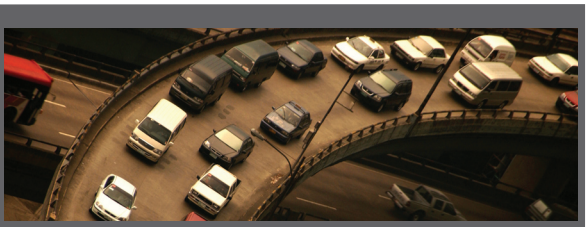
"Green" Transportation Taxes and Fees: A Survey Of Californians

MTI Report 08-05



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MTI REPORT 08-05

"GREEN" TRANSPORTATION TAXES AND FEES: A SURVEY OF CALIFORNIANS

June 2009

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16. Abstract

This report explores public opinion on a new and promising concept—green transportation taxes and fees. These are taxes and fees set at variable rates, with higher rates for more polluting vehicles and lower rates for those that pollute less. This approach to transportation taxes and fees adapts the traditional transportation finance system to achieve two critical public benefits at once: encouraging drivers to choose more environmentally-friendly transportation options and raising revenue for needed transportation programs.

To test public support for green transportation taxes and fees, the authors conducted a random telephone survey of 1,500 Californians that asked respondents their views on five hypothetical tax and fee options: a flat-rate and a green vehicle registration fee, a flat-rate and a green mileage fee, and a "feebate" program for new vehicle purchases under which more-polluting vehicles would be charged a tax and less-polluting vehicles would receive a rebate.

The survey results show that the concept of green transportation taxes and fees strongly appeals to Californians. The survey tested this in two ways: by testing support for the three hypothetical green transportation tax and fee policies, and also by comparing support levels for flat-rate versus green versions of two taxes. Majorities of the respondents supported all three green taxes and fees tested.

Another striking finding from the survey is that support for the green taxes and fees did not vary greatly by population subgroups; a diverse range of Californians supported the green taxes and fees. An analysis comparing support for the green and flat-rate vehicle registration fee and feebate proposals confirmed that in every subgroup, more people within that subgroup supported the green than the flat version of the two taxes tested.

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TABLE OF CONTENTS

LIST OF TABLES

EXECUTIVE SUMMARY

This report explores public opinion on a new and promising concept—green transportation taxes and fees. These are taxes and fees set at variable rates, with higher rates for more polluting vehicles and lower rates for those that pollute less. This approach to transportation taxes and fees adapts the traditional transportation finance system, permitting it to achieve two critical public benefits simultaneously: encouraging drivers to choose more environmentally-friendly transportation options, and raising revenue for needed transportation programs.

Growing concern with global warming, air pollution, and energy security, combined with California's concern over shrinking transportation revenues, make this type of transportation finance system a particularly exciting finance approach to evaluate at present. The combination of declining transportation revenues and growing needs opens a window for change in the transportation finance system, as lawmakers explore different options to raise additional revenues for transportation purposes. While that window remains open, research is needed to show whether or not green transportation taxes and fees are a politically feasible option.

To test public support for the concept, the authors conducted a random telephone survey of 1,500 Californians, asking respondents about their support for three green transportation tax and fee options, as well as two fees that were not structured as green ones. The questionnaire was designed to shed light on two broad research questions:

1. How likely are California residents to support green transportation taxes and fees, defined as those that set lower rates for more environmentally-friendly vehicles and higher rates for less environmentally-unfriendly ones?
2. What are the socio-demographic, attitudinal, and knowledge factors that influence support for such taxes and fees?

The survey results show that the public does indeed support the concept, and this support held across most population subgroups.

Green Transportation Taxes and Fees—Why Now?

For decades California, like many states, has relied largely on state and federal fuel tax revenues to fund its transportation system, supplemented with local and state sales tax and other general fund revenues. This system no longer functions as well as it has in the past, because lawmakers have been hesitant to raise fuel tax rates in recent decades to keep pace with estimates of need. Although the gas tax will remain the main source of state transportation revenues for the foreseeable future, lawmakers are interested in finding ways to supplement those revenues. Three converging trends point to green transportation taxes and fees as a promising approach to revising the current system:

- A growing desire to encourage people to choose transportation behaviors and vehicles that will reduce air pollution and greenhouse gas emissions.
- A desire to identify new sources of transportation revenue that are politically acceptable, as well as technically desirable for other reasons.
- Increasing interest and acceptance of using market-based policies, such as tolls, to encourage socially desirable and economically efficient transportation choices.

Survey Design

To explore the two research questions presented above, the authors conducted a random telephone survey to test Californians' support for the general concept of green transportation taxes and fees. (The survey was not designed to determine the optimal dollar charge or implementation structure for any particular tax and fee option.)

The core of the questionnaire asked respondents to indicate their level of support or opposition to five different transportation taxes or fees that would raise funds for maintaining and improving highways, mass transit, and local streets. Three of these were green options, while two were more traditional flat-rate versions of the green taxes tested. By having both flat-rate and green versions of the two taxes, the survey could identify how support levels might vary between the two options. The five options tested were:

- **Feebate**: Create a new tax and tax-rebate system on all new vehicles, based on how much they pollute. People buying a new vehicle that doesn't pollute much would receive a rebate of up to $1,000, while people purchasing a new vehicle that pollutes a lot would pay a tax up to $2,000. People who buy a vehicle average-emissions vehicles would not pay additional fees or receive a rebate.
- **Flat vehicle registration fee increase**: Increase the state's vehicle registration fee from its then-current rate of $31 per vehicle per year to $62 per year per vehicle.
- **Green vehicle registration fee increase**: Increase the vehicle registration fee to an average of $62 per vehicle per year, but vary the fee according how much the vehicle pollutes. Vehicles that pollute more would pay higher fees, and vehicles that pollute less would pay lower fees.
- **Flat mileage fee**: Eliminate the eighteen-cents-per-gallon state gas tax altogether and replace it with a fee based on the number of miles driven. Each driver would pay a fee of one cent per mile for every mile driven within the state. For example, every one hundred miles driven would incur a fee of one dollar. Vehicles would be equipped with an electronic means to keep track of miles driven and the fee would be paid when drivers buy gas.
- **Green mileage fee**: Create a variation on the mileage fee previously described, where the fee varies depending upon how much the vehicle pollutes. On average, vehicles would pay one cent per mile, but vehicles that pollute the least would pay less, and conversely, vehicles that pollute the most would pay more per mile.

A total of 1,500 California adults were interviewed by phone from January 20 to February 1, 2008.[1] Interviews were conducted in English and Spanish, and they lasted an average of 13 minutes. The telephone numbers used were a computer-generated random sample, assuring that both listed and unlisted phones were included. The overall margin of error for the survey is +/- 2.5% at the 95% confidence level. Results were weighted slightly to correspond to 2000 U.S. Census data for gender and region within the state.

Summary of Key Findings

The survey results show that the concept of green transportation taxes and fees strongly appeals to Californians. The survey tested this in two ways: by testing support for three hypothetical green transportation tax and fee policies, and also by comparing support levels for flat-rate versus green versions of two hypothetical taxes.

Majorities of the respondents supported all three green taxes and fees tested. Even the green mileage fee, the least popular option, had 50% support. In contrast, the green vehicle registration fee and feebate policy both had support levels over 60%.

In addition, the survey found that respondents greatly preferred green transportation taxes and fees to flat-rate versions. For example, when respondents were asked if they would support increasing the vehicle registration fee from $31 to a flat rate of $62 for all vehicles, only 41% supported the increase. In contrast, almost two-thirds of respondents (63%) supported a green version of the fee, raised to an average rate of $62, with a higher rate for more polluting vehicles and lower rates for less polluting vehicles. Comparing the two results shows that converting the fee increase from a flat-rate one to a green version boosts support by 22 percentage points—from less-than-majority support to almost two-thirds support. Respondents also preferred a green mileage fee to a flat-rate version, with 50% support for the former but only 28% support for the latter.

The finding that Californians clearly seem to prefer green tax or fee proposals to flat-rate versions implies that whether or not a specific green transportation tax or fee ultimately proves popular with the public, a green version is much more *likely* to be popular than the traditional approach of flat-rate taxes and fees.

Another key finding from the survey is that support for the green taxes and fees does not vary greatly by population subgroups. The authors categorized the survey respondents into 120 subgroups—by socio-demographic characteristics, attitudes, travel behavior patterns, and so on—and in most subgroups, support for the green registration fee and feebate policy was above 50%.[2] For the green vehicle registration fee, 87% of the subgroups had support levels of 50% or higher, while for the feebate policy, 89% of the subgroups had support levels of 50% or higher. Even the green mileage fee, the least popular of the three green transportation taxes and fees tested, had a support level of at least 50% from half of the subgroups tested.

The analysis comparing support for the green and flat-rate vehicle registration fee and feebate proposals confirms that in every subgroup more people within that subgroup supported the

green than the flat version of the two taxes tested. There was an increase in support of at least 10 percentages points in 188 of the 193 comparisons between respondents' support for a green versus flat-rate transportation fee policy. For 74% of the 193 cases, the increases in support were 20 or more percentage points. Most differences were also statistically significant.

People in a few population subgroups stood out as the least supportive of the green taxes and fees, relative to the other subgroups in that category. Socio-demographic groupings did not prove influential here. Rather, some of the questions about vehicle ownership, attitudes, and knowledge revealed these low levels of support. The characteristics that proved important were as follows:

Vehicle characteristics. People are *less* supportive if they:

- Drive vehicles with a fuel efficiency below 18 miles per gallon (mpg).
- Drive pick-up trucks. (Drivers of SUVs, vans, and minivans were also somewhat less supportive than drivers of passenger cars, but the differences were mostly not statistically significant.)

Opinions and attitudes. People are *less* supportive if they:

- Think that transportation congestion is not much of a problem or no problem for California.
- Think that smog and air pollution are not much of a problem or no problem for California.
- Disagree with the statement that "We must protect the environment even if it means paying higher prices for gasoline and electricity."
- Think that people like themselves will have to make no changes in their lifestyle to solve today's environmental problems.
- Think that the U.S. should meet its growing energy needs by emphasizing gas, oil, and coal supplies, rather than developing wind, hydro, and solar power.
- Prefer to pay lower taxes and have a state government that provides fewer services (instead of paying higher taxes and having a state government that provides more services).

Knowledge. People are *less* supportive if they:

- Think that exhaust from motor vehicles in California is definitely or probably not an important source of the pollution that causes asthma and makes asthma attacks worse.
- Think that motor vehicles are definitely or probably not the single largest source of greenhouse gas emissions in California.

Finally, the survey also found that respondents would be more likely to support the green vehicle registration fee increase if the revenues were dedicated to transportation programs that would reduce smog and greenhouse gases. Sixty-four percent of respondents said they would be more likely to support the fee if the revenues were so used.

Policy Implications for Transportation Professionals and Policymakers

The survey results suggest that the concept of green transportation taxes and fees is a promising avenue of exploration. Support levels will of course vary depending on the specific details of the tax or fee proposed, but the survey results suggest several findings and key avenues for transportation professionals and policymakers to pursue:

1. A majority of California residents may approve at least some versions of green transportation vehicle registration fees or feebate programs to raise new transportation revenues.
2. California should investigate whether converting existing flat-rate transportation taxes and fees to green versions would change behavior to help support the state's efforts to reduce greenhouse gas emissions.
3. To begin building public support for the concept of a mileage fee, present it with a green rate structure.
4. To increase support for green transportation taxes and fees, educate the public about how motor vehicle use contributes to both air pollution and global warming.
5. Public support for green transportation taxes and fees will rise if the revenues are dedicated for programs that promote a healthy environment.

INTRODUCTION

This report explores public opinion on a new and promising concept—green transportation taxes and fees. These are taxes and fees set at variable rates, with higher rates for more polluting vehicles and lower rates for those that pollute less. This approach to transportation taxes and fees adapts the traditional transportation finance system to achieve two critical public benefits at once: encouraging drivers to choose more environmentally-friendly transportation options at the same time as raising revenue for needed transportation programs.

Growing concern with global warming, air pollution, and energy security, combined with national concern over shrinking transportation revenues, make this type of transportation finance system a particularly exciting finance approach to evaluate at present. The combination of declining transportation revenues and growing needs opens a window for change in the transportation finance system, as lawmakers explore different options to raise additional revenues for transportation purposes. While that window remains open, research is needed to show whether or not green transportation taxes and fees are a politically feasible option.

To date, states have rarely used or even seriously evaluated the potential for green transportation taxes and fees, but in the last few years, interest in the concept has appeared at the margins of main-stream policy debates. To test public support for the concept, the authors conducted a random telephone survey of 1,500 Californians, asking them about their support for three green transportation tax and fee options, as well as two fees that were not structured as green ones. The survey results show that the public does indeed support the concept. The time is right for transportation policy makers to follow their constituents and explore how green transportation taxes and fees could best be integrated into the current finance system.

Green Transportation Taxes and Fees–Why Now?

Like many states, for decades California has relied largely on state and federal fuel tax revenues to fund its transportation system, supplemented with local and state sales tax and other general fund revenues. This system no longer functions as well as it has in the past, because lawmakers have been hesitant to raise fuel tax rates in recent decades to keep revenues in pace with estimates of need. Although the gas tax will remain the main source of state transportation revenues for the foreseeable future, lawmakers are interested in finding ways to supplement those revenues. Three converging trends point to green transportation taxes and fees as a promising approach to revising the current system:

- A growing desire to encourage people to choose transportation behaviors and vehicles that will reduce air pollution and greenhouse gas emissions.
- A desire to identify new sources of transportation revenue that are politically acceptable, as well as technically desirable for other reasons.

- Increasing interest and acceptance of using market-based policies, such as tolls, to encourage socially desirable transportation choices.

Reducing the Impact of the Transportation System on the Environment

Worries about air pollution and global warming—not to mention public concern over energy security and rising fuel prices—have created an unprecedented level of public interest in finding ways to improve fuel efficiency, develop non-petroleum-based fuels, and reduce emissions. Much of the attention has focused on new vehicle and fuel technologies. To a more limited extent, there is also growing interest in reducing travel demand by providing residents with alternatives to solo driving, whether that be reliable and convenient transit service, or safe walking and biking facilities. If green transportation taxes and fees were adopted, they could encourage drivers to choose more fuel-efficient and lower polluting vehicles. The finance system could thus be one part of the solution to the air quality and global warming problems.

The state's residents have long been at least somewhat aware of the connection between motor vehicle use and environmental quality because of a long history of poor air quality in most urban areas. Although by some measures air quality has improved markedly over the past decades as vehicle technologies have improved, the even-increasing number of miles driven per year in the state has to some extent counteracted technology-related improvements and kept air quality problems in public view. Further, recent research has revealed new and more serious health risks associated with air pollution, especially fine particulate emissions, making even low levels of pollution worrisome.

In the last decade, the accumulating scientific evidence about global warming trends and the likely impacts on human health, the environment and economy have become matters of widespread public discussion and concern. The resulting publicity has educated Californians about this additional problem linked to motor vehicle use. Al Gore's 2006 film *An Inconvenient Truth*, as well as the 2007 Nobel Peace Prize subsequently granted to Gore and the United Nation's Intergovernmental Panel on Climate Change, brought the global warming threat squarely into public view. Also, in recent years state policy makers have passed a series of widely publicized measures to reduce greenhouse gas emissions, further focusing public interest on climate change and the role played by motor vehicle use.

The Need for New Sources of Transportation Revenue

Now is a critical time to assess whether or not the public would support green taxes and fees for transportation, because states from California to New Hampshire are in the process of revisiting their transportation finance systems. States face a growing challenge to fund their transportation systems as the traditional source of revenue—state and federal gas taxes—has declined substantially in real (inflation-adjusted) terms.

Transportation professionals and elected officials are intensely interested finding new revenues to both maintain and expand their transportation systems, for numerous reasons. Much of the national highway system is reaching an age where major—and expensive—rehabilitation is

needed. At the same time, expected population growth and development in new areas will create demand for new transportation infrastructure and services, whether to accommodate more traffic in existing communities, or to lay out infrastructure in newly developed areas. There is also increasing interest in providing efficient transit service, to offer residents a sound alternative to driving, but in most communities that would require considerable revenue to support both capital projects and operations. A final factor raising costs is that construction costs have risen more rapidly than general inflation in recent years, a trend that may well continue. (The American Association of State Highway and Transportation Officials [AASHTO] predicts a 70% increase in construction costs between 1993 and 2015.[3])

Despite these many reasons that policymakers may wish to increase transportation system expenditures, available revenues are not keeping pace. For decades, state and federal fuel taxes served as the main source of the transportation finance system. However, the buying power from fuel tax receipts is falling far short of local and state spending desires, and this trend will likely continue into the future, for two key reasons. One factor likely to reduce available revenues is that the fuel tax is currently levied as a pennies-per-gallon charge, so inflation quickly begins to eat away at the buying power of the revenues unless the rate is regularly raised. In almost all states and at the federal level, the rate can be raised only through direct action by legislators, and elected officials have shown little enthusiasm for raising fuel tax rates in the last decade.[4] A second factor that makes fuel taxes unlikely to keep pace with future needs is that consumers are expected to shift toward more fuel efficient vehicles or vehicles running on fuels other than gasoline or diesel. Unless significant changes are made to the current fuel tax system, these trends would reduce receipts relative to use of the road system.

The combination of rising expenditure desires and shrinking fuel tax revenues leaves transportation professionals in a quandary. One approach to the problem may be to make expenditures more efficient, yet there is also widespread desire to find additional revenues. In fact, among transportation professionals and the transportation industry itself, there is near-unanimous consensus that additional revenues are required. However, in most cases state legislatures have recently been unwilling to raise fuel tax rates. Consequently, state and local policy makers have explored alternative sources of revenue, including sales taxes, tolling, and development fees. There is also mild interest in replacing fuel taxes with mileage-based fees, though the general consensus among finance experts is that a mileage fee will not be implemented in the short or even, probably, the medium term.[5]

Choosing the right alternative finance mechanisms to pursue is tricky. For example, policy makers look for options that raise sufficient revenues, are inexpensive and simple to administer, and are equitable to different population sub-groups. In addition to these goals, political acceptability is critical. Not only must legislators themselves be willing to support new finance approaches, they must be convinced that the public will support them as well. As another outcome of legislative reluctance to raise fees and taxes that generate transportation revenues, elected officials in California have put many potential revenue measures before the voters as ballot propositions. Thus, if green transportation taxes and fees are to be seriously

considered in the current political climate, knowing how the public perceives them is an essential component of assessing their feasibility. And if they prove popular with the public, then green transportation taxes and fees will be of great interest to transportation professionals and policy makers.

Green Transportation Finance and the Current Trend Toward Market-Based Policies to Improve the Transportation System

A final trend in transportation finance that meshes well with the green transportation finance concept is the modest but growing interest among policy makers in choosing finance mechanisms that provide users incentives to make socially optimal travel choices. One option is to use pricing to encourage drivers to shift trips to off-peak hours as a way to reduce traffic congestion. This option is often referred to as "congestion pricing" or "value pricing." Green transportation taxes and fees use market-based pricing to encourage another socially desirable outcome: travel choices that have a lower impact on the environment, particularly emissions of air pollutants.

In countries outside the U.S., there has been some history of charging higher fees for more polluting or fuel-inefficient vehicles. For example, the Canadian province of Quebec charges higher vehicle registration fees based upon the size of the engine, and Ontario has a "tax for fuel conservation" that applies to new vehicles. A 2007 review of vehicle taxation in European countries identified eight countries that base their vehicle registration fee rate at least in part on some measure of environmental impact, whether fuel economy or emissions.[6]

In England, a few local jurisdictions have begun to charge higher fees for resident parking permits for high-emission vehicles. For example, in Richmond-upon-Thames, high-emission cars pay as much as three times the permit price as low-emission vehicles.[7] Finally, a few cities have considered high-profile congestion fees that vary according to vehicle emissions. In 2007, London officials announced plans to charge vehicles with the highest CO_2 emissions a fee of £25 a day (about $50 U.S.) to enter the city's congestion charging zone, compared to an £8 fee for other vehicles. However, this plan was put on hold in 2008 with the election of a new mayor. In January 2008, the city of Milan, Italy introduced a trial congestion-pricing program whereby vehicles pay a fee to enter the congested area, and the fee varies from €2 to €10, depending on the vehicle's pollution rating. Vehicles with the very lowest emissions rates, such as electric powered cars and scooters, pay no fee at all.[8]

In the U.S., the use of market-based policies to reduce consumption and indirectly address environmental externalities has some history, though much of it relates to products and services outside the transportation sector. For example, fees that vary based upon the magnitude of people's environmental impacts have been implemented to address municipal solid waste generation (for example, pay-by-the-bag collection charges, advanced disposal fees, and so on) and water management (for example, meter rate pricing). The advantage of these market-based policies is that environmental improvements can be achieved at a lower societal cost than with traditional command-and-control approaches. In addition, they are in line with

the "polluter-pays" principle; if fees are set at the appropriate level, individuals pay for the environmental harm they make based on their choices.

There has been considerable research in the United States on market-based pricing to manage traffic congestion and parking shortages, but little research or policy activity has looked at charging different rates for different vehicles or other transportation services specifically to account for varying levels of environmental externalities. Moreover, there are only a few examples of such taxes or fees being adopted in the U.S. The federal "gas guzzler" tax on new cars is one example, though it is paid by the manufacturer and only applies to new cars, not trucks or SUVs. More popular than taxes or fees have been tax *credits* or other financial benefits to purchasers of hybrid vehicles. The federal government has offered tax credits to purchasers of some new hybrid vehicles, and some states have also offered tax credits. A few cities have waived parking fees in city-owned facilities for all-electric vehicles.[9]

Since 2007, the California legislature has shown a few stirrings of interest regarding green transportation finance measures that extend past measures to promote electric-hybrid vehicles. Several different bills have been introduced, though so far none have been passed into law. In February 2007, Assemblymember Ira Ruskin introduced AB 493, a bill to create a feebate system for new car purchases whereby the fees and rebates would be set according to the vehicle's carbon emissions. This bill died a year later. In February 2008, Assemblymember Mike Feuer introduced a bill to allowed the Los Angeles County Transportation Authority to impose a separate vehicle registration fee, with the rate linked to the vehicle's carbon emissions. In the same month, Assemblymember Feuer introduced a separate bill, AB 2388, that would have imposed additional statewide vehicle registration fees, with the fees varying by both the vehicle's weight and carbon emissions.

