policyinformation/statistics/2018/disbc.cfm>. Percentages calculated by dividing the "Debt Retirement" spending by the sum of all spending.

27 Robert McCartney, Faiz Siddiqui and Ovetta Wiggins, "Maryland Gov. Larry Hogan Proposes Widening the Beltway and I-270 to Include 4 Toll Lanes," *The Washington Post*, 21 September 2017.

28 SH 130: Aman Batheja, "Report: SH 130 Toll Road Company in Danger of Default," *Texas Tribune*, 19 June 2014, accessed at www.texastribune.org/2014/06/19/report-sh-130-toll-road-danger-default/, 8 March 2015; Camino Colombia: Texas State Auditor's Office, *Audit Report: The Texas Department of Transportation's Purchase of the Camino Colombia Toll Road*, 2 June 2006.

29 "North America's P3 Toll Roads to Avoid Permanent Traffic Reduction," *Infrastructure Investor*, 6 July 2020, available at <https://www.infrastructure-investor.com/north-americas-p3-toll-roads-to-avoid-permanent-traffic-reduction/>.

30 See note 2.

31 See note 6.

32 See note 3.

33 See, for example, Gilles Duranton and Matthew A. Turner, "The Fundamental Law of Road Congestion: Evidence from US Cities," *American Economic Review*, DOI: 10.1257/aer.101.6.2616, 2011.

34 Ibid.

35 Tony Dutzik and Alana Miller, Frontier Group, *A New Way Forward: Envisioning a Transportation System without Carbon Pollution*, p. 15, May 2016.

36 See note 4.

37 See note 5.

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

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

40 "3 churches...3 cemeteries": The Ohio Department Of Transportation, District 8, *Eastern Bypass of Southwest Ohio and Greater Cincinnati*, p. 7, December 2019, archived at https://web.archive.org/web/20200813222323/https://2050.oki.org/wp-content/uploads/2020/04/ODOT-2019-Report-to-Legislature_w_attach-Final.pdf.

41 U.S. Federal Highway Administration, *Highway Statistics 2018 Table HM-260*, October 2019, available at <https://www.fhwa.dot.gov/policyinformation/statistics/2018/hm260.cfm>.

42 Angie Schmitt, "How a Toledo Mom Stopped a Destructive Road Widening," *Streetsblog USA*, 27 March 2017, available at <https://usa.streetsblog.org/2017/03/27/how-a-toledo-mom-stopped-a-destructive-road-widening/>.

43 Robert Schneider, "United States Pedestrian Fatality Trends, 1977 to 2016," *Journal of the Transportation Research Board*, 17 July 2020, doi: 10.1177/0361198120933636.

44 Congressional Research Service, *The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues for Congress*, 11 April 2012, available at <https://crsreports.congress.gov/product/pdf/R/R42479>.

45 Michael Manville, "Automatic Street Widening: Evidence From a Highway Dedication Law," *Journal of Transportation and Land*, p. 384, 19 August 2016, doi: 10.5198/jtlu.2016.834.

46 Based on Google search conducted on 16 May 2019.

47 See note 40, p. 9.

48 Ibid., p. 6.

49 Ibid., pp. 7-8.

50 Ibid., p. 8.

51 Lawrence Budd, "ODOT Report: \$7b Cincinnati Eastern Bypass Should not Be Built," *Dayton Daily News*, 21 January 2020, archived at <https://web.archive.org/web/20200930161335/https://www.daytondailynews.com/news/transportation/odot-report-says-cincy-eastern-bypass-should-not-built/VfyIj1KJefBcHpuFGA751I/>.

52 Margaret Collins and Glen Weisbrod, Economic Development Research Group, *Economic Impact of Freeway Bypass Routes in Medium Size Cities*, p. 1, September 2000, archived at <https://web.archive.org/web/20171118001956/http://www.edrgroup.com:80/pdf/Urban-Freeway-Bypass-Case-Studies.pdf>.

53 Ibid.

54 Table 1, under Estimated Traffic Impact to Ohio River Crossings, shows that 2040 estimated total crossings of the Ohio River would be 399,300 in a no-build scenario, versus 409,700 with Concept 1, the CEB: Kentucky Transportation Cabinet, *Executive Summary of Brent Spence Bridge Strategic Corridor Study*, pp. 15-16, 13 December 2017, archived at <https://web.archive.org/web/20200813222503/https://transportation.ky.gov/Planning/Planning%20Studies%20and%20Reports/Final%20Executive%20Summary%20121417.pdf>.

55 "Sustainability..." comes from the introduction to the plan, while "population...development" comes from the Built Environment section: City of Cincinnati Office of Environment and Sustainability, *Green Cincinnati Plan*, 16 May 2018, archived at <http://web.archive.org/web/20201101031642/https://www.cincinnati-oh.gov/oes/citywide-efforts/climate-protection-green-cincinnati-plan/>.

56 Ibid., see Transportation section.

57 See note 40, p. 7.

58 Property and land impacts: See note 40, Figure 2 Property Impact from Study Environmental Overview on p. 7; Plainview Cemetery and Greenmound Cemetery using the map of the CEB from: The Citizens for the Cincy Eastern Bypass, *Cincy Eastern Bypass*, archived 20 August 2020 at <https://web.archive.org/web/20200820161555/http://www.cincyeasternbypass.com/wp-content/uploads/2019/02/Updated-Bypass-Map.1.29.19.pdf>. Found using Google Maps to plot the approximate course of the CEB and looking for any cemeteries near its path. The *Eastern Bypass of Southwest Ohio and Greater Cincinnati* report also notes a “large cemetery (possibly over 1,000 graves) along US 52 in Clermont County” which likely refers to Greenmound Cemetery.

59 Four new river crossings: Kentucky Transportation Cabinet, *Executive Summary of Brent Spence Bridge Strategic Corridor study*, p. 1, 13 December 2017, archived at <https://web.archive.org/web/20200813222503/http://transportation.ky.gov/Planning/Planning%20Studies%20and%20Reports/Final%20Executive%20Summary%20121417.pdf>.

60 For a discussion of road construction impacts on river systems, see section 1.3 Effects of Highway Construction on River Systems of: U.S. Federal Highway Administration, *River Engineering for Highway Encroachments: Highways in the River Environment*, December 2001, archived at <http://web.archive.org/web/20201018130808/https://www.fhwa.dot.gov/engineering/hydraulics/pubs/nhi01004.pdf>.

