

What Do Americans Think About Federal Transportation Tax Options? Results From Year 2 of a National Survey



MTI Report 10-12



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MTI REPORT 10-12

WHAT DO AMERICANS THINK ABOUT FEDERAL TRANSPORTATION TAX OPTIONS? RESULTS FROM YEAR 2 OF A NATIONAL SURVEY

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I. INTRODUCTION

Over the past several decades, the transportation revenues available from state and federal gas taxes have fallen significantly, especially in terms of inflation-adjusted dollars per mile traveled. At the same time, the transportation system requires critical—and expensive—system upgrades. For example, a large portion of the national highway system is in need of major rehabilitation, and there is a growing desire at all levels of government to substantially upgrade and expand infrastructure to support public transit, walking, and bicycling, modes that have been relatively neglected in the past 50 years.

This dilemma of growing needs and shrinking revenues 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 for—or opposition to—raising different kinds of taxes.

This report contributes to the understanding of current public sentiment about increasing transportation taxes by presenting the results of the second year of a telephone survey investigating public support for a variety of transportation tax options at the federal level. The specific taxes tested were 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 is 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 likely *relative* preferences among different transportation tax options.

Because the survey is the second year of a project to assess how public support for federal transportation taxes may change over time, most of the questions asked are identical to those in a survey carried out in 2010.¹ This report compares the results of the two surveys to establish how public views may have shifted over the past year.

The remaining chapters of the report contain the following material. Chapter II describes findings from other polling on similar transportation taxes, to provide context for understanding this survey's results. Chapter III describes the survey methodology and presents an overview of the questionnaire and details on the implementation procedure. A detailed discussion of the survey findings follows in chapter IV, and chapter V summarizes key findings and suggests some implications of those findings for policymakers.

II. A REVIEW OF POLLING ON GAS, MILEAGE, AND SALES TAXES FOR TRANSPORTATION PURPOSES

To provide context for interpreting the survey results presented in this report, this chapter reviews the results from other public opinion polls that asked about support for gas, mileage, and sales taxes whose revenues would be used for transportation purposes.

Surveys conducted in the past six years were identified 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.² Complete survey results were obtained directly from the survey sponsors' websites or through personal contact with the sponsors.

Most of the surveys reviewed here 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 raised 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. Table 10 in Appendix B presents the key findings from 26 polls asking about support for gas tax increases.

Making direct comparisons among the polls is difficult, because the specific tax increases proposed and the contexts in which they are presented both 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, support levels tend to be below 50% and are often considerably lower. Second, support tends to be higher when the tax increase is linked to some sort of environmental benefit. Table 11 in Appendix B, which presents the results for the eight polls that link a gas tax with environmental benefits, shows that five of these found support levels above 40%.

MILEAGE TAXES

Far less polling has been done about mileage taxes, because they are not currently in use anywhere in the United States, although they are under active discussion among transportation policymakers and researchers. A review of six polls shows that support

levels for mileage taxes were often below 30% (see table 12 in Appendix B). Only the two polls linking a mileage tax to environmental benefits found higher support levels.

SALES TAXES

Very little polling has been done to test public support for a national sales tax to support transportation, most likely because the federal government does not collect sales taxes, leaving them for state and local governments to use as a revenue tool. (If the federal government were to consider imposing its own sales tax, there would likely be a very strong backlash from local officials.) However, public opinion about local sales taxes to fund transportation programs has been extensively tested.

For more than a decade, sales taxes have been one of the most popular methods that local governments have used 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. And in fact, many of these local sales taxes have passed, especially in California, where the great majority of the population currently lives in counties whose voters have approved local sales taxes for transportation by two-thirds majorities. 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 13 in Appendix B summarizes a sampling of six polls testing public opinion on sales taxes. Five of these were administered at the county or regional level, and one was statewide, polling residents in California. Overall support levels were quite high: four of the polls showed support at or near 50%. None found the extremely low support levels (below 30%) that have been found in some polls concerning gas and mileage taxes.

Conventional wisdom among transportation policymakers holds that the public is relatively supportive of local sales taxes for transportation because people trust local government more than they trust the state or federal government. However, the small number of polls conducted at the state or national level makes this conclusion difficult to confirm.

III. SURVEY DESIGN AND ADMINISTRATION

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—eight variants of a gas tax increase, two variants of a new mileage tax, and one new sales tax option.

Gas tax increases. Every variant of a gas tax increase involved raising the existing 18¢ per gallon tax³ to 28¢ per gallon, but each included a different set of information for respondents to consider. 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, which reproduces the survey questionnaire.

In addition to testing populationwide support levels for these tax options, the survey was designed to assess how support for the taxes might vary by respondents' opinions about their local and state transportation systems, socio-demographic factors, and travel behavior characteristics. 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.

SURVEY IMPLEMENTATION

The Survey and Policy Research Institute at San José State University conducted the survey from March 1 to April 6, 2011, on behalf of the Mineta Transportation Institute's National Transportation Finance Center. A total of 1,516 adults nationwide were interviewed by telephone in either English or Spanish, with 2.3% of the interviews conducted in Spanish.

Telephone numbers included in this sample were randomly generated, and survey respondents were reached by both cell phone (N = 413) and landline phone (N = 1,103).

The margin of error for the total sample is ± 2.52 percentage points at the 95% confidence level. Smaller subgroups have larger margins of error.

Unless otherwise indicated, all results are weighted by gender, race, Hispanic ethnicity, age, education, and income to match the U.S. population estimates from the Census Bureau's American Community Survey (2004–2009, 5-year average).⁴

IV. SURVEY RESULTS

This chapter presents highlights of the survey results. It first describes the survey respondents and then presents the support for the tax options among all respondents and also among population subgroups. The chapter concludes with findings on how support for the base-case 10¢ gas tax increase and new flat-rate mileage tax compares with support for variants on these options. (Appendix A presents the complete results of the survey.)

SURVEY RESPONDENTS

The 1,519 adult survey respondents were generally representative of the U.S. population in terms of region and socio-demographic characteristics, although the sample diverged from the national average by more than five percentage points along a few dimensions (see table 1). The sample had a slightly higher percentage of people who identified their race as “other,” as well as fewer people with a high school diploma or less and more people with college degrees and graduate school experience. Finally, the sample included fewer adults in the 18- to 39-year range but more adults in the 50- to 69-year range.

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 (see figure 1). For example, a gas tax increase of 10¢ per gallon to improve road maintenance was supported by 62% of respondents, whereas support levels dropped to 24% if the revenues were to be used more generally to maintain and improve the transportation system. Other variants on a gas tax that received at least 50% support were increases of 10¢ per gallon with the revenues dedicated to either reducing accidents and improving safety or “projects to add more modern, technologically advanced systems.” For tax options where the revenues were to be spent for undefined transportation purposes, support levels varied considerably by what kind of tax would be imposed, with a sales tax much more popular than either a gas tax increase or a new mileage tax.

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. Results are presented in tables 2 through 5 below. In each case, the first subgroup listed in a table for that set of population categories is the base case against which the other subgroups are compared.

Table 2 shows support for the taxes when the respondents are broken into subgroups by socio-demographic categories and Census region. The single clearest pattern that emerges is linked to age. Respondents in the youngest group (18- to 24-year olds) were significantly more likely to support all of the taxes than respondents in the two older groups.

Table 1. Comparison of Census Region and Socio-Demographic Characteristics of Survey Respondents with Those of the Adult U.S. Population

