

# CHAPTER THREE: WHAT HAS HAPPENED WITH TRANSIT?

## Key Findings

- Transit's share of all national travel has declined to about 2 percent. However, in the general context of decline of all alternatives to the auto, transit has fared better than other alternatives.
- A review of the sources of decline indicates that the downward trend seems uniform across all the traditional users of transit: women, all age groups, especially younger and older travelers, geographic area types, and demographic groups. Losses have been greatest in the Northeast which is the area that exceeds total transit use in the rest of the country.
- Strong declines in transit use among women reflect a reduction in the traditional tendency of women to use transit more than men.
- Low income populations have shifted away from transit to the extent that single occupant private vehicle use by the poverty population has reached 60 percent for trips to work.



Analyses of mass transit tend to focus mainly on urban work trips, where transit has its biggest role. But it is useful, at

least at the outset, to review transit in a broader context in which all areas and purposes are incorporated. When person trips of all purposes and lengths for the entire country are considered, transit (including bus, street car or trolley, subway, elevated, commuter rail, and Amtrak commuter services) accounts for about 2 percent of all trips, according to the 1990 NPTS. The bus mode identified here includes intercity scheduled bus service as well. When measured on a passenger mile basis, the transit share changes only slightly to 2.5 percent.

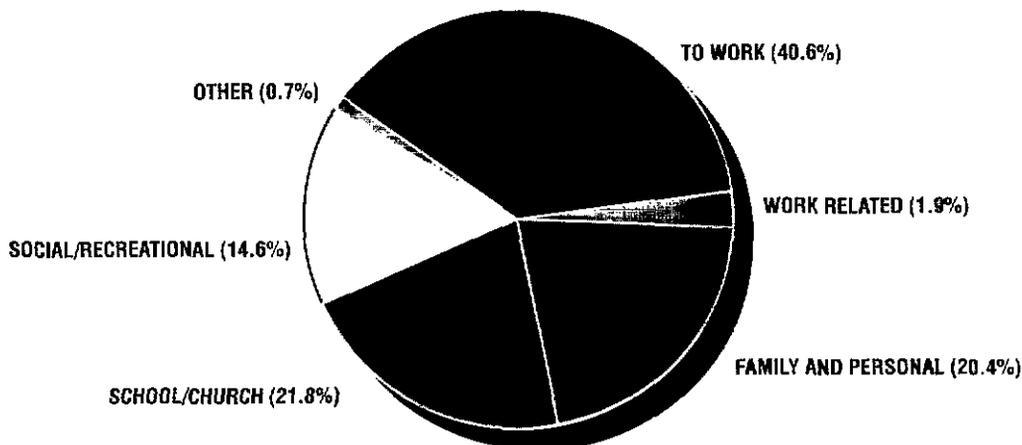
This depiction of transit might be considered inappropriate in the sense that it includes geographic areas and activities where transit does not provide

service. At a more relevant transit-oriented scale, if only those trips (a) made in urbanized areas of 1 million or more with a subway system, (b) made on weekdays, and (c) with a trip length under 75 miles are considered, transit's share increases to about 3.63 percent of trips.

Seen in terms of trends, the pattern has been one of overall decline in transit shares. The 1977 NPTS showed a transit share of 2.4 percent

of person trips, declining to 2.2 percent in 1983 and finally to 2.0 percent in 1990. To understand the nature of this decline, the elements of transit-oriented

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**FIGURE 7****Share of Transit Activity  
by Trip Purpose  
1990**

Source: NPTS

travel need to be considered and the broad national trends affecting all travel as well as transit need to be taken into account.

**Transit Patterns**

Although transit tends to play a minor role in most travel purpose categories outside of work travel, these purposes represent a significant part of transit patronage. Figure 7 shows the shares of all transit travel accounted for by different trip purposes. As expected, travel associated with commuting to work is the single most important market for transit, with almost 41 percent of transit use for the journey to work. But school and church attendance, with stronger emphasis on the school portion, is a major factor in transit, accounting for almost 22 percent of transit use. This purpose category is important because transit use is a significant share of total activity, accounting for almost 3.8 percent of trips with a school/church purpose. Obviously, school bus and walking account for the dominant share of activity in that purpose category.

Figure 8 presents the trend from 1983 to 1990 in

share of trips served by transit in each of the same purpose categories employed in Figure 7. It is clear that transit decline has occurred in all purpose categories with the exception of the category called "other." Referring back to Figure 7 helps explain the importance to transit markets of the changes in various purposes. The category "other," with less than one percent of transit activity, is a very minor component of transit travel.

Any analysis of recent trends in mass transit activity based on survey data must begin within the general context of the decline of all alternatives to the single occupant vehicle. A discussion of the decline of all alternatives to the private vehicle, primarily focused on the work trip, is presented elsewhere in this study. Briefly summarized, all increased trips from 1983 to 1990 were the product of personal vehicle travel.

