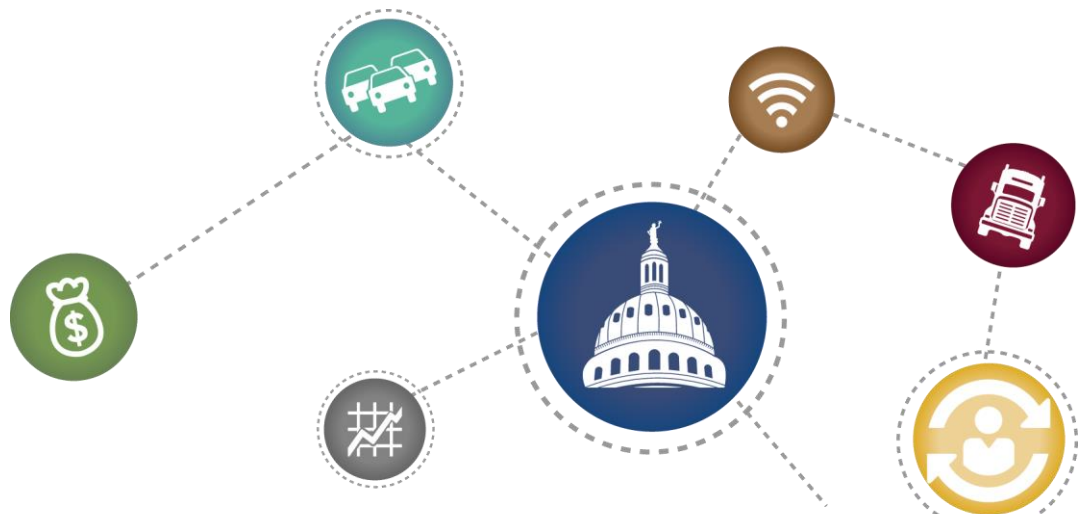


# 2016 Texas Transportation Poll

## *Final Report*

PRC 16-16 F



# 2016 Texas Transportation Poll

Texas A&M Transportation Institute

PRC 16-16 F

December 2016

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## Executive Summary

In spring 2016, the Texas A&M Transportation Institute initiated the second Texas Transportation Poll, a survey of more than 4,000 Texans that assesses public opinion surrounding the following transportation issues:

- Travel behavior.
- Travel solutions.
- Transportation funding.
- Customer satisfaction with governmental agencies.

The biennial survey allows researchers to track changes in public perceptions over time and to give lawmakers a longitudinal view of public sentiment regarding transportation and mobility in Texas. This executive summary presents a top-level synopsis of the survey findings compared to 2014.

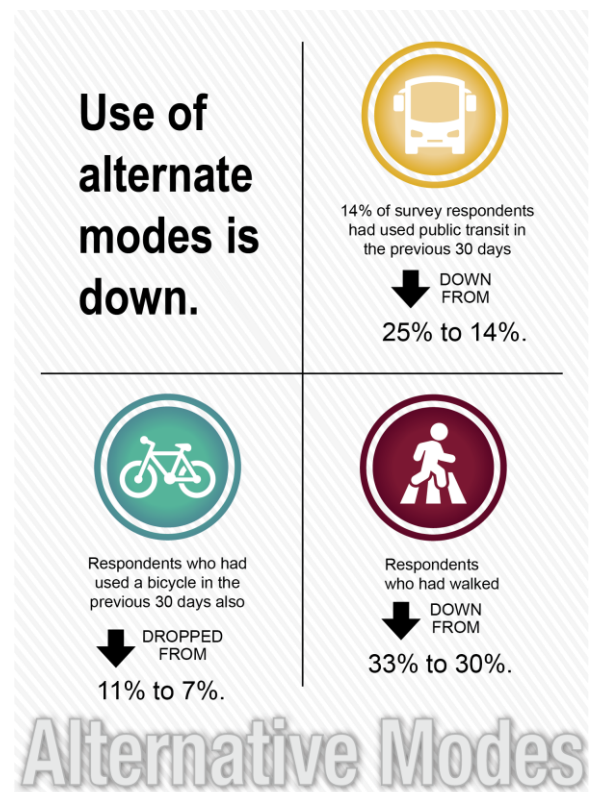
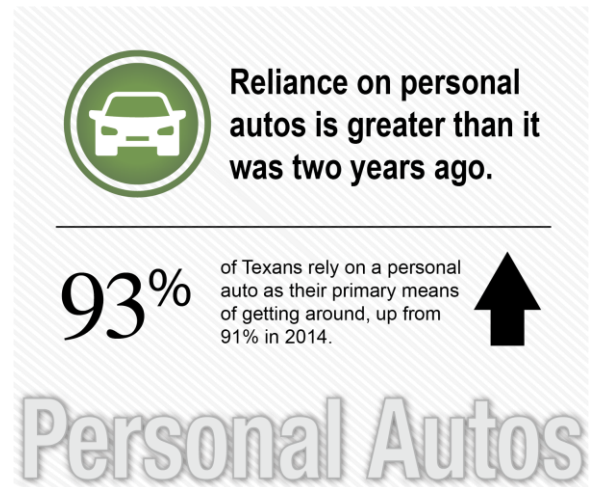
### Travel Behavior

#### *How Do Texans Travel?*

Just as in most other states, an overwhelming majority of Texans use their personal auto as a primary means of travel. This fact, along with much lower 2016 fuel prices, may be contributing to some noticeable differences between the 2014 and 2016 datasets.

#### *How Much Are Texans Using Alternative Modes of Travel?*

From 2014 to 2016, the data suggest a greater than 50 percent reduction in the proportion of Texans that are making an effort to drive less because of fuel prices. This sentiment is reflected in the modest increases in both personal vehicle ownership and miles traveled over the two-year period. Therefore, it may come as no surprise that the proportion of Texans using public transit and bicycles to make non-recreational trips has dropped significantly, although more than one in ten Texans reported using at least two alternate modes of travel in the 30 days prior to the survey to make a non-





recreational trip. The data suggest that younger Texans are more likely to be found in this group than older Texans, and a majority of Texans believe that public transportation is effective in reducing congestion.

### *What Are the Perceptions and Reactions to Congestion?*

While the proportion of Texans dealing with congestion on a daily basis has remained steady from 2014 to 2016 (76 percent), the perceived severity of congestion has increased modestly. The data suggest that Texans firmly believe the increase in congestion is due to the state's strong economy drawing people to the state, resulting in an increased demand on existing transportation infrastructure.

In response to this phenomenon, an increased proportion of Texans are implementing specific changes to their daily lives, such as considering congestion in work schedule modifications (telecommuting and/or changing work hours) and making different residential location choices. Interestingly, despite an increase in the proportion of Texans that perceive alternative modes as effective in reducing congestion (a sentiment that is most prevalent in younger and lower-income populations), the actual use of alternative modes, including carpooling, instead of driving has decreased in popularity since 2014. These trends may correlate with declining fuel prices.

To combat worsening congestion, Texans may be relying more heavily on technology-based solutions, such as smartphone apps. In fact, the 2016 poll results show double-digit increases in the proportion of Texans that use a smartphone app (a 19 percentage point increase) or visit a website (a 23 percentage point increase) to help inform travel decisions. Conversely, the proportion of Texans relying on traditional media sources such as radio and/or television has remained relatively stable or fallen.

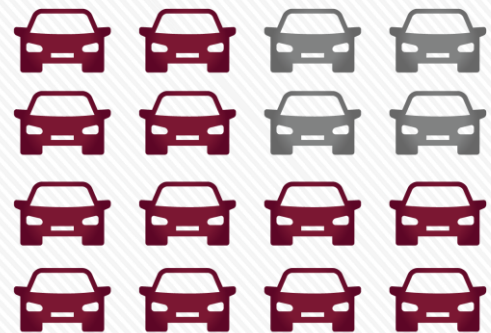


**Personal travel grew**

**29%** from 2014 to 2016.

**Personal Travel**

**76%** of Texans say they deal with traffic congestion every day.



**Traffic Congestion**



**70%** of travelers use a smartphone app



to get current traffic information, up from 51% in 2014.

**Smartphone Use**

## How Do Texans Feel about Ride Sourcing and Car Sharing?

Given the rise in popularity and use of the sharing economy, several new questions were added to the 2016 poll regarding the use of ride sourcing and car sharing. The data suggest that 7 percent of Texans have used a car share service (such as Zipcar or Car2Go), while 22 percent of Texans have used a transportation network company (TNC) (such as Uber or Lyft). Several demographic factors were associated with the use of either service, with the two factors common to both user groups being age and geography. Car sharing<sup>1</sup> or ride sourcing decreases as users get older and live in more rural areas. With regard to TNCs specifically, Texans were most agreeable that both TNCs and taxis should be regulated at a statewide level and in a similar fashion, creating a regulatory even playing field that does not allow TNCs to operate at a local government level or under less regulation than taxis.

## Travel Solutions

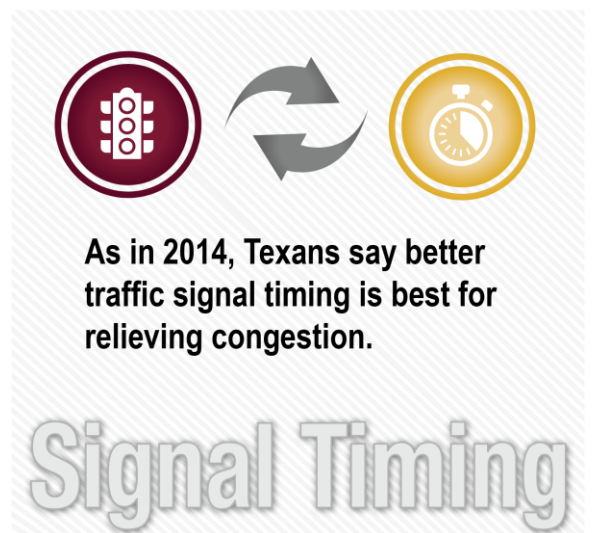
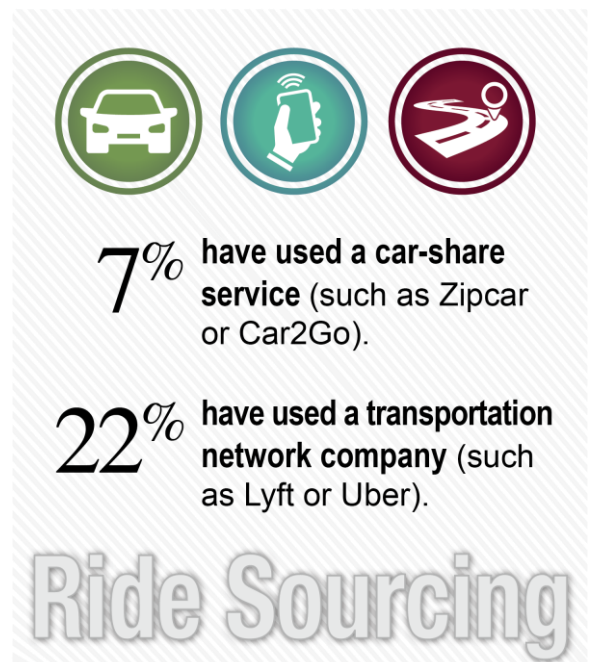
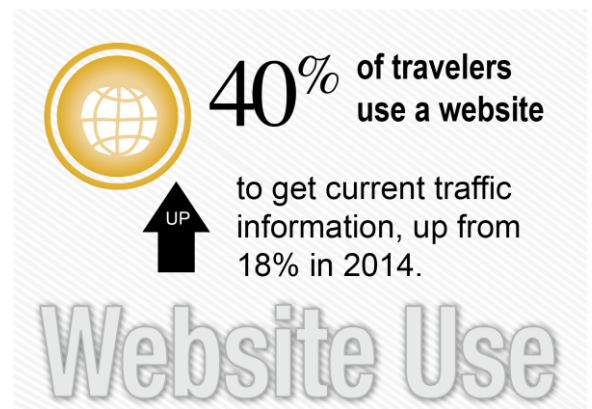
### *What Strategies Do Texans Believe Will Most Effectively Help Reduce Congestion?*

Texans still believe that more effective timing of traffic signals is the best of all transportation management strategies offered. However, in 2016 Texans are more supportive of adding lanes to state-maintained roads than better incident management, with non-white minorities more supportive than whites.

### *Who Should Have to Most Influence on Transportation Policy?*

From 2014 to 2016, Texans' perceptions of who they want to influence transportation policy has remained relatively stable, with auto drivers and state departments of transportation retaining the most influential positions.

<sup>1</sup> Zipcar is located in several Texas cities, while Austin is the only Texas city in which Car2Go operates.



Both personal-auto-reliant and non-personal-auto-reliant Texans now agree that auto drivers should have the most influence on transportation policy.

## Transportation Funding

### *Does Texas Need to Increase Transportation Funding?*

Survey respondents were asked to indicate their level of support for possible mechanisms to generate additional transportation funding. A \$10 increase in vehicle registration fees was identified as the most supported mechanism to generate additional transportation funding. Linking the state fuel tax to the average yearly inflation

rate and increasing the state fuel tax by 5 cents per gallon are not far behind. In fact, the mean scores attributed to each of the top three mechanisms are not significantly different from one another. However, the mean scores for these responses were some of the lowest recorded on this survey. This suggests that respondents are not especially supportive of any mechanism.

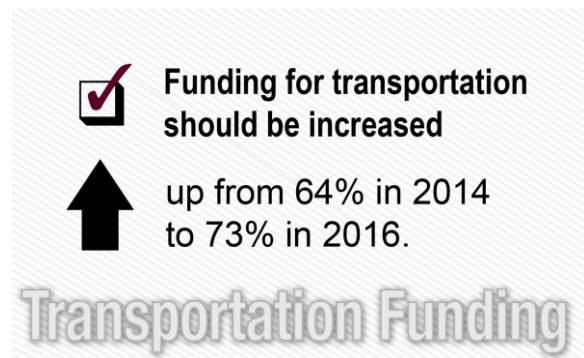
### *Increasing Vehicle Registration Fees and State Fuel Tax*

A \$10 increase in vehicle registration fees was identified as the most supported mechanism to generate additional transportation funding. However, linking the state fuel tax to the average yearly inflation rate and increasing the state fuel tax by 5 cents per gallon are not far behind. In fact, the mean scores attributed to each of the top three mechanisms are not significantly different from one another.

Increasing vehicle registration fees from \$65 per year to \$75 per year gained the highest levels of support from whites, respondents living in major metro survey regions, and respondents reporting annual household incomes of at least \$75,000. Conversely, non-white minorities, respondents living in non-major metro survey regions, and respondents reporting annual household incomes of less than \$75,000 felt linking the state fuel tax to the average yearly inflation rate was the transportation funding mechanism worthy of the most support. The data suggest that this is a very polarizing topic.