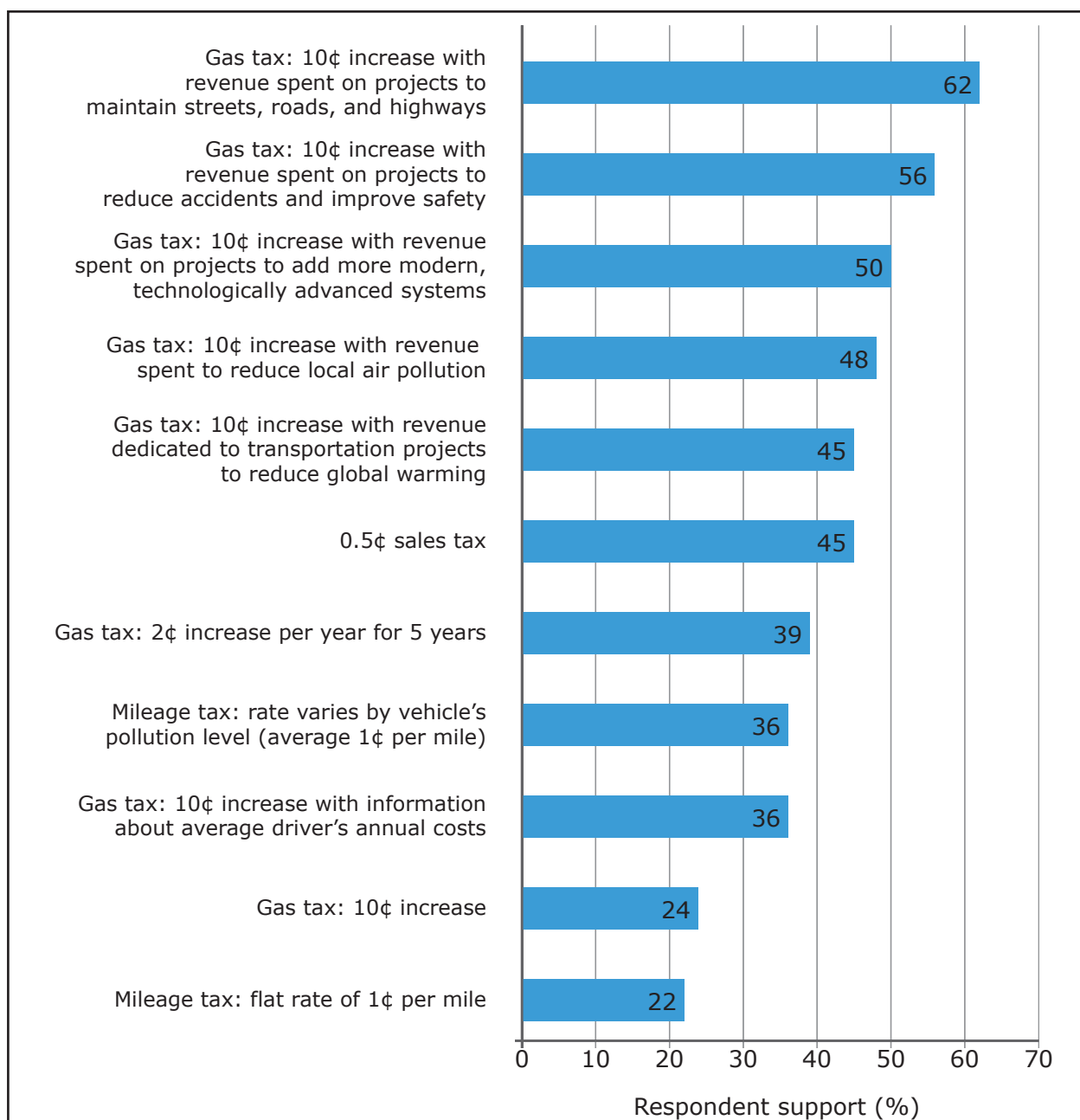
	RDD Sample (%)	Cell Sample (%)	Total Sample, Unweighted (%)	U.S. Adults ^a (%)
Census region ^b				
Northeast	18	12	16	19
Midwest	25	20	23	22
South	30	36	32	37
West	27	31	28	23
Gender				
Male	43	65	49	49
Female	57	35	51	51
Hispanic/Latin origin/descent	7	16	9	13
Race				
White	79	66	75	76
Black or African-American	8	12	9	12
Asian or Asian-American	3	4	3	4
Other	10	18	13	6
Education				
< High school graduate	3	4	3	16
High school graduate	21	23	21	30
Some college	25	27	26	30
College graduate	28	26	28	16
Some graduate school	3	3	3	— ^c
Graduate degree	19	17	19	9
Annual household income (\$)				
0–25,000	14	23	21	24
25,001–50,000	15	24	21	25
50,001–75,000	15	17	20	19
75,001–100,000	11	13	15	12
100,001–125,000	7	9	9	8
125,001–150,000	4	4	5	4
150,001+	6	10	9	8
Age (years)				
18–29	6	29	12	22
30–39	9	21	12	18
40–49	16	18	17	20
50–59	26	17	24	17
60–69	23	12	20	11
70–79	12	3	9	7
80+	8	0	6	5

Note: Some percentages do not sum to 100 due to rounding.

^a All data are for adults 18 years and older except for household income, which is for all U.S. households. The U.S. population estimates are from U.S. Census Bureau, “2005-2009 American Community Survey 5-Year Estimates” (no date), downloaded from http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuid=&_lang=en&_ts= (accessed May 26, 2011).

^b Census data do not include Alaska or Hawaii.

^c Comparable data not available.



Note: "Support" is the sum of those who said they strongly or somewhat supported the tax option.

Figure 1. Support Levels for the Tax Options Surveyed in 2011

Table 2. Support^a for the Tax Options, by Census Region and Socio-Demographic Characteristics

Socio-Demographic Category	Mileage Tax			Gas Tax							
	Sales Tax (%)	Flat (%)	Variable (%)	10¢ Increase (%)	2¢ Increase per Year for 5 Years (%)	Revenue to Reduce Local Air Pollution (%)	Revenue to Reduce Global Warming (%)	Revenue to Maintain Streets/Highways (%)	Revenue to Improve Safety (%)	Revenue to Add High-Tech Systems (%)	Information About Average Annual Costs (%)
All respondents	45	22	36	24	39	48	45	62	56	50	36
Census region											
Northeast	40	20	38	28	41	40	45	60	50	46	41
Midwest	45	19	31	26	41	35	32	59	46	44	36
South	45	16	36	24	40	42	40	59	54	51	37
West	40	21	35	30	42	42	42	59	54	46	39
Gender											
Male	45	25	35	28	44	47	45	63	58	53	42
Female	45	20	38	21	34*	49	46	62	56	47	31**
Race											
White	42	19	33	23	35	44	43	59	53	48	37
Black or African-American	48	27	36	24	42	55*	46	71**	64*	52	31
Asian or Asian-American	68**	55**	72**	52**	69**	66**	62*	78**	69*	71**	62**
Other	(53)	20	39	21	43	58**	55*	70*	65*	54	30
Hispanic/Latino origin/descent											
No	46	22	37	25	39	44	42	62	55	48	36
Yes	43	23	34	19	39	67**	63**	67	64*	60**	38
Education											
≤ High school graduate	47	27	39	23	33	55	50	67	61	53	32
> High school	44	18	34	25	45**	42**	42*	59*	53*	48	41*
Employed											
Yes	48	19	34	25	41	49	48	64	56	50	41
No	44	27	40	24	37	55	50	63	62	56	35
Retired	36	21	37	21	34	33*	27**	55	47	34*	23*
Annual household income (\$)											
0–50,000	47	22	40	22	37	56	51	64	59	53	34
50,001–100,000	47	19	31	25	40	41**	39*	65	55	48	41
100,000+	45	(17)	32	29	50*	33**	33*	57	50	46	43
Age (years)											
18–24	61	32	55	35	55	72	67	77	72	68	48
25–54	43**	19**	29**	20**	35**	48**	47**	64**	58**	50**	38
55+	39**	18**	36**	23	34**	36**	32**	54**	47**	39**	27**

Note: The test of two proportions was used to determine whether there was a statistically significant difference between support levels among subgroups. The first subgroup listed in each category is the base case for the test; it is compared with the proportion of respondents who supported the individual policies in each of the other subgroups within that category. Parentheses around support levels indicate that too few respondents supported the policies to run the test of two proportions.

* Statistically significant at $p < 0.05$.

** Statistically significant at $p < 0.01$.

^a Sum of those who said they strongly or somewhat supported the option.

Trends by ethnicity and race are somewhat weaker. Hispanic/Latino respondents were significantly more likely to support four of the gas tax options dedicated for specific purposes; for the other taxes, where the results did not show statistically significant differences, they were about equally likely or less likely to support the taxes. Among races, whites were the least supportive of the tax increases. Asians and Asian-Americans were significantly more supportive than whites of all of the options, while blacks and African-Americans, and those who self-identified as “other,” were more likely than whites to say they would support almost all of the tax options. The differences were statistically significant in several cases for each group.

Education and employment status played a modest but not striking role. Respondents with the least formal education (those who had completed no more than high school) were more likely to support most of the taxes than respondents with more education. The difference between the two educational groups is statistically significant for six of the tax options. Employed respondents were more likely than retirees to support most of the taxes, with the difference statistically significant in four cases.

Otherwise, table 2 reveals few other clear patterns of statistical significance. For example, there are no clear patterns showing consistent variation in support for the taxes by region of the country, gender, or income.⁵

Table 3 shows support levels by political characteristics. Political party affiliation played a strong role, with Democrats significantly more likely to support all of the taxes. The difference was particularly great—20 percentage points or more—for the three taxes with an environmental slant (the variable-rate mileage tax and the gas tax increases to be used for projects to reduce global warming or local air pollution).

Trends by voter status differ depending on how that status is defined. Respondents who said that they are not registered were more likely to support all the taxes, with the differences statistically significant in six cases. However, this sharp distinction softens when respondents we characterize as “unlikely” versus “likely” voters are compared (likely voters are defined as those respondents who said they are registered *and* that they vote either “all of the time” or “most of the time”). The unlikely voters were still more supportive of many of the tax options, but the differences between the two groups are smaller and statistically significant in only two cases.

The survey asked two questions about travel behavior in order to examine whether support for the tax options varied according to whether or not respondents traveled much by private vehicle or used public transit. As table 4 shows, respondents who drove relatively little (1 to 3,000 miles a year) were more supportive of all of the taxes than were respondents who drove more. However, the difference is not statistically significant for the sales tax and mileage tax options and statistically significant for only some of the gas tax options. The spread in support is particularly large for the two gas taxes linked to environmental benefits; for both of these options, the difference in support between the lowest-mileage group and each of the three higher-mileage groups is more than 20 percentage points. Finally, public transit ridership is also linked to support for the taxes. Respondents who had taken public transit within the previous 30 days were more likely to support all 11 tax options, with the difference statistically significant in all but one case.

Table 3. Support^a for the Tax Options, by Political Characteristics

	Mileage Tax				Gas Tax									
	Sales Tax (%)	Flat (%)	Variable (%)	10¢ Increase (%)	2¢ Increase per Year for 5 Years		Revenue to Reduce Local Air Pollution (%)	Revenue to Reduce Global Warming (%)	Revenue to Maintain Streets/Highways (%)	Revenue to Improve Safety (%)	Revenue to Add High-Tech Systems (%)	Information About Average Annual Costs (%)		
					(%)	(%)	(%)	(%)	(%)	(%)	(%)		(%)	
All respondents	45	22	36	24	39	48	45	62	56	50	36			
Registered voter														
Yes	43	18	33	24	37	42	42	59	54	48	35			
No	54	31*	50**	28	44	67**	60**	74**	66**	55	44			
Non-citizen	50	(50)	(30)	(15)	(49)	76**	(36)	76*	(51)	76**	(24)			
Likely voter ^b														
No	44	18	39	21	36	53	51	67	60	50	39			
Yes	43	19	32	24	38	40*	40	57*	53	47	34			
Political affiliation														
Democrat	52	29	43	32	46	52	53	63	62	55	45			
Republican	37**	14*	23**	16*	29**	29**	24**	54	48**	45	28**			
Independent ^c	36*	(9)	29	24	42	40	38	56	50	37*	29			
Other ^d	46	(18)	(23)	32	33	50	48	55	48	39	34			

Note: The test of two proportions was used to determine whether there was a statistically significant difference between support levels among subgroups. The first subgroup listed in each category is the base case for the test; it is compared with the proportion of respondents who supported the individual policies in each of the other subgroups within that category. Parentheses around support levels indicate that too few respondents supported the policies to run the test of two proportions.

