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Journey-to-Work and Vehicle Availability Data: *A Compendium for 16 U.S. Cities with Rail Transit and Busway Systems*

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**Journey-to-Work and  
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*A Compendium for 16 U.S.  
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## I. INTRODUCTION AND OVERVIEW

### A. Purpose

This compendium includes transportation-related data from the 1990 census for sixteen U.S. metropolitan areas. The data were obtained from the 1990 Census Transportation Planning Package (CTPP) and primarily describe journey-to-work, vehicle availability, and income characteristics of households.

This data collection effort is part of a larger project to evaluate the effects of fixed-guideway urban transit on land use, travel behavior, and urban form. The metropolitan areas selected for this analysis are candidates for a more detailed analysis of transit and land use relationships. With the exception of Houston and Detroit each of the sixteen areas contains at least one light, rapid, or commuter rail system; Houston has an exclusive busway system and Detroit has a downtown "people mover".<sup>1</sup> The metropolitan areas were also selected to represent a wide variety of urban area and transit system characteristics. Related data-collection efforts for this project have included a summary of general socioeconomic and journey-to-work data from 1980 and 1990 for the 35 largest U.S. metropolitan areas.<sup>2</sup>

In addition to both numerical and graphical presentation of the data, this work includes observations about these data and trends which may be noted. Conclusions and observations presented in the text are based on the author's personal insights gained from this data set and not on any formal analysis. In general, *observations are intended to be of a descriptive nature only and are not intended to imply causation.* Nevertheless, it is hoped that they are helpful in making some sense out of a substantial amount of data.

### B. Presentation of Data

The data presented in this document were obtained from the statewide version of the 1990 Census Transportation Planning Package, available on CD-ROM from the Bureau of Transportation Statistics.<sup>3</sup> The statewide version of the CTPP is divided into three parts. Part A gives information on workers and households by place of residence; Part B gives information on workers by place of work; and Part C gives selected information for journey-to-work flows between places. Part A contains 63 tables, Part B 25, and Part C 8. A complete description of the tables can be found in the documentation which accompanies the CTPP.<sup>4</sup>

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<sup>1</sup> Some obvious candidates, such as Washington, D.C. and Atlanta, were omitted from consideration due to extensive previous study.

<sup>2</sup>Porter, Christopher and Elizabeth Deakin. Socioeconomic and Journey-to-Work Data: A Compendium for the 35 Largest U.S. Metropolitan Areas. Working paper: Institute of Urban and Regional Development, University of California at Berkeley.

<sup>3</sup> The smallest unit of aggregation in the statewide CTPP is the city or Census-Defined Place. The urban version of the CTPP, which contains data at the TAZ or Census Tract level, has not been released on CD-ROM at the time of this writing.

<sup>4</sup>JHK and Associates, 1995. CTPP Handbook: An Instructional Guide to the 1990 Census Transportation Planning Package. Available from the U.S. Department of Transportation.

Data are presented here for two sets of metropolitan area populations: residents of the metropolitan area and workers in the central city. Most metropolitan areas are defined as the Primary Metropolitan Statistical Area (PMSA) or Metropolitan Statistical Area (MSA). The PMSA was chosen as the unit of analysis rather than the larger Consolidated Metropolitan Statistical Area (CMSA) since the PMSA usually includes the vast majority of transit users in the metropolitan area; data at the PMSA level can also show interregional differences more clearly than can data at the CMSA level.<sup>5</sup>

There are two exceptions to this convention: data for Boston are presented for the 5-county New England County Metropolitan Area (NECMA) in order to be consistent with previous data collection efforts. Data for Chicago are presented for the portion of the Chicago CMSA (Consolidated Metropolitan Statistical Area) which is in Illinois; this includes the Chicago, Lake County, Aurora-Elgin, and Joliet PMSAs. The purpose of this boundary adjustment is to include the vast majority of the commute-shed of the METRA commuter railway system in Chicago. An asterisk denotes the non-standard definitions for Boston and Chicago. Using PMSAs as units of analysis also creates problems in other large urban agglomerations, notably San Francisco and Los Angeles. The Los Angeles PMSA includes only Los Angeles County. The San Francisco Bay Area includes three PMSAs: San Francisco, Oakland, and San Jose. While the three areas have distinct geographical characteristics, a considerable amount of cross-commuting, including transit commuting, occurs among them.