### *Attitudes about Transportation Funding Mechanisms*

Among those that oppose increasing the state fuel tax by either 5 or 10 cents per gallon for generating additional transportation funding, roughly one-third of respondents stated their opposition was due to their perception that the government would not spend the additional funding wisely. Among those that oppose toll-related mechanisms for generating additional transportation funding, majority agreement was found in a number of statements offered to refine the focus of their opposition. Among them all, the perception that toll-related decisions are often made without a public vote garnered the most support.





Texans remain more positive about the characteristics of transportation funding mechanisms than of the funding mechanisms themselves. When asked to evaluate characteristics of transportation funding mechanisms, Texans were most agreeable that a transportation funding mechanism should include a guarantee that 100 percent of all revenues be spent on transportation projects. This is in contrast to 2014, when Texans were most agreeable that a transportation funding mechanism should assure predictable long-term funding.

## Customer Satisfaction with Governmental Agencies

Texans continue to believe that private corporations should have little (in 2016, the least) influence on transportation policy, but they also remain supportive of transportation agencies partnering with private corporations, when they can, to help find solutions to transportation issues. The data support the theory put forth in 2014 that Texans perceive a need for transportation agencies to work in partnership with private corporations in a way that ensures that the needs of the private corporation are not put ahead of the needs of the system users. Finally, transportation agencies received high marks for maintaining safe systems. The public's greatest concern about these agencies is financial transparency.



## Survey Study Overview

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In spring 2016, the Texas A&M Transportation Institute (TTI) initiated the second Texas Transportation Poll, a longitudinal survey of more than 3,000 registered Texas voters, to assess public opinion regarding transportation issues in four core topical areas: travel behavior, travel solutions, transportation funding, and customer satisfaction with governmental agencies. This report presents the findings of the poll at a statewide level. Additional data analysis was performed to create regional summaries. Those findings are available at <http://tti.tamu.edu/policy/texas-transportation-poll/>.

### Objectives

The objectives of the project were to:

- Implement a random sample survey of Texans to capture information useful to legislators, policy makers, transportation agencies, and others to assess public opinion in the four core areas.
- Gain a deeper understanding of how various attributes may influence public opinion.
- Use the survey as a means to help inform transportation policy.
- Assess how public opinion about transportation changes over time.

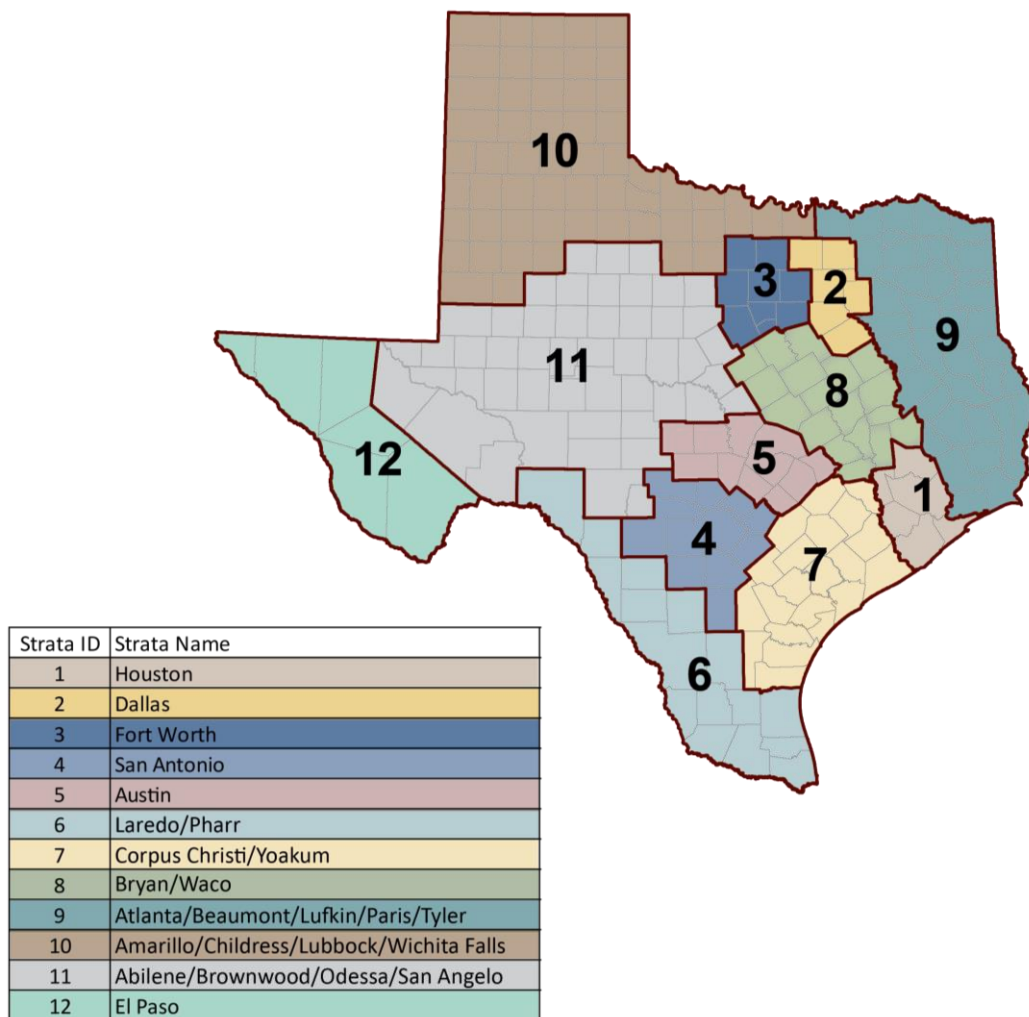
### Where Was the Study Conducted?

The 2016 sampling methodology was identical to that of 2014. It involved geographically stratifying Texas into 12 survey regions, with each region made up of one or more Texas Department of Transportation districts. Figure 1 shows a map of the stratification.

### What Did the Survey Cover?

The 2014 Texas Transportation Poll served as a foundation for the 2016 instrument. Prior to survey administration, the 2014 instrument was reviewed by TTI staff and modified slightly for administration in 2016. These modifications fell into three major categories:

- The wording of several questions was edited for clarity.
- Some questions were removed entirely.
- Some questions were added.



**Figure 1. Texas Transportation Poll Geographic Stratification.**

Throughout this report, tables and figures comparing 2014 results to 2016 results have been annotated, as appropriate, to identify where these edits occurred. The final survey contained 42 primary questions distributed over five modules: travel behavior, travel solutions, transportation funding, customer satisfaction with governmental agencies, and demographics. Because many of the primary questions had sub-questions, as many as 150 data points could be collected for each respondent.

### **How Were Survey Respondents Selected?**

Eligible survey respondents were at least 18 years old, had a valid mailing address, and were required to speak English or Spanish well enough to participate in the survey. The sample was drawn from a database of all known Texas residential mailing addresses. Phone numbers were then appended to as many of these addresses as possible. The sampled addresses were then sent advance notification of selection, which included respondent responsibilities, contact information for the researchers, and the web survey URL. The letter was accompanied by a paper copy of the

survey, a postage-paid envelope, and a toll-free phone number for respondents who preferred to take the survey in Spanish.

A goal of 400 surveys per stratum (4,800 statewide) was established at the onset of the survey. This would provide a stratum-level confidence interval of  $\pm 4.9$  percent at the 95 percent confidence level and a statewide confidence interval of  $\pm 1.4$  percent at the 95 percent confidence level.

The final cooperation rate was 36 percent.<sup>2</sup>

## **How Was the Survey Conducted?**

Customer Research International collected data from March 10, 2016, to July 28, 2016, via phone, web, and mail. Of the total 4,805 interviews completed:

- 80 percent were completed via telephone.
- 16 percent were completed via mail.
- 4 percent were completed via the web.
- 94 percent were conducted in English.
- 6 percent were conducted in Spanish.

## **How Were the Data Analyzed?**

Upon receipt of the initial dataset, researchers completed a series of logic checks and diagnostics for quality assurance. The cleaned dataset was then weighted so that it was geographically and demographically representative of Texans at the regional and statewide levels.

Researchers developed demographic weights using the 2014 weighting scheme, which was based on the variables of ethnicity, age, household income, and employment. During weight development, data analysts used the hot deck imputation method<sup>3</sup> to impute income. In order to facilitate this process, approximately 442 cases that were missing at least one demographic variable were removed from the dataset. The distribution of these cases was compared to the distribution of the complete dataset to ensure their removal would not bias the dataset. The resulting dataset contained 4,363 unexpanded cases. Table 1 gives weighted distributions of all survey respondents and registered voters by geographic strata.

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<sup>2</sup> The cooperation rate was calculated using the American Association for Public Opinion Research cooperation rate 2. More information is available at [https://www.aapor.org/AAPOR\\_Main/media/MainSiteFiles/Standard-Definitions2015\\_8thEd.pdf](https://www.aapor.org/AAPOR_Main/media/MainSiteFiles/Standard-Definitions2015_8thEd.pdf).

<sup>3</sup> Details on hot deck imputation are available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3130338/>.

**Table 1. Weighted Survey Distribution of Survey Respondents.**

Survey Region	All Respondents		Registered Voters	
	Frequency	Percentage	Frequency	Percentage
Houston	1,009	23%	784	23%
Dallas	730	17%	549	16%
Fort Worth	391	9%	349	10%
San Antonio	393	9%	329	9%
Austin	335	8%	270	8%
Laredo/Pharr	278	6%	205	6%
Corpus Christi/Yoakum	155	4%	126	4%
Bryan/Waco	201	5%	164	5%
Atlanta/Beaumont/Lufkin/Paris/Tyler	386	9%	319	9%
Amarillo/Childress/Lubbock/ Wichita Falls	191	4%	154	4%
Abilene/Brownwood/Odessa/ San Angelo	153	4%	130	4%
El Paso	140	3%	104	3%
Total	4,363	100%	3,482	100%

The weighted and expanded dataset compares well with demographic distributions for Texas as summarized by the U.S. Census Bureau. As is the case with most surveys, certain segments of the population do not respond as much relative to other segments of the population. The Texas Transportation Poll was no different and is slightly over-representative of individuals with a college education.

The results presented in the next sections of the report represent the attitudes and opinions of registered Texas voters (n=3,482 unexpanded cases). The term *respondent* or *Texan* is used to describe this subset of the population from this point forward. See the appendix for a demographic summary of respondents.

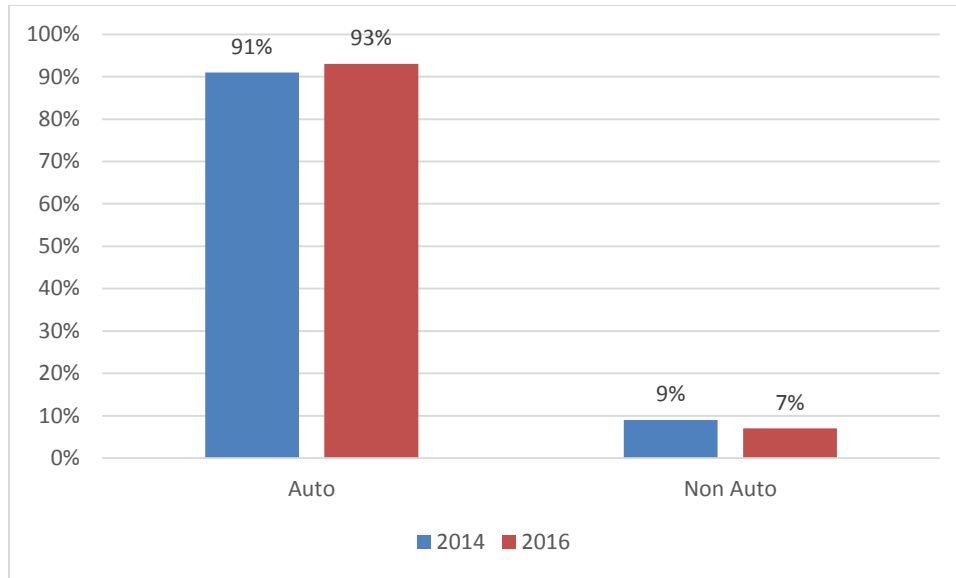


## Travel Behavior

SECTION OVERVIEW	
Question	Key Result
What is your primary means of transportation?	93% of Texans rely on a personal auto as their primary means of getting around, up from 91% in 2014.
Do you own or lease a personal vehicle?	The percentage of vehicle owners increased 3% from 2014 to 2016.
Did you use an alternate mode of transportation in the last 30 days?	Use of alternate modes, such as transit or bike, is down.
Have you ever used a car share service or a ride sourcing company to make a trip in Texas?	7% have used a car share service (such as Zipcar or Car2Go). 22% have used a transportation network company (such as Lyft or Uber).
Do you ever experience congestion while traveling in your region?	76% say they deal with traffic congestion every day (unchanged from 2014).
Have you made any relevant changes in your life in the last year in response to congestion?	Texans telecommuting and making residential choices based on congestion both showed significant increases (7 and 10 points, respectively).
What technologies have you used in the last 30 days to make travel decisions?	70% of travelers use a smartphone app to get current traffic information, up from 51% in 2014. 40% of travelers use a website to get current traffic information, up from 18% in 2014.
What do you believe causes congestion?	75% believe it is caused by the influx of people who want to live in Texas.

### What Is Your Primary Means of Transportation?

Figure 2 suggests that the proportion of Texans who rely on personal auto as their primary means of transportation has remained both high and stable, with more than 90 percent confirming personal auto reliance.

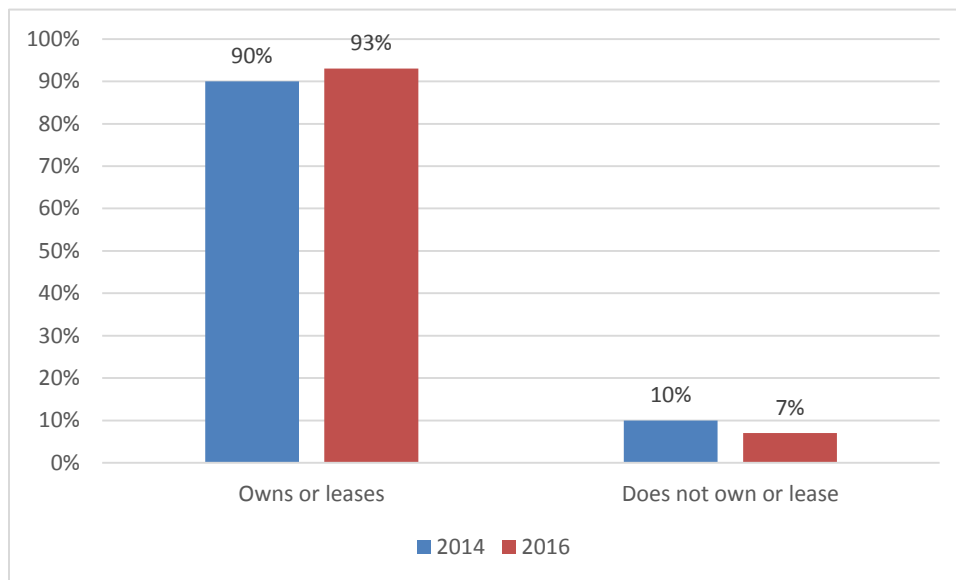


**Figure 2. What Is Your Primary Means of Transportation?**

## Do You Own or Lease a Personal Vehicle?

### Results

The survey data suggest that although modest, the 3 percentage point increase in the proportion of Texans owning or leasing a personal vehicle is significant.<sup>4</sup> Figure 3 shows further details.



