WHAT DO AMERICANS THINK ABOUT FEDERAL TAX OPTIONS TO SUPPORT PUBLIC TRANSIT, HIGHWAYS, AND LOCAL STREETS AND ROADS? RESULTS FROM YEAR 6 OF A NATIONAL SURVEY

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ABSTRACT
This paper summarizes the results of a national random-digit-dial public opinion poll that asked 1,503 respondents if they would support various tax options for raising federal transportation revenues, with a special focus on understanding support for increasing revenues for public transit. The poll is the sixth in an annual series, and the paper compares key 2015 results with those from the earlier years of data.

The eleven tax options tested were variations on raising the federal gas tax rate, creating a new mileage tax, and creating a new federal sales tax. Other questions probed various perceptions related to public transit, including knowledge and opinions about federal taxes to support transit. In addition, the survey collected data on standard socio-demographic factors, travel behavior, and attitudinal data about how respondents view the quality of their local transportation system and their priorities for government spending on transportation in their state. All of this information is used to assess support levels for the tax options among population subgroups.

INTRODUCTION
Over the past several decades, the transportation revenues available from federal gas taxes have fallen significantly, especially in terms of inflation-adjusted dollars per mile traveled, and the same pattern holds in many states. Although the federal government and states have secured some additional sources of revenue, most new funding has been secured only for the short term, leaving many transportation professionals worried that the federal government and states have not identified a stable, long-term source of transportation revenues. However, the transportation system requires critical—and expensive—system upgrades. Among other needs, a large portion of the national highway system requires major rehabilitation, and there is growing desire at all levels of government to substantially upgrade and expand infrastructure to support public transit, walking, and bicycling.

This dilemma—major desired system improvements but inadequate revenues available to fund them—can be resolved in only two ways: either the nation must dramatically lower its goals for system preservation and enhancement, or new revenues must be raised. If the latter is to happen, legislators must be convinced that increasing taxes or fees is politically feasible. One portion of the political calculus that legislators make when deciding whether or not to raise new revenues is, of course, considering likely public support or opposition to raising different types of taxes.

This paper contributes to the understanding of current public sentiment about increasing transportation taxes by presenting the results of Year 6 of a telephone survey investigating public opinion about a variety of transportation tax options at the federal level. The specific taxes tested were then variations on raising the federal gas tax rate or creating a new mileage tax, as well as one option for creating a new federal sales tax. In addition, the survey collected standard socio-demographic data, some travel behavior data, and attitudinal data about how respondents view the quality of their local transportation system and their priorities for government spending on transportation in their state. All of this information was used to assess support levels for the tax options among different population subgroups.

The survey questionnaire described the various tax proposals in only general terms, so the study results cannot be assumed to reflect support for any actual proposal put forward. Nevertheless, the results show likely patterns of support and, more important, the public’s relative preferences among different tax options.
In 2012 (the third year), questions were added to understand perceptions related to public transit, including knowledge and opinions about federal taxes to support transit. Also, new questions were added to explore respondents’ knowledge of whether different levels of government help to pay for transit, their opinion about whether gas tax revenues should be spent on transit, and their support for different Congressional options to raise additional revenues to improve and expand transit.

Because the survey was the sixth year of a project to assess how support for federal transportation taxes may change over time, most of the questions asked were identical to those in the earlier surveys in the series (1, 2, 3, 4, 5). This paper compares the results of the six surveys to establish how public views may have shifted over time.

Readers interested in a more extensive discussion of the study results may consult the project report on which this paper is based (6).

EXISTING SURVEY RESEARCH

To provide context for interpreting the survey results presented in this paper, this section reviews the results from 142 other public opinion polls that asked about support for gas, mileage, and sales taxes whose revenues would be used for transportation purposes. Most polls come from the past ten years. Details on all 142 polls are available in (6).

