

Chapter 14

The Importance of Public Transportation

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The Role of Mass Transit

Public transportation provides people with mobility and access to employment, community resources, medical care, and recreational opportunities in communities across America. It benefits those who choose to ride, as well as those who have no other choice: over 90 percent of public assistance recipients do not own a car and must rely on public transportation. Public transit provides a basic mobility service to these persons and to all others without access to a car.

The incorporation of public transportation options and considerations into broader economic and land use planning can also help a community expand business opportunities, reduce sprawl, and create a sense of community through transit-oriented development. By creating a locus for public activities, such development contributes to a sense of community and can enhance neighborhood safety and security. For these reasons, areas with good public transit systems are economically thriving communities and offer location advantages to businesses and individuals choosing to work or live in them. And in times of emergency, public transportation is critical to safe and efficient evacuation, providing the resiliency American needs in its emergency transportation network.

Public transportation also helps to reduce road congestion and travel times, air pollution, and energy and oil consumption, all of which benefit both riders and non-riders alike.

Transit Performance Monitoring System (TPMS)

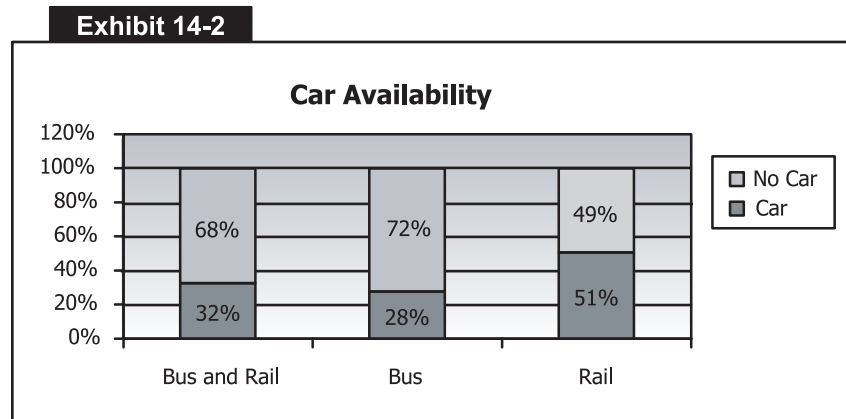
To analyze the characteristics and benefits of transit, the Federal Transit Administration conducted surveys on car ownership, frequency of transit use, and transit trip purpose through the Transit Performance Monitoring System (TPMS). These surveys were conducted between 1996 and 1998 to gain information on how transit differs across geographic regions and cities of varying sizes. These surveys, or case studies of individual transit operators, were not designed to be statistically representative of national transit use or trends. Instead, what is presented here is an aggregation of the results of these case studies of 19 public transit authorities. The data collected have been analyzed on an aggregate basis as well as according to the subcategories of small, medium, and large cities, and large suburban areas. Statistics are trip-based and reflect a choice only for a particular trip. [See Exhibit 14-1].

Exhibit 14-1

| Categorization of Transit Authorities by the TPMS Project | | | |
|--|---|------------------------|---|
| CATEGORY | POPULATION | NO. OF VEHICLES | NUMBER OF PARTICIPATING AGENCIES |
| Small city | Less than 500,000 | Less than 100 | 6 |
| Medium city | 500,000 - 1,500,000 | 100 - 500 | 5 |
| Large city | 1,500,000 + | 500 + | 5 |
| Large Suburban area | Areas adjacent to a large city. Not determined on the basis of population and number of vehicles. | | 3 |