**Figure 3. Do You Own or Lease a Personal Vehicle?**

<sup>4</sup> The term *significant* is used throughout this report to indicate statistical significance at the 95 percent confidence level.

### *Detailed Analysis*

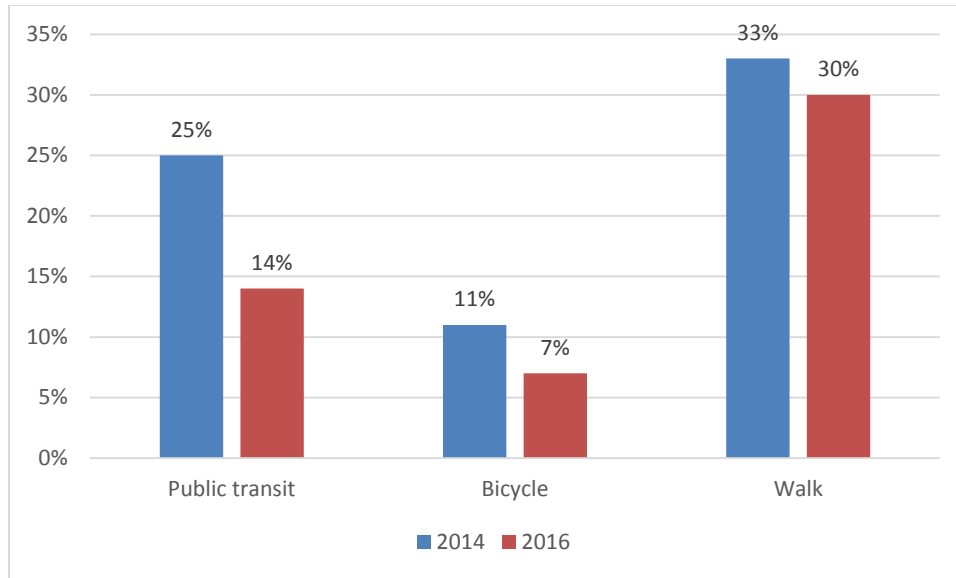
Previous travel behavior research suggests that a decrease in fuel prices leads to an increase in personal travel (1). As a follow-up to this question in both 2014 and 2016, vehicle owners or leasers were asked how many miles they have driven their personal vehicle in the last 12 months. While the 2014 and 2016 median number of miles is identical (10,000 miles), the 2016 mean (17,321 miles) is significantly higher than the 2014 mean (13,351). This difference may be attributed to the difference in fuel prices between the 2014 and 2016 iterations of the Texas Transportation Poll. According to the U.S. Energy Information Administration, the average weekly cost of all grades of gasoline in 2014 was \$3.22. To date, the average weekly cost of all grades of gasoline in 2016 is \$1.98 (2). Furthermore, additional information collected in the Texas Transportation Poll may confirm the plausibility of the link between increased travel and fuel prices.

A more detailed analysis of the effects of household income on personal travel suggests that households reporting annual incomes of less than \$25,000 travel less than those with annual incomes between \$25,000 and \$74,999. Similarly, households reporting annual incomes between \$25,000 and \$74,999 travel less than those reporting annual incomes of \$75,000 or more. However, the mean difference in annual personal vehicle miles traveled between these income groups was not significant. Significant differences were noted between unemployed respondents and employed respondents, with employed respondents reporting a significantly higher number of personal vehicle miles traveled.

## **Did You Use an Alternate Mode of Transportation in the Last 30 Days?**

### *Results*

Similar to the relationship between fuel prices and personal auto use, Figure 4 suggests that fuel prices may also affect the use of alternative modes of transportation. From 2014 to 2016, public transit use in the last 30 days for non-recreational trips has dropped by 9 percentage points, and bicycle use in the last 30 days for non-recreational trips has dropped by 6 percentage points. Both of these differences are significant. These findings are similar to those found in previous research conducted to examine the effects of fuel prices on both public transit use and bicycle use (3, 4). While the data also suggest a decrease of 3 percentage points in the proportion of Texans that reported walking in the last 30 days for non-recreational trips, the difference is not significant.



**Figure 4. Did You Use an Alternate Mode of Transportation in the Last 30 Days?**

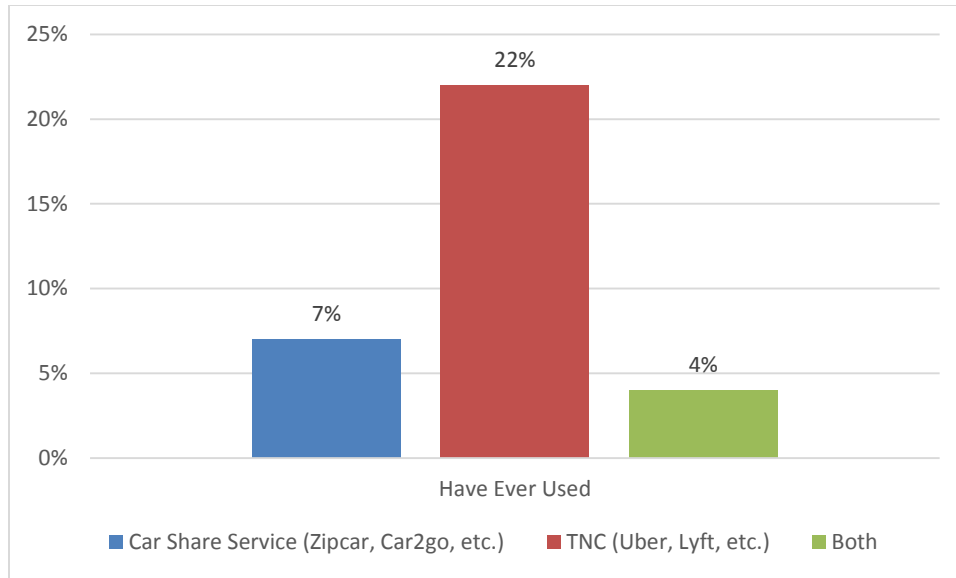
### *Detailed Analysis*

A more detailed analysis suggests that 25 percent of respondents reported using one alternate mode in the last 30 days, while 11 percent used two alternate modes. About 1 percent used three alternate modes in the last 30 days. The data also suggest a significant correlation between the number of alternate modes of transportation used in the last 30 days and age, with younger respondents more likely to use a greater number of alternate modes.

## **Have You Ever Used a Car Share Service or a Ride Sourcing Company to Make a Trip in Texas?**

### *Results*

Given the popularity of both car share services and ride sourcing companies (often referred to as transportation network companies [TNCs]), two questions on this topic were added to the 2016 Texas Transportation Poll that were not included in the 2014 Texas Transportation Poll. Figure 5 suggests that 7 percent of Texans have used a car share service (at any time) to make a trip in Texas, while triple that amount (22 percent) of Texans have used a TNC (at any time) to make a trip in Texas. The TNC estimate is reasonable, considering that a November 2015 Pew Research study estimated 15 percent of American adults had used a ride-hailing app (5). Four percent of Texans reported having used both a car share service and a TNC to make a trip in Texas.



**Figure 5. Have You Ever Used a Car Share Service or a Transportation Network Company to Make a Trip in Texas?**

### *Detailed Analysis*

Further analysis suggests households reporting annual household incomes of either less than \$15,000 or at least \$150,000 are more likely to be car share service users than households reporting mid-range annual incomes. Somewhat different from the relationship observed between car share use and income, TNC use and income share a significant positive correlation. As income increases, so too does the likelihood to be a TNC user. Furthermore, car share users are nearly twice as likely to be minority as not.

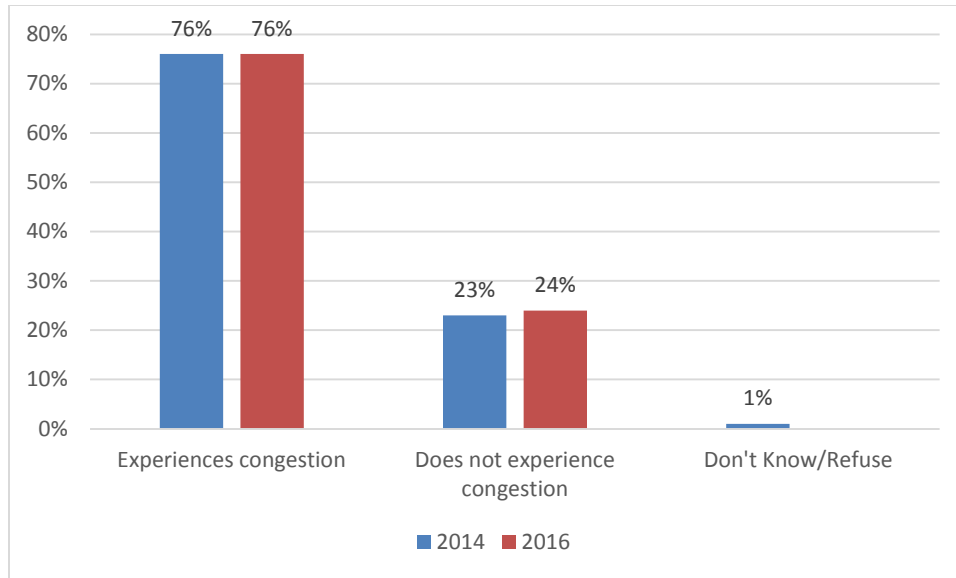
There is also an inverse correlation between care share service use and age. As age increases, propensity to use car share services decreases. Similarly, as age increases, propensity to use TNCs decreases.

Not surprisingly, Texans living in survey regions that include major metro areas are approximately twice as likely to have used a car share service or a TNC than those in rural areas.

## **Do You Ever Experience Congestion While Traveling in Your Region?**

### *Results*

As was the case in 2014, approximately three-fourths of Texans (76 percent) reported experiencing congestion while traveling in their region. Figure 6 shows further details.



**Figure 6. Do You Ever Experience Congestion While Traveling in Your Region?**

### *Detailed Analysis*

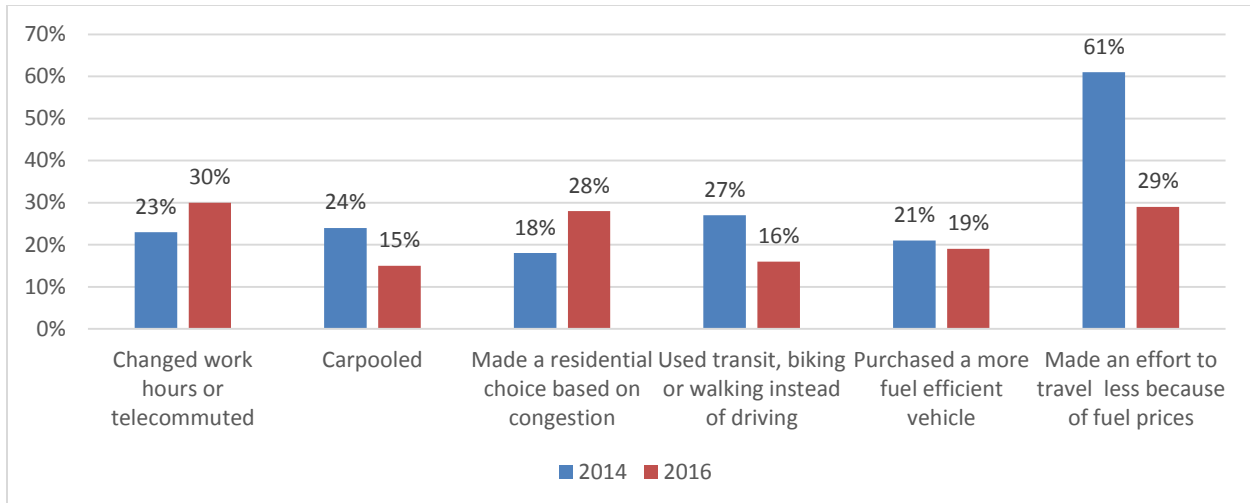
As a follow-up to this question in both 2014 and 2016, those experiencing congestion were asked to rate regional congestion using a scale from 0 (congestion is not bad at all) to 10 (congestion is extremely bad). The 2016 mean congestion score of 6.8 was modestly higher than the 2014 mean congestion score of 6.5, but the difference was significant. Cumulatively, these data points suggest that while there has been no increase in the proportion of Texans experiencing congestion in their region, the perceived severity of congestion has worsened.

## **Have You Made Any Relevant Changes in Your Life in the Last Year in Response to Congestion?**

### *Results*

Figure 7 suggests that from 2014 to 2016, the proportion of Texans telecommuting (a 7 percentage point increase) and making residential choices based on congestion (a 10 percentage point increase) has increased, with both increases being significant. Conversely, the data suggest that the proportion of Texans carpooling (a 9 percentage point decrease), using alternative modes instead of driving (a 11 percentage point decrease) and making an effort to travel less because of fuel prices (a 32 percentage point decrease) has decreased, with these decreases being significant. The decrease in the proportion of Texans purchasing a more fuel-efficient vehicle from 2014 to 2016 is not significant.

These findings suggest that for more than a quarter of Texans in 2016, regional congestion has increased to the point that it is a significant enough concern to affect their work schedule, work location, and/or residential location. However, a reduction in effort to drive less, coupled with a reduced reliance on alternative modes due to decreased fuel prices, may be contributing to the very congestion Texans are trying to avoid.



**Figure 7. Have You Made Any Relevant Changes in Your Life in the Last Year in Response to Congestion?**

### *Detailed Analysis*

A more detailed analysis suggests that 29 percent of Texans had made at least one of the mentioned relevant changes in their lives in the last year to avoid congestion, while another 18 percent had made two relevant changes. Eight percent had made three relevant changes, and 4 percent had made four or more relevant changes. This means that a majority of respondents (59 percent) made at least one lifestyle change to avoid congestion.

