

ORIGINAL RESEARCH

Trends in Walking for Transportation in the United States, 1995 and 2001

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Abstract

Introduction

The purpose of this study was to examine trends in walking for transportation among U.S. adults and youth for *Healthy People 2010* objective 22-14. The objective calls for increasing the proportion of trips of 1 mile or less made by walking to 25% for adults and 50% for youth. National transportation surveys are used to track national health objectives, but data interpretation and caveats to use have not been discussed in the public health literature to date.

Methods

Cross-sectional analyses at two time points used data from the 1995 Nationwide Personal Transportation Survey and the subsequent 2001 National Household Travel Survey. The populations of interest were U.S. civilian noninstitutionalized adults (aged 18 years and older) and youth (aged 5 to 15 years). Trends were reported for the percentage of walking trips of 1 mile or less for transportation (adults) and walking trips of 1 mile or less to school (youth) using 86,286 trips (1995) and 119,462 trips (2001) made by adults and 3114 trips (1995) and 4073 trips (2001) made by youth.

Results

Of trips of 1 mile or less, adults reported more walking in 2001 (21.2%; 95% confidence interval [CI], 20.5–21.9)

than in 1995 (16.7%; CI, 15.9–17.5). For trips to school of 1 mile or less, youths also increased walking from 1995 (31.3%; CI, 27.9–34.4) to 2001 (35.9%; CI, 33.0–38.8). Changes in survey methodology affected the interpretation of the *Healthy People 2010* trends.

Conclusion

In spite of small increases in walking between 1995 and 2001 accompanying a change in survey methodology, U.S. adults and youth fall short of meeting *Healthy People 2010* walking objectives for trips of 1 mile or less.

Introduction

Regular physical activity decreases risk for many health conditions, including cardiovascular disease, diabetes, colon cancer, and osteoporosis; assists in weight control; and reduces symptoms of anxiety and depression (1). Current recommendations encourage adults to engage in moderate-intensity physical activity for at least 30 minutes on most, if not all, days of the week for overall health (1,2). In 2001, less than one half of the U.S. adult population reported reaching recommended levels of physical activity (3). Although recent trends in leisure-time inactivity show some improvement, about one quarter of adults reported no physical activity in their leisure time in 2002 (4). Only about one quarter of adolescents in grades 9 through 12 reported at least 30 minutes of moderate-intensity physical activity on at least 5 days of the week in 2001 (5). Moderate-intensity physical activity, such as walking, has positive health effects, even when the purpose of walking is for transportation rather than for exercise (1,6). Walking is the most commonly reported physical activity among the general population; it is an activity that most people can do, and it is low cost (7).

Healthy People 2010 objective 22-14 calls for adults and children to walk more frequently for transportation. The target of the objective is for adults aged 18 years and older to make 25% of their trips of 1 mile or less by walking and for youth aged 5 to 15 years to make 50% of their trips to school of 1 mile or less by walking (8). The baseline data for tracking these objectives were obtained from the 1995 Nationwide Personal Transportation Survey (NPTS), a survey that has been conducted by the U.S. Department of Transportation since 1969 to track travel and vehicle use patterns. Meanwhile, the most recent data on the prevalence of walking for transportation can be found from the 2001 National Household Travel Survey (NHTS) which combines two surveys that were conducted separately in 1995 (i.e., the NPTS and the American Travel Survey of long-distance trips). Estimates of the change in the prevalence of walking for transportation between 1995 and 2001 for *Healthy People 2010* objective 22-14 was determined for U.S. adults and youth from the 1995 NPTS and the 2001 NHTS. However, a public health analysis of walking for transportation has not been published to date. This report expands upon *Healthy People* objective 22-14 data on trends with additional demographic and environmental correlates of walking for transportation among U.S. adults and youth. The report includes a discussion of caveats to interpretation (e.g., question design, analytical methodology, comparability across surveys) of *Healthy People 2010* trends and other public health and transportation analyses that use this data.

Methods

Surveys

The NPTS is a cross-sectional survey of personal transportation by the civilian, noninstitutionalized population in the United States. From May 1995 through July 1996, 409,025 travel trips were reported by 95,360 people aged 5 through 88 in 42,033 households using 24-hour travel diaries (9). Households were randomly selected from a list-assisted telephone number sample. All household members aged 5 and older were asked in an initial household interview to complete travel diaries for a randomly assigned day and to report back in a follow-up telephone interview. Diary questions asked for trip distance (miles or blocks), destination, mode of travel, start time, duration, and identification of travel companions who lived in the household. Adult proxies were used for youth younger

than 14 years. Institutional Review Board approval was obtained by the survey contractor, Research Triangle Institute. The overall response rate to the initial interview, follow-up interview, and diary was 34.3%; 92.2% of people in interviewed households provided complete diary interviews (9).