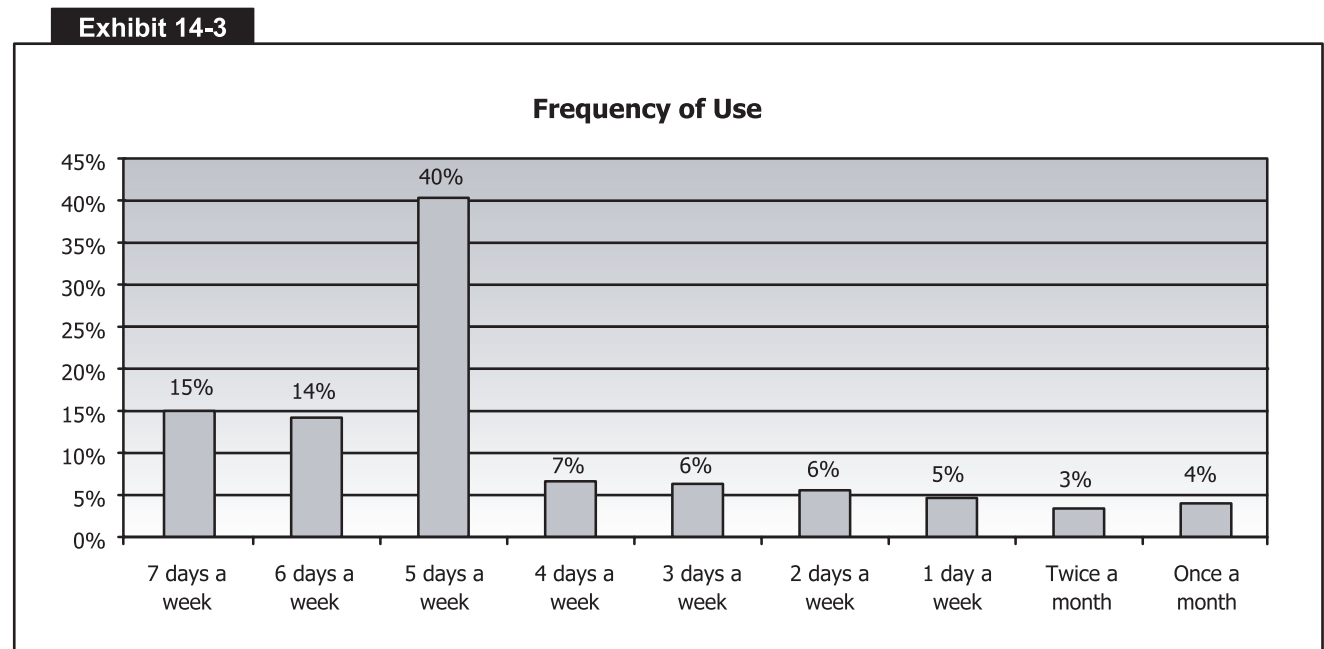
User Characteristics

Car Availability—Many transit users do not have access to a car at the time they use transit. Seventy-two percent of bus users, 49 percent of rail users, and 68 percent of all users surveyed did not have access to a car at the time the trip was made. The lower percentages for rail suggest that the existing rail services capture a higher percentage of choice riders, i.e., people with a car available at the time the trip was made. [See Exhibit 14-2].



Frequency of Use—Most transit trips are made by riders who use transit frequently. Slightly more than 70 percent of all the transit trips in the TPMS surveys were made by passengers using transit 5 days or more a week. Forty percent of the trips surveyed were made by passengers using transit 5 days a week, 14 percent by passengers

using transit 6 days a week, and 15 percent by passengers using transit 7 days a week. **However, the majority of transit riders use transit infrequently.** Almost 70 percent of the people who had used transit during the month had ridden on it 4 days or less per week. These infrequent riders, though numerous, make less than 30 percent of all transit trips. [See Exhibit 14-3].