The same trend data that showed transit decline in shares from 2.4 percent to 2.0 percent from 1977 to 1990 also showed all other alternatives to the single occupant vehicle declining as well. For example, the increase in the total number of workers

using a single occupant vehicle from 1985 to 1989 exceeded the increase in the total number of workers for the same period, based on data from the AHS.

To further quantify the trend, the AHS indicates that tripmaking for work purposes increased by about 7 percent from 1985 to 1989, while the single occupant vehicle portion of that travel increased by more than 12 percent. In that context, transit use declined by somewhat more than 4 percent. While this is certainly a negative finding with regard to transit, transit's decline was less precipitous than the other alternatives: in the same period carpooling and walking declined by almost 10 percent, and working at home declined by more than 7 percent. Only the mode category "other" (made up of an assortment of minor modes) had a slight absolute increase and almost held its market share.

While there is a tendency to see a decline in

walking to work trips as a "negative" based on urban concerns for air quality, it would be inappropriate to assume that this trend is a "problem to be solved." A large part of the shift away from walking is occurring in rural areas where people for the first time have the means to own a vehicle and substitute its use for walking. As such, it can represent a real mobility increase by expanding access to jobs and other opportunities to the otherwise isolated rural population.

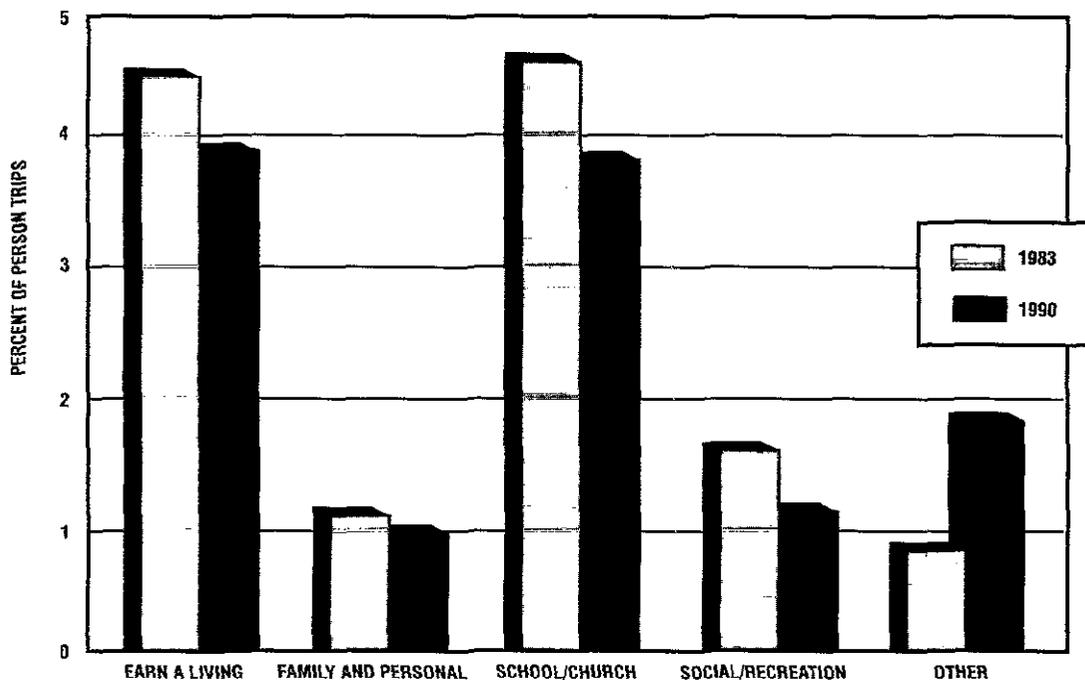
Outside of work travel, all other trip purposes, with the exception of school and church purposes where transit and school buses are factors, are almost exclusively made by private vehicle.

### Sources of Decline

To examine fully the causes of how and why transit shares of travel have declined would require

