



# National Survey of *Pedestrian & Bicyclist* Attitudes and Behaviors

–Highlights Report–



Sponsored by the U.S. Department of Transportation's National Highway Traffic  
Safety Administration and the Bureau of Transportation Statistics

## INTRODUCTION

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This report presents highlights of the 2002 National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, jointly sponsored by the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and the Bureau of Transportation Statistics (BTS) and administered by The Gallup Organization. The goals of the survey were to ascertain the scope and magnitude of bicycle and pedestrian activity and the public's behavior and attitudes regarding bicycling and walking. This national survey is the first of its kind designed specifically to benchmark bicycle and pedestrian trips, behaviors, and attitudes. The survey findings will serve as a foundation to improve the environment and infrastructure to support these two transportation modes.

The survey asked questions, for both bicyclists and pedestrians, on the following topics:

- Frequency of bicycling and walking
- Trip information including: origin, destination, length of trip time, trip distance, land use of origin/destination, trip purpose, facility use, and topography
- Reasons for not biking and/or walking
- Perceptions of safety
- Safety practices
- Facilities availability (e.g., sidewalk or path)
- Community design
- Safe routes to school
- Sociodemographics

The survey was fielded during the period of June 11 to August 20, 2002. Survey respondents were asked to provide information about their overall bicycling and walking behaviors during the past 30 days with a focus on individual trips taken on the most recent day they bicycled or walked during that period. Specific trip data (including trip origin and destination, purpose, time, distance, etc.) were collected for up to six walking and six bicycling trips on the most recent day traveled. (See Glossary for the definition of a trip.) These data cannot be used to project year-round bicycling or walking behaviors, but offer a solid reflection of biking and walking activity for the summer of 2002.

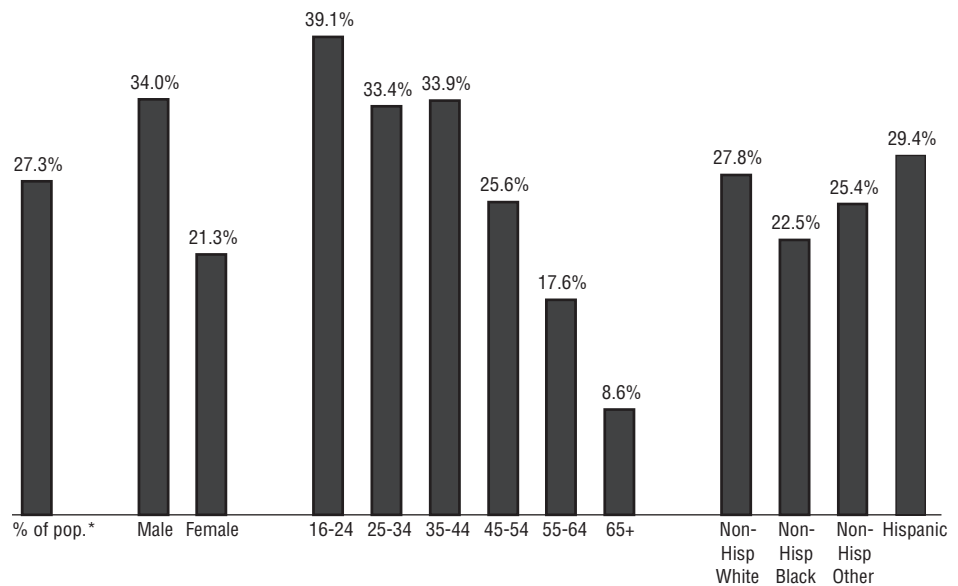
NHTSA and BTS are publishing a series of reports based on the survey data. This report highlights major findings from the survey and is not intended to provide in-depth analysis of any one topic. Results are preliminary and are subject to change based on finalization of the survey data. During 2003, NHTSA plans to publish a three-volume report including an expanded summary of key findings, a detailed description of all findings and major analyses from the data, and the survey methodology.

