

Chapter 4

Journey to Work by Part-Time Workers

INTRODUCTION

Worktrip travel in the United States is affected by several factors including demographic characteristics of workers, availability of alternative modes of commuting, perceived travel time, and supply and location of jobs. In the last 30 years, several significant changes in the U.S. population have directly impacted on the commuting behavior of workers. These trends include smaller household size, increasing population dispersion and urbanization, a growing workforce (particularly in the service sector), and increasing female labor force participation.¹

Although the automobile is the most common form of transportation for workers in the United States, many people experience difficulty in getting to and from work as a result of lack of transit alternatives or the opportunity to carpool. The impact of these barriers on work-related trips may include limited access to jobs that could be easily reached by automobile, longer travel time, and limited flexibility in combining work and household-related trips.

This chapter provides insights into the degree to which part-time workers experience work-related transportation barriers and addresses the following questions: (1) What are the availability and prevalence of automobile usage among part-time workers? (2) How do part-time workers get to work, and how does travel mode impact travel time? (3) What is the relationship between transportation, hours worked, occupation, and the worktrip behavior of part-time workers? (4) Is household income the key factor in automobile availability?

¹The Federal Highway Administration report "Journey-to-Work Trends in the United States and Its Major Metropolitan areas 1960–1990" describes commuting behavior at both national and metropolitan levels using the U.S. Decennial Census.

AUTOMOBILE AVAILABILITY

The automobile is the primary mode of transportation in the journey to work for more than 100 million Americans. Between 1960 and 1990, the use of private automobiles as commuting vehicles increased dramatically, with the number of workers who drove alone to work increasing from 43 million in 1960, to 101 million in 1990. In the same 30-year period, the number of vehicles per household rose from 1.03 to 1.66 vehicles, while the number of vehicles per worker declined slightly from 1.34 to 1.32.

The proportion of households without any vehicle available dropped from 13 percent to 11.5 percent between 1980 and 1990. The proportion of those with three or more vehicles remained constant. Although the automobile was the dominant mode of transportation in the journey to work, modes such as public transit and walking provided critical alternatives, especially in specific geographic locations. In general, automobile availability was similar among part-time and full-time workers. Only 5 percent of part-time workers lived in households without any automobile compared to 4 percent of full-time workers (Table 4.1), but, as will be discussed, this proportion varied by household income.

Income

Automobile availability is directly related to a worker's household and personal income. As identified in the literature, part-time workers were more likely to make lower wages than full-time workers and, therefore, were less likely to be able to afford the cost of purchasing and maintaining an automobile. Part-time workers who lived in low-income households were more likely than those living in high-income households to be without an automobile (Table 4.2).

Of those part-time workers living in households with no automobile, 15 percent had incomes of less than \$10,000. This figure compared to only 1 percent of workers living in households with incomes of \$60,000 or more. Overall, part-time workers earning less than \$25,000 a year were more likely to be without a vehicle. Marital status was also related to automobile ownership. Proportionately more married than unmarried workers lived in higher-income households. Low-income minority part-time workers were the group most likely to live in no-vehicle households (Table 4.3). For example, the proportion of black households with less than a \$10,000 income and no automobile was twice that of the overall part-time workforce in the same income category. Barrier to transportation may limit the participation of these workers the workforce.

In terms of personal income, the disparity in automobile availability was dramatic (Table 4.4). Black part-time workers still represented the largest proportion of workers with no automobiles. This was true across all levels of personal income and among all groups (females, teens, seniors, and elderly). Most noteworthy was the fact that more than 20 percent of all black part-time workers between 64 and 75 years old were in households with no auto, while 4 percent of white elderly part-time workers were without a car. This disparity in automobile access for seniors and elderly is an issue that may hold significant implications for the part-time workforce as the population continues to age. Disability and other physical handicaps that accompany the aging process, as well as diminishing income, have serious implications for automobile transportation and worktrip behavior for this segment of the population. Accessibility issues for the elderly, including private vehicle design, road system improvements, and transit alternatives, should be thoroughly considered.