61 Texas Department of Transportation, *Loop 1604 from SH 16 to I-35 Open House Display Boards*, 24 September 2019, archived at <http://web.archive.org/web/20200824153552/http://ftp.dot.state.tx.us/pub/txdot/get-involved/sat/loop-1604-from-sh16/092419-display-boards.pdf>.

62 Texas Department of Transportation, *Loop 1604 from SH 16 to I-35 Improvement (Fly Over)*, 30 September 2019, available at archived at <https://www.youtube.com/watch?v=H-rB4ZDJzY8>.

63 See note 61.

64 Project cost: Texas Department of Transportation, *Loop 1604 Expansion Project Virtual Public Hearing*, 10 September 2020, p. 17, archived at <https://web.archive.org/web/20201023212750/http://ftp.dot.state.tx.us/pub/txdot/get-involved/sat/loop-1604-from-sh16-i-35/091020-presentation.pdf>.

65 The purpose of the project is to “accommodate current and future traffic volumes”: Texas Department of Transportation, *Open House – Loop 1604 from SH 16 to I-35*, archived on 10 March 2020 at <http://web.archive.org/web/20200310105339/https://www.txdot.gov/inside-txdot/get-involved/about/hearings-meetings/san-antonio/090519.html>.

66 Bruce Selcraig, “Loop 1604 Will Be 10 Lanes Wide, and TxDOT Wants You to See the Plans,” *MySA.com*, 24 September 2019, archived at <https://web.archive.org/save/https://www.mysanantonio.com/news/local/article/Loop-1604-will-be-10-lanes-wide-and-TxDOT-wants-14456717.php>.

67 Loop 410 one of Texas’ most congested roadways: Texas A&M Transportation Institute, *Texas’ 100 Most Congested Road Sections - 2019*, 21 October 2019, archived at <http://web.archive.org/web/20201104201224/https://mobility.tamu.edu/texas-most-congested-roadways/>.

68 Edwards Aquifer is the primary water source: Edwards Aquifer Authority, *About the Edwards Aquifer*, accessed 24 August 2020, archived at <http://web.archive.org/web/20200712074650/https://www.edwardsaquifer.org/science-maps/about-the-edwards-aquifer/>.

69 Texas Department of Transportation, *Draft Environmental Assessment - Loop 1604 Expansion*, August 2020, p. 31, available at <http://ftp.dot.state.tx.us/pub/txdot/get-involved/sat/loop-1604-from-sh16-i-35/091020-ea.pdf>.

70 Patricia B. Ging, “Quality of Stormwater Runoff From an Urbanizing Watershed and a Range-land Watershed in the Edwards Aquifer Recharge Zone, Bexar and Uvalde Counties, Texas, 1996–98”, *United States Geological Survey*, 1999, archived at <http://web.archive.org/web/20190515084935/https://pubs.usgs.gov/of/1999/ofr99245/>.

71 *Aquifer Guardians in Urban Areas and Texas Uniting for Reform and Freedom v. U.S. Federal Highway Administration et al.*, Case 5:08-cv-00154-FB Document 127-2, United States District Court for the Western District of Texas, San Antonio Division, 20 December, 2010, p. 5, archived at [http://web.archive.org/web/20200826202250/http://www.aquiferguardians.org/PDF/\(127-2\)Ross-PI-dec.pdf](http://web.archive.org/web/20200826202250/http://www.aquiferguardians.org/PDF/(127-2)Ross-PI-dec.pdf).

72 See note 69.

73 \$205.5 million is the sum of all the pieces of the interchange project listed at: Illinois Department of Transportation, *FY 2021-2026 Proposed Highway Improvement Program*, July 2020, pp. 180-181, archived at <https://web.archive.org/web/20200828203742/http://www.idot.illinois.gov/Assets/uploads/files/Transportation-System/Reports/OP&P/HIP/2021-2026/2021-2026%20MYP%20Internet%20Version.pdf>.

74 Ben Szalinski, "Pritzker Gas Tax to Help Fund \$205.5m 'Exit to Nowhere'", *Illinois Policy Center*, 25 October 2019, archived at <https://web.archive.org/web/20200807111546/https://www.illinoispolicy.org/pritzker-gas-tax-to-help-fund-205-5m-exit-to-nowhere/>.

75 Howard Learner's comment: Greg Hinz, "Remember Peotone? Pritzker wants to spend \$206 million on it.", *Crain's Chicago Business*, 22 October 2019, archived at [\\$https://web.archive.org/web/20200923140103/https://www.chicagobusiness.com/greg-hinz-politics/remember-peotone-pritzker-wants-spend-206-million-it](https://web.archive.org/web/20200923140103/https://www.chicagobusiness.com/greg-hinz-politics/remember-peotone-pritzker-wants-spend-206-million-it); \$1 billion shortfall: Mary Wisniewski, "Chicago-Area Transit May Look Different This Summer, With Social Distancing and the End of Rush Hour," *Chicago Tribune*, 15 May 2020.

76 Ben Szalinski, "Peotone Airport Gains in New State Budget, but History Shows Taxpayers Lose," *Illinois Policy Center*, 27 September 2019, archived at <https://web.archive.org/save/https://www.illinoispolicy.org/peotone-airport-gains-in-new-state-budget-but-history-shows-taxpayers-lose/>.

77 More than \$100M spent with neither land acquisition nor studies complete: Erika Hobbs, "Pritzker's Budget Funds Work for South Suburban Airport," *Patch*, 5 June 2019, archived at <https://web.archive.org/web/20200612065437/https://patch.com/illinois/chicagoheights/pritzkers-budget-funds-roadwork-south-suburban-airport>; no construction has been done: The Chicago Tribune Editorial Board, "Editorial: Gov. J.B. Pritzker Shouldn't Squander \$205 Million on the Flight of Fancy Known as the Peotone Airport," *Chicago Tribune*, 5 November 2019, archived at <https://web.archive.org/web/20200901171023/https://www.chicagotribune.com/opinion/editorials/ct-editorial-pritzker-peotone-ohare-airport-taxpayers-midway-20191105-royk66oyivdhrfbgwx4x4zprii-story.html>.