## AMOUNT OF BICYCLING AND TRIP INFORMATION

### *Prevalence of Bicycling*

About 27.3% of the driving age public (age 16 or older) reported they rode a bicycle at least once during the summer of 2002 (see Glossary for definition of a bicyclist). This equates to approximately 57 million persons age 16 or older who rode a bicycle. Summer months are defined as May through August 2002. Males were more likely to ride a bicycle (34.0%) than were females (21.3%). Incidence of bicycling declined steadily with age from a high of 39.1% among persons ages 16 to 24 to 8.6% among persons ages 65 or older.

**FIGURE 1. Percentage Bicycling in Past 30 Days by Gender, Age, Race/Ethnicity**



\* Estimates reflect total U.S. population age 16 or older in the 50 state and the District of Columbia

SOURCE: National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, 2002. National Highway Traffic Safety Administration (NHTSA) and Bureau of Transportation Statistics (BTS).

**TABLE 1. Sample Sizes (Unweighted) and Standard Errors (SE) of Estimates Weighted to Reflect Total U.S. Population Age 16+ for Figure 1**

Bicycled in past 30 days										Non-Hisp. White	Non-Hisp. Black	Non-Hisp. Other	Hispanic
	Total	Male	Female	16-24	25-34	35-44	45-54	55-64	65+				
Sample size	2,548	1,335	1,213	449	563	693	471	238	134	2,017	160	133	238
SE of estimates	0.53	0.87	0.62	1.59	1.3	1.22	1.18	1.18	0.81	0.6	1.76	2.27	1.83

### Reasons for Not Bicycling

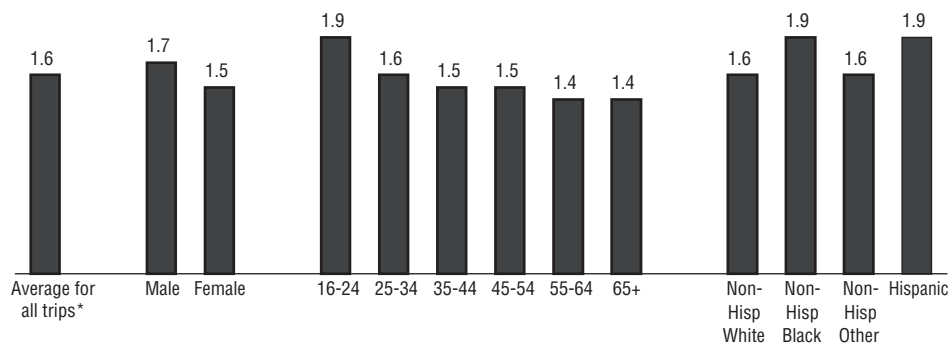
Nearly three-fourths of those age 16 or older (72.1%) never rode a bicycle or had not done so during a 30-day period over the summer of 2002. This represents approximately 151 million individuals who did not bicycle. Lack of access to a bicycle is the most cited reason for not bicycling, mentioned by 26.0% (standard error (SE) = 0.61) of the respondents. Additional reasons cited for not biking included:

- Too busy/No opportunity (16.9%, SE = 0.52)
- Disability/Other health impairment (10.3%, SE = 0.40)
- Bad weather/Wrong season (8.2%, SE = 0.38)
- Don't want to/Don't enjoy it (6.5%, SE = 0.35)
- Age (5.3%, SE = 0.30)
- No safe place to ride (3.4%, SE = 0.24)
- Don't know how to ride (3.0%, SE = 0.25)
- Prefer to walk/run (2.6%, SE = 0.21)
- Other (18.0%, SE = 0.53)

### Number of Reported Bicycling Trips

An estimated 91 million bicycling trips were made during the summer of 2002. Over half of bicyclists took just one trip on the last day they rode (57.7%, SE = 1.16), 31.2% took two trips (SE = 1.10) and the remainder took three or more trips (11.1%, SE = 0.78). This translates to an average of 1.6 trips per bicyclist per day bicycled. Trips are defined as going from a starting point to a destination for a specific purpose without any stops along the way (see Glossary for a more complete definition). Men who bicycled took an average of 1.7 trips on the last day they rode compared to 1.5 trips for women who bicycled. The number of bicycling trips declined with age from a high of 1.9 trips per day among bicyclists under age 25 to 1.4 trips per day among bicyclists 55 or older.