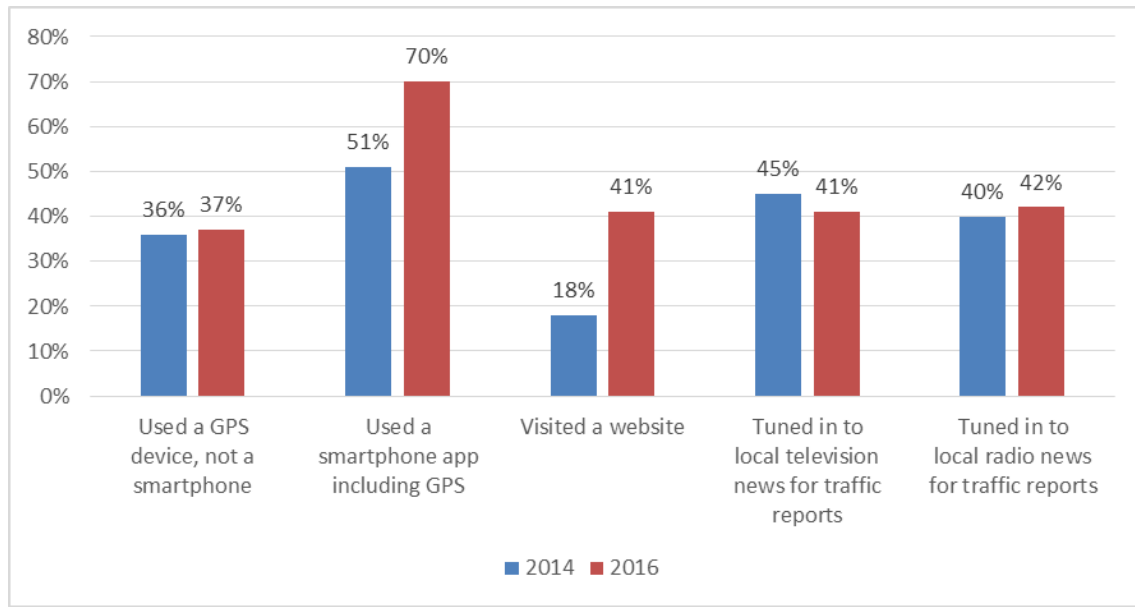
Respondents who stated they made an effort to travel less because of fuel prices were excluded from this analysis to focus on changes that require active participation from an individual rather than a circumstance. The number of changes made in the last year was found to be significantly correlated with:

- Age (the younger the respondent, the more changes made).
- Income (the higher the household income, the more changes made).
- Cohabitation (respondents living alone reported more changes made).

## **What Technologies Have You Used in the Last 30 Days to Make Travel Decisions?**

### *Results*

Figure 8 suggests double-digit increases in the proportion of Texans that use a smartphone app (a 19 percentage point increase) or visit a website (a 23 percentage point increase) to help inform travel decisions. Conversely, the proportion of Texans tuning into local television news for traffic reports to help inform travel decisions decreased modestly (a 4 percentage point decrease) and was significant.



**Figure 8. What Technologies Have You Used in the Last 30 Days to Make Travel Decisions?**

### *Detailed Analysis*

Although no significant difference was observed between the 2014 and 2016 estimates regarding the proportion of Texans using a non-smartphone global positioning system (GPS) device, over one-third (37 percent in 2016) of Texans use this form of technology to help inform their travel. Similarly, approximately 4 of 10 (43 percent in 2016) tune in to local radio news for traffic reports to help inform daily travel. These estimates suggest a rise in the use of internet-based traveler information sources, and a simultaneous stagnation and/or decrease in the use of more traditional media sources, such as television, radio, and in-vehicle GPS.

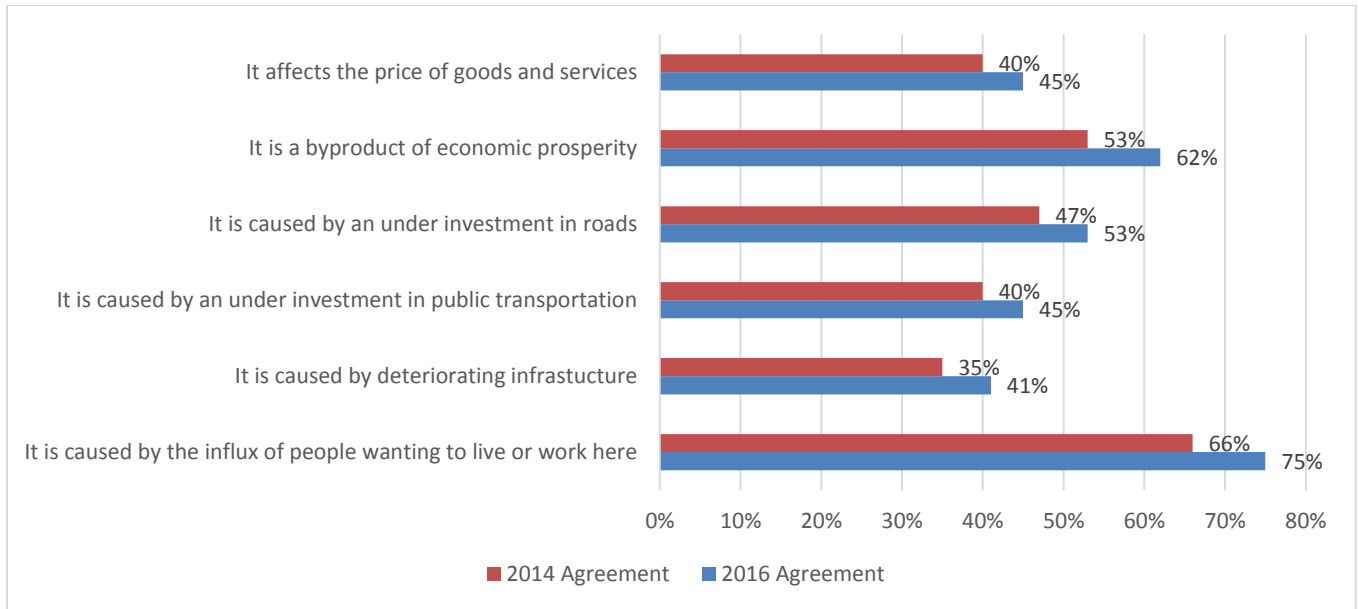
## **What Do You Believe Causes Congestion?**

### *Results*

Figure 9 suggests significant increases across the board with levels of agreement regarding a series of six congestion-related statements asked in both the 2014 and 2016 Texas Transportation Polls:

- The largest increases are seen in the proportions of Texans agreeing that “congestion is a byproduct of economic prosperity” and “congestion is caused by the influx of people wanting to live or work here” (9 percentage point increases for each).
- Conversely, the smallest increases were observed in the proportions of Texans agreeing that “congestion is caused by an underinvestment in public transportation” and “congestion affects the price of goods and services” (5 percentage point increases for each).
- The proportion of Texans agreeing that “congestion is caused by an underinvestment in roads” went from a 2014 near majority (47 percent) to a 2015 majority (53 percent).





**Figure 9. Agreement with Congestion-Related Statements.**

*Detailed Analysis*

A more detailed analysis suggests that living in a survey region with a major metro area is strongly correlated with levels of agreement with all of these congestion-related statements, with respondents from major metro regions being much more agreeable than respondents living outside of major metro regions. Age was also found to be significantly correlated with many of these congestion-related statements. As age increases, so does level of agreement.

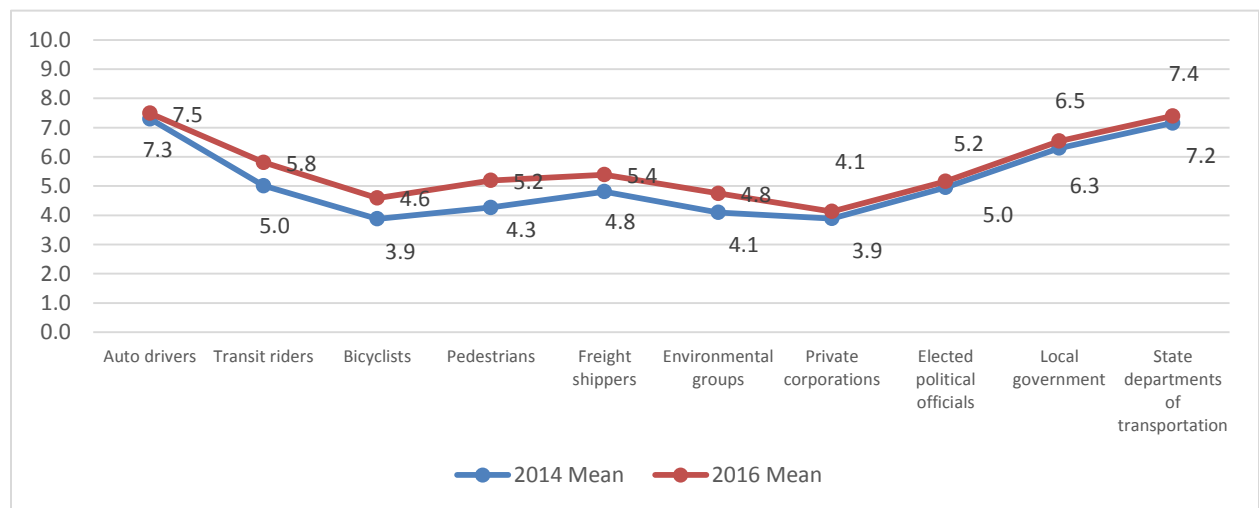
# Travel Solutions

SECTION OVERVIEW	
Question	Key Result
Who should influence transportation policy?	Texans still believe that auto drivers and state departments of transportation should have the most influence on transportation policy.
What are your views about public transportation, bicycling, and walking as alternate modes of transportation?	The largest increases were observed in the proportion of Texans agreeing that alternative modes do reduce congestion.
What strategies should be used to resolve transportation issues?	Texans are still most supportive of timing traffic signals.

## Who Should Influence Transportation Policy?

### Results

Respondents were queried about which users and providers of the transportation system should have the most influence on establishing transportation policy. Using a scale from zero (should have the least influence on establishing transportation policy in your region) to 10 (should have the most influence on establishing transportation policy in your region), respondents were asked to rate various groups. Figure 10 presents the 2014 and 2016 mean scores. The 2014 and 2016 lines are very similar, and with the exception of auto drivers, private corporations, and local government, the 2016 scores are significantly higher.



**Figure 10. Mean Score Assigned to Groups That Should Influence Transportation Policy.**

### Detailed Analysis

Despite these modest increases in mean scores, the relative positions of each group have not changed much from 2014 to 2016. Table 2 suggests that if the groups are ranked by 2014 and 2016 mean score, the positions of the top four have remained unchanged. Elected political

officials show the highest degree of movement (from the number 5 position to the number 7 position).

**Table 2. 2014 and 2016 Rank of Groups That Should Influence Transportation Policy.**

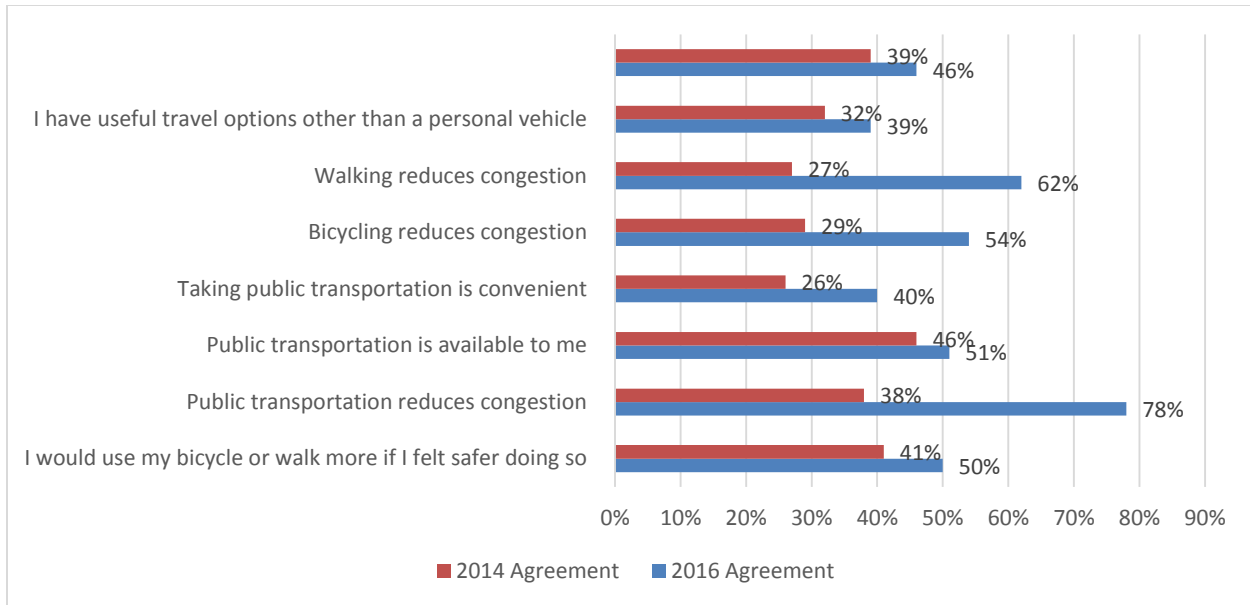
<b>Group</b>	<b>2014 Rank</b>	<b>2016 Rank</b>
Auto drivers	1	1
State departments of transportation	2	2
Local government	3	3
Transit riders	4	4
Elected political officials	5	7
Freight shippers	6	5
Pedestrians	7	6
Environmental groups	8	8
Private corporations	9	10
Bicyclists	10	9

In 2014, respondents’ reliance on personal auto as their primary means of travel rated auto drivers as the group that should have the most influence on transportation policy, while respondents reliant on non-personal auto as their primary means of travel rated state departments of transportation as the group that should have the most influence. The 2016 data suggest agreement from both personal-auto-reliant and non-personal-auto-reliant respondents that auto drivers should have the most influence. As was the case in 2014, non-personal-auto-reliant respondents assigned significantly higher scores to transit users than did personal-auto-reliant respondents.

## **What Are Your Views about Public Transportation, Bicycling, and Walking as Alternate Modes of Transportation?**

### *Results*

Respondents were asked to provide their level of agreement regarding a number of statements concerning alternative modes of transportation. Figure 11 suggests significant increase across the board in levels of agreement regarding a series of eight statements about alternative modes asked in both the 2014 and 2016 polls. The wording of several of the statements presented in Figure 11 was changed slightly from 2014 to 2016. These wording changes were made for clarity and to ensure consistency with the wording of other questions within the question set. Therefore, caution should be taken when comparing the 2014 and 2016 estimates.