78 Joe Cahill, "Why is Pritzker Throwing Money at an Airport Nobody Needs?," *Crain's Chicago Business*, 23 October 2019, archived at <http://web.archive.org/web/20200103151805/https://www.chicagobusiness.com/joe-cahill-business/why-pritzker-throwing-money-airport-nobody-needs>.

79 See note 76.

80 The FAA's analysis: James G. Keefer, "FAA Approval of SSA Forecast," *Federal Aviation Administration*, 23 March, 2011, archived at https://web.archive.org/web/20200901172752/https://www.faa.gov/airports/airport_development/ssa/SSA_PLANNING/ssa_mp/media/2011-03-23_SSA_Forecast_Approval.pdf; existing general aviation facility: South Suburban Airport Master Plan, "2009 Forecast Verification of 2004 Forecast," *Federal Aviation Administration*, 6 January 2011, p. 23, archived at https://web.archive.org/web/20200901173721/https://www.faa.gov/airports/airport_development/ssa/SSA_PLANNING/ssa_mp/media/2011-01-06_SSA_Forecast_Update_FINAL.pdf.

81 Mary Wisniewski, "Does the Chicago Area Need Another Airport? Plans for a Peotone Airport Are Back, This Time With an E-Commerce Spin," *Chicago Tribune*, 12 August 2019, archived at <https://web.archive.org/web/20200831154730/https://www.chicagotribune.com/business/transportation/ct-biz-peotone-airport-proposal-cargo-shipping-amazon-getting-around-20190812-nrhtcaku7rgvbmhk-htbtxyfz6u-story.html>.

82 Ibid.

83 Alabama Department of Transportation, *Birmingham Northern Beltline – About the Project*, accessed 1 September 2020, archived at <https://web.archive.org/web/20200901152414/https://better-beltline.com/>.

84 BNB is part of the ADHS: Howard Koplowitz, "Northern Beltline to Resume Construction After \$30 Million Approved in Senate Funding Bills," *AL.com*, 19 December 2019, archived at <http://web.archive.org/web/20191222150300/https://www.al.com/news/birmingham/2019/12/northern-beltline-to-resume-construction-after-30-million-approved-in-senate-funding-bills.html>; ADHS intention and funding: Appalachian Regional Commission, *Appalachian Development Highway System*, archived at http://web.archive.org/web/20200808035037/https://www.arc.gov/program_areas/AppalachianDevelopmentHighway-System.asp.

85 Erin Edgemon, "Construction of Birmingham Northern Beltline Stops Due to Loss of Funding," *AL.com*, 13 January 2019, archived at https://web.archive.org/web/20200901212011/https://www.al.com/news/birmingham/2017/11/construction_of_birmingham_nor.html.

86 Ibid.

87 See note 84.

88 Alabama Department of Transportation, *Birmingham Northern Beltline - FAQ*, accessed 6 November 2020 at <https://betterbeltline.com/faq/>.

89 Southern Environmental Law Center, *Northern Beltline FAQs*, archived on 1 September 2020 at <https://web.archive.org/web/20200901154336/https://www.southernenvironment.org/cases-and-projects/fact-sheets/northern-beltline-faqs>.

90 Ibid.

91 Regional Planning Commission of Greater Birmingham, *Public Involvement Meeting Documentation April 2010*, 27 May 2010, p. 4-17, archived at <https://web.archive.org/web/20190708184924/http://www.rpcgb.org//wp-content/uploads/2016/10/RPCGB-MPO-Public-Involvement-Meeting-Documentation.pdf>.

92 Claims of economic development: Alabama Department of Transportation, *Birmingham Northern Beltline - About*, accessed 4 September 2020, archived at <http://web.archive.org/web/20200608211754/https://betterbeltline.com/about/>.

93 Ken Chilton and Peter B. Meyer, "If You Build It, Will They Come? Reassessing the Economic Impacts of the Northern Beltline Project," *The Ochs Center for Metropolitan Studies*, June 2012, pp. 1-2, archived at https://web.archive.org/web/20200904203230/https://www.southernenvironment.org/uploads/publications/nb_report_final.pdf.

94 Regional Planning Commission of Greater Birmingham, *Public Involvement Meeting Documentation April 2010*, 27 May 2010, pp. 4-17, archived at <https://web.archive.org/web/20190708184924/http://www.rpcgb.org//wp-content/uploads/2016/10/RPCGB-MPO-Public-Involvement-Meeting-Documentation.pdf>.

95 Post and Courier editorial board, "Highway 'Boondoggles' Report Offers Insights for Charleston," *The Post and Courier*, 1 July 2019, archived at https://web.archive.org/web/20190701170120/https://www.postandcourier.com/opinion/editorials/highway-boondoggles-report-offers-insights-for-charleston/article_83354f0a-978e-11e9-953b-1b-9d8d74f8a8.html.

96 Costliest project in county history: Abigail Darlington, "I-526 Extension Explained: The Controversy, the Cost and What It Means for You," *The Post and Courier*, 3 October 2018, archived at https://web.archive.org/web/20200902154701/https://www.postandcourier.com/news/i-526-extension-explained-the-controversy-the-cost-and-what-it-means-for-you/article_afce259c-c718-11e8-aeef-3741b9c2cb38.html.

97 CDM Smith, South Carolina Department of Transportation, *Mark Clark Expressway Extension Re-Evaluation*, p. 26, 17 February 2016, available at https://drive.google.com/drive/folders/1Ww12rl-ToPzi3fFQ_rIK9qYy6qzLuBu8o.

98 Alternative G is the project's Recommended Preferred Alternative. For trip reductions see *ibid.*, Table 3.3.

99 *Ibid.*, total impacts from table 5.1 on p. 40.

100 Mikaela Porter, "As Rural Charleston Island's Population Doubles, Residents Try to Hang on to Country Feel," *Post and Courier*, 1 August 2020, archived at https://web.archive.org/web/20200824170441/https://www.postandcourier.com/business/real_estate/as-rural-charleston-islands-population-doubles-residents-try-to-hang-on-to-country-feel/article_1fb69854-5a4c-11ea-bd08-c-f355ea7fc96.html.