**FIGURE 2. Average Total Number of Bicycling Trips on Most Recent Day by Gender, Age, Race/Ethnicity**



\* Estimates reflect U.S. population age 16 or older in the 50 states and the District of Columbia who biked during a 30-day period over the summer of 2002.

SOURCE: National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, 2002. National Highway Traffic Safety Administration (NHTSA) and Bureau of Transportation Statistics (BTS).

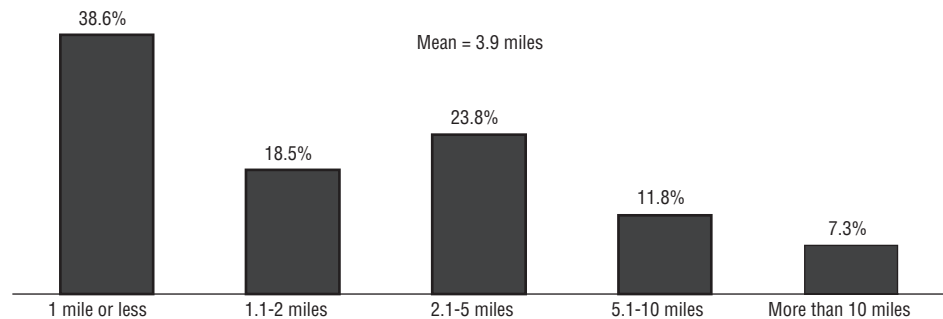
**TABLE 2. Sample Sizes (Unweighted) and Standard Errors (SE) of Estimates Weighted to Reflect Total U.S. Population Age 16+ for Figure 2**

Bicycled in past 30 days	Total	Male	Female	16-24	25-34	35-44	45-54	55-64	65+	Non-Hisp. White	Non-Hisp. Black	Non-Hisp. Other	Hispanic
Sample size	2,525	1,325	1,200	450	562	683	463	235	132	2,001	158	129	237
SE of estimates	0.02	0.04	0.03	0.06	0.06	0.04	0.05	0.05	0.07	0.03	0.09	0.09	0.09

*Bicycling Trip Lengths*

The average length of a bicycling trip taken on a typical day during the summer was 3.9 miles (SE = 0.11). About 38.6% (SE = 0.94) of trips were less than 1 mile, while 7.3% (SE = 0.48) of trips were more than 10 miles in length. Trips whose purpose was for exercise or recreation were longer (5.6 miles, SE = 0.20) than trips that were for other purposes (2.2 miles, SE = 0.09).

**FIGURE 3. Percent of Trip Lengths on Most Recent Day Bicycled**



NOTE: Estimates are based on total trips taken on most recent day bicycled.

SOURCE: National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, 2002. National Highway Traffic Safety Administration (NHTSA) and Bureau of Transportation Statistics (BTS).

**TABLE 3. Sample Sizes (Unweighted) and Standard Errors (SE) of Estimates Weighted to Reflect Total Bicycling Trips Taken by U.S. Population Age 16+ for Figure 3**

Bicycle trips in past 30 days	Total	1 mile or less	1.1-2 miles	2.1-5 miles	5.1-10 miles	More than 10 miles
Sample size	3,700	1,289	685	958	471	297
SE of estimates	0.00	0.94	0.74	0.79	0.60	0.48

### *Purpose of Bicycling Trips*

Bicyclists reported a variety of reasons as the primary purposes for the bicycling trips they took. The most common purposes of trips were for recreation (26.0%, SE = 0.79) and for exercise or health reasons (23.6%, SE = 0.76). Additional primary trip purposes included:

- To go home (14.2%, SE = 0.67)
- Personal errands (13.9%, SE = 0.65)
- To visit a friend or relative (10.1%, SE = 0.60)
- Commuting to school/work (5.0%, SE = 0.43)
- Bicycle ride (2.3%, SE = 0.28)
- Other (4.9%, SE = 0.42)