The authors identified surveys by searching the Internet-based archives of popular pollsters and aggregators of public opinion polls, including the Pew Center for the People and the Press, the Roper Center for Public Opinion Research, Rasmussen Reports, SurveyUSA, and PollingReport.com. This work was supplemented by searching Google to find mainstream media coverage on polls about transportation taxes. Complete survey results were obtained directly from the survey sponsors’ websites or through personal contact with the sponsors. Most of the surveys reviewed were conducted by public agencies, advocacy groups, popular pollsters, or news media; a few others were conducted by academics or research-oriented nonprofits.

Gas Taxes

Gas taxes are a primary source of transportation revenue at both the state and the federal level. However, the federal government and many states have not raised the tax rates in a decade or more, so the real value of the revenues collected has fallen with inflation. As a result, there is frequent talk about raising gas tax rates, and public opinion on such increases has been extensively polled.

Making direct comparisons among the 108 polls that asked about gas taxes is difficult because the specific gas tax increases proposed, as well as the contexts in which they are presented, vary widely. For example, some proposals call for unspecified increases in the gas tax, while others propose specific increases that range from 5¢ to $2 per gallon. Some polls link the gas tax increase to a particular purpose, such as maintaining bridges, while others link the increase to very general uses, such as “to help meet new transportation needs.”

Two general trends do emerge across the polls, however. First, although support levels are not universally high, they are often higher than one might expect given the frequent pronouncements in the news media that the public simply will not tolerate an increase in the gas tax rate. Seventeen percent of the polls show majority support, and 34% have a respectable support level of 40% or higher. Second, support tends to be particularly high when the tax increase is linked to some sort of environmental benefit. Among the 14 polls that asked a
question linking a gas tax increase with environmental benefits, 10 polls found support levels above 40% (Table 19 in (6)).

**Mileage Taxes**

Far less polling has been done about mileage taxes because, until July 1, 2015, these were not currently in use anywhere in the United States, although they are under active discussion among transportation policymakers and researchers. A review of 28 polls shows that support is not especially strong (see Table 20 in (6). None of the polls found a majority in favor of a mileage tax, and only five had support above 40%.

**Sales Taxes**

Public opinion about local sales taxes to fund transportation programs has been extensively tested because in recent years sales taxes have been one of the most popular methods used by local governments to raise revenue for transportation purposes. In almost all cases, the taxes were placed on the ballot for voter approval, so the election results provide one clear picture of the level of public support. In addition to the evidence from election results, considerable public polling has been done prior to elections to assess the appeal of sales tax increases.

Table 21 in (6) summarizes a sampling of 50 polls testing public opinion on sales taxes. Overall support levels were quite high: 18 of the polls showed support at 50% or higher.

**SURVEY METHODOLOGY**

**Questionnaire Design**

The survey questionnaire was designed to test public support for three types of taxes: an increase in the federal gas tax, a new national mileage tax, and a new national sales tax. In all cases, respondents were told that the revenue raised would be dedicated to transportation purposes. To make these hypothetical taxes easier for respondents to understand, the survey gave specific amounts for each. The amounts were selected to be simple numbers within the range of mainstream current policy discussion.

Because a gas tax and a mileage tax are revenue options likely to receive considerable policy scrutiny in coming years, the survey tested support for these concepts when the taxes were presented in different forms. Overall, 11 different tax options were tested—8 variants of a gas tax increase, 2 variants of a new mileage tax, and 1 new sales tax option. The gas tax was explored in the most depth because, at least for the near term, the most likely source of additional federal revenues would be an increase in the gas tax rate. All variants were included in all years of the survey, except the gas tax questions about maintenance and safety, which were not included in the first year of the project.

The specific tax options tested were as follows:

- **Gas tax increases.** Every variant of a gas tax increase involved raising the existing 18¢ per gallon tax to 28¢ per gallon, but each included a different set of information for respondents to consider. (The current federal tax on gasoline is 18.4¢ per gallon, but respondents were told that it was 18¢ per gallon to make the survey simpler to understand.) The eight variations were:
  - A base-case 10¢ increase in the gas tax without further stipulations.
• A 10¢ increase in the gas tax that would be phased in over five years, increasing by 2¢ a year.

• A 10¢ increase in the gas tax, with the revenues to be spent only for projects to reduce local air pollution caused by the transportation system.