In the survey, walking trips were defined as those for which "walk" was the reported main travel mode, and trips to school were defined as all trips with a destination of "school." Trips were classified by five urbanization categories (urban, second city, suburban, town, and rural) based on the classification of the census block group in which the respondent's household was located (10). Second cities were secondary population centers located in urbanized areas. Trips were the unit of analysis for the *Healthy People 2010* objective; consequently, for this study we analyzed 86,286 trips of 1 mile or less made by adults aged 18 years and older and 3114 trips to school of 1 mile or less made by children aged 5 to 15 years. Only trips with complete travel distance, mode, purpose, and demographic information were included in the analyses; trips with missing data were excluded.

The NHTS is a survey of personal transportation by the civilian, noninstitutionalized population in the United States. From March 2001 through July 2002, 642,292 travel trips were reported for 160,758 people from infancy through 88 years of age in 69,817 households using 24-hour travel diaries (10). The sample design and survey protocol were the same as described for the 1995 NPTS, except that children under 5 years of age were included in the sample, and adult proxies were requested for youth aged 14 and 15 in 2001. Diary questions and prompts were modified in 2001 to improve underreporting of walking and bicycle trips (10); details of the diary changes can be found in the Appendix. Institutional Review Board approval was obtained by the survey contractors, Westat (Rockville, Md) and MORPACE International, Inc (Farmington Hills, Mich). The overall response rate was 29.4%; 91.4% of people in interviewed households provided complete diary interviews (10). For this study, we analyzed 119,462 transportation trips of 1 mile or less by adults and 4073 trips to school of 1 mile or less by children aged 5 to 15 years. The operational definitions of walking trips, urbanization classifications, and exclusion criteria were the same as for the NPTS 1995. Additionally, of the 36 trip purpose categories, the three categories of 1) "go to gym/exercise/play sports," (2) "other social/recreational,"

and (3) walking trips for “pet care: walk the dog/vet visits” were considered to be leisure-time activities (i.e., walking for exercise) and were consequently excluded from the analysis (n = 8975).

Statistical analysis

The prevalence of walking trips for transportation of 1 mile or less was reported separately for youth and adults by sex, family income, urbanization classification, and geographic region, and for adults only by educational attainment. The age-specific prevalence of walking trips was reported by sex for youth and adults, and the prevalence of walking among adults by other demographic characteristics was age-adjusted. Walking prevalence for youth and adults by the nine U.S. Census divisions is shown on maps. Data were weighted to adjust for survey nonresponse and selection bias and to represent all daily travel made by all individuals in 1995 and 2001. Nonresponse adjustment factors using U.S. Census population estimates for the survey years (e.g., age, sex, race/ethnicity, day of week, month, census region, household size, metropolitan area size) were applied to household then to person weights to obtain trip weights. SUDAAN version 8.0 (Research Triangle Institute, Research Triangle Park, NC) was used for statistical analyses, and ArcVIEW 3.2 (Environmental Systems Research Institute, Inc, Redlands, Calif) was used for mapping.

Results

On average, people in the United States made slightly more than four travel trips per person per day in 2001. In 1995, 26.2% (23.9% in 2001) of all trips among adults aged 18 and older were 1 mile or shorter (data not shown). Adults made 21.2% of these short trips by walking in 2001, an increase from 16.7% in 1995 (Table 1). Trips made by walking were least prevalent in 2001 among men aged 65 and older, rural and town residents, and residents of the South. The percentage of walking trips by adults in 1995 and 2001 increased as residence became more urban (8.7% of rural trips compared with 36.8% of urban trips in 1995, 14.0% of rural trips compared with 39.3% of urban trips in 2001) and had a J-shaped relationship with education level with the highest prevalence of walking among people with the lowest education (28.2% in 2001) and income (29.1% in 1995, 38.5% in 2001) levels. The temporal trend for

