

# Consumer Views on Transportation and Energy (Second Edition)

M. Kubik

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**April 2005**

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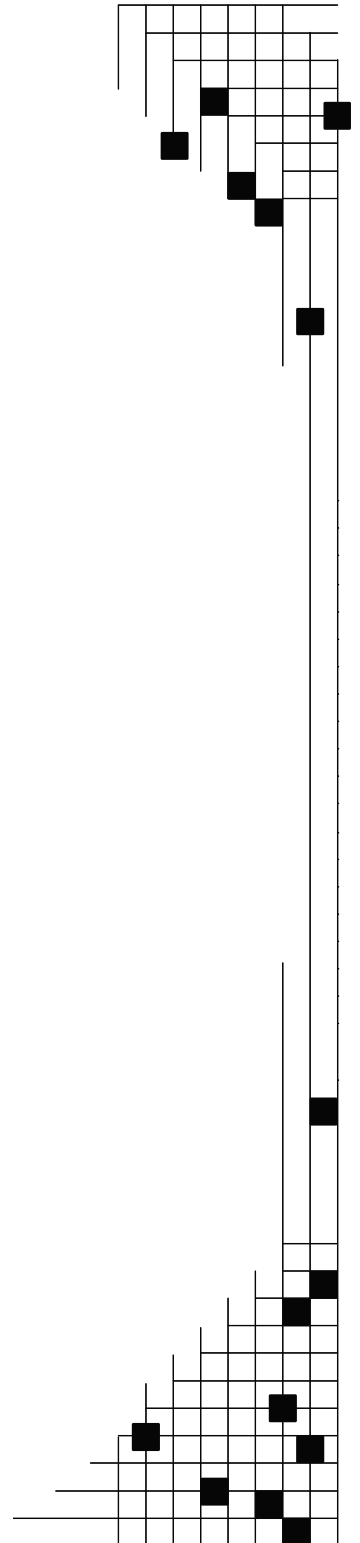
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# 1. INTRODUCTION

This report was written to provide the Office of Energy Efficiency and Renewable Energy (EERE) with an idea of how the American public views various transportation, energy, and environmental issues.

The data presented in this report have been drawn from multiple sources: surveys conducted by the Opinion Research Corporation (ORC) for the National Renewable Energy Laboratory (NREL) that are commissioned and funded by EERE, Gallup polls, news organization polls, surveys conducted by independent groups, and other sources. Most of the surveys are telephone interviews conducted with randomly selected national samples of adults 18 and older (some were done via the Internet). The surveys use national samples, and the sample size is noted, wherever it is available. The surveys were selected based on their relevance to this overall topic.

The *Consumer Views on Transportation and Energy* report consists of five sections, including the introduction (**Section 1**). **Section 2** examines public concern about U.S. dependence on imported oil and public assessment of the energy situation in the United States. Section 2 also examines public beliefs about actions to address energy problems, as well as actual and perceived effects of gasoline prices on individuals and households.

**Section 3** analyzes what Americans think about alternative fuels such as electricity, ethanol, hydrogen, and other fuel types. **Section 4** focuses on conventional and advanced-technology vehicles. In this report, advanced-technology vehicles include hybrid-electric and diesel vehicles. Section 4 also analyzes owners' decisions about purchasing more fuel-efficient vehicles and advanced-technology vehicles. **Section 5** looks at the public's perception of on-road travel and traffic congestion.

In this edition of *Consumer Views on Transportation and Energy*, ORC and Gallup poll results for 2002, 2003, and 2004 have been included. ORC surveys were conducted in March 2002, November 2002, March 2003, and twice in 2004 (May and August). The new Gallup polls were conducted throughout 2004. ORC and Gallup asked some of the same energy and environment questions during the past several years. The latest results have been added to the prior ones to show the most current opinions and trends during the past several years.

The report also features new questions from both ORC and Gallup. These 2004 surveys examined "hot" topics such as gas-price increases, environmental issues, and vehicle-purchase preferences.

## 2. ENERGY, OIL, AND POLICY

Public opinion polls reveal that the U.S. public perceives the country’s energy situation as a serious issue (**Table 2.1.2**). This section examines the public’s assessment of the energy situation, actual and perceived effects of gasoline prices on driving, and public beliefs about actions to address energy problems.

