

**Testimony of Brianne Glover
Submitted to the Texas House of Representatives
Transportation Committee
September 18, 2020**

Chairman Canales and members—thank you for the opportunity to provide information on Interim Charge 1B, which evaluates current transportation funding for Texas and explores future funding options. I am submitting this testimony in my capacity as an associate research scientist at the Texas A&M Transportation Institute (TTI), specifically in my role as program manager for the Infrastructure Investment Analysis Program.

In the last nearly 50 years, Texas has experienced rapid population growth and increases in economic activity, leading to greater demands on the state’s roadway infrastructure. While both more people and more travel each increase transportation revenues—such as motor fuel taxes and vehicle registration fees—they also create a demand for greater capacity and maintenance, which effectively increases the funding need.

Transportation Funding Breakdown

Figure 1 depicts current transportation funding for Texas’s State Highway Fund. As the percentages show, the largest portion of funding stems from Federal Highway Administration reimbursements, which includes the federal gas taxes and a small portion of miscellaneous funds. The remaining sources include state motor fuel tax revenue, Proposition 7 funds authorized by voters in 2015, Proposition 1 funds authorized by voters in 2014, vehicle registration fees, and other funds.

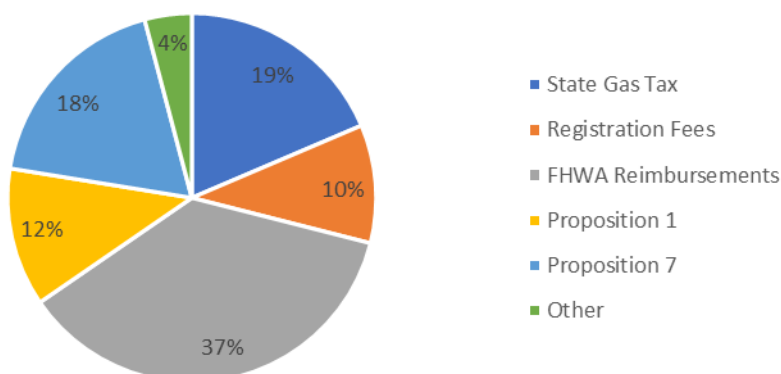


Figure 1. 2020 State Highway Fund Breakdown for Texas.

Transportation Funding Need

The most recent comprehensive study of transportation funding need is the Texas 2030 Committee report, *It’s About Time: Investing in Transportation to Keep Texas Economically Competitive*. However, since then, the data set supporting that report has not been updated. Nonetheless, it has been broadly viewed as an unbiased and honest assessment of transportation needs of the state and has been used extensively as a basis for significant legislation, particularly increased transportation funding and

improved long-term planning. The original report, authorized by the Texas Transportation Commission at the request of then-Governor Rick Perry, was released in 2009 and expanded in 2011. The study looked 20 years into the future as an effort to estimate the state's transportation needs, forecasted costs, and the resulting benefits (in 2010 dollar valuation) related to:

- Highway maintenance (i.e., pavements and bridges).
- Urban mobility.
- Rural mobility.
- Safety requirements.

In the past decade, significant unforeseeable changes have occurred across Texas that impact the current and future transportation needs of the state. These include, among other things, a state population growth that has outpaced predictions, new legislation regarding transportation funding, significant growth in the oil and gas industry, more rapid growth in international trade than originally forecast, changing workplace practices, evolving supply chains impacting freight movement, improving fleet fuel efficiency, and increasing cost of construction impacting the sufficiency of the revenue stream.

Factors Affecting Transportation Funding

At the state level, the motor fuels tax has historically been used as a primary way to fund transportation in Texas. The per-gallon tax on gasoline and diesel fuel was established at 20 cents in 1991, and of that 20 cents per gallon, 25 percent is diverted to public education. In the 30 years since the state gas tax rate was last adjusted, many factors, such as population growth, improvements in vehicle fuel efficiency, highway construction costs, and inflation have impacted the revenue yields from the fuel tax.