* Statistically significant at $p < 0.05$.

** Statistically significant at $p < 0.01$.

^a Sum of those who said they strongly or somewhat supported the option.

^b Likely voters are those respondents who said they are registered voters and that they vote all of the time or most of the time.

^c Registered but declined to state a party.

^d Registered member of any other party, including the American Independent party.

Table 4. Support^a for the Tax Options, by Travel Behavior

	Mileage Tax			Gas Tax							Information About Average Annual Costs (%)
	Sales Tax (%)	Flat (%)	Variable (%)	10¢ Increase (%)	2¢ Increase per Year for 5 Years (%)	Revenue to Reduce Local Air Pollution (%)	Revenue to Reduce Global Warming (%)	Revenue to Maintain Streets/Highways (%)	Revenue to Improve Safety (%)	Revenue to Add High-Tech Systems (%)	
All respondents	45	22	36	24	39	48	45	62	56	50	36
Annual miles driven											
1–3,000	50	26	42	33	49	63	63	68	64	55	46
3,001–7,500	45	21	37	19	35*	41**	40**	60	53	49	35
7,501–12,500	41	18	33	22	39	42**	42**	63	54	52	42
12,501+	46	16	34	18	34*	35**	34**	54**	47**	43	34
Don't drive	49	40	44	31	38	57	46*	75	64	49	27*
Don't know	42	18	32	22	37	54	48*	60	59	50	29*
Taken transit in last 30 days?											
Yes	52	34	47	37	53	61	55	69	61	58	46
No	43*	18**	33**	20**	34**	44**	43**	60*	55	47**	33**

Note: The test of two proportions was used to determine whether there was a statistically significant difference between support levels among subgroups. The first subgroup listed in each category is the base case for the test; it is compared with the proportion of respondents who supported the individual policies in each of the other subgroups within that category.

* Statistically significant at $p < 0.05$.

** Statistically significant at $p < 0.01$.

^a Sum of those who said they strongly or somewhat supported the option.

Another set of analyses examined how support for the different tax options correlates with respondents' opinions about the transportation system. Table 5 presents these findings.

One section of the survey asked respondents for their opinion about road and transit services in their local community. There is no consistent pattern linking how respondents rated the condition of roads and highways in their community and support for the taxes, though support was modestly higher for most of the taxes among respondents who felt that their roads were in very good condition. There was only a weak connection between how respondents rated their public transit service and support for the taxes. Those saying the service was very good were overall slightly more willing to support the taxes, but these differences are again small and mostly not statistically significant. However, respondents who said that they had no public transit service in their community were markedly less likely to support all the tax options than respondents who said they had very good service.

Another 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 use of modern technologies. Not surprisingly, respondents who placed a high priority on these goals were more likely to support almost every tax option than were those who placed a low priority on them. These differences are often 15 or more percentage points and are statistically significant about half of the time.

SUPPORT FOR DIFFERENT VERSIONS OF THE MILEAGE AND GAS TAXES

A central goal of the survey was to test public support for the 10 alternative versions of the mileage and gas taxes. Figure 2 shows how variations on the taxes increased support in comparison to support for the base case of each (the flat-rate mileage tax of 1¢ per mile and the 10¢ gas tax increase proposed without any additional detail). For both tax types, the base case had the lowest support level, and applying the test of two proportions confirmed that in all cases the increase in support is statistically significant.

Tables 6 through 9 present the change in support levels for the variations on the base-case mileage tax and gas tax options by subgroups of the respondents defined by Census region, socio-demographic and political characteristics, travel behavior characteristics, and opinions about the transportation system. Collectively, the tables include 62 population subgroups, for each of which there are eight tax comparisons, resulting in a total of 496 cases examined.

The overall picture that emerges is simple and clear: the base-case taxes were less popular than the alternative tax options among virtually every subgroup. In fact, the tax variants improved support among more than 99% of the 496 cases, and for 73% of the cases, the increase in support was statistically significant. In only four cases out of the 496 was an alternative *less* popular than the base case.

Table 5. Support^a for the Tax Options, by Opinion of the Transportation System

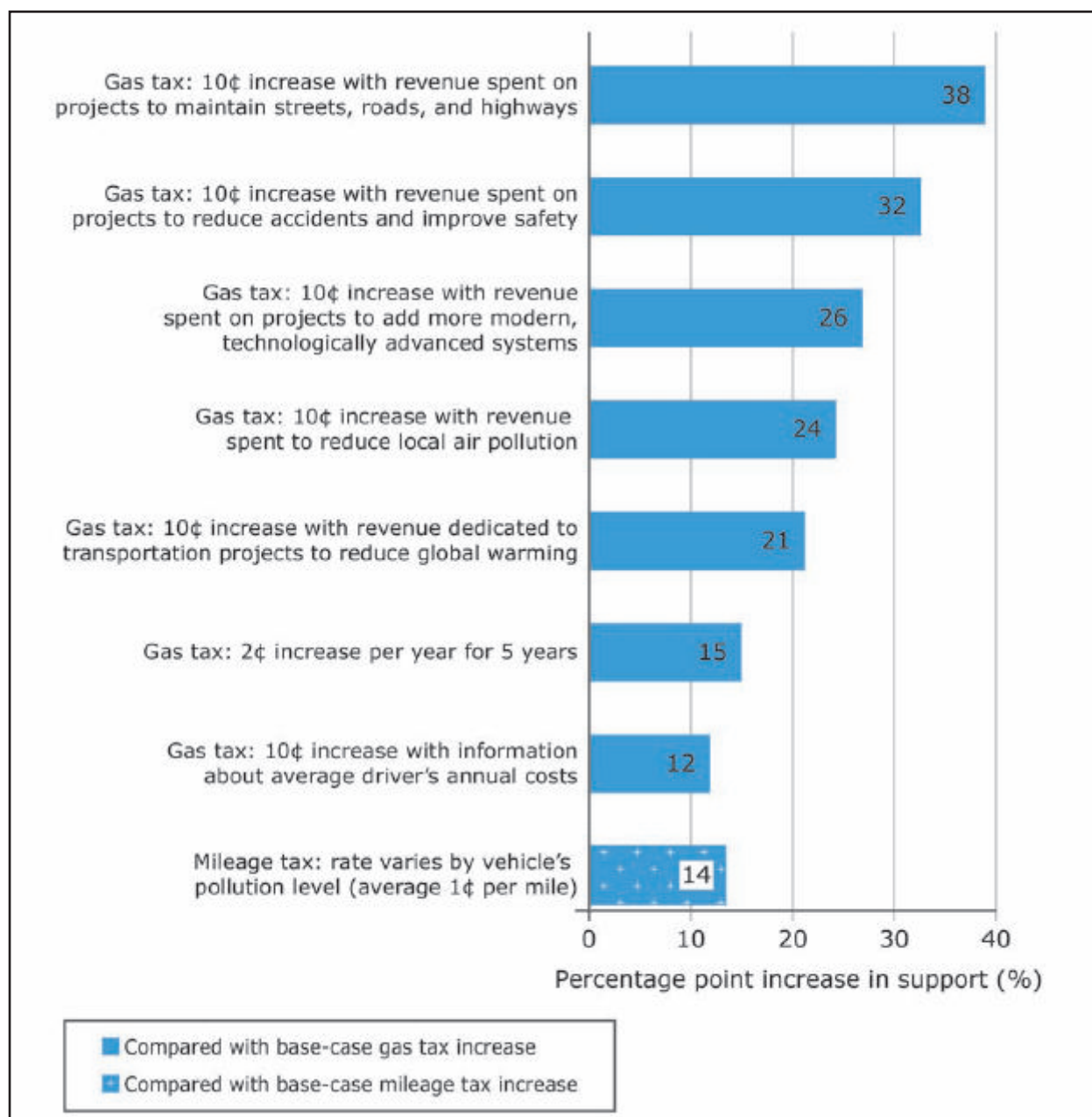
	Mileage Tax				Gas Tax							Information About Average Annual Costs (%)
	Sales Tax (%)	Flat (%)	Variable (%)	10¢ Increase (%)	2¢ Increase per Year for 5 Years (%)	Revenue to Reduce Local Air Pollution (%)	Revenue to Reduce Global Warming (%)	Revenue to Maintain Streets/Highways (%)	Revenue to Improve Safety (%)	Revenue to Add High-Tech Systems (%)		
All respondents	45	22	36	24	39	48	45	62	56	50	36	
Opinion on condition of roads and highways in local community												
Very good	45	29	43	36	42	48	46	57	51	48	39	
Somewhat good	44	21	36	22**	39	48	48	63	59	52	36	
Bad	48	20	31	21*	34	46	39	64	52	45	36	
Opinion on public transit service in local community												
Very good	55	27	46	35	48	56	53	62	61	54	45	
Somewhat good	43*	21	35	21*	37*	54	50	68	60	57	35	
Poor	53	26	40	29	45	43*	46	64	53	51	42	
No service	41*	18	28**	22	32*	39**	37*	53	50	35**	30*	
Role of government in reducing traffic congestion												
High priority	49	23	40	24	40	53	51	63	61	56	39	
Medium priority	48	24	37	25	41	46	47	66	60	50	35	
Low priority	29**	15	24*	25	30	36**	29**	54	36**	35**	32	
Role of government in maintaining streets, roads, and highways												
High priority	47	22	37	23	38	48	47	64	57	50	37	
Medium priority	44	20	36	31	42	47	46	60	59	49	38	
Low priority	(25)	(27)	(21)	(10)	(21)	(43)	(19)	46*	(27)	(41)	(14)	
Role of government in expanding and improving local public transit service												
High priority	54	27	44	29	46	56	53	66	58	56	41	
Medium priority	44*	21	33*	23	36*	49	47	65	64	51	41	
Low priority	29**	11	26**	15	28**	29**	27**	50**	39**	36**	20**	
Role of government in reducing accidents and improving safety												
High priority	48	23	39	25	41	53	51	66	67	53	39	
Medium priority	45	24	36	26	38	43*	39**	60	40**	49	34	
Low priority	28*	(8)	(14)	(18)	(23)	27**	(23)	46**	(23)	31**	27	
Role of government in using modern technology												
High priority	47	25	40	25	41	51	50	64	61	62	38	
Medium priority	47	22	35	24	38	48	45	63	56	49**	37	
Low priority	35*	13	26*	25	33	37*	33**	54*	46**	18**	32	