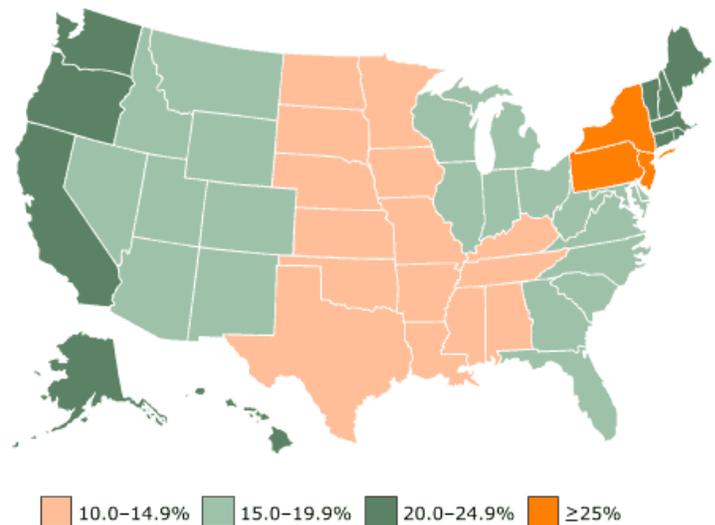


Figure 1. Walking trips of 1 mile or less made by U.S. adults aged 18 years and older in 2001, by nine census divisions.

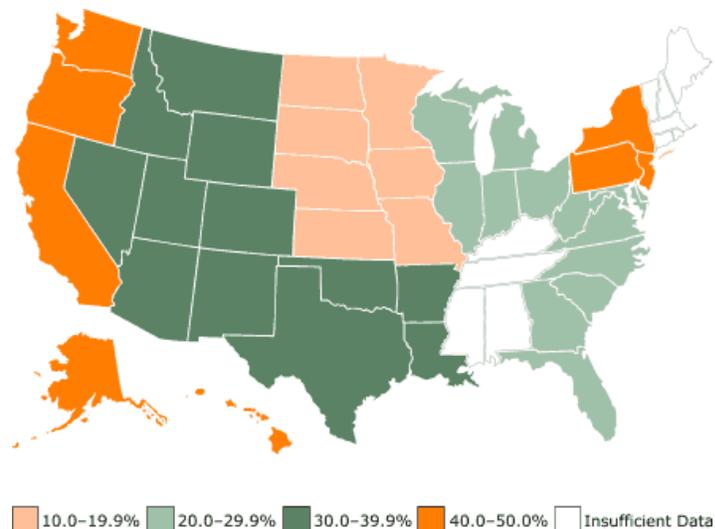


Figure 2. Walking trips to school of 1 mile or less made by U.S. youth aged 5 to 15 years in 2001, by nine census divisions.

nearly all categories was an increase in prevalence of as much as 9.4% among those with family incomes of less than \$10,000. Exceptions to this trend were in men and women aged 65 and older, those with family income of \$10,000–\$19,999, and urban residents. Trips made by walking were more common among adults living in the Middle Atlantic, Pacific, and New England regions than among those living in other regions (Figure 1).

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In 2001, of all trips to school made by children and adolescents aged 5 to 15, 36.2% were 1 mile or less in 2001, and 37.7% were 1 mile or less in 1995 (data not shown). Approximately 35.9% of these trips were made by walking in 2001, compared with 31.3% in 1995 (Table 2). In 2001, trips made to school by walking were about the same among girls (36.6%) and boys (35.2%) and were more common for the age group 10 to 15 years than for the age group 5 to 9 years. In both 1995 and 2001, walking to school was most prevalent in urban areas and in the Northeast. The overall trend was no change from 1995 to 2001. Walking to school increased among girls aged 10 to 15 years (29.9% in 1995, 42.5% in 2001), those with family incomes of less than \$10,000 (35.0% in 1995, 54.5% in 2001), those with family incomes of \$20,000–\$34,999 (28.2% in 1995, 45.3% in 2001), and urban residents (43.5% in 1995, 62.4% in 2001).

Discussion

Healthy People 2010 objective 22-14 calls for adults to make 25% of their trips of 1 mile or less by walking and for children to make 50% of their trips to school of 1 mile or less by walking (8). Although the percentages of trips made by walking have increased since the 1995 baseline, 2001 data suggest that, overall, U.S. adults and youth fall short of reaching this goal: adults make only 21.2% of their trips of 1 mile or less by walking, and children make only 35.9% of their trips to school of 1 mile or less by walking. These analyses also found important differences in the prevalence of walking that were related to environmental and demographic factors. Short trips are made by walking more frequently by people who are younger than 30 years, have low incomes, and live in urban areas or in the Northeast than by other groups.