Figure 2 displays an estimated fuel tax revenue forecasted through 2040. While revenue from the diesel fuel tax is estimated to increase, the trajectory for gasoline tax revenues declines year over year.

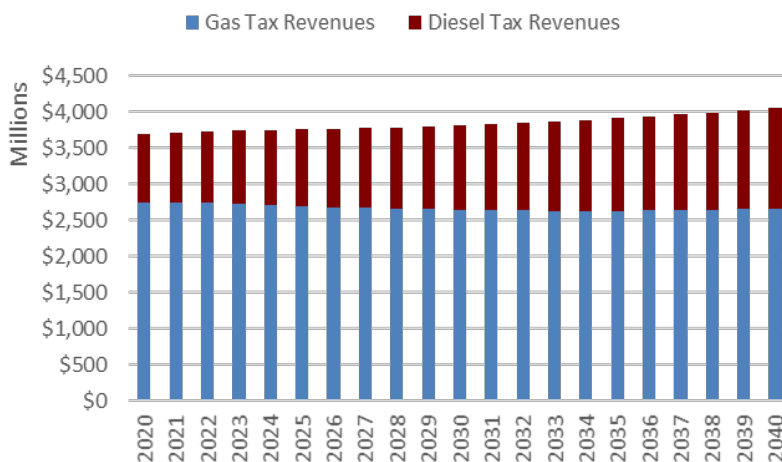


Figure 2. Estimated Motor Fuel Tax Revenue from 2020 to 2040.

Fuel Efficiency

Advancements in vehicle technology have greatly impacted the amount of fuel consumed, affecting the amount of revenue that is generated from the motor fuel tax. Improvements in the fuel efficiency of vehicles has continued to decrease the number of gallons of gasoline needed to power a vehicle.

Figure 3 reflects the relationship between fuel efficiency and gallons of gasoline needed.

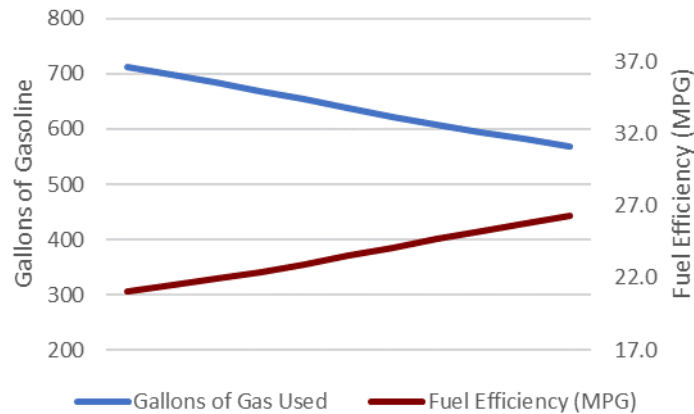


Figure 3. Downside of Increased Fuel Efficiency.

As vehicle fuel efficiency standards continue to increase, the relationship between needed gasoline and mileage will continue along similar trends. Another advancement that will impact gasoline sales is the proliferation of vehicles less reliant or fully non-reliant on gasoline, such as hybrid and fully electric vehicles. Recent years have seen advancements in the technologies of these alternative fuel vehicles, and adoption of these vehicles has also outpaced many estimates. As this trend continues, fuel consumption and fuel tax revenue will be increasingly impacted.

Inflation and Construction Costs

One factor adversely affecting transportation funding is the impact of inflation on roadway project construction costs. Typically, the highway cost index has significantly outpaced other inflation measures, such as the consumer price index, which causes construction costs to rise at faster rates than other goods. TTI models estimate that a project that costs \$500 million today (2020) would cost \$550 million to construct in 2025 and \$600 million in 2030.

Figure 4 reflects the effects of rising construction costs on fuel tax purchasing power. When accounting for inflation in construction costs, the 20-cent fuel tax actually purchased 20 cents of construction in 1991. However, that same 20-cent fuel tax has only 4.7 cents of purchasing power in 2019.