Note: The test of two proportions was used to determine whether there was a statistically significant difference between support levels among subgroups. The first subgroup listed in each category is the base case for the test; it is compared with the proportion of respondents who supported the individual policies in each of the other subgroups within that category. Parentheses around support levels indicate that too few respondents supported the policies to run the test of two proportions.

* Statistically significant at $p < 0.05$.

** Statistically significant at $p < 0.01$.

^a Sum of those who said they strongly or somewhat supported the option.



Note: "Support is the sum of those who said they strongly or somewhat supported the tax option.

Figure 2. Relative Increases in Support for Variations on the Base-Case Gas Tax and Mileage Tax Concepts

Table 6. Percentage-Point Increases in Support^a for Variants of the Mileage Tax and Gas Tax over Support for the Base-Case Versions of Those Taxes, by Census Region and Socio-Demographic Categories

Socio-Demographic Category	Mileage Tax (%)	2¢ Increase per Year for 5 Years (%)	Gas Tax					Information About Average Annual Costs (%)
			Revenue to Reduce Local Air Pollution (%)	Revenue to Reduce Global Warming (%)	Revenue to Maintain Streets/Highways (%)	Revenue to Improve Safety (%)	Revenue to Add High-Tech Systems (%)	
All respondents	14	15	24	21	38	32	26	12
Census region								
Northeast	18*	13	12	17*	32**	22**	18*	13
Midwest	12	15*	9	6	33**	20**	18**	10
South	20**	16**	18**	16**	35**	30**	27**	13*
West	14*	12*	12*	12*	29**	24**	16**	9
Gender								
Male	10**	16**	19**	17**	35**	30**	25**	14**
Female	18**	13**	28**	25**	41**	35**	26**	10*
Race								
White	14**	12**	21**	20**	36**	30**	25**	14
Black or African-American	9	18*	31**	22*	47**	40**	28**	7
Asian or Asian-American	17	17	14	10	26**	17	19	10
Other	19*	22*	37**	34**	49**	44**	33**	9
Hispanic/Latino origin/descent								
No	15**	14**	19**	17**	37**	30**	23**	11**
Yes	11	20*	48**	44**	48**	45**	41**	19*
Education								
≤ High school graduate	12**	10*	32**	27**	44**	38**	30**	9*
> High school	16**	20**	17**	17**	34**	28**	23**	16**
Employed								
Yes	15**	16**	24**	23	39**	31**	25**	16**
No	13*	13*	29**	26	39**	38**	32**	11*
Retired	16	13	12	6	34**	26*	13	2
Annual household income (\$)								
0–50,000	18**	15**	34**	29	42**	37**	31**	12**
50,001–100,000	12	15*	16*	14	40**	30**	23**	16*
100,000+	15	21*	4	4	28**	21**	17	14
Age (years)								
18–24	23**	20**	37**	32	42**	37**	33**	13*
25–54	10*	15**	28**	27	44**	38**	30**	18**
55 +	18**	11*	13*	9	31**	24**	16**	4

Note: The test of two proportions was used to determine whether the change in support from the base-case option (either the flat-rate mileage tax or the 10¢ gas-tax increase in a single year) was statistically significant.

* Statistically significant at $p < 0.05$.

** Statistically significant at $p < 0.01$.

^a Sum of those who said they strongly or somewhat supported the option.

Table 7. Percentage-Point Increases in Support^a for Variants of the Mileage Tax and Gas Tax over Support for the Base-Case Versions of Those Taxes, by Political Affiliation

	Mileage Tax (%)	Gas Tax						
		2¢ Increase per Year for 5 Years (%)	Revenue to Reduce Local Air Pollution (%)	Revenue to Reduce Global Warming (%)	Revenue to Maintain Streets/Highways (%)	Revenue to Improve Safety (%)	Revenue to Add High-Tech Systems (%)	Information About Average Annual Costs (%)
All respondents	14	15	24	21	38	32	26	12
Registered voter								
Yes	15**	13**	18**	18**	35**	30**	24**	11**
No	19**	16*	39**	32**	46**	38**	27**	16*
Non-citizen	(-20)	(34)	(61)	(21)	(61)	(36)	(61)	(9)
Likely voter ^b								
No	21*	15	32**	30**	46**	39**	29**	18
Yes	13**	14**	16**	16**	33**	29**	23**	10**
Political affiliation								
Democrat	14**	14**	20**	21**	31**	30**	23**	13*
Republican	9	13	13	8	38**	32**	29**	12
Independent ^c	20	18	16	14	32**	26**	13	5
Other ^d	(5)	1	18	16	23**	16	7	2

Note: The test of two proportions was used to determine whether the change in support from the base-case option (either the flat-rate mileage tax or the 10¢ gas tax increase in a single year) was statistically significant. Parentheses around support levels indicate that too few respondents supported the policies to run the test of two proportions.

* Statistically significant at $p < 0.05$.

** Statistically significant at $p < 0.01$.

^a Sum of those who said they strongly or somewhat supported the option.

^b Likely voters are respondents who said they are registered voters and that they vote all of the time or most of the time.

^c Registered but declined to state a party.

^d Registered member of any other party, including the American Independent party.

Table 8. Percentage-Point Increases in Support^a for Variants of the Mileage Tax and Gas Tax over Support for the Base-Case Versions of Those Taxes, by Opinions of the Transportation System

Socio-Demographic Category	Mileage Tax (%)	2¢ Increase per Year for 5 Years (%)	Gas Tax						Information About Average Annual Costs (%)
			Revenue to Reduce Local Air Pollution (%)	Revenue to Reduce Global Warming (%)	Revenue to Maintain Streets/Highways (%)	Revenue to Improve Safety (%)	Revenue to Add High-Tech Systems (%)		
All respondents	14	15	24	21	38	32	26	12	
Opinion on condition of roads and highways in local community									
Very good	14*	6	12	10	21**	15*	12	3	
Somewhat good	15**	17**	26**	26**	41**	37**	30**	14**	
Bad	11	13	25**	18*	43**	31**	24**	15*	
Opinion on public transit service in local community									
Very good	19*	13	21**	18**	27**	26**	19**	10	
Somewhat good	14**	16**	33**	29**	47**	39**	36**	14**	
Poor	14*	16*	14*	17*	35**	24**	22**	13	
No service	10	10	17*	15*	31**	28**	13	8	
Role of government in reducing traffic congestion									
High priority	17**	16**	29**	27**	39**	37**	32**	15**	
Medium priority	13*	16**	21**	22**	41**	35**	25**	10*	
Low priority	9	5	11	4	29**	11	10	7	
Role of government in maintaining streets, roads, and highways									
High priority	15**	15**	25**	24**	41**	34**	27**	14**	
Medium priority	16*	11	16**	15*	29**	28**	18**	7	
Low priority	(-6)	(11)	(33)	(9)	(36)	(17)	(31)	(4)	
Role of government in expanding and improving local public transit service									
High priority	17**	17**	27**	24**	37**	29**	27**	12**	
Medium priority	12*	13*	26**	24**	42**	41**	28**	18**	
Low priority	(15)	13	14	12	35**	24**	21*	5	
Role of government in reducing accidents and improving safety									
High priority	16**	16**	28**	26**	41**	42**	28**	14**	
Medium priority	12*	12*	17**	13*	34**	14*	23**	8	
Low priority	(6)	(5)	(9)	(5)	(28)	(5)	(13)	(9)	
Role of government in using modern technology									
High priority	15**	16**	26**	25**	39**	36**	37**	13**	
Medium priority	13*	14**	24**	21**	39**	32**	25**	13*	
Low priority	13	8	12	8	29**	21**	-7	7	

Note: The test of two proportions was used to determine whether the change in support from the base-case option (either the flat-rate mileage tax or the 10¢ gas tax increase in a single year) was statistically significant. Parentheses around support levels indicate that too few respondents supported the policies to run the test of two proportions.

* Statistically significant at $p < 0.05$.

** Statistically significant at $p < 0.01$.

^a Sum of those who said they strongly or somewhat supported the option.