Overview of the Research Methods

This study was designed to shed light on two broad research questions:

1. How likely are California residents to support green transportation taxes and fees, defined as taxes and fees that set lower rates for more environmentally-friendly vehicles and higher rates for less environmentally-unfriendly ones?
2. What are the socio-demographic, attitudinal, and knowledge factors that influence support for such taxes and fees?

To explore these two questions, the authors conducted a random telephone survey of 1,500 Californians that tested their support for the general concept of green transportation taxes and fees. Neither the study nor the survey was not designed to determine the optimal dollar charge or implementation structure for any particular tax and fee option.

The survey questionnaire was designed after a review of public opinion polls on the topic of transportation finance and also the research literature available on the topics of (1) public opinion about transportation finance, and (2) the factors that tend to correlate with pro-environmental behavior. This literature review generated ideas about what types of fee

mechanisms had not yet been well-tested, how to identify general political views and policy positions likely to predict support for green finance policies, and options for specific ways to word questions.

The core of the questionnaire asked respondents to indicate their level of support or opposition to five different transportation taxes or fees that would raise funds for maintaining and improving highways, mass transit, and local streets. Three of these were green options, while two were more traditional flat-rate versions of the green taxes tested. By having both flat-rate and green versions of the two taxes, the survey could identify how support levels might vary between the two options. The five options tested were:

- **Feebate**: Create a new tax and tax-rebate system on all new vehicles, based on how much they pollute. People buying a new vehicle that doesn't pollute much would receive a rebate of up to $1,000, while people purchasing a new vehicle that pollutes a lot would pay a tax up to $2,000. People who buy an average-emission vehicle would not pay additional fees or receive a rebate.
- **Flat vehicle registration fee increase**: Increase the state's vehicle registration fee from its then-current rate of $31 per vehicle per year to $62 per year per vehicle.
- **Green vehicle registration fee increase**: Increase the vehicle registration fee to an average of $62 per vehicle per year, but vary the fee according to the amount of the vehicle's emissions. Vehicles that pollute more would pay higher fees, and lower emissions vehicles would pay lower fees.
- **Flat mileage fee**: Eliminate the eighteen-cents-per-gallon state gas tax altogether and replace it with a fee based on the number of miles driven. Each driver would pay a fee of one cent per mile for every mile driven within the state. For example, every one hundred miles driven would incur a fee of one dollar. Vehicles would be equipped with an electronic means to keep track of miles driven and the fee would be paid when drivers buy gas.
- **Green mileage fee**: Create a variation on the mileage fee previously described, where the fee varies depending upon how much the vehicle pollutes. On average, vehicles would pay one cent per mile, but vehicles that pollute the least would pay less and vehicles that pollute the most would pay more per mile.

This selection of measures therefore covered three different transactions: (1) When a person purchases a new vehicle; (2) when owners register their vehicle annually; and (3) when drivers purchase fuel. The resulting survey data was analyzed to identify those particular subgroups of the population who were more or less likely to support green transportation tax and fee options.

Overview of Report Contents

The next chapter in this report, "Findings from the Literature," discusses the existing survey data on public opinion about green transportation finance, as well as the broader literature on the factors likely to predict pro-environmental behavior. The chapters titled "Survey Design and Administration," and "Survey Results," describe the survey design and administration, and then the survey results. The final chapter, "Conclusions and Recommendations,"discusses key policy implications that can be taken from the survey results. The report's appendixes present the survey questionnaire and top-line results, as well as a detailed set of tables showing support for the five policies among different socio-demographic, attitudinal, knowledge, and other subgroups of the population.

FINDINGS FROM THE LITERATURE

The research project began with an extensive review of public polling results and literature related to the two project research questions. This chapter is structured around literature relating to each of those questions. For the first research question, "How likely are Californians to support green transportation taxes and fees?" the authors examined the literature on public support for transportation taxes and fees that were in some way described to respondents as having a connection with environmental protection. To better understand the second question, "What are the socio-demographic, attitudinal, and knowledge factors that influence support for such taxes and fees?" the authors looked much more broadly at research investigating the demographic, attitudinal, and knowledge factors correlated with pro-environment behavior in general, especially willingness to pay for "green" products and services.

To identify relevant research and public opinion polls the authors relied on several search strategies. The first was a review of databases and catalogues to identify published, academic literature related to public opinions on transportation finance, as well as public reaction to other "green" policies such as recycling or renewable electricity generation. The bibliographies of these items often proved fruitful sources of additional information. Finally, extensive internet research identified various public opinion polls related to transportation finance that had not been formally published or had appeared in non-academic sources. Cumulatively, these various methods produced well over a hundred reports and studies.

This review was used to map out the existing state of knowledge about public opinions on these topics, as well as to generate ideas for developing the questionnaire used in the public opinion poll later conducted.

TRANSPORTATION FINANCE MEASURES LINKED TO ENVIRONMENTAL OUTCOMES: A REVIEW OF PUBLIC OPINION

There has been a fairly wide range of polling on transportation finance topics in the last decade, though relatively few polls have asked about finance options with some environmental connection. Most common are polls asking respondents how they would respond to specific transportation tax and fee proposals. These polls are most often conducted by interest groups and government agencies that are either creating, or in the process of supporting or opposing, finance measures that have been put before the voters as local or state referendums. Supporters of such referendums often conduct public opinion polls while crafting ballot proposals. Later, once a proposition is on the ballot, further polling is often conducted by supporters, opponents, and the media.

The volume of such polling has increased in the last decades because states and local governments have moved away from relying on traditional sources such as the state and federal gas tax, instead proposing alternative funding sources as voter referendums. In California,

there have been dozens of county-wide transportation sales tax measures, and these have generated the most polling.

However, these election-targeted polls are not the only source of public opinion data on transportation finance topics. From time to time the media includes transportation finance questions in public opinion polls on current issues, and interest groups like the Automobile Clubs of America or environmental advocacy groups sometimes include transportation finance questions when polling their members or the general public. Within California, the Public Policy Institute of California regularly surveys the public on policy issues, and these polls sometimes include at least a question or two related to transportation finance options. Finally, there are also a handful of polls on transportation finance that have been conducted by academic research organizations or nonpartisan research groups. Although these surveys are sometimes undertaken on behalf of a government agency funding the work, the studies are not directly linked to an active political campaign.

Many of the surveys, especially those undertaken as part of crafting or promoting a specific ballot proposal, ask only about a particular transportation tax, such as a sales tax or regional gas tax supplement. However, a few of the surveys, especially those undertaken by researchers or policy research organizations, examine a variety of options.[10]

The type of analysis conducted on the survey results varies considerably, but many of the available surveys often report only basic response frequencies, without looking at support by many population subgroups. The political polls may break out results by geographic region or political party, but often not by many other categories. Some polls, however, especially those by research groups, are more likely to look at a wider range of socio-demographic and other population groups.[11] A few of the polls also look at how support levels correlate with attitudes or knowledge about various policy issues, but this analysis is relatively sparse. Finally, a few of the published studies build regression models to predict support based on a range of variables.[12]

As mentioned above, relatively few of the public opinion polls testing public support for different transportation measures mention to respondents how the finance options might impact environmental quality. However, there are some exceptions. Several polls broadly asked if respondents supported increasing a transportation-related tax in order to help address an environmental problem. A sample of these polls appears in Table 1. In these polls, the tax did not vary based on the pollution level of the vehicle, in contrast to the "green" or environmental taxes addressed in this research. The findings from the polls vary significantly, as does the question wording and framing. Some polls found majority support for increasing gas or vehicle taxes to address global warming, though the most recent national poll the authors found, conducted in April 2007, found only 38% favored increasing the federal gas tax to address global warming.

Table 1 Findings from a sample on flat transportation taxes to improve the environment

Organization/Source	Date of Survey	Location	Findings
ABC News/ *Washington Post*/ Stanford University	2007	U.S.	32% favor increasing gas taxes "so people either drive less, or buy cars that use less gas"
CBS News/*New York Times*	2007	U.S.	38% favor increasing federal gas tax to reduce energy consumption and global warming
Metropolitan Transportation Commission	2007	San Francisco Bay Area	69% would consider a 25 cent per gallon gas tax if it was used to reduce global warming
New York Times	2006	U.S.	55% of adults supported an increase in the gas tax if it reduced dependence on foreign oil, and 59% supported an increase if it reduced global warming. In contrast, 85% opposed an increase if it was presented without any direct outcomes
Fairbank, Maslin, Maullin & Associates	2006	California	58% supported a one cent increase in the gas tax to fund technology to reduce oil dependence and promote alternative fuels.
National Renewable Energy Laboratory	1998	U.S.	70% preferred a 3% tax on new vehicles if the nation determined that it was important to reduce greenhouse gases, compared to 17% preferring 25 cent per gallon gas tax
Pew Research Center for the People & the Press	1997	U.S.	73% of adults were willing to pay 5 cents more per gallon of gasoline "if it would significantly reduce global warming"

Sources: ABC News/*Washington Post*/Stanford University, "Concern Soars About Global Warming As World's Top Environmental Threat," April 20, 2007, http://woods.stanford.edu/docs/surveys/GW_2007_ABC_News_Release.pdf (accessed on July 20, 2008); CBS News/*New York Times,* "Americans' Views on the Environment," April 26, 2007, http://www.cbsnews.com/htdocs/pdf/042607environment.pdf (accessed on July 20, 2008); BW Research Partnership, "Transportation 2035 Survey Results" presented to MTC Planning Committee, November 9, 2007, http://www.mtc.ca.gov/planning/2035_plan/2035_poll_results.ppt (accessed on July 20, 2008; L. Uchitelle, and M. Thee, "Americans are cautiously open to gas tax rise, poll shows," *New York Times,* February 28, 2006, p. 14; Fairbank, Maslin, Maullin & Associates, "California Statewide Survey 220-1985WT Final," February 2006; T. Gurikova, and S. C. Davis, *Transportation Energy Survey Data Book 1.1*, Oak Ridge National Laboratory, ORNL/SUB/02-4000008627/01, May 2002, http://www-cta.ornl.gov/cta/Publications/Reports/ORNL_SUB_02-4000008627_01.pdf (accessed on July 20, 2008); Pew Research Center for the People & the Press, "November 1997 News Interest Index -- Final Topline" (Princeton, New Jersey, 1997), http://people-press.org/reports/print.php3?PageID=490 [accessed on August 22, 2006]; Gurikova, T. and Davis, S. C., *Transportation Energy Survey Data Book 1.1*, Oak Ridge National Laboratory, ORNL/SUB/02-4000008627/01, May 2002, http://www-cta.ornl.gov/cta/Publications/Reports/ORNL_SUB_02-4000008627_01.pdf (accessed on July 20, 2008).

Several polls did ask about taxes or fees that varied based upon the environmental impacts of the vehicle. Table 2 summarizes all of the polls found. Again, findings varied and may be dependent upon the exact question asked. For example, the lowest level of support was from a poll that asked people[13] to choose between four options. In this case, nearly half of respondents supported regulation, while only 11% favored higher taxes on less efficient vehicles. The other polls did not ask respondents to choose between different options and generally had higher levels of support for the taxes and fees in question. The polls with the highest levels of support did not include a specific tax or fee amount.

Table 2 Findings from surveys on variable environmental taxes or fees for transportation

Organization/Source	Date of Survey	Location	Findings
YouGov	2008	London, England	41% supported increasing the congestion charge to £25 for higher polluting cars.
Fairbank, Maslin, Maullin & Associates	2007	Los Angeles County, CA	45% supported a fee of one cent per pound of CO_2 emitted by a vehicle, averaging $22 per year instead of a one-half cent sales tax increase
Mineta Transportation Institute	2006	California	63% of likely voters supported the idea of annual vehicle registration fees that are higher for more polluting vehicles
Fairbank, Maslin, Maullin & Associates	2006	California	62% supported charging a fee on new vehicles that emitted a large amount of global warming pollutants. 60% supported a "feebate" program (rebates for cleanest cars, fees for most polluting cars, ranging from $200 to $2500).
ABC News/*Time Magazine/Washington Post*	2005	United States	54% supported allowing single drivers in hybrid cars to use HOV lanes for free to encourage use of hybrids, compared to 36% supporting single drivers paying a toll to use the HOV lanes
Kockelman, Podgorski, et al.	2003	Texas	73% of Texas residents thought that charging higher tolls for larger, heavier, or higher polluting vehicles was a good idea
Washington State Department of Transportation	2004	Washington	42% of voters expressed support for a tax based on a car's weight
Public Policy Institute of California (PPIC)	2003	California	81% favor tax breaks to encourage the purchase of hybrid and electric vehicles
National Renewable Energy Laboratory	2001	United States	11% supported higher taxes on less efficient vehicles to reduce dependence on imported oil, given four choices. Greatest level of support (48%) for regulation to make vehicles more efficient. 6% supported higher fuel taxes.
Southern California Association of Governments (cited in Krupnick, et al.)	1996	Southern California (five counties)	39% supported a mileage fee ranging from 1-5 cents per mile depending upon the vehicle emissions. Support increased to almost 50% when respondents were told that most revenues would be returned to taxpayers through reduced fees or coupons.
J. Moore Methods (cited in Krupnick, et al.)	1994	Southern California (four counties)	51% supported a fee based upon vehicle's pollution level, with revenues used to help improve air quality

Sources: YouGov, "YouGov/Evening Standard Survey Results, Fieldwork: 20th – 25th March 2008," http://i.thisislondon.co.uk/i/pix/2008/03/mayorsurvey.pdf (accessed on July 20, 2008); Fairbank, Maslin, Maullin & Associates, "Los Angeles County Transportation Ballot Measure Survey 2007"; Asha Weinstein, Jennifer Dill, Todd Goldman, John Hall, Franziska Holtzman, Joe Recker, and Eileen Goodwin, *Transportation Financing Opportunities for the State of California* (San Jose, CA: Mineta Transportation Institute, College of Business, San Jose State University, October 2006), http://transweb.sjsu.edu/mtiportal/research/publications/documents/06-01/TransportFinanceOpps5_020107.pdf (accessed on July 5, 2008); Fairbank, Maslin, Maullin & Associates, "California Statewide Survey 220-1985WT Final," February 2006; ABC News/*Time Magazine*/*Washington Post,* "A Look Under the Hood of a Nation on Wheels: ABC News/*Time Magazine*/*Washington Post Poll*" (2005), http://abcnews.go.com/images/Politics/973a2Traffic.pdf (accessed on August 22, 2006); K.M. Kockelman, K.V. Podgorski, M. Bina, and S. Gadda, "Public Perceptions of Pricing Existing Roads and Other Transportation Policies: The Texas Perspective," paper presented at the 85th Annual Meeting of the Transportation Research Board, Washington DC, January 2006; Washington State Department of Transportation, "2004 Focus Group Results" (2004), http://www.wsdot.wa.gov/Accountability/PublicOpinion (accessed on August 22, 2006); Mark Baldassare, "PPIC Statewide Survey: Special Survey on Californians and the Environment" (San Francisco: Public Policy Institute of California, July 2003), http://www.ppic.org/content/pubs/survey/S_703MBS.pdf (accessed on July 20, 2008); T. Gurikova, and S.C. Davis, *Transportation Energy Survey Data Book 1.1*, ORNL/SUB/02-4000008627/01, (Oak Ridge National Laboratory, May 2002), http://www-cta.ornl.gov/cta/Publications/Reports/ORNL_SUB_02-4000008627_01.pdf (accessed on July 20, 2008); Alan Krupnick, Winston Harrington, and Anna Alberini, "Public Support for Pollution Fee Policies for Motor Vehicles with Revenue Recycling: Survey Results," *Regional Science and Urban Economics* 31, no. 4 (2001), 505-22; J. Moore Methods, Inc. *Southern California Congestion Pricing Study*, various survey versions, 1994, as cited in Krupnick, Harrington, and Alberini, ibid.

FACTORS CORRELATED WITH PRO-ENVIRONMENT BEHAVIOR

Studies from the applied behavior and environmental psychology literatures that focus on pro-environmental behavior (PEB) were influential for our research. Several theories have been proposed to explain the relationship between individual attitudes and values and PEB, including Ajzen's Theory of Planned Behavior, Schwartz's Norm-Activation Model, and Dunlap and Van Liere's New Environmental/Ecological Paradigm.[14] These theories all stress that individual environmental attitudes can help predict PEB to some extent.

Very few of the polls listed in Table 1 and Table 2 provided analyses that explain support for environmental taxes or fees in terms of respondent characteristics. In the handful of exceptions, more emphasis was placed on demographics than the environmental attitudes or values emphasized in the theories explaining PEB. The exceptions include Krupnick et al.'s study of a mileage fee in Southern California that varied with emissions,[15] Dill and Weinstein's analysis of a variable registration fee in California,[16] and the poll of Londoners regarding the higher congestion pricing for more polluting vehicles.[17] The first two studies used multivariate analysis to examine the relationships. All three studies found that support for green transportation fees declined with the respondent's age. The studies were not consistent with respect to findings on gender, however, with one finding more support among women, one more support among men, and one finding no difference. As for ethnicity, findings from Krupnick, et al. and Dill and Weinstein suggest that Asians and Hispanics may be particularly supportive of green transportation fees. Contrary to their hypothesis, Krupnick et

al found higher support among people with less education. Dill and Weinstein found that lower-income adults were more likely than other income groups to oppose a flat-rate registration fee increase but support a green version of the fee increase.

None of these studies examined how knowledge of environmental issues influenced opinions. However, all three did look at political affiliation and/or attitudes in some manner. Not surprising, all three studies found lower levels of support among conservatives or Republicans. Krupnick et al. found that support was positively correlated with how much air pollution affected the respondent and whether respondents felt drivers (in general) would change their behavior in response to the fee.[18] Dill and Weinstein found that people who were transit users and people who wanted to focus transportation spending on transit were particularly supportive of the green fee option, even after controlling for income. The findings from these two studies may indirectly reflect environmental values that were not specifically asked about in the survey. In addition, Dill and Weinstein found that people who thought taxes were too high opposed raising registration fees, but that their level of opposition diminished with the green option compared to a flat fee increase.[19]

Given the lack of literature examining factors related to PEB and support for green transportation taxes and fees, it is useful to look to other transportation and consumer behaviors. For decades, travel behavior research has examined the role of demographics, particularly income, on mode choice, including those modes which could be labeled PEB (for example, transit, bicycling, and walking). More recently, several travel behavior studies have found that attitudes are significantly correlated with the amount of driving or walking.[20] Kitamura et al. found that people with pro-environment attitudes made a significantly smaller share of their trips by car.[21] In a study of Australian college students, individual values and beliefs about the environmental impact of motor vehicles were strong predictors of a travel mode shift to public transit.[22] Similarly, Coogan, Karash, Adler, and Sallis found a significant relationship between personal values and walking as a primary transportation mode choice.[23]

Very few studies look at both knowledge and attitudes. One that does is a survey of Sacramento, CA, area residents by Flamm, who examined the relationship between both environmental knowledge and attitudes and travel and vehicle decisions.[24] His key findings were as follows:

> 1) environmental knowledge is directly related to household ownership of more fuel efficient vehicles and inversely related to estimated annual household fuel consumption, 2) environmental attitudes are directly related to household ownership of more fuel efficient vehicles and inversely related to number of household vehicles, estimated annual household miles driven, and estimated annual household fuel consumption, 3) vehicle ownership and use affect environmental attitudes to a small degree (though much less than attitudes affect vehicle ownership and use), but do not affect environmental knowledge at all, 4) environmental knowledge and environmental attitudes are

> strongly related, and 5) people perceive barriers to making their vehicle ownership and use more closely reflect their attitudes and knowledge and can identify ways in which car manufacturers and elected officials might facilitate more environmentally responsible vehicle ownership and use decisions.[25]

A growing number of studies apply the "Theory of Planned Behavior" to travel decisions, particularly to driving and decisions to reduce car use. A meta-review of 23 studies found that attitudes toward car use had a moderate effect on driving, and that attitudes toward non-car modes (for example, transit, walking, or bicycling) often had a larger effect. Findings regarding the effect of "subjective norms," or the respondents' perception of social approval for the behavior, were less conclusive.[26] The authors concluded there was only weak evidence to show a link between four pro-environment variables and driving.[27] However, two of the studies examined found that the extent to which drivers felt responsible for the environmental effects of car use had a small to medium effect on behavior. A more recent study applying the Theory of Planned Behavior to transportation mode decisions classified individuals into six distinct groups: four car-owning and two non-car-owning.[28] For one group of non-car owners, environmental values were the primary reason for choosing alternate travel modes. Even among one group of car owners, the "Aspiring Environmentalists," environmental attitudes were key reasons why they had significantly reduced their vehicle use.

Several studies have explored the reasons why people choose to drive "green" vehicles, such as hybrids or clean-fuel vehicles.[29] Across most of these studies, a key barrier preventing consumers from adopting "green" vehicles related to vehicle performance (actual or perceived). According to Ewing and Sarigollu, even though consumers may hold strong pro-environmental attitudes, they were unwilling to make the trade-off between environmental benefits and poorer vehicle performance (for example, in terms of range, acceleration, or refueling time for electric vehicles).[30] Kahn proxies for environmental attitudes using affiliation with the Green Party in California, and finds that communities with a larger percentage of registered Greens are more likely to purchase hybrid vehicles.[31] The role of socio-demographic characteristics as predictors of demand for clean vehicles among residents of Hamilton, Ontario, was also explored by Potoglou and Kanaraglou.[32] The authors found that women, higher income individuals, younger adults, and those with higher education levels were more likely to choose environmentally-friendly vehicles.