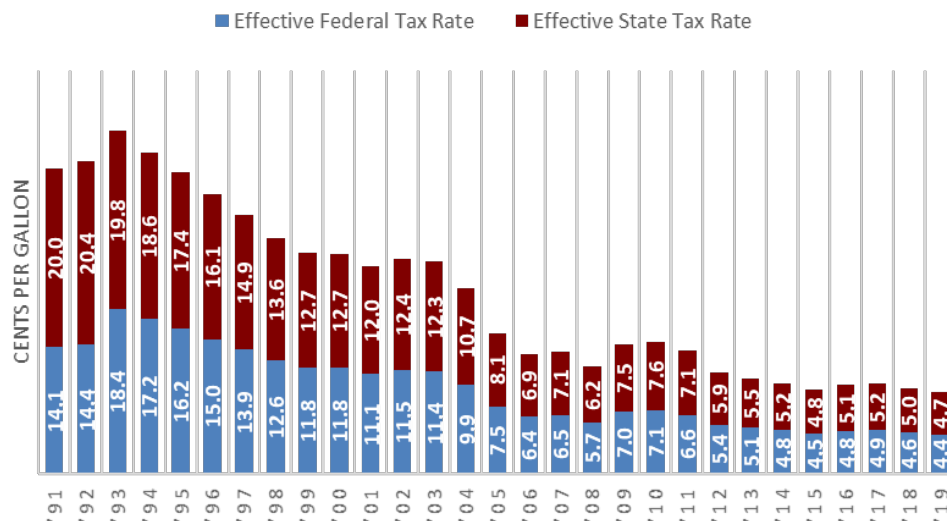


Figure 4. Purchasing Power of the Gas Tax Rate, Adjusted by Inflation in Roadway Construction Cost.

Propositions 1 and 7

In 2014 and 2015, the voter approvals of Propositions 1 and 7 provided new sources of revenue for transportation system infrastructure in Texas. These sources have contributed significant portions of revenue to the transportation funding needs, as reflected in Figure 1. To that effect, Table 1 displays the estimated long-range revenue forecasts from the Texas Department of Transportation (TxDOT) for these two sources.

Table 1. Long-Range Revenue Forecasts for Propositions 1 and 7.

| Year | Proposition 1 | Proposition 7 |
|------|-----------------|-----------------|
| 2020 | \$1,696,709,806 | \$2,500,000,000 |
| 2021 | \$1,118,068,631 | \$1,151,717,000 |
| 2022 | \$636,385,617 | \$2,848,283,000 |
| 2023 | \$1,104,200,000 | \$2,500,000,000 |
| 2024 | \$1,104,200,000 | \$2,568,367,111 |
| 2025 | \$1,104,200,000 | \$2,641,101,795 |
| 2026 | \$1,104,200,000 | \$2,716,745,867 |
| 2027 | \$1,104,200,000 | \$2,795,415,701 |
| 2028 | \$1,104,200,000 | \$2,877,232,329 |
| 2029 | \$1,104,200,000 | \$2,962,321,623 |
| 2030 | \$1,104,200,000 | \$2,500,000,000 |
| 2031 | \$1,104,200,000 | \$2,500,000,000 |
| 2032 | \$1,104,200,000 | \$2,500,000,000 |
| 2033 | \$1,104,200,000 | |
| 2034 | \$1,104,200,000 | |
| 2035 | \$1,104,200,000 | |

Future Funding Options

The TTI Transportation Revenue Estimator and Needs Determination System (TRENDS) model generated the following tables and allows a user to adjust inputs and see impacts on projected revenues from various sources. Table 2 lists some of the state and local options available with examples of changes in taxes or fees and all corresponding potential revenue outputs. The TRENDS model is available at <https://trends-tti.tamu.edu/>.