Table 9. Percentage-Point Increases in Support^a for Variants of the Mileage Tax and Gas Tax over Support for the Base-Case Versions of Those Taxes, by Travel Behavior

	Mileage Tax (%)	Gas Tax						
		2¢ Increase per Year, for 5 Years (%)	Revenue to Reduce Local Air Pollution (%)	Revenue to Reduce Global Warming (%)	Revenue to Maintain Streets/Highways (%)	Revenue to Improve Safety (%)	Revenue to Add High-Tech Systems (%)	Information About Average Annual Costs (%)
All respondents	14	15	24	21	38	32	26	12
Annual miles driven								
1–3,000	16*	16*	30	30**	35**	31**	22**	13
3,001–7,500	16	16	22*	21*	41**	34**	30**	16
7,501–12,500	15*	17*	20	20**	41**	32**	30**	20**
12,501+	18*	16*	17*	16*	36**	29**	25**	16*
Don't drive	4	7	26	15	44**	33**	18*	-4
Don't know	14	15	32**	26**	38**	37**	28	7
Taken transit in last 30 days								
Yes	13*	16**	24**	18**	32**	24**	21**	9
No	15**	14**	24	23**	40**	35**	27**	13**

Note: The test of two proportions was used to determine whether the change in support from the base-case option (either the flat-rate mileage tax or the 10¢ gas tax increase in a single year) was statistically significant.

* Statistically significant at $p < 0.05$.

** Statistically significant at $p < 0.01$.

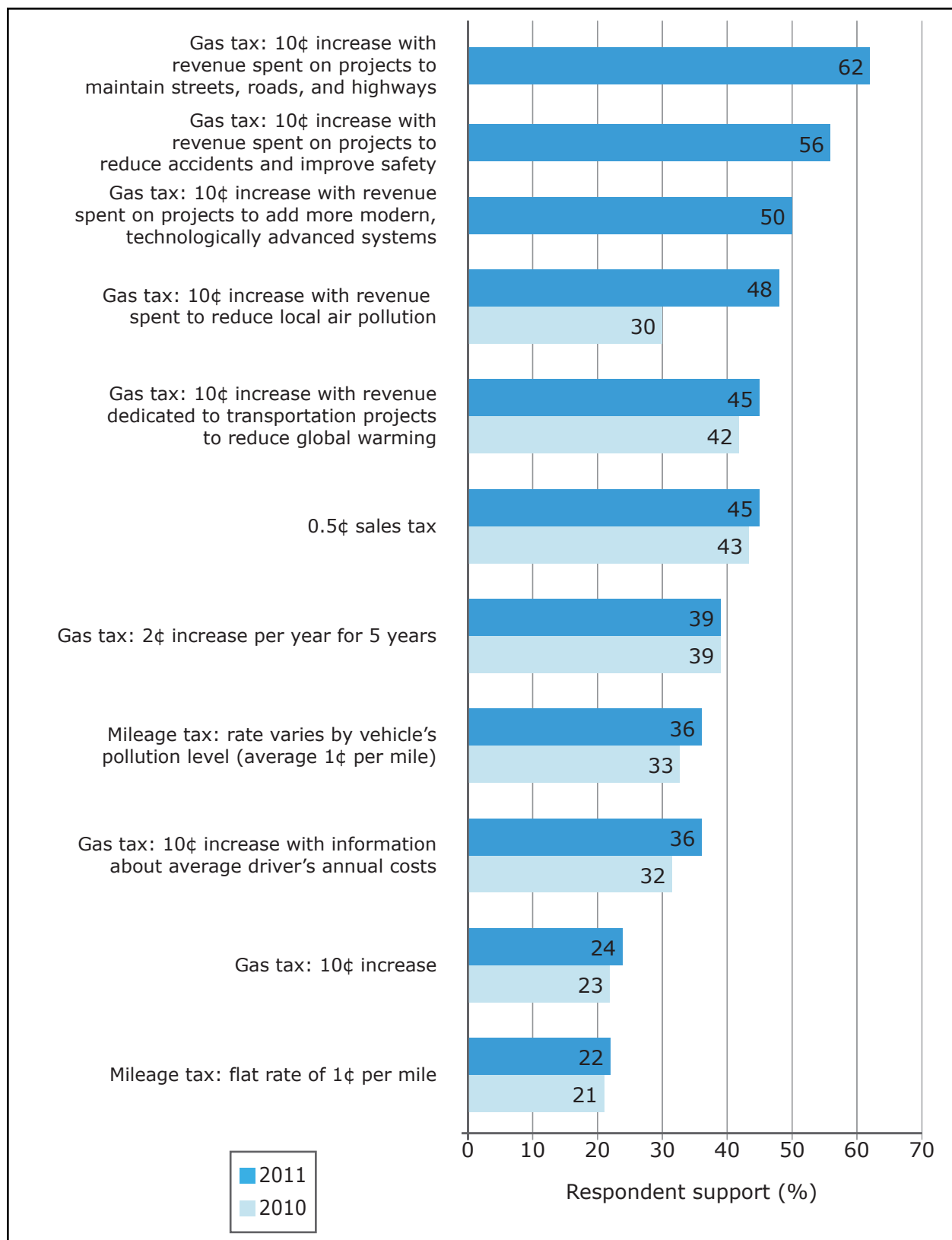
^a Sum of those who said they strongly or somewhat supported the option.

SUPPORT IN 2011 VERSUS SUPPORT IN 2010

Most of the survey questions are the same as those in a parallel survey carried out in 2010.⁶ The 2011 survey found Americans just as willing to support tax increases for transportation as they were in 2010, or perhaps even slightly more so (see figure 3). For example, in 2011, 36% of respondents supported a new mileage tax if the rates varied by the vehicle's pollution level, while 33% supported such a tax in 2010. The only substantial change in support levels over the past year was a large increase in support for a gas tax with revenue spent to reduce local air pollution. In 2011, the tax had 48% support, compared with 30% support in 2010.

A few population subgroups were noticeably more likely supporters of the taxes in both years, with the difference statistically significant for at least some taxes in both surveys:

- Asians or Asian-Americans and blacks or African-Americans (compared with whites)
- Younger people (compared with older people)
- Unlikely voters (compared with likely voters)
- People who used transit in the previous 30 days (compared with people who did not)
- People who place a high priority on expanding and improving local public transit service (compared with people who do not prioritize this).

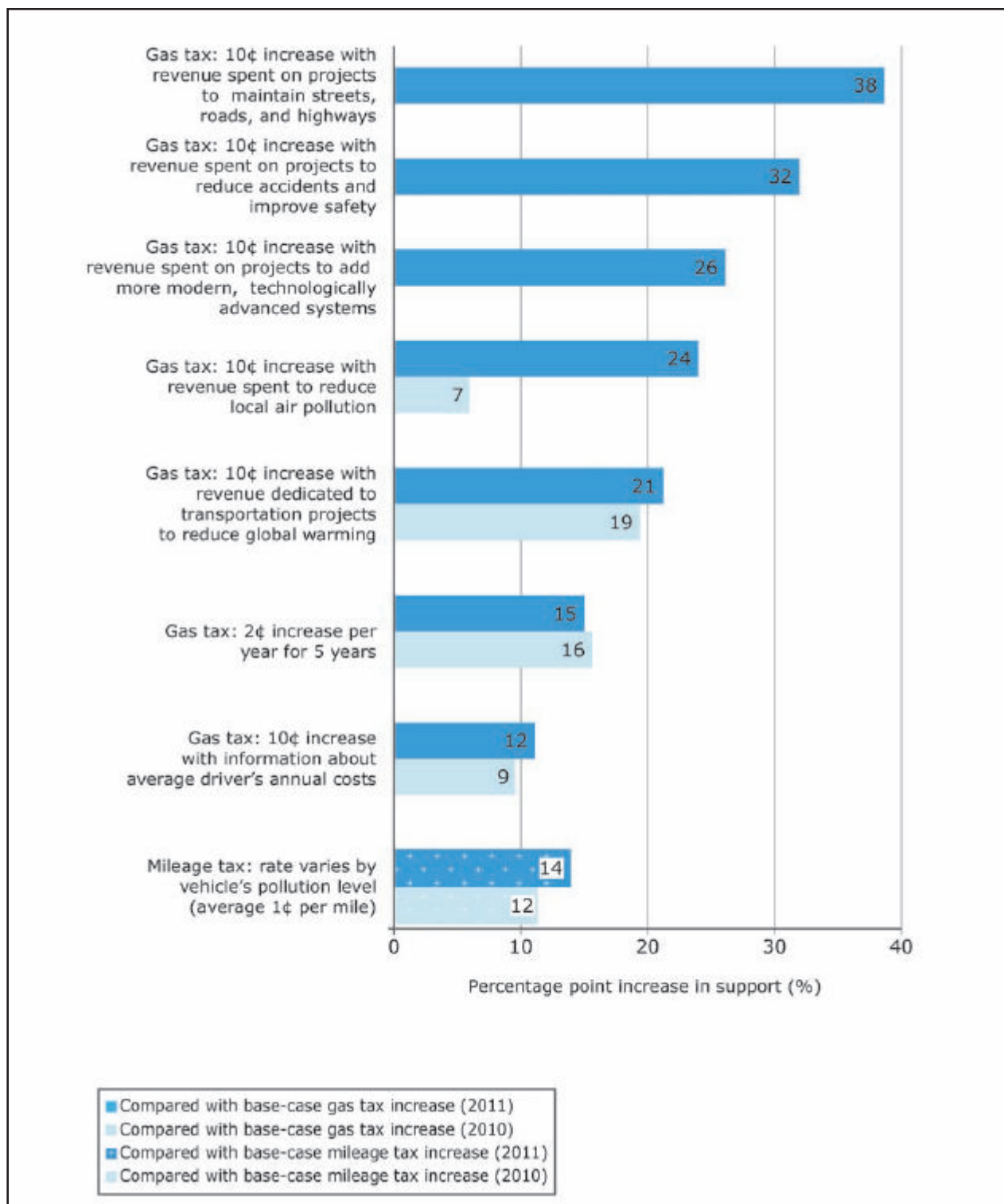


Note: "Support" is the sum of those who said they strongly or somewhat supported the tax option.