Of particular interest to our research are studies exploring consumer willingness to pay for "green" products. Willingness to pay for green products of many types has been widely studied, although not often with regard to transportation. The underlying premise behind this research is that consumers make certain trade-offs among product attributes, including cost and environmental quality. Although there is limited empirical evidence that specifically examines individuals' support for green transportation taxes and fees, there is significant evidence to suggest that consumers' willingness to pay for one green product is likely to reflect a preference for other environmentally-friendly behaviors.[33] Thus, it is reasonable to expect

that the factors influencing willingness to pay for environmentally-friendly products such as green electricity or organic foods would be similar to the factors linked with support for green transportation taxes. Laroche, Bergeron, and Barbaro-Forleo conducted an extensive literature review and identified five major factors that influence willingness to pay for green products: socio-demographic characteristics, environmental knowledge, environmental attitudes, individual values, and environmental behaviors. [34]

Numerous studies have attempted to develop a typical green consumer profile, yet often these profiles conflict.[35] In general, significant demographic predictors include age, education, income, and gender. For example, several studies find that older adults are less likely to support higher prices for green products.[36] Some studies also find that education levels are positively correlated with willingness to pay for green products. This relationship is noted across a diverse range of products including green electricity programs,[37] organic and locally produced food,[38] environmentally friendly cars,[39] and certified forest products.[40] Similarly, income also tends to be positively correlated with willingness to pay.[41] Finally, gender is often found to influence willingness to pay, with women more likely to pay higher prices than men, particularly where there is a strong perception of the connection between the "green" product and health, such as with organic food.[42]

Although the majority of studies focus on demographic characteristics, these are often not the most important predictors of willingness to pay. Factors such as environmental attitudes, individual values, and knowledge about environmental issues are frequently more important predictors.[43] For example, one study found that participation in green electricity programs in Japan was strongly influenced by environmental knowledge and, although financial considerations are the driving factors, knowledge was found to be a factor for willingness to pay for a (green) fuel cell taxi in London.[44] Interestingly, altruistic reasons were shown to outweigh financial considerations in a study of corporate participation in green energy programs.[45] Similarly, research has found that consumer preferences for organic food are strongly influenced by attitudes toward the environment and personal values.[46]

It may be that few studies include attitudes and knowledge because gathering such data is more complex and adds to survey costs. However, it is likely that many of the correlations found between demographics and behavior are actually detecting a correlation between demographics and attitudes, which then influence behavior. Sorting out the relative influence of knowledge, attitudes, and demographics in determining behavior or support for green transportation finance options has important policy implications. For example, if knowledge and attitudes are the most important factors, then there may be a role for public education campaigns as part of a strategy to build public support for green transportation taxes and fees.

SURVEY DESIGN AND ADMINISTRATION

The survey was designed primarily to explore Californians' support for the concept of green transportation taxes and fees, where the rate varies according to the environmental performance of the vehicles. The survey was not designed to assess support of any particular tax and fee option that has been proposed by policy makers or interest groups. The objective was to test whether Californians support the *general* concept of green taxes and fees, though specific dollar amounts were included to make the decision more realistic for respondents. A secondary goal was to identify subgroups within the population who might be more or less likely to support the concept.

This chapter discusses the design of the questionnaire and the survey data collection procedures.

Questionnaire Design

The survey questionnaire was designed after the review of public opinion polls on the topic of transportation finance, which was discussed in the previous chapter. These polls were used to generate ideas about what types of fee mechanisms had not yet been well tested, how to identify general political views and policy positions on issues related to green transportation finance, and options for specific ways to word questions.[47]

The core of the questionnaire asked respondents to indicate their level of support or opposition for five different types of transportation tax and fee options to raise funds for maintaining and improving highways, mass transit, and local streets. Three of these were green options, while two were more traditional flat-rate versions of the green taxes tested. By having both flat-rate and green versions of the two taxes, the survey could identify how support levels might vary between the two options. For each option, respondents were asked if they would "strongly support, somewhat support, somewhat oppose, or strongly oppose" that idea. The five options tested were:

- **Feebate**: Create a new tax and tax rebate system on all new vehicles based on how much they pollute. People who buy a new vehicle that doesn't pollute much would receive a rebate of up to $1,000. People who buy a new vehicle that pollutes a lot, such as a very large SUV, would pay a tax up to $2,000. People who buy a vehicle that pollutes about the average would not pay or receive anything.
- **Flat vehicle registration fee increase**: Increase the state's vehicle registration fee from its then-current rate of $31 per vehicle per year to $62 per year per vehicle.
- **Green vehicle registration fee increase**: Increase the vehicle registration fee to an average of $62 per year, but vary the fee according to the amount of the vehicle's emissions. Vehicles that pollute more would pay higher fees, and those that pollute less would pay lower fees.

- **Flat mileage fee**: Eliminate the eighteen-cents-per-gallon state gas tax altogether and replace it with a fee based on the number of miles driven. Each driver would pay a fee of one cent per mile for every mile driven within the state. For example, every one hundred miles driven would pay a fee of one dollar. Vehicles would be equipped with an electronic means to keep track of miles driven and the fee would be paid when drivers buy gas.
- **Green mileage fee**: Create a variation on the mileage fee previously described, where the fee varies depending upon how much the vehicle pollutes. On average, vehicles would pay one cent per mile, but vehicles that pollute the least would pay less and vehicles that pollute the most would pay more per mile.

One additional question in this section of the survey probed whether or not respondents would be more likely to support a green transportation fee if they knew the revenues would be dedicated to programs promoting environmentally friendly transportation. Specifically, the survey asked if they would be more or less likely to support the vehicle registration fee increase if the additional money raised "were dedicated for transportation projects that would help reduce smog and greenhouse gases—projects like converting transit and school buses to cleaner fuels, or building new biking and walking paths."

A second goal of the project was to identify the population subgroups particularly likely to either support or oppose green transportation taxes and fees. From the phone numbers, the authors were able to link the respondents to their region within the state. In addition, the questionnaire asked respondents question about:

- **Socio-demographic characteristics,** such as age, gender, employment status, household income, and voter registration status.
- **Basic travel behavior patterns**, including how many miles per year they drive, and whether they had walked, biked, or taken transit in the past week.
- **Opinions** about the importance of key policy issues in California related to the transportation system and environmental issues.
- **Knowledge** about transportation finance and the interaction between vehicle use and the environment.

The full text of the questionnaire is available in Appendix A.

Survey Implementation

A total of 1,500 California adults were interviewed by phone from January 20 to February 1, 2008.[48] Interviews were conducted in English and Spanish, and they lasted an average of 13 minutes.

The telephone numbers used were a computer-generated random sample, assuring that both listed and unlisted phones were included. However, cell phone numbers were not purposely included. This could result in the underrepresentation of younger adults in the sample, as they are more likely not to have a land-line phone. Each number was called back up to six times to

increase the likelihood of completing interviews with eligible households. To counter the tendency of women and older people to answer the household telephone, a systematic screening method was used at the household level; surveyors asked to speak to the youngest male available, and then, if no male were available, to the youngest female in the household who was at least eighteen years old.

The overall margin of error for the survey is ± 2.5% at the 95% confidence level. Results were weighted slightly to correspond to 2000 U.S. Census data for gender and region within the state.

SURVEY RESULTS

SURVEY RESPONDENTS

To assess how well the survey respondents represent the California population, the authors compared the sample's demographic characteristics to those for the state's population, using data from the 2006 American Community Survey (ACS) and the U.S. Census population estimates for California counties (see Table 3).[49] In general, this study's sample population is quite similar to the overall California population, although there are some minor differences. Therefore the authors are confident that the survey results provide useful insight into the attitudes and opinions of Californians.

Women represented 55% of the survey's respondents, compared to 50% of California adults. In addition, a higher percentage of the survey respondents were older adults than in the full population; 43% of respondents were over 55 years old, compared to just 27% from the 2006 ACS. Only 38% of the survey sample were between the ages of 25 to 54 years old, compared to 59% in the overall population. These results are not unexpected, as older adults may have more time to participate in a phone survey than do working-age adults, and they are also less likely than younger adults to own a cell phone but no land line. Respondents were also more likely to own their home (71% compared to 60% from the 2006 ACS) and have more formal education. Seventy-nine percent of the survey respondents had more than a high school degree, compared to only 57% of California adults aged 25 or older. Other demographic categories, including employment and income, as well as the geographic location of the respondents, showed very little difference between the study's sample and the state's population.

Table 4 presents a summary of information about the survey respondents' travel behavior and also some information they reported about the vehicle they drive the most often. Like most Californians, the respondents relied on their cars for much of their travel. For example, 76% drive alone to work, and 41% drive over 7,500 miles a year. Respondents were asked to describe the vehicle that they drive most often, and the majority described their vehicle as a passenger car (62%). Sixty-one percent drive vehicles that are from the 2000 model year or newer, and 43% drive vehicles with a reported fuel efficiency of 23 miles per gallon or better. As for use of alternative modes of travel, 14% of respondents said they commute to work either by transit, carpooling, biking, or walking, 34% said they had walked or biked from home in the past 7 days for some utilitarian purpose, and only 13% had taken transit in the past 7 days.

Table 3 Socio-demographic characteristics of survey respondents and of all Californians

Socio-Demographic Category	Percent of Survey Respondents[a]	Percent of Californians (U.S. Census Data)
North/South [b]		
North	43	39
South	57	61
Region[b]		
Bay Area	22	19
Los Angeles	27	27
Other Southern Calif.	24	28
Central Valley	18	17
Central Coast	5	6
Rural CA	4	2
Gender[b]		
Male	45	50
Female	55	50
Age		
18-24 years	19	14
25-54 years	38	59
55+ years	43	27
Own/rent residence		
Own	71	60 [c]
Rent	29	39
Education level		
High school or less	21	43 [d]
More than high school	79	57 [d]
Employed		
Yes–full time	50	60 [e]
Yes–part time	12	
No	38	40
Household income		
Less than $50,000	38	44
$50,000–$100,000	34	31
Likely Voter?		
Yes	73	n.a.
No	27	n.a.
Political affiliation		
Democrat	47	n.a.
Republican	33	n.a.
Other	17	n.a.
Don't know	3	n.a.

Sources: U.S. Bureau of the Census, "Selected Social Characteristics in California: 2006," results from the *2006 American Community Survey*, http://factfinder.census.gov (accessed March 3, 2009); U.S. Bureau of the Census, *Annual Estimates for the Population for Counties of California: April 1, 2000-July 1, 2007* (CO-EST2007-01-06), http://census.gov/popest/counties/tables/CO-EST2007-01-06.xls (accessed March 3, 2009).

a. Percentages may not total to 100% due to rounding.
b. Survey data for geographic location and gender are unweighted. Subsequent data analyses weight these categories to correspond to the state's population.
c. ACS data is for the entire population, not restricted to adults only.
d. ACS data is based on adults 25 years and older.
e. ACS data does not delineate between full and part-time employment, and data is for persons aged 16 years and older.

Table 4 Travel behavior information and data about the vehicle respondents drive most often

Travel Behavior and Vehicle Questions	Percent of Respondents
"How do you usually commute to work?" [a](Question D8)	
Drive yourself	76
Transit, carpool, bike, walk	14
NA–work at home	10
"In the past seven days, have you taken any form of public transit, like a bus, light rail, subway, or commuter train?" (Question 9)	
Yes	13
No	87
Don't know	<1
"In the past seven days, have you walked or biked from your home to get to work, shopping, eating out, or other errands?" (Question 10)	
Yes	34
No	66
Don't know	<1
"About how many miles did you, personally, drive during the past 12 months in all motorized vehicles? Please exclude miles you drove as part of a job." (Question 11)	
1–3,000	26
3,001–7,500	21
7,501–12,500	22
12,501+	19
NA–don't drive	6
Don't know	7
"What is the model year of this vehicle?" (Question 13)	
2004–2008	32
2000–2003	29
1951–1999	36
Don't drive	2
Don't know	2
"What type of vehicle is it? Is this vehicle a . . ." (Question 14)	
Passenger car	62
Van or minivan	8
Sport utility vehicle	16
Pickup truck/truck	13
Other	1
"What is the approximate fuel efficiency of this vehicle? In other words, how many miles per gallon does the vehicle get?" (Question 16)	
28–75 MPG	23
23–27 MPG	20
18–22 MPG	28
13–17 MPG	12
<13 MPG	4
Don't know	14

Note: The percentages within each category may not sum to 100%, due to rounding.

a. Asked only of respondents who worked.

SUPPORT FOR THE GREEN TRANSPORTATION TAXES AND FEES

Table 5 presents statewide support levels for the five transportation tax and fee options tested in the survey. The green options proved popular, with majorities of the respondents supporting all three green taxes and fees tested. For example, 66% percent of respondents supported the feebate proposal, and only 30 percent opposed it.

The green taxes were also much more popular than the flat-rate taxes. In the two cases respondents were asked their support for both a flat-rate and green version of the same tax, respondents were twenty or more percentage points likely to prefer the green versions. For example, the survey found that almost two-thirds of respondents (63%) supported a green version of raising the vehicle registration fee, but when respondents were asked if they would support increasing the vehicle registration fee from $31 to a flat rate of $62 for everyone, only 41% supported the increase. Comparing the two results shows that converting the fee increase from a flat-rate one to a green version boosts support by 22 percentage points, or from less-than-majority support to almost two-thirds support.

Californians once again showed their preference for green transportation tax options when asked about two versions of a hypothetical mileage fee that would replace the state gas tax of 18 cents. Respondents were told that the gas tax would be replaced with a fee of one cent for every mile driven within the state. Vehicles would be equipped with an electronic means to track the miles driven, and the mileage fee would be paid when the driver bought gas. Only 28% of respondents favored this system when the fee was a flat rate for everyone, but support jumped to 50% when respondents were asked if they would support a green version of the mileage fee. In this green fee system, the fee rate would vary according to how much the vehicle pollutes, with less-polluting vehicles paying less per mile and more-polluting vehicles paying more per mile. The lower levels of support for both of these options may be due, in part, to respondents' concerns over privacy, stemming from the need to "track" vehicle miles driven.

An additional question in the survey asked respondents if they would be more or less likely to support the green vehicle registration fee increase if the revenues were dedicated to transportation programs that would reduce smog and greenhouse gases. Sixty-four percent of respondents said they would be more likely to support the fee, 20% said they would be less likely, and 10% said it would make no difference to them.

Table 5 Statewide support levels for the five transportation tax and fee options

	Support			Oppose			Don't	
Tax or Fee	Strongly	Somewhat	Overall[a]	Strongly	Somewhat	Overall[a]	Know	*n*
Vehicle registration fee increase								
Flat	18	23	41	39	16	55	5	1494
Green	37	27	63	24	9	33	4	1493
Mileage fee (to replace state gas tax)								
Flat	12	16	28	52	12	65	7	1496
Green	25	25	50	35	11	46	5	1491
Feebate system	38	27	65	20	10	30	4	1489

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

a. Sum of those who said they "strongly" or "somewhat" supported the proposal.

Support By Socio-Demographics, Travel Behavior, and Vehicle Choices

A main goal of the research project was to identify subgroups within the state population who are particularly likely to support or oppose green transportation taxes and fees. This section presents a series of tables showing the percent of people who said they supported each green tax or fee measure, or who said they didn't know, broken down by different groups within the population. "Support" was defined as those who said they strongly or somewhat supported the measure. The report includes tables showing support for the three green transportation tax and fee policies based on respondents' socio-demographic characteristics (Table 6), travel behavior (Table 7), vehicle ownership (Table 8), opinions on air pollution, traffic congestion, and transportation system quality (Table 10), opinions on the adequacy of transportation revenues and principles of structuring vehicle registration fees (Table 12), knowledge of transportation and environmental issues (Table 14), and opinions on environmental policy topics (Table 16).

Each table breaks the survey respondents into sub-groups (as an example, household income categories) and shows the percentage of respondents in each sub-group who support each of the three green policies, as well as the percentage indicating they did not know if they supported or opposed the policy. The authors used a statistical test, the "test of two proportions" explained below, to determine whether there was a statistically significant difference in support between some of the sub-groups. In all cases, the authors assigned the first sub-group listed in its section of the table (for example, households earning less than $50,000 annually) as the "base" case. This base case was then compared the proportion of respondents in this sub-group who supported the green policies to the rest of the sub-groups within that category. Values identified with an * or ** indicate that the difference in support between the "base" case and that sub-group is significant at the $\alpha \leq 0.05$ and $\alpha \leq 0.01$ levels of significance, respectively. For some cases, the number of respondents in a sub-group who supported the policies was too small to run the significance test; these cases are presented with grey text.

The statistical test used in these analyses, the test of two proportions, assesses whether the differences among sub-groups are statistically significant. This statistical test compares two proportions (or percentages) from two different samples to determine whether the difference

between the proportions is statistically significant or not. For example, this test allowed the authors to assess whether the percentage of respondents from Northern California who support the green vehicle registration fee is statistically different from the percentage of Southern California respondents who support the same policy. The test statistic, in the form of a z-score, is calculated as follows:

$$z = \frac{\pi_1 - \pi_2}{\sqrt{p(1-p)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

where π_1 and π_2 are the proportions for each sample, p is the average proportion for the two samples weighted by sample size, and n_1 and n_2 represent the individual sample sizes. The null hypothesis is that there is no statistically significant difference between the two proportions, and the authors used a two-tailed test with both an $\alpha \leq 0.01$ level and an $\alpha \leq 0.05$ level of significance to assess whether the results are statistically significant or not.

The first of this series of tables, Table 6, looks at support levels broken down by region within the state and basic socio-demographic categories of gender, age, homeowner status, education, employment status, household income, political party affiliation, as well as whether or not the respondent is a likely voter. Likely voters were identified as those respondents who are currently registered to vote, who know which political party they are registered in, and indicate that they vote occasionally or more often.

One noteworthy finding is that in only a handful of cases did any group have less than majority support for any of the three green tax and fee proposals. Also, there were surprisingly few statistically significant differences among the groups, comparing the responses within each category (for example, income) to the "base" case used for the test, as described above. For example, there was no significant difference in support for any of the three taxes or fees based on whether respondents were likely voters or not, household income, employment status, homeowner status, or whether respondents lived in the north or south of California.

However, a few differences did show up. For example, Republicans were from 15 to 19 percentage points less likely to support the three green transportation tax and fee policies than were Democrats. This result was expected, as prior research suggests that political ideology is an important indicator of environmental concern. Conservatives are, in general, less likely to express concern for the environment or to engage in pro-environmental behavior.[50]

Table 6 Support for the green fee policies, by socio-demographic categories and region

Demographic Category	Green Vehicle Registration Fee		Green Mileage Fee		Feebate	
	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)
All respondents	63	4	50	5	66	4
North/South						
North	67	4	50	4	69	4
South	61	4	50	5	64	5
Region						
Bay Area	70	4	53	4	72	2
Los Angeles	65	4	51	5	66*	6
Other Southern Calif.	59*	4	50	4	62	4
Central Valley	60*	6	47	6	65	7
Central Coast	61	6	46	1	62	5
Rural CA	*64*	*3*	*45*	*3*	*62*	*3*
Gender						
Male	60	3	45	4	64	3
Female	66	5	55**	5	67	5
Age						
18–24 years	70	3	57	3	66	4
25–54 years	66	4	49	4	68	3
55+ years	61*	4	50	4	65	6
Own/rent residence						
Own	62	4	49	4	66	3
Rent	68	5	53	6	64	7
Education level						
High school or less	60	6	52	6	55	9
More than high school	65	4	50	4	69**	3
Employed						
Yes–full time	65	3	49	3	68	2
Yes–part time	66	4	50	7	67	3
No	61	6	52	6	64	7
Household income						
Less than $50,000	64	6	54	5	65	7
$50,000– $100,000	64	2	52	3	70	2
Over $100,000	66	2	46	3	68	3
Likely voter?						
Yes	65	3	50	4	67	4
No	59	7	51	6	61	7
Political affiliation						
Democrat	73	4	57	4	75	4
Republican	54*	3	42**	4	58**	3
Other	64*	2	44*	3	61**	4
Don't know	*46*	19	*36*	19	*68*	11

* $p \leq 0.05$
** $p \leq 0.01$

Notes: The test of two proportions was used to check if there was a statistically significant difference between "support" levels among sub-groups. (No test was run on the "don't know" proportions). The first sub-group listed in each category is the "base" case for the test; it is compared to the proportion of respondents who supported the green policies in each of the other sub-groups within that category. For the"support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

Breaking down residents into geographic regions revealed that Bay Area respondents were the most likely to support all three green taxes and fees, although in every region and for every tax there was at least majority support, with only three exceptions. (The three exceptions were support by Central Valley, Central Coast, and rural California residents for the green mileage fee.) The difference in the percent of supporters between the Bay Area and the other regions was not especially large, varying from just two percentage points in one case up to 11 percentage points. In only a few cases were the differences statistically significant. The difference was statistically significant for the registration fee when comparing support levels in the Bay Area to Southern California outside Los Angeles and to Central Valley residents. Bay Area respondents were also statistically significantly more likely to support the feebate than Los Angeles residents. The differences in support by region may reflect political differences among the regions, as the Bay Area has a considerably higher proportion of Democrats than do other regions of the state.

Women were moderately more likely to support all three policies, although the difference was only significant for the mileage fee proposal. Fifty-five percent of women favored this, compared to 45% of men. This result is also in line with previous findings that indicate women are more willing to pay more for green products than men and are thus likely to be more supportive of a green transportation fee.[51]

Age played a similarly modest role, somewhat contrary to expectations. A priori, the authors expected younger respondents to be generally more supportive of the green policy options as the literature review revealed a tendency for older adults to be less supportive of "green" products, but this was true only to a small extent.[52] The oldest group, those 55 years or older, were indeed the least likely to support two of the proposals, but the difference between the oldest and youngest group was only significant for the green registration fee proposal (70% support for the youngest group and 61% for the oldest group). There were no real differences in level of support by age for the feebate proposal.

As for education, only one significant difference was revealed between those who had attended college compared to those who had not: those who had formal schooling beyond high school were 14 percentage points more likely to support the feebate proposal. The weak link between education and support for the green taxes was surprising, since prior research looking at the characteristics of "green" consumers finds education to be a strong and consistent indicator of pro-environmental behavior.[53]

As with socio-demographic factors, there were surprisingly few significant differences in support levels when respondents were sorted into groups based on key travel behavior factors such as their usual commute mode, how many miles they drove in the last twelve months, whether they have cut back their driving in response to higher fuel prices, and whether or not they have taken transit or biked or walked in the past seven days (see Table 7). Also, support levels were at 50% or above for almost every sub-group and every tax and fee proposal.

