

A REPORT TO THE ARIZONA LEGISLATURE

Performance Audit Division

Performance Audit

Arizona Department of Transportation

Projected Transportation Revenues Fall Short of Estimated Needs and the Arizona Legislature Should Consider a Task Force to Study Options for Addressing Transportation Revenue Needs

> September • 2015 Report No. 15-113



Debra K. Davenport Auditor General The **Auditor General** is appointed by the Joint Legislative Audit Committee, a bipartisan committee composed of five senators and five representatives. Her mission is to provide independent and impartial information and specific recommendations to improve the operations of state and local government entities. To this end, she provides financial audits and accounting services to the State and political subdivisions, investigates possible misuse of public monies, and conducts performance audits of school districts, state agencies, and the programs they administer.

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MELANIE M. CHESNEY DEPUTY AUDITOR GENERAL

September 28, 2015

Members of the Arizona Legislature

The Honorable Doug Ducey, Governor

Mr. John Halikowski, Director Arizona Department of Transportation

Transmitted herewith is a report of the Auditor General, *A Performance Audit of the Arizona Department of Transportation—Transportation Revenues*. This report is in response to an October 3, 2013, resolution of the Joint Legislative Audit Committee and was conducted as part of the sunset review process prescribed in Arizona Revised Statutes §41-2951 et seq. I am also transmitting within this report a copy of the Report Highlights for this audit to provide a quick summary for your convenience.

The Arizona Department of Transportation (Department) was provided with the opportunity to respond to this report, but because the report's recommendation is directed to the Arizona Legislature and not to the Department, it decided not to provide a response.

My staff and I will be pleased to discuss or clarify items in the report.

Sincerely,

Debbie Davenport Auditor General

Attachment



Arizona Department of Transportation—

Transportation Revenues

REPORT HIGHLIGHTS PERFORMANCE AUDIT

Our Conclusion

The Arizona Department of Transportation (Department) is responsible for planning, constructing, and maintaining the State's highway infrastructure. However, the Department's projected transportation revenues fall short of estimated transportation needs. The purchasing power of fuel tax revenues—the Department's largest revenue source-has diminished over time while, simultaneously, revenue collections have remained relatively flat since the 2000s. The Department estimates that state transportation system needs will total \$88.9 billion for fiscal years 2010 through 2035 while projected transportation revenues will total \$26.2 billion, a \$62.7 billion shortfall. The Legislature should consider convening a task force to study and propose transportation funding options to address transportation revenue needs.



Department's projected transportation revenues fall short of estimated needs

Department plans, constructs, and maintains Arizona's highway infrastructure— Every 5 years the Department develops and submits to the State Transportation Board (Board) a long-range transportation plan that identifies anticipated highway system needs for the next 20 years. The Department also prepares a 5-year construction program for board approval that identifies specific construction projects that will be conducted based on anticipated funding. This 5-year construction program is updated annually and includes preservation, modernization, and expansion projects.

Department transportation funding sources include federal aid, which mostly consists of federal fuel taxes, including the 18.4 cents per gallon gasoline tax and the 24.4 cents per gallon diesel/kerosene tax; the State Highway Fund, which includes revenues from various state taxes, such as the 18 cents per gallon gasoline tax, the two-tiered 18 or 26 cents per gallon diesel tax, and the vehicle license tax (VLT), which varies based on vehicle ownership and value; the Regional Area Road Fund for use in Maricopa County, which consists of a Maricopa County half-cent sales tax; and debt proceeds.

Sufficient revenue is important for a viable transportation system—Transportation revenues are necessary for maintaining and expanding the state transportation system. As of calendar year 2014, about 88 percent of pavement the Department maintained was in good or fair condition, while 98 percent of department-maintained bridges were in good or fair condition as of calendar year 2013. Timely maintenance saves the State money because maintaining roads is cheaper than reconstructing roads. According to the Department, it needs to spend \$260 million on preservation projects each year between fiscal years 2016 and 2025 to maintain the existing system in its current condition, but competing construction needs and priorities make that expenditure unlikely. Consequently, the Department reported that it has a backlog of maintenance projects and is falling further behind on maintenance every year. As of 2015, driving on roads in need of repair costs Arizona drivers an estimated \$1.5 billion annually in extra vehicle repairs and operating costs, according to the American Society of Civil Engineers (ASCE).

Transportation system expansion can address population growth, alleviate congestion, and may help the economy. The State's population increased from more than 3.6 million to more than 6.6 million people between fiscal years 1990 and 2014. Congested streets cost drivers money in the form of wasted time and fuel costs, and 41 percent of Arizona's major urban highways are congested, according to the ASCE. Finally, according to a department report, a well-designed transportation system increases the mobility of goods in and out of the State, and transportation spending directly impacts the economy and job market.

Transportation revenues fall short of estimated needs—The Department's most recent long-range transportation plan anticipates total transportation revenues of \$26.2 billion that will be available for use on the state transportation system between fiscal years 2010 and 2035. However, the plan's projected state transportation system needs over that same time period total \$88.9 billion, resulting in a \$62.7 billion potential shortfall.

Fuel tax revenues lack long-term sustainability—The Department's primary source of transportation revenues are federal and state fuel taxes, which have not been raised since the early 1990s. Since then, the purchasing power of these revenues has diminished. Simultaneously, fuel tax revenues have remained relatively flat since the 2000s. Fuel tax revenues have also been affected by decreased demand for fuel. For example, gasoline sales in Arizona declined by approximately 200 million gallons between fiscal years 2008 and 2009, and remained at or below this level during fiscal years 2010 through 2014. Factors contributing to this decline include increases in fuel efficiency, reduced growth in vehicle miles traveled, and the increased use of alternative fuels.

Lack of anticipated revenues affects transportation planning—The Department reported that it has had to modify the timing, scope, and type of construction projects included in its 5-year construction program because of the lack of anticipated transportation revenues. In addition, areas of the State without a region-specific revenue source, such as a county transportation excise tax, are more affected by the lack of anticipated revenues.

Legislature should consider task force to study options to address transportation revenue needs

Several options may address the transportation revenue shortfall—The most common approach other states have used to address transportation revenues has been to alter fuel taxes. This could include increasing the cents-per-gallon taxes, making the gas tax a percentage of the price of fuel tax, or indexing fuel taxes to inflation. Another option is a tax based on vehicle miles traveled (VMT), which Oregon pioneered in 2015. Under this option, a driver is charged according to miles driven, which can be tracked by a Global Positioning System or other device.

Other revenue options include creating toll roads or lanes, increasing existing or creating new vehicle fees and taxes, and imposing a fee on alternative fuel vehicles. Under the toll option, a driver pays a fee to access a road or lane. Although not in use, Arizona allows the use of toll options but only on new highways, bridges or tunnels, or newly constructed lanes/high occupancy vehicle lanes. Vehicle fees and taxes in Arizona include a registration fee between \$4.50 and \$9 and the VLT, which averaged \$126 per year in fiscal year 2014. Arizona has not established a fee on alternative fuel vehicles.

A final alternative is to impose a sales tax or to use general fund monies for transportation. Sales taxes tend to receive stronger support than other local tax options and can generate significant revenues. Although 32 other states use general fund monies to fund transportation, the Department receives almost no State General Fund monies.

Legislature should consider forming a task force—Other states have benefited from having such a task force to research the various transportation revenue options. For example, Oregon's task force recommended the voluntary VMT tax. Based on a legislative committee's recommendations, South Dakota raised fuel taxes by 6 cents per gallon, increased the vehicle excise tax and license plate fees, and allowed counties to increase property taxes for local transportation.

Recommendation

The Legislature should consider forming a task force to study and propose options for addressing the Department's transportation revenue needs to ensure a safe, efficient, and economically viable state transportation system.

Arizona Department of Transportation— Transportation Revenues A copy of the full report is available at: www.azauditor.gov Contact person: Jeremy Weber (602) 553-0333

REPORT HIGHLIGHTS PERFORMANCE AUDIT September 2015 • Report No. 15-113

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INTRODUCTION Scope and Objectives

The Office of the Auditor General has conducted a performance audit of the Arizona Department of Transportation (Department)— Transportation Revenues pursuant to an October 3, 2013, resolution of the Joint Legislative Audit Committee. This audit is the second in a series of three audits conducted as part of the sunset review process prescribed in Arizona Revised Statutes (A.R.S.) 41-2951 et seq. This audit examines issues surrounding the Department's transportation revenues and various options for addressing its revenue needs. The first audit addressed various aspects of the Department's Motor Vehicle Division (MVD), including field office customer service, administration of the Ignition Interlock Program, and oversight of authorized third-party offices (see Report No. 15-104). The final report addresses the statutory sunset factors (see Report No. 15-114).