### 2.1 PUBLIC ASSESSMENT OF THE ENERGY SITUATION

**Q2.1.1:** The United States imports about half of its oil from foreign sources – more than it did 25 years ago. Based on this fact, how vulnerable do you believe the United States is to an energy crisis that would be caused by foreign nations shutting off their supply of oil to the United States: very, somewhat, not too, not at all?

**Table 2.1.1.** Public Perception of U.S. Vulnerability to Energy Crisis (1998)

Categories of Responses	Percent
Very vulnerable	47
Somewhat vulnerable	36
Not too vulnerable	12
Not at all vulnerable	3.5
Don’t know/refused	1.5
<b>Total</b>	<b>100</b>

**Source:** Research/Strategy/Management Inc. (1998), N=1,003

**Q2.1.2** How serious would you say the energy situation is in the United States – very serious, fairly serious, or not at all serious?

**Table 2.1.2.** Seriousness of Energy Situation (selected years, 1977-2004)

Date	Very serious (%)	Fairly serious (%)	Not at all serious (%)	No opinion
March 2004	29	57	12	2
March 2003	28	59	11	2
March 2002	22	63	12	3
March 2001	31	59	9	1
Feb. 1991	40	44	14	2
Aug. 1990	28	45	23	4
April 1979	44	36	16	4
March 1978	41	39	15	5
April 1977	44	40	11	5

**Source:** Gallup (selected years, 1977-2004), N=496



## 2.2 ACTUAL AND PERCEIVED EFFECTS OF GASOLINE PRICES ON DRIVING

Among those who responded to questions related to this section, it was clear that increases in gas prices affects driving habits and lifestyle traits. This is consistent with data showing that when gasoline prices are lower, people tend to use their vehicles more; and conversely, when gasoline prices increase, driving declines (**Table 2.2.1**).

**Q2.2.1:** As a result of the recent rise in gas prices, would you say you have – or have not – done each of the following?

**Table 2.2.1.** Gas Price Increase – Effect on Lifestyle (June 2004)

Lifestyle trait	Yes, have (%)	No, have not (%)	No opinion (%)
Made more of an effort to find the gas station with the cheapest gas in your area	69	30	1
Seriously considered getting a more fuel-efficient car the next time you buy a vehicle	53	46	1
Cut back significantly on how much you drive	45	54	1
Cut back significantly on your household spending because of the higher gas prices	34	66	*
Altered your summer vacation plans	29	70	1

Source: Gallup (June 3-6, 2004), N=465

**Q2.2.2:** Just your opinion, why would you say the price of gasoline has been increasing so much in recent months? (open-ended question)

**Table 2.2.2.** Gas Price Increase – Perceived Cause (May 2004)

Price factor	Percent
Big business/oil companies/price gouging/refineries want more profit	22
The war in Iraq	19
OPEC/Saudi Arabia manipulating supply	9
Supply and demand	8
Government/politics	7
President Bush	5
Lack of U.S. refining capability/lack of supply/drilling	4
Gas shortage/lack of production	4
Unrest in the Middle East	4
Economy/inflation	2
Summer vacation time/prices always go up around this time	2
Foreign policy	1
Other	6
No opinion	15

Source: Gallup (May 21-23, 2004), N=496

Note: Percentages do not total 100, because each respondent could volunteer more than one response.

**Q2.2.3:** Have recent price increases in gasoline caused any financial hardship for you or your household?

**Table 2.2.3.** Gas Price Increase – Effect on Finances (selected years, 2000-2004)

<b>Timeframe</b>	<b>Yes, caused hardship (%)</b>	<b>No, has not caused hardship (%)</b>	<b>No opinion (%)</b>
May 21-23, 2004	47	52	1
Feb. 17-19, 2003	35	65	*
May 7-9, 2001	47	53	*
May 23-24, 2000	36	64	*

**Source:** Gallup (selected years, 2000-04), N=465

## 2.3 PUBLIC BELIEFS ABOUT ACTIONS TO ADDRESS ENERGY PROBLEMS

**Q2.3.1:** Which of the following approaches to solving the nation’s energy problems do you think the United States should follow right now:

**Emphasize production** of more oil, gas, and coal supplies OR

**Emphasize more conservation** by consumers of existing energy supplies.

**Table 2.3.1.** Energy Production Priorities (2001-04)

<b>Date</b>	<b>More production</b>	<b>More conservation</b>	<b>Both/equally (vol.)</b>	<b>Neither/other (vol.)</b>	<b>No opinion</b>
March 2004	31	59	6	2	2
March 2003	29	60	7	2	2
March 2002	30	60	6	2	2
March 2001	33	56	8	1	2

**Source:** Gallup (2001-04), N=496

**Q2.3.2:** With which one of these statements about the environment and energy production do you most agree:

**Protection of the environment** should be given priority, even at the risk of limiting the amount of energy supplies (such as oil, gas, and coal), which the United States produces OR

**Development of U.S. energy supplies** (such as oil, gas and coal) should be given priority, even if the environment suffers to some extent.