101 Johns Island: City of Charleston Department of Planning, *Johns Island Community Planning Workshop - Ecological and Cultural Environs*, 10 March 2007, p. 1, archived at [https://web.archive.org/web/20200903213739/https://www.charleston-sc.gov/DocumentCenter/View/1408/Ecological-and-Cultural-Environs?bidId="](https://web.archive.org/web/20200903213739/https://www.charleston-sc.gov/DocumentCenter/View/1408/Ecological-and-Cultural-Environs?bidId=); James Island: Town of James Island, *History*, archived at <http://web.archive.org/web/20200816124229/http://jamesislands.us/history>.

102 See note 97, p. 40, table 5.1.

103 *Ibid.*, total impacts from table 5.1 on p. 40 and park names from table 4.3 on p. 30.

104 Florida Senate, *CS/SB 7068: Transportation – Version S 7068 er*, 1 May 2019, bill text available at <https://www.flsenate.gov/Session/Bill/2019/7068/?Tab=BillText>.

105 Cornell Consulting, *M-CORES Traffic Congestion and Hurricane Evacuation Analysis: In Search of Alternatives and Solutions*, 9 September 2020, available at <http://noroadstoruin.org/white-papers/> and <https://drive.google.com/file/d/1uId1xxyFQCriSqwgFvQGe4pIjcNIXn9h/view>.

106 Ibid.

107 Cornell Consulting, *M-CORES: Fiscal Feasibility Analysis*, 9 September 2020, available at <http://noroadstoruin.org/white-papers/> and <https://drive.google.com/file/d/1cpJKYuNAX-J-3yy7KNohZqHXuO8c7uQDx/view>; Sierra Club Florida Chapter and 1000 Friends of Florida, *M-CORES: A Detour Around Accountability*, 20 August 2020, available at <https://1000fof.org/wp-content/uploads/2020/08/2008-M-CORES-A-DETOUR-AROUND-ACCOUNTABILITY-FINAL2.pdf>.

108 Kurt Wenner et al., Florida TaxWatch, *The Suncoast Connector: What We Still Need to Know*, p.20, July 2020, available for download at <https://floridataxwatch.org/Research/Full-Library/ArtMID/34407/ArticleID/18903/The-Suncoast-Connector-What-We-Still-Need-to-Know?fbclid=IwAR0cXSmXaX7gF1jIWZZEJYaN5DkkI1GDtkR84Qk0f3nD9sd1rTBL-XO8vc>.

109 Florida Senate, *CS/SB 7068: Transportation – Final Bill Text*, 1 May 2019 available at <https://www.flsenate.gov/Session/Bill/2019/7068/Bill-Text/er/HTML>; 1000 Friends of Florida, *M-CORES: Citizen Primer 1*, 9 May 2020, p. 2, available at <https://1000fof.org/wp-content/uploads/2019/08/FOF-1155-MCORES-Primer-Flyer-v7-FINAL.pdf>.

110 Laura Cassels, “Controversial Toll Road Project Funding Is Still Intact Amid \$1 Billion in State Budget Cuts,” *Florida Phoenix*, 1 July 2020, available at <https://www.floridaphoenix.com/2020/07/01/controversial-toll-road-project-funding-is-still-intact-amid-1-billion-in-state-budget-cuts/>.

111 Ibid.

112 1000 Friends of Florida, *M-CORES: Citizen Primer 1*, 9 May 2020, available at <https://1000fof.org/wp-content/uploads/2019/08/FOF-1155-MCORES-Primer-Flyer-v7-FINAL.pdf>.

113 Remaining animals: The National Wildlife Federation, *Florida Panther*, accessed on 4 September 2020 at <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/Florida-Panther>; endangered status: U.S. Fish and Wildlife Service, *Florida Panther - Puma Concolor Coryi*, accessed on 4 September 2020 at <https://www.fws.gov/southeast/wildlife/mammals/florida-panther/>.

114 Lawrence Mower, “Proposed Highway Could Mean End of the Road for Endangered Florida Panthers,” *Miami Herald*, 13 December 2019, available at <https://www.miamiherald.com/news/local/environment/article238345418.html>; email text available at <https://frontiergroup.org/file/foia-docs-usfws-m-corespdf>.

115 Based on 2017, 2018 and 2019 statistics: Florida Fish and Wildlife Conservation Commission, *Panther Pulse*, accessed at <https://myfwc.com/wildlifehabitats/wildlife/panther/pulse/> on 23 October 2020.

116 Sierra Club Florida Chapter and 1000 Friends of Florida, *M-CORES: A Detour Around Accountability*, 20 August 2020, p. 3, available at <https://1000fof.org/wp-content/uploads/2020/08/2008-M-CORES-A-DETOUR-AROUND-ACCOUNTABILITY-FINAL2.pdf>.

117 1000 Friends of Florida, *M-CORES: Citizen Primer 2*, 10 October 2019, p. 1, available at <https://1000fof.org/wp-content/uploads/2019/08/FOF-1155-MCORES-Primer2-Flyer-v4-FINAL.pdf>.

118 Chad Gillis, “Task Force Members Still Confused About Process, Need for Proposed Toll Roads,” *Naples Daily News*, 23 July 2020, available at <https://www.naplesnews.com/story/news/local/2020/07/23/florida-toll-road-task-force-evaluates-need-toll-road-southwest-florida/5489759002/>.

119 \$2 billion: Texas Department of Transportation, *Southeast Connector Project Fact Sheet*, 4 June 2020, available at <http://ftp.dot.state.tx.us/pub/tx-dot/get-involved/ftw/southeast-connector/060420-fact-sheet.pdf>.

120 Texas Department of Transportation, “Virtual Public Hearing Southeast Connector,” *Texas Department of Transportation*, 4 June, 2020, pp. 7-9, archived at <https://web.archive.org/web/20200909162144/http://ftp.dot.state.tx.us/pub/txdot/get-involved/ftw/southeast-connector/060420-presentation.pdf>.

121 Texas Department of Transportation, "Induced Growth Analysis Southeast Connector," *Texas Department of Transportation*, December 2019, p. 7, archived at <https://web.archive.org/web/20200909174944/http://ftp.dot.state.tx.us/pub/txdot/get-involved/ftw/southeast-connector/060420-induced-growth.pdf>.

