

ANALYSIS BRIEF

MODE SHARE IN TIMES OF CHANGE

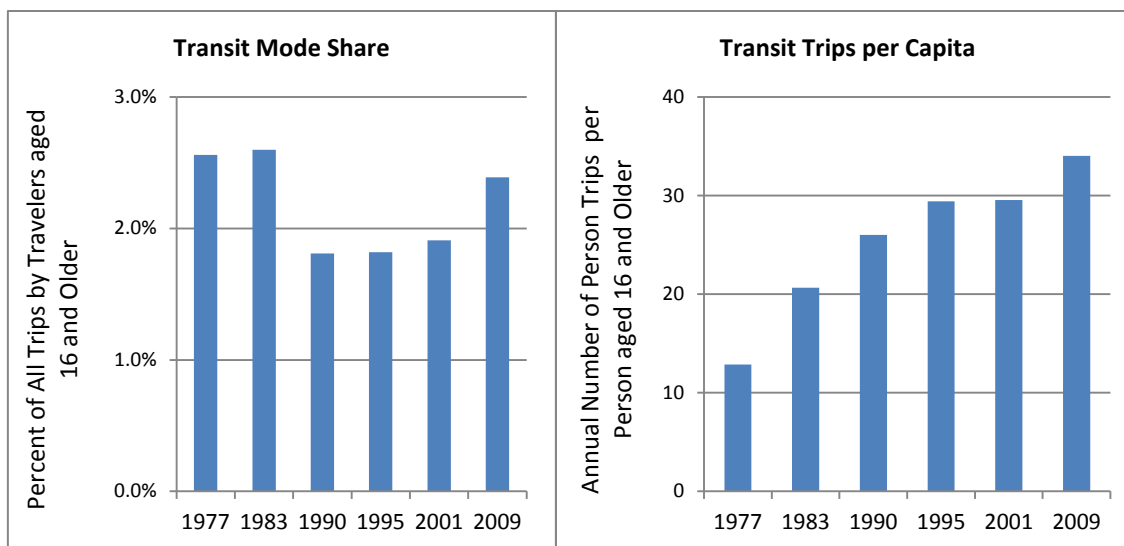


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In travel behavior analysis, mode share is often used to describe the amount of travel by various means of transportation, such as private automobile, walk, and transit. It is important to remember that the 'share' of any one category of travel is impacted by changes in total travel. For example, the most recent NHTS (2009) measured unprecedented declines in total travel and vehicle use—especially for younger people—and increases in the share of travel by other means. Another useful measure describes travel per person. Per capita rates, which are simply the sum of all trips divided by the number of people in the population, describe travel behavior for the whole population—not just the people who traveled on the sample day.

A good example of the difference in these two measures is shown below. The chart on the left shows transit mode share while the chart on the right shows trends in per capita transit trips for people aged 16 and older from 1977 to 2009. In this example, the mode share trends mask what appear to be real and persistent increases in per capita transit usage for the driving-age population over time. The fundamental differences in rates of growth between transit trips and all trips result in the shapes of these graphs being very different.

Figure 1 – Comparison of Trends in Transit Mode Share and Per Capita Travel Rates, 1977-2009

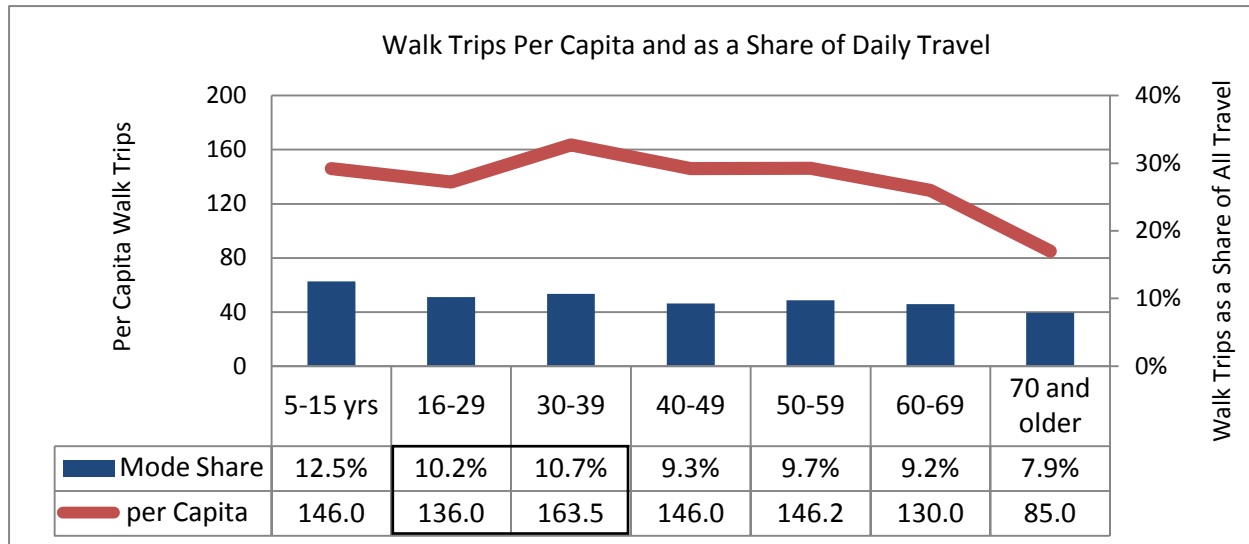


Note: The estimates in this brief are from the NHTS/NPTS data series (<http://nhts.ornl.gov>). The graphic above includes all travelers aged 16 and older. 'Transit' includes both inter- and intra-city train and bus. Proportions do not include trips by commercial truck (included in 1977) taxi, or air trips in the total.

Figure 2 shows another comparison of mode share and per capita trip rates. Here they express the level of walking by different age groups in the US. The estimates for people aged 16-29 and 30-39 are a good example of how mode share and per capita descriptions of travel can be very different.

Figure 2 shows that people aged 16-29 made about 10.2 percent of their daily trips by walking in 2009, while people aged 30-39 made about 10.7 percent of their daily trips by walking (shown as the blue bar: 'Mode Share'). The data also show that people aged 16-29 years old walked about 173.2 trips per person per year while people aged 30-39 each walked about 210.8 trips per year (shown as the red line: 'per Capita').

Figure 2 – Comparison of Walking by Age Group--Mode Share and Per Capita Travel Rates, 2009



Using the mode share estimate, one would say that people aged 30-39 walk about 0.5% more than people aged 16-29 (10.7% minus 10.2%). Using the per capita trip rates, one would say that people aged 30-39 make 20% more walk trips per person than people aged 16-29 (163.5 minus 136, divided by 136). Overall people in their 30s made 1542 trips by all means in 2009, about 15 percent more than people aged 16-29 who made 1331 trips by all means in the same year.

Declines in driving measured in the 2009 NHTS were especially apparent in younger drivers--people aged 16-29—and the declines in vehicle use shifted the proportion of trips by walking upward. In addition, there were declines in total travel per person—again these changes were especially apparent in younger travelers. These changes underlie the differences in the mode share and the per capita walking estimates shown in Figure 2.

When the total amount of travel and the amount of vehicle travel in particular, is shifting up or down, analysts, advocates, and policy-makers need to consider very carefully how travel behavior is described. In these examples using mode share as a description of the amount of travel masks changes in overall trends (such as transit use) and makes comparison between groups less clear (such as the amount of walking by age group).

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