**Table 2.3.2.** Energy Production Priorities (2001-04)

Date	Environment	Development of energy supplies	Both/equally (vol.)	Neither/other (vol.)	No opinion
March 2004	48	44	3	1	4
March 2003	49	40	5	2	4
March 2002	52	40	3	2	3
March 2001	52	36	6	2	4

Source: Gallup (2001-04), N=496

**Q2.3.3:** I am going to read some specific environmental proposals. For each one, please say whether you generally favor or oppose it.

**Table 2.3.3.** Environmental Proposals (March 2003)

Proposal	Favor (%)	Oppose (%)	No opinion
Setting higher emissions and pollution standards for business and industry	80	19	1
Imposing mandatory controls on carbon dioxide emissions and other greenhouse gases	75	22	3
More strongly enforcing federal environmental regulations	75	21	4
Setting higher auto emissions standards for automobiles	73	24	*
Expanding the use of nuclear energy	43	51	6
Opening up the Arctic National Wildlife Refuge in Alaska for oil exploration	41	55	4

Source: Gallup (March 2003), N=526

### 3. ALTERNATIVE FUELS

A number of surveys researched the U.S. adult population knowledge and opinions about alternative types of fuel such as electricity, ethanol, and hydrogen. Poll questions asked between 2000 and 2004 focused on knowledge and opinions about alternative fuels. Several of these survey questions demonstrate that opinions regarding safety and environmental attributes of these fuel sources have changed from 2000 to 2004.

**Table 3.1.1.** Factors Considered “Extremely Important” or “Very Important” in Influencing Decisions to Try a New Fuel Technology (2003)

<b>Factor</b>	<b>Percent</b>
How safe the fuel is for drivers and passengers	83
The cost of the fuel	78
How far you can drive before refueling	75
The cost of the vehicle	72
The convenience of refueling	67
Environmental emissions	67
Whether the fuel source is domestic instead of foreign	47
How the new fuel system affects passenger and cargo space	47
Whether or not the fuel can be recycled	45

**Source:** Harris poll for Millennium Cell and U.S. Borax Inc. (2003), N=1,006.

**Q3.1.2:** Consider a future date when gasoline is no longer available. Which of the following do you think would be the **best** fuel for use in personal vehicles: electricity, ethanol, or hydrogen?

**Table 3.1.2.** Public Perception of Best Fuel and Worst Fuel for Use in Personal Vehicles When Gasoline Is No Longer Available (2000 and 2004)

<b>Fuel for Use in Personal Vehicles</b>	<b>Best Fuel (percent)</b>		<b>Worst Fuel (percent)</b>	
	<b>2000</b>	<b>2004</b>	<b>2000</b>	<b>2004</b>
Electricity	52	41	15	21
Hydrogen	15	28	27	23
Ethanol	21	19	28	28
Don't know	12	13	30	29
<b>Total</b>	100	100	100	100

**Source:** ORC for NREL (2000b), Study No. 709489, N=1,000; and ORC for NREL (2004b), Study No. 713359, N=1,000.

**Q3.1.3:** Why did you say **electricity** would be the **best** fuel for use in personal vehicles when gasoline is no longer available?

**Table 3.1.3.** Reasons **Electricity** Would Be the **Best** Fuel for Use in Personal Vehicles When Gasoline Is No Longer Available (2000 and 2004)

Reasons	Percent	
	2000	2004
Environmental concerns (cleaner, less pollution, cleaner air, other environmental mentions)	29	23
Availability (abundant, common, renewable/inexhaustable, easy to produce/manufacture, not dependent on foreign oil)	22	23
Existing/developing technology (electric cars already being developed, technology already being used, many things powered by electricity)	17	13
Economical/affordable	11	7
Methods of generating (can be solar generated/powered, other related mentions)	7	3
Most familiar with it/not familiar with others	7	8
Safe	5	4
Best source	4	2
More efficient	3	2
Easier/convenient (unspecified)	3	3
Others not practical /performance concerns	3	1
Other	5	9
Don't know	6	15

**Source:** ORC for NREL (2000b), Study No. 709489, N=522; and ORC for NREL (2004b), Study No. 713359, N=1,000.

**Note:** Percentages do not total 100, because each respondent could volunteer more than one response.

**Q3.1.4:** Why did you say **ethanol** would be the **best** fuel for use in personal vehicles when gasoline is no longer available?