TRIP MODE

Although 85 percent of part-time workers relied on automobiles for their commute, part-time workers were 6 percentage points less likely than full-time workers to use a car for their trip to work (Table 4.5). Part-time workers used alternative modes of transportation at rates higher than full-time workers. Public transit, walking, and bicycles were more important transportation options among this group than among full-time workers. For example, in 1990, the proportion of part-time workers who walked to work was almost three times higher than that of full-time workers (8 percent vs. 3 percent).

Travel Time

Part-time workers spent an average of 21 minutes in their journey to work, with a median commute time of 20 minutes. Using the median, Table 4.6 reflects the trip mode for two groups of part-time workers—those who spent less than 20 minutes and those who spent 20 minutes or more commuting. Because commuting the same distance by public transit typically takes longer than commuting by private vehicle, most public transit commutes took longer than 20 minutes. The average travel time for part-time workers using transit was 35 minutes (Figure 4.1). Spending over one hour a day commuting to and from a part-time job makes the expenditure of time more burdensome.

No-Vehicle Households

In 1995, there were 8 million U.S. households without an available vehicle. This dearth occurred predominantly in the households with the lowest incomes. Although they lived in no-vehicle households, 30 percent of these part-time workers still made the trip to work by

automobile, as carpoolers (Table 4.7). They also used other important modes of transportation to commute, including public transit (27 percent) and walking (22 percent). Teenagers were the most likely to walk to work (Figure 4.2). Compared with the overall part-time workforce, there is a clear indication that part-time workers with no automobile in the household face significant commuting disadvantages because they lack the flexibility associated with using an automobile. These workers had the highest rate of using public transit, as well as the highest rate of walking to work, a situation that may constrain them in their work search to only those jobs that are within walking distance of their homes or are easily accessible by public transit.

Carpooling

Although the majority of part-time workers using automobiles drove to work alone, many carpooled with someone else. Those in households with no cars were more likely to carpool (Figure 4.3). There was very little difference in the proportion of full-time and part-time workers who carpooled or drove alone to work (Table 4.8). An automobile in the household does not necessarily indicate access to a vehicle. Not everyone in the household may be able to drive alone to work, or have direct access to the vehicle. They may have to ride with others. Six percent of part-time workers who carpooled lived in households with no available automobile, and close to a third of them lived in households with only one vehicle available (Table 4.9).

A slightly larger proportion of part-time than full-time workers who carpooled lived in households with no vehicle available. From Table 4.9 one can infer, given the rate of carpooling as worktrip behavior among this group, that part-time workers who lived with limited access to an automobile found it more convenient to travel to work by car. The data suggest that these workers opt to carpool because they have easy access to an automobile through someone else, or

because they need an automobile to access their jobs. Despite the fact that a nearly equal proportion of part-time and full-time workers lived in households with limited vehicle access (Table 4.1), a higher proportion of part-time than full-time workers carpoled in their journey to work (Table 4.9). This suggests that part-time workers may carpool out of necessity, while full-time workers do so by choice.

Part-time workers who lived in households with only one vehicle were more likely to participate in carpooling than to drive to work alone. This suggests that while a vehicle is available, there may be more than one worker in the household who wants or needs to use it, making vehicle-sharing strategy a part of the daily commute. Although carpooling provides an automobile for those with limited access, work departure times may be more difficult to coordinate. This, of course, adds another constraint to the automobile transportation barrier. If part-time workers leave for work at varying times, according to their occupations, carpooling might not be an easy solution to overcoming the barrier.

DEPARTURE TIME

Most full-time workers begin their workday in the morning, usually between 7:30 a.m. and 8:30 a.m. While part-time work can also conform to these hours, the working hours for jobs dominated by part-time workers, such as sales and service occupations, are more widely distributed throughout the day. Part-time workers in these occupations are therefore more likely to leave for work during hours that differ from those of the regular full-time workforce.