Table 2. State and Local Funding Options with Revenues Estimates.

| State Option | Example Tax/Fee | Potential Revenue from 2021 to 2024 |
|----------------------------|--|-------------------------------------|
| Vehicle registration fee | Increase fee by \$5: | \$556 million |
| | Increase fee by \$25: | \$2.8 billion |
| Fuel tax | 1 cent/gallon Increase: | \$554 million for transportation |
| | | \$185 million for education |
| | 5 cent/gallon Increase: | \$2.8 billion for transportation |
| | | \$924 million for education |
| | 10 cent/gallon Increase: | \$5.5 billion for transportation |
| | | \$1.8 billion for education |
| Indexed fuel tax | Indexed to the highway cost index: | \$1.8 billion for transportation |
| | | \$597 million for education |
| | Indexed to the consumer price index: | \$615 million for transportation |
| | | \$205 million for education |
| Vehicle sales tax | 1% point increase: | \$2.8 billion |
| State sales tax | 1% point increase: | \$19.4 billion |
| Fuel sales tax | 5% of gas priced \$2.36/gallon and diesel priced \$2.82/gallon: | \$10.0 billion |
| | 6.25% of gas priced \$2.36/gallon and diesel priced \$2.82/gallon: | \$12.6 billion |
| Driver's license surcharge | \$5/license surcharge: | \$358 million |
| | \$10/license surcharge: | \$716 million |
| Carbon tax | 5 cent/gallon of motor fuel: | \$2.8 billion |
| | 10 cent/gallon of motor fuel: | \$5.5 billion for transportation |
| | | \$1.8 billion for education |
| Vehicle mileage fee | 0.1 cent/mile: | \$1.3 billion |
| | 0.5 cent/mile: | \$6.4 billion |
| Local Option | Example Tax/Fee | Potential Revenue from 2021 to 2024 |
| Vehicle registration fees | \$5 fee assessed in each area would yield an estimated: | |
| | Austin | \$46 million |
| | Dallas/Fort Worth | \$135 million |
| | Houston | \$128 million |
| | San Antonio | \$46 million |
| | \$25 fee assessed in each area would yield an estimated: | |
| | Austin | \$228 million |
| | Dallas/Fort Worth | \$673 million |
| | Houston | \$642 million |
| | San Antonio | \$230 million |
| Fuel tax | 1 cent/gallon tax assessed in each area would yield an estimated: | |
| | Austin | \$44 million |
| | Dallas/Fort Worth | \$168 million |
| | Houston | \$155 million |
| | San Antonio | \$50 million |
| | 5 cent/gallon tax assessed in each area would yield an estimated: | |
| | Austin | \$219 million |
| | Dallas/Fort Worth | \$842 million |
| | Houston | \$776 million |
| | San Antonio | \$250 million |

Additionally, Table 3 provides brief explanations of other methods for generating funds. These tools can vary in situations in which they are most effective but provide potential avenues for further project delivery.

Table 3. Other Funding Strategies with Variable Revenues.

| Strategy | Description |
|---|--|
| Private activity bonds | Private activity bonds are tax-exempt bonds that provide incentives for private investment in projects. Although they do not provide new revenue, they can reduce the need for public funds. |
| Proposition bonds | Proposition bonds do not create revenue; instead, they use future revenues by borrowing funds with the state's guarantee of repayment with interest. |
| Public-private partnerships (PPPs) | PPPs are a means of financing individual projects. These agreements can reduce upfront public cost, help funds keep pace with rising highway construction costs, reduce the need for borrowing, and reallocate or mitigate project risk. |
| Comprehensive development agreements (CDAs) | Texas uses CDAs as a means of creating and implementing PPPs. |
| Pass-through financing | Pass-through financing generates no new revenue but delays upfront state project costs. Local agencies construct a road and are reimbursed by the state for each vehicle that uses the road. The state payment can come from multiple sources. |
| Tax increment financing | A district can designate an area that will be impacted by a transportation project and then use the increased revenue from rising property taxes to finance the project or others in the area. Texas commonly operationalizes this with transportation reinvestment zones. |
| Transportation impact fee | Local municipalities can charge new development projects a fee for the impact that business and residential traffic will have on transportation infrastructure in the area. This fee varies based on the region and the development's impact. |

Thank you for the opportunity to provide this material to the committee. Please contact me if you require any further information.

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