



## Economic and Safety Considerations: Motor Vehicle Safety Inspections for Passenger Vehicles in Texas

### Background

In 2017, the 85th Texas State Legislature passed Senate Bill (S.B.) 2076 with this requirement:

“Not later than December 31, 2018, the Department of Public Safety and the Texas Department of Motor Vehicles shall:

- (1) conduct a study on the efficiency and necessity of the titling, including actions related to titling such as registration, and inspection of vehicles in this state; and
- (2) submit to the legislature a report on the results of the study that includes:
  - a. identification of any elements of the vehicle titling, including actions related to titling such as registration, and inspection programs that can be eliminated; and
  - b. recommendations for legislation to eliminate those elements.”

S.B. 2076 was signed by Greg Abbott, the Governor of Texas, on June 15, 2017, and became effective September 1, 2017.

The Texas Department of Public Safety (TxDPS), using a competitive selection process, awarded a contract to The University of Texas at Austin’s Center for Transportation Research (CTR) to conduct this study.

### Study Objectives

The objectives of this study were to meet legislative requirements through these three tasks:

- Quantify the efficiency of the vehicle inspection program by analyzing the economic impacts of eliminating the passenger Motor Vehicle Safety Inspection Program (**referred to in this document as the Inspection Program**) in terms of potential cost and revenue changes for different entities impacted by the program;
- Address the necessity of the Inspection Program by assessing the safety impact of eliminating the Inspection Program on all road users and vehicle owners in Texas; and
- Make recommendations on whether the Inspection Program, as an element of vehicle titling, should be eliminated based on the economic and safety evaluations.

### Recommendations

The findings from this study’s analysis indicate that the Inspection Program saves lives and enhances safety. The CTR team strongly recommends the following:

- Retain the Inspection Program.
- Conduct a further study to consider whether potential additional inspection items, such as tire age and recall information, should be included in the Inspection Program to further enhance highway safety in Texas.

Please see the full report for all study details, available at this link: [www.dps.texas.gov](http://www.dps.texas.gov).

### Study Methodology

This study undertook a review of current vehicle safety inspection programs worldwide and investigated methodologies to quantify the safety and economic impacts of the Inspection Program. The public’s opinions about the Inspection Program were also solicited through surveys of rural and urban areas, a workshop, and stakeholder interviews. Vehicle inspection, registration, and crash databases maintained by TxDPS, the Texas Department of Motor Vehicles, the Texas Department of Transportation, and individual inspection stations were collected and evaluated. CTR used the information obtained from a literature review, public outreach, and an examination of inspection databases to perform the economic analysis and safety impact assessment, determining the potential change to the cost and revenue to vehicle owners, inspection stations, and state agencies, as well as the potential impact on the public in terms of highway safety. The recommendations are based on the economic and safety impact evaluations.

## Supporting Conclusions

After conducting a thorough investigation of the costs and safety impacts of eliminating motor vehicle safety inspections for passenger vehicles, the CTR study team identified the salient findings, summarized here, to reach our recommendations.

### Safety

- The average crash costs related to vehicles with defects are more than \$2 billion per year. Most defects are vehicle elements that would have failed a program inspection.
- The frequency of fatalities, incapacitating injuries, and non-incapacitating injuries is higher for crashes involving vehicles with defects. The number of fatalities per number of defective vehicles in crashes is about three times higher than that of vehicles without defects, as shown in this table:

Passenger vehicles	2015		2016		2017	
	Defective	Non-defective	Defective	Non-defective	Defective	Non-defective
Fatalities per number of vehicles in crashes	1 fatality / 98 vehicles	1 fatality / 346 vehicles	1 fatality / 102 vehicles	1 fatality / 341 vehicles	1 fatality / 114 vehicles	1 fatality / 343 vehicles

- Crashes involving vehicles with defects are twice as likely to result in a fatality than crashes with vehicles that do not have defects.
- The most prevalent type of defect related to fatal crashes is slick or defective tires. Interestingly, 23.5% of survey respondents identified slick or defective tires as a vehicle element they had been asked to remedy during the course of their vehicle inspection history—meaning that the fatality crash rate would be higher without such inspections.
- Regarding vehicles from other states that are involved in crashes in Texas, the percentage of vehicles with defects is lower for those states that have vehicle safety inspection requirements than states that do not. This indicates that a safety inspection program helps reduce the number of defective vehicles on the road.
- The percentage of crashes involving defective vehicles increases with higher speed limits—as does the severity of those crashes. Given that Texas has the highest speed limit in the nation and many high-speed roadways, it is important to consider the potential safety impact of eliminating the safety inspection program in Texas on highway safety, especially on roadways with high speed limits.
- Vehicles with defects that were involved in crashes are three years older than the average registered vehicle, which is nine years old. In other words, the percentage of vehicles with defect(s) and had crashes is higher for older vehicles. This highlights the importance of the Inspection Program to help ensure the key components (e.g., tires, brakes etc.) of old vehicles are in good condition.

## Changes in Costs and Revenues

The following summary breaks down the allocation of the fees paid for inspections and registration and accounts for other benefits and costs of the program. Note that the costs to vehicle owners cover only the expenses specific to safety-only inspections, as drivers in certain urban counties must continue to obtain yearly emissions testing under federal law. The safety-only inspection fees comprise two components: \$7 paid directly to the station operator at the time of inspection and a separate cost paid to the state at the time of vehicle registration.