**FIGURE 8**

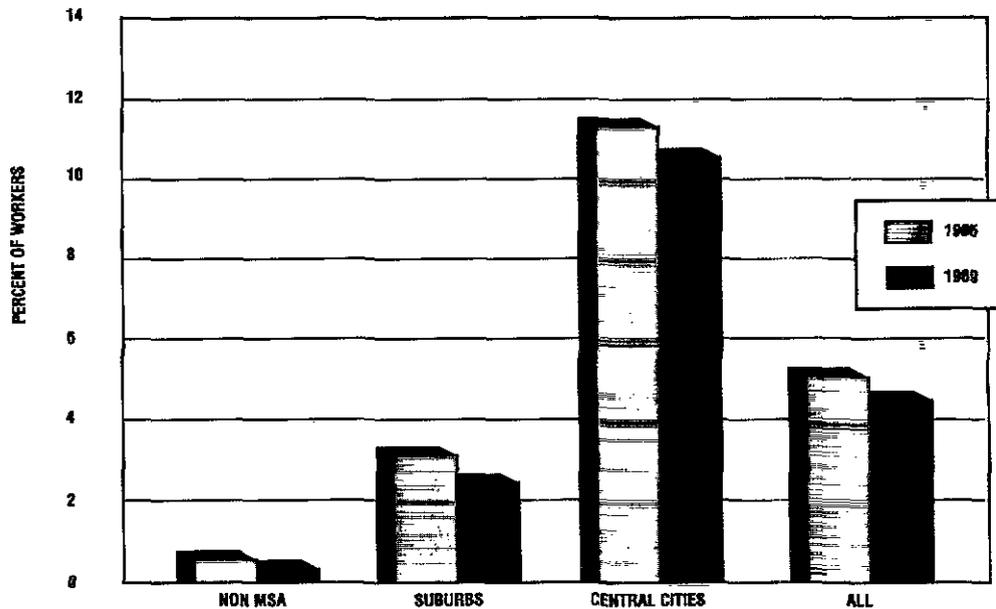
### Transit Shares of All Travel by Purpose Category 1983 & 1990



Source: NPTS

**FIGURE 9**

**Transit Shares of Work Travel  
by Place of Residence  
1985 & 1989**



Source: AHS

a far more extensive analysis than is possible here, but the outlines of the changes that have occurred, where they have occurred, and the extent to which they have contributed to the decline, can be developed from the survey sources available. The two major sources available are the AHS, conducted by the Bureau of the Census, which only treats work travel, and the NPTS, conducted by the U.S. Department of Transportation (DOT). The data used here from the two surveys cover relatively similar time periods, 1985-1989 for AHS and 1983-1990 for NPTS.

**Geographic Factors**

The AHS is a detailed treatment of the commuting to work portion of transit use. It can help to localize the nature of the trends affecting transit. Figure 9 shows the geographic distribution of transit use for trips to work for 1985 and 1989. One clear point made by this figure is that, based on the residence location of the tripmaker, the transit decline is not limited to one area or residential grouping, but is apparent in central cities, suburbs, and

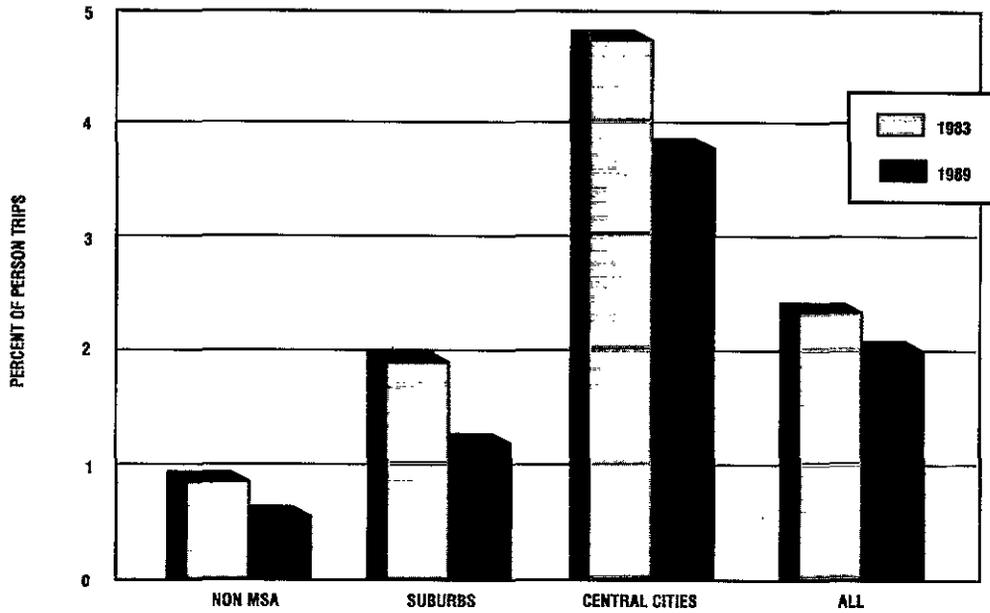
nonmetropolitan statistical areas (non-MSAs).

The NPTS data, covering the time period 1983 to 1990, shown in Figure 10, show parallel patterns for all purpose categories. The only apparent significant distinction between the work pattern and the pattern for all purposes from two different surveys and two time periods is that non-MSA transit usage for work purposes, already quite small, has not declined appreciably.

Figures 11 and 12, drawn from the AHS, examine these patterns more closely. The pie chart in Figure 11 shows the shares of transit trips to work by geographic area. Figure 12 identifies where the reductions in transit travel occurred. A key point is that suburbs, where national population growth is centered, representing 29.2 percent of transit trips, accounted for over 41 percent of the decline in travel by transit. Central cities, with almost 69 percent of transit travel, only accounted for 56 percent of the decline. Thus, center city transit use, the main market for transit services, is not eroding as rapidly as are suburban markets.