Figure 3. Comparison of Support for the Tax Options Surveyed in 2010 and 2011

In addition, in both surveys Democrats were more supportive of the taxes than Republicans. This trend is statistically significant for 2011. The same pattern held in 2010, but the differences are not statistically significant.

Our analysis of how the tax variations boosted support over the base cases shows very little change from 2010 to 2011 (see figure 4). In every case, the variations had higher support levels than the base-case options, and the boosts in support were quite similar, with one exception: for the gas tax linked to projects that would reduce local air pollution, the increase in support over that for the base-case gas tax option was much higher in 2011 than in 2010 (24 percentage points in 2011, compared with 7 percentage points in 2010).



Note: "Support is the sum of those who said they strongly or somewhat supported the tax option.

Source: For the 2010 survey results, see Asha Weinstein Agrawal and Hilary Nixon, *What Do Americans Think About Federal Transportation Tax Options? Results from a National Survey* (San José, CA: Mineta Transportation Institute, June 2010).

Figure 4. Comparison of Relative Increases in Support for Variations on the Base-Case Gas Tax and Mileage Tax Concepts in 2010 and 2011

V. CONCLUSIONS

SUMMARY OF KEY FINDINGS

Support Levels Among All Respondents

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¢ per gallon to improve road maintenance was supported by 62% of respondents, whereas support levels dropped to just under 50% if the revenues were to be devoted to reducing local air pollution or global warming. Other variants on a gas tax that received at least 50% support were increases of 10¢ per gallon with the revenues dedicated to projects to reduce accidents and improve safety or projects to “add more modern, technologically advanced systems.” For tax options where 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 than either a gas tax increase or a new mileage tax.

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 two taxes increased support over that for the base case of each (a flat-rate mileage tax of 1¢ per mile and a 10¢ gas tax increase proposed without any additional detail).

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 likely *relative* preferences among different transportation tax options.

Support Levels Among Population Subgroups

In addition to examining support for the different tax options among the overall population, we examined support by subgroups within the population. Breaking the population into subgroups by socio-demographic categories reveals surprisingly few links with support for the taxes. For example, there are no clear patterns showing that support varies consistently by region of the country, gender, or income. The single clearest pattern that emerges is linked to age. Respondents in the youngest group (18- to 24-year olds) were significantly more likely to support all of the taxes than respondents in the older groups. Other characteristics linked with generally higher support levels for the taxes were Hispanic/Latino ethnicity; being Asian or Asian-American, black or African-American, or of an “other” race; having no formal education beyond high school; and being employed rather than retired.

In terms of politics, party affiliation played a striking role, with Democrats significantly more likely to support every one of the taxes. Also, respondents we characterize as unlikely voters were more supportive of many of the tax options than were likely voters.

Breaking the respondents into subgroups according to their travel behavior and perceptions of the transportation system reveals only a few significant correlations with support for the

tax options. However, support for many of the taxes was at least modestly higher among respondents who drove relatively few miles a year, had taken public transit within the previous 30 days, thought that roads in their local community were in very good condition, thought that their community had very good local public transit service, or placed a high priority on having government improve various aspects of the transportation system in their state.

When comparing support by subgroup for the gas tax and mileage tax variations with 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 among virtually every subgroup.

Support in 2011 Compared with Support in 2010

Our surveys indicate that American public opinion about the federal transportation tax options tested has changed little in the past year. The 2011 survey found Americans just as willing to support tax increases for transportation as they were in 2010, or perhaps even slightly more so. The only substantial change in support levels was an increase in support for a gas tax with revenue spent to reduce local air pollution. In 2011, the tax had 48% support, compared with 30% support in 2010. Support for the taxes by population subgroups was similar in both years. Finally, the analysis of how the variations on the gas and mileage taxes boosted support over the base cases for each shows very little change from one year to the next.

The fact that both surveys have such similar results suggests that the views expressed are indeed generally representative of the American public and are not aberrations caused by an unusual and unrepresentative sample in either year of the survey.

POLICY IMPLICATIONS FOR TRANSPORTATION PROFESSIONALS AND POLICYMAKERS

The results of the two surveys suggest three key implications for policymakers who wish to craft transportation revenue increases that will be more appealing—or at least less objectionable—to the public:

The basic concept of a gas tax increase is not popular, but there are ways to structure such an increase that would significantly increase its acceptability.

The survey results from both years show that while support for a one-time gas tax increase can be very low, support could be increased by modifying the way the tax is implemented or described. Dedicated the revenue to purposes that are popular with the public, spreading out the increase over several years, and providing information about how much the increase will cost drivers annually are all options for improving support levels.

The basic concept of a mileage tax is not popular, but there are ways to structure such a tax that would increase its acceptability.

The survey results from both years also show that while a new mileage fee may be very unpopular, support could be increased by modifying the tax structure to incorporate a variable rate linked to the vehicle's environmental performance, defined in this survey as the vehicle's pollution level. The survey did not test any other variations on the mileage tax, but it is likely that there are others that would also have support levels above the very low 22 % support for the flat 1¢ per mile tax option.

Linking a transportation tax to environmental benefits can increase public support.

Linking a transportation tax increase to environmental benefits can increase support, a trend found among other public opinion polls as well. In both years of our survey, support improved notably for both the gas tax increase and the mileage tax increase when they were linked to environmental benefits.

APPENDIX A: SURVEY QUESTIONNAIRE AND RESULTS

The following pages present the results of the 2011 survey described above, comparing them to the results from a similar survey conducted by MTI in 2010. For the complete 2010 results, see Agrawal and Nixon (2010).

Note that in the tables below, some categories do not sum to 100% due to rounding.

The data labeled as “weighted” have been weighted by gender, race, Hispanic ethnicity, age, education, and income to match the U.S. population estimates from the Census Bureau’s American Community Survey (2004–2009, 5-year average).

* * *

We are interested in your opinions about the transportation system. When I talk about the transportation system, I mean local streets and roads, highways, and public transit services like buses, light rail, and trains.

Ok. Here’s my first question.

Q1. In the community where you live, would you say that roads and highways are in very good condition, somewhat good condition, or bad condition

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Very good condition	25	19	20
Somewhat good condition	54	62	61
Bad condition	20	19	19
Don’t know (volunteered)	<1	<1	<1

Q2. Does your community offer very good public transit service, somewhat good public transit service, poor public transit service, or no public transit service at all?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Very good	17	16	14
Somewhat good	38	38	38
Poor	15	19	21
No service	23	21	20
Don’t know (volunteered)	7	7	7

Now, please think about what the government could do to improve the transportation system for EVERYONE in the state where you live. I'm going to read you several options. For each one, tell me whether you think government should make that a high priority, medium priority, or low priority.

[Q3–Q7 RANDOMIZED]

Q3. How about reducing traffic congestion? Should government make that a high, medium, or low priority?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
High priority	47	49	45
Medium priority	35	36	36
Low priority	15	14	17
Don't know (volunteered)	4	2	2

Q4. How about maintaining streets, roads, and highways in good condition, including filling potholes? Should government make that a high, medium, or low priority?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
High priority	68	73	72
Medium priority	26	23	23
Low priority	5	4	4
Don't know (volunteered)	1	<1	<1

Q5. How about expanding and improving local public transit service, like buses or light rail? Should government make that a high, medium, or low priority?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
High priority	47	47	46
Medium priority	36	33	33
Low priority	14	17	20
Don't know (volunteered)	4	3	2

Q6. How about reducing accidents and improving safety? Should government make that a high, medium, or low priority?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
High priority	—*	65	63
Medium priority	—	26	26
Low priority	—	7	9
Don't know (volunteered)	—	1	2

* Question was not asked in the 2010 survey.

Q7. How about adding more modern, technologically advanced systems like real-time travel alerts, longer lasting pavements, and better timed traffic lights? Should government make that a high, medium, or low priority?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
High priority	—*	47	43
Medium priority	—	36	38
Low priority	—	15	17
Don't know (volunteered)	—	1	2

* Question was not asked in the 2010 survey.

There are many ways the U.S. Congress could raise money to pay for maintaining and improving the transportation system. I'm going to ask your opinion about some of these different options. In each case, assume that the money collected would be spent ONLY for transportation purposes.

[Q8–Q10 RANDOMIZED]

Q8. One idea (a DIFFERENT idea) is to adopt a new national, half-cent sales tax to pay for transportation. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose this new sales tax?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	12	14	14
Somewhat support	30	31	29
Somewhat oppose	16	20	19
Strongly oppose	38	30	35
Don't know (volunteered)	4	5	3

Q9A. Right now the federal government collects a tax of 18 cents per gallon when people buy gasoline. One idea (a DIFFERENT idea) to raise money for transportation is to increase the federal gas tax by 10 cents a gallon, from 18 cents to 28 cents. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose this gas tax increase?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	9	7	9
Somewhat support	14	17	18
Somewhat oppose	20	22	19
Strongly oppose	54	52	53
Don't know (volunteered)	2	2	2

Q9B. A VARIATION on the idea of raising the gas tax by 10 cents AT ONE TIME would be to spread the increase over 5 years. The tax would go up by 2 cents a year for each of five years. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose THIS gas tax increase?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	14	13	14
Somewhat support	25	25	27
Somewhat oppose	21	20	17
Strongly oppose	36	39	40
Don't know (volunteered)	3	2	2

Q10A. One idea (a DIFFERENT idea) is to adopt a new tax based on the number of miles a person drives. Each driver would pay a tax of one cent for every mile driven. For example, someone driving one hundred miles would pay a tax of one dollar. Vehicles would have an electronic meter to keep track of the miles driven, and the tax would be paid each time drivers buy gas. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose this new mileage tax?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	9	6	5
Somewhat support	12	16	14
Somewhat oppose	15	17	16
Strongly oppose	61	58	64
Don't know (volunteered)	3	2	2

Q10B. A VARIATION on the mileage tax just described is to have the tax rate VARY depending upon how much the vehicle pollutes. On average, vehicles would be charged one cent per mile, but vehicles that pollute less would be charged less, and vehicles that pollute more would be charged more. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose THIS new mileage tax?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	14	14	13
Somewhat support	19	22	22
Somewhat oppose	18	18	17
Strongly oppose	46	42	46
Don't know (volunteered)	3	4	3

[QUESTIONS 11–15 RANDOMIZED]

Now, imagine that the U.S. Congress decided that the best option to raise money for transportation is to increase the federal gas tax by ten cents per gallon. I'm going to read you several different options for how the money is spent. For each, please tell me if you would strongly support, somewhat support, somewhat oppose, or strongly oppose the gas tax increase.