**Table 3.1.4.** Reasons **Ethanol** Would Be the **Best** Fuel for Use in Personal Vehicles When Gasoline Is No Longer Available (2000 and 2004)

Reasons	Percent	
	2000	2004
Readily available (common, abundant, renewable/inexhaustible, easy to produce/manufacture, can generate our own fuel, other mentions)	27	28
Methods of generating (made from corn/grain, other related mentions)	18	9
Economical/affordable	15	12
Environmental concerns (cleaner, less pollution, other related mentions)	15	15
Others not practical/performance concerns	10	6
Better for/helps farmers/ farming industry	8	14
Existing/developing technology	8	9
Best source (unspecified)	5	11
More similar to gasoline	5	6
Other	12	5
Don't know	7	12

**Source:** ORC for NREL (2000b), Study No. 709489, N=206; and ORC for NREL (2004b), Study No. 713359, N=1,000.

**Note:** Percentages do not total 100, because each respondent could volunteer more than one response.

**Q3.1.5:** Why did you say **hydrogen** would be the **best** fuel for use in personal vehicles when gasoline is no longer available?

**Table 3.1.5.** Reasons **Hydrogen** Would Be the **Best** Fuel for Use in Personal Vehicles When Gasoline Is No Longer Available (2000 and 2004)

Reasons	Percent	
	2000	2004
Availability (common, abundant, easy to produce/manufacture, renewable/inexhaustible, other related mentions)	37	36
Environmental concerns (cleaner, less pollution, other related mentions)	27	24
Economical/affordable	12	16
Others not practical/ performance concerns	11	6
Existing/developing technology (net)	7	6
More efficient	5	1
Safety concerns	5	1
Best source (unspecified)	3	2
Other	9	9
Don't know	9	8

**Source:** ORC for NREL (2000b), Study No. 709489, N=151; and ORC for NREL (2004b), Study No. 713359, N=1,000.

**Note:** Percentages do not total 100, because each respondent could volunteer more than one response.

**Q3.1.6:** Why did you say **electricity** would be the **worst** fuel for use in personal vehicles when gasoline is no longer available?

**Table 3.1.6.** Reasons **Electricity** Would Be the **Worst** Fuel for Use in Personal Vehicles When Gasoline Is No Longer Available (2000 and 2004)

Reasons	Percent	
	2000	2004
Too expensive	28	23
Electric vehicles can't hold charge for long/can't travel long distances	20	9
Environmental concerns (must burn coal/fossil fuels, pollution, other related mentions)	19	23
Not enough electricity now	12	6
Safety concerns	5	2
Other	15	9
Don't know	10	13

**Source:** ORC for NREL (2000b), Study No. 709489, N=150; and ORC for NREL (2004b), Study No. 713359, N=1,000.

**Note:** Percentages do not total 100, because each respondent could volunteer more than one response.

**Q3.1.7:** Why did you say **ethanol** would be the **worst** fuel for use in personal vehicles when gasoline is no longer available?

**Table 3.1.7.** Reasons **Ethanol** Would Be the **Worst** Fuel for Use in Personal Vehicles When Gasoline Is No Longer Available (2000 and 2004)

Reasons	Percent	
	2000	2004
Environmental concerns (pollution, creates environmental problems, other related mentions)	38	30
Safety concerns (flammable/combustible, explosive, contains chemicals, other related mentions)	20	12
Too expensive	6	4
Lack of availability	4	4
Finite/exhaustible resource	3	2
Difficult to produce	3	3
Causes engine trouble	3	1
Other	13	7
Don't know	20	19

**Source:** ORC for NREL (2000b), Study No. 709489, N=281; and ORC for NREL (2004b), Study No. 713359, N=1,000.

**Note:** Percentages do not total 100, because each respondent could volunteer more than one response.

**Q3.1.8:** Why did you say **hydrogen** would be the **worst** fuel for use in personal vehicles when gasoline is no longer available?