The travel diary incorporated methodological changes in 2001, including the improved use of rosters of household members who traveled together, diary prompts to record walking trips, and more detailed coding of transportation activities (see Appendix). These changes were made to improve reporting and to capture leisure-time walking in addition to transportation, and they resulted in increased reporting of walking trips (10). Slight changes in question wording in physical activity surveillance systems have been shown to affect prevalence because physical activity behaviors are inherently difficult to measure (11). Although the changes in survey questions and methodolo-

gy were intended to elicit better responses than in previous surveys (10), validation studies for walking trips have not been published for 1995 or 2001 methodologies. It is likely that walking trips were underreported in 1995. Because of changes in survey methodology, walking trips may have been more accurately reported or overreported in 2001. Consequently, some of the increases seen in walking for transportation may not be indicative of real behavior change. The true increase from 1995 to 2001 was likely to be less than these statistics suggest, but even if true, the prevalences are still below the *Healthy People 2010* targets for many groups. Nevertheless, for more than 35 years these transportation surveys have captured travel and physical activity behavior details that have not been available from public health surveys. The third and final survey for *Healthy People 2010* statistics for walking for transportation is anticipated in 2008.

Only about one third of children aged 5 to 15 traveled 1 mile or less to school, and of these, 36% traveled by walking in 2001. The proportion of youth who lived within 1 mile of school cannot be obtained from these data because trips to school originated from home and other places. Walking to school is an important source of physical activity for many children because of the low percentage of children who take physical education in school (5) and the popularity of sedentary leisure-time activities, such as watching television, playing video games, and using the Internet. Participation in programs such as the Centers for Disease Control and Prevention's (CDC's) KidsWalk-to-School is one way to increase physical activity and promote the health of both children and adults (12). The increases in walking to school among girls, those with family incomes of less than \$35,000, and urban residents may be the result of increased awareness of the importance of walking to school through programs and media; however, causality cannot be inferred from these cross-sectional data.

Low-income, low-education groups have a low prevalence of leisure-time physical activity (1) and a high prevalence of multiple chronic disease risk factors (13), although our results show that these groups have the highest prevalences of walking for transportation. Thus, it is important to measure walking for transportation to assess lifestyle (e.g., leisure-time sports and exercise, household, occupational, transportation-related) physical activity levels. We do not know about black and Hispanic groups because race/ethnicity questions were not asked of all survey

respondents in 1995 or 2001. Large nonsignificant increases in prevalence in low-income groups and changes in survey methodology to improve response rates and reporting of walking trips suggest that those in low-income groups might have reported walking trips differentially between the two surveys. The increases may also be due to the impact of the Smart Growth movement, which has created more opportunities for low-income families to live in walkable neighborhoods; active environments promotional programs; and public health messages encouraging walking for health benefits.

The choice to walk on short trips may be affected by time, purpose, or environmental factors. These data show that walking for transportation is related to the degree of urbanization for both children and adults. In urban areas, schools, shopping, social and recreational opportunities, and workplaces are more often integral parts of residential neighborhoods or are more likely to be convenient to safe pedestrian routes and public transit. Sprawling communities of newer suburban areas and second cities outside urban cores were designed primarily for automobile transportation, separating low-density residential neighborhoods from commercial, industrial, and office spaces by roads with poor access between places (14). Urban design may be reflected in the percentages of trips of 1 mile or less made by walking; in 2001, 39.3% of adults' trips and 62.4% of youth's trips to school were made by walking in urban areas, whereas lower percentages were found in second cities and suburban areas. A recent study indicated that older women walked more often if they lived within a 20-minute walk of a park, bicycle or walking trail, or department, discount, or hardware store, and the trend for walking increased with the number of destinations within walking distance (15). People who live in neighborhoods with high walkability walked more than those who lived in less-walkable neighborhoods (16). They also had lower rates of obesity (16,17), lower health care costs, and increased longevity (17), suggesting that environmental configuration may play a role. Additional research is needed to determine how factors such as land use, sidewalks, trails and parks, roads, and neighborhood safety relate to the urbanization measure used for this report and how these design elements may be modified to positively affect walking for transportation.