Department responsible for state transportation system

State transportation system

The Department was established in 1974 and is responsible for collecting transportation-related revenues and for planning, constructing, and maintaining Arizona's highway infrastructure. The Department's mission is to provide a safe, efficient, cost-effective transportation system. The state transportation system includes the state highway system as well as transit, rail, and aviation systems that the Department supports and/or administers.¹ Specifically:

- State highway system—The state highway system includes the system of state routes, U.S. highways, and interstate highways that the Department owns and operates. The state highway system includes 21,390 travel lane miles of roads and 4,787 bridges that the Department is responsible for maintaining.
- **Transit**—The Department does not own or operate any transit systems, but is responsible for administering federal grant programs that provide assistance to public, tribal, and private transit systems.² The Department is also responsible for providing technical assistance and expertise to local transit agencies and decision makers; coordinating and financing transit planning efforts in rural and urban areas; serving as the State Safety Oversight Agency for light rail; and ensuring a multi-modal approach in addressing problems of mobility, congestion, and air quality throughout the State.³
- Rail—Arizona's railroad network is composed of two Class I railroads— BNSF Railway (690 miles) and Union Pacific Railroad (775 miles)—and nearly 530 miles of short-line railroads.^{4,5} Two Amtrak passenger trains operate in Arizona, as well as three tourist railroads—Grand Canyon

¹ The state transportation system excludes locally managed roads because the Department does not own or operate these roads. Local governing bodies, including cities, towns, counties, or other regional transportation planning agencies, have jurisdiction over local transportation systems.

² Transit systems include modes of public passenger transportation such as buses, subways, light rail, commuter rail, monorail, passenger ferry boats, trolleys, inclined railways, and people movers.

³ The Federal Transit Administration State Safety Oversight rule requires states to administer a safety and security oversight program for all rail fixed guideway systems in its jurisdiction.

⁴ Class I railroads have annual revenues exceeding \$453 million and account for 69 percent of United States freight rail mileage and 94 percent of its freight revenue. Class I railroads operate in 44 states and the District of Columbia. There are seven Class I railroads: BNSF Railway Company, Canadian Pacific Railway, CN, CSX Transportation, Kansas City Southern Railway Company, Norfolk Southern Railway Company, and Union Pacific Railroad.

⁵ Short-line and regional railroads account for 31 percent of United States freight rail mileage and range in size from small operators handling a few carloads per month to multi-state operators close to Class I size. More than 560 short-line and regional railroads operate in every state except Hawaii.

Railway (64 miles), Verde Canyon Railroad (20.4 miles), and Copper Spike Railroad (8 miles). The Department is responsible for working with railroad companies when a department-managed project involves a railroad, managing the Federal Railroad-Highway Grade Crossing Safety Program, and managing the State-wide Railroad Crossing Inventory.¹

• Aviation—The Department is responsible for the design, construction, and maintenance of state-owned airports.² Additionally, the Department's Aeronautics Group is responsible for developing the Five-Year Airport Capital Improvement Program (ACIP) in conjunction with Arizona's public airports and the Federal Aviation Administration. The ACIP distributes federal, state, and local monies to publicly owned airports in the state system of airports for airport development, including safety and capacity enhancement, maintenance, and land acquisition. The state system of airports includes 83 of the more than 200 airports in the State, including Sky Harbor International, Tucson International, and Casa Grande Municipal airports.

The Department's capital assets, such as land, buildings, roads, bridges, and in-progress construction, were valued at more than \$19.7 billion as of fiscal year 2014. Within the Department, the Intermodal Transportation Division (ITD) is primarily responsible for designing, constructing, and maintaining the state highway system. In addition, the Multimodal Planning Division (MPD) develops and implements state-wide transportation policy and assists with transportation planning and programming efforts at the state, regional, and local levels, including the state system of airports. The MPD also helps to identify present and future transportation system.

Transportation plans

To fulfill its purpose, statute requires the Department to develop a long-range transportation plan every 5 years for the Arizona State Transportation Board's (Board) review and approval (see textbox, page 3). According to A.R.S. §28-506, the long-range transportation plan must include all anticipated critical state-wide highway system needs for the next 20 years. The Department's most recent long-range transportation plan, *What Moves You Arizona*, identifies state transportation needs for fiscal years 2010 through 2035 and includes a projected revenue forecast of \$26.2 billion that is expected to be available for the State's transportation needs over that same time period.^{3,4} These projected revenues are based on the assumption of no new taxes and conservative revenue growth and inflation rates. *What Moves You Arizona* was based on the State's 2010 *Building a Quality Arizona* (bqAZ) transportation planning framework, which was developed by the Department and other stakeholders pursuant to a 2008 Governor's Executive Order that called for a comprehensive transportation needs plan through the year 2050. The bqAZ planning framework includes both state and local transportation systems and

¹ The Federal Highway Administration Railway-Highway Crossing Program provides monies to states for the elimination of hazards at railway-highway crossings. The monies are apportioned to states by formula.

² The Grand Canyon National Park Airport is the only state-owned airport in the State.

³ The Department reported that, as of August 2015, it had begun updating its long-range transportation plan and that the revenue and need projections will likely change.

⁴ Arizona Department of Transportation. (2011). What moves you Arizona: Long-range transportation plan. Phoenix, AZ.

Arizona State Transportation Board

The Board is responsible for establishing a complete system of state highway routes in Arizona. The Board is granted policy powers by the Governor and serves in an advisory capacity to the Department's Director. The Board awards construction contracts, monitors the status of construction projects, and has the exclusive authority to issue revenue bonds for transportation financing. The Board is also responsible for reviewing and approving the Department's long-range and 5-year construction plans. The Board consists of seven members. Specifically:

- The State is divided into six transportation districts composed of one to four counties each.
- One member is appointed per district for a 6-year term, except that districts with a population of 2.2 million or more have two members appointed. As of August 2015, only one district—Maricopa County—had two members.
- Appointees must have been a resident and taxpayer of the county from which they are appointed for at least 5 years prior to their appointment.
- Districts with more than one county will have the appointment rotated among counties.

Source: A.R.S. §§28-301, 28-302, 28-506, 28-6952, 28-6953 and Auditor General staff review of the Board's Web site.

was developed as a vision for Arizona's transportation future assuming no financial constraints or limitations. In the *What Moves You Arizona* plan, the Department calculated its transportation funding needs for the 25-year period between 2010 and 2035 at three levels of investment—baseline needs (\$26.2 billion), full state needs (\$88.9 billion), and vision needs (\$250.1 billion). Specifically:

- **Baseline needs**—Assumes no new transportation revenue sources or modifications to existing sources. Capital investments at this level do not exceed the \$26.2 billion in projected revenues for fiscal years 2010 through 2035.
- **Full-state needs**—The level of investment needed to address expected deficiencies and meet minimum acceptable conditions for the state transportation system. Needs at this level total \$88.9 billion for the 25-year period.
- Vision needs—Estimates the cost of implementing the first 25 years of the bqAZ planning framework, which is unrestricted by the financial forecast and includes both state and local transportation systems. Vision level needs are estimated to cost \$250.1 billion.

In addition, A.R.S. §28-6951 requires the Department to develop and submit to the Board a plan that identifies highway, transit, and airport construction projects based on anticipated funding for the next 5 years. The Five-Year Transportation Facilities Construction Program (5-year construction program) is based on the long-range transportation plan and is composed of separate programs for Maricopa County, Pima County, Greater Arizona, and airport facilities.¹ The 5-year construction program is composed of numerous individual highway, transit, and airport construction projects, including new construction and maintenance, and is revised annually to reflect the completion of projects, addition of new projects, and changes in scheduling for ongoing projects. The Department divides projects in the 5-year construction program into the following categories:

¹ Greater Arizona consists of all areas of Arizona outside of Maricopa and Pima Counties, including rural areas.

- **Preservation**—Activities that protect transportation infrastructure by sustaining asset condition or extending asset service life. This includes regular maintenance and resurfacing of pavements, replacing aged transit vehicles, upgrading rail track, and rehabilitating airport runways.
- Modernization—Highway improvements that upgrade efficiency, functionality, and safety without adding capacity. Examples of modernization activities include lane widening, access control, bridge replacement, hazard elimination, lane reconstruction, aviation upgrades, and bus system upgrades.¹
- **Expansion**—Improvements that add transportation capacity through the addition of new facilities or services. Expansion includes adding new highway lanes and constructing new highway facilities.

Department transportation funding sources and expenditures

The Department relies on various revenues and debt proceeds (collectively referred to as transportation funding sources) to pay for its transportation-related expenditures, which the Department reported totaled more than \$1.58 billion in fiscal year 2014.² About two-thirds of the Department's expenditures were for construction and maintenance (see Figure 1, page 5). As shown in Figure 2 (see page 6), the Department's largest transportation funding source—44 percent in fiscal year 2014—came from the federal government. Specifically:

• **Federal aid**—Federal aid comes from the federal Highway Trust Fund, which is authorized through federal legislation. The State is reimbursed with federal aid for certain construction project costs after they are incurred. According to a 2012 Congressional Research Services report, federal fuel taxes provided approximately 90 percent of federal Highway Trust Fund monies.^{3,4} Federal fuel taxes consist of the gasoline tax, which is 18.4 cents per gallon, a diesel/kerosene tax of 24.4 cents per gallon, and other cents per gallon taxes on special fuels.^{5,6} In fiscal year 2014, federal aid represented 44 percent of the Department's transportation funding sources. According to department staff, federal aid is used for preliminary engineering; right-of-way purchases; and construction projects, consisting of preservation, modernization, and expansion projects.⁷

¹ According to the Federal Highway Administration Web site, access management includes techniques used by state and local governments to control access to highways and roadways to promote safe and efficient use of the transportation system. Increasing the distance between traffic signals and using raised medians are two examples of access control techniques.