**Table 3.1.8.** Reasons **Hydrogen** Would Be the **Worst** Fuel for Use in Personal Vehicles When Gasoline Is No Longer Available (2000 and 2004)

Reasons	Percent	
	2000	2004
Safety concerns (explosive, flammable/combustible, unstable, think of bombs, other related mentions)	50	40
Pollution and environmental concerns	8	5
Not enough is known about it	4	*
Difficult to produce	4	4
Too expensive	3	1
Other	15	9
Don't know	21	23

**Source:** ORC for NREL (2000b), Study No. 709489, N=274; and ORC for NREL (2004b), Study No. 713359, N=1,000.



## 4. CONVENTIONAL, MORE FUEL-EFFICIENT, AND ADVANCED-TECHNOLOGY VEHICLES

Section 4 focuses on vehicle owners and the decisions they make about their vehicles. It consists of three sections that encompass survey data on owners' decisions about their conventional (i.e., gasoline) vehicles, as well as more fuel-efficient and advanced-technology vehicles.

### 4.1 VEHICLE OWNERS' DECISIONS ON CONVENTIONAL VEHICLES

**Q4.1.1:** Which of the following attributes would be MOST important to you in your choice of your next vehicle? (closed-ended)

**Table 4.1.1.** Trends in Vehicle-Attribute Preference (selected years, 1980-2004)

Attributes	J.D. Power (percent)					ORC (percent)				
	1980	1981	1983	1985	1987	1996	1998	2000	2001	2004
Fuel economy	42	20	13	8	4	7	4	10	10	22
Dependability	31	40	38	41	44	34	36	32	29	26
Low price	14	21	30	29	31	11	5	11	8	10
Quality	4	7	11	12	8	19	20	21	22	19
Safety	9	12	9	10	14	29	34	24	29	23
Don't know/ none of these							1	2	1	
<b>Total</b>	100	100	100	100	101	100	100	100	99	100

**Sources:** For 1980s: J. D. Power (data based on new-car buyers). For 1996: ORC for NREL. For 1998: ORC for NREL (1998a), N = 1,000. For 2000: ORC for NREL (2000a), N = 941. For 2001: ORC for NREL (2001c), N = 989. For 2001: ORC for NREL (2004a), N = 949.

In-market car buyers were asked about their views toward sport utility vehicles (SUVs).

**Table 4.1.2.** Issue Is a Major Reason for Those NOT Considering the Purchase of an SUV (2003)

Issue	January 2003	March 2003
Price of gas	*	50
Not the kind of vehicle I want	51	45
Rollover/safety concerns	30	34
Impact on foreign oil dependence	28	31
Impact on environment	25	26
Too big for the road	23	23

**Source:** Kelley Blue Book (2003), N=524

\* Question not asked in first wave

## 4.2 VEHICLE OWNERS' DECISIONS ABOUT MORE FUEL-EFFICIENT VEHICLES

**Q4.2.1:** Suppose that the next vehicle you've decided to buy offers an option of better fuel economy, but at a higher price. The savings in fuel costs would pay back the higher price over time. How soon, in years, would the fuel savings have to pay back the additional cost to persuade you to buy the higher fuel-economy option?

**Table 4.2.1.** Number of Years Public is Willing to Accept for Payback of Higher Fuel-Economy Vehicle (2002)

Years	Percent
1	18
2	23
3	13
4	3
5	12
6	-
More than 6	3
Don't Know	27
<b>Total</b>	<b>100</b>
<b>Mean</b>	<b>2.9</b>

**Source:** ORC for NREL (2002b), N=1,000

**Q4.2.2:** How much **more** would you be willing to pay for the vehicle that gets 10% better fuel economy than for the vehicle you currently drive?

**Table 4.2.2.** Additional Amount the Public is Willing to Pay for a Vehicle with a 10 Percent Increase in Fuel Economy (2001)

Dollar Amount	Percent
Less than \$500	7
\$500-\$1,000	15
\$1,001-\$2,500	17
\$2,501-\$5,000	15
More than \$5,000	5
Nothing more	18
Don't know	23
<b>Total</b>	<b>100</b>
<b>Mean<sup>1</sup></b> (including none)	\$2,143
<b>Mean<sup>1</sup></b> (excluding none)	\$2,799

**Source:** ORC for NREL (2001b), Study No. 710449, N=180

<sup>1</sup> In this report, calculation of means, medians, and standard deviations are based on raw numbers. "Don't know" responses are not part of the calculations.