These *Healthy People 2010* statistics may inform multidisciplinary intervention strategies for health promotion. One recommended intervention strategy is

to increase access to places where people can be physically active (18). For example, walking and bicycle trails that connect people with existing social and commercial facilities would provide options to increase physical activity.

One proposed framework for obesity prevention recommends using a set of interventions selected for their level of promise (19). An intervention's promise would be assessed using a matrix based on the estimated population impact and the level of certainty of the outcome. Using such a matrix would ensure that interventions are considered that have a high potential population impact but have less certainty of outcome. For example, interventions that facilitate alternative modes of transportation (e.g., public transit, bicycling, walking) in suburban areas of a community may not be economically justified because of "less promising" certainty of effectiveness of increasing physical activity. Yet, the interventions may be justified based on a highly promising potential of population impact and reduction of the environmental and societal cost of automobile use (e.g., air pollution, traffic congestion, and energy consumption) in a community with air quality concerns and an ongoing Healthy Cities initiative.

This paper illustrates the need for understanding issues that may arise from the multidisciplinary use of these survey data. Health surveys often measure and report behaviors using "person" as the unit of analysis; travel diaries can be analyzed at the person level and at the trip level. Methodological differences (e.g., exclusion criteria based on physical activity domain or missing data, age adjustment) may cause confusion about differing prevalence statistics for apparently similar transportation measures. For example, using the NPTS and NHTS, transportation researchers reported that walking for transportation for all trip distances decreased from 9.3% in 1977 to 5.4% in 1995, then increased to 8.6% in 2001 (20). However, the authors did not exclude walking for exercise from the analysis in 2001 nor did they adjust for the changing age distribution in the U.S. over time. Another reason why walking prevalence may vary across studies is that transportation researchers often include all data in their denominators, whereas public health researchers generally exclude observations with missing data. For example, a similar study of walking prevalence by transportation researchers included trips with incomplete data, resulting in lower prevalences than those reported here (21).

The findings in this report are subject to at least five limitations. First, data are cross-sectional and may not be used to infer cause and effect. Second, the NHTS relies on self-reported information, which is subject to recall bias that could decrease walking prevalence as well as social desirability bias that could increase walking prevalence. However, methodological changes were designed to improve reporting in 2001 (10). Third, adults in each household reported trips made by children aged younger than 14 years in 1995 and younger than 16 years in 2001. Trip modes could have been misreported to under- or overreport walking if adults did not accompany children to school. Fourth, low response rates may have affected the representativeness of the final study group because response rates vary by age, race/ethnicity, income level, and other factors that could result in underreporting of travel in socioeconomically disadvantaged groups (22). However, weighting for nonresponse and selection bias used demographic, geographic, and temporal measures. As expected, walking prevalence was highest in socioeconomically disadvantaged groups. Finally, travel patterns may have been disrupted by the events of September 11, 2001. The subsequent discovery of letters containing anthrax that were sent to various recipients in several states from September 2001 to November 2001 may have decreased response rates because there was a mail component of the survey (23).

Walking for transportation is part of an active lifestyle that is associated with decreased risks for coronary heart disease (4), diabetes, hypertension, and colon cancer and increased feelings of well-being (1). Public health benefits could be gained with increased prevalence of walking for transportation, using *Healthy People 2010* objective 22-14 as a guide (8). Walking for transportation is most prevalent in low-income and low-education groups that have a high prevalence of multiple chronic disease risk factors, including leisure-time physical inactivity (13). Methodological changes in the surveys from 1995 to 2001 preclude a literal interpretation of the trend statistics. Walking for transportation might have increased in youth and adults because of concomitant trends of increasing popularity of walkable communities to improve overall quality of life and promotion of walking, active lifestyles, and walk-to-school programs to improve health. However, we conclude that trend data for *Healthy People 2010* indicate that most youth and adults did not meet the objectives for walking for transportation in 2001, and the national travel surveys provide valuable data to the

public health community about active transportation. Changing a small percentage of travel trips from automobile to walking could help people meet the levels of physical activity set forth in *Healthy People 2010* objectives.