**Figure 11. Level of Agreement with Statements Regarding Alternate Modes of Transportation.**

### *Detailed Analysis*

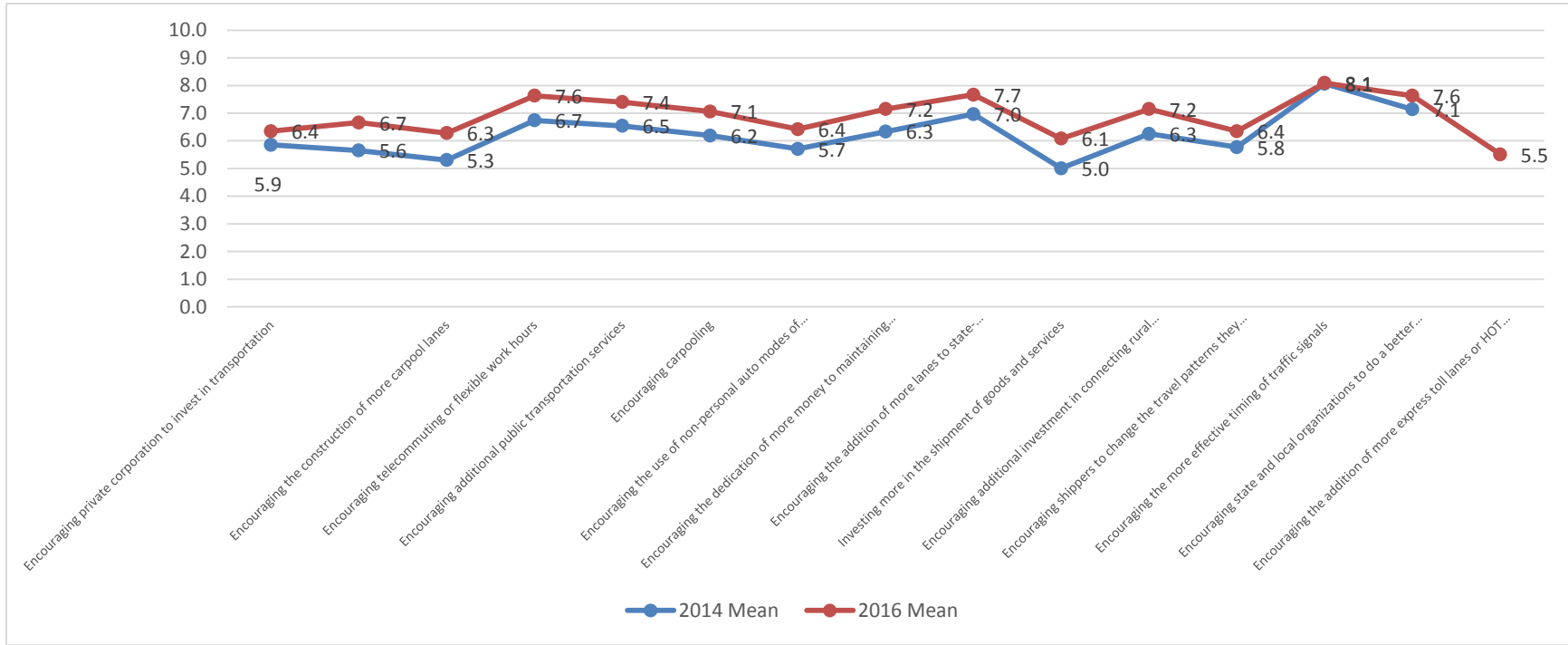
The largest increases were observed in the proportion of Texans agreeing that alternative modes reduce congestion. From 2014 to 2016, the data suggest a 40 percentage point increase in the proportion of Texans who agree (either somewhat or strongly) that public transportation reduces congestion. Similar trends were observed with walking (a 35 percentage point increase) and biking (a 25 percentage point increase). The data also suggest that several statements went from 2014 non-majority agreement to 2016 majority agreement. These statements include the three previously discussed statements and “public transportation is available to me” (51 percent agreement in 2016).

A detailed demographic analysis suggests that non-white minorities are more likely to agree that non-personal auto modes (walking, biking, and public transportation) reduce congestion than their white counterparts. Similarly, low-income respondents and younger respondents are also more agreeable with this sentiment.

## **What Strategies Should Be Used to Resolve Transportation Issues?**

### *Results*

Using a scale from zero (a strategy you strongly oppose to help solve transportation issues in your region) to 10 (a strategy you strongly support to help solve transportation issues in your region), respondents were once again asked to rate various strategies. Figure 12 presents the 2014 and 2016 mean scores. The 2014 and 2016 lines are very similar. With the exception of “encouraging the more effective timing of traffic signals,” the 2016 scores are significantly higher. The 2016 Texas Transportation Poll also offered the following response not offered in 2014: “encourage the addition of more express lanes or HOT lanes.”



**Figure 12. What Strategies Should Be Used to Resolve Transportation Issues?**

### *Detailed Analysis*

If the strategies are ranked by 2014 and 2016 mean score, Table 3 suggests some modest movements among the strategy rankings. “Encouraging the more effective timing of traffic signals” retained its top ranked position, but the rankings have undergone the following key rearrangements from 2014 to 2016:

- Number 2: For 2016, “encouraging the addition of more lanes to state-maintained roads” is now preferred over the 2014 second ranked “encouraging state and local organizations to do a better job of managing accidents and/or clearing automobile wrecks.”
- Number 3: For 2016, “encouraging telecommuting or flexible work hours” is now preferred over the 2014 third ranked “encouraging the addition of more lanes to state-maintained roads.”
- Highest positive movement: The strategy characterized by the highest degree of positive movement (from the number 12 position in 2014 to the number 9 position in 2016) was “encouraging high-density development around public transportation stations.”
- Highest negative movement: The strategy characterized by the highest degree of negative movement (from the number 10 position in 2014 to the number 12 position in 2016) was “encouraging shippers to change the travel patterns they regularly use to deliver goods.”
- Lowest ranking comparison: “Investing more in the shipment of goods and services” was the lowest-ranked strategy among statements asked in both 2014 and 2016.
- New lowest ranking: In 2016, a new statement was added to the list of strategies that should be used to resolve transportation issues. The statement was “encouraging the addition of more express toll lanes or HOT lanes.” The 2016 mean score for this strategy was 5.5, the lowest of all statements offered in 2016.

As was the case in 2014, “encouraging the more effective timing of traffic signals” was scored highest by respondents representing a variety of sociodemographic backgrounds, including party affiliation, household income, and geography (metro versus non-metro survey region). Non-white minorities assigned a slightly higher score to “encouraging state and local organizations to do a better job of managing accidents and/or clearing automobile wrecks” (a mean score of 8.2) than to “encouraging the more effective timing of traffic signals” (a mean score of 8.1). Support for toll-related strategies to help resolve transportation issues remains low.

**Table 3. 2014 and 2016 Rank of Strategies That Should Be Used to Resolve Transportation Issues.**

<b>Statement</b>	<b>2014 Rank</b>	<b>2016 Rank</b>
Encouraging the more effective timing of traffic signals	1	1
Encouraging state and local organizations to do a better job of managing accidents and/or clearing automobile wrecks	2	4
Encouraging the addition of more lanes to state-maintained roads	3	2
Encouraging telecommuting or flexible work hours	4	3
Encouraging additional public transportation services	5	5
Encouraging the dedication of more money to maintaining the current system	6	6
Encouraging additional investment in connecting rural communities to urban areas	7	7
Encouraging carpooling	8	8
Encouraging private corporations to invest in transportation	9	10
Encouraging shippers to change the travel patterns they regularly use to deliver goods	10	12
Encouraging the use of non-personal auto modes of transportation	11	11
Encouraging high-density development around public transportation stations	12	9
Encouraging the construction of more carpool lanes	13	13
Investing more in the shipment of goods and services	14	14
<i>Encouraging the addition of more express toll lanes or HOT lanes</i>	<i>N/A</i>	<i>N/A</i>

## Transportation Funding

SECTION OVERVIEW	
Question	Key Result
Is there a need to increase transportation funding in Texas?	73% said yes, up from 64% in 2014.
Is the fuel tax a flat tax or a sales tax?	Most Texans still do not understand the specifics of the fuel tax.
What transportation funding mechanisms do you support?	Raising the vehicle registration fee by \$10 is the most preferred option for increased funding.
Opposition to increasing the state fuel tax to generate additional transportation funding	Nearly one-third (32%) oppose a tax increase because they “don’t think the government would spend the additional funding wisely.”
Opposition to tolling to generate additional transportation funding	The highest majority agreement (73%) is attributed to “toll decisions are often made without a public vote.”
How do you rate various transportation funding mechanism characteristics?	In 2016, “a transportation funding mechanism should include a guarantee that 100 percent of all revenues are spent on transportation projects” was ranked highest.

### Is There a Need to Increase Transportation Funding in Texas?

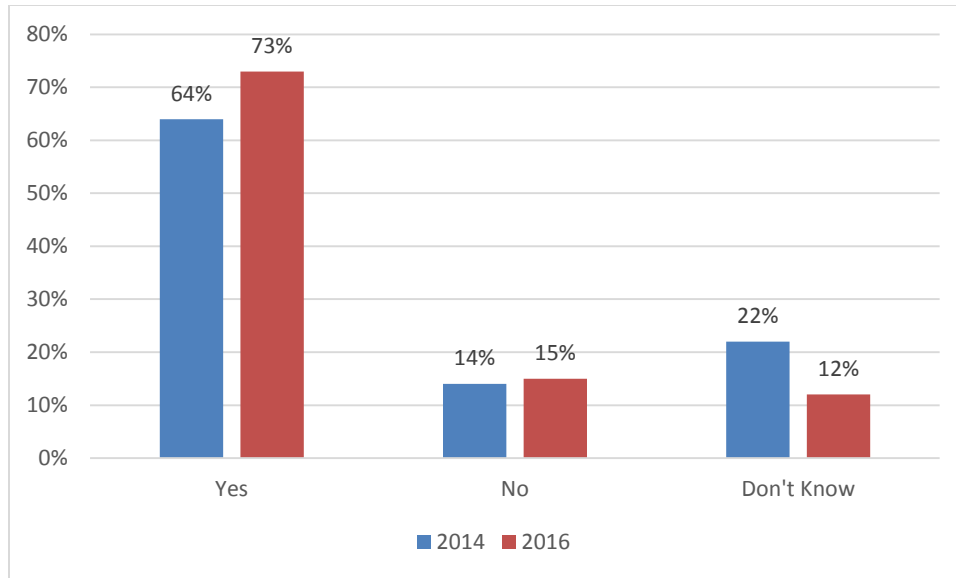
#### *Results*

Figure 13 suggests that from 2014 to 2016, there has been a significant increase (9 percentage points) in the proportion of Texans that believe there is a need to increase transportation funding in Texas. The data also suggest that this increase is coupled with a decrease in the proportion of undecided Texans (represented by “don’t know”) by 10 percentage points. The proportion of Texans that do not believe there is a need to increase transportation funding in Texas has remained relatively stable from 2014 to 2016.

#### *Detailed Analysis*

Similar to the 2014 findings, the 2016 data suggest majority support across a wide range of demographics including ethnicity, age, income, and geography (metro versus non-metro survey region).



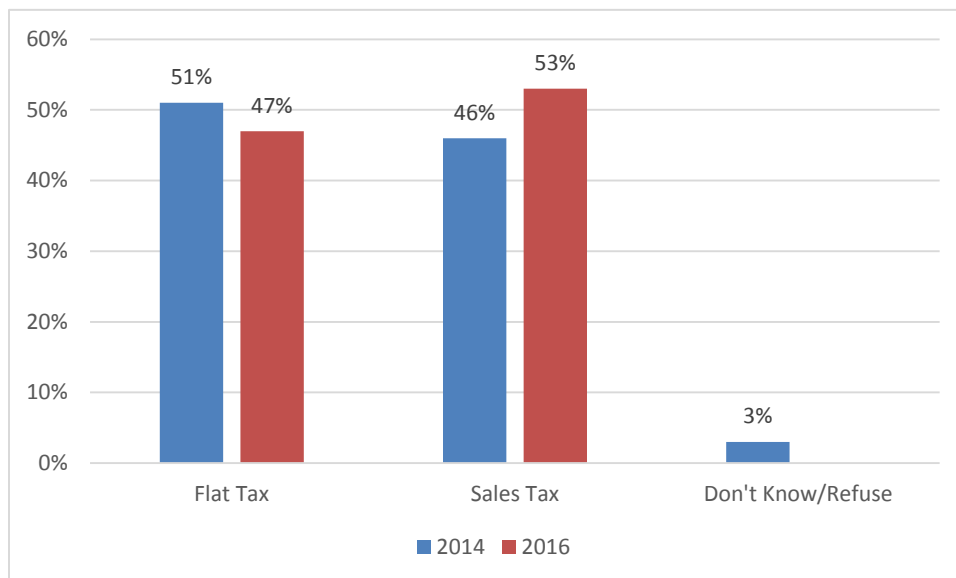


**Figure 13. Is There a Need to Increase Transportation Funding in Texas?**

## Is the Fuel Tax a Flat Tax or a Sales Tax?

### Results

Respondents were again told that the majority of transportation funding in Texas was from revenue generated by the fuel tax. When asked if the fuel tax was a flat tax or a sales tax, just under half of Texans (47 percent, down from 51 percent in 2014) correctly reported it was a flat tax. While the decrease in the proportion of Texans reporting the state fuel tax as a flat tax was not significant, the 7 percentage point increase in the proportion of Texans incorrectly reporting the state fuel tax as a sales tax was significant. Figure 14 shows further details.



**Figure 14. Is the Fuel Tax a Flat Tax or a Sales Tax?**

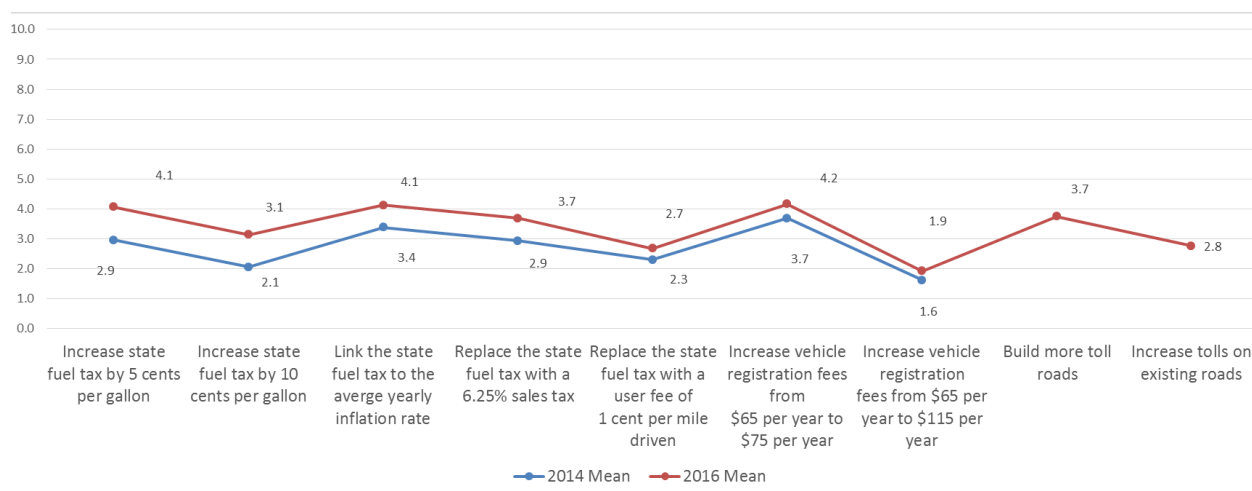
## Detailed Analysis

A detailed analysis suggests that age, income, ethnicity, and geography are significantly correlated with correctly identifying the typology of the fuel tax. As age and household income increase, so too does the ability to correctly identify fuel tax typology. Non-white minorities were less likely than whites to correctly identify fuel tax typology. Similarly, living in a non-metro survey region was associated with decreased ability to correctly identify fuel tax typology.