### *Facilities Used for Bicycling Trips*

Bicyclists took roughly 44 million trips on paved roads, not on shoulders (48.1%, SE = 0.92). Other facilities used for bicycling trips included:

- Sidewalks (13.6%, SE = 0.66)
- Bicycle paths/Walking paths/Trails (13.1%, SE = 0.60)
- Shoulders of paved roads (12.8%, SE = 0.63)
- Bicycle lanes on roads (5.2%, SE = 0.44)
- Unpaved roads (5.2%, SE = 0.41)
- Other (2.1%, SE = 0.28)

### *Views on Design of Communities for Bicycling Safety*

One-half of all adults age 16 or older are “very” or “somewhat” satisfied with how their communities are designed with regards to bicyclist safety (50.2%, SE = 0.54). Those who have bicycled in the past 30 days expressed higher satisfaction levels (57.4% very or somewhat satisfied, SE = 1.01) than those who have not bicycled (47.3%, SE = 0.60). Regardless of their satisfaction level or whether they have bicycled in the past 30 days, respondents were asked to recommend changes to their communities for bicyclists. Almost half of the respondents reported the need for changes (46.9%, SE = 0.58). Reported changes included:

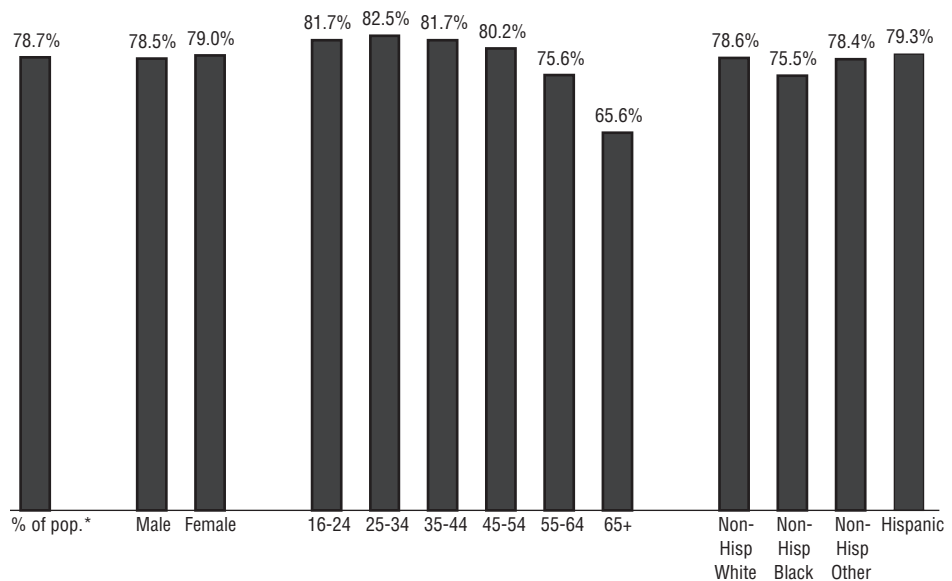
- Providing bicycle facilities, e.g., bicycle trails, paths, lanes, racks, traffic signals, lighting, or crosswalks (73.0%, SE = 0.76)
- Improving existing bicycle facilities (7.8%, SE = 0.46)
- Changing existing laws governing bicycles (7.3%, SE = 0.45)
- Initiating bicycle safety education (6.7%, SE = 0.41)
- Making areas for bicycling safer (6.0%, SE = 0.40)
- Enforcing laws governing bicycling (3.6%, SE = 0.32)
- Other suggestions (7.2%, SE = 0.44)

## AMOUNT OF WALKING AND TRIP INFORMATION

### *Prevalence of Walking*

Eight out of 10 of the driving age public (78.7%) reported they walked, ran, or jogged outdoors for five minutes or more at least once during the summer of 2002 (see Glossary for definition of a pedestrian). This represents approximately 164 million pedestrians age 16 years or older. Older adults (age 65 and older) were much less likely to walk than persons of younger ages. However, two-thirds (21 million) of these older adults walked during the summer months.