Table 4.10 reflects the work departure time of full-time and part-time workers in 1990. More than two-thirds of all full-time workers left home between 6 a.m. and 8:29 a.m. Only 40

percent of part-time workers departed during this same time period. Part-time workers left in greater proportions between later morning (8:30 a.m.–10:30 a.m.) and early afternoon (12 noon–4 p.m.) hours. In general, public transit schedules are limited during these hours, and private automobiles become an important mode in the journey to work because they afford the necessary flexibility of movement.

The proportion of part-time workers who left for work after 12 noon was three times higher than that of full-time workers. Almost a third of all female and more than two-thirds of all teenage part-time workers departed for work after 12 noon. The departure pattern demonstrated by teenage part-time workers reflects their need to combine school and work.

Table 4.11 reflects the transportation mode used by part-time workers who left for work during the primary-workforce commuting hours of 6 a.m. to 8:30 a.m. and those who departed after 12 noon. In general, part-time workers who left for work in the early morning hours used an automobile more frequently than those departing in the afternoon. The proportion of all groups using public transit was slightly lower in the afternoon than in the morning, while the proportion of women and teenagers walking to work increased in the afternoon.

FEMALE PART-TIME WORKERS

Women, who have been identified as a dominant group in the part-time workforce, travel to work in most part by automobile (Figure 4.4). However, several studies of worktrip behavior have shown that differences in their travel behavior do exist. Various domestic responsibilities significantly impact their commuting times.

Preston et al. (1993) suggest that women have shorter commuting times because they have greater family responsibilities. Gordon et al. (1989) argue that women have shorter

commutes because the jobs in which they predominate (sales, clerical, and secretarial) are ubiquitous and offer similar wages at different locations: women, therefore, do not have to travel far to get an acceptable job.

Travel Time

Part-time workers in general have shorter commutes than the general workforce (Table 4.12). Two-thirds of all part-time workers compared to one-half of the general workforce traveled to work in less than 20 minutes. Sixty-three percent of female part-time workers compared to 52 percent of the general workforce traveled to work in less than 20 minutes. Although we do not know the distance traveled, the shorter commute probably reflects the shorter commuting distances part-time workers opt for. Women who commute by automobile take a much shorter time to get to work than those who use public transit (Figure 4.5).

In 1990, there were 8.3 million married women and 6.2 million unmarried women, i.e., divorced, widowed, separated, or never married, in the part-time workforce. Fifty-nine percent of the married and 13 percent of the unmarried women had children under age 18 in the household. The overwhelming majority of unmarried female part-time workers (87 percent) had no children under 18 years old in the household.

Family life has been found to have a profound impact on the travel behavior of women in the United States. For example, single and married mothers have different travel patterns than do men and childless women. Table 4.13 reflects the average travel time for married and unmarried women with and without children in the household. While differences are small, a clear difference in commuting time between married and unmarried women with children exists. Unmarried women with children average a longer commute (19 minutes) than any other segment of the

female workforce. This difference could be related to the fact that these women dominate the low-income groups more likely to depend on public transit for their daily commute, or to the fact that they accept a longer commute to get a good job because they are also likely to be heads of household.

Travel Mode

In fact unmarried women with children under age 18 used the automobile for worktrips at a lower rate than their married counterparts. These single women with children also used public transport at a rate that was higher than women in other marital and child status categories (Table 4.14). Unmarried women with no children had the lowest rate of auto usage. This may account for their longer average commute time compared to other women (Figure 4.6).

Occupation

The work departure times of women across part-time occupation groups are shown in Table 4.15 and reflect the diversity of departure associated with various part-time jobs. More than half of all women part-time workers in professional occupations left for work between 6:00 a.m. and 8:29 a.m., when the majority of full-time workers were also departing. In contrast, only 20 percent of the part-time sales workers departed for work during these hours.

Professional occupations are more skilled and women in these jobs are most likely to work part time voluntarily in order to combine work and family responsibilities. They are also likely to live in middle-to high-income households with access to automobiles for their journey to work. Compared to the rest of the part-time or full-time population in similar jobs, a slightly larger proportion of females working in professional jobs took 20 minutes or more to commute to their jobs.