Table 7 Support for the green fee policies, by travel behavior

	Green Registration Fee Increase		Green Mileage Fee		Feebate	
Travel Behavior Categories	**Support (%)**	**Don't Know (%)**	**Support (%)**	**Don't Know (%)**	**Support (%)**	**Don't Know (%)**
All respondents	63	4	50	5	66	4
"How do you usually commute to work?" (Question D8)						
Drive yourself	64	3	48	3	67	2
Use transit, carpool, bicycle or walk	73	5	55	7	69	5
NA–work at home	63	0	50	3	70	1
"In the past seven days, have you taken any form of public transit, like a bus, light rail, subway, or commuter train?" (Question 9)						
Yes	75	4	55	8	71	6
No	62**	4	50	4	65	4
Don't know	*33*	0	*0*	33	*33*	0
"In the past seven days, have you walked or biked from your home to get to work, shopping, eating out, or other errands?" (Question 10)						
Yes	69	5	54	6	70	6
No	60**	4	48	4	63*	4
Don't know	*100*	0	*100*	0	*100*	0
"About how many miles did you, personally, drive during the past 12 months in all motorized vehicles? Please exclude miles you drove as part of a job." (Question 11)						
1–3,000	66	4	52	5	66	4
3,001–7,500	63	3	49	3	64	4
7,501–12,500	65	3	48	3	68	2
12,501+	60	3	46	3	68	3
NA–don't drive	61	13	59	10	53	18
Don't know	63	6	53	9	63	8
"As a result of the recent rise in gasoline prices, how much, if any, have you cut back on your driving? Have you cut back a lot, a little or not at all?" (Question 12)						
Cut back a lot	62	5	55	2	66	5
Cut back a little	69	4	51	6	71	3
Not at all	59	3	44*	3	63	3
NA–don't drive	*75*	4	*50*	16	*67*	4
Don't know	*100*	0	*67*	33	*100*	0

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to check if there was a statistically significant difference between "support" levels among sub-groups. (No test was run on the "don't know" proportions). The first sub-group listed in each category is the "base" case for the test; it is compared to the proportion of respondents who supported the green policies in each of the other sub-groups within that category. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

However, there were a few significant differences based on whether respondents had used transit or walked or biked, and how much they had cut back on driving in response to the recent rise in fuel prices. Thirteen percentage points fewer of the respondents who had not taken transit in the past seven days supported the green registration fee increase (62% versus 75%), though there was no significant difference in their support levels for the other two

green fees. Also, the group of respondents who had not walked or biked from home to get somewhere in the past seven days were nine percentage points less likely to support the vehicle registration fee increase and seven percentage points less likely to support the feebate system, though their support for the mileage fee was not significantly different. Finally, only 44% of respondents who said that they had not cut back their driving in response to higher gasoline prices were likely to support the green mileage fee, 11 percentage points less than the group who had cut back their driving a lot.

The survey asked respondents some questions about the vehicle they "drive the most." More striking differences among subgroups showed up here than in the preceding tables. As shown in Table 8, vehicle model year had no significant impact on whether respondents said they would support any of the three green fee policies. However, vehicle type had some impact. Respondents who said they drove pickup trucks or trucks were less likely than drivers of passenger cars to support both the green vehicle registration fee and the feebate system. The percentage of drivers of vans and SUVs who supported the green taxes and feed varied, ranging from two percentage points more supportive than passenger car drivers to 10 percentage points less supportive than passenger car drivers, although none of these differences were statistically significant.

Vehicle fuel efficiency also had an impact on support levels. In general, support levels drop as fuel efficiency gets lower, varying by as much as 17 percentage points compared to the other sub-groups for which there were enough respondents to run the significance test. The respondents with the least fuel efficient vehicles were even less likely to support the green fee policies, though there were too few of them to test if the difference is statistically significant. Finally, drivers who said that gas mileage was a "not very" or "not at all important" factor when they purchased or leased the vehicle were less likely to support all three policies than those drivers who said gas mileage was a somewhat or very important factor. Here the differences ranged from 11 to 19 percentage points (and were statistically significant).

Support By Opinions and Knowledge About Policy Issues in California

The survey also looked at the extent to which respondents' views on the green transportation tax and fee policies might vary according to their opinions and knowledge about policy issues in California, especially policies related to transportation and environmental issues. Previous research related to both transportation and environmental behavior indicates that people's attitudes toward the environment may correlate with their support for green policies. In addition, attitudes for one green behavior or product may carry over to views on other green products and behaviors.[54] Finally, knowledge can also be a key factor that influences people's opinions and behavior.[55] To test whether these expected relationships might hold with respect to support for green taxes and fees, the survey included questions to assess respondents' knowledge about how much motor vehicles contribute to global warming and air pollution, as well as some basic facts about transportation finance in California.

Table 8 Support for green fee policies, by type of vehicle respondent drives the most

Vehicle Type Categories[a]	Green Registration Fee Increase		Green Mileage Fees		Feebate	
	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)
All respondents	63	4	50	5	66	4
"What is the model year of this vehicle?" (Question 13)						
2004–2008	64	2	51	3	70	2
2000–2003	61	5	47	5	67	4
1951–1999	66	5	49	4	65	4
Don't drive	*61*	4	*52*	9	*44*	4
Don't know	*52*	4	*54*	11	*52*	11
"What type of vehicle is it? Is this vehicle a . . ." (Question 14) ALTERNATE CATEGORIES						
Passenger car	67	4	53	4	70	3
Van or minivan	67	5	55	7	68	5
Sport utility vehicle	64	1	43	3	64	3
Pickup truck/truck	48**	3	39	4	57**	5
Other	*27*	0	*9*	9	*46*	9
"What is the approximate fuel efficiency of this vehicle? In other words, how many miles per gallon does the vehicle get?" (Question 16)						
28–75 MPG	75	3	55	4	75	3
23–27 MPG	63**	4	43*	6	67	2
18–22 MPG	63**	2	48	3	66*	2
13–17 MPG	49**	5	38*	2	63*	4
<13 MPG	*46*	6	*33*	2	*40*	6
Don't know	67	6	64	4	67	8
"When you purchased or leased this vehicle, how much of a factor was gas mileage? Was it a very important factor, somewhat important, not very important, or not important at all?" (Question 17)						
Very/somewhat important	70	3	53	3	71	3
Not very important/not important at all	51**	4	42**	4	58**	4
Don't know	*64*	13	*39*	23	*59*	5

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to check if there was a statistically significant difference between "support" levels among sub-groups. (No test was run on the "don't know" proportions). The first sub-group listed in each category is the "base" case for the test; it is compared to the proportion of respondents who supported the green policies in each of the other sub-groups within that category. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

a. These questions were introduced with the line, "Now I have a few questions about the vehicle you drive the most."

Table 9 shows how respondents answered a series of four questions asking how much of a problem they perceived air pollution, traffic congestion, and the "quality of the transportation system" to be. Virtually all respondents answered that pollution and traffic congestion are a big problem or somewhat of a problem for the state as a whole, but only about half said that the transportation system or air pollution are problems for them personally or for their

families. This finding suggests people have a broad awareness of and concern with transportation and transportation-related issues, even if they do not feel personally impacted by certain problems.

Table 9 Respondents' opinion on air pollution, traffic congestion, and transportation system quality

Question	Big or Somewhat of a Problem (%)	Not Much of or No Problem (%)	Don't Know (%)	*n*
"Do you think that smog and air pollution is a big problem, somewhat of a problem, not much of a problem, or not problem at all in California?"	90	10	<1	1499
"What about traffic congestion? Do you think that traffic congestion is a big problem, somewhat of a problem, not much of a problem, or no problem at all in California?"	94	6	1	1500
"Now I'd like to know if the quality of the transportation system is a problem for you or your family? By the transportation system, I mean highways, local streets, and transit. Is it a big problem, somewhat of a problem, not much of a problem, or no problem at all?"	56	43	1	1499
"Now I'd like to know if air pollution is a health problem for you or your family. Would you say it is a big problem, somewhat of a problem, not much of a problem, or no problem at all?"	48	51	1	1500

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

As shown in Table 10, support for the three policies varied significantly by how respondents answered three of the four questions asking respondents about how much of a "problem" they perceived the transportation and air quality issues to be. The questionnaire was structured to ask pairs of questions about whether respondents saw transportation and air quality issues as problems for them and their families, and also as problems "in California." In both cases, support for the green policies varied more markedly among the subgroups on the questions about statewide significance than for the questions about personal significance.

First, there was no statistically significant difference in support levels for the fees based on whether or not respondents perceived the quality of the transportation system to be a problem for them or their families, but responses did vary according to how much of problem respondents saw traffic congestion to be in the state. A higher percentage of those who saw traffic congestion as a problem in California supported two of the three policies, with large differences of twenty percentage points or more.

Table 10 Support for the green fee policies, by opinions on air pollution, traffic congestion, and transportation system quality

	Green Registration Fee Increase		Green Mileage Fee		Feebate	
Opinions	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)
All respondents	63	4	50	5	66	4
"Do you think that smog and air pollution is a big problem, somewhat of a problem, not much of a problem, or not problem at all in California?" (Question 1)						
Big/somewhat problem	65	4	51	4	68	4
Not much/no problem	48**	5	36*	5	45**	7
Don't know	*86*	14	*86*	14	*57*	29
"What about traffic congestion? Do you think that traffic congestion is a big problem, somewhat of a problem, not much of a problem, or no problem at all in California?" (Question 2)						
Big/somewhat problem	65	4	51	4	67	4
Not much/no problem	43**	9	40	5	47**	9
Don't know	*56*	0	*33*	33	*56*	22
"Now I'd like to know if the quality of the transportation system is a problem for you or your family? By the transportation system, I mean highways, local streets, and transit. Is it a big problem, somewhat of a problem, not much of a problem, or no problem at all?" (Question 3)						
Big/somewhat problem	66	3	49	5	68	3
Not much/no problem	60	6	51	4	63	7
Don't know	*56*	13	*44*	6	*63*	0
"Now I'd like to know if air pollution is a health problem for you or your family. Would you say it is a big problem, somewhat of a problem, not much of a problem, or no problem at all?" (Question 4)						
Big/somewhat problem	69	5	57	4	70	5
Not much/no problem	58**	4	44**	5	62**	4
Don't know	*50*	0	*33*	33	*63*	0

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to check if there was a statistically significant difference between "support" levels among sub-groups. (No test was run on the "don't know" proportions). The first sub-group listed in each category is the "base" case for the test; it is compared to the proportion of respondents who supported the green policies in each of the other sub-groups within that category. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

Following the same pattern, there were modest differences in support for all three policy options by how much of a problem respondents saw air pollution to be for them or their families (from 8 to 13 percentage point differences), but much bigger differences in support exist between the sub-groups who did and didn't see smog and air pollution to be a problem in California. Here, the differences ranged from 15 to 23 percentage points between the sub-groups.

Another section of the survey asked respondents their opinions on several questions related to transportation finance in California. Table 11 presents the responses to those questions. A minority of respondents though that state and local government have sufficient revenues to maintain and improve the transportation system (32%). When asked whether vehicle registration fees should, on principle, vary according to vehicle gas mileage or pollution

emissions, 57% agreed with the principle of linking the fees to gas mileage, while 68% agreed with the principle of linking the fees to emissions rates.

Table 11 Respondents' opinions on transportation revenues and principles of structuring vehicle registration fees

Question	Does Have/Yes (%)	Does Not Have/No (%)	Don't Know (%)	*n*
"Overall, do you think that state and local government does or does not have adequate funding to maintain and improve the transportation system?"	32	49	19	1494
"Generally speaking, should the fees that people pay to register their vehicles take into account the gasoline mileage those vehicles achieve? That is, should the fees be lower for vehicles that get more miles per gallon, and higher for vehicles that get fewer miles per gallon?"	57	34	9	1494
"As a general principle, should the fees that people pay to register their vehicles take into account the amount of pollution those vehicles emit? That is, should the fees be lower for vehicles that emit less air pollution, and higher for vehicles that emit more air pollution?"	68	27	6	1490

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

Table 12 shows the correlation between responses to these questions on transportation finance and support for the three green fee options. Respondents who thought the government had adequate funds were less likely to support all three green transportation fee policies than those who thought government did not have adequate funds. The differences fell within a modest range, from 11 to 14 percentage points. Majorities of the respondents who thought government already had sufficient revenues nevertheless still supported the green vehicle registration fee and feebate policies. As for the questions about linking vehicle registration fees to fuel efficiency and emissions, these revealed unsurprisingly stark differences in support for the green transportation fee policies tested later in the survey, with the percentage point differences in support between those who did and did not agree with the two statements ranging from 35 to 53 percentage points.

The survey also tested respondents' knowledge of how transportation funds are raised in California, plus their understanding of the relationship between motor vehicle use and air pollution and global warming. Table 13 shows that majorities of respondents (55% to 74%) knew the correct answer to all but one question. The one question which the majority of respondents answered incorrectly related to the gas tax; only 20% of respondents knew that state and federal gas tax rates have not been raised in more than 10 years. Across all these questions, fairly high percentages of respondents answered "don't know"—from 6% to a high of 31%.

Table 12 Support for the green fee policies, by opinions on transportation revenues and principles of structuring vehicle registration fees

Opinions	Green Registration Fee Increase		Green Mileage Fee		Feebate	
	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)
All respondents	63	4	50	5	66	4
"Overall, do you think that state and local government does or does not have adequate funding to maintain and improve the transportation system?" (Question 5)						
Does have	55	3	43	3	58	3
Does not have	69**	3	54**	4	71**	3
Don't know	64*	8	51	10	63	11
"Generally speaking, should the fees that people pay to register their vehicles take into account the gasoline mileage those vehicles achieve? That is, should the fees be lower for vehicles that get more miles per gallon, and higher for vehicles that get fewer miles per gallon?" (Question 6)						
Yes	80	3	65	4	79	4
No	37**	3	27**	3	45**	3
Don't know	54**	13	47**	13	57**	15
"As a general principle, should the fees that people pay to register their vehicles take into account the amount of pollution those vehicles emit? That is, should the fees be lower for vehicles that emit less air pollution, and higher for vehicles that emit more air pollution?" (Question 7)						
Yes	80	3	63	4	76	4
No	27**	4	21**	3	41**	4
Don't know	40**	16	36**	16	56**	11

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to check if there was a statistically significant difference between "support" levels among sub-groups. (No test was run on the "don't know" proportions). The first sub-group listed in each category is the "base" case for the test; it is compared to the proportion of respondents who supported the green policies in each of the other sub-groups within that category.

Table 13 Respondents' knowledge about transportation finance and about the link between motor vehicle use and the environment

Question	Definitely or Probably True (%)	Definitely or Probably False (%)	Don't Know (%)	*n*
"State and federal gas taxes provide all the money that is spent to build and maintain highways and roads in California." (Correct answer: false)	23	63	13	1498
"State and federal gas taxes have not been raised in more than 10 years." (Correct answer: true)	20	49	31	1498
"Exhaust from cars, vans, pickups, and SUVs is an important source of the pollution that causes asthma and makes asthma attacks worse." (Correct answer: true)	73	16	11	1498
"In California, motor vehicles, including cars, trucks and trains, are the single largest source of air pollutants that cause smog." (Correct answer: true)	64	30	6	1499
"In California, motor vehicles, including cars, trucks, and trains, are the single largest source of so-called "greenhouse gases" that many scientists say are causing global warming." (Correct answer: true)	55	33	12	1500
"All new cars, vans, pickups, and SUVs pollute the same amount for each mile driven." (Correct answer: false)	16	74	11	1498

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

Table 14 presents support for the three green policies according to respondents' understanding of the issues. Support levels varied strongly by two issues: whether or not respondents thought motor vehicle exhaust is an important source of the pollution that causes asthma and whether or not they thought motor vehicles are the single largest source of greenhouse gases. For these questions, support levels between those who did and did not agree with these (true) statements varied from a low of 19 percentage points all the way to 28 percentage points. There were also significant, if slightly smaller differences based on whether or not respondents thought that motor vehicles are the single largest source of smog-producing pollutants. The only questions about the motor vehicle-environment link which did not generate such major differences in support levels was the question testing whether or not respondents believed that all new motor vehicles pollute the same amount for each mile driven. Here, the 11% of people who responded that they didn't know were 13 and 16 percentage points less likely to support two of the green fee policies than those who answered correctly.

As for the finance questions, respondents who thought the state and federal gas taxes had not been raised within the last 10 years were around 10 percentage points more likely to support all the green fee policies. Support levels varied little, however, by whether or not respondents

believed that state and federal gas taxes provide all the money spent to build and maintain highways and roads in California.

Table 14 Support for the green fee policies, by knowledge of transportatoin and environmental issues

	Green Registration Fee Increase		Green Mileage Fee		Feebate	
Opinions[a]	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)
All respondents	63	4	50	5	66	4
"State and federal gas taxes provide all the money that is spent to build and maintain highways and roads in California." (Question 8a)						
Definitely/probably true	66	2	58	4	63	3
Definitely/probably false (Correct answer)	63	4	47**	3	66	4
Don't know	60	10	53	12	66	12
"State and federal gas taxes have not been raised in more than 10 years." (Question 8b)						
Definitely/probably true (Correct answer)	70	3	60	4	71	4
Definitely/probably false	61*	3	48**	3	61**	3
Don't know	64	6	49*	8	69	6
"Exhaust from cars, vans, pickups, and SUVs is an important source of the pollution that causes asthma and makes asthma attacks worse." (Question 8c)						
Definitely/probably true (Correct answer)	70	4	55	5	71	4
Definitely/probably false	43**	3	33**	3	43**	5
Don't know	53**	10	43	6	59*	9
"In California, motor vehicles, including cars, trucks and trains, are the single largest source of air pollutants that cause smog." (Question 8d)						
Definitely/probably true (Correct answer)	68	4	55	4	69	4
Definitely/probably false	53**	3	41**	3	59**	4
Don't know	60	13	46	14	61	11
"In California, motor vehicles, including cars, trucks, and trains, are the single largest source of so-called "greenhouse gases" that many scientists say are causing global warming." (Question 8e)						
Definitely/probably true (Correct answer)	73	3	58	4	74	3
Definitely/probably false	50**	3	39**	3	54**	4
Don't know	57**	12	45*	11	60**	13
"All new cars, vans, pickups, and SUVs pollute the same amount for each mile driven." (Question 8f)						
Definitely/probably true	66	2	58	5	62	6
Definitely/probably false (Correct answer)	64	3	49	4	68	3
Don't know	53*	15	42*	11	55	14

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to check if there was a statistically significant difference between "support" levels among sub-groups. (No test was run on the "don't know" proportions.) The first sub-group listed in each category is the "base" case for the test; it is compared to the proportion of respondents who supported the green policies in each of the other sub-groups within that category.

a. For these questions, respondents were asked, "I'm going to read you a series of statements. For each statement, please tell me if you think it is DEFINITELY true, probably true, probably false, or DEFINITELY false."

A final intent of the survey was to test if support for the green transportation fee policies is correlated with support for other policy positions on government spending and environmental policy. Table 15 presents the policy statements tested and respondents' opinions. Overall, majorities of around two-thirds or higher took the "pro-environment" position on the three questions related to environmental protection. The last question asked respondents if they preferred to pay higher taxes to support a larger state government that provides more services, or pay lower taxes and have a smaller state government that provides fewer services. Thirty-eight percent of respondents preferred the higher taxes/more services option, slightly more preferred the lower taxes/fewer services option (44%), and 18% either didn't know or gave some other response.

Table 15 Respondents' opinions on policy topics

Question	Percent of Respondents
"Do you agree or disagree with the following statement? We must protect the environment, even if it means paying higher prices for gasoline and electricity." (*n* = 1492)	
Agree	63
Disagree	33
Don't know	5
"To solve today's environmental problems do you think people like you will have to make major lifestyle changes, minor lifestyle changes or no real lifestyle changes?" (*n* = 1492)	
Major changes	34
Minor changes	54
No real changes	11
Don't know	1
"Do you think the United States should meet its growing energy needs by emphasizing more domestic production of gas, oil, and coal supplies, or should the U.S. instead emphasize developing renewable energy supplies like wind, hydro and solar power?" (*n* = 1490)[a]	
Wind, hydro, solar	71
Gas, oil, and coal	9
Don't know	4
"Would you rather pay higher taxes to support a larger state government that provides more services, or would you rather pay lower taxes and have a smaller state government that provides fewer services?" (*n* = 1481) [a]	
Higher taxes/more services	38
Lower taxes/fewer services	44
Don't know	8

a. For this question, large numbers of respondents gave answers other than the two options presented, which is why the percentages do not add up to 100%.

Respondents who agreed with the pro-environmental statements were considerably more likely to support the green fee policies (see Table 16). For example, respondents who agreed that "we must protect the environment even if it means paying higher prices for gasoline and electricity" were between 24 and 35 percentage points more likely to support the green transportation fee policies than were respondents who disagreed with that statement. When

respondents were posed with a question that did not directly relate to the cost of driving, the question of whether the U.S. should emphasize renewable or conventional sources of energy, respondents who favored the renewable energy sources were from 16 to 27 percentage points more likely to support the green transportation tax policies. Among those respondents who chose the responses that were unsupportive of environmental protection, support levels for the green transportation fee policies were often under 50%. These were some of the lowest support levels among any population sub-groups identified through the survey. The low levels of support are in line with previous research that links support for one green activity with support for other environmentally-friendly behaviors.[56] In addition, although socio-demographic characteristics are often used to profile green consumers, the role of attitudes and values have been suggested as more important predictors.[57] The authors' findings also support this, as respondents who tended to be unsupportive of other pro-environmental actions and policies were by far the least likely population subgroup to support the green transportation taxes and fees.

Finally, on the question about state taxes and government services, those respondents who preferred a system of higher taxes and more state services were from 20 to 26 percentage points more likely to support the three green transportation taxes and fees. However, even among those who preferred lower taxes and fewer state services, majorities still supported the green vehicle registration fee and the feebate.

SUPPORT FOR GREEN (VARIABLE RATE) VERSUS FLAT-RATE TRANSPORTATION TAXES AND FEES

A key objective in the survey was to compare respondents' support for flat versus green versions of transportation taxes and fees (rather than to determine support for the specific policies tested). To test this point, respondents were asked about their support for both a flat version and then a green version of two policies, the vehicle registration fee increase and replacing the state gas tax with a mileage fee. The tables in this section show the *difference* in support levels for the flat and green versions of these two taxes. For example, 63% of all respondents supported the green vehicle registration fee increase, compared to just 41% supporting the flat increase—a difference of 22 percentage points. For the mileage fee, the difference was almost as great—50% of all respondents supported the green version compared to just 28% supporting the flat version, a 22 percentage point difference.