**Q4.2.3:** Suppose you have decided to buy a new vehicle and have a choice of an optional engine that requires a new fuel that costs the same as gasoline and is just as good as gasoline.

**Version A:** The optional engine costs the same as the conventional one but gets 50% more miles per gallon. However, the fuel it requires is sold only at 1 in 10 stations. Which would you most likely buy?

**Version B:** The optional engine costs the same as the conventional one but gets 50% more miles per gallon. However, the fuel it requires is sold only at 1 in 5 stations. Which would you most likely buy?

**Version C:** The optional engine costs the same as the conventional one but gets 50% more miles per gallon. However, the fuel it requires is sold only at 1 in 3 stations. Which would you most likely buy?

**Table 4.2.3.** Public Preference Toward Purchasing a More Fuel-Efficient Engine with Different Fuel-Availability Options (2000)

Fuel-Availability Options		Conventional Engine (percent)	Optional Engine (percent)	Don't Know/Refused (percent)
<b>A</b>	The optional engine costs the same as the conventional one, but gets 50% more miles per gallon. However, the fuel it requires is sold only at 1 in 10 stations.	66	30	4
<b>B</b>	The optional engine costs the same as the conventional one, but gets 50% more miles per gallon. However, the fuel it requires is sold only at 1 in 5 stations.	62	36	3
<b>C</b>	The optional engine costs the same as the conventional one, but gets 50% more miles per gallon. However, the fuel it requires is sold only at 1 in 3 stations.	43	53	4

**Source:** ORC for NREL (2000d), Study No. 70920, N=111

### 4.3 VEHICLE OWNERS' DECISIONS ABOUT ADVANCED-TECHNOLOGY VEHICLES

#### Hybrid-Electric Vehicles

**Q4.3.1:** There are some cars in the U.S. market today that have advanced hybrid-electric power trains that combine a small electric motor and a small gasoline engine to achieve a higher fuel economy than similar cars. How much have you heard about this technology: a great deal, some, very little, or nothing?

**Table 4.3.1.** Amount of Information Heard Pertaining to Advanced Hybrid-Electric Power Trains (2000-02)

	Percent		
	August 2000	November 2001	November 2002
A Great Deal	13	10	20
Some	33	33	35
Very Little	34	30	26
Nothing	20	26	18
Don't Know	0	2	1

**Source:** ORC for NREL (2000) N=953, (2001) N=999, (2002c) N=999

**Q4.3.2:** Please name one of these hybrid-electric cars if you can.

**Table 4.3.2.** Names of Advanced Hybrid-Electric Vehicles Known by the Public (selected years, 2000-04)

	Percent			
	August 2000	November 2001	November 2002	May 2004
Any vehicle	36	44	51	48
Honda	15	24	24	17
Toyota	4	11	10	9
Ford	NA	NA	NA	6
Other	14	6	7	4
Don't Know	64	56	48	52

**Source:** ORC for NREL (2000) N=953, (2001) N=999, (2002c) N=999, (2000a) N=1,000, (2004a) N=1,000

**Note:** Percentages do not total 100, because each respondent could volunteer more than one response.

A 2003 survey of in-market consumers by Kelley Blue Book examined the influence of the media on attitudes toward SUVs. Although no hybrid-electric SUVs were available in the United States at the time of this survey (mid-2003), shoppers would think favorably of such an option and might be more likely to consider the purchase of an SUV.

**Table 4.3.3** Public's Attitudes Toward Hybrid-Electric SUVs (2003)

	Percent					
	SUV Considerers		SUV Non-Considerers		Total	
	Jan 2003	Mar 2003	Jan 2003	Mar 2003	Jan 2003	Mar 2003
More favorable toward SUVs	52	46	45	44	48	45
Neutral	40	46	44	51	42	49
Less favorable toward SUVs	8	7	11	5	10	6

**Source:** Kelley Blue Book (2003), N=524

## Diesel Vehicles

**Q4.3.4:** Would you consider buying a diesel engine version that got 40% better fuel economy and costs an additional \$1,500?