Q11. Would you support the gas tax increase if the new money were spent ONLY on projects to reduce LOCAL AIR POLLUTION caused by the transportation system?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	9	14	10
Somewhat support	21	33	30
Somewhat oppose	23	16	19
Strongly oppose	42	33	38
Don't know (volunteered)	6	3	3

Q12. Would you support the gas tax increase if the money were spent ONLY on projects to reduce the transportation system's contribution to GLOBAL WARMING?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	12	14	12
Somewhat support	30	32	27
Somewhat oppose	19	15	17
Strongly oppose	36	34	39
Don't know (volunteered)	3	6	5

- Q13. Would you support the gas tax increase if the money were spent ONLY on projects to MAINTAIN streets, roads, and highways?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	—*	26	23
Somewhat support	—	36	36
Somewhat oppose	—	12	13
Strongly oppose	—	22	25
Don't know (volunteered)	—	4	3

* Question was not asked in the 2010 survey.

- Q14. Would you support the gas tax increase if the money were spent ONLY on projects to reduce accidents and improve safety?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	—*	23	17
Somewhat support	—	34	34
Somewhat oppose	—	15	17
Strongly oppose	—	24	28
Don't know (volunteered)	—	5	4

* Question was not asked in the 2010 survey.

- Q15. Would you support the gas tax increase if the money were spent ONLY on projects to add more modern, technologically advanced systems like real-time travel alerts, longer lasting pavements, and better timed traffic lights?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	—*	16	15
Somewhat support	—	34	32
Somewhat oppose	—	18	18
Strongly oppose	—	28	31
Don't know (volunteered)	—	4	4

* Question was not asked in the 2010 survey.

- Q16. Let me give you some information about how much the CURRENT federal gas tax costs an AVERAGE driver. Someone who drives 10,000 miles a year, in a vehicle that gets 20 miles to the gallon, will pay about 100 dollars a year. If Congress raised the gas tax by 10 cents a gallon, that same driver would now pay about 150 dollars a year. Now that you have this information, would you strongly support, somewhat support, somewhat oppose, or strongly oppose a 10 cent gas tax increase?

	2010	2011	
	Weighted %	Weighted %	Unweighted %
Strongly support	13	11	14
Somewhat support	19	25	24
Somewhat oppose	19	18	17
Strongly oppose	46	42	42
Don't know (volunteered)	3	4	3

APPENDIX B: OPINION POLLS REVIEWED

The tables in this appendix summarize key findings from a sampling of recent public opinion polls asking respondents about their support for taxes to raise transportation revenues. Table 10 and table 11 present responses to gas tax proposals; table 12 presents responses to mileage tax proposals; and table 13 presents responses to sales tax proposals. Complete source citations for all items in the tables are given in the bibliography.

Table 10. Public Opinion Polling on Gas Tax Increases

Sponsor (and Author, if Different)	Survey Date	Sampling Frame	Findings
Boston Globe (Smith)	2008	Massachusetts residents	77% of respondents “would be willing to increase” the gas tax 5¢ or more, “knowing that maintaining roads and bridges is expensive.” 40% would “favor” increasing the gas tax to reduce tolls or state debt.
National Highway Users Association (Fabrizio McLaughlin & Associates)	2008	U.S. likely voters	71% of respondents “supported” some form of unspecified increase in the gas tax “to pay for needed transportation projects” when the question followed a series of informative questions on the values of investing in roads and bridges. Initially, 57% of respondents had supported the increase. In both cases, respondents were informed about the current level of the tax and how long it has been set at its current level.
CBS/New York Times	2007	U.S. residents	64% of respondents “would be willing to pay” an unspecified increase in the gas tax if proceeds were used to research renewable energy sources, while 38% would “favor” an increase to promote conservation and reduce global warming.
New York Times/CBS News	2006	U.S. residents	59% of respondents “favored” an unspecified increase in the gas tax if it “would cut down on energy consumption and reduce global warming.” 55% also favored the increase if it “would reduce the United States’ dependence on foreign oil.” The percentage dropped to 28% if the tax increase reduced other taxes, 24% if it helped pay for the war on terror, and 12% if no reason was given. 17% of respondents continued to “favor” the tax increase when it was specified as a \$2 per gallon increase.
Metropolitan Transportation Commission (BW Research Partnership)	2007	San Francisco Bay Area residents	56% of respondents would “support” an unspecified increase in the cost of gas to either reduce public transit fares or increase transit service. 57% supported the increase to provide incentives for carpooling, but only 47% supported the increase to pay for bike lanes and sidewalks. 46%, 28%, and 17% were “willing to pay” 25¢, 50¢, or \$1 more per gallon of gas, respectively, when these amounts were called out. All questions framed increased gas costs as a way to reduce greenhouse-gas emissions or global warming.
Minnesota Public Radio (Pugmire)	2007	Minnesota registered voters	51% of respondents supported a 5¢ per gallon increase in the state gas tax “to pay for improvements to roads and bridges.” This was a follow-up question regarding a 10¢ per gallon increase for which support was only 37%. The poll was conducted two months after a bridge collapsed in Minnesota.
Washington Post (Morin and Ginsberg)	2005	Washington, D.C., area residents	48% of respondents “supported” a gas tax increase if the money was used for “transportation projects such as building roads, traffic management, or public transportation.” This question was asked after a series of questions on congestion-reduction strategies.

Table 10 (continued)

Sponsor (and Author, if Different)	Survey Date	Sampling Frame	Findings
NCPRR (Wilson Research Strategies)	2008	U.S. likely voters	47% of respondents “would be willing to pay” some level of increased gas tax as a way to promote conservation and reduce greenhouse-gas emissions. 62% reported that they would be less likely to accept such an increase if Americans’ transportation emissions were shown to be “a small fraction of a percentage point” of all greenhouse-gas emissions.
Public Agenda (Bittle et al.)	2009	U.S. residents	45% of respondents “favored” a 40¢ per gallon gas tax “to support development of clean renewable energy sources” when presented in a series of energy-related proposals. Levels of favor for other gas tax proposals included 40% for a 40¢ tax “to help achieve energy independence,” 38% for a 40¢ tax “to improve roads, bridges, tunnels, and other public works,” and 25% for a federal \$4 per gallon fixed price on gasoline to “encourage the development of alternative fuels.”
University of Texas, Austin (Musti et al.)	2010	Austin, Texas, area residents	43% of respondents “supported” a \$1 per gallon increase in the gas tax “to combat climate change.” 62% of respondents “supported” energy taxes with this same purpose; a \$50 tax per ton of greenhouse gas emissions “produced by electricity generation and motor fuel use” was given as an example of such a tax.
ABC News/Time Magazine/ Washington Post (Langer)	2005	U.S. residents	42% of respondents were “willing to pay” some higher level of gas tax “to fund transportation projects.” 32% of respondents “supported” higher gas taxes for building roads, public transportation, or managing traffic.
CBS News/ New York Times	2009	U.S. residents	43% of respondents “favored” an unspecified increase to the federal gas tax “if it would reduce U.S. dependence on foreign oil.”
Mineta Transportation Institute (Weinstein, et al.)	2006	California likely voters	43% of respondents “would vote for” a 1¢ per gallon per year for 10 years increase in the state gas tax. 28% of respondents “would vote for” indexing the state gas tax to inflation when the question prompted that such an increase would have been 0.5¢ per gallon in the previous year.
National Association of Realtors (Hart Research Associates)	2009	U.S. registered voters	40% of respondents favored a 5¢ per gallon gas tax increase “to pay for transportation projects and create jobs.” Support fell to 23% for a 10¢ increase.
Washington Post	2007	Maryland residents	38% of respondents “favored” a 10¢ per gallon increase in the state gas tax “if the money is used for transportation projects such as building roads, traffic management, or public transportation.”
Quinnipiac University Polling Institute	2009	New Jersey voters	37% of respondents “supported” an unspecified gas tax increase “to help finance road improvements and mass transportation.”
Quinnipiac University Polling Institute	2005	Connecticut registered voters	37% of respondents “supported” a 6¢ per gallon gas tax increase to pay for “transportation improvement projects to reduce traffic congestion.”