• A 10¢ increase in the gas tax, with the revenues to be spent only on projects to reduce the transportation system’s contribution to global warming.

• A 10¢ increase in the gas tax, with the revenues to be spent only on projects to maintain streets, roads, and highways.

• A 10¢ increase in the gas tax, with the revenues to be spent only on projects to reduce accidents and improve safety.

• A 10¢ increase in the gas tax, with the revenues to be spent only on projects to add more modern, technologically advanced systems like real-time travel alerts, longer lasting pavements, and better timed traffic lights.

• A 10¢ increase in the gas tax, with respondents informed of the annual tax burden for a typical driver under both the current and increased tax rates. Respondents were told that the tax burden would increase from an average of $100 a year to $150 a year for someone driving 10,000 miles a year in a car with a fuel economy of 20 miles per gallon.

**New mileage taxes.** Two variants of the mileage tax were presented, both of which involved levying a new tax per mile driven, with electronic meters being used to track miles driven and drivers being billed when they buy gas. The two variants, which differed only in the rate structure, were:

• A base-case 1¢ per mile tax, with every car being taxed at the same rate.

• A variable-rate mileage tax for which the average rate would be 1¢ per mile, but vehicles that pollute less would be charged less and vehicles that pollute more would be charged more.

**A new national sales tax.** In this option, the federal government would levy a new 0.5% sales tax.

The exact wording used to describe each tax to respondents can be found in Appendix A of (6), which reproduces the survey questionnaire.

A new feature for the survey project introduced in the third year was a special focus on understanding support for raising revenues to support public transit. Questions were added asking respondents if they knew whether different entities help to pay for transit (transit riders, plus local, state, and the federal governments), their opinion about whether or not gas tax revenues should be spent on public transit, and their support for and preference among different Congressional options to find additional revenues to improve and expand transit services.

For both support of the tax options and opinions about public transit, the survey was designed to assess how responses to the questions might vary by socio-demographic factors, travel behavior characteristics, and respondents’ opinions about their local and state transportation systems. Introductory questions asked respondents to rate the quality of roads and highways and transit service in their community and to indicate the priority they thought
government should place on various options for improving the transportation system for everyone in their state. The questionnaire concluded with a standard set of socio-demographic questions on such factors as age, race and ethnicity, and income. To assess travel behavior, the survey included one question asking how many miles the respondent drove in the previous year and another question asking if the respondent had used any form of public transit within the previous 30 days. Respondents were also asked the average fuel efficiency of the vehicle they drove the most for personal travel.

**Survey Implementation**

The Social Science Survey Center at California State University, Fullerton, conducted the survey on behalf of the Mineta Transportation Institute’s National Transportation Finance Center. The interviewing was completed February 26 to March 31, 2015. A total of 1,503 adults nationwide were interviewed by telephone in English or Spanish, with 2% of the interviews conducted in Spanish.

Telephone numbers in the sample were randomly generated, and survey respondents were reached by both cell phone (40%) and landline phone (60%). Including both cell and landline phone numbers meets the best practices in current survey research (7, 8). According to a 2012 study by the Pew Center for the People and the Press, “telephone surveys that include landlines and cell phones and are weighted to match the demographic composition of the population continue to provide accurate data on most political, social and economic measures” (7, p. 1).

Unless otherwise indicated, all results are weighted to match the Census Bureau’s 2013 American Community Survey one-year estimates with respect to gender, race, Hispanic ethnicity, education level, imputed income values, and age (9).

The margin of error for the total sample is ±2.53 percentage points at the 95% confidence level. Smaller subgroups have larger margins of error.

**SURVEY FINDINGS**

This section presents highlights of the survey results. It presents support levels for the tax options among all respondents and also among population subgroups, as well comparing support for the base-case 10¢ gas tax increase and new flat-rate mileage tax with support for variants on these options. The section concludes with an assessment of how support for the taxes has changed over time. (Appendix A of (6) presents the questionnaire and topline results of the survey.)