122 Goal of increasing density: TIP Strategies for City of Fort Worth, *Economic Development Strategic Plan*, December 2017, p. 6, archived at <http://web.archive.org/web/20200125142006/http://fortworthtexas.gov:80/files/1e870ed6-8afe-43cc-adeb-60f47e04bde0.pdf>; buying land outside the city: Luke Ranker, "Fort Worth Is Moving Forward to Buy Land Dispute the Coronavirus Budget Crunch," *Fort Worth Star-Telegram*, 11 May 2020, archived at <http://web.archive.org/web/20200911134017/https://www.star-telegram.com/news/local/fort-worth/article242603481.html>.

123 Sprawl impacts: Steve Campbell, "Fort Worth-Arlington More Sprawling Than Los Angeles, New Study Says," *Fort Worth Star-Telegram*, 5 April 2014, archived at <https://web.archive.org/web/20200909150941/https://www.star-telegram.com/news/local/article3852745.html>. Fort Worth residents experiencing long commutes, bad air, etc.: Theodore Kim et al., "North Texas' Sprawl Sprang From Pro-Growth Policies," *The Dallas Morning News*, 4 February 2012, archived at <https://web.archive.org/web/20200910163006/https://www.dallasnews.com/news/2012/02/05/north-texas-sprawl-sprang-from-pro-growth-policies/>.

124 Steve Campbell, "Fort Worth-Arlington More Sprawling Than Los Angeles, New Study Says," *Fort Worth Star-Telegram*, 5 April 2014, archived at <https://web.archive.org/web/20200909150941/https://www.star-telegram.com/news/local/article3852745.html>.

125 \$1.59 billion for the Southeast Connector is the sum of the cost of the projects associated with the Southeast Connector on IH-20, IH-820 and US-270: Texas Department of Transportation, "2020 Unified Transportation Program (UTP)," *Texas Department of Transportation*, June 2019, p. 144, archived at <http://web.archive.org/web/20200723045501/http://ftp.dot.state.tx.us/pub/txdot/tpp/utp/2020-utp.pdf>; underfunding transit agency: Luke Ranker, "Fort Worth's 'Bare Bones' Bus System Will Get a Redesign, but Funding Is Lacking," *Fort Worth Star-Telegram*, 11 August 2020, archived at <http://web.archive.org/web/20200909135545/https://www.star-telegram.com/news/local/fort-worth/article244797412.html>.

126 Luke Ranker, "Fort Worth's 'Bare Bones' Bus System Will Get a Redesign, but Funding Is Lacking," *Fort Worth Star-Telegram*, 11 August 2020, archived at <http://web.archive.org/web/20200909135545/https://www.star-telegram.com/news/local/fort-worth/article244797412.html>.

127 Luke Ranker, "Light Rail, TEXRail Extension and Rapid Bus Lines: How Fort Worth Could Transform Your Commute," *Fort Worth Star-Telegram*, 27 September 2019, archived at <https://web.archive.org/web/20200623182431/https://www.star-telegram.com/news/business/growth/article235461207.html>.

128 Ibid.

129 Transit Moves Fort Worth, *Draft Plan Summary Brochure*, 2020, archived at <http://web.archive.org/web/20200225185817/https://www.transitmovesfortworth.com/project-documents>.

130 Luke Ranker, "For the First Time in Four Years, Fort Worth Did Not Cut Your Property Tax Rate," *Fort Worth Star-Telegram*, 22 September 2020, available at <https://www.star-telegram.com/news/local/fort-worth/article245916315.html>; Luke Ranker, "Fort Worth's 'Bare Bones' Bus System Will Get a Redesign, but Funding Is Lacking," *Fort Worth Star-Telegram*, 11 August 2020, archived at <http://web.archive.org/web/20200909135545/https://www.star-telegram.com/news/local/fort-worth/article244797412.html>.

131 Trinity Metro funding: Trinity Metro, *Business Plan Annual Budget FY 2019*, January 2019, p. 11, archived at <http://web.archive.org/web/20200727081423/https://ridetrinitymetro.org/wp-content/uploads/2020/01/FY19-Budget-Document-Final-With-Links.pdf>; Southeast Connector funding: Texas Department of Transportation, *Virtual Public Hearing Southeast Connector*, 4 June 2020, p. 30, archived at <http://web.archive.org/web/20200909162144/http://ftp.dot.state.tx.us/pub/txdot/get-involved/ftw/southeast-connector/060420-presentation.pdf>.

132 23 displacements from p. 8, eight not anticipated to find other housing from p. 13, and makeup of impacted communities from p. 25 of: Texas Department of Transportation, *Community Impacts Assessment Technical Report Form*, September 2015, archived at <https://web.archive.org/web/20200909194156/http://ftp.dot.state.tx.us/pub/txdot/get-involved/ftw/southeast-connector/060420-community-impacts.pdf>; construction timeline: Texas Department of Transportation, *Southeast Connector Project Fact Sheet*, 4 June 2020, archived at <http://web.archive.org/web/20201001211752/http://ftp.dot.state.tx.us/pub/txdot/get-involved/ftw/southeast-connector/060420-fact-sheet.pdf>.

133 Haley Samsel, "This \$2 Billion Highway Expansion Prompts Concern About Noise, Tree Removal in Arlington," *Fort Worth Star-Telegram*, 20 July 2020, archived at <https://web.archive.org/web/20200908210421/https://www.star-telegram.com/news/local/arlington/article244275002.html>.

134 Ibid.

135 Alice Barr, "Billion Dollar TxDOT Project Set to Remake Fort Worth's Southeast Connector," *NBCDFW*, 16 August 2018, archived at <https://web.archive.org/web/20200909195854/https://www.nbcdfw.com/news/local/billion-dollar-txdot-project-set-to-remake-fort-worths-southeast-connector/269261/>.

136 Image available at <https://www.mass.gov/doc/i-90-allston-multimodal-project-throat-area-alternatives-fall-2020/download>.

137 Massachusetts Department of Transportation, *I-90 Allston Multimodal Project Boston, MA National Environmental Policy Act Review Scoping Summary Report*, 7 August 2020, available at <https://www.mass.gov/doc/national-environmental-policy-act-review-scoping-summary-report-i-90-allston-multimodal-project/download>.