**FIGURE 4. Percentage Walking in Past 30 Days by Gender, Age, Race/Ethnicity**



\* Estimates reflect total U.S. population age 16 or older in the 50 states and the District of Columbia  
 SOURCE: National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, 2002. National Highway Traffic Safety Administration (NHTSA) and Bureau of Transportation Statistics (BTS).

**TABLE 4. Sample Sizes (Unweighted) and Standard Errors (SE) of Estimates Weighted to Reflect Total U.S. Population Age 16+ for Figure 4**

Walked in past 30 days										Non-Hisp.	Non-Hisp.	Non-Hisp.	
	Total	Male	Female	16-24	25-34	35-44	45-54	55-64	65+	White	Black	Other	Hispanic
Sample size	7,550	3,081	4,469	1,029	1,403	1,638	1,477	987	1,016	5,881	580	406	683
SE of estimates	0.49	0.75	0.63	1.27	1.04	1.01	1.09	1.38	1.39	0.54	1.82	2.16	1.61

### Reasons for Not Walking

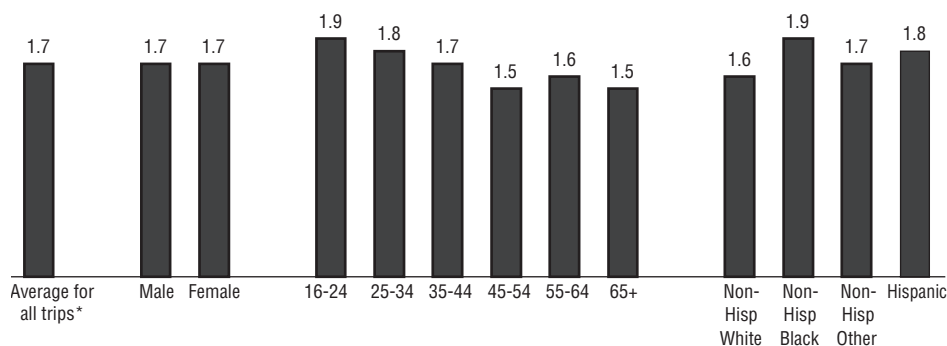
One in five (21.3%) persons age 16 and older reported they never walk or had not done so during a 30-day period over the summer of 2002. This represents roughly 44 million individuals. Disabilities and other health impairments (24.5%, SE = 1.12) and bad weather or wrong season (22.0%, SE = 1.11) were the most cited reasons for not walking. Persons age 65 and older who did not walk cited disabilities and health impairments as the primary reason (49.2%, SE = 2.64). Other reasons that adults age 16 and older have not walked included:

- Too busy/No opportunity (18.8%, SE = 1.06)
- Other transportation is faster (4.0%, SE = 0.52)
- Lazy (3.9%, SE = 0.53)
- Don't want to/Don't enjoy it (3.5%, SE = 0.49)
- No safe place to walk (3.0%, SE = 0.44)
- Prefer to drive/Have a vehicle (2.5%, SE = 0.43)
- Other (17.9%, SE = 1.02)

### Number of Reported Walking Trips

An estimated 275 million walking trips are made during the summer of 2002. On the last day persons took a walking trip, over half (57.4%, SE = 0.66) took one walking trip, 29.5% (SE = 0.62) took two walking trips, 7.8% (SE = 0.36) took three walking trips, and the remainder took four or more trips (5.5%, SE = 0.31). This translates to an average of 1.7 trips per pedestrian per day they walk. The average number of walking trips declined with age from a high of 1.9 trips by 16-24 year old pedestrians to a low of 1.5 trips among pedestrians age 65 and older.

**FIGURE 5. Average Total Number of Walking Trips on Most Recent Day by Gender, Age, Race/Ethnicity**



\* Estimates reflect U.S. population age 16 or older in the 50 states and the District of Columbia who walked during a 30-day period over the summer of 2002.