**Survey Respondents**

The survey respondents were generally representative of the U.S. adult population in terms of Census region and socio-demographic characteristics (see Table 1 of (6)). The results were weighted to accommodate for the more significant differences, which were by gender, race, Hispanic ethnicity, education level, imputed income values, and age.

**Overall Support Levels for the Transportation Tax Options**

The survey results show that a majority of Americans would support higher taxes for transportation—under certain conditions (Figure 1). While only 31% of respondents supported the base-case 10¢ per gallon gas tax increase, five variants that devoted revenue to specific uses received at least 50% support, as did the proposal for a new national sales tax. The highest level of support was for a gas tax increase of 10¢ per gallon to fund road maintenance, which was
supported by 71% of respondents. One other option, a gas tax increase with funds devoted to reducing accidents and improving safety, surpassed 60% support.

For tax options in which the revenues were to be spent for undefined transportation purposes, support levels varied considerably by what kind of tax would be imposed, with a new national sales tax much more popular than either the 10¢ per gallon gas tax increase or new mileage tax with a flat rate of 1¢ per mile.

FIGURE 1 Support for the Tax Options Surveyed in 2015. (Note: “Support” is the sum of those who said they strongly or somewhat supported the tax option.)
Support by Population Subgroups

We also examined support levels for the different tax options by subgroups within the population. The statistical test of two proportions was used to check whether differences among subgroups (e.g., men versus women) are statistically significant at the 95% and 99% confidence levels. This section of the paper summarizes the key findings from this analysis. Readers will find detailed findings in Tables 2 through 5 in (6).

The following discussion focuses on those differences among subgroups where the patterns are clearest. We define a pattern as “clear” when (1) the variation in support is statistically significant across at least 5 of the tax options, and (2) the average magnitude of the difference between the groups across all 11 tax options is at least 7 percentage points or more. Readers should note that the variations described below are not necessarily the only important ones that may exist. Rather, the variations discussed are those that could be identified by the particular statistical tests used and also fell within the cutoff points selected.

The clear socio-demographic patterns that emerge are linked to race, ethnicity, and age. With respect to race, whites were the least supportive of the taxes. Compared with whites, Asians/Asian-Americans, people of “Other” races, and African-Americans were more likely to support each tax. People of Hispanic origin were more supportive than people not of Hispanic origin. Of particular note was age: respondents in the youngest group (18–24 years) were more likely to support virtually all of the taxes than respondents in the two older groups, especially as compared with the oldest group (55 years and older). There are no clear patterns showing consistent variation in support for the taxes by region of the country, gender, educational attainment, employment status, or income.

Political party affiliation played a strong role, with support for all of the taxes more likely among registered Democrats than among registered Republicans, voters registered with other parties, or registered voters who are party-independent. The level of support differed for registered Democrats and registered Republicans by an average of 14 percentage points across the 11 tax options. In addition, people who were not registered to vote were more likely to support most of the taxes than were registered voters. However, a comparison of likely voters with unregistered voters showed no clear pattern.

The survey asked three questions about travel behavior and personal vehicle mileage in order to examine whether support for the tax options varied by these factors. Respondents who reported driving from 1 to 7,500 miles annually were more likely to support the taxes than people who reported driving more than 12,500 miles annually, but they were less likely to support the taxes than people who said they did not drive at all. Also, respondents who drove the least fuel-efficient cars were less likely to support the taxes than drivers of higher-mileage vehicles. Finally, respondents who said that they had taken public transit within the previous 30 days were more likely to support the tax options than respondents who said they had not.

Another set of analyses examined how support for the different tax options correlates with respondents’ opinions about the transportation system. Respondents’ support for the taxes was correlated with their opinions about the quality of transportation options in their communities. Respondents who rated the condition of roads and highways as very good were more likely to support the taxes than respondents who rated the conditions as bad. Also, respondents who rated the quality of local public transit service as very good were more likely to support the taxes than those who said they had no local public transit service at all.