² According to the Department, these transportation expenditures do not include distributions to counties, cities, and other state agencies.

³ Congressional Research Service. (2012). The federal excise tax on gasoline and the Highway Trust Fund: A short history. Washington, DC.

⁴ Each state is guaranteed that at least 92 percent of the federal fuel tax it collects and contributes to the federal Highway Trust Fund will be returned to the state. In addition, each state receives aid in accordance with formulas based on consumption of different types of motor fuel.

⁵ Special fuels include liquefied petroleum gas, liquefied natural gas, and compressed natural gas.

⁶ 26 U.S.C. §4081(a)(2).

⁷ Right-of-way purchases are made to acquire property rights needed for construction improvement of state highways throughout Arizona.



General's Office, as well as the cost of other external financial services. Source: Arizona Department of Transportation Financial Management Services 2014 Annual

State Highway Fund—Monies deposited in the State Highway Fund come primarily from the Arizona Highway User Revenue Fund (HURF) and other revenue sources.¹ The State's fuel taxes are the largest source of HURF revenues and comprised 51 percent of total HURF revenues in fiscal year 2014. State fuel taxes include the gasoline tax, which is 18 cents per gallon, and a two-tiered diesel tax, which is 18 cents per gallon for light-class motor vehicles and other exempt vehicles and 26 cents per gallon for use-class motor vehicles.² Revenues from the State's vehicle license tax (VLT), which is a fee paid at the time of vehicle registration based on ownership and value of the car, was the next main source of HURF revenues (28 percent). Vehicle registration fees, motor carrier taxes, and other revenue sources comprised the remaining 21 percent of HURF revenues. In fiscal year 2014, the State Highway Fund

Source: Arizona Department of Transportation Financial Management Services 2014 Annual Report and information provided by department staff.

¹ Distributions are made out of the HURF revenues before they go in the State Highway Fund, such as to the Department's Motor Vehicle Division (MVD) for vehicle registration enforcement and third-party programs; the economic strength project fund (monies allocated for projects recommended by the Arizona Commerce Authority and approved by the Board); the Arizona Department of Public Safety (DPS); and cities, counties, and towns. Transfers are also made from the State Highway Fund to the DPS, MVD authorized third-party providers, the Maricopa Association of Governments, the Pima Association of Governments, and debt service. The remaining monies in the State Highway Fund are for the Department's operating budget (including employee salaries and administrative costs) and highway maintenance and construction.

² Light-class motor vehicles are motor vehicles that use fuel on Arizona state highways, excluding road tractors, truck tractors, trucks, or passenger-carrying vehicles having a declared gross vehicle weight of more than 26,000 pounds or having more than two axles. Use-class motor vehicles are motor vehicles that use fuel on Arizona state highways and are either a road tractor, truck tractor, or truck, or passenger-carrying vehicle having a declared gross vehicle weight of more than 26,000 pounds or having more than two axles. A use-fuel tax of 9 cents per gallon is also imposed on diesel fuel for vehicles transporting forest products.



represented 29 percent of the Department's transportation funding sources. According to department staff, the State Highway Fund is used for state highway system maintenance, department operations, debt service on bonds, and construction (typically to match federal aid).¹

• **Regional Area Road Fund (RARF)**—RARF monies come from the Maricopa County transportation excise tax, a half-cent sales tax.² Approximately 67 percent of these tax revenues go to the RARF to pay for Maricopa County transportation projects.³ The Department can only use 56.2 percent of these tax revenues for region specific highway purposes. In fiscal year 2014, RARF represented 10 percent of the Department's transportation funding sources. RARF monies may only be used in Maricopa County, with monies going to freeways and other routes in the state highway system and arterial streets. RARF monies are used for construction and debt service.

¹ According to department staff, maintenance projects funded with State Highway Fund monies include routine maintenance projects that do not involve new construction, such as road surface maintenance, landscaping, rest area maintenance, and snow and ice maintenance.

² The Maricopa County Transportation Excise Tax was first established by voters in 1985 for a period of 20 years and was later extended by voters on November 2, 2004, for another 20-year period, ending December 31, 2025. The tax is used for construction of new freeways, widening of existing freeways and highways, improvements to the arterial street system, regional bus service and other special transportation services, and high-capacity transit services such as light rail, bus rapid transit, and express buses. The Department administers the RARF. Although Pima and other counties also use a sales tax to fund transportation, these revenues are not included in Figure 1 because the Department reported that it does not administer these programs.

³ The remaining 33 percent goes to a public transportation fund to be used in Maricopa County.

- **Debt proceeds**—The Department uses three types of debt financing tools to help finance construction costs. These include highway revenue bonds (backed by HURF revenues), Maricopa County transportation excise tax bonds (backed by RARF revenues), and grant anticipation notes (backed by anticipated federal aid) to help finance its 5-year construction program. In fiscal year 2014, debt proceeds represented 10 percent of the Department's transportation funding sources. In addition, in fiscal year 2014, the Department had a total of approximately \$2.96 billion in outstanding principal across these three types of debt. Debt proceeds are used for construction and/or to refund existing bonds.
- **Other**—The remainder of the Department's revenues come from State Aviation Fund revenues and small revenue sources such as income from investments, state and local grants, and miscellaneous receipts. In fiscal year 2014, these other revenues represented 7 percent of the Department's transportation funding sources. According to department staff, these revenues are used for various transportation expenses.

CHAPTER 1

Although transportation revenues are essential for ensuring a safe, efficient, and cost-effective transportation system, projected revenues do not meet estimated needs. Transportation revenues are necessary for maintaining and expanding the transportation system in order to reduce costs, promote safety, address congestion, and provide economic opportunities for the State. However, the Arizona Department of Transportation's (Department) projected transportation revenues fall short of the estimated needs to meet minimum acceptable conditions for the State's transportation system through fiscal year 2035. Like other states, the Department relies heavily on federal and state fuel tax revenues to pay for transportation projects; however, federal and state fuel taxes have diminished in purchasing power over time, and revenues have been relatively flat. The Department reported that, as a result, it has had to scale back on planned transportation projects throughout the State. Further, areas of the State without a regionspecific transportation revenue source—such as a county transportation excise tax-are more acutely affected by the lack of anticipated revenues.

Department's projected transportation revenues fall short of estimated needs

Sufficient revenue important for a well-maintained and economically viable transportation system

Having sufficient transportation revenues is necessary for maintaining and expanding the state transportation system. A well-maintained system saves money for both the State and its citizens, and may prevent safety hazards. Additionally, system expansion can help address roadway congestion and provide economic opportunities for the State.

System maintenance can save money over time and may prevent safety hazards—Transportation revenues are necessary to keep roads in good condition throughout Arizona and to prevent future expenses for both the State and its citizens. Specifically:

Maintenance important for ensuring that Arizona roads and bridges continue to meet federal and department standards-According to the Department, as of calendar year 2014, 88.3 percent of department-maintained pavement was in good or fair condition based on measurements of pavement roughness.¹ As of calendar year 2013, 98 percent of department-maintained bridges were in good or fair condition, meaning that they were free of major structural deficiencies.² However, according to a 2015 American Society of Civil Engineers (ASCE) report, although some of Arizona's infrastructure systems are relatively new, many systems across the State are starting to deteriorate because of age and a lack of monies for maintenance that would have extended the service life of these systems.^{3,4} According to department data, the percentage of pavement in the state system in good condition decreased from 70.4 to 62.6 percent between calendar years 2005 and 2014, and the Department expects this trend to continue based on projected revenues. In addition, a department official reported that the Department has prioritized maintenance of interstate roads over noninterstate roads because they are more heavily used and provide

¹ The Department inspects roads annually and reports pavement conditions as being in good, fair, or poor condition based on the International Roughness Index, a standard used by the Federal Highway Administration (FHWA). Although not required by the FHWA, the Department also assesses road conditions based on the number of cracks in the roadway. As of 2014, nearly 95 percent of roads in the Department's jurisdiction were in good or fair condition using the cracking measure.

² The Department inspects bridges biennially and reports bridge conditions as being in good, fair, or poor condition based on the National Bridge Inventory condition rating scale, a standard used by the FHWA. The reported percentage includes all bridges and some culverts within the Department's jurisdiction.

³ American Society of Civil Engineers. (2015). 2015 report card for Arizona's infrastructure. Reston, VA.

⁴ The report evaluated nine of Arizona's infrastructure systems, including roads, drinking water, dams, wastewater, levees, rail, transit, aviation, and bridges.

greater benefit to the State's economy. As of calendar year 2014, 90.9 percent of interstate roads were in good condition versus 62.3 percent of noninterstate roads. Similarly, rural roads are in worse condition than urban roads.¹ As of calendar year 2014, 61.3 percent of rural roads were in good condition compared to 69.8 percent of urban roads.