SOURCE: National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, 2002. National Highway Traffic Safety Administration (NHTSA) and Bureau of Transportation Statistics (BTS).



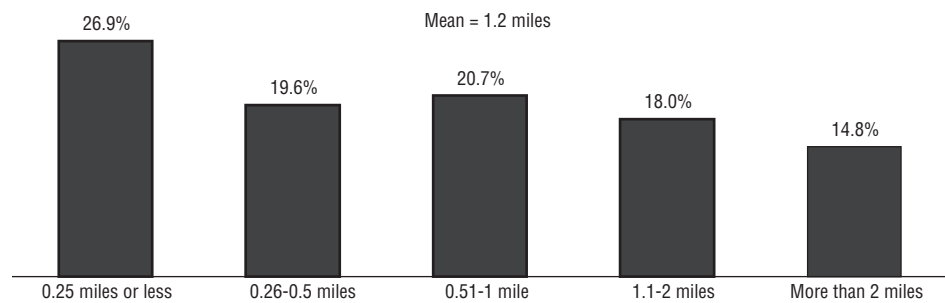
**TABLE 5. Sample Sizes (Unweighted) and Standard Errors (SE) of Estimates Weighted to Reflect Total U.S. Population Age 16+ for Figure 5**

Walked in past 30 days	Total	Male	Female	16-24	25-34	35-44	45-54	55-64	65+	Non-Hisp.	Non-Hisp.	Non-Hisp.	Hispanic
										White	Black	Other	
Sample size	7,562	3,072	4,490	1,032	1,410	1,630	1,475	993	1,022	5,883	585	406	688
SE of estimates	0.02	0.03	0.02	0.04	0.06	0.04	0.03	0.03	0.03	0.02	0.06	0.07	0.04

*Walking Trip Lengths*

The average length of a walking trip taken on a typical day during the summer was 1.2 miles (SE = 0.02). More than one-fourth of trips (26.9%, SE = 0.51) were shorter than one-quarter of a mile while 14.8% (SE = 0.38) of trips were more than 2 miles in length. Walking trips taken for exercise or recreation averaged 1.9 miles (SE = 0.03), as compared to 0.8 miles (SE = 0.02) for trips taken for other purposes.

**FIGURE 6. Percent of Trip Lengths on Most Recent Day Walked**



NOTE: Estimates are based on total trips taken on most recent day walked.

SOURCE: National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, 2002. National Highway Traffic Safety Administration (NHTSA) and Bureau of Transportation Statistics (BTS).

**TABLE 6. Sample Sizes (Unweighted) and Standard Errors (SE) of Estimates Weighted to Reflect Total Walking Trips Taken by U.S. Population Age 16+ for Figure 6**

Walking trips in past 30 days	Total	.25 mile or less	.26-.50 miles	.51-1 miles	1.1-2 miles	More than 2 miles
Sample size	11,654	2,874	2,262	2,486	2,197	1,835
SE of estimates	0.00	0.51	0.44	0.44	0.41	0.38

### *Purpose of Walking Trips*

Pedestrians reported a variety of reasons as the primary purpose for the walking trips they took. The most common purposes for walking trips included walking for exercise or health reasons (27.0%, SE = 0.46), to run personal errands (17.3%, SE = 0.41), or for recreation (15.3%, SE = 0.38). Other primary trip purposes included:

- To go home (10.2%, SE = 0.32)
- Visit a friend or relative (8.8%, SE = 0.31)
- Commuting to school or work (5.1%, SE = 0.24)
- Walk the dog (4.0%, SE = 0.20)
- Other (12.3%, SE = 0.39)

### *Facilities Used for Walking Trips*

Pedestrians took about 124 million trips on sidewalks (45.1%, SE = 0.53) though many also walked on paved roads, not on shoulders (24.8%, SE = 0.46). Other facilities used for walking trips included:

- Shoulders of paved roads (8.4%, SE = 0.31)
- Unpaved roads (8.0%, SE = 0.29)
- Bicycle paths/Walking paths/Trails (5.8%, SE = 0.24)
- Grass or fields (4.9%, SE = 0.23)
- Other (3.0%, SE = 0.17)