Table 16 Support for the green fee policies, by policy preference

Opinions	Green Registration Fee Increase		Green Mileage Fee		Feebate	
	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)	Support (%)	Don't Know (%)
All respondents	63	4	50	5	66	4
"Do you agree or disagree with the following statement? We must protect the environment, even if it means paying higher prices for gasoline and electricity." (Question 18)						
Agree	76	3	58	5	76	4
Disagree	41**	5	34**	3	45**	
Don't know	59*	12	52	13	67	3
"To solve today's environmental problems do you think people like you will have to make major lifestyle changes, minor lifestyle changes or no real lifestyle changes?" (Question 19)						
Major changes	72	3	59	4	75	5
Minor changes	64**	4	49**	4	64**	
No changes	35**	6	31**	4	50**	4
Don't know	*47*	21	*37*	26	*22*	4
"Do you think the United States should meet its growing energy needs by emphasizing more domestic production of gas, oil, and coal supplies, or should the U.S. instead emphasize developing renewable energy supplies like wind, hydro and solar power?" (Question 20)						
Wind, hydro, solar	71	3	54	4	72	3
Gas, oil, coal supplies	44**	2	38*	2	48*	4
Don't know	*50*	22	*44*	24	*42*	26
"Would you rather pay higher taxes to support a larger state government that provides more services, or would you rather pay lower taxes and have a smaller state government that provides fewer services?" (Question 21)						
Higher taxes/more services	78	1	65	3	77	3
Lower taxes/fewer services	52**	5	41**	4	57**	5
Don't know	69	10	47**	12	71	8

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to check if there was a statistically significant difference between "support" levels among sub-groups. (No test was run on the "don't know" proportions.) The first sub-group listed in each category is the "base" case for the test; it is compared to the proportion of respondents who supported the green policies in each of the other sub-groups within that category. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

As in the tables above, the data presented in these tables were also tested to assess whether the differences were statistically significant. Here, however, the test of two proportions was applied somewhat differently. The authors used the test to evaluate whether the change in support from the flat to green version of the two taxes was statistically significant or not. Values identified with an * or ** indicate that the change in support between the flat-rate and "green" policy is significant at the $\alpha \leq 0.05$ and $\alpha \leq 0.01$ levels of significance, respectively. In some cases, too few respondents within a population subgroup supported the taxes in order to run the significance test at all; the values marked in grey on the tables indicate these cases.

The story told by this analysis is exceedingly simple: however the authors categorized respondents into subgroups, in every case more people within that subgroup supported the green than the flat version of the two taxes tested. Also, Table 17 through Table 23 show that within almost every subgroup examined where there were enough responses to do statistical testing, support levels were at least 10 percentage points higher for the green versions of the two transportation fees. In fact, there was an increase in support of at least 10 percentage points in 190 of 195 comparisons between subgroups' support for a green versus flat-rate transportation fee policy. For 75% of the 195 cases, the increases in support were 20 or more percentage points. Most differences were also statistically significant.

Only three subgroups of respondents stood out as relatively unsupportive of the vehicle registration fee and green mileage fee *and* among whom there was not an increase in support of at least 10 percentage points for the green versus flat-rate proposals. These were the respondents who thought that:

- People like them would not have to make lifestyle changes to solve today's environmental problems. (These respondents were six percentage points more likely to support the green mileage fee than the flat-rate version. This difference was not statistically significant.)
- Vehicle registration fee rates should not, on principle, take gasoline mileage into account. (These respondents were six percentage points more likely to support the green mileage fee than the flat-rate version. This difference was not statistically significant.)
- Vehicle registration fees should not, on principle, take pollution emissions into account. (These respondents were three percentage points more likely to support the green vehicle registration fee than the flat-rate version and one percentage point more likely to support the green mileage fee than the flat-rate version. Neither difference was statistically significant.)

Table 17 Difference in support for the green vs. flat-rate registration and mileage fees by socio-demographic categories

Demographic Category	Percentage Point Difference in Support for the Vehicle Registration Fees[a]	Percentage Point Difference in Support for the Mileage Fees[a]
All	22	22
North/South		
North	21**	22**
South	24**	22**
Region		
Bay Area	18**	25**
Los Angeles	23**	20**
Other Southern California	26**	24**
Central Valley	22**	17*
Central Coast	22*	*23*
Rural CA	*28*	*22*
Gender		
Male	19**	19**
Female	26**	25**
Age		
18–24 years	27**	21**
25–54 years	24**	23**
55+ years	22**	24**
Own/rent residence		
Own	22**	24**
Rent	24**	18**
Education level		
High school or less	31**	13*
More than high school	21**	25**
Employed		
Yes–full time	21**	23**
Yes–part time	22**	23**
No	26**	20**
Household income		
Less than $50,000	31**	19**
$50,000–$100,000	21**	28**
Over $100,000	16**	20**
Likely voter?		
Yes	22**	24**
No	26**	18**
Political affiliation		
Democrat	25**	26**
Republican	20**	20**
Other	16*	21*
Don't know	*22*	*12*

* $p \leq 0.05$
** $p \leq 0.01$
Notes: The test of two proportions was used to evaluate whether the change in support from the flat to green version of the two taxes was statistically significant or not. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

a. Green fee support minus flat-rate fee support.

Table 18 Difference in support for the green vs. flat-rate registration and mileage fees, by travel behavior

Demographic Category	Percentage Point Difference in Support for the Vehicle Registration Fees[a]	Percentage Point Difference in Support for the Mileage Fees[a]
"How do you usually commute to work?" (Question D8)		
Drive yourself	22**	24**
Transit, carpool, bike, walk	22**	20**
NA–work at home	15	*19*
"In the past seven days, have you taken any form of public transit, like a bus, light rail, subway, or commuter train?" (Question 9)		
Yes	23**	22**
No	23**	23**
Don't know	*33*	*-33*
"In the past seven days, have you walked or biked from your home to get to work, shopping, eating out, or other errands?" (Question 10)		
Yes	25**	23**
No	21**	21**
Don't know	*0*	*0*
"About how many miles did you, personally, drive during the past 12 months in all motorized vehicles? Please exclude miles you drove as part of a job." (Question 11)		
1–3,000	28**	24**
3,001–7,500	22**	22**
7,501–12,500	20**	19**
12,501+	18**	24**
NA–don't drive	23*	18
Don't know	31**	22*
"As a result of the recent rise in gasoline prices, how much, if any, have you cut back on your driving? Have you cut back a lot, a little or not at all?" (Question 12)		
Cut back a lot	30**	22**
Cut back a little	26**	25**
Not at all	15**	19**
NA–don't drive	*37*	*17*
Don't know	*67*	*0*

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to evaluate whether the change in support from the flat to green version of the two taxes was statistically significant or not. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

a. Green fee support minus flat-rate fee support.

Table 19 Difference in support for the greeen vs. flat-rate registration and mileage fees, by type of vehicle respondent drives most

Vehicle Type Categories	Percentage Point Difference in Support for the Vehicle Reg. Fees[a]	Percentage Point Difference in Support for the Mileage Fees[a]
"What is the model year of this vehicle?" (Question 13)		
2004–2008	21**	24**
2000–2003	20**	21**
1951–1999	26**	21**
Don't drive	*31*	17*
Don't know	*19*	*4*
"What type of vehicle is it? Is this vehicle a . . ." (Question 14)		
Passenger car	25**	26**
Van or minivan	30**	22*
Sport utility vehicle	20**	18*
Pickup truck/truck	15	13
Other	*-9*	*0*
"What is the approximate fuel efficiency of this vehicle? In other words, how many miles per gallon does the vehicle get?" (Question 16)		
28–75 MPG	27**	32**
23–27 MPG	22**	18*
18–22 MPG	23**	22**
13–17 MPG	13	15
<13 MPG	*3*	*6*
Don't know	31**	24**
"When you purchased or leased this vehicle, how much of a factor was gas mileage? Was it a very important factor, somewhat important, not very important, or not important at all?" (Question 17)		
Very/somewhat important	26**	26**
Not very important/Not important at all	15**	15**
Don't know	*25*	*9*

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to evaluate whether the change in support from the flat to green version of the two taxes was statistically significant or not. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

a. Green fee support minus flat-rate fee support.

Table 20 Difference in support for the green vs. flat-rate registration and mileage fees,by opinions on air pollution, traffic congestion, and transportation system quality

Opinions	Percentage Point Difference in Support for the Vehicle Reg. Fees[a]	Percentage Point Difference in Support for the Mileage Fees[a]
Smog & air pollution a problem in California?		
Big/somewhat problem	22**	8**
Not much of a problem/no problem	*30*	*23*
Don't know	*43*	*57*
Traffic congestion a problem in California?		
Big/somewhat problem	23**	23**
Not much of a problem/no problem	*17*	*15*
Don't know	*43*	*-11*
Quality of the transportation system a problem for you/your family?		
Big/somewhat problem	25**	21**
Not much of a problem/no problem	19**	22**
Don't know	*43*	*31*
Air pollution a health problem for you/your family?		
Big/somewhat problem	28**	25**
Not much of a problem/no problem	18**	20**
Don't know	*21*	*22*

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to evaluate whether the change in support from the flat to green version of the two taxes was statistically significant or not. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

a. Green fee support minus flat-rate fee support.

Table 21 Difference in support for the green vs. flat-rate registration and mileage fees,by opinions on transportation revenues and principles of structuring vehicle registration fees

Opinions	Percentage Point Difference in Support for the Vehicle Registration Fees[a]	Percentage Point Difference in Support for the Mileage Fee[a]
State/local government has adequate funding for the transportation system?		
Yes	25**	16**
No	20**	24**
Don't know	27**	26**
Should vehicle registration fee rates take gasoline mileage into account?		
Yes	29**	32**
No	10	6
Don't know	27**	23*
Should vehicle registration fee rates take pollution emissions into account?		
Yes	32**	31**
No	3	1
Don't know	*16*	*14*

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to evaluate whether the change in support from the flat to green version of the two taxes was statistically significant or not. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

a. Green fee support minus flat-rate fee support.

Table 22 Difference in support for the green vs. flat-rate registration and mileage fees, by knowledge of transportation issues

Opinions	Percentage Point Difference in Support for the Vehicle Registration Fees[a]	Percentage Point Difference in Support for the Mileage Fee[a]
"State and federal gas taxes provide all the money that is spent to build and maintain highways and roads in California." (Question 8a)		
Definitely/probably true	28**	22**
Definitely/probably false (correct answer)	22**	12*
Don't know	18**	22**
"State and federal gas taxes have not been raised in more than 10 years." (Question 8b)		
Definitely/probably true (correct answer)	19**	25**
Definitely/probably false	25**	19**
Don't know	23**	24**
"Exhaust from cars, vans, pickups, and SUVs is an important source of the pollution that causes asthma and makes asthma attacks worse." (Question 8c)		
Definitely/probably true (correct answer)	24**	24**
Definitely/probably false	16*	13
Don't know	25**	18
"In California, motor vehicles, including cars, trucks and trains, are the single largest source of air pollutants that cause smog." (Question 8d)		
Definitely/probably true (correct answer)	25**	24**
Definitely/probably false	17**	17**
Don't know	*27*	*25*
"In California, motor vehicles, including cars, trucks, and trains, are the single largest source of so-called "greenhouse gases" that many scientists say are causing global warming." (Question 8e)		
Definitely/probably true (correct answer)	26**	25**
Definitely/probably false	17**	18**
Don't know	22**	21*
"All new cars, vans, pickups, and SUVs pollute the same amount for each mile driven." (Question 8f)		
Definitely/probably true	31**	20**
Definitely/probably false (correct answer)	21**	22**
Don't know	*21*	*18*

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to evaluate whether the change in support from the flat to green version of the two taxes was statistically significant or not. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

a. Green fee support minus flat-rate fee support.

Table 23 Difference in support for the green vs. flat-rate registration and mileage fees, by opinion on environmental policy topics

Opinions	Percentage Point Difference in Support for the Vehicle Registration Fees[a]	Percentage Point Difference in Support for the Mileage Fee[a]
"Do you agree or disagree with the following statement? We must protect the environment, even if it means paying higher prices for gasoline and electricity." (Question 18)		
Agree	23**	26**
Disagree	21**	13*
Don't know	*37*	*27*
"To solve today's environmental problems do you think people like you will have to make major lifestyle changes, minor lifestyle changes or no real lifestyle changes?" (Question 19)		
Major changes	28**	27**
Minor changes	22**	22**
No changes	12	6
Don't know	*25*	*9*
"Do you think the United States should meet its growing energy needs by emphasizing more domestic production of gas, oil, and coal supplies, or should the U.S. instead emphasize developing renewable energy supplies like wind, hydro and solar power?" (Question 20)		
Gas, oil, coal supplies	17	12
Wind, hydro, solar	26**	24**
Don't know	*18*	*12*
"Would you rather pay higher taxes to support a larger state government that provides more services, or would you rather pay lower taxes and have a smaller state government that provides fewer services?" (Question 21)		
Higher taxes/more services	23**	27**
Lower taxes/fewer services	22**	19**
Don't know	34**	21

* $p \leq 0.05$

** $p \leq 0.01$

Notes: The test of two proportions was used to evaluate whether the change in support from the flat to green version of the two taxes was statistically significant or not. For the "support" levels noted in italic type, too few respondents supported the policies to run the test of two proportions.

a. Green fee support minus flat-rate fee support.

CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the key findings from the survey and suggests some policy implications that flow from those findings. In addition, this chapter concludes with brief recommendations for next steps to take in creating effective, fair, and politically feasible green transportation tax and fee policies.

SUMMARY OF KEY FINDINGS

The results of this survey show that the concept of green transportation taxes and fees strongly appeals to Californians. The survey tested this in two ways: by testing support for three hypothetical green transportation tax and fee policies, and also by comparing support levels for flat-rate versus green versions of two hypothetical taxes.

The specific taxes and fees tested in the survey were described in the survey as follows:

- Feebate: Create a new tax and tax rebate system on all new vehicles based on how much they pollute. People who buy a new vehicle that doesn't pollute much would receive a rebate of up to $1,000. People who buy a new vehicle that pollutes a lot, such as a very large SUV, would pay a tax up to $2,000. People who buy a vehicle that pollutes about the average would not pay or receive anything. Flat vehicle registration fee increase: Increase the state's vehicle registration fee from its then-current rate of $31 per vehicle per year to $62 per year per vehicle.
- Green vehicle registration fee increase: Increase the vehicle registration fee to an average of $62 per year, but vary the fee according to the amount of the vehicle's emissions. Higher emissions vehicles would pay higher fees, and lower emissions vehicles would pay lower fees.
- Flat mileage fee: Eliminate the eighteen-cents-per-gallon state gas tax altogether and replace it with a fee based on the number of miles driven. Each driver would pay a fee of one cent per mile for every mile driven within the state. For example, every one hundred miles driven would pay a fee of one dollar. Vehicles would be equipped with an electronic means to keep track of miles driven and the fee would be paid when drivers buy gas.
- Green mileage fee: Create a variation on the mileage fee previously described, where the fee varies depending upon how much the vehicle pollutes. On average, vehicles would pay one cent per mile, but vehicles that pollute the least would pay less, and conversely, vehicles that pollute the most would pay more per mile.

Majorities of the respondents supported all three green taxes and fees tested. Even the green mileage fee, the least popular option, had 50% support. The green vehicle registration fee and feebate policy, by contrast, both had support levels over 60%.

In addition, the survey found that respondents greatly preferred green transportation taxes and fees to flat-rate versions. For example, the survey found that almost two-thirds of respondents (63%) supported a green version of raising the vehicle registration fee from the current rate of $31 to an average rate of $62, with the rate higher for more polluting vehicles and lower for less polluting vehicles. However, when respondents were asked if they would support increasing the vehicle registration fee from $31 to a flat rate of $62 for everyone, only 41% supported the increase. Comparing the two results shows that converting the fee increase from a flat-rate one to a green version boosts support by 22 percentage points—from less-than-majority support to almost two-thirds support. Respondents also preferred a green mileage fee to a flat-rate version, with 50% support for the former but only 28% support for the latter.

The finding that Californians clearly seem to prefer green to a flat-rate transportation tax or fee proposal implies that whether or not a specific green transportation tax or fee ultimately proves popular with the public, a green version is likely to be much more popular than the traditional approach of flat-rate taxes and fees.

Another striking finding from the survey is that support for the green taxes and fees does not vary greatly by population subgroups. The authors categorized the survey respondents into 120 subgroupings—by socio-demographic characteristics, attitudes, travel behavior patterns, etc.—and in most subgroupings, support for the green registration fee and feebate policy was above 50%.[58] For the green vehicle registration fee, 87% of the subgroups had support levels of 50% or higher, while for the feebate policy, 89% of the subgroups had support levels of 50% or higher. Even the green mileage fee, the least popular of the three green transportation taxes and fees tested, had a support level of at least 50% from half of the subgroups tested.

The analysis comparing support for the green and flat-rate vehicle registration fee and feebate proposals confirms that in every subgroup more people within that subgroup supported the green than the flat version of the two taxes tested. There was an increase in support of at least 10 percentage points in 188 of the 193 comparisons between respondents' support for a green versus flat-rate transportation fee policy. For 74% of the 193 cases, the increases in support were 20 or more percentage points. Most differences were also statistically significant.

People in a few population subgroups stood out as the least supportive of the green taxes and fees, relative to the other subgroups in that category. Socio-demographic groupings did not prove influential here. Rather, some of the questions about vehicle ownership, attitudes, and knowledge revealed these low levels of support. The characteristics that proved important were as follows:

Vehicle-type the respondent drives the most. People are *less* supportive if they:

- Drive vehicles with a fuel efficiency below 18 miles per gallon (mpg).
- Drive pick-up trucks. (Drivers of SUVs, vans, and minivans were also somewhat less supportive than drivers of passenger cars, but the differences were mostly not statistically significant.)

Opinions and attitudes. People are *less* supportive if they:

- Think that transportation congestion is not much of a problem or no problem for California.
- Think that smog and air pollution are not much of a problem or no problem for California.
- Think that the fees people pay to register their vehicle should not take into account the gasoline mileage those vehicles achieve
- Think that the fees people pay to register their vehicle should not take into account the vehicle's air pollution emissions.
- Disagree with the statement that "We must protect the environment even if it means paying higher prices for gasoline and electricity."
- Think that people like themselves will have to make no changes in their lifestyle to solve today's environmental problems.
- Think that the U.S. should meet its growing energy needs by emphasizing gas, oil, and coal supplies, rather than developing wind, hydro, and solar power.
- Prefer to pay lower taxes and have a state government that provides fewer services (instead of paying higher taxes and having a state government that provides more services).

Knowledge. People are *less* supportive if they:

- Think that exhaust from motor vehicles in California is definitely or probably not an important source of the pollution that causes asthma and makes asthma attacks worse.
- Think that motor vehicles are definitely or probably not the single largest source of greenhouse gas emissions in California.

People in a much smaller number of subgroups were (1) relatively unsupportive of both the green vehicle registration fee and the feebate *and* (2) relatively unlikely to prefer a green version to a flat-rate version of the vehicle registration fee and mileage fee. (Among these groups, the support level for the green taxes compared to the flat-rate versions went up less than 10 percentage points). These subgroups were those respondents who thought that:

- The fees people pay to register their vehicle should not take into account the gasoline mileage those vehicles achieve
- The fees people pay to register their vehicle should not take into account the vehicle's air pollution emissions.
- People like themselves would have to make no lifestyle changes to solve today's environmental problems.

Finally, the survey also found that respondents would be more likely to support the green vehicle registration fee increase if the revenues were dedicated to transportation programs that would reduce smog and greenhouse gases. Sixty-four percent of respondents said they would be more likely to support the fee if the revenues were so used.

POLICY IMPLICATIONS FOR TRANSPORTATION PROFESSIONALS AND POLICYMAKERS

The survey results suggest that the concept of green transportation taxes and fees is a promising avenue to explore. Support levels will of course vary depending on the specific details of the tax or fee proposed, but the survey results suggest several key avenues for transportation professionals and policymakers to pursue.

1. **A majority of California residents may approve at least some versions of green transportation vehicle registration fees or feebate programs to raise new transportation revenues.**

The survey showed that healthy majorities of Californians are likely to support green registration fees and a feebate policy. In addition, even the generally unpopular concept of a mileage fee got 50% support when it was presented with a green fee rate structure. Although developing public support for any transportation tax or fee increase is challenging, California residents may be supportive of well-crafted green ones. In addition, they will likely be more supportive of a green one than of a flat-rate one.

2. **California should investigate whether converting existing flat-rate transportation taxes and fees to green versions would change behavior to help support the State's efforts to reduce greenhouse gas emissions.**

Opposition to raising *new* revenues does not preclude the state from reaping the environmental benefits that could come from introducing green transportation taxes and fees. If set correctly, such taxes and fees would encourage residents to drive lower-emission and more fuel efficient vehicles, or to drive a bit less. Policy makers could restructure the existing vehicle registration and vehicle license fees to incorporate a green rate structure. Other possibilities include tolls, vehicle sales taxes, and parking fees/permits. Further research would be needed to identify how high the fees would need to be in order to encourage some motorists to shift their travel behavior.

3. **To begin building public support for the concept of a mileage fee, present it with a green rate structure.**

Many transportation finance experts believe that states and the federal government will eventually have to replace existing gas and diesel taxes with some sort of mileage fee. This shift will likely become necessary as the vehicle fleet evolves such that a large fraction of vehicles do not run on gas or diesel, or as a larger proportion of vehicles have very high fuel efficiencies and thus pay relatively little in fuel taxes. However, research to date has shown that the public lacks any enthusiasm for mileage fees. Also, some finance experts have been concerned that replacing the fuel tax with a mileage tax would eliminate the fuel tax's advantage of encouraging drivers to buy more fuel efficient vehicles. The results of this survey suggest that one very promising way to develop more support for a mileage fee is to create a green rate structure. Widespread public support may yet be in the distant future, but greening proposal for a mileage fee is a promising approach to take as one step to building that support.