- Timely maintenance saves money for the State and its citizens—Timely maintenance saves the State money because it costs more to replace transportation infrastructure than to maintain it. For example, the ASCE reported in 2013 that the reconstruction cost per lane mile after a 25-year period can be three times the cost of maintenance over the same time period that would extend the life of the road.² According to its Comprehensive Annual Financial Report for fiscal year 2014, the Department's total capital assets were valued at more than \$19.7 billion, including nearly \$13.8 billion in infrastructure (e.g., roads and bridges) and more than \$2.8 billion in construction in progress. In addition, deferring maintenance creates a backlog of needs, increasing costs as both the number of maintenance projects and the extent of maintenance needed on each project increases. For example, at a January 2015 Arizona State Transportation Board study session, the Department reported that it needs to spend \$260 million on preservation projects each year between fiscal years 2016 and 2025 to maintain the existing system in its current condition, but is unable to do so because of competing construction needs and priorities of other transportation planning partners. As a result, the Department reported that it has a backlog of maintenance needs because they are consistently falling behind on transportation infrastructure maintenance every year. Finally, Arizona drivers also face increased costs in vehicle upkeep and repair when roads are not well-maintained. According to the ASCE, driving on roads in need of repair costs Arizona motorists an estimated \$1.5 billion per year—\$318 per motorist—in extra vehicle repairs and operating costs, as of 2015.3
- Proper maintenance may prevent safety hazards—Roads or bridges in disrepair can contribute to safety hazards and increase the risk of potential legal costs if the State is sued because of an accident. According to a 2009 study from the Pacific Institute for Research and Evaluation, road maintenance and upgrading, and the installation of traffic safety features, can prevent crashes and reduce injury severity.⁴

Transportation system expansion can accommodate population growth, reduce congestion, and may increase economic activity—Transportation system expansion can help accommodate Arizona's population growth and projected increases in vehicle travel, as well as increase economic opportunities in the State. Specifically:

• Arizona's population growth likely contributing to increased state-wide vehicle travel—According to Arizona Department of Administration (ADOA) data, Arizona's population increased by approximately 3 million people, from more than 3.6 million to

¹ The Department classifies rural and urban areas based on U.S. Census definitions. For the 2010 census, rural areas were defined as having a population of less than 2,500. Urban areas consist of urban clusters (population between 2,500 and 49,999) and urbanized areas (population greater than 50,000).

² American Society of Civil Engineers. (2013). 2013 report card for America's infrastructure. Reston, VA.

³ ASCE, 2015.

⁴ Miller, T. & Zaloshnja, E. (2009). On a crash course: The dangers and health costs of deficient roadways. Calverton, MD: The Pacific Institute for Research and Evaluation.

more than 6.6 million, between fiscal years 1990 and 2014, which has likely contributed to increased state-wide vehicle travel.¹ According to FHWA data, annual vehicle miles traveled in Arizona increased by 70.9 percent from 1990 to 2013, while annual vehicle miles traveled in the United States increased by 39.2 percent over that same time period.² Further, ADOA projects that the State's population will increase to more than 9.5 million people by 2035, with the largest growth in population expected in Maricopa County. According to department projections, average weekday vehicle miles traveled in Arizona are expected to increase by more than 106 million, or 65 percent, between fiscal years 2010 and 2035.³

- Highway expansion can help alleviate traffic congestion on roadways—Roadway congestion may result in a loss of time and money for drivers. For example, according to the ASCE, traffic congestion costs American motorists \$121 billion a year in wasted time and fuel costs and 41 percent of Arizona's major urban highways are congested.⁴ According to U.S. Bureau of Transportation Statistics data, Phoenix drivers averaged 35 annual hours of highway traffic delay per auto commuter in 2011, while Tucson drivers averaged 38 annual hours of delay per commuter.⁵ Highway improvements, such as widening or adding lanes, can improve traffic flow to help relieve congestion and potentially reduce traffic fatalities and accidents.
- Highway expansion may provide increased economic opportunities for the State—According to the Department's 2014 report, Arizona's Key Commerce Corridors (see textbox), having a welldesigned transportation infrastructure increases the mobility of goods and services to nearby markets, thereby increasing the economic activity in the State. For example, according to an analysis performed by the Department's consultant on the key commerce corridors strategy, Arizona's top five commodity exports are projected to bring in more than \$28 billion for the State in calendar year 2015.6 In addition, spending on transportation projects in the State directly impacts the economy and job market through the creation of construction jobs and associated construction employee spending in the local economy.

Arizona's Key Commerce Corridors

This report contains the Department's proposed strategic state-wide approach to transportation infrastructure investment. The Department identified six "key commerce corridors" throughout the State in which improvements to the transportation infrastructure would support the greatest potential commercial and economic benefits for Arizona. The key commerce corridors strategy is intended to focus the Department's available monies on the projects that will result in the greatest benefit for the entire State.

Source: Auditor General staff review of the Arizona's Key Commerce Corridors report.

¹ Arizona population statistics were obtained from the ADOA's Office of Employment and Population Statistics.

² Annual vehicle miles traveled obtained August 15, 2015, from the FHWA Office of Highway Policy Information Highway Statistics Series from https://www.fhwa.dot.gov/policyinformation/statistics.cfm.

³ Vehicle miles traveled projections were calculated by the Department using the Arizona State-wide Travel Demand Model (AZTDM). According to the Department's Web site, the AZTDM uses mathematical models that simulate human travel behavior for the purposes of preparing travel forecasts for road design and transportation planning. Travel forecasts are produced for planning horizons up to 30 years in the future based on population and employment growth projections established by the Arizona State Demographer's Office.

⁴ ASCE, 2015.

⁵ Yearly annual person-hours of highway traffic delay per person obtained on July 14, 2015, from the Bureau of Transportation Statistics. http:// www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/index.html.

⁶ According to the Department's consultant, Arizona's top five commodity exports are electrical equipment, farm and food products, transportation equipment, fabricated metal products, and chemicals or allied products.

Department's transportation revenues fall short of estimated needs

The Department's projected transportation revenues fall short of Arizona's estimated transportation needs through fiscal year 2035 (see textbox). In its long-range transportation plan for fiscal years 2010 through 2035, the Department estimated that it would need approximately \$88.9 billion during the 25-year period to meet minimum acceptable conditions for the state transportation system, including acceptable pavement, bridge, and traffic congestion conditions. However, the Department has projected that transportation revenues will total \$26.2 billion over the same 25-year period, resulting in a shortfall of \$62.7 billion

Department's projected revenues less needs for fiscal years 2010-2035

Projected revenue			\$26.2 billion (88.9 billion)		
Project	ed sho	rtfall	(\$62.	7 billion)	
Source:	Arizona (2011). W transporta	Departmer /hat moves y ation plan. Pl	nt of <i>'ou Ariz</i> ' hoenix,	Transportation. ona: Long-range AZ.	

between anticipated revenues and transportation needs.¹ The Department developed the \$88.9 billion estimate based on forecasts from technical experts in areas such as economics and finance, public input, and the State's 2010 *Building a Quality Arizona* transportation-planning framework (see the Introduction, pages 2 through 3, for more information about both the long-range transportation plan and the *Building a Quality Arizona* transportation planning framework).

Department relies on transportation revenue sources that lack long-term sustainability or are affected by the economy

The Department relies on transportation revenue sources that either lack long-term sustainability or are affected by the economy. Federal and state fuel taxes comprise the majority of the Department's transportation revenues. However, these fuel taxes are not tied to inflation and have diminished in purchasing power over time. Simultaneously, fuel tax revenues have remained relatively flat since the 2000s. Other states are also facing challenges because of reliance on fuel taxes. Further, the Department's next most significant transportation revenue sources—the Regional Area Road Fund (RARF), which comes from the Maricopa County half-cent sales tax, and the State's vehicle license tax (VLT)—are both affected by general economic trends (see Figure 3, page 13, for revenue trends from Arizona fuel taxes, the RARF, and the VLT). In addition, the RARF is region specific and set to expire on December 31, 2025.

Fuel taxes have diminished in purchasing power while revenues have remained flat—Federal and state fuel taxes are the Department's two largest transportation revenue sources. According to department data, areas of the State that do not receive or benefit from regional transportation revenues, such as county transportation excise taxes, are particularly reliant on federal fuel taxes. However, both federal and state fuel taxes have long-term sustainability issues. Specifically, federal fuel taxes—including the 18.4 cents per

¹ The Department reported that, as of August 2015, it had begun updating its long-range transportation plan and that the revenue and need projections will likely change. However, the Department anticipates that there will still be a considerable shortfall between projected revenues and needs, and that the shortfall may be larger than it projected in 2010.



gallon gasoline tax and the 24.4 cents per gallon diesel tax—are flat taxes that have not increased since 1993 and are not adjusted for inflation or rising construction costs, which has reduced the purchasing power of these tax revenues.¹ For example, according to the Institute on Taxation and Economic Policy (ITEP), the purchasing power of the federal gasoline tax declined by 28 percent between 1997 and 2014—of which 22 percent can be attributed to rising construction costs and 6 percent attributed to fuel efficiency gains (see pages 14 through 15 for more information about fuel efficiency).^{2,3} The ITEP estimated that an additional \$215 billion in revenue could have been collected if the federal gasoline tax rate had been reformed to rise automatically with construction cost inflation and increasing fuel efficiency.^{4,5}

¹ The federal gasoline tax decreased to 18.3 cents per gallon from January 1, 1996 to October 1, 1997, when it returned to 18.4 cents per gallon.