## What Transportation Funding Mechanisms Do You Support?

### Results

Using a scale from zero (strongly oppose) to 10 (strongly support), respondents were asked to rate various mechanisms to help generate additional transportation funding.<sup>5</sup> Figure 15 presents the 2014 and 2016 mean scores. The 2014 and 2016 lines are very similar, with all 2016 mean scores significantly higher than 2014 mean scores. The 2016 poll offered the following responses not offered in 2014: “building more toll roads” and “increasing the toll on existing roads.”



**Figure 15. What Transportation Funding Mechanisms Do You Support?**

### Detailed Analysis

If the strategies are ranked by 2014<sup>6</sup> and 2016 mean score, Table 4 suggests very little movement among strategy rankings between 2014 and 2016:

- “Increase vehicle registration fees from \$65 per year to \$75 per year” retained the number 1 position, while “increase vehicle registration fees from \$65 per year to \$115 per year” retained the number 7 position.

<sup>5</sup> Due to the passage of Proposition 7 in November 2015, the 2014 response option “dedicating state sales tax on vehicles to transportation” was not offered in 2016.

<sup>6</sup> The most highly ranked 2014 response option (“dedicating state sales tax on vehicles to transportation”) was not offered as a 2016 response due to the passage of Proposition 7 in November 2015. Therefore, the 2014 ranks were assigned after the removal of this response option.

- “Replace the state fuel tax with a user fee of 1 cent per mile driven” fell from the number 5 position to the number 6 position in 2016, replaced by “increase the state fuel tax by 10 cents per gallon.”
- In 2016, the top three most highly rated mechanisms (“increase vehicle registration fees from \$65 per year to \$75 per year,” “link the state fuel tax to the average yearly inflation rate,” and “increase the state fuel tax by 5 cents per gallon”) are not statistically different from one another.

In 2016, two new statements were added to the list of transportation funding mechanisms:

- “Building more toll roads” (a mean score of 3.7).
- “Increasing the toll on existing roads” (a mean score of 2.8).

These mean scores would place “building more toll roads” on par with “replace the state fuel tax with a 6.25 percent sales tax” in 2016, and “increasing the toll on existing roads” ranked slightly higher than “replace the state fuel tax with a user fee of 1 cent per mile driven” in 2016.

**Table 4. 2014 and 2016 Rank of Transportation Funding Mechanisms Supported.**

<b>Funding Mechanism</b>	<b>2014 Rank</b>	<b>2016 Rank</b>
Increase vehicle registration fees from \$65 per year to \$75 per year	1	1
Link the state fuel tax to the average yearly inflation rate	2	2
Increase the state fuel tax by 5 cents per gallon	3	3
Replace the state fuel tax with a 6.25 percent sales tax	4	4
<i>Building more toll roads</i>	<i>N/A</i>	<i>N/A</i>
<i>Increasing the toll on existing roads</i>	<i>N/A</i>	<i>N/A</i>
Replace the state fuel tax with a user fee of 1 cent per mile driven	5	6
Increase the state fuel tax by 10 cents per gallon	6	5
Increase vehicle registration fees from \$65 per year to \$115 per year	7	7

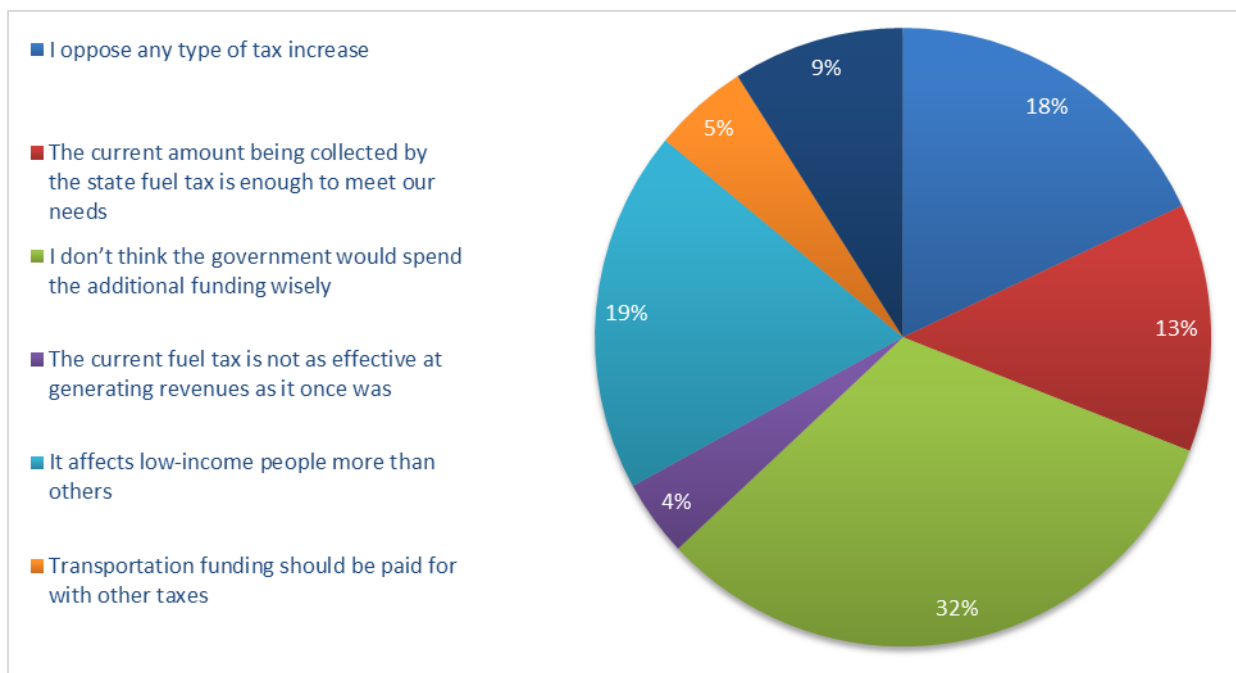
A detailed review of the 2016 data suggests that non-white minorities, respondents reporting annual household incomes of less than \$75,000, and respondents living in non-major metro survey regions felt “link the state fuel tax to the average yearly inflation rate” was the transportation funding mechanism worthy of the most support. Conversely, whites, respondents reporting annual household incomes of at least \$75,000, and respondents living in major metro survey regions rated “increase vehicle registration fees from \$65 per year to \$75 per year” most highly.

## Opposition to Increasing the State Fuel Tax to Generate Additional Transportation Funding

In order to gather further information regarding potential opposition to specific transportation funding mechanisms, two new questions were added to this section of the 2016 Texas Transportation Poll that were not included in the 2014 Texas Transportation Poll.

### Results

Respondents reporting opposition to increasing the state fuel tax by either 5 or 10 cents per gallon were asked to specify why they were opposed to this mechanism to increase transportation funding. Figure 16 suggests that nearly one-third (32 percent) of these respondents oppose a tax increase because they “don’t think the government would spend the additional funding wisely.” Nearly one in five (19 percent) primarily believe “it affects low-income people more than others,” with nearly that same proportion (18 percent) stating they “oppose any type of tax increase.”



**Figure 16. Which of the Following Statements Best Reflects Your Opposition to Increasing the State Fuel Tax to Generate Additional Transportation Funding?**

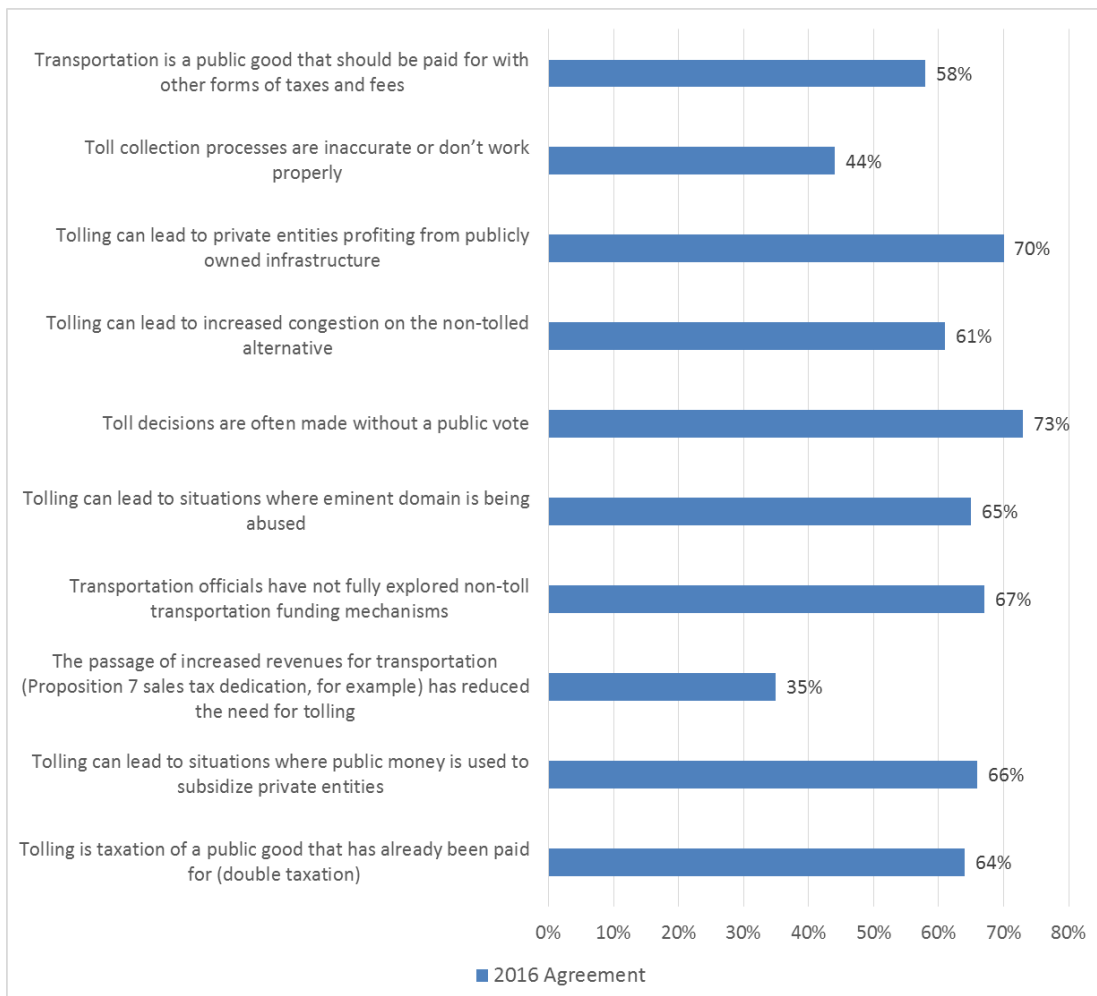
### Detailed Analysis

A more detailed analysis suggests a number of significant correlations between specific reasons for opposing increasing the fuel tax and sociodemographic factors. Non-white minorities were much more likely to state that “transportation funding should be paid for with other taxes” and the fuel tax “affects low-income people more than others.” Additionally, as household income increases among respondents, so too does the likelihood of feeling that “the government would not spend the additional funding wisely.”

## Opposition to Tolling to Generate Additional Transportation Funding

Respondents reporting opposition to building more toll roads or increasing the toll on existing roads were also asked to specify why they were opposed to using these mechanisms to increase transportation funding. Figure 17 suggests the following:

- Majority agreement was achieved on eight of ten statements.
- A two-thirds majority agreement was reached on four of ten statements, with the highest majority agreement (73 percent) attributed to “toll decisions are often made without a public vote.”
- The only two statements not reaching majority agreement were “the passage of increased revenues for transportation (Proposition 7 sales tax dedication, for example) has reduced the need for tolling” (35 percent agreement) and “toll collection processes are inaccurate or don’t work properly” (44 percent agreement).



**Figure 17. Level of Agreement with Statements Regarding Opposition to Tolling to Generate Additional Transportation Funding.**

## How Do You Rate Various Transportation Funding Mechanism Characteristics?

### *Results*

Using a scale from zero (strongly disagree) to 10 (strongly agree), respondents were asked to rate various transportation funding mechanism characteristics. Figure 18 presents the 2014 and 2016 mean scores. While both the 2014 and 2016 lines share many similarities, they contrast in many ways. Seven of the offered transportation funding characteristics are characterized by significantly higher 2016 mean scores. The remaining two characteristics have lower 2016 mean scores, with one (“a transportation funding mechanism should reduce dependency on foreign oil”) being significantly lower.

### *Detailed Analysis*

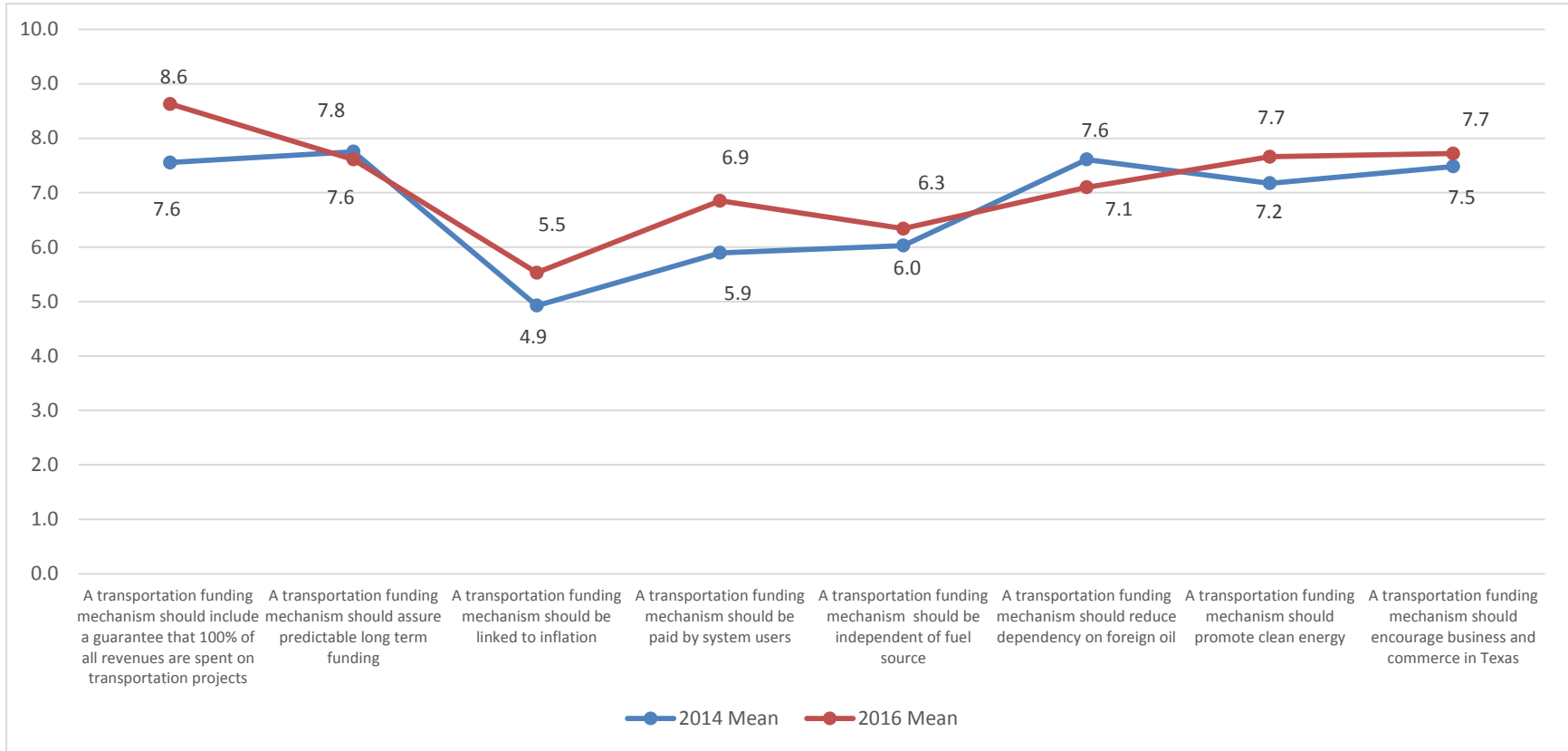
If the strategies are ranked by 2014<sup>7</sup> and 2016 mean score, Table 5 suggests some modest movement in the positions of each strategy:

- “A transportation funding mechanism should assure predictable long-term funding” fell from the number 1 position in 2014 to the number 4 position in 2016, replaced by “a transportation funding mechanism should include a guarantee that 100 percent of all revenues are spent on transportation projects” in 2016.
- “A transportation funding mechanism should be linked to inflation” retained the number 8 (last) position.