**Table 4.3.4.1** Public's Willingness to Consider the Purchase of a Diesel Engine With a 40 Percent Increase in Fuel Economy and Additional Costs of \$1,500 (1997)

<b>Considerations of Diesel-Engine Options</b>	<b>Percent</b>
Would not consider buying a diesel engine version that got 40% better fuel economy and costs an additional \$1,500.	75
Would consider buying a diesel-engine version that got 40% better fuel economy and costs an additional \$1,500.	21
Don't know	4
<b>Total</b>	<b>100</b>

**Source:** ORC for NREL (1997), Study No. 70627, N=1,010

**Table 4.3.4.2** Public's Willingness to Pay a Premium for a Clean Diesel Engine (2002)

<b>Premium Willing to Pay For Clean Diesel</b>	<b>Percent</b>		
	<b>Total</b>	<b>Current Diesel Owner</b>	<b>Current Gas Owner</b>
\$0	33	10	34
\$1-\$199	8	4	8
\$200-\$399	7	1	7
\$400-\$599	16	8	17
\$600-\$999	4	3	4
\$1,000-\$1,499	14	17	14
\$1,500-\$1,999	4	5	4
More than \$2,000	14	51	12

**Source:** J.D. Power and Associates (2002), N-not available

**Q4.3.5:** Assume that a new vehicle you want to buy has two engine options that are equally clean, dependable, powerful, odorless, and smooth running. One uses gasoline and the other uses diesel fuel and gets 40% more miles per gallon but costs \$2,000 more. Which engine option would you buy?

**Table 4.3.5.** Purchase Preference Between Diesel and Gasoline Vehicles by Vehicle Type (2001)

Vehicles	Percent						
	Total	Vehicle Type					Don't Know Which Type of Vehicle to Buy
		Small Car	Large Car	Minivan	SUV	Pickup/Van	
Gasoline	71	75	81	71	62	65	60
Diesel	27	21	18	27	37	34	28
Don't know	2	4	1	2	1	1	12
<b>Total</b>	100	100	100	100	100	100	100

**Source:** ORC for NREL (2001c), Study No. 710288, N=989

If chose diesel, ask:

**Q4.3.6:** Why did you choose the diesel option?

**Table 4.3.6.** Reasons for Choosing a Diesel Option (2001)

Reasons	Percent
Fuel economy (better gas mileage/fuel economy, 40% better mileage/miles per gallon)	46
Cost (saves money/pays for itself over time, cheaper than gasoline, economical)	34
Dependability (diesel engine lasts longer, more reliable/dependable)	12
Environmental (burns cleaner, other related mentions)	10
I have/drive vehicle with diesel engine	4
More power/horsepower	3
Previous positive experience/ satisfied with diesel	3
Other /don't know	10

**Source:** ORC for NREL (2001c), Study No. 710288, N=266

**Note:** Percentages do not total 100, because each respondent could volunteer more than one response.

If did not choose diesel, ask:

**Q4.3.7:** Why did you reject the diesel option?

**Table 4.3.7.** Reasons for Rejecting a Diesel Option (2001)

<b>Reasons</b>	<b>Percent</b>
Environmental (pollutes the air, odor/smell/stink, too much noise, other related mentions)	39
Cost (expense, initial cost/\$2,000 more, other related mentions )	19
Lack of fuel availability	17
Don't know enough/know nothing about it/never owned one	11
Engine problems (difficult to start in winter, other related mentions)	8
Just don't like diesel/husband doesn't like diesel	7
Prefer/used to/satisfied with gasoline	5
Negative experience	4
Difficult to maintain/repair	3
Other	4
Don't know	4

**Source:** ORC for NREL (2001c), Study No. 710288, N=723

### General Preferences

**Q4.3.8:** Which one of the following are you planning to purchase for your next household vehicle?

**Table 4.3.8.** Vehicle-Purchase Preferences (2004)

<b>Type of Vehicle</b>	<b>Percent</b>
Large car, same size or larger than a Honda Accord, Chevy Malibu, or Toyota Camry	28
SUV or sport utility vehicle	23
Small car, smaller than a Honda Accord, Chevy Malibu, or Toyota Camry	20
Pickup truck or large van	18
Minivan	6
Other/ don't know	4
<b>Total</b>	<b>99</b>

**Source:** ORC for NREL (2004a), Study No. 713218, N=1,000



**Q4.3.9:** When you purchase your next household vehicle, how likely are you to buy each of the following?

Would you say you definitely will buy it, you would be very likely to buy it, you would be likely to buy it, you would be likely to buy it, you would be not likely to buy it or you definitely won't buy it?