A final set of questions asked respondents about their priorities for how governments might spend transportation revenues: reducing traffic congestion; maintaining streets, roads, and
highways; expanding and improving local public transit service; reducing accidents and improving safety; and increasing the use of modern technologies. Not surprisingly, respondents who placed a high priority on most of these goals were more likely to support almost every tax option than were those who assigned these goals a low priority. The one exception was the question asking about prioritizing street and road maintenance. Respondents prioritizing this goal highly were indeed more supportive than those making the goal a low priority, but the magnitude of the differences was not quite large enough to meet the criteria used to define a “clear” pattern.

**Support for Different Versions of the Mileage and Gas Taxes**

A central goal of the survey was to test how public support varied for different mileage and gas tax proposals. The base-case proposals for each type of tax were the flat-rate mileage tax of 1¢ per mile and the 10¢ gas tax increase without any additional detail. For comparative purposes, respondents were also asked about a single variant of the mileage tax (a variable tax based on how much pollution a vehicle produces) and a series of variants on the gas tax (several proposals that dedicate additional revenues to specific purposes, a phased-in tax increase, and a proposal that informs respondents of the typical annual cost). Figure 2 shows how variants on the tax proposals increased support in comparison to the base-case tax options. For both tax types, the base-case version had the lowest support level, and applying the test of two proportions confirmed that the increase in support is statistically significant in all cases.
We also looked at the change in support levels for each tax variant by respondent subgroups that are defined by Census region, socio-demographic and political characteristics, travel behavior characteristics, and opinions about the transportation system. Overall, the analysis considered 63 population subgroups, for each of which there are 8 tax comparisons, resulting in a total of 504 cases examined. (Detailed findings are shown in Tables 6 through 9 in (6).)
The overall pattern of increased support for the variants holds for the subgroups, just as for the respondent pool as a whole. Across all 504 cases examined, in no case did the variant lead to a statistically significantly drop in support, compared with the base-case tax. In fact, the tax variants improved support for 98% of cases, and the increase was statistically significant for 96% of cases. Further, the increases were very large, at least 20 percentage points for 62% of cases.

**Trends in Support over Time (2010 - 2015)**

Most of the 2015 survey questions replicate those in the five surveys previously administered in this series, so it is possible to look at trends in support over time. The trend analysis shows that support levels have changed modestly over the six surveys (Figure 3). In most cases, the support for a tax varied by 5 or fewer percentage points from one year to another, a change too small to suggest a meaningful change in support. However, comparing 2015 with 2010 (or 2011, for those questions added in 2011), support has grown at least modestly for all the taxes, and the increase is statistically significant for all taxes except the flat-rate mileage tax. As for the change in just the last year, from 2014 to 2015, support increased for nine tax options, with the change statistically significant in five cases.

The tax option that has seen the greatest variation in support across the six surveys is the gas tax increase with revenues dedicated to projects that reduce air pollution. Here, support has varied considerably from year to year, with a low of 30% support in 2010 and a high of 54% support in 2014.
The analysis of how the tax variations boosted support over the base cases shows relatively little change from 2010 to 2015 (Figure 4). In every case, the variations had higher support levels than the base-case options. The boosts in support for each tax did differ from year
to year, but usually only by a few points. For each tax variant, if one compares the year with the smallest boost in support to the year with the largest boost in support, the differences range from a low of 4 percentage points (the gas tax increased phased in over 5 years) to a high of 23 percentage points (the gas tax increase with revenues dedicated to reducing air pollution). The other taxes all have boosts that fluctuate a maximum of between 6 and 13 percentage points.
FIGURE 4 Changes over Time for the Relative Increases in Support for Variations of the Base-Case Gas Tax and Mileage Tax Concepts (2010 – 2015). (Notes: “Support” is the sum of those who said they strongly or somewhat supported the tax option. The base-case proposals were a new flat-rate mileage tax of 1¢ per mile and a 10¢ per gallon gas tax increase, without any additional detail)
FINDINGS RELATED TO PUBLIC TRANSIT

Starting in 2012, the survey project added additional questions designed to explore perceptions related to public transit, including knowledge and opinions about federal taxes to support transit. This section pulls together the different pieces of the survey to highlight all findings related to transit.