Detailed analysis of the 2016 estimates suggests strong agreement across a wide variety of socio-demographic factors that “a transportation funding mechanism should include a guarantee that 100 percent of all revenues are spent on transportation projects.” In fact, of all demographic groups investigated as part of this analysis, respondents age 18–24 were the only group to attribute a higher mean agreement score to some other funding mechanism characteristic (“a transportation funding mechanism should promote clean energy”).

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<sup>7</sup> “A transportation funding mechanism should capitalize on the current energy boom” was not offered as a 2016 response. Therefore, the 2014 ranks were assigned after the removal of this response option.



**Figure 18. Mean Score Assigned to Various Transportation Funding Characteristics.**

**Table 5. 2014 and 2016 Rank of Transportation Funding Mechanisms Supported.**

<b>Characteristic</b>	<b>2014 Rank</b>	<b>2016 Rank</b>
A transportation funding mechanism should assure predictable long-term funding	1	4
A transportation funding mechanism should reduce dependency on foreign oil	2	5
A transportation funding mechanism should include a guarantee that 100 percent of all revenues are spent on transportation projects	3	1
A transportation funding mechanism should encourage business and commerce in Texas	4	2
A transportation funding mechanism should promote clean energy	5	3
A transportation funding mechanism should be independent of fuel source	6	7
A transportation funding mechanism should be paid by system users	7	6
A transportation funding mechanism should be linked to inflation	8	8



## Customer Satisfaction with Governmental Agencies

SECTION OVERVIEW	
Question	Key Result
Should local, state, and federal government play a significant role regarding transportation issues in your region?	Just as in 2014, Texans are eager to have local and state government play a role in resolving transportation issues, but not the federal government.
How well are transportation agencies performing?	Texans still believe that agencies are doing adequately in some areas but not in others. They also believe that public agencies should partner with private corporations to resolve issues.
What is your opinion of transportation network companies?	Texans want a regulatory framework that allows TNCs and taxis to operate on an even playing field, with neither side having any type of advantage.

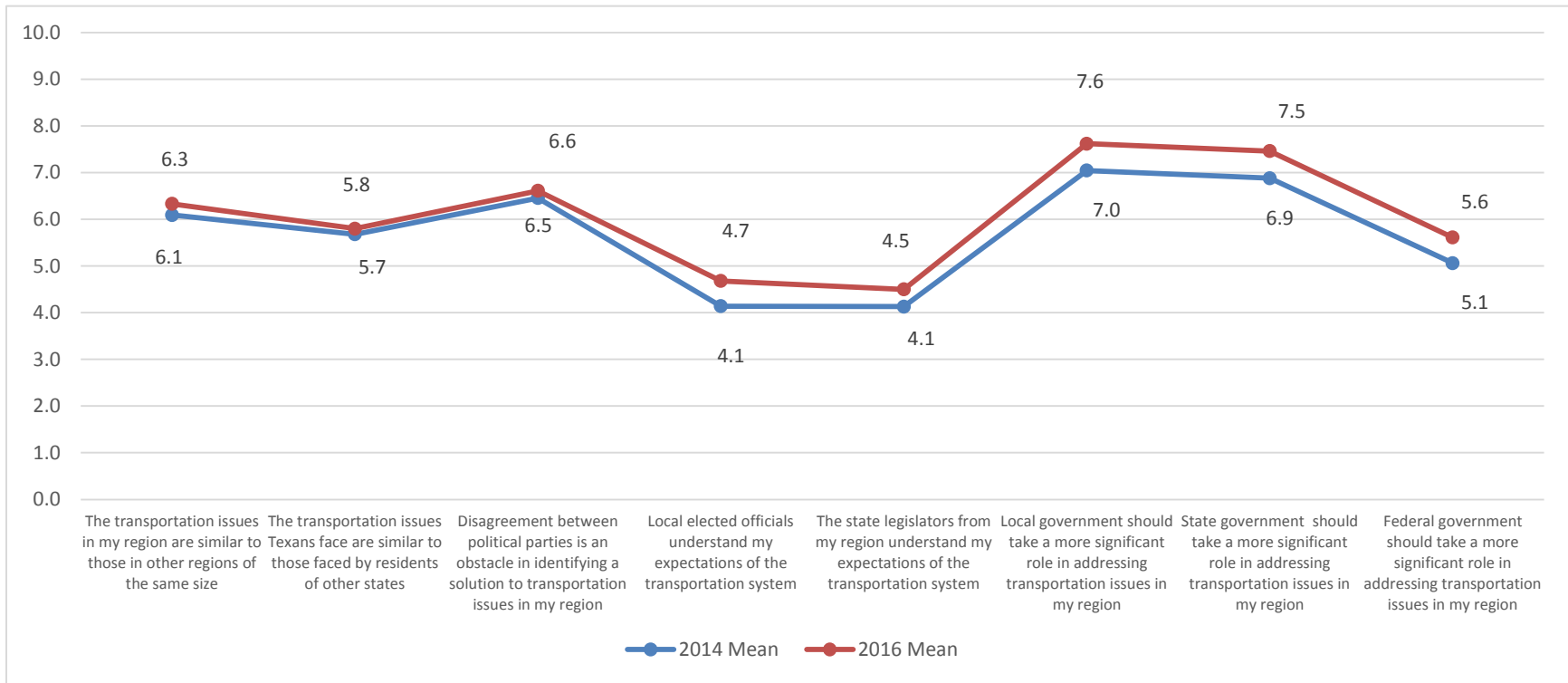
### Should Local, State, and Federal Government Play a Significant Role Regarding Transportation Issues in Your Region?

#### *Results*

Using a scale from 0 (strongly disagree) to 10 (strongly agree), respondents were again asked to rate a series of statements regarding transportation issues in their respective regions. Figure 19 presents the 2014 and 2016 mean scores. As seen in previous figures comparing mean scores, the 2014 and 2016 lines are very similar, with all 2016 mean scores trending higher than 2014 mean scores.

All 2016 mean scores were significantly higher than their 2014 counterparts with the exception of the following statements:

- “The transportation issues in my region are similar to those in other regions of the same size.”
- “The transportation issues Texans face are similar to those faced by residents of other states.”
- “Disagreement between political parties is an obstacle in identifying a solution to transportation issues in my region.”



**Figure 19. Mean Score Assigned to Various Statements Regarding Transportation Issues.**

### Detailed Analysis

If the statements are ranked by 2014 and 2016 mean score, Table 6 suggests no movement in the positions of each statement:

- “Local government should take a more significant role in addressing transportation issues in my region” retained its position as the most highly ranked statement, followed closely by “state government should take a more significant role in addressing transportation issues in my region.”
- Once again in 2016, the lowest ranking statement was “the state legislators from my region understand my expectations of the transportation system.”

**Table 6. 2014 and 2016 Rankings of Various Statements Regarding Transportation Issues.**

Statement	2014 Rank	2016 Rank
Local government should take a more significant role in addressing transportation issues in my region	1	1
State government should take a more significant role in addressing transportation issues in my region	2	2
Disagreement between political parties is an obstacle in identifying a solution to transportation issues in my region	3	3
The transportation issues in my region are similar to those in other regions of the same size	4	4
The transportation issues Texans face are similar to those faced by residents of other states	5	5
Federal government should take a more significant role in addressing transportation issues in my region	6	6
Local elected officials understand my expectations of the transportation system	7	7
The state legislators from my region understand my expectations of the transportation system	8	8

Detailed analysis of the 2016 data suggests strong agreement across a wide variety of socio-demographic factors that “local government should take a more significant role in addressing transportation issues in my region.” In fact, of all demographic groups investigated as part of this analysis, only two groups of respondents attributed a higher mean agreement score to some other statement. Respondents age 35–44 and respondents from households earning less than \$25,000 per year were slightly more agreeable with “state government should take a more significant role in addressing transportation issues in my region.”

## How Well Are Transportation Agencies Performing?

### *Results*

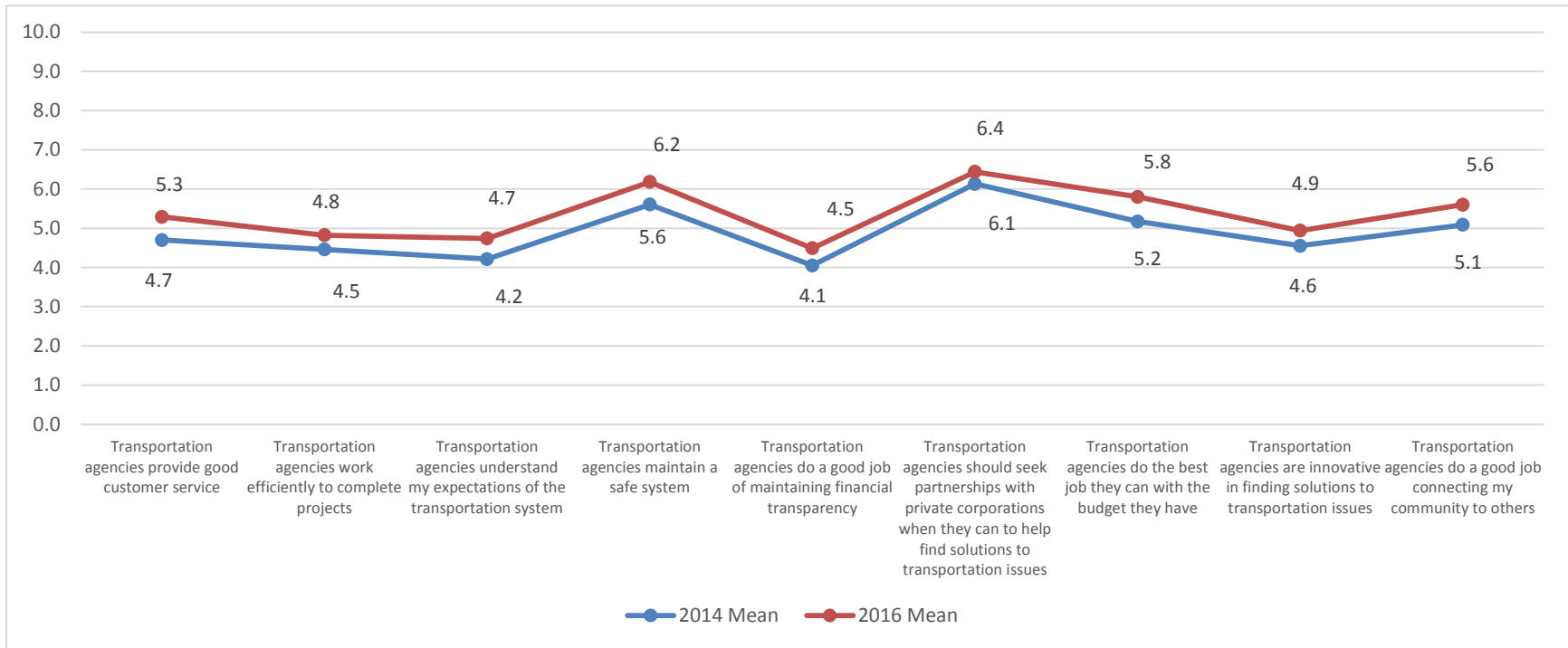
Respondents were again asked to indicate their agreement or disagreement with a series of statements about transportation agencies, using a scale from zero (completely disagree) to 10 (completely agree). Figure 20 presents the 2014 and 2016 mean scores. As seen in previous figures comparing mean scores, the 2014 and 2016 lines are very similar, with all 2016 mean scores trending significantly higher than 2014 mean scores.

If the statements are ranked by 2014 and 2016 mean score, Table 7 suggests no movement in the positions of each statement:

- “Transportation agencies should seek partnerships with private corporations when they can to help find solutions to transportation issues” retained its position as the most highly ranked statement, followed closely by “transportation agencies maintain a safe system.”
- Once again in 2016, the lowest ranking statement was “transportation agencies do a good job of maintaining financial transparency.”

### *Detailed Analysis*

Detailed analysis of the 2016 estimates suggests strong agreement across a wide variety of socio-demographic factors that “transportation agencies should seek partnerships with private corporations when they can to help find solutions to transportation issues.” Of all demographic groups investigated as part of this analysis, respondents age 35–44 were the only group to attribute a higher mean agreement score to some other statement (“transportation agencies maintain a safe system”).