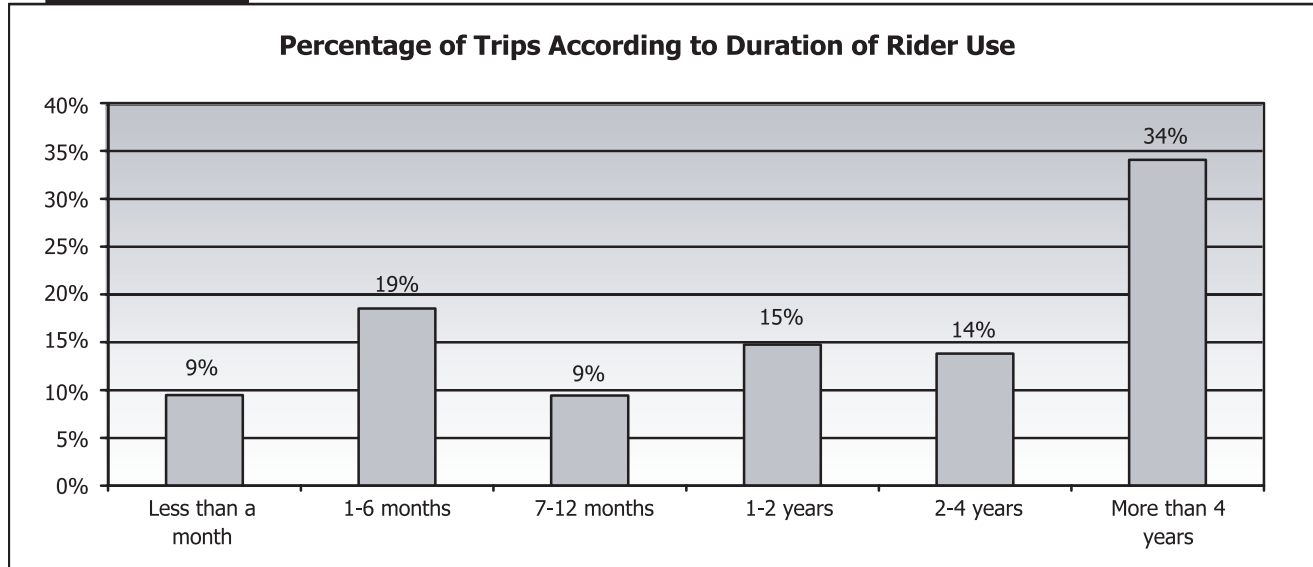


Duration of Use—Passengers making thirty-five percent of the trips surveyed reported that they had been using transit for more than 4 years. This suggests that thirty percent of all transit trips provide a level of service that is better than or comparable to the automobile. However, most

transit trips (65 percent) are by passengers who have been using transit for less than four years. Thirty percent of all trips were by passengers who had been using transit for less than one year, and 10 percent by passengers using transit for less than a month. For these persons, transit may be serving as a temporary means of transportation until they are able to purchase a car. Transit may also serve as a temporary means of transportation to persons having their private vehicles repaired.

[See Exhibit 14-4].