A question early in the survey asked respondents their opinions on the quality of public transit in their community. The majority of respondents (55%) said that it is very or somewhat good, 15% said that it is poor, and 29% said either that there is no service in their community or that they do not know about transit quality. These values are very close to those from identical questions asked in all prior surveys.

Another early series of questions in the survey asked respondents how highly they would prioritize various things “government could do to improve the transportation system for everyone in the state where you live.” One of the priorities tested was expanding and improving local public transit service. Public transit was a high priority for close to half of respondents (45%), though this was the lowest percentage among the five priorities tested. However, when looking at those who felt transit was either a high or medium priority, transit rated not so differently from the other options—81% of respondents felt this way, compared to the other options that ranged from 84% to 97%. The two most popular priorities were road maintenance and improving safety.

Later in the survey, respondents were asked if they knew how the cost of providing transit service is covered. The first question in the series was asked as follows:

When people ride public transit, they pay a fare. This money is used to pay for the service. Do you think that the money collected from public transit fares in general covers the full cost of the service?

Thirty-three percent of respondents (incorrectly) said “yes,” 14% said that they did not know, and only 53% (correctly) said “no.” These responses are similar to those from the 2013 and 2014 surveys.

Those respondents who did not think that fares cover the full costs of transit were asked some follow-up questions. First, they were asked, “In general, what percent of the full cost of public transit services do you think the fares cover?” Twenty-one percent said that fares cover 1 to 33% of the full cost, 40% said that fares cover 34–66% of the full cost, 17% said that fares cover more than 67% of the full cost, and 22% said that they did not know.

For those respondents who did not think that fares cover all transit costs, the survey asked if they thought the federal, state, and local government also “helps to pay for public transit services around the country.” Among all respondents, 37% knew the federal government pays for transit, 44% knew of the local government role, and 51% knew of the state government role. These percentages vary relatively little from 2013 to 2015 and show no trend over time.

Finally, a set of questions delved into respondents’ beliefs about the best ways for Congress to help pay for transit. The first of these asked respondents the following question:

Now I have a question about whether or not GAS tax money should be spent to pay for public transit. Some people say that money from gas taxes should only be spent on roads and highways, since drivers pay the tax. Other people say gas tax money should be used to pay for public transit IN ADDITION to roads and highways, because transit helps reduce traffic congestion and wear-and-tear on the roads. Would you support or oppose spending SOME gas tax money on public transit?
Sixty-six percent of respondents supported spending gas tax revenues on transit and 34% opposed this.

A multipart question then posed the scenario that Congress had decided to spend more money on public transit but had not decided how to pay for this. Respondents were first asked whether they would support each of the following three options to pay for expanding and improving public transportation: reducing spending on other federal programs, raising transit fares, or raising the federal gas tax. In 2015, reducing federal spending on other programs received the most support (58%), followed by raising transit fares (54%), and trailed by raising the federal gas tax (41%). When respondents were asked which of the three choices they preferred, the same hierarchy emerged: 45% preferred reducing spending on other programs, 25% preferred raising transit fares, and 21% preferred raising the federal gas tax.

Across the four years of surveying from 2012 to 2015, there was a statistically significant increase in support for 2 of the 3 options: 9 points more support for raising transit fares and 13 points more support for raising the federal gas tax. However, the percent of respondents choosing each option as their preferred alternative remained almost the same from year to year.

SUMMARY OF KEY FINDINGS

Support Levels for the 11 Tax Options in 2015

When interpreting the survey results, it is important to keep in mind that the questionnaire described the various tax proposals in only general terms, so the results cannot be assumed to reflect support for any actual proposal put forward. Nevertheless, the results show likely patterns of support and, more important, the public’s relative preferences among different transportation tax options.