138 City of Boston, *Climate Action Plan 2019 Update*, 2019, archived at https://web.archive.org/web/20200613094135/https://www.boston.gov/sites/default/files/embed/file/2019-10/city_of_boston_2019_climate_action_plan_update_4.pdf; Commonwealth of Massachusetts, *Determination of Statewide Emissions Limit for 2050*, 22 April 2020, available at <https://www.mass.gov/doc/final-signed-letter-of-determination-for-2050-emissions-limit/download>.

139 City of Boston, *Reducing Commuters Driving Alone to Work*, date not provided, available at https://www.boston.gov/sites/default/files/file/document_files/2019/08/reducing_commuters_driving_alone_to_work_1.pdf; Massachusetts Department of Transportation, *Green DOT Implementation Plan*, 12 December 2012, archived at <https://web.archive.org/web/20150709025735/http://www.massdot.state.ma.us/Portals/0/docs/GreenDOT/finalImplementation/FinalGreenDOTImplementationPlan12.12.12.pdf>.

140 See note 137, Appendix C 2.2.2; eight to ten years of construction: Massachusetts Department of Transportation, *Allston Multimodal Project* (factsheet), date not provided, available at <https://www.mass.gov/doc/allston-multimodal-project-fact-sheet/download>.

141 Robin Chase and Doug Foy, "Build a Better City, Starting With the Allston Interchange," *The Boston Globe*, 18 February 2020, available at <https://www.bostonglobe.com/2020/02/18/opinion/build-better-city-starting-with-allston-interchange/>.

142 See note 37, Appendix C 2.2.4.

143 Dante Ramos, "In Allston, the Transit Lesson We Never Learn," *The Boston Globe*, 15 December 2017, available at <https://www.bostonglobe.com/opinion/2017/12/15/allston-transit-lesson-never-learn/fBARh1DtKFupTcjCd2bMpK/story.html>.

144 Christian MilNeil, "An Updated Rough Guide To Boston's Allston/I-90 Megaproject," *StreetsBlog Mass*, 5 October 2019, archived at <https://web.archive.org/web/20200920132507/https://mass.streetsblog.org/2019/10/15/a-rough-guide-to-bostons-allston-i-90-megaproject/>; originally the project would have delayed construction on West Station: Dante Ramos, "In Allston, the Transit Lesson We Never Learn," *The Boston Globe*, 15 December 2017, available at <https://www.bostonglobe.com/opinion/2017/12/15/allston-transit-lesson-never-learn/fBARh1DtKFupTcjCd2bMpK/story.html>.

145 Massachusetts Department of Transportation, *Recent Developments and Next Steps for the Allston Multimodal Project*, archived on 8 October 2020 at <https://web.archive.org/web/20201008185129/https://www.mass.gov/service-details/recent-developments-and-next-steps-for-the-allston-multimodal-project>.

146 Allston Brighton Community Development Corporation, Allston Brighton Health Collaborative, et al., untitled letter, August 2020, available at https://walkboston.org/wp-content/uploads/2020/08/FINAL-I-90-one-pager_logos-3.pdf?8621dc&8621dc.

147 C.A. Webb, Robert Coughlin and Tim Murray, "In Allston Interchange Debate, Don't Forget Grand Junction," *CommonWealth Magazine*, 1 October 2020, available at <https://commonwealthmagazine.org/transportation/in-allston-interchange-debate-dont-forget-grand-junction/>.

148 Patrick Marley, "Wisconsin Gov. Scott Walker Suggests Highways Don't Need More Lanes When They Are Rebuilt," *Milwaukee Journal Sentinel*, 4 September 2018, available at <https://www.jsonline.com/story/news/politics/elections/2018/09/04/scott-walker-suggests-highways-dont-need-more-lanes-when-they-rebuilt/1192867002/>.

149 Patrick Marley, "Gov. Tony Evers Tries to Revive Long-Stalled I-94 Project in Milwaukee," *Milwaukee Journal Sentinel*, 8 July 2020, available at <https://www.jsonline.com/story/news/politics/2020/07/08/gov-tony-evers-tries-revive-long-stalled-94-project-milwaukee/5397413002/>.

150 Ibid.

151 Alison Dirr, "Bus Routes Targeted for Elimination, Including Freeway Flyers, Are Restored in New Budget Proposal," *Milwaukee Journal Sentinel*, 19 September 2019, <https://www.jsonline.com/story/news/local/milwaukee/2019/09/19/budget-proposal-calls-restoring-bus-routes-slated-cuts/2372399001/>.

152 Shawn Johnson, "Gov. Tony Evers Orders \$250M In State Budget Cuts Amid Coronavirus Downturn," *Wisconsin Public Radio*, 22 July 2020, available at <https://www.wpr.org/gov-tony-evers-orders-250m-state-budget-cuts-amid-coronavirus-downturn>.

158 See note 14.

153 Dallas Trinity Parkway, Texas: Trinity River Corridor, Trinity Parkway, archived on 6 June 2019 at <https://web.archive.org/web/20190606210845/http://www.trinityrivercorridor.com/resources/Pages/Trinity-Parkway.aspx>. Tesoro Extension, California: Theresa Sears, "Landmark Agreement Ends 15-Year Dispute Over SR 241 Toll Road Extension," Voice of OC, 16 November 2016, *archived at* <http://web.archive.org/web/20180131174020/https://voiceofoc.org/2016/11/landmark-agreement-ends-15-year-dispute-over-sr-241-toll-road-extension/>. 710 Tunnel, California: Carol Cormaci and Laura Nelson, "Caltrans Effectively Kills 710 Freeway Extension After Decades-Long Battle," *LA Times*, 29 November 2018, *archived at* <http://web.archive.org/web/20200220174314/https://www.latimes.com/local/lanow/la-me-ln-710-fwy-extension-alternative-20181129-story.html>. High Desert Freeway, California: Joe Linton, "Caltrans Settles Environment Lawsuit, Cancels High Desert Freeway Project," *Streetsblog LA*, 2 October 2019, *archived at* <http://web.archive.org/web/20200218215421/https://la.streetsblog.org/2019/10/02/caltrans-settles-environment-lawsuit-cancels-high-desert-freeway-project/>.