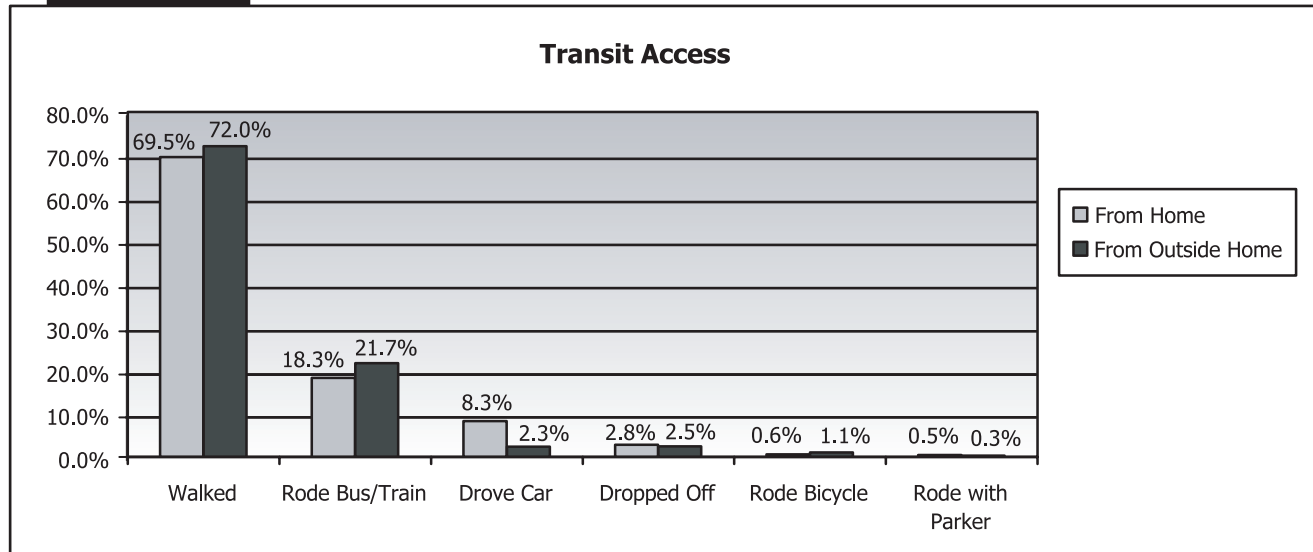
Exhibit 14-4



Transit Access—Transit principally serves those within walking distance of a transit line. The most frequently reported way of reaching transit was by walking, with about 70 percent of all those surveyed starting their transit trip in this way. Eighteen percent of those surveyed were continuing a trip that had begun on a bus or train, 8 percent drove a car to access transit, and 3 percent were dropped off. Transit use was less frequent and travel by car more frequent for passengers accessing transit from home compared to those that were accessing it away from home, although the differences were small.

[See Exhibit 14-5].

Exhibit 14-5



Trip Purpose—Work accounts for the largest percentage of transit trips. Fifty percent of all passengers surveyed were on their way to or from work. Transit also enables people to pursue educational opportunities; 12 percent of all users surveyed were on their way to or from college or other type of school. Four percent were traveling to obtain medical services, 13 percent to go shopping and 14 percent were on their way to or from a social event or place of worship or attending to other personal business. [See Exhibit 14-6].

Work Trips—Although transit provides a principal means of traveling to and from work in all urban areas, transit trips for work purposes appear to account for an increasingly larger percentage of total transit trips as the size of an urban area increases.

Fifty-six percent of all transit passengers surveyed in large urban areas were using transit for work purposes compared with 48 percent in medium, and 41 percent in small urban areas. In larger urban areas, transit is more likely to offer residents with transit accessibility a better level of service than an automobile during congested commuting time periods. (Note that the 1995 Nationwide Personal Transportation Survey reported that thirty-five percent of all transit trips were for work and two percent for work-related business.) [See Exhibit 14-7].

Transit Trips to College or Other School—Transit appears to be a more important means of traveling to and from college and school in small and medium sized urban areas and a less important means in large urban areas.

[See Exhibit 14-8] Fifteen percent of all users surveyed in small urban areas and 14.3 percent of all users surveyed in medium urban areas were