² Institute on Taxation and Economic Policy. (2014). *The federal gas tax: Long overdue for reform*. Washington, DC.

³ This analysis covers only the time period between 1997 and 2014 and therefore does not capture the full decline in purchasing power that may have occurred since the last federal gas tax increase in 1993.

⁴ ITEP, 2014.

⁵ Potential revenue estimate assumes that gasoline consumption would remain unchanged by an increase in the gasoline tax.

In addition, as reported by the Pew Charitable Trusts (Pew), federal revenues dedicated to transportation have not kept pace with spending authorized by Congress.¹ Federal fuel tax revenues, which make up the majority of federal Highway Trust Fund monies distributed to states as federal aid, have remained relatively flat. According to FHWA data, federal fuel tax revenues fluctuated between \$26.5 billion and \$29.6 billion in federal fiscal years 2004 through 2013. However, spending from the federal Highway Trust Fund highway account has exceeded revenues, and its fund balance has generally declined since federal fiscal year 2001, from approximately \$22.6 billion to \$4.5 billion as of July 2015 (see pages 15 through 16 for additional information about how this issue affects states).² According to the Department, the decline in the fund balance has reduced the historic growth in federal aid allocated to Arizona, which leveled off in fiscal years 2012 through 2014. The Department also reported that this has required it to reduce future revenue projections and the transportation projects they support.³

Similarly, Arizona's fuel taxes are also flat taxes that are not tied to inflation. The State's 18 cents per gallon gasoline tax has not increased since 1990, and the two-tiered diesel tax has not increased since it was established in 1997.⁴ As a result, the purchasing power of Arizona fuel tax revenues has also declined. For example, the Department estimated that it would have collected \$4.3 billion in additional revenue in fiscal years 1992 through 2014 if the gasoline tax had been indexed to inflation.⁵ As shown on the green line in Figure 3 (see page 13), Arizona's annual fuel tax revenues increased from fiscal years 2004 to 2007. However, between fiscal years 2008 and 2009, fuel tax revenues decreased by about \$70 million, from more than \$700 million to approximately \$631 million, and then remained relatively flat between fiscal years 2009 to 2014 at annual amounts lower than fiscal year 2004 revenues.

Additionally, both federal and state fuel tax revenues have been affected by decreased demand for fuel. Specifically, total gasoline consumption in the United States has decreased by more than 6 billion gallons, or 4.4 percent, between calendar years 2004 and 2013.⁶ In Arizona, the sale of gasoline decreased by approximately 200 million gallons between fiscal years 2008 and 2009, and remained at or below this level during fiscal years 2010 through 2014. Several factors have contributed to the decrease in gasoline sales. Specifically:

• Vehicle fuel efficiency is increasing—Fuel efficiency gains have contributed to declines in gasoline sales, thereby also reducing the purchasing power of fuel tax revenues (see earlier discussion on page 13). Specifically, the U.S. Environmental Protection Agency reported that average vehicle fuel efficiency for cars and trucks has improved nationally

¹ The Pew Charitable Trusts. (2014). Intergovernmental challenges in surface transportation funding. Washington, DC.

² In response to the declining fund balance, Congress has supplemented the federal Highway Trust Fund with federal general fund monies, but the downward trend has continued.

³ Federal aid accounts for an estimated 53 percent of the estimated monies available for the fiscal years 2015-2019 Five-Year Transportation Facilities Construction Program. The remaining monies for the 5-year construction program include debt proceeds (21 percent); the RARF, which can only be used for transportation projects in Maricopa County (17 percent); and state and other revenues (9 percent). The Department reported that similar data for previous 5-year construction programs was not readily available.

⁴ As discussed in the Introduction (see page 5), the two-tiered diesel tax is 18 cents per gallon for light-class vehicles and other exempt vehicles and 26 cents per gallon for heavy-use class vehicles.

⁵ Potential revenue estimate assumes that gasoline consumption in Arizona would remain unchanged by an increase in the gasoline tax.

⁶ Yearly gasoline gallon totals obtained on June 4, 2015, from the FHWA's Office of Highway Policy Information Highway Statistics series at http://www.fhwa.dot.gov/policyinformation/statistics.cfm. Numbers are reported based on gross wholesale volume of gasoline and include highway use, nonhighway use, and losses.

between 1990 and 2014—increasing from 21.2 to 24.2 miles per gallon, or 14 percent, during that time period.¹ According to ITEP, fuel efficiency is expected to continue to improve.²

- Growth in vehicle miles traveled has slowed—Annual vehicle miles traveled have fallen nationally between calendar years 2007 and 2012, compared to a steady increase in vehicle miles traveled between calendar years 1984 and 2007.³ Similarly, department data indicates that, as of 2014, annual vehicle miles traveled on Arizona public roads were still slightly below the peak of 2007, despite modest population growth between fiscal years 2007 and 2014.⁴
- An increasing number of vehicles use alternative fuels—The Department reported that the increased use of alternative fuel vehicles has also contributed to decreased demand for gasoline. According to the Department, the number of alternative fuel vehicles registered in Arizona has increased by more than 6,000—or 19 percent—between fiscal years 2005 and 2015.
- Fuel tax revenue is a nation-wide issue—Many other states are experiencing challenges because of their reliance on fuel tax revenues. Specifically, states rely heavily on federal aid from the Highway Trust Fund to help pay for transportation projects. However, the decline in the federal Highway Trust Fund's highway account fund balance has resulted in uncertainty surrounding the Highway Trust Fund's status. Further, although the transportation authorization bills providing federal aid to states from the federal Highway Trust Fund have historically run for 6 years, Congress has passed shorter-term transportation authorization bills in the last several years. For example, the most recent bill, the Moving Ahead for Progress in the 21st Century Act (MAP-21), was a 2-year bill that was set to expire September 30, 2014. Congress approved three short-term extensions to the bill to keep federal aid flowing to states through October 29, 2015, but will have to pass additional legislation to continue providing federal transportation aid to states beyond this time.

The uncertainty of federal aid affects states' abilities to adequately perform long-range transportation planning. Specifically, the recent use of short-term federal transportation authorization bills makes it difficult for states to plan for long-term and future construction projects because states do not know how much they can expect to receive in federal reimbursements after the authorization bills expire. According to Pew, about 98 percent of all federal aid is distributed to state and local governments, primarily as reimbursements for project expenses after they are incurred.⁵ As the federal Highway Trust Fund highway account fund balance declines, states and localities could see their federal reimbursements delayed or reduced, which would affect transportation planning in those areas. For example, Wyoming, Arkansas, Tennessee, and Georgia have canceled or delayed approximately \$780 million in transportation projects since 2014, and another nine states say that more than \$1.8 billion in projects are at risk because of uncertainty over the federal Highway Trust Fund.⁶ In Arizona, the Department reported that it has not yet had to cancel or

¹ United States Environmental Protection Agency. (2014). *Light-duty automotive technology, carbon dioxide emissions, and fuel economy trends:* 1975 through 2014. Washington, DC.

² ITEP, 2014.

³ The Pew Charitable Trusts, 2014.

⁴ As discussed on page 11, however, with the projected increase in Arizona's population, the Department expects that average weekday vehicle miles traveled in Arizona will increase by more than 106 million, or 65 percent, between 2010 and 2035.

⁵ The Pew Charitable Trusts, 2014.

⁶ American Road and Transportation Builders Association. (2015). Looming highway trust fund crisis: Impact on state transportation programs. Washington, DC.

delay any projects that were in process because of uncertainty over the federal Highway Trust Fund. However, the Department reported that it had to reduce its fiscal year 2014-2018 construction program by \$350 million because of the reduced growth in the amount of federal aid apportioned to Arizona.

Additionally, according to the National Conference of State Legislatures (NCSL), fuel taxes are the single largest revenue source for highway projects in about half of the states, providing close to 40 percent of revenues for highways.¹ However, the NCSL reported that most states, like Arizona, collect the same flat cents per gallon amount on a gallon of gas year after year, despite inflation and climbing construction costs. According to Pew, state fuel tax revenues have declined nation-wide by more than \$10 billion, or 19 percent, between 2002 and 2012 when adjusted for construction cost growth.²

Other major revenue sources are affected by general economic trends— Although the Department's other major transportation revenue sources, the RARF and the VLT, do not face the same issues as the fuel tax, they are affected by general economic trends, such as the Great Recession, that limit their reliability as a revenue source. Further, the RARF is region specific and set to expire on December 31, 2025 (see the Introduction, pages 5 through 6, for more information about these revenue sources).³ According to the Department and as shown in Figure 3 (see page 13), both RARF and VLT revenues have generally remained at or below prerecession levels despite modest economic growth in the State in fiscal year 2014. For example, RARF monies, which come from the Maricopa County half-cent sales tax, increased steadily from fiscal years 2004 to 2007, but started to decrease during the Great Recession, declining by approximately \$93 million between fiscal years 2007 and 2010. Although total RARF revenues have increased each year between fiscal years 2006 level of \$365 million. VLT revenues followed a similar pattern between fiscal years 2004 and 2014.