### *Views on Design of Communities for Walking Safety*

Nearly three out of four adults age 16 or older were “very” or “somewhat satisfied” with how their communities were designed for pedestrian safety (74.1%, SE = 0.57). Those who have walked in the past 30 days expressed higher satisfaction levels (75.8% very or somewhat satisfied, SE = 0.66) than those who have not walked (67.7%, SE = 1.12). Regardless of their satisfaction level or whether they have walked in the past 30 days, 34.0% (SE = 0.55) of adults age 16 or older recommended a variety of changes to their communities for pedestrians. Reported changes included:

- Providing pedestrian facilities, e.g., sidewalks, traffic signals, lighting, or crosswalks (74.7%, SE = 0.88)
- Improving existing pedestrian facilities (12.5%, SE = 0.64)
- Enforcing laws governing pedestrians (5.1%, SE = 0.44)
- Making areas for walking safer (4.7%, SE = 0.44)
- Changing existing laws governing pedestrians (2.8%, SE = 0.33)
- Other suggestions (8.7%, SE = 0.58)

## BACKGROUND AND METHODS

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The survey was conducted by telephone during the period June 11 to August 20, 2002. Using a random sample of all telephone numbers (listed as well as unlisted) in the 50 states and the District of Columbia, Gallup interviewed 9,616 respondents aged 16 years or older. These results were then weighted to reflect the national population of 208 million noninstitutionalized persons aged 16 years or older residing in the United States. The weighting methodology allows the information supplied by a sample of persons to be used to infer to the entire U.S. population aged 16 years or older. This survey does not include biking and walking information for persons less than 16 years of age. The survey administration complexities of ascertaining permission precluded collecting data from this population. The standard Council of American Survey Research Organizations (CASRO) definition of response rate was used. A CASRO response rate of 27% was obtained for this survey.

Sample surveys contain two major components of error: sampling and nonsampling error.

*Sampling Error.* Sampling error occurs because findings are based on a sample, rather than on the entire population. The total number of respondents was 9,616 for this survey. In general, this provides for an estimated sampling error (or margin of error) of about +/- 1.5% at the 95% confidence level assuming a complex sample design. Sampling error will be larger for sample subgroups (e.g., males or persons age 65+) and for survey items that do not apply to all members of the sample (e.g., sample members who rode a bicycle during the 30 days prior to the survey). The standard errors (SE) given in this report were calculated using SUDAAN software and are a general proxy for and measure of sampling error. At the 95% confidence level, an SE can be multiplied by 2 to estimate the sampling error.

*Nonsampling Error.* Estimates are subject to various errors during the survey process, such as data collection, response coding, and data editing errors. These kinds of errors also occur even if a complete census was conducted under the same conditions as a sample survey. Explicit measures of the effects of these errors are not available. However, stringent quality control procedures were followed during data entry, and the questionnaire was reviewed and pretested in an effort to minimize nonsampling errors associated with data entry and questionnaire design. Nonresponse error is a function of both the response rate and the differences, if any, between respondents and nonrespondents.

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## GLOSSARY OF KEY TERMS

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Bicyclists	Adults age 16 or older who rode a bicycle at least once during a 30-day period over the summer of 2002.
Facilities	Facilities can be roads, shoulders of roads, paths, or sidewalks. The survey asked which facility was used the most during the trip.
Pedestrians	Adults age 16 or older who walked, ran, or jogged outdoors for at least 5 minutes at least once during a 30-day period over the summer of 2002.
Summer	Summer months were defined as May through August 2002.
Trip	A trip is defined as going from a starting point to a destination for a specific purpose without any stops along the way. If you left your house to bike or walk with no real destination and returned to your house that would be considered ONE trip. If you rode or walked from your house to a friend's house for a visit, then went back home, that would be TWO trips. If you rode or walked from your home to a friend's house, then to a store, and then back home again, that would count as THREE trips.