Exhibit 14-6

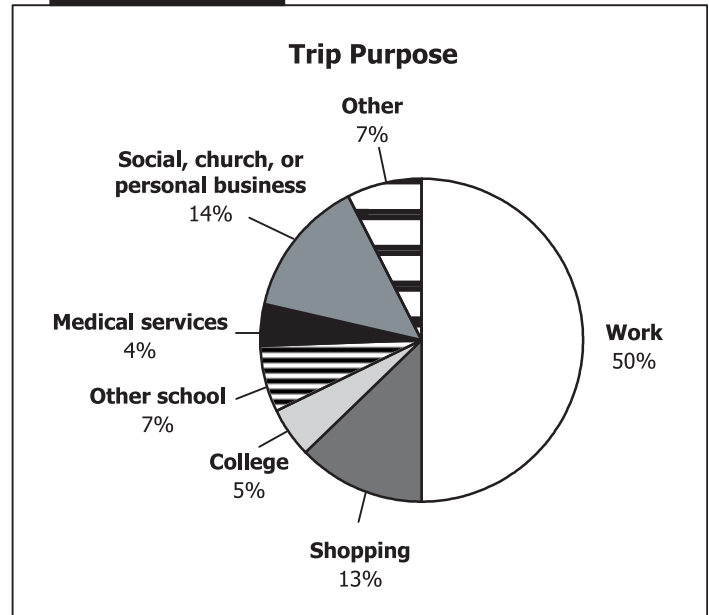


Exhibit 14-7

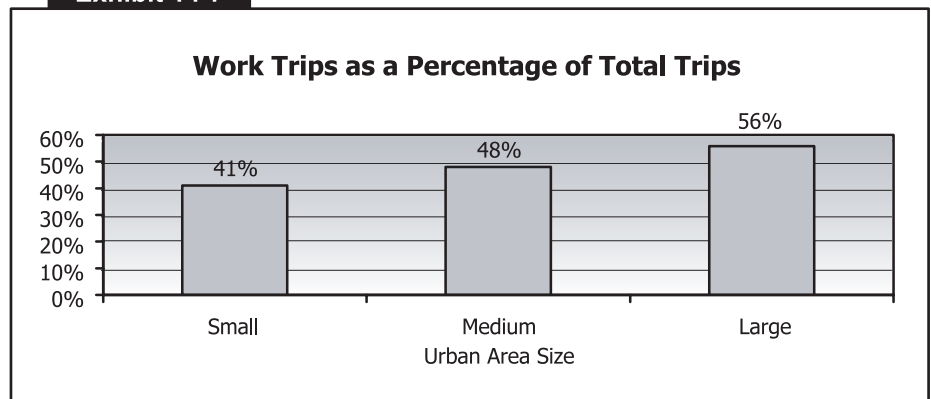
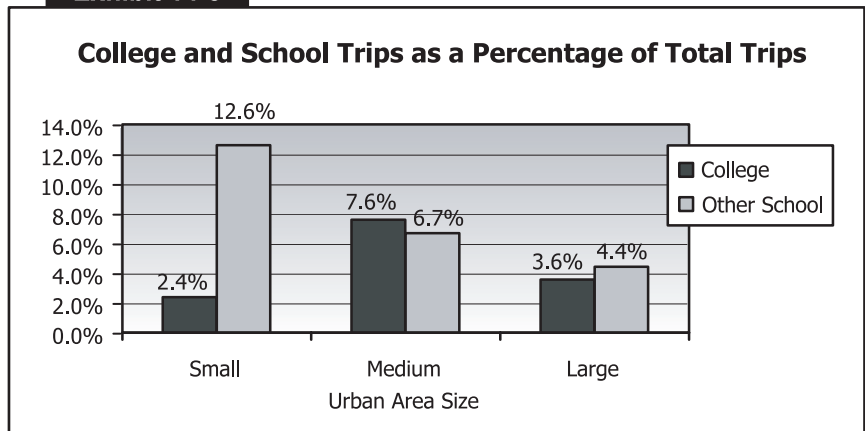
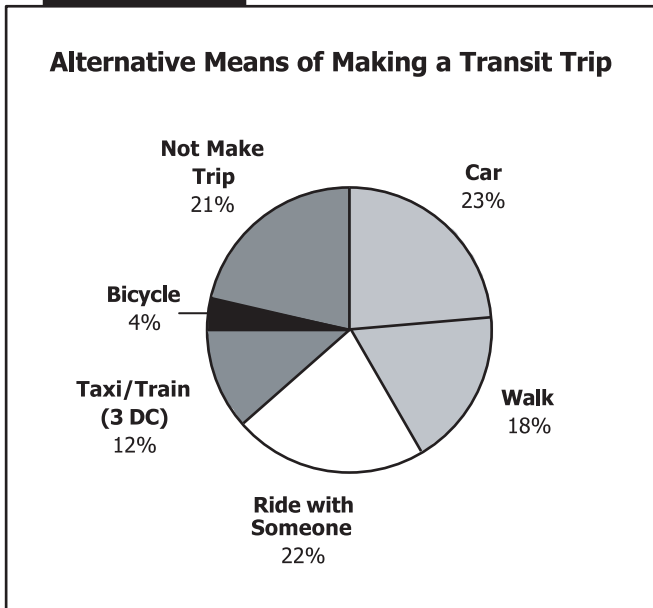


Exhibit 14-8



traveling to or from college or other schools compared with 8 percent in large urban areas. Passengers surveyed in small urban areas made far more trips to other schools as opposed to college, while in medium-size and large urban areas trips were split more evenly between the two.