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References

1. U.S. Department of Health and Human Services. Physical activity and health: a report of the surgeon general. Atlanta (GA): Centers for Disease Control and Prevention; 1996.
2. Pate RR, Pratt M, Blair SN, Haskell WL, Macera CA, Bouchard C, et al. Physical activity and public health. A recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *JAMA* 1995;273(5):402-7.
3. Centers for Disease Control and Prevention. Prevalence of physical activity, including lifestyle activities among adults — United States, 2000-2001. *MMWR* 2003;52(32):764-9.
4. Centers for Disease Control and Prevention. Prevalence of no leisure-time physical activity — 35 states and the District of Columbia, 1988-2002. *MMWR* 2004;53(4):82-6.
5. Grunbaum JA, Kann L, Kinchen SA, Williams B, Ross JG, Lowry R, et al. Youth risk behavior surveillance — United States, 2001. *MMWR CDC Surveill Summ* 2002;51(4):1-62.
6. Lee IM, Rexrode KM, Cook NR, Manson JE, Buring JE. Physical activity and coronary heart disease in women: is “no pain, no gain” passé? *JAMA* 2001;285(11):1447-54.
7. Centers for Disease Control and Prevention. Participation in physical activities. Atlanta (GA):

- Centers for Disease Control and Prevention; 1996. Available from: URL: <http://www.cdc.gov/nccdphp/dnpa/physical/importance/index.htm>.
8. U.S. Department of Health and Human Services. Healthy People 2010: understanding and improving health. 2nd ed. Washington (DC): U.S. Government Printing Office; 2000 Nov.
 9. U.S. Department of Transportation, Federal Highway Administration. User's guide for the Public Use Data Files: 1995 Nationwide Personal Transportation Survey. Washington (DC): U.S. Department of Transportation; 1997.
 10. U.S. Department of Transportation, Federal Highway Administration. 2001 National Household Travel Survey: user's guide. Washington (DC): U.S. Department of Transportation; 2004 Jun.
 11. Ham SA, Macera CA, Jones DA, Ainsworth BE, Turczyn KM. Preliminary considerations for physical activity research: variations on a theme. *J Physical Activity and Health* 2004;1:98-113.
 12. U.S. Department of Health and Human Services. KidsWalk-to-School: a guide to promote walking to school. Atlanta (GA): Centers for Disease Control and Prevention; 2000.
 13. Hayes DK, Greenlund KJ, Denny CH, Croft JB, Keenan NL. Racial/ethnic and socioeconomic disparities in multiple risk factors for heart disease and stroke — United States, 2003. *MMWR* 2005;54:113-7.
 14. Ewing R, Schmid T, Killingsworth R, Zlot A, Raudenbush S. Relationship between urban sprawl and physical activity, obesity, and morbidity. *Am J Health Promot* 2003;18(1):47-57.
 15. King WC, Brach JS, Belle S, Killingsworth R, Fenton M, Kriska AM. The relationship between convenience of destinations and walking levels in older women. *Am J Health Promot* 2003;18(1):74-82.
 16. Saelens BE, Sallis JF, Black JB, Chen D. Neighborhood-based differences in physical activity: an environment scale evaluation. *Am J Public Health* 2003;93(9):1552-8.
 17. Pucher J, Dijkstra L. Promoting safe walking and cycling to improve public health: lessons from the Netherlands and Germany. *Am J Public Health* 2003;93(9):1509-16.
 18. Centers for Disease Control and Prevention. Increasing physical activity. A report on recommendations of the Task Force on Community Preventive Services. *MMWR Recomm Rep* 2001;50(RR-18):1-14.
 19. Swinburn B, Gill T, Kumanyika S. Obesity prevention: a proposed framework for translating evidence into action. *Obes Rev* 2005;6(1):23-33.
 20. Pucher J, Renne JL. Socioeconomics of urban travel: evidence from the 2001 NHTS. *Transport Q* 2003;57:49-77.
 21. U.S. Department of Transportation, Federal Highway Administration. 1995 Nationwide Personal Transportation Survey. Washington (DC): U.S. Department of Transportation; 1998.
 22. Cantor D, Shapiro G, Chen LW, Choudhry GH, Freedman M. Nonresponse in the National Household Transportation Survey. Rockville (MD): Westat. Available from: URL: <http://trb.org/conferences/nhts/Shapiro.pdf>.
 23. Freedman M, Machado J, Swain S. Improving response rates: methods employed to promote National Household Travel Survey participation. Rockville (MD): Westat. Available from: URL: <http://trb.org/conferences/nhts/Freedman.pdf>.