Transportation planning affected by lack of anticipated transportation revenues

The lack of anticipated transportation revenues has affected the Department's annual planning for future transportation construction projects in Arizona. For example, the Department reported that the timing and scope of construction projects have been affected by lower anticipated revenues. Although the lack of anticipated transportation revenues has affected the Department's planning throughout the State, areas without a region-specific revenue source—like a county transportation excise tax—are more affected.⁴

¹ Rall, J. (2013). *Pain at the pump: Are gas taxes in the future of transportation funding?* Denver, CO: National Conference of State Legislatures.

² The Pew Charitable Trusts, 2014. Estimate is based on a construction cost growth of 60 percent between 2002 and 2012.

³ The Great Recession refers to the economic recession that occurred in the United States between December 2007 and June 2009.

⁴ The Department classifies rural and urban areas based on U.S. Census definitions. For the 2010 census, rural areas were defined as having a population of less than 2,500. Urban areas consist of urban clusters (population between 2,500 and 49,999) and urbanized areas (population greater than 50,000).

Project timing and scope affected by anticipated revenues—According to Arizona Revised Statutes (A.R.S.) §28-6951, the Department is responsible for developing a Five-Year Transportation Facilities Construction Program (5-year construction program) that it updates annually (see the Introduction, pages 2 through 4, for more information). Statute requires that the Department only include projects in the 5-year construction program based on anticipated revenues, and the Department reported that it has had to remove projects that were initially included in the 5-year construction program because of a lack of anticipated revenues. According to the Department, 11 expansion projects, totaling \$448 million, have been removed from its 5-year construction programs since 2008, and other projects have been postponed to future 5-year construction programs. For example, department management reported that a project to widen State Route 89 between State Route 89A and Chino Valley was initially included in the 2011-2015 construction program to begin in fiscal year 2013. However, the project was postponed until fiscal year 2016 and was ultimately divided into two smaller projects, one of which was completed in fiscal year 2014, and the other which is scheduled to be built in fiscal year 2017. In addition, a project to widen I-10 between I-8 and Picacho Peak was initially included in the 2008-2012 program to be built in fiscal year 2010, but the project was not funded and has not been added to a subsequent 5-year construction program.

Further, the Department reported that the types of projects included in its 5-year construction programs have also been affected by the lack of anticipated revenues. According to department management, 5-year construction programs prior to 2009 consisted of larger scope, more expensive projects, while 5-year construction programs after 2009 have included more projects that are smaller in scope and less costly. For example, the Department reported that construction performed on I-10 has changed because of lower anticipated revenues. Specifically, the average cost of projects completed on I-10 between fiscal years 1998 and 2009 was more than \$20 million. and included projects such as roadway widening, adding lanes, and constructing frontage roads. By comparison, the projects that the Department completed or is planning to complete between fiscal years 2009 and 2018 have an average cost of more than \$12 million, and most are pavementpreservation projects. The Department attributes these changes in the average cost and type of work to the lack of anticipated revenues rather than reduced transportation-improvement needs. According to the Department's Arizona's Key Commerce Corridors report, improvements to the I-10 are needed to promote economic opportunities to the State. However, the carrying capacity of I-10 at the State's western borders has remained relatively unchanged since the 1970s despite significant population growth in Southern California and Arizona.

Lack of anticipated revenues may disproportionally affect rural areas—According to the Department's long-range transportation plan, of the total \$26.2 billion in projected transportation revenues available for investment in the state transportation system through fiscal year 2035 (see page 12), \$9.28 billion, or 35.4 percent, would be dedicated to Maricopa and Pima Counties. This amount includes RARF monies dedicated to Maricopa County and distributions from the Highway User Revenue Fund (see pages 5 through 6) to the Maricopa and Pima Association of Governments for transportation projects in those regions. This leaves \$16.92 billion available for investment state-wide. As a result, Maricopa and Pima Counties are better able to meet their transportation program needs than other parts of the State. Similarly, although the Department reported that it has shifted its focus in Greater Arizona from expansion to preservation projects because of revenue constraints, Maricopa and Pima Counties have been able to continue prioritizing expan-

sion over preservation projects.¹ For example, the newly adopted fiscal years 2016-2020 5-year construction programs for Maricopa and Pima Counties are predominately composed of expansion projects (97 percent and 94 percent, respectively), while only 8 percent of the projects in Greater Arizona will be expansion and 68 percent will be preservation. By comparison, in 2005, 70.5 percent of projects in Greater Arizona were expansion projects, and 17.6 percent were preservation projects. However, these regional differences are expected to change. Specifically, department management has stated that Maricopa and Pima Counties have historically been able to focus on expansion because the transportation systems in these areas are newer and therefore have fewer preservation needs. As these systems age, preservation needs are expected to increase and the composition of project spending will need to change accordingly.

¹ Greater Arizona consists of all areas of Arizona outside of Maricopa and Pima Counties, including rural areas.

CHAPTER 2

Like other states, the Arizona Legislature should consider forming a task force to consider options to address the Arizona Department of Transportation's (Department) transportation revenue needs. Other states have taken actions to address their transportation revenue needs using various revenuegenerating options, and some have formed a task force to assist with this effort. Similarly, the Arizona Legislature should consider creating a task force to study options and propose recommendations for addressing the Department's transportation revenue needs. If established, the task force should consider the options discussed in this chapter and make recommendations based on input from various stakeholders.

Legislature should consider task force to study options to address transportation revenue needs

Options to address transportation revenue needs

Many states are taking, or have taken, actions to address their transportation revenue needs, with some states taking multiple actions (see textbox). Actions taken can be grouped into either revenue-generating or financing options.

Examples of state legislation passed in 2015 to address transportation revenue needs

- Idaho increased the cents per gallon fuel tax rate by 7 cents, increased vehicle registration fees, and created a new fee for electric and hybrid vehicles. These actions are expected to generate almost \$95 million annually for transportation.
- Utah increased the cents per gallon fuel tax rate by 5 cents, created a 12 percent tax on the state-wide average wholesale price of motor fuel to replace the flat gas tax in the future, and allowed counties to seek voter approval for one-quarter of a cent sales and use tax increases for local transportation projects. These actions are estimated to generate approximately \$102 million for transportation in the first 2 years.
- Iowa increased the cents per gallon fuel tax rate by 10 cents and raised oversize/overweight vehicle fees, which is expected to generate an estimated \$200 million per year for transportation.
- Nebraska increased the cents per gallon fuel tax rate by 6 cents, resulting in approximately \$76.2 million annually for transportation once fully implemented.
- Source: Transportation Investment Advocacy Center. (2015). *State Funding Initiatives Report, May 2015*. Washington, DC: American Road and Transportation Builders Association.

Revenue-generating options—Auditors identified several revenuegenerating policy options that other states have used to increase available monies for transportation needs. These include the following:

• Alter fuel taxes—Altering fuel taxes was the most common option auditors identified based on information from the Transportation Investment Advocacy Center.¹ This option involves making various changes to a state's fuel tax practice and may include raising the cents-

¹ Transportation Investment Advocacy Center. (2015). *State Funding Initiatives Report, May 2015*. Washington, DC: American Road and Transportation Builders Association.

per-gallon tax, changing from a cents-per-gallon tax to a percentage of the price of fuel tax, or indexing fuel taxes to inflation. As discussed in Chapter 1 (see page 14), Arizona has not increased its gasoline tax since 1990 and its two-tiered diesel tax since 1997, and any increase would require a two-thirds approval vote in both legislative houses pursuant to the Arizona Constitution. This option has the ability to raise revenue in the short-term, and associated costs to administer and ensure compliance with the tax are low because the tax is already in place.^{1,2} However, as fuel efficiency improves, fuel tax revenue is expected to decline, and like most taxes on consumption, it is considered regressive, which means that low-income persons pay a larger share of their income in taxes.³

Replace fuel taxes with a vehicle miles traveled (VMT) tax—A VMT tax is based on miles traveled rather than fuel consumption. According to the National Conference of State Legislatures (NCSL), several states have studied this option. However, Oregon is the first state to implement a VMT tax through a volunteer program limited to 5,000 cars and light commercial vehicles, effective July 1, 2015. Oregon's program, OReGO, sets a road user charge of 1.5 cents per mile, and users have their choice of secure mileage reporting options offered by OReGO's private-sector partners to pay the tax. They can choose a tracking device that uses a Global Positioning System (GPS) or one that does not use GPS. At the end of each billing cycle, users receive a credit to offset the fuel tax they paid at the pump, or if they paid less than the 1.5-cents-per-mile charge, they pay the difference.

Arizona does not have a VMT tax, but in 2015, Senate Bill 1108 was proposed to create a highway-user-fee replacement task force to develop a design for revenue collection for the State's transportation system revenues that would replace the motor fuel tax, and pilot programs to test alternatives, such as a VMT tax. This bill did not pass, and neither did similar bills in 2013 and 2014. A VMT tax would potentially be a long-term option that could help offset diminishing fuel tax revenues as fuel efficiency continues to improve, and can be collected from all vehicles, including electric and hybrid vehicles.⁴ However, there are concerns about privacy because of the need for tracking equipment and unknown long-term administrative and compliance costs.^{5,6,7}

Create toll roads/lanes—A toll requires a driver to pay to access infrastructure. The
most common type of toll in the U.S. is a flat charge for access to a bridge or segment of
road.⁸ Another type of toll is a High Occupancy Toll (HOT) Lane, which is a toll imposed
on a specific express lane. According to the Federal Highway Administration, as of
2013, several states used HOT lanes including California, Colorado, Texas, and Utah.