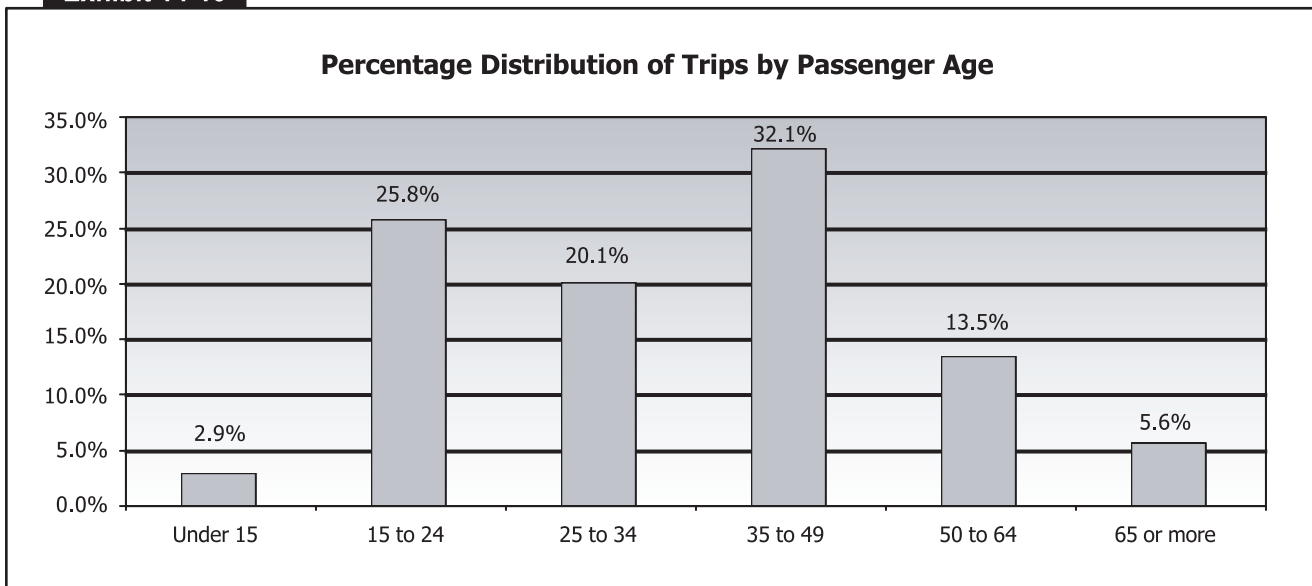
Exhibit 14-9



Alternative Mode of Travel—Users surveyed were asked how they would have made their trip if transit had not been available. Eighteen percent of the passengers surveyed would have walked. Forty-five percent responded that they would have taken a car, of which about half would have driven themselves and half would have driven with someone else. These numbers indicate that transit makes an important contribution to mitigating road congestion. **The availability of transit was particularly crucial to the 21 percent who reported that without transit they would not have made the trip at all.** This result demonstrates the importance of transit in providing certain segments of society with basic mobility. [See Exhibit 14-9].