Table 10 (continued)

Sponsor (and Author, if Different)	Survey Date	Sampling Frame	Findings
HNTB Corporation (Kelton Research)	2011	U.S. residents	36% of respondents agreed that they “would support” a 10¢ per gallon gas tax increase “now that the economy has improved,” after being informed that the tax had not risen since 1993 and that it no longer “collects enough funds to fully support current or future federal highway and transit programs.” In a follow-up question, 58% of respondents agreed that the gas tax “should rise and fall along with the rate of inflation.”
HNTB Corporation (Kelton Research)	2009	U.S. residents	35% of respondents “would support” a 10¢ per gallon gas tax increase “once the economy improves.” The question informed respondents about the level of the federal gas tax, when it was set, and the reasons why it is no longer sufficient. Earlier in the poll, 57% of respondents agreed that current gas taxes “are no longer sufficient to properly maintain our roads and bridges.”
CNN (Bursk)	2007	U.S. residents	33% of respondents “favored” an unspecified increase in the federal gas tax to pay for additional “inspection and repair of bridges across the country.” The poll was conducted one week after a bridge collapsed in Minnesota.
ABC News/Washington Post/ Stanford University (Krosnick)	2007	U.S. residents	32% of respondents “favored” an unspecified increase in gas taxes to promote fuel-efficient vehicles and conservation. This question was asked as part of a series of questions on strategies to reduce global warming.
The Rockefeller Foundation (Hart Research Associates)	2011	U.S. registered voters	27% of respondents found it “acceptable” to increase the federal gas tax an unspecified amount in order to “provide additional funding for transportation projects” after being informed that the tax had not increased since 1993.
Pew Research Center	2010	U.S. residents	22% of respondents “approved” of an unspecified increase in the national gas tax when “thinking about ways to reduce the federal budget deficit.”
Rasmussen Reports	2009	U.S. residents	22% of respondents preferred raising the gas tax an unspecified amount to “cutting back nationally on transportation projects.” 15% of respondents agreed that the federal government should increase gas taxes “to help meet new transportation needs.”
Pew Research Center	2008	U.S. residents	22% of respondents “favored” an unspecified increase in the gas tax “to encourage carpooling and conservation.” This was in response to a series of questions on policies that “address America’s energy supply.”
Rasmussen Reports	2009	U.S. residents	10% of respondents “favored” a federal government policy to increase gas taxes “a large amount” to encourage the purchase of fuel-efficient cars.

Table 11. Public Opinion Polling on Gas Tax Increases Linked to Environmental Benefits

Sponsor (and Author, if Different)	Survey Date	Sampling Frame	Findings
CBS/New York Times	2007	U.S. residents	64% of respondents “would be willing to pay” an unspecified increase in the gas tax if proceeds were used to research renewable energy sources, while 38% would “favor” an increase to promote conservation and reduce global warming.
New York Times/CBS News	2006	U.S. residents	59% of respondents “favored” an unspecified increase in the gas tax if it “would cut down on energy consumption and reduce global warming.” 55% also favored the increase if it “would reduce the United States’ dependence on foreign oil.” The percentage dropped to 28% if the tax increase reduced other taxes, 24% if it helped pay for the war on terror, and 12% if no reason was given. 17% of respondents continued to “favor” the tax increase when it was specified as a \$2 per gallon increase.
Metropolitan Transportation Commission (BW Research Partnership)	2007	San Francisco Bay Area residents	56% of respondents would “support” an unspecified increase in the cost of gas to either reduce public transit fares or increase transit service. 57% supported the increase for providing incentives for carpooling, but only 47% supported the increase to pay for bike lanes and sidewalks. 46%, 28%, and 17% were “willing to pay” 25¢, 50¢, or \$1 more per gallon of gas, respectively, when these amounts were called out. All questions framed increased gas costs as a way to reduce greenhouse-gas emissions or global warming.
NCPPR (Wilson Research Strategies)	2008	U.S. likely voters	47% of respondents “would be willing to pay” some level of increased gas tax as a way to promote conservation and reduce greenhouse-gas emissions. 62% reported that they would be less likely to accept such an increase if Americans’ transportation emissions were shown to be “a small fraction of a percentage point” of all greenhouse-gas emissions.
University of Texas, Austin (Musti et al.)	2010	Austin, Texas, area residents	43% of respondents “supported” a \$1 per gallon increase in the gas tax “to combat climate change.” 62% of respondents “supported” energy taxes with this same purpose; a \$50 tax per ton of greenhouse-gas emissions “produced by electricity generation and motor fuel use” was given as an example of such a tax.
ABC News/Washington Post/Stanford University (Krosnick)	2007	U.S. residents	32% of respondents “favored” an unspecified increase in gas taxes to promote fuel-efficient vehicles and conservation. This was in response to a series of questions on strategies to reduce global warming.
Pew Research Center	2008	U.S. residents	22% of respondents “favored” an unspecified increase in the gas tax “to encourage carpooling and conservation.” This was in response to a series of questions on policies that “address America’s energy supply.”
Rasmussen Reports	2009	U.S. residents	10% of respondents “favored” a federal government policy to increase gas taxes “a large amount” to encourage the purchase of fuel-efficient cars.

Table 12. Public Opinion Polling on Mileage Taxes

Sponsor (and Author, if Different)	Survey Date	Sampling Frame	Findings
Mineta Transportation Institute (Agrawal et al.)	2009	California residents	50% of respondents “supported” replacing the state gas tax with a fee averaging 1¢ per mile for every mile driven within the state, with the fee rate varying by how much the vehicle pollutes so that “vehicles that pollute the least would pay less, and vehicles that pollute the most would pay more per mile.” Respondents were informed that “vehicles would be equipped with an electronic means to keep track of miles driven, and the fee would be paid when drivers buy gas.” Support for the proposal was only 28% for a variation in which all vehicles paid the same 1¢ per mile rate.
HNTB Corporation (Kelton Research)	2010	U.S. residents	39% of respondents agreed with the statement “the U.S. should try to reduce transportation greenhouse-gas emissions by reducing the number of miles that vehicles travel through a mileage use tax.”
The Rockefeller Foundation (Hart Research Associates)	2011	U.S. registered voters	34% of respondents found it “acceptable” to replace the federal gas tax with “a fee based on the number of miles driven per year.” 40% of respondents “favored” developing a pilot program in “select states and localities” to test such a replacement.
Mineta Transportation Institute (Weinstein et al.)	2006	California likely voters	23% of respondents “would vote for” replacing the state gas tax with a mileage fee where “each driver would pay a fee of 1¢ per mile for every mile driven within the state.” Respondents were informed that “vehicles would be equipped with an electronic means to keep track of miles driven, and the fee would be paid when drivers buy gas.”
Rasmussen Reports	2009	U.S. residents	18% of respondents “favored” some form of mileage tax “to help fund the building and repair of roads and bridges.”
Civitas Institute	2009	North Carolina registered voters	12% of respondents “would view favorably” a switch to “a plan that would charge all drivers based on the number of miles they drive in North Carolina.” (The question did not specify what the “current system” was.)

Table 13. Public Opinion Polling on Sales Taxes

Sponsor (and Author, if Different)	Survey Date	Sampling Frame	Findings
Triangle Transportation Authority (Fallon Research)	2010	Durham, Orange, and Wake Counties, North Carolina, registered voters	58% of respondents “would vote for” a 0.5¢ sales tax increase “to pay for new or expanded public transportation.” 53% of a segment of respondents “would vote for” a 0.75¢ county sales tax to fund “new or expanded public transportation, new school construction, and the purchase of open space for preservation.”
Los Angeles Metro (Fairbank Maslin Maullin)	2007	Los Angeles County registered voters	56% of respondents “would vote yes in favor” of a 0.5¢ county sales tax for transportation projects “[that had] local control, required annual independent financial audits, and no funds to be used for administrators’ salaries.” Respondents were presented with the types of projects that would be funded with the tax. 57% “would vote yes in favor” of the same measure if the tax was set at 0.25¢.
Denver RTD (The Kenney Group)	2010	Metro Denver and Boulder County, Colorado, likely voters	51% of respondents “would vote for” a 0.4¢ increase in county sales taxes devoted to a set of regional transportation projects. Earlier in the survey, 48% of respondents agreed that “we should double the sales tax from four pennies on ten dollars to a total of eight pennies on ten dollars” in order to complete the set of projects “on time in 2017.”
PPIC (Baldassare)	2005	Los Angeles County residents	47% of respondents “would vote yes” for a 0.5¢ local sales tax “for local transportation projects.”
Mineta Transportation Institute (Weinstein et al.)	2006	California likely voters	41% of respondents would “support” a 0.5¢ increase in the state sales tax “for transportation purposes, such as maintaining and improving local streets, highways, and mass transit.”
SurveyUSA	2007	Seattle-Tacoma, Washington, MSA residents	38% of respondents “would support” raising the sales tax by 0.6¢ “in order to pay for transportation projects.” Also, 25% of respondents “would support” the sales tax increase in concert with an increased “car license tab tax” to pay for “a combination of road, highway, and mass transit improvements” in the survey area.

ENDNOTES

1. For the results of the first year of polling in this series, see Asha Weinstein Agrawal and Hilary Nixon, *What Do Americans Think About Federal Transportation Tax Options? Results from a National Survey* (San José, CA: Mineta Transportation Institute, June 2010). <http://www.transweb.sjsu.edu/MTIportal/research/publications/documents/2928%20-%20Annual%20Trans.%20Survey%20%286.24.2010%29.pdf> (accessed May 31, 2011).
2. The search terms used included *transportation tax*, *transit tax*, *gas tax*, *mileage tax*, and *transportation finance*.
3. 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.
4. U.S. Census Bureau, “2005-2009 American Community Survey 5-Year Estimates” (no date). http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS&_submenuId=&_lang=en&_ts= (accessed May 26, 2011).
5. To test whether support levels might be lowest among people with the very lowest incomes, we compared support among households with an annual income of \$25,000 per year or less to support among households with higher income levels, but no clear pattern emerged.
6. For the results of the first year of polling in this series, see Agrawal and Nixon (2010).

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