¹ Sjoquist, D.L. (2012). An inventory of transportation funding options [FRC Report No. 239]. Atlanta, GA: Georgia State University, Fiscal Research Center, Andrew Young School of Policy Studies.

² Pennsylvania State Transportation Advisory Committee. (2010). *Transportation funding study: Final report*. Harrisburg, PA.

³ Sjoquist, 2012.

⁴ Pennsylvania State Transportation Advisory Committee, 2010.

⁵ For example, administering VMT for out-of-state visitors could be complicated because the State's knowledge of and collection from visitors would be difficult to track and enforce and there could be concerns with fraud or evasion by state residents because the VMT tax would be collected from millions of highway users rather than from fuel distributors.

⁶ Sjoquist, 2012.

⁷ Pennsylvania State Transportation Advisory Committee, 2010.

⁸ Sjoquist, 2012.

For example, in San Diego, Interstate 15 has 20 miles of reversible HOT lanes. The tolls for these lanes vary in real time from \$0.50 to \$8, depending on the level of congestion, and a transponder collects the payment from a prepaid account.¹

Arizona statute and federal code allow the Department to use toll options for new capacity only (e.g., newly constructed highways, bridges, and tunnels on the interstate system or newly constructed lanes/high occupancy vehicle lanes). However, Arizona does not use any tolling options.

A toll approach can help reduce congestion by encouraging transit use and carpooling, and potentially generating substantial revenues in areas where traffic makes it cost-effective to implement.^{2,3} However, collecting tolls can be expensive, and enforcement can be difficult.⁴ Although toll roads and lanes tend to be unpopular, HOT lanes are more likely to be publicly supported because their use is optional.⁵

- Raise existing vehicle fees/create new vehicle fees—There are several types of vehicle fees that states use to generate transportation revenues. Arizona uses several vehicle fees, which could be raised to collect more revenue for transportation:
 - Vehicle registration fees are annual fees that either use a flat rate or vary based on vehicle value, weight, year, and horsepower. Arizona's annual vehicle registration fee is \$4.50, \$8, or \$9 depending on the type of vehicle. However, Arizona also charges a vehicle property tax at the time of registration, known as the vehicle license tax, which varies depending on the value of the vehicle (see next bullet). Increased registration fees could generate revenue in the short-term and are administratively easy to implement because collection mechanisms are already in place.⁶ However, flat registration fees are also considered regressive.⁷ In the executive budget proposal for fiscal year 2016, Governor Doug Ducey recommended allowing the Department to increase the vehicle registration fee and dedicating the fee revenue to the Arizona Department of Public Safety (DPS), which would have reduced the amount of Highway User Revenue Fund (HURF) monies used for DPS, thereby increasing monies available to the Department in the State Highway Fund (see Introduction, pages 5 through 6, for more information about these two funds). However, this proposal was not adopted in the legislative budget.
 - Vehicle property tax is a tax on motor vehicles based on ownership and value of the vehicle. In Arizona, this tax is known as the vehicle license tax (VLT). According to a 2014 NCSL summary of vehicle property tax provisions, 14 states had some type of state-level vehicle property tax, and 15 states had a local-level vehicle property tax. In fiscal year 2014, HURF's share of VLT revenues totaled \$348.5 million, with Arizona vehicle owners

⁵ Sjoquist, 2012.

¹ A transponder is a device that uses radio waves to send and receive signals. It can be used to recognize the car and automatically collect payment from a corresponding account.

² Sjoquist, 2012.

³ Pennsylvania State Transportation Advisory Committee, 2010.

⁴ Sjoquist, 2012.

⁶ Pennsylvania State Transportation Advisory Committee, 2010.

⁷ Sjoquist, 2012.

paying an average of \$126 per year in VLT. It would be administratively easy to raise the VLT because collection mechanisms are already in place. However, this fee would negatively affect consumers because it would represent a property tax increase for vehicle owners.

 States have the option of charging an oversize/overweight vehicle permit fee for vehicles that are larger or heavier than federal standards. Arizona issues permits for oversize/overweight vehicles, with fees for these permits ranging from \$15 to \$100 depending on the number of travel days and the size/weight of the vehicle. Raising the oversize/overweight vehicle permit fee would be easy to implement because the collection mechanisms for the fee already exist. However, the increased fee may be passed on to consumers in the form of increased shipping costs.

Other states also charge a weight distance truck tax, which Arizona no longer charges. A weight distance truck tax is a tax assessed for heavy vehicles based on both miles traveled and vehicle weight in an attempt to more accurately reflect the wear on roadways from these vehicles. This would be a separate charge from an overweight/oversize vehicle permit fee (see previous bullet). According to the NCSL, Kentucky, New Mexico, New York, and Oregon use this tax, and other states such as Wyoming were studying the feasibility of implementing such a tax, as of February 2015.¹ For this tax, vehicles pay in proportion to the costs that they impose on the highway system.² However, the costs of this tax may also be passed on to consumers and would require the development of a system to measure vehicle weight and distance traveled to invoice and collect the tax.³ Arizona had a weight distance truck tax, which was repealed in 1997 and replaced by the two-tiered diesel tax structure. According to the Department, this change was made because the weight distance truck tax was more difficult to administer and enforce.

• Create alternative fuel vehicle fees—This option involves imposing a fee for alternative fuel vehicles, or a direct tax on alternative fuels, such as electricity or natural gas. Because alternative fuel vehicles (electric, natural gas, hydrogen, etc.) do not pay traditional fuel taxes, this approach would involve some equivalent to a fuel tax for these types of vehicles. Arizona provides incentives to use alternative fuel vehicles, such as a reduced alternative fuel vehicle license tax and a High Occupancy Vehicle (HOV) lane exemption. However, Arizona has not established an alternative fuel vehicle fee to offset the loss of fuel tax revenue. Proposed legislation that would charge a fee to alternative fuel vehicle owners did not pass in 2011, 2012, and 2013.

According to the NCSL, since 2013, more than half of the states have introduced bills to better include users of alternative-fuel/high-efficiency vehicles in transportation taxes. Further, as of February 2015, at least 27 states tax alternative fuels directly, and most dedicate the revenues to transportation. Implementing an alternative fuel/vehicle fee reflects the use of the highway system by those who presently pay little or no fuel taxes.⁴ However, because the number of alternative vehicles is still small, an alternative vehicles

¹ National Conference of State Legislatures. (2015). *Transportation funding and financing options for legislatures*. Washington, DC.

² Sjoquist, 2012.

³ Sjoquist, 2012.

⁴ Sjoquist, 2012.

and/or fuels fee would not generate substantial revenue.¹ Additionally, this option may require an additional meter or device, and may reduce the incentive to use alternative fuel vehicles.²

- Dedicate sales tax and/or general fund monies to transportation—Some states dedicate a portion of sales tax to transportation or use general fund monies for transportation costs. Specifically:
 - Sales tax is used by some states or local governments to generate transportation revenues. For example, according to the Transportation Investment Advocacy Center (TIAC), Arkansas voters approved a half-cent sales tax in 2012 for transportation. The State of Arizona does not use sales tax revenues for transportation, but several local Arizona governments use sales taxes to fund transportation. For example, Maricopa County and Pima County use a half-cent sales tax for transportation. Additionally, Phoenix voters approved a plan in the August 2015 ballot that called for an additional three-tenths of 1 cent sales tax (30 cents per \$100) to go toward transportation in Phoenix. Small increases in the sales tax can generate significant revenue, particularly in urban areas.³ Local sales taxes also tend to receive stronger support than other local tax options.⁴ However, a sales tax does not ensure that the heaviest users of the transportation system pay the most in taxes.⁵
 - General fund monies are a combination of sales taxes, income taxes, property taxes, and other fees and charges. Although the Department receives almost no State General Fund monies for transportation, 32 states used general fund monies for transportation costs as of 2012.^{6,7} A potential reason for using general fund monies is that transportation infrastructure can be considered a public good that benefits everyone, not just the users.⁸ Using general fund monies is also potentially less regressive.^{9,10} However, transportation would compete with other public priorities for general fund monies.¹¹ Further, general fund monies are less stable because they fluctuate more with the economic cycle than fuel tax revenues.¹²

Financing options—Auditors also identified two financing options that states use to finance transportation projects: debt financing and public-private partnerships (P3, see textbox, page 24, for more information). These options do not generate revenue, and both require eventual repayment. In addition, the Department already uses both of these options. As discussed in the Introduction

⁸ Sjoquist, 2012.

¹¹ Sjoquist, 2012.

¹ Sjoquist, 2012.

² Sjoquist, 2012.

³ Sjoquist, 2012.

⁴ Sjoquist, 2012.

⁵ Sjoquist, 2012.

⁶ The Department reported that it receives \$50,400 from the State General Fund as the state match for a federal transit grant to help pay for the State Safety Oversight Program Manager's salary.