154 Alaskan Way Viaduct, Washington: Washington State Department of Transportation, The New SR 99 Tunnel Under Downtown Seattle, *archived on* 6 June 2019 at <https://web.archive.org/web/20190606211319/https://99tunnel.com/>. I-11, Nevada: Nevada DOT, Interstate 11, *archived on* 1 April 2019 at <http://web.archive.org/web/20190401224117/https://www.nevadadot.com/projects-programs/road-projects/interstate-11>. C-470 Express Lanes, Colorado: Colorado Department of Transportation, C-470 Express Lanes, *archived at* <https://web.archive.org/web/20200916202127/https://www.codot.gov/programs/expresslanes/c-470-express-lanes>. I-77 Express Lanes, North Carolina: Mobility Partners LLC, I-77 Express, accessed on 6 June 2019 at <https://www.i77express.com/>. Portsmouth Bypass, Ohio: Nick Oliver, et al., "Update: Portsmouth Bypass Opens to Traffic," *WSAZ News Channel 3*, 14 December 2018, *archived at* <https://web.archive.org/web/20200220192452/https://www.wsaz.com/content/news/Community-gets-sneak-peek-of-new-Portsmouth-bypass-389133342.html>. State Route 45 Southwest, Texas: Texas Regional Mobility Authority, 45SW Toll, *archived at* <https://web.archive.org/web/20200516090012/https://www.mobilityauthority.com/traveler-info/open-roads/45SW-Toll>. Route 20 Widening, Iowa: Iowa Department of Transportation, U.S. 20 Construction, accessed on 6 June 2019 at <https://www.iowadot.gov/us20construction>. I-66 Express Lanes "Inside the Beltway," Virginia: Virginia Department of Transportation, About the Lanes, *archived at* https://web.archive.org/web/20200323160621/http://www.66expresslanes.org/about_the_lanes/default.asp.

155 Illiana Expressway: Thomas Cechner "Letter: Dust Off Plans for Illiana Expressway," The Herald News, 27 June 2020, *archived at* <https://web.archive.org/web/20200917153055/> <https://www.theherald-news.com/2020/06/04/letter-dust-off-plans-for-illiana-expressway/> a31u4m4/. I-94 East West: Patrick Marley, "Gov. Tony Evers Tries to Revive Long-Stalled I-94 Project in Milwaukee," Milwaukee Journal Sentinel, 8 July 2020, *available at* <https://www.jsonline.com/story/news/politics/2020/07/08/gov-tony-evers-tries-revive-long-stalled-94-project-milwaukee/5397413002/>. Paseo del Volcan: Stephen Montoya, "PdV: The Goal to Pave the Road to Economic Development," Rio Rancho Observer, 1 April 2019, *archived at* <https://web.archive.org/web/20190401153745/> <https://www.abqjournal.com/1298616/pdv-the-goal-to-pave-the-road-to-economic-development.html>. Interstate 73, South Carolina: Anjali Patel, "I-73 Isn't Part of Proposed Hospitality Fee Settlement. So How Will It Get Built?" ABC 15 News, 20 August 2020, *archived at* <https://web.archive.org/web/20200917153939/> <https://wpde.com/news/local/horry-co-leaders-say-i-73-isnt-part-of-proposed-settlement-so-how-will-it-get-built>. Illinois State Route 53/120, Illinois: Amie Schaenzer, "Route 53 extension project is 'effectively dead,'" Patch, 15 July 2019, *archived at* <http://web.archive.org/web/20201102222001/> <https://patch.com/illinois/buffalogrove/route-53-extension-project-effectively-dead>.

156 Effingham Parkway, Georgia: Amanda LaBrot, "Cost for Effingham Parkway Project Skyrockets," WTOC 11, 24 April 2019, *archived at* <https://web.archive.org/web/20200917155124/> <https://www.wtoc.com/2019/04/24/cost-effingham-parkway-project-skyrockets/>. I-11, Arizona: Interstate 11 Corridor, Mick Akers, "Arizona Officials Study 3 Possible Routes for Future I-11," Las Vegas Review-Journal, 8 July 2019, *archived at* <https://web.archive.org/web/20200501193323/> <https://www.reviewjournal.com/local/traffic/arizona-officials-study-3-possible-routes-for-future-i-11-1705951/>. I-26 Connector, North Carolina: North Carolina Department of Transportation, Asheville I-26 Connector, *archived at* <https://web.archive.org/web/20200916155658/> <https://www.ncdot.gov/projects/asheville-i-26-connector/Pages/default.aspx>. Widening I-94 Through Detroit, Michigan: MIDrive, History and Project Milestones, *archived at* <https://web.archive.org/web/20200916213621/> <https://i94detroit.org/i94-project/history-of-the-i-94-and-project-milestones/>. Mon-Fayette Expressway: Route 51 to I-376, Pennsylvania: Ed Blazina, "Pa. Turnpike to Display Revised Plans for Mon-Fayette Expressway," Pittsburgh Post-Gazette,