4. **To increase support for green transportation taxes and fees, educate the public about how motor vehicle use contributes to both air pollution and global warming.**

The survey tested the link between respondents' knowledge about how motor vehicle use impacts air pollution and global warming. Those respondents who did not know that motor vehicle use is the largest source of smog-forming air pollutants and greenhouse gas emissions in the state were less likely to support the green tax and fee options. Policymakers who wish to increase public support for green taxes and fees should work to educate the public about the impact of motor vehicle use on the environmental. Such education is desirable for many reasons, among which it will likely increase support for green transportation taxes and fees.

5. **Public support for green transportation taxes and fees will rise if the revenues are dedicated for programs that promote a healthy environment.**

The survey asked respondents if they would be more or less likely to support the green vehicle registration fee increase if the revenues were dedicated to transportation programs that would reduce smog and greenhouse gases. Sixty-four percent of respondents said they would be more likely to support the fee if the revenues were so used.

The survey's finding that the more people will accept higher transportation taxes and fees when these are dedicated for environmental programs is confirmed by several of the other polls that have tested the issue (see Table 1). For example, a 2007 poll by the Bay Area's Metropolitan Transportation Commission found that 46% of respondents said they would support a 25 cent/gallon increase in the cost of gas if the money "would be used to limit or reduce global warming," and another 23% said they would possibly support such a price increase. These numbers are quite high, compared to other polls asking about support for gas tax increases that did not dedicate the revenues to such a purpose.

RECOMMENDATIONS FOR FUTURE RESEARCH

The next stage of this research will be to conduct a multivariate analysis to explore the relationship between socio-demographic, attitudinal, and knowledge factors and support for the green transportation taxes and fees. Although this report's bivariate analysis has provided insight into the opinions of various population subgroups, it cannot parse out the joint impact of several explanatory variables. In order to effectively determine which factors are truly significant predictors of support for our proposed green transportation taxes and fees, it is important to conduct this type of in-depth analysis.

There are also several steps that should be taken to develop the best specific structure for one or more green transportation taxes and fees. Important policy details to be determined include deciding how vehicle performance (emissions or fuel economy) would be fairly and efficiently determined for the entire fleet of vehicles, as well as the range of rates to charge. To make the best decisions on these implementation details, it will be necessary to consider a wide range of criteria, including the likely total revenues raised, administrative ease of collecting the tax, the equity implications for different subgroups within the population, and the likely effectiveness

of the tax or fee at encouraging residents to make more environmentally-friendly travel choices. Also, such research should seek to identify the particular characteristics of green transportation taxes and fees that make them more or less acceptable to the public at large and relevant interest groups.

APPENDIX A
SURVEY QUESTIONNAIRE AND TOP-LINE RESULTS

1. We are interested in your opinions about some policy issues in California. Do you think that smog and air pollution is a big problem, somewhat of a problem, not much of a problem, or no problem at all in California?

56%	A big problem
34%	Somewhat of a problem
7%	Not much of a problem
4%	No problem at all
1%	Don't know

2. What about traffic congestion? Do you think that traffic congestion is a big problem, somewhat of a problem, not much of a problem, or no problem at all in California?

76%	A big problem
18%	Somewhat of a problem
3%	Not much of a problem
3%	No problem at all
1%	Don't know

3. Now I'd like to know if the quality of the transportation system is a problem FOR YOU OR YOUR FAMILY? By the transportation system, I mean highways, local streets, and transit. Is it a big problem, somewhat of a problem, not much of a problem, or no problem at all?

25%	A big problem
31%	Somewhat of a problem
21%	Not much of a problem
22%	No problem at all
1%	Don't know

4. Now I'd like to know if air pollution is a health problem FOR YOU OR YOUR FAMILY. Would you say it is a big problem, somewhat of a problem, not much of a problem, or no problem at all?

23%	A big problem
26%	Somewhat of a problem
20%	Not much of a problem
31%	No problem at all
1%	Don't know

5. Overall, do you think that state and local government does or does not have adequate funding to maintain and improve the transportation system?

32%	Does
49%	Does not
19%	Don't know

6. Generally speaking, should the fees that people pay to register their vehicles take into account the gasoline mileage those vehicles achieve? That is, should the fees be lower for vehicles that get more miles per gallon, and higher for vehicles that get fewer miles per gallon?

57%	Yes, fees should take fuel efficiency into account
34%	No, fees should not take fuel efficiency into account
9%	Don't know

7. As a general principle, should the fees that people pay to register their vehicles take into account the amount of pollution those vehicles emit? That is, should the fees be lower for vehicles that emit less air pollution, and higher for vehicles that emit more air pollution?

68%	Yes, fees should take pollution into account
27%	No, fees should not take pollution into account
6%	Don't know

8. Next, I'm going to read you a series of statements. For each statement, please tell me if you think it is DEFNITELY true, probably true, probably false, or DEFINITELY false. [Accept but do not offer "don't know."]

   a. State and federal gas taxes provide all the money that is spent to build and maintain highways and roads in California.

6%	Definitely true
34%	Probably true
7%	Probably false
4%	Definitely false [correct answer]
1%	Don't know

   b. State and federal gas tax rates have not been raised in more than 10 years.

5%	Definitely true [correct answer]
34%	Probably true
7%	Probably false
4%	Definitely false
1%	Don't know

   c. Exhaust from cars, vans, pickups, and SUVs is an important source of the pollution that causes asthma and makes asthma attacks worse.

32%	Definitely true [correct answer]
41%	Probably true
11%	Probably false
5%	Definitely false
11%	Don't know

d. In California, motor vehicles, including cars, trucks and trains, are the single largest source of air pollutants that cause smog.

26%	Definitely true [correct answer]
38%	Probably true
20%	Probably false
10%	Definitely false
6%	Don't know

e. In California, motor vehicles, including cars, trucks, and trains, are the single largest source of so-called "greenhouse gases" that many scientists say are causing global warming.

19%	Definitely true [correct answer]
36%	Probably true
21%	Probably false
12%	Definitely false
12%	Don't know

f. All NEW cars, vans, pickups, and SUVs pollute the same amount FOR EACH MILE DRIVEN.

5%	Definitely true
10%	Probably true
28%	Probably false
46%	Definitely false [correct answer]
11%	Don't know

Now I have some questions about your daily travel.

9. In the PAST SEVEN DAYS, have you taken any form of public transit, like a bus, light rail, subway, or commuter train?

13%	Yes
87%	No
<1%	Don't know

10. In the PAST SEVEN DAYS, have you walked or biked FROM YOUR HOME to get to work, shopping, eating out, or other errands?

34%	Yes
66%	No
<1%	Don't know

11. About how many miles did you, personally, drive during the past 12 months in all motorized vehicles? Please EXCLUDE miles you drove as part of a job.

8%	Drive 1–500 miles
9%	Drive 501–500 miles
9%	Drive 1501–3000 miles
21%	Drive 3001–7500 miles
22%	Drive 7501–12500 miles
7%	Drive 12500–15000 miles
5%	Drive 1500–20000 miles
7%	Drive 20001–99999 miles
6%	Don't drive
7%	Don't know

12. As a result of the recent rise in gasoline prices, how much, if any, have you cut back on your driving? Have you cut back a lot, a little or not at all?

25%	Cut back a lot
35%	Cut back a little
39%	Not at all
2%	Not applicable, don't drive
<1%	Don't know

13. Now I have a few questions about the vehicle you drive THE MOST. What is the model year of this vehicle?

2%	1951–1984
10%	1985–1993
23%	1994–1999
29%	2000–2003
32%	2004–2008
2%	Don't drive [skip to Q18]
2%	Don't know

14. What type of vehicle is it? Is this vehicle a…

62%	Passenger car
8%	Van or minivan
16%	Sport utility vehicle
13%	Pickup or other truck
<1%	Motorcycle [skip to Q16]
<1%	Moped or motor scooter [skip to Q16]

15. Is this a compact, mid-sized, or large model?

34%	Compact
46%	Mid-sized
18%	Large
1%	Don't know

16. What is the approximate fuel efficiency of this vehicle? In other words, how many miles per gallon does the vehicle get?

4%	<13 mpg
12%	13–17 mpg
28%	18–22 mpg
20%	23–27 mpg
23%	28–75 mpg
14%	Don't know

17. When you purchased or leased this vehicle, how much of a factor was gas mileage? Was it a very important factor, somewhat important, not very important, or not important at all?

29%	Very important factor
37%	Somewhat important factor
13%	Not very important factor
20%	Not important at all
2%	Don't know

Now I have some questions about your opinions on some policy issues.

18. Do you agree or disagree with the following statement? We must protect the environment, even if it means paying higher prices for gasoline and electricity.

63%	Agree
33%	Disagree
5%	Don't know

19. To solve today's environmental problems do you think people like you will have to make major lifestyle changes, minor lifestyle changes or no real lifestyle changes?

34%	Major change
54%	Minor change
11%	No change
1%	Don't know

20. Do you think the United States should meet its growing energy needs by emphasizing more DOMESTIC production of gas, oil, and coal supplies, OR should the U.S. instead emphasize developing renewable energy supplies like wind, hydro and solar power?

9%	Emphasize gas, oil, and coal supplies
71%	Emphasize wind, hydro, and solar power
14%	Both
1%	Neither
2%	Other
4%	Don't know

21. Would you rather pay higher taxes to support a larger state government that provides more services, OR would you rather pay lower taxes and have a smaller state government that provides fewer services?

38%	Higher taxes and more state services
44%	Lower taxes and fewer state services
3%	Both
7%	Neither
8%	Don't know

There are many different ways to raise funds for maintaining and improving highways, mass transit, and local streets. I'd like to ask your thoughts about some of these. [rotate questions 22-24]

22. One idea (another idea) to raise funds for transportation is to increase the state's vehicle REGISTRATION fee from its current rate of $31 per vehicle per year to $62 per year per vehicle. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose that idea?

18%	Strongly support
23%	Somewhat support
16%	Somewhat oppose
39%	Strongly oppose
5%	Don't know

23. An alternative would be to increase the vehicle registration fee to an AVERAGE of $62 per year, but vary the fee according to how much the vehicle pollutes. Vehicles that pollute more would pay higher fees, and those that pollute less would pay lower fees. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose that idea?

37%	Strongly support
27%	Somewhat support
9%	Somewhat oppose
24%	Strongly oppose
4%	Don't know

24. What if the additional money raised from the variable registration fee just described were dedicated for transportation projects that would help reduce smog and greenhouse gases—projects like converting transit and school buses to cleaner fuels, or building new biking and walking paths? Would this make you more or less likely to support raising registration fees based on how much a vehicle pollutes?

64%	More likely
20%	Less likely
10%	No difference
5%	Don't know

25. One idea (another idea) is create a new tax and tax REBATE system on all new vehicles base on how much they pollute. People who buy a new vehicle that doesn't pollute much would receive a rebate of up to $1,000. People who buy a new vehicle that pollutes a lot, such as a very large SUV, would pay a tax up to $2,000. People who buy a vehicle that pollutes about the average would not pay or receive anything. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose that idea?

38%	Strongly support
27%	Somewhat support
10%	Somewhat oppose
20%	Strongly oppose
1%	Don't know

26. One idea (another idea) is to eliminate the eighteen-cents-per-gallon state gas tax altogether and replace it with a fee based on the number of miles you drive. Each driver would pay a fee of one cent per mile for every mile driven within the state. For example, every one hundred miles driven would pay a fee of one dollar. Vehicles would be equipped with an electronic means to keep track of miles driven and the fee would be paid when drivers buy gas. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose that idea?

12%	Strongly support
16%	Somewhat support
12%	Somewhat oppose
52%	Strongly oppose
7%	Don't know

27. A variation on the mileage fee just described is to have the fee vary depending upon how much the vehicle pollutes. On average, vehicles would pay one cent per mile, but vehicles that pollute the least would pay less and vehicles that pollute the most would pay more per mile. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose that idea?

25%	Strongly support
25%	Somewhat support
11%	Somewhat oppose
35%	Strongly oppose
5%	Don't know

D1. What is your gender?

55%	Female
45%	Male

D2. What race or ethnicity do you consider yourself?

68%	White, Caucasian or European
18%	Hispanic, Latino, Mexican-American
6%	Asian, Pacific Islander, East Indian
6%	Black, African American
2%	Other, including Native American and multiple race

D3. What is your age?

19%	18 to 24 years
38%	25 to 54 years
43%	55 years +

D4. Do you own or rent your current residence?

71%	Own
29%	Rent

D5. What is your education level?

5%	Less than high school degree
16%	High school graduate
27%	Some college
26%	College graduate (four year)
4%	Some graduate school
22%	Graduate school

D6. Are you employed?

62%	Yes
16%	No [skip to D8]
22%	Retired [skip to D8]

D7. Is that full-time or part-time?

81%	Full-time
19%	Part-time

D8. How do you usually commute to work?

76%	Drive yourself
5%	Transit
5%	Carpool
2%	Bicycle
3%	Walk
10%	Work at home, do not commute

D9. As you know, many people are so busy these days they can't find time to register to vote, or they move around so often they don't get a chance to re-register. Are you now registered to vote in your precinct, or haven't you been able to register for one reason or another?

83%	Yes, registered
14%	No, not registered [skip to D12]
3%	I'm not a U.S. citizen/I'm registered to vote in a country outside the U.S. [skip to D12]
1%	Don't know [skip to D12]

D10. In what party are you registered to vote? (If respondent says "independent" ask: Do you mean you're registered in the American Independent Party or do you mean you're registered but you declined to state a party?)

47%	Democrat
33%	Republican
13%	Independent (i.e. decline to state)
1%	Libertarian
<1%	Peace & Freedom
1%	Green Party
1%	Other
3%	Don't know

D11. How often would you say you vote: all of the time, most of the time, occasionally, seldom, or never?

73%	All of the time
20%	Most of the time
5%	Occasionally
1%	Seldom
1%	Never
<1%	Don't know

D12. Finally, and of course confidentially, please stop me when I mention a range that describes your household income.

11%	Less than $20,000
14%	More than $20,000 but less than $35,000
12%	More than $35,000 but less than $50,000
18%	More than $50,000 but less than $75,000
16%	More than $75,000 but less than $100,000
15%	More than $100,000 but less than $150,000
14%	More than $150,000

APPENDIX B
POLICY SUPPORT BY SOCIO-DEMOGRAPHIC CATEGORY

Table 24 Support for the flat-rate vehicle registration fee, by socio-demographic categories (detailed breakdown)

Respondent Category	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
Statewide	18	23	16	39	5	1494
North/South						
North	22	24	13	36	6	588
South	16	22	18	41	4	906
Region						
Bay Area	24	27	12	29	7	313
Los Angeles	16	25	16	38	4	416
Other Southern California	15	18	19	45	3	394
Central Valley	17	20	15	42	6	235
Central Coast	19	21	21	34	5	96
Rural CA	21	15	10	54	0	39
Gender						
Men	18	23	16	40	3	738
Women	18	22	15	38	6	755
Age						
18–24 years	16	27	25	28	4	265
25–54 years	17	25	15	39	4	546
55+ years	20	19	13	43	5	617
Own/rent residence						
Own	18	22	14	41	5	1033
Rent	19	25	19	33	5	423
Education						
High school or less	12	17	20	46	5	307
More than high school	20	24	15	37	5	1168
Employed						
Yes–full time	19	25	16	38	3	734
Yes–part time	20	24	15	32	9	177
No	17	19	15	42	6	566
Income						
Less than $50,000	13	20	19	43	5	476
$50,000–$100,000	19	24	14	39	4	428
Over $100,000	25	25	14	33	4	366
Likely voter						
Yes	19	19	14	38	4	1093
No	14	14	20	41	7	400
Political affiliation						
Democrat	22	22	15	33	5	547
Republican	14	14	14	48	4	375
Other	22	22	16	33	3	196
Don't know	13	13	24	40	11	38

Note: Percentages may not total to 100% due to rounding.

Table 25 Support for the green vehicle registration fee, by socio-demographic categories (detailed breakdown)

Respondent Category	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
Statewide	37	27	9	24	24	1493
North/South						
North	39	28	9	20	20	588
South	35	26	9	26	26	905
Region						
Bay Area	42	28	8	19	19	312
Los Angeles	39	26	8	23	23	415
Other Southern California	31	28	8	30	30	395
Central Valley	35	25	10	25	25	237
Central Coast	37	23	12	21	21	94
Rural CA	39	26	10	23	23	39
Gender						
Men	36	25	9	28	28	734
Women	38	29	8	21	21	757
Age						
18–24 years	41	30	10	17	17	264
25–54 years	36	30	7	23	23	545
55+ years	38	23	9	26	26	617
Own/rent residence						
Own	36	26	8	26	26	1034
Rent	39	28	9	19	19	421
Education						
High school or less	32	28	9	25	25	306
More than high school	38	27	8	23	23	1165
Employed						
Yes–full time	39	26	8	24	24	736
Yes–part time	37	29	6	24	24	176
No	34	27	10	23	23	566
Income						
Less than $50,000	35	29	7	22	6	477
$50,000 - $100,000	40	24	8	26	2	427
Over $100,000	40	26	10	22	2	366
Likely voter						
Yes	40	25	8	24	3	1095
No	28	31	10	25	7	398
Political affiliation						
Democrat	47	25	7	16	4	548
Republican	28	27	10	33	3	375
Other	42	22	9	25	2	194
Don't know	16	30	8	27	19	37

Note: Percentages may not total to 100% due to rounding.

Table 26 Support for basic mileage fee, by socio-demographic categories (detailed breakdown

Respondent Category	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
Statewide	12	16	12	52	7	1496
North/South						
North	11	17	12	53	7	589
South	14	15	13	52	7	908
Region						
Bay Area	11	17	12	52	8	314
Los Angeles	14	17	12	49	8	417
Other Southern California	13	13	14	55	6	396
Central Valley	10	19	12	52	7	237
Central Coast	13	10	11	55	12	93
Rural CA	10	113	8	68	3	40
Gender						
Men	12	15	13	57	4	736
Women	13	17	12	48	10	759
Age						
18–24 years	11	25	19	40	5	264
25–54 years	13	13	15	55	5	546
55+ years	12	14	9	55	10	620
Own/rent residence						
Own	11	14	11	56	7	1035
Rent	15	19	14	43	9	423
Education						
High school or less	21	18	13	41	8	308
More than high school	10	15	12	55	7	1169
Employed						
Yes–full time	11	15	14	56	5	737
Yes–part time	10	17	13	49	11	175
No	15	17	11	49	9	567
Income						
Less than $50,000	17	17	12	45	9	477
$50,000–$100,000	8	16	13	57	6	427
Over $100,000	12	14	12	57	5	367
Likely voter						
Yes	12	15	12	55	7	1095
No	14	19	14	45	8	402
Political affiliation						
Democrat	15	17	12	49	8	546
Republican	9	13	9	63	6	376
Other	9	14	18	55	5	194
Don't know	19	5	5	46	24	37

Note: Percentages may not total to 100% due to rounding.

Table 27 Support for the green mileage fee, by socio-demographic categories (detailed breakdown)

Respondent Category	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
Statewide	25	25	11	35	5	1491
North/South						
North	24	26	11	35	4	588
South	26	24	11	35	5	903
Region						
Bay Area	28	25	11	32	4	313
Los Angeles	28	23	10	35	5	417
Other Southern California	23	27	11	35	4	393
Central Valley	21	26	10	37	6	235
Central Coast	28	19	17	35	1	94
Rural CA	15	30	13	40	3	40
Gender						
Men	23	22	11	41	4	735
Women	28	28	11	28	5	756
Age						
18–24 years	25	31	16	24	3	264
25–54 years	26	24	10	36	4	546
55+ years	26	24	9	36	4	616
Own/rent residence						
Own	25	24	10	37	4	1033
Rent	27	26	12	29	6	423
Education						
High school or less	30	22	12	30	4	304
More than high school	24	26	11	36	6	1167
Employed						
Yes–full time	26	24	11	37	6	736
Yes–part time	22	28	13	30	4	176
No	26	26	10	33	3	565
Income						
Less than $50,000	28	26	11	30	5	472
$50,000–$100,000	25	27	9	37	3	427
Over $100,000	24	23	11	39	3	367
Likely voter						
Yes	26	24	10	36	4	1090
No	25	27	12	31	6	400
Political affiliation						
Democrat	33	24	11	27	4	544
Republican	16	27	10	44	4	375
Other	25	19	9	44	3	194
Don't know	19	17	17	28	19	36

Note: Percentages may not total to 100% due to rounding.

Table 28 Support for the feebate, by socio-demographic categories (detailed breakdown)

Respondent Category	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
Statewide	38	27	10	20	4	1489
North/South						
North	41	28	10	18	4	587
South	37	27	10	21	5	902
Region						
Bay Area	48	24	9	16	2	311
Los Angeles	41	24	10	19	6	414
Other Southern California	31	30	11	24	4	392
Central Valley	33	33	9	19	7	237
Central Coast	37	25	12	22	5	96
Rural CA	39	23	13	23	3	39
Gender						
Men	37	27	11	22	3	734
Women	39	28	9	18	5	754
Age						
18–24 years	34	31	14	16	4	265
25–54 years	39	28	11	19	3	545
55+ years	39	25	7	23	6	617
Own/rent residence						
Own	40	27	9	22	3	1031
Rent	36	29	12	16	7	423
Education						
High school or less	30	25	13	23	9	306
More than high school	41	28	9	19	3	1163
Employed						
Yes–full time	40	28	11	20	2	735
Yes–part time	44	23	10	19	3	176
No	35	28	9	20	7	562
Income						
Less than $50,000	37	28	11	18	7	474
$50,000–$100,000	42	29	8	20	2	427
Over $100,000	41	27	8	21	3	368
Likely voter						
Yes	40	27	9	20	4	1089
No	33	28	13	20	7	400
Political affiliation						
Democrat	47	28	8	13	4	543
Republican	31	27	10	29	3	373
Other	39	22	12	23	4	194
Don't know	28	39	6	17	11	36

Note: Percentages may not total to 100% due to rounding.