⁷ Dierkers, G. & Mattingly, J. (2009). How states and territories fund transportation: An overview of traditional and nontraditional strategies. National Governors Association Center for Best Practices: Washington, DC, cited in Sjoquist, 2012.

⁹ Sjoquist, 2012.

¹⁰Using general fund monies could be less regressive because income taxes, which are a part of general fund monies, are commonly progressive. This means that high-income earners pay a larger percentage in income taxes than low-income earners.

¹² Sjoquist, 2012.

Public-private partnership (P3)

P3s are contractual agreements formed between a public agency and a private partner that allow for greater private-sector participation in the delivery and financing of transportation projects. P3s shift some of the risks associated with large projects from the public agency to the private partner. Private partners may enter into a partnership with governments for many reasons, including gaining new business and potentially obtaining long-term service contracts. In addition, there are many types of P3 agreements, and the degree to which the private sector assumes responsibility (including financial responsibility) differs from one agreement to another. The key feature that distinguishes P3s from conventional government projects is that a performance-based, long-term service contract requires the private entity to perform responsibilities that the public sector has typically performed, including financing, design, construction, operation and maintenance, and even toll revenue collection. According to the Federal Highway Administration Web site, 33 states have enacted statutes that enable the use of various P3 approaches for the development of transportation infrastructure.

(see pages 6 through 7), the Department issues three types of debt financing: highway revenue bonds, Maricopa County transportation excise tax bonds, and grant anticipation notes. Statute also allows the Department to enter into P3 contracts, and the Department has a few P3 projects in process. For example, the Department is using a P3 contract for the \$1.9 billion Loop 202 South Mountain Freeway Project, which includes the design, construction, and a 30-year maintenance period for this freeway.

Legislature should consider forming task force to study transportation revenue options

The Legislature should consider establishing a task force to study various options for addressing the Department's transportation revenue needs and make recommendations as appropriate. Although previous attempts to form a task force have not passed in Arizona, other states have benefited from using task forces to research options for addressing transportation revenue needs, including bringing together diverse stakeholders with different perspectives to conduct research that policymakers may not have time to conduct.¹ Since 2001, at least 29 states have formed a task force or committee to research transportation revenue options and make recommendations. These task forces and committees have generally been formed by governors, legislatures, or state transportation departments. As shown in the examples below, task forces most often include a variety of stakeholders and can lead to increased transportation revenues for their states or can result in the consideration and research of viable options to increase transportation revenues. Specifically:

Source: Auditor General staff review of information from the Federal Highway Administration Web site; Forrer, J., Kee, J., Newcomer, K., & Boyer, E. (2010). Public-private partnerships and the public accountability question. *Public Administration Review*, 70(3) 475-484.; Reed, J. (2015, January 1). On the Road (and Bridge) Again. *State Legislatures Magazine*. Retrieved from http://www.ncsl.org/research/transportation/on-the-road-and-bridge-again. aspx

¹ Slone, S. (2012). Task Forces for Transportation Funding Solutions. In *The Book of the States 2012* (pp. 458-463). Lexington, KY: Council of State Governments.

• **Oregon**—In 2001, the Oregon Legislature created the Road User Fee Task Force to investigate options the state might consider to help establish more sustainable transportation revenue sources. The task force consisted of state legislators, transportation commissioners, local government officials, and citizens. Its mandate was to design a revenue collection system for Oregon's roads to replace the existing system. The task force provided the legislature with policy advisory reports and also provided policy direction to the Oregon Department of Transportation (ODOT) on road usage charging options.

The OReGO VLT program discussed on page 20 is the result of this task force's recommendations. Specifically, in 2003, after considering 28 different options, the task force recommended a mileage-based road-user fee system as Oregon's best alternative to the fuel tax. The task force spearheaded two pilot projects completed by ODOT in fiscal years 2007 and 2013, and used evaluative criteria to measure the success of each pilot. Based on these pilots and input from the task force, the 2013 Oregon Legislature approved the road usage fee program to become operational on July 1, 2015.

• **South Dakota**—The South Dakota Highway Needs and Finance Committee was a 2014 interim legislative committee that included members from both the South Dakota House and Senate. The committee was charged with studying existing and future transportation system conditions and financial needs to maintain, repair, and improve the state and local highways, roads, and bridges. The committee heard testimony from the South Dakota Department of Transportation other state agencies, local officials, the NCSL, Council of State Governments, and other associations and organizations with an interest in transportation. The committee recommended legislation proposing several revenue-generating strategies, including increasing the state's fuel taxes, adopting a new tax on dyed diesel fuel, reallocating certain fees, increasing motor vehicle registration fees, and dedicating funds to a local bridge grant program. A modified version of this legislation passed in 2015, which increased state fuel taxes by 6 cents per gallon, the motor vehicle excise tax by 1 percent, and license plate fees by 20 percent, and allowed counties to increase property taxes for local transportation.

Similar to other states, the Legislature should consider creating a task force to study and propose policy options for addressing the Department's transportation revenue needs to ensure a safe, efficient, and economically viable state transportation system. Task force members should include a variety of stakeholders, such as legislators, department representatives, local government officials, transportation experts, and citizens. Similar to the legislative bills that were proposed in 2013 through 2015 (see page 20), legislation forming the task force should identify task force membership, its overall purpose and expected outcomes, and deadlines for reporting recommendations to the Legislature.

Recommendation:

1. The Legislature should consider forming a task force to study and propose policy options for addressing the Department's transportation revenue needs to ensure a safe, efficient, and economically viable state transportation system. Task force members should include appropriate stakeholders, such as legislators, department representatives, local government

officials, transportation experts, and citizens. Legislation forming the task force should identify task force membership, its overall purpose and expected outcomes, and deadlines for reporting recommendations to the Legislature.

APPENDIX A

This appendix provides information on the methods auditors used to meet the audit objectives.

This performance audit was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The Auditor General and staff express appreciation to the Arizona Department of Transportation (Department) Director and staff for their cooperation and assistance throughout the audit.

Methodology

Auditors used the following methods to examine issues surrounding the Department's transportation revenues and various options for addressing its revenue needs:

- Auditors interviewed department officials and staff, and reviewed department documentation, such as the Department's transportation plans, various financial reports, and road condition data. In addition, auditors assessed the reliability of information from the Department's fiscal year 2014 financial report. Auditors also attended five public meetings of the State Transportation Board and the Priority Planning Advisory Committee held between January and April 2015.
- Auditors reviewed literature and information from various organizations such as the American Society of Civil Engineers, the Transportation Investment Advocacy Center, the Institute on Taxation and Economic Policy, the Arizona Department of Administration, the Federal Highway Administration, the National Conference of State Legislatures, and the Association of American Railroads. Sources are cited in footnotes throughout the report.
- Auditors reviewed applicable federal regulations, statutes, rules, executive orders, and the Arizona Constitution, as well as prior Arizona legislative bills and the Governor's proposed fiscal year 2016 budget.
- Auditors reviewed recent federal and other states' legislation to gain an understanding of potential policy options that have been implemented to address transportation revenue needs.
- Auditors' work on internal controls was limited because internal controls were not significant to the audit objectives. Auditors' work on internal controls primarily involved assessing the reliability of information from the Department's fiscal year 2014 financial report. Auditors determined that this information was sufficiently reliable for the purposes of this audit.

Performance Audit Division reports issued within the last 18 months

14-102	Gila County Transportation Excise Tax
14-103	Arizona State Board of Dental Examiners
14-104	Arizona Office of Administrative Hearings
14-105	Arizona Board of Executive Clemency
14-106	State of Arizona Naturopathic Physicians Medical Board
14-107	Arizona Department of Child Safety—Children Support Services—Emergency and Residential Placements
14-108	Arizona Department of Administration—Arizona State Purchasing Cooperative Program
15-101	Arizona Department of Child Safety—Child Abuse or Neglect Reports, Substantiation Rate, and Office of Child Welfare Investigations
15-102	Arizona Department of Administration—State-wide Procurement
15-103	Arizona Medical Board—Licensing and Registration Processes
15-104	Arizona Department of Transportation—Motor Vehicle Division
15-105	Arizona Department of Revenue—Use of Information Technology
15-CR1	Independent Review—Arizona's Child Safety System and the Arizona Department of Child Safety
15-CR1SUPP	Supplemental Report to the Independent Review—Arizona's Child Safety System and the Arizona Department of Child Safety
15-106	Arizona State Retirement System
15-107	Arizona Sports and Tourism Authority
15-108	Arizona Department of Administration—Personnel Reform Implementation
15-109	Arizona Department of Administration—Sunset Factors
15-110	Arizona Foster Care Review Board
15-111	Public Safety Personnel Retirement System
15-CR3	Independent Operational Review of the Public Safety Personnel Retirement System Investment Strategies, Alternative Asset Investment Procedures, and Fees Paid to External Investment Managers
15-112	Arizona Commerce Authority

Future Performance Audit Division reports

Arizona Department of Transportation—Sunset Factors

Arizona Radiation Regulatory Agency, Arizona Radiation Regulatory Hearing Board, and Medical Radiologic Technology Board of Examiners