TEENAGE PART-TIME WORKERS

The majority of teenagers identified as part-time workers were enrolled in school; therefore, their work hours and travel options were more limited. They comprised the largest proportion of workers (76 percent) who traveled to work in less than then 20 minutes. This figure compared to all workers compared to all workers (52 percent), or part-time workers (63 percent) in general. Evidence suggests that they worked within walking distance of their home.

Travel Time

Since these teens in most cases combine school and work, teen commuting patterns were generally different from the rest of the part-time population. A much lower percentage of teens departed for work during the morning rush hour. A third of them left for work in the early afternoon between noon and 3:59 p.m., and another third departed in the late afternoon between 4:00 p.m. and 5:59 p.m. (Table 4.10). Teen departure times were consistent even across occupation groups: more than two-thirds of teenagers left for work in the afternoon, regardless of occupation (Table 4.15).

Travel Mode and Occupation

We know that teenagers are more likely to walk to work. However, we do not know the extent to which they are doing this because they have no automobile. Do these teenagers look for work within walking distance only because they combine school and work, or would they look for jobs in other locales if they had access to an automobile? If one leaves for work after midday and does not have an automobile, the trip will involve, in most cases, the use of public transit. Are teenage part-time workers hampered in their part-time work access by these factors?

While these questions cannot be answered here, the evidence shows that the largest proportion of teenage part-time workers who depart for work after 12 noon work in sales and service jobs (Table 4.15). More than two-thirds of teens in these occupations leave for work between midday and 6:00 p.m. These jobs usually afford part-time workers greater scheduling flexibility for combining school and work, and they tend to match teen skill levels.

SENIOR AND ELDERLY PART-TIME WORKERS

More than a fifth of all senior and elderly part-time workers traveled 30 minutes or more in their journey to work (Table 4.12). Almost half of this group left for work between the hours of 6:00 a.m. and 8:29 a.m., a higher proportion than that of women or teens, but the same period during which the majority of full-time workers departed. Slightly more than a third of senior and elderly part-time workers departed for work in the late morning hours, between 8:30 a.m. and 11:59 a.m. Compared to other part-time workers, very few seniors and elderly left for work in the afternoon hours. Because public transit runs on a non-rush-hour schedule during these hours, access to an automobile is increasingly important to this group for mobility.

Travel Mode and Occupation

While most senior and elderly part-time workers departed for work in the morning, there were slight variations based on occupation. Those seniors and elderly in service, handling, or laborer positions had a much more varied departure time. They were more likely than any other occupation group to leave for work in the early morning hours between 12 midnight and 6:00 a.m. (Table 4.15). An automobile is vital to this group during this time of the morning, as public transit is rarely available.

CONCLUSION

The automobile remains the single most important mode of commuting transportation for the majority of part-time workers. Although part-time workers were more likely to face automobile transportation barriers in their journey to work than their full-time counterparts (even within households with limited auto availability), part-time workers still traveled to work by car, through carpooling.

It appeared that part-time workers were more dependent on public transit, due, in part, to limited automobile access. This dependence limits their flexibility in choice of worksite, job-departure times, and freedom to combine worktrip and household-related trips. Part-time workers departing for work in the late morning or early afternoon were more likely to experience these limitations posed by public transit, since during those hours most transit services operate with limited frequency.

We found wide variations in journey-to-work behavior across the various part-time groups that were identified. Teenagers tended to differ widely from the rest of the population in a variety of ways. They generally left for work in the afternoon, and a larger proportion of them walked to their jobs. Unmarried women living with children under 18 years old took longer to get to work. Although we cannot tell the extent to which trip-chaining caused this slow journey, this is an important finding since most of these women generally lived in low-income households.

Departure time for work by part-time workers was closely associated with their occupations. Professionals tended to leave for work in the morning, while those in sales and service occupations left much later in the day. Most senior and elderly part-time workers

departed for work during the hours when the majority of full-time workers set out on their worktrip.