APPENDIX C
POLICY SUPPORT BY TRAVEL BEHAVIOR

Table 29 Support for the flat-rate vehicle registration fee, by travel behavior (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	18	23	16	39	5	1494
"How do you usually commute to work?" (Question D8)						
Drive yourself	18	24	16	39	3	688
Transit, carpool, bike, walk	22	29	15	27	8	130
NA–work at home	21	26	12	37	3	89
"In the past seven days, have you taken any form of public transit, like a bus, light rail, subway, or commuter train?" (Question 9)						
Yes	27	25	14	28	7	193
No	17	22	16	41	4	1296
Don't know	0	0	0	67	33	3
"In the past seven days, have you walked or biked from your home to get to work, shopping, eating out, or other errands?" (Question 10)						
Yes	22	22	16	34	7	505
No	16	23	16	42	4	984
Don't know	0	100	0	0	0	1
"About how many miles did you, personally, drive during the past 12 months in all motorized vehicles? Please exclude miles you drove as part of a job." (Question 11)						
1–3,000	15	23	15	41	6	386
3,001–7,500	20	20	18	38	3	313
7,501–12,500	17	27	14	38	3	321
12,501+	21	22	13	40	4	276
NA–don't drive	20	19	18	30	14	96
Don't know	14	18	20	43	5	100
"As a result of the recent rise in gasoline prices, how much, if any, have you cut back on your driving? Have you cut back a lot, a little or not at all?" (Question 12)						
Cut back a lot	13	19	13	50	5	345
Cut back a little	16	28	19	34	4	484
Not at all	22	22	15	38	3	541
NA–don't drive	33	4	8	46	8	24
Don't know	33	0	0	33	33	3

Note: Percentages may not total to 100% due to rounding.

Table 30 Support for the green vehicle registration fee, by travel behavior (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	37	27	9	24	4	1493
"How do you usually commute to work?" (Question D8)						
Drive yourself	37	27	8	25	3	689
Transit, carpool, bike, walk	49	24	5	17	5	130
NA–work at home	36	27	11	25	0	88
"In the past seven days, have you taken any form of public transit, like a bus, light rail, subway, or commuter train?" (Question 9)						
Yes	47	28	6	16	4	193
No	35	27	9	25	4	1294
Don't know	33	0	0	67	0	3
"In the past seven days, have you walked or biked from your home to get to work, shopping, eating out, or other errands?" (Question 10)						
Yes	43	27	8	18	5	504
No	34	27	9	27	4	987
Don't know	100	0	0	0	0	1
"About how many miles did you, personally, drive during the past 12 months in all motorized vehicles? Please exclude miles you drove as part of a job." (Question 11)						
1–3,000	39	26	9	21	4	386
3,001–7,500	39	24	8	26	3	312
7,501–12,500	36	29	8	24	3	321
12,501+	36	24	6	31	3	274
NA–don't drive	33	28	14	13	13	94
Don't know	32	32	8	23	6	101
"As a result of the recent rise in gasoline prices, how much, if any, have you cut back on your driving? Have you cut back a lot, a little or not at all?" (Question 12)						
Cut back a lot	35	27	8	25	5	346
Cut back a little	36	32	8	20	4	486
Not at all	38	22	8	30	3	538
NA–don't drive	52	24	4	16	4	25
Don't know	100	0	0	0	0	3

Note: Percentages may not total to 100% due to rounding.

Table 31 Support for the flat-rate mileage fee, by travel behavior (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	12	16	12	52	7	1496
"How do you usually commute to work?" (Question D8)						
Drive yourself	9	15	14	57	6	690
Transit, carpool, bike, walk	18	18	15	44	6	131
NA–work at home	16	16	11	50	8	90
"In the past seven days, have you taken any form of public transit, like a bus, light rail, subway, or commuter train?" (Question 9)						
Yes	17	17	12	47	8	194
No	12	16	12	53	7	1298
Don't know	33	0	0	33	33	3
"In the past seven days, have you walked or biked from your home to get to work, shopping, eating out, or other errands?" (Question 10)						
Yes	14	17	15	46	8	503
No	12	15	11	55	7	987
Don't know	100	0	0	0	0	1
"About how many miles did you, personally, drive during the past 12 months in all motorized vehicles? Please exclude miles you drove as part of a job." (Question 11)						
1–3,000	13	15	14	51	8	384
3,001–7,500	12	15	11	57	5	312
7,501–12,500	12	18	11	53	7	322
12,501+	10	12	12	61	6	275
NA–don't drive	20	21	16	28	16	96
Don't know	14	18	14	44	11	102
"As a result of the recent rise in gasoline prices, how much, if any, have you cut back on your driving? Have you cut back a lot, a little or not at all?" (Question 12)						
Cut back a lot	15	18	7	53	7	346
Cut back a little	12	14	18	51	6	484
Not at all	10	15	11	58	7	542
NA–don't drive	21	13	8	42	17	24
Don't know	0	67	0	0	33	3

Note: Percentages may not total to 100% due to rounding.

Table 32 Support for the green mileage fee, by travel behavior (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	25	25	11	35	5	1491
"How do you usually commute to work?" (Question D8)						
Drive yourself	24	24	12	37	3	688
Transit, carpool, bike, walk	32	23	11	28	7	132
NA–work at home	21	29	10	37	3	90
"In the past seven days, have you taken any form of public transit, like a bus, light rail, subway, or commuter train?" (Question 9)						
Yes	31	25	10	27	8	192
No	25	25	11	36	4	1291
Don't know	0	0	0	67	33	3
"In the past seven days, have you walked or biked from your home to get to work, shopping, eating out, or other errands?" (Question 10)						
Yes	30	25	11	29	6	502
No	23	25	11	38	4	985
Don't know	100	0	0	0	0	1
"About how many miles did you, personally, drive during the past 12 months in all motorized vehicles? Please exclude miles you drove as part of a job." (Question 11)						
1–3,000	26	26	12	31	5	383
3,001–7,500	29	20	8	40	3	311
7,501–12,500	22	26	10	39	3	322
12,501+	22	25	10	41	3	274
NA–don't drive	32	27	14	17	10	96
Don't know	26	28	16	23	9	102
"As a result of the recent rise in gasoline prices, how much, if any, have you cut back on your driving? Have you cut back a lot, a little or not at all?" (Question 12)						
Cut back a lot	28	27	10	33	2	344
Cut back a little	25	26	14	30	6	483
Not at all	22	23	8	45	3	538
NA–don't drive	40	12	12	20	16	25
Don't know	67	0	0	0	33	3

Note: Percentages may not total to 100% due to rounding.

Table 33 Support for the feebate, by travel behavior (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	38	27	10	20	4	1489
"How do you usually commute to work?" (Question D8)						
Drive yourself	40	27	11	20	2	687
Transit, carpool, bike, walk	45	24	12	15	5	131
NA–work at home	40	30	5	24	1	89
"In the past seven days, have you taken any form of public transit, like a bus, light rail, subway, or commuter train?" (Question 9)						
Yes	47	24	10	14	6	195
No	37	28	10	21	4	1290
Don't know	0	33	0	67	0	3
"In the past seven days, have you walked or biked from your home to get to work, shopping, eating out, or other errands?" (Question 10)						
Yes	42	27	10	15	6	505
No	36	27	10	23	4	981
Don't know	100	0	0	0	0	1
"About how many miles did you, personally, drive during the past 12 months in all motorized vehicles? Please exclude miles you drove as part of a job." (Question 11)						
1–3,000	39	27	12	18	4	384
3,001–7,500	42	23	10	22	4	311
7,501–12,500	39	29	9	21	2	321
12,501+	39	30	7	22	3	275
NA–don't drive	31	22	14	15	18	94
Don't know	31	33	9	19	8	98
"As a result of the recent rise in gasoline prices, how much, if any, have you cut back on your driving? Have you cut back a lot, a little or not at all?" (Question 12)						
Cut back a lot	39	27	8	22	5	343
Cut back a little	39	32	11	15	3	485
Not at all	38	25	9	25	3	536
NA–don't drive	50	17	8	21	4	24
Don't know	100	0	0	0	0	3

Note: Percentages may not total to 100% due to rounding.

APPENDIX D
POLICY SUPPORT BY TYPE OF VEHICLE RESPONDENT DRIVES MOST

Table 34 Support for the flat-rate vehicle registration fee, by type of vehicle respondent drives most (detailed breakdown)

Vehicle Type Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	18	23	16	39	5	1494
"What is the model year of this vehicle?" (Question 13)						
2004–2005	19	24	16	37	4	449
2000–2003	16	25	13	42	4	402
1951–1999	18	21	17	39	4	500
Don't drive	26	4	17	48	4	23
Don't know	15	15	19	52	0	27
"What type of vehicle is it? Is this vehicle a..."						
Passenger car	9	23	16	37	5	837
Van or Minivan	12	25	14	41	8	111
Sport utility vehicle	21	23	16	37	2	219
Pickup truck/truck	13	20	14	51	2	170
Other	0	36	9	46	9	11
"What is the approximate fuel efficiency of this vehicle? In other words, how many miles per gallon does it get?"						
28–75 MPG	24	24	13	35	5	307
23–27 MPG	14	27	18	37	4	263
18–22 MPG	18	22	15	41	4	382
13–17 MPG	15	22	15	45	4	166
<13 MPG	15	27	17	42	0	48
Don't know	9	32	14	27	18	22
"When you purchased or leased this vehicle, how much of a factor was gas mileage? Was it a very important factor, somewhat important, not very important, or not important at all?"						
Very important	20	22	13	41	5	396
Somewhat important	18	27	17	34	4	492
Not very important	18	26	17	36	4	172
Not important at all	15	16	15	51	32	65
Don't know	9	32	14	27	18	22

Note: Percentages may not total to 100% due to rounding.

Table 35 Support for the green vehicle registration fee, by type of vehicle respondent drives most (detailed breakdown)

Vehicle Type Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	37	27	9	244	4	1493
"What is the model year of this vehicle?" (Question 13)						
2004–2008	36	28	10	24	2	450
2000–2003	36	25	8	27	5	400
1951–1999	39	27	6	24	5	497
Don't drive	35	26	17	17	4	23
Don't know	30	22	4	41	4	27
"What type of vehicle is it? Is this vehicle a ..."						
Passenger car	41	26	7	22	4	835
Van or minivan	35	32	11	18	5	111
Sport utility vehicle	33	31	8	27	1	218
Pickup truck/truck	26	22	12	37	3	170
Other	0	27	9	64	0	11
"What is the approximate fuel efficiency of this vehicle? In other words, how many miles per gallon does the vehicle get?"						
28–75 MPG	49	26	5	17	3	304
23–27 MPG	39	24	9	24	4	262
18–22 MPG	39	23	8	27	2	382
13–17 MPG	20	28	10	37	5	167
<13 MPG	15	31	17	31	6	48
Don't know	32	35	8	20	6	185
"When you purchased or leased this vehicle, how much of a factor was gas mileage? Was it a very important factor, somewhat important, not very important, or not important at all?"						
Very important	51	24	6	17	4	395
Somewhat important	37	30	9	21	3	490
Not very important	26	31	8	29	6	172
Not important at all	25	22	9	40	3	265
Don't know	30	30	4	22	13	23

Note: Percentages may not total to 100% due to rounding.

Table 36 Support for the flat-rate mileage fee, by type of vehicle respondent drives most (detailed breakdown)

Vehicle Type Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	12	16	12	52	7	1496
"What is the model year of this vehicle?" (Question 13)						
2004–008	11	16	14	54	5	450
2000–2003	11	15	11	55	9	401
1951–1999	12	16	11	55	6	499
Don't drive	35	13	13	26	13	23
Don't know	15	15	11	52	7	27
"What type of vehicle is it? Is this vehicle a ..."						
Passenger car	11	15	12	54	7	839
Van or minivan	11	22	10	49	8	112
Sport utility vehicle	13	13	16	54	4	220
Pickup truck/truck	10	16	8	59	7	169
Other	9	0	0	91	0	11
"What is the approximate fuel efficiency of this vehicle? In other words, how many miles per gallon does the vehicle get?"						
28–75 MPG	9	14	16	55	6	305
23–27 MPG	13	13	12	57	6	263
18–22 MPG	9	17	9	59	6	382
13–17 MPG	11	13	10	60	7	167
<13 MPG	11	17	9	57	6	47
Don't know	18	22	14	35	11	185
"When you purchased or leased this vehicle, how much of a factor was gas mileage? Was it a very important factor, somewhat important, not very important, or not important at all?"						
Very important	13	15	12	53	7	396
Somewhat important	9	16	12	56	7	493
Not very important	12	17	12	53	6	171
Not important at all	13	14	11	56	6	265
Don't know	14	14	9	55	9	22

Note: Percentages may not total to 100% due to rounding.

Table 37 Support for the green mileage fee, by type of vehicle respondent drives most (detailed breakdown)

Vehicle Type Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	25	25	11	35	5	1491
"What is the model year of this vehicle?" (Question 13)						
2004–2008	39	31	10	19	2	449
2000–2003	38	29	8	22	4	400
1951–1999	40	26	10	20	4	495
Don't drive	39	4	22	30	4	23
Don't know	41	11	7	30	11	27
"What type of vehicle is it? Is this vehicle a ..."						
Passenger car	41	29	8	19	3	833
Van or minivan	38	30	15	12	5	111
Sport utility vehicle	35	29	9	24	3	219
Pickup truck/truck	33	24	13	26	5	170
Other	27	18	9	36	9	11
"What is the approximate fuel efficiency of this vehicle? In other words, how many miles per gallon does the vehicle get?"						
28–5 MPG	45	29	5	17	3	306
23–27 MPG	42	25	10	21	2	261
18–22 MPG	38	28	12	21	2	384
13–17 MPG	35	29	10	23	4	164
<13 MPG	18	22	16	37	6	49
Don't know	34	33	10	15	8	182
"When you purchased or leased this vehicle, how much of a factor was gas mileage? Was it a very important factor, somewhat important, not very important, or not important at all?"						
Very important	48	24	9	15	4	395
Somewhat important	37	34	8	19	2	493
Not very important	38	27	14	18	4	172
Not important at all	28	25	10	31	5	264
Don't know	32	27	9	27	5	22

Note: Percentages may not total to 100% due to rounding.

Table 38 Support for the feebate, by type of vehicle respondent drives most (detailed breakdown)

Vehicle Type Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	38	27	10	20	4	1489
"What is the model year of this vehicle?" (Question 13)						
2004–2008	39	31	10	19	2	449
2000 –2003	38	29	8	22	4	400
1994–1999	38	28	12	18	4	325
1951–1993	42	20	7	25	6	170
Don't drive	39	4	22	30	4	23
Don't know	41	11	7	30	11	27
"What type of vehicle is it? Is this vehicle a ..."						
Passenger car	41	29	8	19	3	833
Van or minivan	38	30	15	12	5	111
Sport utility vehicle	35	29	9	24	3	219
Pickup truck/truck	33	24	13	26	5	170
Other	27	18	9	36	9	11
"What is the approximate fuel efficiency of this vehicle? In other words, how many miles per gallon does the vehicle get?"						
28–75 MPG	45	29	5	17	3	306
23–27 MPG	42	25	10	21	2	261
18–22 MPG	38	28	12	21	2	384
13–17 MPG	35	29	10	23	4	164
<13 MPG	18	22	16	37	6	49
Don't know	34	33	10	15	8	182
"When you purchased or leased this vehicle, how much of a factor was gas mileage? Was it a very important factor, somewhat important, not very important, or not important at all?"						
Very important	48	24	9	15	4	395
Somewhat important	37	34	8	19	2	493
Not very important	38	27	14	18	4	172
Not important at all	28	25	10	31	5	264
Don't know	32	27	9	27	5	22

Note: Percentages may not total to 100% due to rounding.

APPENDIX E
POLICY SUPPORT BY OPINIONS ON AIR POLLUTION, TRAFFIC CONGESTION, AND TRANSPORTATION SYSTEM QUALITY

Table 39 Support for the flat-rate vehicle registration fee, by opinions on air pollution, traffic congestion, and transportation system quality (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	18	23	16	39	5	1494
Smog & air pollution a problem in California?						
Big problem	20	22	15	37	6	828
Somewhat of a problem	18	27	17	36	3	509
Not much of a problem	6	14	14	63	2	98
No problem at all	6	8	20	60	6	50
Don't know	29	14	14	14	29	7
Traffic congestion a problem in California?						
Big problem	19	23	14	38	5	1134
Somewhat of a problem	17	21	21	39	3	264
Not much of a problem	9	17	21	49	4	47
No problem at all	7	22	15	49	7	41
Don't know	0	13	13	63	13	8
Quality of the transportation system a problem for you/your family?						
Big problem	16	23	12	45	5	367
Somewhat of a problem	21	22	18	35	4	463
Not much of a problem	17	30	19	30	4	312
No problem at all	18	17	14	46	5	335
Don't know	0	13	19	56	13	16
Air pollution a health problem for you/your family?						
Big problem	18	21	14	42	5	342
Somewhat of a problem	19	24	17	36	4	382
Not much of a problem	18	26	18	33	5	305
No problem at all	17	20	15	43	5	459
Don't know	0	29	14	43	14	7

Note: Percentages may not total to 100% due to rounding.

Table 40 Support for the green registration fee, by opinions on air pollution, traffic congestion, and transportation system quality (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	37	27	9	24	4	1493
Smog & air pollution a problem in California?						
Big problem	44	25	8	19	5	828
Somewhat of a problem	29	30	9	29	3	506
Not much of a problem	23	27	5	40	4	99
No problem at all	24	18	18	35	6	51
Don't know	43	43	0	0	14	7
Traffic congestion a problem in California?						
Big problem	38	27	8	23	4	1132
Somewhat of a problem	38	24	11	23	3	263
Not much of a problem	15	28	13	36	9	47
No problem at all	22	22	17	29	10	41
Don't know	11	44	0	44	0	9
Quality of the transportation system a problem for you/your family?						
Big problem	36	26	8	28	3	368
Somewhat of a problem	42	28	7	20	3	461
Not much of a problem	32	30	12	20	5	313
No problem at all	35	23	8	28	6	333
Don't know	25	31	0	31	13	16
Air pollution a health problem for you/your family?						
Big problem	49	22	6	19	4	343
Somewhat of a problem	40	28	7	19	6	381
Not much of a problem	32	32	10	23	4	306
No problem at all	29	25	11	31	4	456
Don't know	25	25	0	50	0	8

Note: Percentages may not total to 100% due to rounding.

Table 41 Support for the flat-mileage fee, by opinions on air pollution, traffic congestion, and transportation system quality (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	12	16	12	52	7	1496
Smog & air pollution a problem in California?						
Big problem	14	15	13	50	8	828
Somewhat of a problem	9	16	13	55	7	509
Not much of a problem	13	18	7	60	2	99
No problem at all	8	14	8	59	12	51
Don't know	14	14	0	14	57	7
Traffic congestion a problem in California?						
Big problem	13	15	12	54	7	1134
Somewhat of a problem	10	20	17	45	8	264
Not much of a problem	13	15	10	52	10	48
No problem at all	12	10	5	66	7	41
Don't know	33	11	11	22	22	9
Quality of the transportation system a problem for you/your family?						
Big problem	11	14	10	58	8	368
Somewhat of a problem	14	16	13	50	7	464
Not much of a problem	9	17	16	50	8	313
No problem at all	16	16	10	50	7	336
Don't know	0	13	6	69	13	16
Air pollution a health problem for you/your family?						
Big problem	16	16	11	50	8	341
Somewhat of a problem	14	19	12	49	7	384
Not much of a problem	9	17	18	48	8	305
No problem at all	11	12	11	60	6	459
Don't know	11	0	11	33	44	9

Note: Percentages may not total to 100% due to rounding.

Table 42 Support for the green mileage fee, by opinions on air pollution, traffic congestion and transportation system quality (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	25	25	11	35	5	1491
Smog & air pollution a problem in California?						
Big problem	31	24	10	31	5	826
Somewhat of a problem	20	27	11	38	4	509
Not much of a problem	13	24	9	51	3	97
No problem at all	12	21	15	42	10	52
Don't know	29	57	0	0	14	7
Traffic congestion a problem in California?						
Big problem	27	24	11	34	4	1130
Somewhat of a problem	23	29	9	35	4	265
Not much of a problem	15	28	13	39	4	46
No problem at all	12	22	17	42	7	41
Don't know	11	22	0	33	33	9
Quality of the transportation system a problem for you/your family?						
Big problem	26	21	11	38	4	367
Somewhat of a problem	27	23	10	34	5	460
Not much of a problem	22	28	12	34	4	312
No problem at all	24	28	10	33	4	335
Don't know	19	25	6	44	6	16
Air pollution a health problem for you/your family?						
Big problem	36	24	8	29	4	340
Somewhat of a problem	29	26	12	29	4	379
Not much of a problem	21	25	14	36	6	306
No problem at all	18	25	10	44	4	458
Don't know	11	22	0	33	33	9

Note: Percentages may not total to 100% due to rounding.

Table 43 Support for the feebate, by opinions on air pollution, traffic congestion, and transportation system quality (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	38	27	10	20	4	1489
Smog & air pollution a problem in California?						
Big problem	46	25	8	17	4	826
Somewhat of a problem	31	33	12	22	4	508
Not much of a problem	26	24	14	31	6	98
No problem at all	16	18	12	45	8	49
Don't know	57	0	14	0	29	7
Traffic congestion a problem in California?						
Big problem	40	28	10	19	4	1129
Somewhat of a problem	36	27	10	23	5	263
Not much of a problem	26	22	15	28	9	46
No problem at all	22	24	10	34	10	41
Don't know	33	22	0	22	22	9
Quality of the transportation system a problem for you/your family?						
Big problem	40	27	8	22	3	367
Somewhat of a problem	41	27	11	18	3	462
Not much of a problem	31	33	13	18	6	311
No problem at all	39	24	8	22	7	331
Don't know	38	25	19	19	0	16
Air pollution a health problem for you/your family?						
Big problem	45	25	10	17	4	341
Somewhat of a problem	40	30	11	15	5	379
Not much of a problem	37	30	11	20	3	305
No problem at all	33	25	9	27	6	456
Don't know	50	13	0	38	0	8

Note: Percentages may not total to 100% due to rounding.

APPENDIX F
POLICY SUPPORT BY OPINIONS ON TRANSPORTATION REVENUES PRINCIPLES OF STRUCTURING VEHICLE REGISTRATION FEES

Table 44 Support for the flat-rate vehicle registration fee, by opinions on transportation revenues and principles of structuring vehicle registration fees (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	18	23	16	39	5	1494
State/local government has adequate funding for the transportation system?						
Yes	11	19	17	51	3	475
No	24	25	15	32	4	733
Don't know	15	22	17	37	9	279
Should vehicle registration fee rates take gasoline mileage into account?						
Yes	24	27	15	29	5	847
No	9	18	15	56	2	503
Don't know	18	10	21	41	11	137
Should vehicle registration fee rates take pollution emissions into account?						
Yes	22	26	16	30	5	1005
No	9	16	14	61	1	393
Don't know	10	14	15	45	16	87

Note: Percentages may not total to 100% due to rounding.