**FIGURE 10**

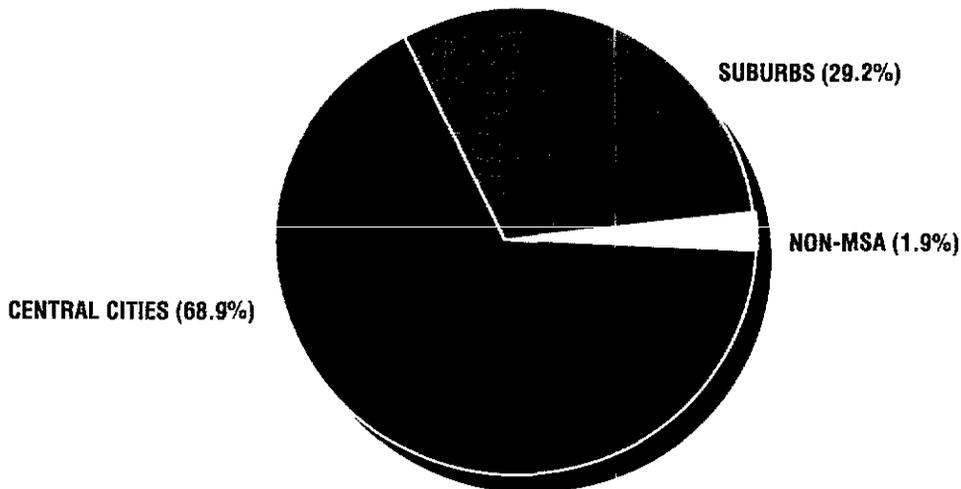
**Transit Shares of All Travel  
by Place of Residence  
1983 & 1990**



Source: NPTS

**FIGURE 11**

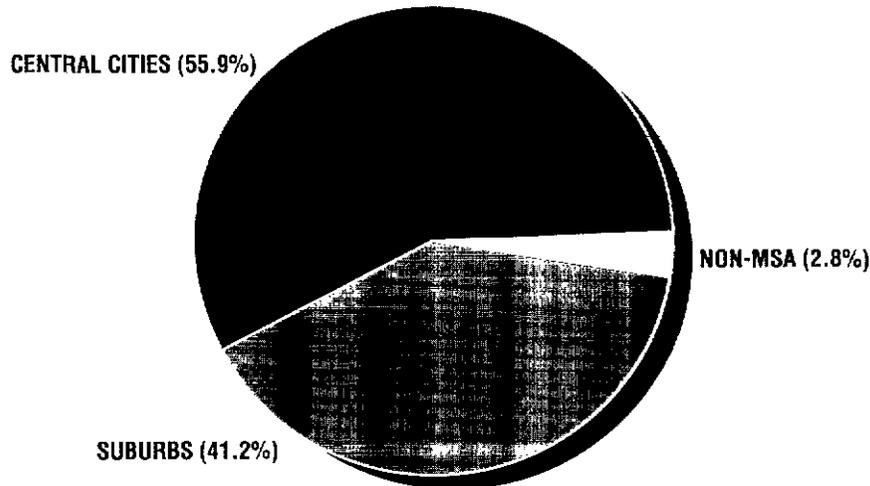
**Source of Transit Trips to Work  
by Place of Residence  
1985**



Source: AHS

**FIGURE 12**

**Source of Decline in Transit Work Trips  
by Place of Residence  
1985 - 1989**



Source: AHS

The AHS provides another area of insight into transit use. It identifies areas where transit service is available and relates them to transit use. Figure 13 shows the findings for all areas and for central cities and suburbs, based on the residence of the traveler. For each area, transit use is divided into categories that reflect frequent, infrequent, and never used transit. These data are for 1985. More recent data, when available, will provide insight into the effect of transit availability on transit use. Preliminary data from the 1990 NPTS indicate that transit use is 2.0 percent nationally, but this rises to 3.1 percent where transit is available and reaches 4.1 percent where transit is within a quarter mile of the household.

The AHS also collects information rating transit service as part of its assessment of neighborhood quality. In almost all cases where households use transit weekly, or less than weekly, the satisfactory ratings for transit services were very high—on the order of 90 percent.