**Figure 20. Mean Score Assigned to Various Statements Regarding Transportation Agencies.**

**Table 7. 2014 and 2016 Rankings of Various Statements Regarding Transportation Agencies.**

<b>Statement</b>	<b>2014 Rank</b>	<b>2016 Rank</b>
Transportation agencies should seek partnerships with private corporations when they can to help find solutions to transportation issues	1	1
Transportation agencies maintain a safe system	2	2
Transportation agencies do the best job they can with the budget they have	3	3
Transportation agencies provide good customer service	4	4
Transportation agencies are innovative in finding solutions to transportation issues	5	5
Transportation agencies work efficiently to complete projects	6	6
Transportation agencies understand my expectations of the transportation system	7	7
Transportation agencies do a good job of maintaining financial transparency	8	8

## **What Is Your Opinion of Transportation Network Companies?**

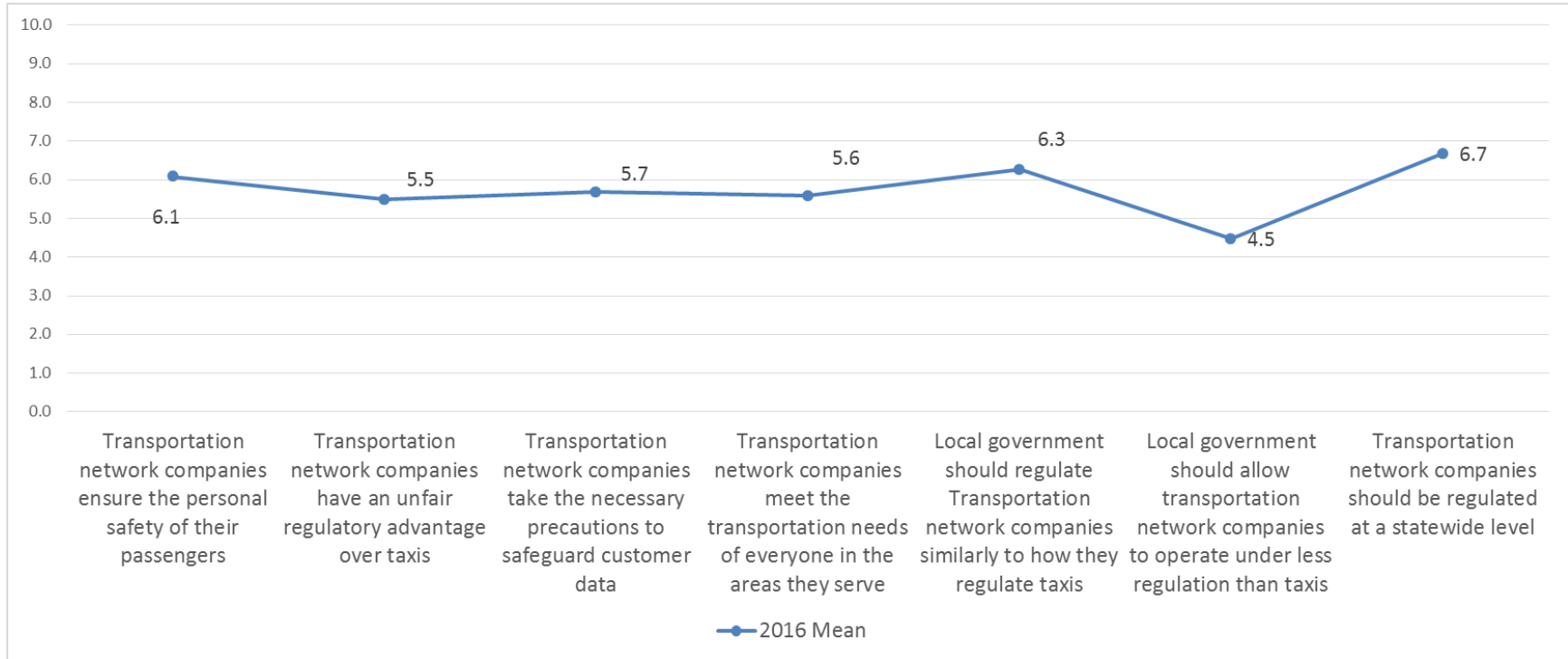
A 2016 Transportation Policy Research Center report (6) found that TNCs provide services in dozens of cities across Texas. Some cities have elected to establish a local regulatory framework, while others have not. Furthermore, following a May 2016 public referendum in Austin, TNCs have chosen to cease (either temporarily or permanently) services in some cities.

### *Results*

To further investigate public opinion regarding TNCs, a new question was added to the 2016 Texas Transportation Poll. Using a scale from zero (strongly disagree) to 10 (strongly agree), respondents were queried about their level of agreement with nine different TNC-related statements. Figure 21 suggests that while Texans largely agree that “local government should regulate TNCs similarly to how they regulate taxis” (a mean score of 6.3), they are even more agreeable that “TNCs should be regulated at a statewide level” (a mean score of 6.7). The estimates may also suggest that Texans want a regulatory framework that allows TNCs and taxis to operate on an even playing field, with neither side having any type of advantage.

### *Detailed Analysis*

A detailed demographic analysis suggests that non-white minorities are more agreeable that “TNCs should be regulated at a statewide level” than their white counterparts. Additionally, as age increases, so too does agreement with this statement. Conversely, as annual household income increases, levels of agreement with this statement decrease.



**Figure 21. Mean Score Assigned to Various Statements Regarding Transportation Network Companies.**

## What Does the Texas Transportation Poll Tell Us?

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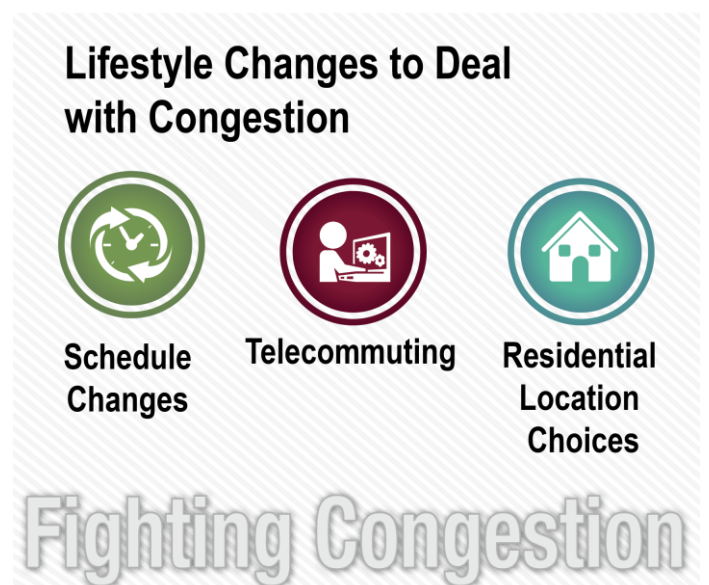
The research presented in this report provides a snapshot of current travel behavior and transportation-related opinions of Texans in 2016 and how these behaviors and opinions have changed since the poll was first conducted in 2014.

### Fuel Prices May Be Affecting Auto Reliance and the Use of Non-Personal-Auto Modes

Texans remain similar to residents of other states in that the overwhelming majority use their personal auto as a primary means of travel. Fuel prices in 2016 are a fraction of what they were in 2014, and this may be contributing to some noticeable differences between the 2014 and 2016 datasets. From 2014 to 2016, the data suggest a greater than 50 percent reduction in the proportion of Texans that are making an effort to drive less because of fuel prices. This sentiment is reflected by the modest increases in both personal vehicle ownership and personal vehicle miles traveled observed over the two-year period. Therefore, it may come as no surprise that the proportion of Texans using public transit and bicycles to make non-recreational trips has dropped significantly. Even though the data suggest reduced use of non-personal auto modes, certain segments of the population report using these modes. More than one in ten Texans reported using at least two alternate modes of travel in the 30 days prior to the survey to make a non-recreational trip. The data suggest that younger Texans are more likely to be found in this group than older Texans. The data also suggest that a majority of Texans believe public transportation is effective in reducing congestion.

### Congestion Is Getting Worse, and Texans Are Making Lifestyle Changes as a Result

While the proportion of Texans dealing with congestion on a daily basis has remained steady from 2014 to 2016 (76 percent), the perceived severity of congestion has increased modestly. The data suggest that when asked about why





congestion may be increasing, Texans firmly believe that the state's strong economy is drawing people to the state, resulting in an increased demand on existing transportation infrastructure.

In response to this phenomenon, an increased proportion of Texans are implementing specific changes to their daily lives to help manage it. These changes include considering congestion in work schedule modifications (telecommuting and/or changing work hours) and making strategic residential location choices. Interestingly, despite an increase in the proportion of Texans that perceive alternative modes as effective in reducing congestion, the actual use of alternative modes (including carpooling) instead of driving has decreased in popularity since 2014. These trends are likely correlated to declining fuel prices.

## **Texans Want a Statewide Regulatory Framework That Provides Equal Treatment to Both Taxis and TNCs**

Given the rise in popularity and use of the sharing economy, several new questions were added to the 2016 Texas Transportation Poll regarding the use of ride sourcing and car sharing. The data suggest that 7 percent of Texans have used a car share service, while triple that amount (22 percent) of Texans have used a TNC. While several demographic factors were associated with the use of either service, two common factors were age and geography. As age and distance from an urban area increase, the propensity to engage in either car sharing or ride sourcing decreases. With regard to TNCs specifically, while Texans largely agree that "local government should regulate TNCs similarly to how they regulate taxis," they are even more agreeable that "TNCs should be regulated at a statewide level." The estimates may also suggest that Texans want a regulatory framework that allows TNCs and taxis to operate on an even playing field, with neither side having any type of advantage.



## **Texans Still Believe Auto Drivers Should Strongly Influence Transportation Policy**

From 2014 to 2016, Texans' perceptions of who they want to influence transportation policy have remained relatively stable, with auto drivers and state departments of transportation retaining the most influential positions. Unlike in 2014 when the data suggested disagreement between personal-auto-reliant and non-personal-auto-reliant respondents, in 2016 both personal-auto-reliant and non-personal-auto-reliant Texans now agree that auto drivers should have the most influence on transportation policy.

## Texans Are Still Supportive of Improved Signal Timing

Texans still believe that encouraging the more effective timing of traffic signals is the best of all transportation management strategies offered. In addition, in 2016, Texans are more supportive of encouraging the addition of more lanes to state-maintained roads than of encouraging better incident management. While it is difficult to isolate the factors causing the rise in support for the addition of lane miles, the data do suggest a correlation between support for this management strategy and ethnicity (increased support from non-white minority versus whites) and personal vehicle miles traveled (support increases as personal vehicle miles traveled increase).

## Texans Still See a Need to Increase Transportation Funding, but There Remains a Significant Knowledge Gap among Texans Regarding the Fuel Tax

On November 3, 2015, Texas voters approved Proposition 7, a constitutional amendment to dedicate portions of revenue from the state's general sales and use tax, as well as from the motor vehicle sales and rental tax to the State Highway Fund for non-tolled projects (7). Despite this, from 2014 to 2016, the proportion of Texans that see a need to increase transportation funding grew from nearly two-thirds to nearly three-fourths.

Despite high levels of support across a spectrum of demographic variables, in 2016, the proportion of Texans incorrectly identifying the fuel tax as a sales tax increased from a near majority to a majority. Older Texans and Texans reporting higher household incomes were more likely to correctly identify fuel tax typology than their counterparts.

A modest \$10 increase in vehicle registration fees was identified as the most supported mechanism to generate additional transportation funding. However, linking the state fuel tax to the average yearly inflation rate and increasing the state fuel tax by 5 cents per gallon are not far behind in popularity. In fact, the mean scores attributed to each of the top three mechanisms are not significantly different from one another.

Among those that oppose increasing the state fuel tax by either 5 or 10 cents per gallon for the generation of additional transportation funding, roughly one-third of respondents stated their opposition was due to their perception that the government would not spend the additional funding wisely. Among those that oppose toll-related mechanisms for the generation of additional transportation funding, majority agreement was found in a number of statements



46%

know the state gas tax is a flat tax, down from 51% in 2014.



53%

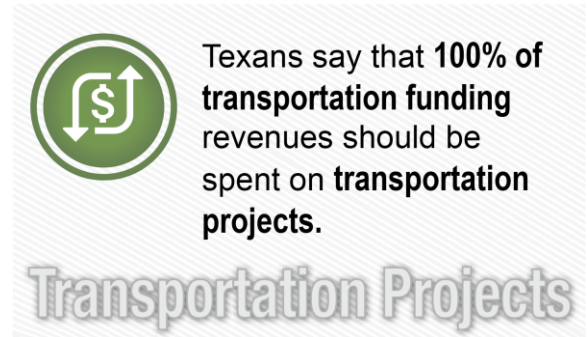
incorrectly think the state gas tax is a sales tax, up from 47% in 2014.

Fuel Tax

offered to refine the focus of their opposition. Among them all, the perception that toll-related decisions were often made without a public vote garnered the most support.

## **Texans Remain More Positive about Transportation Funding Mechanism Characteristics than of the actual Transportation Funding Mechanisms**

When asked to evaluate characteristics of transportation funding mechanisms, Texans were most agreeable that a transportation funding mechanism should include a guarantee that 100 percent of all revenues are spent on transportation projects. This is in contrast to Texans in 2014, who were most agreeable that a transportation funding mechanism should assure predictable long-term funding.



## **Texans Remain Supportive of Transportation Agencies Partnering with Private Corporations**

Texans continue to believe that private corporations should have little (in 2016, the least) influence on transportation policy, but they also remain supportive of transportation agencies partnering with private corporations, when they can, to help find solutions to transportation issues. The data support the theory put forth in 2014 that Texans perceive a need for transportation agencies to work in partnership with private corporations to ensure that the needs of the private corporation are not put ahead of the needs of the system users. Finally, despite receiving high marks for maintaining a safe system, transportation agencies may be well served to implement organizational changes to increase financial transparency.

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## Appendix—Summary of Texas Registered Voter Demographics (Weighted)

Demographics	Proportion of Registered Voters
<b>Political position</b>	
Conservative	43%
Neutral	40%
Liberal	16%
Other/not sure/refused	1%
<b>Party affiliation</b>	
Democrat	29%
Independent	21%
Republican	30%
Other	18%
Don't know/refuse	2%
<b>Race/ethnicity</b>	
Hispanic or Latino	31%
White or Caucasian	51%
Black or African American	13%
American Indian or Alaska Native	<1%
Asian	3%
Other	2%
<b>Relationship status</b>	
Married	53%
Widowed	6%
Divorced	10%
Separated	2%
Never married	22%
Living with partner	7%
<b>Age</b>	
18–24	13%
25–34	19%
35–44	17%
45–54	18%
55–64	16%
65+	17%
<b>Education</b>	
Less than high school	3%
High school diploma or GED	17%
Some college or associate's/technical degree	36%
Bachelor's degree or higher	44%

Annual household income	
Less than \$10,000	7%
\$10,000 to \$14,999	4%
\$15,000 to \$24,999	9%
\$25,000 to \$34,999	9%
\$35,000 to \$49,999	14%
\$50,000 to \$74,999	19%
\$75,000 to \$99,999	13%
\$100,000 to \$149,999	14%
\$150,000 to \$199,999	5%
\$200,000 or More	6%
Employment status	
Yes	67%
No	33%
Driver's license status	
Licensed	95%
Not licensed	5%
Gender	
Male	48%
Female	52%
Average number of household members	2.9
Average number of household vehicles	2.3