- **The present Inspection Program represents the following revenue and costs** (where appropriate, these figures are rounded for the convenience of the reader):
  - The 12,000 station owners, employing 45,000 inspectors, share net revenue of \$131 million per year (\$7 per inspection).
  - The State of Texas receives revenue of \$150 million per year, offset by \$31 million of expenses.
  - The 19 million vehicle owners' expenses are \$307 million in fees to stations and to the State of Texas, as well as time spent getting inspections (approximately \$16 per vehicle per year).
- **To discontinue the Inspection Program, the primary parties would incur these costs and savings:**
  - Station owners would lose net revenue of over \$131 million per year.
  - The State of Texas would lose revenue of approximately \$150 million per year and incur a one-time expense of \$1 million to discontinue the program.
  - Vehicle owners would save \$307 million (approximately \$16 per vehicle per year).
- Fees paid to the state at registration support the Clean Air Fund, the Texas Mobility Fund, and [www.Texas.gov](http://www.Texas.gov); the State of Texas will lose funding for these programs on the order of \$39 million, \$83 million, and \$26 million respectively.
- If the Inspection Program were discontinued, stations in safety-only counties (with no emissions testing, which brings in emissions testing fees) may face closure. This would mean loss of businesses and loss of jobs, and may also severely affect the availability of commercial safety inspections in the state. Given the vital role of freight movement to Texas economy, determining the economic impacts of reducing the number of venues to service the commercial vehicle fleet would present a challenging situation.

## Public Perception

Survey analysis resulted in the following programmatic percentages (occurring over the respondents' experience with the Inspection Program) for the four categories of inspection results that were evaluated. Individuals in this group may have had their vehicle inspected over a span of 1 year to approximately 40 years and may have failed an inspection only one time, or up to every time they had their car inspected. Following are the four categories and their percentages:

- 37% of vehicle owners reported that their vehicles never required a replacement part or repair and thus always passed inspection the first time.
- 15.7% of vehicle owners reported that their vehicles never needed a repair or replacement part—however, the station operator observed a defect prior to beginning the inspection and

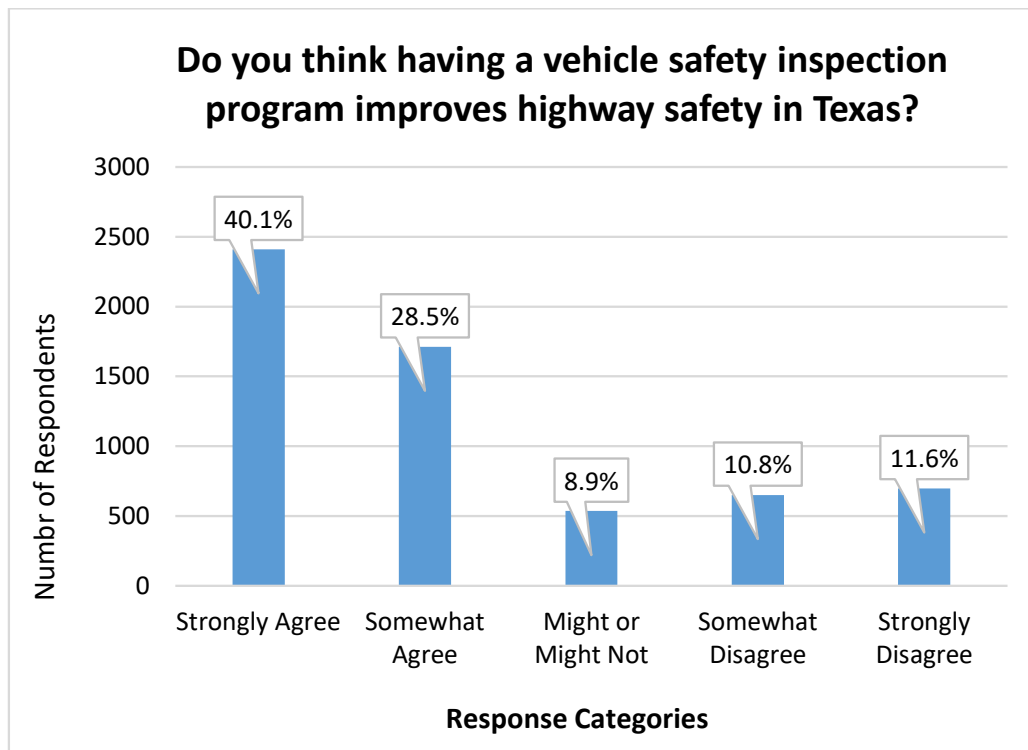
told the owner to have it repaired, then return for an inspection. Thus, this group is counted among those who have had first-time inspection failures.

- 26.5% of vehicle owners reported that the inspection station failed their vehicle, but was able to perform the repairs so that the vehicle could pass inspection.
- 20.8% of vehicle owners reported that the inspection station failed their vehicle, but they went elsewhere for repairs (out of either choice or necessity), then returned to the station for a second inspection before passing.

Thus, 37% of vehicle owners have never failed an inspection and 63% of vehicle owners have failed an inspection at least once over the programmatic time span.

The CTR team used two methods of statistically analyzing the survey data to develop the first-time failure rate: one method provides an estimated range of 7.5% to 12.5% and the other method produces an average of 10.3%.

The results of the study survey indicate that the majority of Texas drivers polled perceive the Inspection Program as a beneficial program, one that enhances highway safety (as the following figure indicates).



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