**Table 4.3.9.** Vehicle-Purchase Preferences – Diesel vs. Hybrid-electric (2004)

Type of Vehicle	Percent	
	Hybrid-electric	Diesel
Definitely will buy	7	4
Very likely to buy	8	4
Likely to buy	27	14
Not likely to buy	31	36
Definitely won't buy	20	38
Don't know	6	3
<b>Total</b>	<b>99</b>	<b>99</b>

**Source:** ORC for NREL (2004a), Study No. 713218, N=1,000

**Q4.3.10:** Suppose you were given an extra \$1,000 that you must spend on acceleration, fuel economy and/or the ability to tow, when buying your next vehicle. How much would you spend on each attribute? You can spend all the money on one attribute or split it among two or three attributes.

**Table 4.3.10.** Priority on Vehicle Attributes (2004)

Attribute	Dollars
Fuel economy	\$609
Acceleration	\$248
Ability to tow	\$143
<b>Total</b>	<b>\$1,000</b>

**Source:** ORC for NREL (2004a), Study No. 713218, N=1,000

## 5. TRAFFIC ISSUES

With more vehicles on the roads and each vehicle traveling more miles each year, it is not surprising that traffic congestion is becoming a problem in many locations throughout the country. A study by the Texas Transportation Institute reported that the average American spends 36 hours per year stuck in traffic. These survey questions look at various traffic issues and the public's responses to dealing with them.

**Q5.1:** What part of driving do you find most irritating? (open-ended)

**Table 5.1.** Public Ranking of the Most Irritating Part of Driving (2002)

<b>Most Irritating Part of Driving</b>	<b>Percent</b>
Traffic congestion	40
Other drivers	31
Cost	12
Road conditions	10
Other/ don't know	7
<b>Total</b>	<b>100</b>

Source: ORC (2002), N=1,005

Travelers who reported trip delays were asked to name the main reason for the delays.

**Table 5.2.** Most Important Reasons for Travel Delays (2000)

<b>Reason for Trip Delay</b>	<b>Percent</b>
Heavy traffic	53
Roadwork	26
Accidents	10
Traffic signals	10

Source: FHWA Operations and Planning/Environment Survey (2000)

**Q5.3:** Which of the following best describes your view of the traffic you encounter in your area every day?

**Table 5.3.** Public's View of Daily Traffic (2000)

<b>Best Describes Daily Traffic</b>	<b>Percent</b>
Not a significant problem	48
Minor inconvenience and problem	31
Major inconvenience and problem	19
No opinion	2

Source: Gallup (2000), N=601

**Q5.4:** Looking ahead, do you anticipate that the traffic in your area today will get much better, somewhat better, stay the same, get somewhat worse, or get much worse during the next five years?

**Table 5.4.** Public's View of Future Traffic (2000)

<b>Best Describes Future Traffic</b>	<b>Percent</b>
Get much better	5
Get somewhat better	10
Stay the same	23
Get somewhat worse	33
Get much worse	28
No opinion	1

**Source:** Gallup (2000), N=601

**Q5.5:** Have you had to change your life or schedule in any way because of traffic in recent years? In what ways?

**Table 5.5.1** Have Changed Schedule Because of Traffic (2000)

	<b>Percent</b>
Yes	31
No	69

**Source:** Gallup (2000), N=601

**Table 5.5.2** Ways Public has Changed Because of Traffic (2000)

<b>Changes Because of Traffic</b>	<b>Percent</b>
Leave earlier	36
Take alternate routes	18
Allow more time for travel	13
Avoid driving at certain times	12
Don't drive as much	7
Changed working hours	6
Moved	5
Use mass transit or carpool	3
Work at home/ telecommute	1

**Source:** Gallup (2000), N=601

**Q5.6:** How often do you get stuck driving in traffic jams?

**Table 5.6.** Frequency of Getting Stuck in Traffic Jams (2000)

<b>Frequency of Traffic Jams</b>	<b>Percent</b>
Every day	11
Several times a week	14
Several times a month	22
A few times a year	31
Never	20

**Source:** Gallup (2000), N=318

**Q5.7:** As opposed to other means of transportation, please tell me the main reason you used public transit last month?

**Table 5.7.** Reasons for Using Public Transit (2003)

<b>Reason for Using Public Transit</b>	<b>Percent</b>
More convenient than other means of transportation	44
Have no vehicle available	30
Cheaper/costs less/saves money/expensive parking	15
Faster than other means of transportation	4
Away from home on business or pleasure travel	3
Parking not available	2
Less impact on the environment than other means of transportation	1
Other	1

**Source:** Bureau of Transportation Statistics (2003), N-not available

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