Tables

Table 1. Age-adjusted Proportion of Transportation Trips of 1 Mile or Less Made by Walking Among Adults Aged 18 Years and Older, United States, 1995 and 2001

Characteristic	1995 NPTS ^a (N = 86,286)	2001 NHTS ^b (N = 119,462)
	% (95% CI) ^c	% (95% CI)
Healthy People 2010 target	25.0	25.0
Overall	16.7 (15.9-17.5)	21.2 (20.5-21.9)
Men	16.7 (15.6-17.9)	21.4 (20.4-22.3)
Women	16.7 (15.7-17.7)	21.1 (20.2-21.9)
Age, y^d		
Men		
18-29	21.1 (17.9-24.2)	27.7 (24.9-30.5)
30-44	17.4 (15.6-19.3)	22.4 (20.5-24.2)
45-64	13.2 (11.4-15.1)	20.2 (18.7-21.7)
65-74	15.4 (12.3-18.5)	13.5 (11.1-15.8)
75 and older	13.4 (9.8-17.0)	13.8 (11.3-16.3)
Women		
18-29	21.5 (19.0-24.1)	27.9 (25.0-30.8)
30-44	15.2 (13.8-16.6)	20.8 (19.4-22.3)
45-64	14.5 (12.9-16.1)	18.0 (16.7-19.3)
65-74	15.9 (13.2-18.5)	17.9 (15.4-20.4)
75 and older	20.6 (15.1-26.1)	19.6 (16.5-22.8)
Education^e		
Less than high school	—	28.2 (25.3-31.1)
High school	—	19.2 (18.0-20.3)
Some college/technical school	—	18.5 (17.3-19.6)
College graduate	—	23.4 (21.8-25.1)
Family income		
<\$10,000	29.1 (24.3-34.0)	38.5 (34.9-42.2)
\$10,000-\$19,999	21.0 (18.4-23.6)	25.7 (22.8-28.5)
\$20,000-\$34,999	14.9 (13.4-16.4)	19.4 (17.8-21.1)
\$35,000-\$49,999	14.0 (12.3-15.8)	17.5 (16.1-18.8)
\$50,000 or more	14.8 (13.4-16.2)	19.7 (18.4-20.9)

Characteristic	1995 NPTS ^a (N = 86,286)	2001 NHTS ^b (N = 119,462)
	% (95% CI) ^c	% (95% CI)
Degree of urbanization		
Rural	8.7 (7.3-10.1)	14.0 (12.4-15.7)
Town	9.2 (7.9-10.4)	13.8 (12.4-15.2)
Suburban	13.2 (11.7-14.7)	16.7 (15.5-18.0)
Second city	17.0 (15.0-19.0)	21.1 (19.2-23.0)
Urban	36.8 (34.3-39.2)	39.3 (37.5-41.1)
Census region		
Northeast	27.9 (26.3-29.5)	32.6 (30.9-34.2)
Midwest	13.7 (12.2-15.2)	17.1 (15.6-18.5)
South	11.3 (10.0-12.6)	15.6 (14.4-16.8)
West	17.4 (15.1-19.7)	22.3 (20.4-24.2)

^aNPTS indicates Nationwide Personal Transportation Survey.

^bNHTS indicates National Household Travel Survey.

^cCI indicates confidence interval.

^dAge-adjustment was not used for age-specific prevalence estimates.

^eData not available in 1995.

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Table 2. Proportion of Trips to School of 1 Mile or Less Made by Walking Among Youth Aged 5 to 15 Years, United States, 1995 and 2001