Place names which accompany data on residents of the metropolitan area are labeled as "MSA/PMSA of Residence". Unless otherwise noted, place names listed under "MSA/PMSA of Residence" refer to the following jurisdictions (as defined in the 1990 Census):

Name	Jurisdiction
Boston*	Boston, MA NECMA
Buffalo	Buffalo, NY PMSA
Chicago*	Chicago, Lake County, Aurora-Elgin, and Joliet, IL PMSAs
Cleveland	Cleveland, OH PMSA
Detroit	Detroit, MI PMSA
Houston	Houston, TX PMSA
Los Angeles	Los Angeles-Long Beach, CA PMSA
Miami	Miami, FL PMSA
Oakland	Oakland, CA PMSA

<sup>5</sup>MSAs, PMSAs, and CMSAs consist of aggregated counties. A county can be part of an MSA or a PMSA but not both. CMSAs are aggregates of PMSAs. In general, larger urban areas with multiple centers tend to consist of PMSAs aggregated into a CMSA, while smaller urban areas tend to be individual MSAs. In New England, MSAs, PMSAs, and CMSAs are defined around place rather than county boundaries. For New England cities, the census also presents data for NECMAs, or New England County Metropolitan Areas.

Philadelphia	Philadelphia, PA-NJ PMSA
Pittsburgh	Pittsburgh, PA PMSA
Portland	Portland-Vancouver, OR-WA PMSA <sup>6</sup>
Sacramento	Sacramento, CA MSA
San Diego	San Diego, CA MSA
San Francisco	San Francisco, CA PMSA
San Jose	San Jose, CA PMSA

Place names accompanying data on workers in the central city are labeled as "City of Work." Note that this definition includes anyone who worked in the central city, regardless of where they lived. In all cases, the name of the central city is the same as the name of the regional name by which it is referred. Some PMSAs, notably Los Angeles-Long Beach, Portland-Vancouver, Miami-Hialeah, and Detroit include two or more central cities according to some census definitions. In this compendium, data are presented only for the primary city (Los Angeles, Portland, Miami, and Detroit).

This compendium references data by the CTPP table from which they were obtained. The introduction includes a description of each table included in the compendium and how the data are presented, as well as some observations about the data. In all tables, data are presented alphabetically by city. Some data are also presented graphically in order to aid interpretation. On most figures, cities or regions are presented in rank order by some characteristic of interest. This should further aid quick visual comprehension of the data.

#### Comments on categories of mode to work:

Data which include mode to work are first presented in six modal categories: drove alone, carpool, public transit, walk/bicycle, other, and worked at home. In the original census data, carpool and public transit include 3 categories each. "Carpool" includes two, three, and four-or-more-person carpool; "public transit" includes bus/trolley bus, streetcar/trolley car/subway/elevated, and railroad. Detailed data are also presented for each of the three public transit categories; these are abbreviated "bus", "streetcar/subway", and "railroad". "Other" mode refers to taxi, ferry, motorcycle, or other (undefined) mode.

Houston and Detroit have neither streetcar nor subway systems, although data are still reported for this mode. While only Boston, Chicago, Los Angeles, Philadelphia, San Francisco, and San Jose have formal commuter rail systems, some data for the railroad mode are also reported for other cities. Most cities are served by Amtrak rail lines, and a few people may commute this way. Also, in some cities with trolley or subway lines, workers may have mistakenly reported this mode as "railroad." Railroad data, however, were

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<sup>6</sup>Previous work for this project (Porter and Deakin, *ibid.*) presented data for the Portland, OR PMSA, which included only four counties in Oregon. In this compendium, the Portland PMSA also includes Clark County, Washington. The Portland PMSA definition appears to vary depending on the data source; the difference was noticed too late to follow a consistent definition.



usually omitted for Buffalo, Detroit, Houston, and Pittsburgh, as less than 100 workers reported using this mode in these four cities, leading to zero values in a number of cells. Another source of anomalies in the mode-use data is that the primary cities of residence and work are not the same for some people. For example, a lobbyist may have a permanent address in Houston but spend much of the week in Washington, thus reporting a 33-minute commute via subway from Houston to Washington.

## II. DATA: DESCRIPTION, SUMMARY, AND OBSERVATIONS

### A. Metropolitan Area (MSA/PMSA) Residents

#### Basic Urban Area Statistics

Basic descriptive statistics, including population, number of workers, and density, are presented first. The largest PMSA in the study was Los Angeles, at almost nine million people. The smallest was Buffalo, at just under one million. The proportion of total residents who worked ranged from 0.44 (Buffalo and Detroit) to 0.53 (San Francisco and San Jose). Population growth between 1980 and 1990 was highest in Sacramento and San Diego, at just over 34 percent; it was also over 10 percent in Houston, Miami, Oakland, San Jose, and Portland. Population *decreased* in three areas: Buffalo, Detroit, and Pittsburgh.