29 June 2020, *archived at* <https://web.archive.org/web/20200916160456/> <https://www.post-gazette.com/news/transportation/2020/06/29/Mon-Fayette-Expressway-Pennsylvania-Turnpike-Dravosburg-revised-plans/stories/202006280060>. Tampa Bay Express Lanes, Florida: Florida Department of Transportation, Tampa Bay Next, *archived at* <https://web.archive.org/web/20200916161354/> <https://active.fdotd7studies.com/i275/54th-to-4th/>. Widening I-95 Across the State, Connecticut: Connecticut Department of Transportation, Gov. Malloy and Commissioner Redeker Release Findings of I-95 Widening Study, Reiterate Call for New Transportation Revenue (press release), 22 February 2018, *archived at* <https://web.archive.org/web/20200916215528/> <https://portal.ct.gov/DOT/News-from-the-Connecticut-Department-of-Transportation/2018/I-95-Widening-Study-Released>. Interstate 30, Arkansas: Noel Oman, "Metroplan Adding \$350m to I-30 Plan; Project Needs Voters' OK on Sales Tax," Arkansas Online, 30 April 2020, *archived at* <https://web.archive.org/web/20200514020114/> <https://www.arkansasonline.com/news/2020/apr/30/metroplan-adding-350m-to-i-30-plan-2020/?news-arkansas>. Interstate 75 North Truck Lanes, Georgia: Georgia Department of Transportation, I-75 Commercial Vehicle Lanes, *archived at* <http://web.archive.org/web/20200717132511/> <https://majormobilityga.com/projects/i75cvl/>. Interstate 84 Expansion, Connecticut: Connecticut Department of Transportation, I-84 Danbury Project Timeline, *archived at* <https://web.archive.org/web/20200917162107/> <http://www.i84danbury.com/process-timeline/>. Madison Beltline, Wisconsin: Wisconsin Department of Transportation, I-39/90 Expansion Project, *archived on 30 April 2019 at* <http://web.archive.org/web/20190430194856/> <https://projects.511wi.gov/i-39-90/us1218-beltline/>. "Traffic Relief Plan," Maryland: Maryland Department of Transportation, Program Overview, *archived at* <https://web.archive.org/web/20200726093117/> <https://495-270-p3.com/program-overview/>. I-49 Inner City Connection, Shreveport, Louisiana: I-49 Inner-City Connector-Shreveport, I-49 Inner-City Connector-Shreveport, *archived at* <https://web.archive.org/web/20200916191800/> <http://www.i49shreveport.com/Site/overview.html>. Interstate 35 Expansion, Austin, Texas: Texas Department of Transportation, I-35 Express Central, *archived at* <http://web.archive.org/web/20200723220041/> <http://www.my35.org/capital-project-capital-express-central.htm>. North Houston Highway Improvement Project, Texas: Texas Department of Transportation, NHHIP Environmental Impact Statement (EIS) Timeline, *archived at* <https://web.archive.org/web/20200218211606/> <http://www.lh45northandmore.com/schedule.aspx>. I-83 Widening, Pennsylvania: Pennsylvania

Department of Transportation, North York Widening Project, archived at <http://web.archive.org/web/20200817115013/https://www.i83northyork.com/>. I-5 Rose Quarter Widening, Oregon: Oregon Department of Transportation, I-5 Rose Quarter Improvement Project, archived at <https://web.archive.org/web/20200907043705/https://www.i5rose-quarter.org/>.

157 Cleveland Opportunity Corridor, Ohio: Ohio Department of Transportation, Project Overview, archived at <https://web.archive.org/web/20200222192949/https://www.dot.state.oh.us:80/projects/ClevelandUrbanCoreProjects/OpportunityCorridor/NewsandInformation/Pages/Project-Overview.aspx>. State Highway 249 Extension, Texas: Texas Department of Transportation, Project Progress, archived at <http://web.archive.org/web/20200916203227/https://txsh249.com/project-progress/>. Widening I-70 in Denver, Colorado: Colorado Department of Transportation, Progress on the Project, archived at https://web.archive.org/web/20200916204112if_/https://www.codot.gov/projects/i70east/resources/progress-on-the-project. Puget Sound Gateway, Washington: Washington State Department of Transportation, Puget Sound Gateway Program, archived at <https://web.archive.org/web/20200828155839/https://wsdot.wa.gov/Projects/Gateway/default.htm>. Interstate 4 “Beyond the Ultimate,” Florida: Florida Department of Transportation, I-4 Beyond the Ultimate: Building a Better I-4, archived at <https://web.archive.org/web/20200818132511/https://i4beyond.com/>. Interstate 405 Improvement, Orange County CA: Orange County Transportation Authority, I-405 Improvement Project (SR-73 to I-605), archived at <https://web.archive.org/web/20200817145200/https://www.octa.net/Projects-and-Programs/Under-Construction/I-405-Improvement-Project/?frm=7135>. I-285 & SR 400 Interchange Rebuilding, Atlanta, Georgia: Georgia Department of Transportation, I-285 & SR 400 Improvements (Transform 285/400), archived at <http://web.archive.org/web/20200714152956/http://www.dot.ga.gov/BuildSmart/Projects/Pages/I285SR400.aspx>. I-94 North South Expansion, Wisconsin: Wisconsin Department of Transportation, I-94 North South Freeway Project, archived at <https://web.archive.org/web/20200501044158/https://projects.511wi.gov/i94northsouth/overview/>. North Spokane Corridor, Spokane, Washington: Washington State Department of Transportation, US 395 - North Spokane Corridor, archived at <https://web.archive.org/web/20200813115243/https://www.wsdot.wa.gov/Projects/US395/NorthSpokaneCorridor/home>. Pennsylvania Turnpike Expansion: Pennsylvania Turnpike Commission, Design and Construction, archived at <https://web.archive.org/>

web/20200825033836/https://www.paturnpike.com/travel/major_design_construction_projects.aspx. U.S. Highway 101 Expansion, San Mateo, California: California Department of Transportation, San Mateo 101 Express Lanes, archived at <https://web.archive.org/web/20200512045030/https://www.cityofsanmateo.org/4077/SM-101-Express-Lanes-Project>. LBJ East Expansion, Texas: Texas Department of Transportation, Overview, archived at <https://web.archive.org/web/20200828011926/https://635east.com/>. Complete 540, North Carolina: North Carolina Department of Transportation, Complete 540, archived at <https://web.archive.org/web/20200218201039/https://www.ncdot.gov/projects/complete-540/Pages/default.aspx>. I-75 Widening, Michigan: Michigan Department of Transportation, Modernize 75, archived at <https://web.archive.org/web/20200219161907/https://www.modernize75.com/>. Tri-State Toll Widening, Illinois: Illinois Tollway, Central Tri-State Tollway (I-294) Project, archived at <https://web.archive.org/web/20200219175808/https://www.illinoistollway.com/projects/tri-state/central-tri-state-reconstruction>. “Connecting Miami” Widening Project, Florida, Construction Updates, accessed 16 September 2020 at <http://www.i395-miami.com/construction-updates/>. Interstate 81 Widening, Virginia: Virginia Department of Transportation, Work Underway, archived at <http://web.archive.org/web/20200729071210/http://improve81.org/news-and-traffic-alerts-original/work-underway/default.asp>.

159 U.S. Department of Transportation, Highway Statistics 2018, Table SB-2, January 2020, corrected version of data provided by U.S. Department of Transportation Office of Highway Policy Information staff on 20 October 2020.

160 See note 2, Table II.