With this caveat in mind, the survey results show that a majority of Americans would support higher taxes for transportation—under certain conditions. For example, a gas tax increase of 10 cents per gallon to improve road maintenance was supported by 71% of respondents, whereas support levels dropped to 51% if the revenues were to be devoted to reducing global warming or only 31% if the revenues were to support undefined transportation purposes. As for tax options in which the revenues were to be spent for undefined transportation purposes, support levels varied considerably by the kind of tax that would be imposed, with a sales tax much more popular (55%) than either a gas tax increase (31%) or a new mileage tax (24%).

A central goal of the survey was to compare public support for two alternative versions of the mileage tax and eight versions of a gas tax increase. Variations on the base cases increased support substantially over that for the base cases, which were a flat-rate mileage tax of 1 cent per mile and a 10-cent gas tax increase proposed without any additional detail. Those boosts in support for the variants on the base cases ranged from a low of 16 percentage points to a high of 40 points.

Support Levels among Population Subgroups for the Tax Options in 2015

In addition to examining support for the different tax options among the overall population, the analysis examined support by subgroups within the population. Subgroups showing clearly higher levels of support compared with other subgroups in the same category were as follows: Asian/Asian-American, African-American or of “other” race; of Hispanic origin; in the youngest age group; registered Democrats; unregistered to vote; did not drive at all within the past year or
drove the least; drove the most fuel-efficient cars; had taken public transit within the previous 30 days; rated the condition of roads and highways in their community as very good; rated transit service in their community as very good; and placed a high priority on having government reduce improve the transportation system in a variety of ways.

When comparing support by population subgroup for the gas tax and mileage tax variations with their support for the base-case versions, the overall picture that emerges is simple and clear: the base-case taxes were less popular than the alternative tax options for virtually every subgroup. Further, that boost in support for the variants is generally quite large. The analysis examined 504 cases (8 tax variants for each of 63 subgroups) and found that the boost in support for the variant was at least 20 percentage points for 62% of the cases.

**Changes in Support for the 11 Tax Options, 2010 - 2015**

The research results indicate that American public opinion about the federal transportation tax options tested has changed only modestly since 2010. Overall, support levels have risen a bit over the six-year period, and support was the highest ever in 2015 for nine of the tax options. In addition, there was little change from one year to the next in how the variations on the gas and mileage taxes boosted support over the base cases.

**Knowledge and Preferences Related to Public Transit**

A very high percentage of people (81%) placed a high or medium priority on improving and expanding public transit in their state, though some other priorities had even higher support levels. However, many respondents were not aware of the different government entities that fund transit. Knowledge was the lowest about the federal role; only 37% of people knew that the federal government helps to pay for public transit. As for how respondents wanted to see the federal government pay for improving and expanding public transit, neither raising the gas tax nor raising transit fares was particularly popular. The most popular option was to cut spending on other government programs.

**IMPLICATIONS FOR PRACTICE**

The results of the six surveys suggest several implications for transportation professionals and policymakers who wish to craft transportation revenue increases that will be more appealing – or at least less objectionable – to the public:

**Careful program design can increase support for higher gas taxes or a new mileage tax.**

The survey results show that the very low support levels for a gas tax increase or a new mileage tax can be raised by modifying how the tax is structured and the way it is described. For example, support rises when revenues are dedicated to specific purposes popular with the public, the tax increase is spread out over several years, or information is provided about how much the increase will cost drivers annually.

**Stressing the environmental, safety, and maintenance benefits will increase support for transportation taxes, including ones for transit.**

Devoting revenues to maintenance and safety can increase support levels substantially across the whole population. Also, linking a transportation tax to environmental benefits can strongly increase support among most population subgroups. Linking transit with environmental benefits may be a particularly successful way to increase support for transit revenues.
Demographic change in the U.S. population may increase support for transportation taxes. The surveys found that the youngest respondents were much more supportive of the tax options than older respondents. If this variation reflects a true generational shift, then these opinions would persist as those currently young respondents age and might also hold with the age cohorts behind them who soon become adults.

FUTURE RESEARCH NEEDS
The results presented in this paper are derived from bivariate analysis only. To more fully explore the complex reasons behind individuals’ support or opposition to the transportation taxes surveyed, the authors plan to conduct multivariate analyses that pool all six years of survey data.

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