Table 45 Support for the green vehicle registration fee, by opinions on transportation revenues and principles of structuring vehicle registration fees (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	37	27	9	24	4	1493
State/local government has adequate funding for the transportation system?						
Yes	30	25	9	33	3	473
No	42	27	9	19	3	733
Don't know	36	28	8	21	8	280
Should vehicle registration fee rates take gasoline mileage into account?						
Yes	51	29	7	9	3	846
No	15	22	10	50	3	505
Don't know	27	28	10	23	13	137
Should vehicle registration fee rates take pollution emissions into account?						
Yes	49	31	7	9	3	1004
No	11	16	12	58	4	391
Don't know	15	25	10	33	16	87

Note: Percentages may not total to 100% due to rounding.

Table 46 Support for flat-rate mileage fee, by opinions on transportation revenues and principles of structuring vehicle registration fees (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	12	16	12	52	7	1496
State/local government has adequate funding for the transportation system?						
Yes	11	17	11	57	5	474
No	14	16	12	51	6	735
Don't know	11	14	16	45	15	282
Should vehicle registration fee rates take gasoline mileage into account?						
Yes	15	18	15	45	8	849
No	9	12	8	67	5	503
Don't know	7	17	15	46	15	137
Should vehicle registration fee rates take pollution emissions into account?						
Yes	14	17	15	46	8	1006
No	8	12	7	68	4	393
Don't know	8	14	12	55	12	87

Note: Percentages may not total to 100% due to rounding.

Table 47 Support for the green mileage fee, by opinions on transportation revenues and principles of structuring vehicle registration fees (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	25	25	11	35	5	1491
State/local government has adequate funding for the transportation system?						
Yes	21	22	9	45	3	472
No	30	25	10	32	4	730
Don't know	21	30	14	26	10	281
Should vehicle registration fee rates take gasoline mileage into account?						
Yes	34	31	9	22	4	847
No	11	16	12	58	3	500
Don't know	24	24	13	27	13	136
Should vehicle registration fee rates take pollution emissions into account?						
Yes	34	29	10	23	4	1004
No	9	13	12	64	3	391
Don't know	7	29	13	35	16	86

Note: Percentages may not total to 100% due to rounding.

Table 48 Support for the feebate, by opinions on transportation revenues and principles of structuring vehicle registration fees (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	38	27	10	20	4	1489
State/local government has adequate funding for the transportation system?						
Yes	31	26	11	28	3	473
No	43	28	10	16	3	733
Don't know	37	26	9	17	11	277
Should vehicle registration fee rates take gasoline mileage into account?						
Yes	49	29	8	10	4	846
No	20	25	13	39	3	501
Don't know	35	22	11	16	15	136
Should vehicle registration fee rates take pollution emissions into account?						
Yes	47	29	9	11	4	1003
No	18	23	12	43	4	391
Don't know	27	29	12	22	11	86

Note: Percentages may not total to 100% due to rounding.

APPENDIX G
POLICY SUPPORT BY KNOWLEDGE OF TRANSPORTATION ISSUES

Table 49 Support for the flat-rate vehicle registration fee by knowledge of transportation issues (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	18	23	16	39	5	1494
"State and federal gas taxes provide all the money that is spent to build and maintain highways and roads in California." (Question 8a)						
Definitely true	23	14	19	39	5	93
Probably true	16	23	21	38	3	257
Probably false	19	26	15	34	5	483
Definitely false*	17	19	14	46	4	465
Don't know	18	24	14	37	7	197
"State and federal gas taxes have not been raised in more than 10 years." (Question 8b)						
Definitely true*	27	29	8	35	1	77
Probably true	23	26	20	24	7	219
Probably false	17	26	18	35	3	352
Definitely false	13	17	14	54	2	385
Don't know	19	22	15	37	8	461
"Exhaust from cars, vans, pickups, and SUVs is an important source of the pollution that causes asthma and makes asthma attacks worse." (Question 8c)						
Definitely true*	24	24	13	34	6	477
Probably true	18	26	18	34	4	616
Probably false	12	15	20	50	3	164
Definitely false	10	13	6	67	4	78
Don't know	11	17	18	48	6	158
"In California, motor vehicles, including cars, trucks and trains, are the single largest source of air pollutants that cause smog." (Question 8d)						
Definitely true*	20	23	15	38	5	389
Probably true	19	25	17	34	5	562
Probably false	16	23	18	40	3	303
Definitely false	17	14	11	56	3	151
Don't know	13	21	14	40	14	88
"In California, motor vehicles, including cars, trucks, and trains, are the single largest source of so-called 'greenhouse gases' that many scientists say are causing global warming." (Question 8e)						
Definitely true*	22	28	13	32	5	279
Probably true	19	25	19	32	5	539
Probably false	16	20	16	44	4	307
Definitely false	15	12	13	58	2	194
"All new cars, vans, pickups, and SUVs pollute the same amount for each mile driven." (Question 8f)						
Definitely true	15	19	13	47	6	79
Probably true	17	19	20	42	3	156
Probably false	17	25	18	37	4	419
Definitely false*	22	23	14	38	4	679
Don't know	9	23	14	43	12	157

Note: Percentages may not total to 100% due to rounding.
* Correct answer to the question.

Table 50 Support for the green vehicle registration fee, by knowledge of transportation issues (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
Opinions	37	27	9	24	4	1493
"State and federal gas taxes provide all the money that is spent to build and maintain highways and roads in California." (Question 8a)						
Definitely true	44	22	12	21	2	92
Probably true	36	30	11	21	2	257
Probably false	40	29	10	18	3	483
Definitely false*	34	23	7	32	4	462
Don't know	33	27	4	26	10	197
"State and federal gas taxes have not been raised in more than 10 years." (Question 8b)						
Definitely true*	49	21	8	20	3	76
Probably true	40	30	11	16	3	217
Probably false	36	28	8	24	3	350
Definitely false	33	25	7	32	4	386
Don't know	37	27	9	22	6	461
"Exhaust from cars, vans, pickups, and SUVs is an important source of the pollution that causes asthma and makes asthma attacks worse." (Question 8c)						
Definitely true*	50	24	6	17	3	477
Probably true	34	32	11	19	4	615
Probably false	22	25	9	40	4	161
Definitely false	20	15	8	56	1	79
Don't know	31	22	6	31	10	158
"In California, motor vehicles, including cars, trucks and trains, are the single largest source of air pollutants that cause smog." (Question 8d)						
Definitely true*	45	26	6	19	5	390
Probably true	36	30	9	21	4	562
Probably false	35	24	11	27	2	300
Definitely false	23	17	11	45	3	150
Don't know	30	30	6	21	13	90
"In California, motor vehicles, including cars, trucks, and trains, are the single largest source of so-called 'greenhouse gases' that many scientists say are causing global warming." (Question 8e)						
Definitely true*	49	25	6	15	4	278
Probably true	41	31	7	18	3	539
Probably false	28	27	12	29	4	307
Definitely false	27	14	9	49	1	192
Don't know	28	29	9	22	12	177
"All new cars, vans, pickups, and SUVs pollute the same amount for each mile driven." (Question 8f)						
Definitely true	33	23	9	34	1	82
Probably true	37	34	8	18	3	156
Probably false	35	30	11	21	3	418
Definitely false*	41	23	8	25	3	676

Note: Percentages may not total to 100% due to rounding.
* Correct answer to the question.

Table 51 Support for the flat-mileage fee, by knowledge of transportation issues (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	12	16	12	52	7	1496
"State and federal gas taxes provide all the money that is spent to build and maintain highways and roads in California." (Question 8a)						
Definitely true	23	19	4	50	3	94
Probably true	16	18	12	49	6	256
Probably false	12	18	16	49	5	482
Definitely false*	10	10	9	64	7	464
Don't know	10	21	15	38	16	197
"State and federal gas taxes have not been raised in more than 10 years." (Question 8b)						
Definitely true*	17	20	7	54	3	76
Probably true	14	16	15	47	8	218
Probably false	10	18	16	53	3	352
Definitely false	16	14	9	54	8	385
Don't know	10	15	13	53	10	462
"Exhaust from cars, vans, pickups, and SUVs is an important source of the pollution that causes asthma and makes asthma attacks worse." (Question 8c)						
Definitely true*	17	17	11	49	6	477
Probably true	11	17	14	50	8	617
Probably false	10	10	11	64	6	162
Definitely false	10	11	8	70	1	79
Don't know	9	16	15	47	14	159
"In California, motor vehicles, including cars, trucks and trains, are the single largest source of air pollutants that cause smog." (Question 8d)						
Definitely true*	20	15	12	47	6	390
Probably true	9	18	14	52	7	564
Probably false	9	15	12	58	6	301
Definitely false	13	13	8	61	6	151
Don't know	8	14	14	45	20	89
"In California, motor vehicles, including cars, trucks, and trains, are the single largest source of so-called 'greenhouse gases' that many scientists say are causing global warming." (Question 8e)						
Definitely true*	22	15	12	45	7	279
Probably true	13	18	16	47	7	541
Probably false	8	14	13	60	6	306
Definitely false	9	11	5	71	4	193
Don't know	7	16	12	48	16	177
"All new cars, vans, pickups, and SUVs pollute the same amount for each mile driven." (Question 8f)						
Definitely true	24	12	5	55	4	83
Probably true	16	23	14	42	6	155
Probably false	10	18	16	49	6	420
Definitely false*	12	14	11	57	6	680
Don't know	12	13	10	48	18	159

Note: Percentages may not total to 100% due to rounding.
* Correct answer to the question.

Table 52 Support for the green mileage fee, by knowledge of transportation issues (detailed responses)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	25	25	11	35	5	1491
"State and federal gas taxes provide all the money that is spent to build and maintain highways and roads in California." (Question 8a)						
Definitely true	38	20	11	29	2	93
Probably true	30	27	10	28	4	256
Probably false	24	30	12	31	3	483
Definitely false*	23	16	11	47	3	462
Don't know	23	30	8	27	12	196
"State and federal gas taxes have not been raised in more than 10 years." (Question 8b)						
Definitely true*	40	15	11	32	4	76
Probably true	29	29	7	31	4	218
Probably false	22	28	12	36	2	352
Definitely false	23	22	12	39	3	384
Don't know	26	24	10	33	8	460
"Exhaust from cars, vans, pickups, and SUVs is an important source of the pollution that causes asthma and makes asthma attacks worse." (Question 8c)						
Definitely true*	38	22	9	28	3	476
Probably true	21	30	12	31	6	617
Probably false	16	17	12	53	2	162
Definitely false	16	16	5	57	7	77
Don't know	19	24	13	38	6	159
"In California, motor vehicles, including cars, trucks and trains, are the single largest source of air pollutants that cause smog." (Question 8d)						
Definitely true*	35	24	9	28	4	388
Probably true	23	29	11	33	5	561
Probably false	22	22	13	40	2	301
Definitely false	15	19	9	52	5	151
"In California, motor vehicles, including cars, trucks, and trains, are the single largest source of so-called 'greenhouse gases' that many scientists say are causing global warming." (Question 8e)						
Definitely true*	40	22	9	25	4	277
Probably true	26	29	12	28	4	537
Probably false	18	25	13	42	2	304
Definitely false	18	15	7	58	3	193
Don't know	19	26	10	34	11	176
"All new cars, vans, pickups, and SUVs pollute the same amount for each mile driven." (Question 8f)						
Definitely true	34	20	11	31	4	80
Probably true	27	34	7	28	5	154
Probably false	24	30	14	29	4	417
Definitely false*	26	21	9	40	4	680
Don't know	22	20	13	34	11	156

Note: Percentages may not total to 100% due to rounding.
* Correct answer to the question.

Table 53 Support for the feebate, by knowledge of transportation issues

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	38	27	10	20	4	1489
"State and federal gas taxes provide all the money that is spent to build and maintain highways and roads in California." (Question 8a)						
Definitely true	37	24	9	24	6	90
Probably true	35	29	15	20	2	256
Probably false	40	32	10	15	3	481
Definitely false*	39	22	9	27	4	465
Don't know	40	25	8	15	12	197
"State and federal gas taxes have not been raised in more than 10 years." (Question 8b)						
Definitely true*	45	20	9	21	5	76
Probably true	44	29	10	13	4	219
Probably false	34	32	12	20	3	352
Definitely false	36	22	11	27	4	385
Don't know	40	29	8	17	6	459
"Exhaust from cars, vans, pickups, and SUVs is an important source of the pollution that causes asthma and makes asthma attacks worse." (Question 8c)						
Definitely true*	49	23	10	14	4	472
Probably true	36	34	10	16	4	619
Probably false	22	21	15	37	4	163
Definitely false	24	18	8	43	7	76
Don't know	37	23	8	24	9	158
"In California, motor vehicles, including cars, trucks and trains, are the single largest source of air pollutants that cause smog." (Question 8d)						
Definitely true*	47	23	8	17	5	388
Probably true	37	31	11	17	3	560
Probably false	34	32	11	21	3	300
Definitely false	26	19	11	38	6	149
Don't know	41	20	7	21	11	90
"In California, motor vehicles, including cars, trucks, and trains, are the single largest source of so-called 'greenhouse gases' that many scientists say are causing global warming." (Question 8e)						
Definitely true*	53	24	7	13	4	278
Probably true	40	32	11	15	3	539
Probably false	32	27	14	24	3	304
Definitely false	28	19	6	43	4	190
Don't know	34	26	11	17	13	176
"All new cars, vans, pickups, and SUVs pollute the same amount for each mile driven." (Question 8f)						
Definitely true	39	23	10	23	5	82
Probably true	35	26	13	19	6	156
Probably false	34	33	12	19	3	416
Definitely false*	43	26	9	20	3	678
Don't know	33	22	8	23	14	155

Note: Percentages may not total to 100% due to rounding.
* Correct answer to the question.

APPENDIX H
POLICY SUPPORT BY OPINIONS ON ENVIRONMENTAL POLICY ISSUES

Table 54 Support for the flat-rate registration fee, by opinions on environmental policy issues (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose %	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	18	23	16	39	5	1494
"Do you agree or disagree with the following statement? We must protect the environment, even if it means paying higher prices for gasoline and electricity." (Question 18)						
Agree	25	28	16	27	5	935
Disagree	6	14	15	62	4	483
Don't know	6	16	19	44	15	68
"To solve today's environmental problems do you think people like you will have to make major lifestyle changes, minor lifestyle changes or no real lifestyle changes?" (Question 19)						
Major changes	22	23	16	34	6	505
Minor changes	18	25	17	38	4	802
No changes	9	15	11	59	7	164
Don't know	17	6	17	50	11	18
"Do you think the United States should meet its growing energy needs by emphasizing more domestic production of gas, oil, and coal supplies, or should the U.S. instead emphasize developing renewable energy supplies like wind, hydro and solar power?" (Question 20)						
Gas, oil, coal supplies	14	14	15	57	1	131
Wind, hydro, solar	19	26	17	34	4	1059
Don't know	20	11	7	38	24	55
"Would you rather pay higher taxes to support a larger state government that provides more services, or would you rather pay lower taxes and have a smaller state government that provides fewer services?" (Question 21)						
Higher taxes/more services	27	28	17	26	3	556
Lower taxes/fewer services	12	17	14	52	5	651
Don't know	12	23	22	31	12	123

Note: Percentages may not total to 100% due to rounding.

Table 55 Support for the green vehicle registration fee, by opinions on environmental policy issues (detailed breakdown)

Travel Behavior Categories	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	37	27	9	24	9	1493
"Do you agree or disagree with the following statement? We must protect the environment, even if it means paying higher prices for gasoline and electricity." (Question 18)						
Agree	47	28	8	13	3	935
Disagree	18	23	9	45	5	482
Don't know	27	32	7	22	12	68
"To solve today's environmental problems do you think people like you will have to make major lifestyle changes, minor lifestyle changes or no real lifestyle changes?" (Question 19)						
Major changes	44	28	9	16	3	503
Minor changes	37	27	9	23	4	801
No changes	16	20	7	52	6	164
Don't know	32	16	5	26	21	19
"Do you think the United States should meet its growing energy needs by emphasizing more domestic production of gas, oil, and coal supplies, or should the U.S. instead emphasize developing renewable energy supplies like wind, hydro and solar power?" (Question 20)						
Gas, oil, coal supplies	26	19	8	46	2	132
Wind, hydro, solar	42	29	9	17	3	1061
Don't know	24	26	9	19	22	54
"Would you rather pay higher taxes to support a larger state government that provides more services, or would you rather pay lower taxes and have a smaller state government that provides fewer services?" (Question 21)						
Higher taxes/more services	49	29	7	14	1	554
Lower taxes/fewer services	25	26	9	35	5	651
Don't know	39	29	7	15	10	123

Note: Percentages may not total to 100% due to rounding.

Table 56 Support for the flat-mileage fee, by opinions on environmental issues (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	12	16	12	52	7	1496
"Do you agree or disagree with the following statement? We must protect the environment, even if it means paying higher prices for gasoline and electricity." (Question 18)						
Agree	14	18	14	47	7	937
Disagree	9	12	10	64	6	483
Don't know	12	13	6	54	16	69
"To solve today's environmental problems do you think people like you will have to make major lifestyle changes, minor lifestyle changes or no real lifestyle changes?" (Question 19)						
Major changes	18	15	13	47	8	503
Minor changes	10	17	14	54	6	805
No changes	10	15	6	59	10	165
Don't know	11	17	6	39	28	18s
"Do you think the United States should meet its growing energy needs by emphasizing more domestic production of gas, oil, and coal supplies, or should the U.S. instead emphasize developing renewable energy supplies like wind, hydro and solar power?" (Question 20)						
Gas, oil, coal supplies	11	15	8	63	4	131
Wind, hydro, solar	13	17	14	49	7	1061
Don't know	13	20	11	29	27	55
"Would you rather pay higher taxes to support a larger state government that provides more services, or would you rather pay lower taxes and have a smaller state government that provides fewer services?" (Question 21)						
Higher taxes/more services	17	21	14	41	7	556
Lower taxes/fewer services	10	12	11	60	6	653
Don't know	9	17	15	44	15	124

Note: Percentages may not total to 100% due to rounding.

Table 57 Support for the green mileage fee, by opinions on environmental policy issues (detailed breakdown)

Opinion	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	25	25	11	35	5	1491
"Do you agree or disagree with the following statement? We must protect the environment, even if it means paying higher prices for gasoline and electricity." (Question 18)						
Agree	32	26	12	25	5	937
Disagree	14	21	10	53	3	479
Don't know	17	35	3	32	13	69
"To solve today's environmental problems do you think people like you will have to make major lifestyle changes, minor lifestyle changes or no real lifestyle changes?" (Question 19)						
Major changes	34	24	10	27	4	501
Minor changes	23	26	11	35	4	801
No changes	10	20	10	55	4	164
Don't know	11	26	0	37	26	19
"Do you think the United States should meet its growing energy needs by emphasizing more domestic production of gas, oil, and coal supplies, or should the U.S. instead emphasize developing renewable energy supplies like wind, hydro and solar power?" (Question 20)						
Gas, oil, coal supplies	15	24	14	46	2	131
Wind, hydro, solar	28	26	11	31	4	1058
Don't know	20	24	13	20	24	55
"Would you rather pay higher taxes to support a larger state government that provides more services, or would you rather pay lower taxes and have a smaller state government that provides fewer services?" (Question 21)						
Higher taxes/more services	36	29	12	20	3	555
Lower taxes/fewer services	18	23	9	46	4	651
Don't know	24	24	15	26	12	123

Note: Percentages may not total to 100% due to rounding.

Table 58 Support for the feebate, by knowledge of transportation issues (detailed breakdown)

Opinions	Strongly Support (%)	Somewhat Support (%)	Somewhat Oppose (%)	Strongly Oppose (%)	Don't Know (%)	*n*
All respondents	38	27	10	20	4	1489
"Do you agree or disagree with the following statement? We must protect the environment, even if it means paying higher prices for gasoline and electricity." (Question 18)						
Agree	46	30	8	12	3	934
Disagree	23	22	14	35	6	480
Don't know	36	30	8	21	5	66
"To solve today's environmental problems do you think people like you will have to make major lifestyle changes, minor lifestyle changes or no real lifestyle changes?" (Question 19)						
Major changes	49	26	7	15	4	504
Minor changes	34	30	13	20	4	799
No changes	31	19	8	36	6	162
Don't know	22	0	6	39	33	18
"Do you think the United States should meet its growing energy needs by emphasizing more domestic production of gas, oil, and coal supplies, or should the U.S. instead emphasize developing renewable energy supplies like wind, hydro and solar power?" (Question 20)						
Gas, oil, coal supplies	28	20	12	37	4	131
Wind, hydro, solar	42	30	9	15	3	1056
Don't know	26	17	9	22	26	54
"Would you rather pay higher taxes to support a larger state government that provides more services, or would you rather pay lower taxes and have a smaller state government that provides fewer services?" (Question 21)						
Higher taxes/more services	48	30	9	11	3	556
Lower taxes/fewer services	31	26	11	27	5	648
Don't know	45	26	8	13	8	123

Note: Percentages may not total to 100% due to rounding.

ENDNOTES

1. The Survey and Policy Research Institute (SPRI) at San José State University was engaged to manage this survey, and the final questionnaire form was developed by SPRI Director Philip J. Trounstine. EMH Opinion Sampling, Inc. conducted the telephone interviewing.
2. The 120 sub-groupings represents the sum of all the response options for each major category examined in Table 6, Table 7, Table 8, Table 10, Table 12, and Table 16.
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57. Laroche, et al., 2001.

58. The 120 sub-groupings represents the sum of all the response options for each the major categories examined in Table 6, Table 7, Table 8, Table 10, Table 12, Table 14 and Table 16 .

ABBREVIATIONS AND ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ACS	American Community Survey
Feebate	A self-financing system of fees and rebates that are used to shift the costs
"Green"	Concerned with the protection of the environment
HOV	High Occupancy Vehicle
MTC	Metropolitan Transportation Commission
PEB	Pro-environmental behavior
SUV	Sport Utility Vehicle

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