Characteristic	1995 NPTS ^a (N = 3114)	2001 NHTS ^b (N = 4073)
	% (95% CI) ^c	% (95% CI)
Healthy People 2010 target	50.0	50.0
Overall	31.3 (27.9-34.4)	35.9 (33.0-38.8)
Boys	34.9 (30.4-39.4)	35.2 (31.1-39.2)
Girls	27.5 (23.4-31.6)	36.6 (32.7-40.5)
Age, y		
Boys		
5-9	30.0 (24.3-35.7)	31.4 (25.8-37.0)
10-15	40.3 (33.7-46.9)	39.3 (33.5-45.0)
Girls		
5-9	25.1 (19.8-30.3)	30.7 (26.0-35.5)
10-15	29.9 (24.5-35.3)	42.5 (36.4-48.6)
Family income		
<\$10,000	35.0 (20.2-49.7)	54.5 (42.2-66.7)
\$10,000-\$19,999	35.4 (25.9-44.8)	45.5 (33.7-57.2)
\$20,000-\$34,999	28.2 (21.8-34.7)	45.3 (36.2-54.5)
\$35,000-\$49,999	34.0 (26.8-41.1)	33.3 (26.3-40.4)
\$50,000 or more	24.1 (17.9-30.2)	25.0 (21.1-28.9)
Degree of urbanization		
Rural	27.1 (18.3-35.8)	25.7 (18.9-32.5)
Town	24.8 (18.3-31.2)	25.3 (19.6-31.1)
Suburban	27.4 (20.7-34.0)	30.9 (24.5-37.4)
Second city	33.6 (26.7-40.5)	32.3 (25.9-38.7)
Urban	43.5 (35.5-51.5)	62.4 (55.6-69.2)
Census region		
Northeast	40.4 (35.0-40.8)	46.2 (40.1-52.4)
Midwest	27.7 (21.7-33.7)	25.1 (20.1-30.2)
South	20.8 (15.3-26.3)	26.1 (19.4-32.8)
West	37.3 (30.3-44.3)	45.4 (39.5-51.3)

^aNPTS indicates Nationwide Personal Transportation Survey.

^bNHTS indicates National Household Travel Survey.

^cCI indicates confidence interval.

Appendix

In both the NPTS 1995 and NHTS 2001, household rostering was used to verify the accuracy of data for trips that were taken by more than one person in the household. Interviewers assigned a main travel mode for public transit trips (e.g., walk, commuter rail, walk) and other trips with multiple modes. Although most public transit trips included a walking component, only the main travel mode was used for the *Healthy People 2010* statistics.

The methodology for capturing walking trips was changed in 2001 with additional prompts for these trips, different diary questions (see Appendix Table), and additional trip purpose codes. The diary instructions prompted respondents to include walking, jogging, and bicycling for both transportation and leisure in 2001 but not in 1995. The number of trip purposes into which interviewers coded open-ended diary data was increased from 17 in 1995 to 36 in 2001. Consequently, three trip purpose categories were excluded because they were considered to be leisure-time physical activity and not transportation (i.e., go to gym/exercise/play sports, other social/recreational, and walking trips for pet care [walk the dog/vet visits]).

Multiple trips to school on the same day, trips originating from places other than home, and travel to school on weekend days were included in the analyses because the *Healthy People 2010* objective definition did not specify these as exclusion criteria. Trips from school were not included in *Healthy People 2010* analyses. Day care activities were listed as a separate trip purpose for the first time in 2001 and were not considered to be trips to school.

Appendix Table. Comparison of Diary Instructions and Questions From the 1995 Nationwide Personal Transportation Survey (NPTS) and the 2001 National Household Travel Survey (NHTS)^a

NPTS 1995	NHTS 2001
Diary instructions^b	
Complete one line below for each time you traveled from one place to another on your travel day.	A trip is whenever you travel from one address to another... Include: walks, jogs, bike rides, and short drives.

^aHousehold rostering was done via computer-assisted telephone interviewing system.

^bIn both 1995 and 2001, the travel diary was in the form of a table.

(continued on next page)

Appendix Table (continued). Comparison of Diary Instructions and Questions From the 1995 Nationwide Personal Transportation Survey (NPTS) and the 2001 National Household Travel Survey (NHTS)^a

NPTS 1995	NHTS 2001
Diary questions	
1) Where did you go? (home, bank, restaurant, work, friend's house, etc.)	1) Where did you go? (name of place) <i>(Example in table: West Park Theater)</i>
2) What time did you begin your trip? <i>(In table: ___:___ am pm)</i>	2) What time did you start and end each trip? 2a) Started at: <i>(Example in table: 2:00 pm)</i> 2b) Arrived at: <i>(Example in table: 2:55 pm)</i>
3) How far did you travel to get there? (5 blocks, 3 miles, etc.)	3) Why did you go there? <i>(Example in table: to see a movie)</i>
4) What means of transportation did you use? (car, bus, subway, walk, bike, etc.)	4) How did you travel? <i>(Example in table: walk, bus, walk)</i>
5) How long did it take to get there?	5) How far was it? (blocks or miles) <i>(Example in table: 6 miles)</i>
6) Who was with you? (friends, son, wife, coworker, no one)	

^aHousehold rostering was done via computer-assisted telephone interviewing system.

^bIn both 1995 and 2001, the travel diary was in the form of a table.