### **Work Travel Trends**

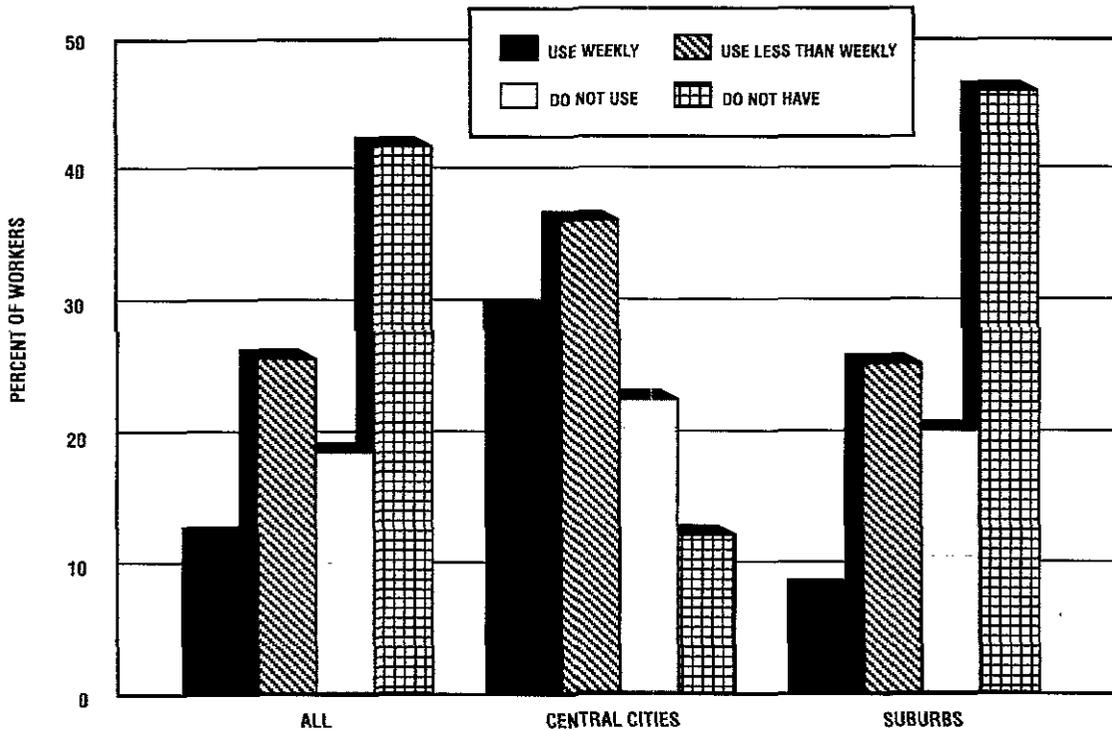
Further segmentation of transit work travel from the AHS, shown in Figure 14, provides additional insight into the sources of transit decline. The most important observation from this figure is that declining transit shares for work travel seem pervasive across almost all housing, demographic, and geographic groups. Notably, those over age 65, and both African Americans and Hispanics report declining shares, as do renters and homeowners. The positive side was represented by small towns, those who moved within the last year, and those in new housing within the last 4 years—all of which showed small share increases. These patterns of increase need to be analyzed further.

### **Regional Trends**

A different geographic stratification of work-related transit use in 1985 and 1989 from the AHS reveals an important national trend pattern.

**FIGURE 13**

**Transit Use by Area Type  
by Transit Available  
1985**



Source: AHS

When the country is divided into the traditional four quadrants, it becomes clear that the Northeast, the dominant source of transit use, was also the dominant source of transit decline, as shown in Figure 15. In 1985, transit use in the Northeast exceeded transit use in the other three regions of the country combined. Its losses were similarly dramatic—the decline in transit use was well over 9 percent in the Northeast. The South also sustained significant losses on the order of 8 percent. The West actually had growth sufficient to obtain a small increase in share. The Midwest did show absolute increases but not enough to