The ratio of central city population to workers in the central city varied widely. Miami had the highest worker-to-resident ratio, 0.96 (Miami's central city is relatively small). Boston and Pittsburgh also had ratios over 0.8 and Sacramento, San Francisco, and Portland had ratios over 0.7. At the other extreme, Detroit had a ratio of 0.36. The population density of the central city ranged from 1,166 persons/sq. km. in Houston to almost 6,000 persons/sq. km. in San Francisco. (Note that Houston's central city encompasses an unusually large proportion of the metropolitan area residents, so the comparison is not altogether fair.) Boston, Chicago, and Philadelphia also had central city densities over 4,000 persons/sq. km. Portland, Sacramento, San Diego, and San Jose had the lowest densities, under 2,000 persons/sq. km. The density of the entire urbanized area showed much less variation, ranging from a low of 833 persons/sq. km. in Pittsburgh to a high of 2,240 persons/sq. km. in Los Angeles.

#### Table A17: Vehicle Availability by Household Size

This table presents the percentage of households having no, one, two, or three or more vehicles available by household size (one, two, and three-or-more person households) and for all households. Data are also presented graphically, with a separate graph for each household size category. The census determined "vehicle availability" by asking the question, "How many automobiles, vans, and trucks of one-ton capacity or less are kept at home for use by members of your household?"

The distribution of household sizes was fairly consistent among most cities, with all but two cities having between 23 and 28 percent one-person households (the extremes were San Jose with 21.6 percent and San Francisco with 32.2 percent). All but one had between 39 and 47 percent three-or-more-person households (San Francisco had 35.5 percent.).

Among all households, the percentage with no vehicles available ranged from a low of 5.1 percent (San Jose) to a high of 17.8 percent (Philadelphia). One-person households were the most likely to have no vehicles, ranging from 13.3 percent (San Jose) to 36.8 percent (Pittsburgh). Two-person households were considerably

less likely to have no vehicles, with a range of 3.2 to 12.3 percent, almost the same as for three-or-more-person households. However, three-or-more-person households were considerably more likely to have at least two vehicles than were two-person households. The range of percent having less than two vehicles dropped from 24.1 - 51.0 percent for 2-person households to 15.9 - 35.7 percent for three-or-more-person households.

#### Table A18: Vehicles Available vs. Workers in Household

Table A18 presents data in a format similar to Table A17. Data on vehicle availability are presented for households with no, one, two, or three-or-more workers. Overall, no-worker households made up about 15 to 35 percent of all households. Most fell between 20 and 25 percent; the exceptions were San Jose (15.6 percent), Houston (16.6), Detroit (27.9), Cleveland (27.9), Buffalo (31.6), and Pittsburgh (33.4). Overall, the industrial cities of the northeast seemed to have high percentages of no-worker households. (This appears to reflect both higher unemployment rates and the greater percentage of retired people, measured by population over 60, in these cities.) Most cities had between 34 and 38 percent one-worker households; the exception was Houston, with an unusually high 44.2 percent.

Vehicle availability, as expected, was strongly influenced by the number of workers in the household. In all cities, over 20 percent of no-worker households had no vehicles available, with an extreme of 42.3 percent in Chicago. This fell to a range of 3.7 to 16.3 percent for one-worker households; among two- and three-worker households, no more than 7 percent of households in any city had no vehicles available. Households showed a relatively strong but not overwhelming tendency to have at least as many vehicles as workers; among three-or-more-worker households, anywhere from 51.3 percent (San Francisco) to 74.3 percent (Detroit) had three or more vehicles available.

#### Table A20: Vehicles Available vs. Household Income

The original census data present vehicle availability in seven categories (one to six and seven-or-more) by household income in twenty-five categories. Data here are aggregated into four vehicle categories (zero, one, two, and three-or-more) and five income ranges.

Of households with incomes less than \$17,500, the percent having no vehicles ranged from 22.9 (Sacramento) to 49.5 (Philadelphia). South and west-coast cities (except for San Francisco) had the lowest percentage of no-vehicle low-income households. For households with incomes between \$17,500 and \$34,999, four cities (Boston, San Francisco, Philadelphia, and Chicago) had more than 15 percent with no vehicles; the rest were under 10 percent. As incomes increased, vehicle ownership rose substantially. For the highest-income group (over \$75,000), no more than 2.1 percent of households owned no vehicles and no more than 20 percent owned less than two vehicles.

Figures 6 and 7 present the data in a slightly different format: zero-vehicle and zero-and-one-vehicle availability, by income level. Looking at Figure 6, cities can be loosely divided into three groups. Five cities--Sacramento, Houston, San Jose, San Diego, and Portland--consistently show the lowest level of zero-vehicle availability across all income ranges. Four cities--Boston, San Francisco, Chicago, and Philadelphia--consistently show the highest levels. (However, vehicle ownership increases even less rapidly with income in San Francisco than in the other three cities.) These cities can be loosely characterized as dense and "transit-friendly" compared to the other cities.