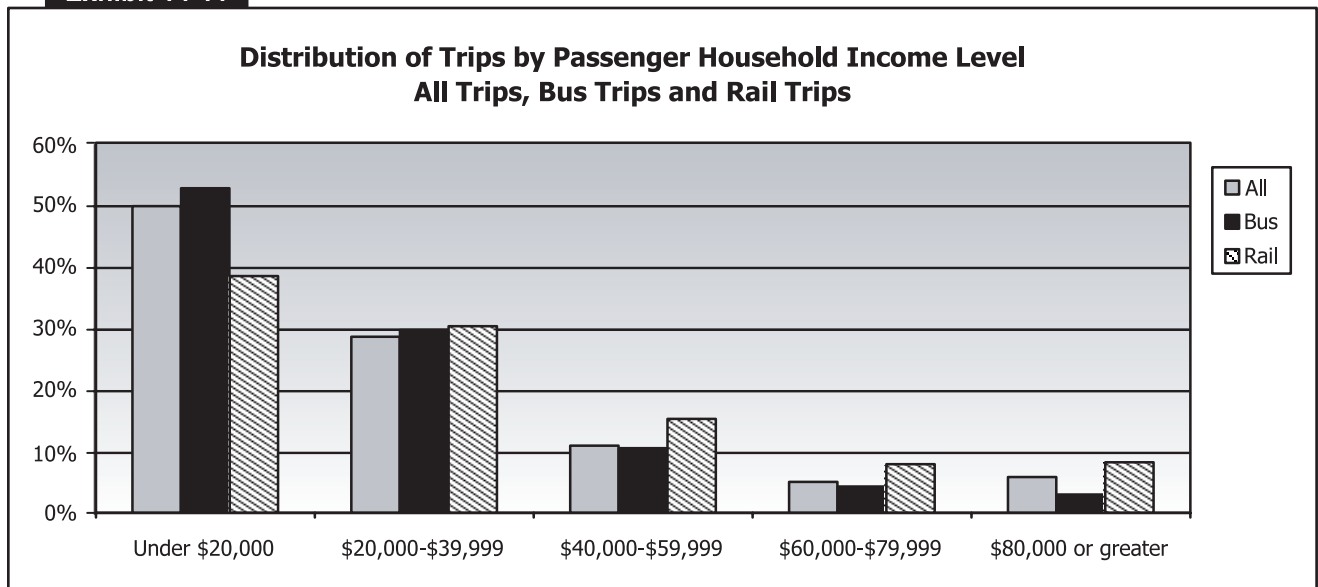
Gender and Age—Women appear to use transit on a slightly more frequent basis than men. Fifty-five percent of the trips surveyed were by women and 45 percent by men. Fifty-nine percent of all bus users and 52 percent of all rail users were women. Transit also appears to serve those with sufficient personal independence to travel on their own, although it should be noted that passengers under the age of 12 were not surveyed. More than 90 percent of trips were made by passengers between the ages of 15 and 64. Sixty-six percent of the trips surveyed were made by passengers between the ages of 25 and 64, the period of life during which labor force participation rates are highest. Twenty percent were by passengers between the ages of 15 and 24, most likely for work, school or social purposes. [See Exhibit 14-10].

Exhibit 14-10



Income Distribution—The availability of public transportation is particularly important to people with limited incomes. In 2000, the U.S. Bureau of the Census reported a poverty level income threshold for a family of four of \$17,600, and for a family of one, \$8,794. Since information on household size was not collected as a part of the TPMS along with household income, it is impossible to say what percentage of passenger trips were accounted for by people from households below the poverty line. It is clear, however, that transit plays a more important role for people with limited incomes. Fifty percent of the trips surveyed were by passengers from households with incomes of \$20,000 or less. These users (with incomes under \$20,000) account for a larger percent of users of small transit systems (63.3 percent), than of medium (50.6 percent) and large (41.0 percent) systems. This may reflect the ability of large systems to attract “choice” riders—people with cars available—who typically have moderate to high incomes. Bus service is relatively more important than rail service at lower income levels, while the reverse is true as incomes increase. Twelve percent of the rail trips were by passengers with household incomes of \$80,000 or more compared with 3 percent of the bus trips. [See Exhibit 14-11].

Exhibit 14-11



Public Policy Benefits of Transit

As discussed in the first paragraph of this chapter and in Chapter 1, transit provides a wide range of benefits to communities, including access to employment and a wide range of community resources and services. Public transportation contributes to a healthier environment by improving air quality and reducing oil consumption, and through better land-use policies. It also helps to expand business development and work opportunities. And, it is critical for emergency situations requiring safe and efficient evacuation.

Data gathered through TPMS are unable to characterize the full contribution of public transportation to the Nation and all of the associated benefits that it provides. However, TPMS is able to provide additional insight into how transit provides one or more of a much more narrowly defined set of benefits to individual transit riders. Transit may provide *basic mobility* to a rider who has no other means of transportation available; it may provide *location efficiency* through easy access to employment or other community resources; or it may provide *congestion mitigation* during peak work travel times. To determine how

transit benefited riders, passengers surveyed were asked to respond either “yes” or “no” to the following questions:

- Did they have access to a car at the time the trip was made?
- Were they going to work?
- Would they have made the trip if transit had not been available?

Each trip was then classified into one of the eight following groups and assigned a public benefit. In most cases, each transit trip provided more than one benefit. [See Exhibit 14-12].