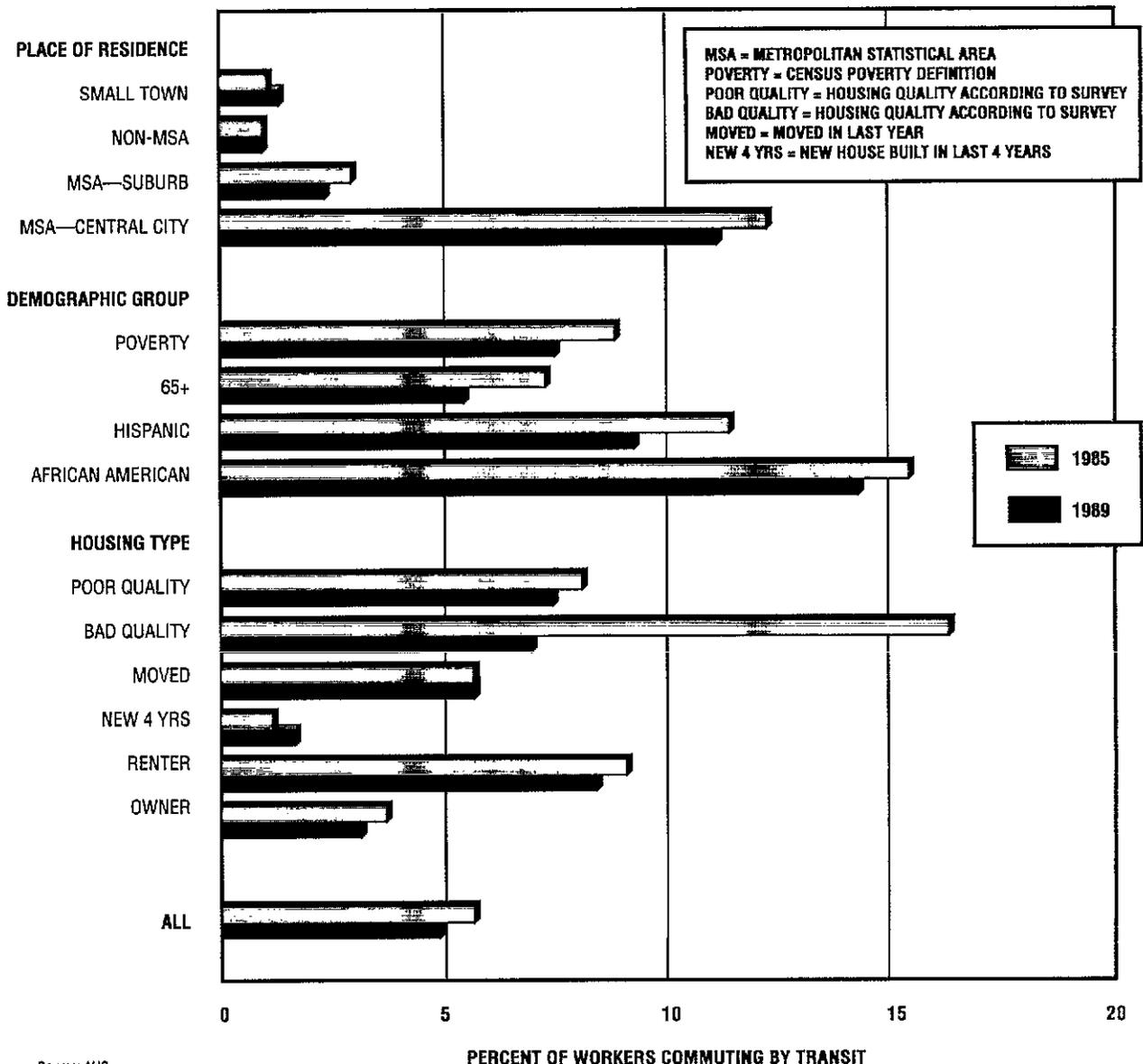
maintain market share. Thus, transit's ridership problems are apparently centered in the Northeast and the South. These trends were not the product of worker decrease in these areas. Total workers increased by 5 and 8 percent, respectively, in these two regions between 1985 and 1989.

Pursuing the question of the marked decline of transit in the Northeast, transit trends were assembled from the NPTS data by metropolitan area size for all trip purposes. The main feature of this analysis is the heavy decline in the largest areas, particularly areas over 3 million, which are heavily represented in the Northeast.

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**FIGURE 14**

**Trends in Transit Use for Work Trips  
Selected Groups  
1985 & 1989**

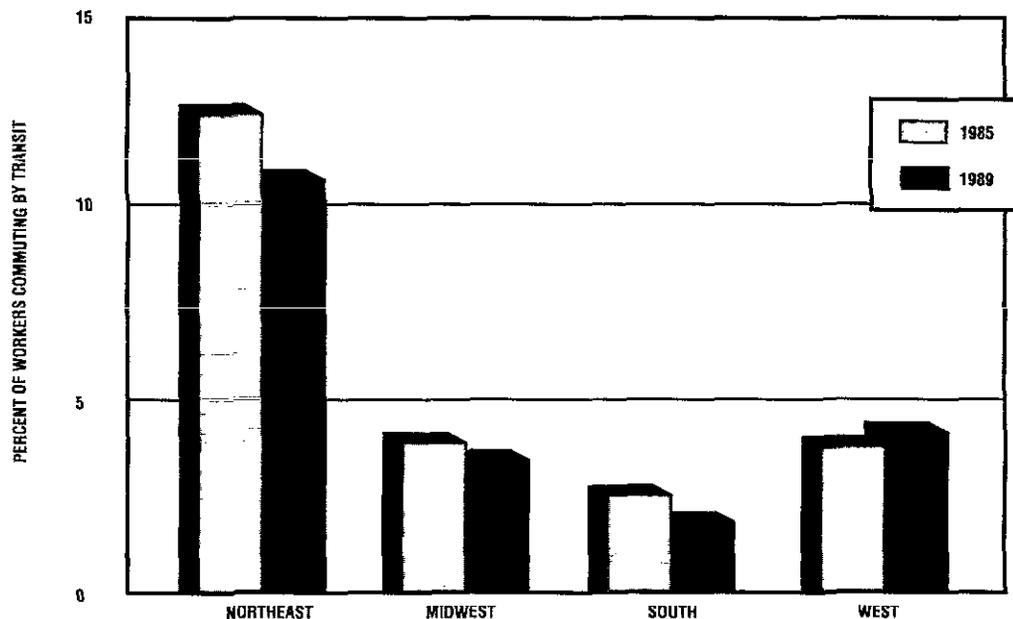


Source: AHS

PERCENT OF WORKERS COMMUTING BY TRANSIT

FIGURE 15

Transit Use Trends by Region  
1985 & 1989



Source: AHS

**Age Structure**

A factor to be considered is the changing age structure of the society and its impact on transit usage. Figure 16 shows that, with one exception, transit decline was not significantly age related and declined in share of travel across all age groups. The exception was growth in share of travel in the age group from 20 to 29, an interesting and important potential trend.

Other variants on the main trend were the fact that the age groups over 50 seemed to show the greatest decline in share, reflecting the increasing incomes and driving ability of the older population. This will be the dominant age group in the population in the near-term future. The young age group from 5 to 15, a major transit using age group, also showed exceptional declines. Thus, losses in share were most substantial among the traditionally major markets of transit—the young, the old, and women. This discussion has

been oriented to changes in share rather than changes in absolute levels of usage. As total trip rates increase and the size of different age cohorts varies over time, actual usage levels will reflect those changes. For example, the 20- to 29-year-old age cohort will decline in size in the nineties, balancing the increase in transit share of travel per person in that age group, so that total transit use by that age group will change little.

**Women's Transit Use**

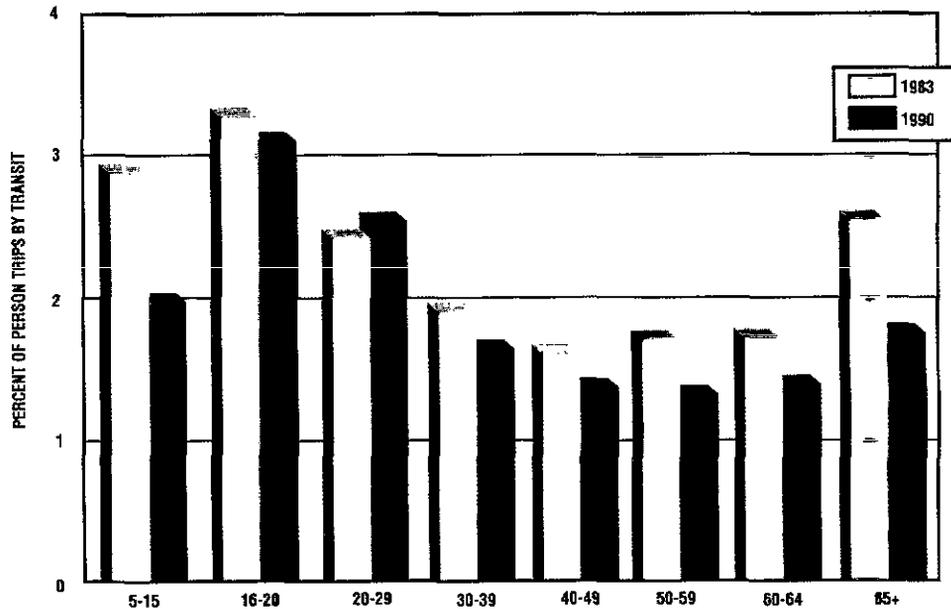
Changes in women's travel behavior, job activity, and access to automobiles, among other changes, have affected their transit use. Women have traditionally been more oriented to transit than men, but that disparity is rapidly diminishing. Figure 17 traces the trends in women's and men's shares of travel oriented to transit from 1977 to 1990, based on trips of all travel purposes from the NPTS.

Two important trends are apparent. First, the

*Thus, losses in share were most substantial among the traditionally major markets of transit—the young, the old, and women.*