Exhibit 14-12

Classification of Transit Trips by Public Benefit Provided

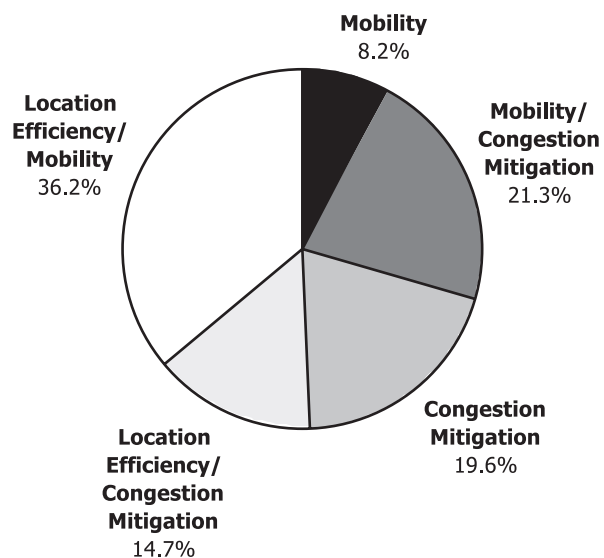
| PUBLIC BENEFIT | CAR | WORK | MAKE TRIP WITHOUT TRANSIT |
|---|------------|-------------|----------------------------------|
| Congestion Mitigation | Yes | Yes | Yes |
| Congestion Mitigation | Yes | Yes | No |
| Congestion Mitigation & Location Efficiency | Yes | No | Yes |
| Congestion Mitigation & Location Efficiency | Yes | No | No |
| Mobility & Congestion Mitigation | No | Yes | Yes |
| Mobility | No | Yes | No |
| Mobility & Location Efficiency | No | No | Yes |
| Mobility & Location Efficiency | No | No | No |

On the basis of these categorizations:

- Thirty six percent of all transit trips provided mobility and location efficiency benefits to passengers without cars who chose to make a non-work trip by transit because they lived in an area with highly accessible transit services. [See Exhibit 14-13].
- Twenty one percent of all trips provided basic mobility and congestion mitigation to passengers without access to a car, traveling during peak travel times, and congestion mitigation only to non-transit travelers traveling in the same corridor at the same time.
- Twenty percent of all trips provided congestion mitigation only. These were work trips, some of which would have been made and some of which would not have been made without transit. This measure may overstate the congestion mitigation benefit as not all work trips are made at peak travel times. Transit trips made during congested periods provide benefits not only to transit passengers, but to other people traveling by road in the same corridor at the same time.
- Fifteen percent of all trips provided congestion mitigation and location efficiency. These trips were made because the passenger lived in an area highly accessible to transit. In these

Exhibit 14-13

Benefits of Transit to Riders



cases, the passenger traveling had access to a car, but would have chosen to miss work without the availability of transit. These transit trips also provided congestion mitigation benefits to people traveling by car at the same time in the same corridor.

- Eight percent of all trips have been categorized as providing basic mobility. These passengers reported that they had no access to a car, but would have made the trip even if transit services were not available. (No information is available on what mode of transport these passengers would have used without transit.)

Exhibit 14-14

| Participating Transit Systems (Round 1 = non-Italics; Round 2 = Italics) | | | |
|---|--|---|--|
| Service Area Population | REGION | | |
| | WEST | MIDWEST | EAST |
| Less than 500,000 | <i>Juneau, Alaska</i> ¹ <i>Corpus Christi, Texas</i> ¹ | Grand Rapids ¹ Michigan ¹ Kenosha, Wisconsin ¹ Lincoln, Nebraska ¹ | <i>Huntington, West Virginia</i> ¹ |
| 500,001 to 1,250,000 | Austin, Texas ¹ Portland, Oregon ² Sacramento, California ¹ | <i>Louisville, Kentucky</i> ¹ | <i>Buffalo, New York</i> ² |
| Over 1,250,000 | <i>Phoenix, Arizona</i> ¹ <i>North San Diego, California</i> ^{1/3} | Chicago, Illinois ² <i>Cleveland, Ohio</i> ² | Pittsburgh, Pennsylvania ² <i>Washington, DC</i> ² <i>Prince George's County, Maryland</i> ^{1/3} <i>Montgomery County, Maryland</i> ^{1/3} |

¹ Bus only
² Bus and Rail
³ "Large Suburban" systems are part of a large metropolitan area, serving a particular suburban area.