**FIGURE 16**

**Transit Shares of All Travel  
by Age Group  
1983 & 1990**



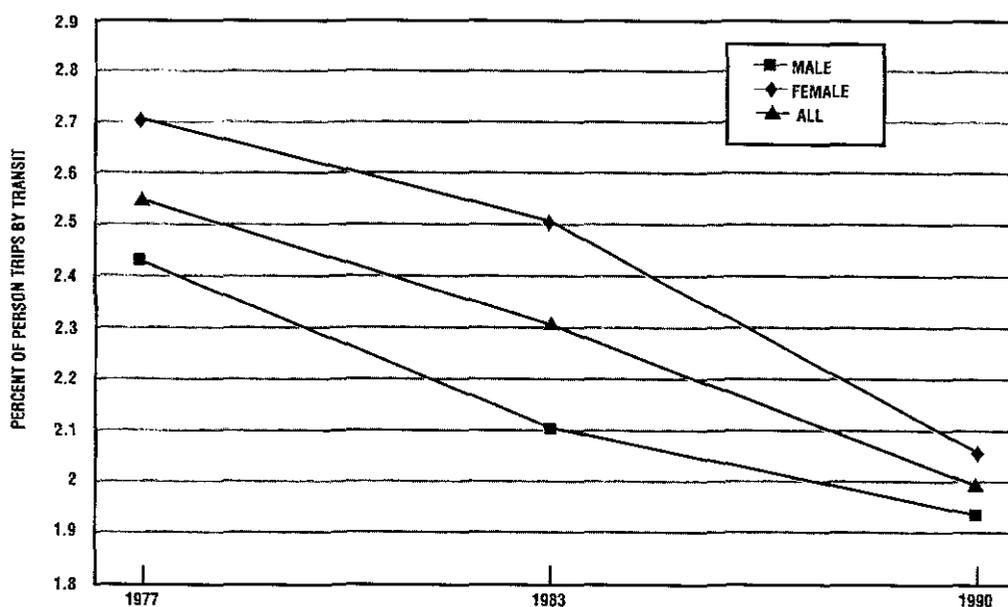
Source: NPTS

trend is clearly downward for both women and men. Second, the disparity between men's and women's transit use is narrowing such that the dispersion around the value for all users is less. This is the result of women's share of transit use declining faster than that of men. The transit share of men's travel declined by less than

10 percent, while the share decline for women was over 20 percent. It is important to recognize that the discussion is about changes in share rather than actual transit use. With the number of women, their trips per capita and average trip lengths increasing, actual transit activity would not be as adversely affected as these trends

**FIGURE 17**

**Male/Female Transit Use Trends  
1977, 1983 & 1990**



Source: NPTS

would indicate. The actual decline in total trips on transit for women, as measured by the NPTS, was about 8 percent.

**Transit and Low Income Populations**

The most surprising trend is the substantial shift away from transit for work purposes by the poverty population and those in poor or very poor housing. These populations, of course, probably overlap. According to the AHS actual transit use declined by 26 percent in the poverty population, not quite as radical an event as it might appear because the *number of workers* in the poverty population itself declined by 7 percent in the period. Figure 18 portrays the modal shares for trips to work by those in the poverty classification of the Census. Poverty was defined in 1989 as a family of four with an annual income of less than \$12,674. The figure shows a pattern

remarkably similar to the overall national pattern, and most notably shows about a 5 percentage point increase in trips by single occupant vehicles among the poverty population, reaching approximately 60 percent by that means. This clearly suggests the increasing affordability of POV travel and increasing access to private vehicles by the poverty population. Although this trend is negative for transit, it may have more positive overtones in the broader society.

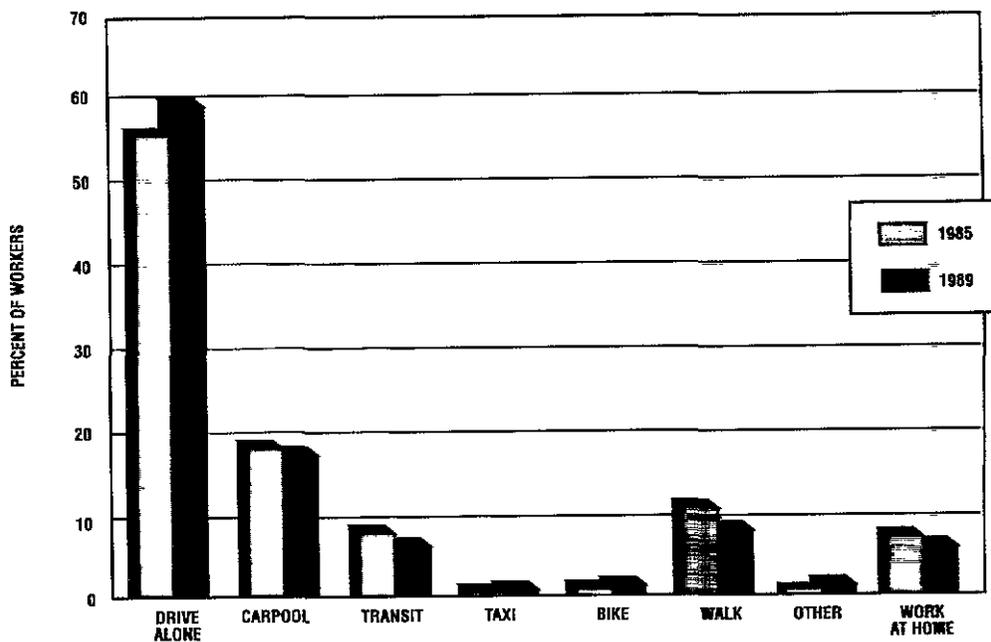
**Further Work**

It is clear that the surface has only been scratched on transit analysis. The key point is that all the traditional sources of transit use are declining. Each group needs further research, especially women's travel, low income travel, and travel by younger and older age groups.

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**FIGURE 18**

**Mode Choice of the Poverty Population for Work Trips  
1985 & 1989**



Source: AHS

# FACTORS IN GROWTH OF PERSONAL TRAVEL