The remaining seven cities are ranked in the middle in terms of zero-vehicle ownership among the lowest income category. Despite substantial variation in this category, zero-vehicle ownership rates are consistently quite low for all income levels over \$17,500, and not much higher than for the first five cities. Variation in zero-vehicle ownership for the lowest income category seems to be closely correlated with central city density. This suggests that there are areas in some of these cities in which services are relatively more accessible by transit or walking, even if these cities as a whole would not be considered "transit-oriented". It may also be partially explained by variations in demographic characteristics, i.e. more retirees in some cities and more families with children in others.

Figure 7 (zero- and one-vehicle availability by income level) gives rather more ambiguous information. Except for the four "transit-friendly" cities, it is difficult to draw conclusions about vehicle ownership which hold across all income levels. Portland and Sacramento seem to have the greatest incidence of two-or-more vehicle ownership among the middle income ranges.

*General comments on vehicle ownership:* As expected, vehicle ownership is strongly related to income, household size, and the number of workers in the household. Obviously, these three variables are strongly correlated, and without further disaggregation of data it is difficult to comment on the relative influence of the various factors.

Nevertheless, in addition to all of these factors, there does seem to be a relationship between urban form, transit service characteristics, and vehicle availability. Zero-vehicle ownership shows a strong correlation with central city density. Large, dense, transit-friendly cities, including Boston, Chicago, Philadelphia, and San Francisco, show high rates of 0- or 1-vehicle availability across *all* ranges of household size, number of workers, and incomes. While less transit-oriented cities with larger lower-income populations, such as Buffalo and Miami, also tend to show high rates of 0- or 1-vehicle availability in the aggregate, this relationship disappears when households are disaggregated by income level.

#### Table A29: Differences in Mode Use by Gender

Tables 1 and 3 give the percent female of workers using each mode, as well as the percent female of all workers in each region. Tables 2 and 4 give the ratio of the percent female by mode to the total percent of

workers who are female. This is to adjust for the fact that females do not make up exactly half of all workers. A ratio greater than 1 indicates that females tend to use the given mode more than the average worker.

Females always made up less than half of total workers. The percentage ranged from 47.6 (Boston) to 41.5 (San Diego). Southwestern cities (Houston, San Diego, Los Angeles, and San Jose) tended to have proportionally fewer female workers, while northeastern cities had proportionally more females.

In all cities except San Diego, females tended to be slightly less likely to drive alone than males. In all cities, females were slightly more likely to carpool (the ratio of percent female of carpoolers to percent female of total workers ranged from 1.01 to 1.12). Females were substantially more likely to take public transit, with ratios ranging from 1.14 (Oakland) to 1.36 (Pittsburgh), except in San Jose (0.97). In absolute terms, usually over half of public transit commuters were female (the maximum was 62.4 percent, in Pittsburgh). This tendency was more pronounced for the bus mode and less pronounced for streetcar/subway.

Women were more or less likely to bicycle or walk, depending on the city (the ratio ranges from 0.89 to 1.11, with the exception of San Diego (ratio of 0.66; only 27.2 percent of total bicyclists/walkers in San Diego are female)). Women were always less likely to use other modes (taxi, ferry, and motorcycle) and almost always more likely to work at home.

#### Table A30: Mode to Work

The percent of workers using each mode is summarized and also given in detail by type of public transit and by walking and bicycling. The absolute number of workers using each mode and the relative rank by mode share are also given. Mode splits may disagree slightly with mode splits given in other tables, particularly mode by vehicles available (Table A48). This may be due to the fact that some workers did not answer other questions, such as vehicle availability. The largest discrepancy is in San Diego, where Table A30 reports a 70.9 percent drive-alone mode split while Table A48 reports 74.2 percent.

The percent of workers driving alone ranged from 56.3 in San Francisco to 83.4 in Detroit. Between 10 and 16 percent of workers carpooled in each city. Walking and bicycling ranged from 2 percent (Detroit) to 6.7 percent (San Francisco). However, in most cases bicycling was small compared to walking. Total bicycling mode split was under one percent in every city except Sacramento, San Jose, and Oakland. On the whole, bicycle mode splits appeared to be substantially higher in west-coast cities (with mild climates). It is very likely that in harsher climates bicycling shows a greater seasonal variation and that reported mode use would depend on what time of year the census was administered. "Other" modes, including motorcycle, ferry, and taxi, made up a small portion of the journey to work, less than two percent in all cases. The percent of workers working at home ranged from 1.6 in Detroit to 5.0 in San Diego.

Overall public transit use by workers in the metropolitan area varied from 2.4 percent in Sacramento to 19.0 percent in San Francisco. Four cities—San Francisco, Chicago, Philadelphia, and Boston—had public

transit mode splits greater than 10 percent. These correspond to denser cities which were built around rail-based transit systems and have retained significant portions of these systems. Combined streetcar, subway and railway mode splits were over 5 percent only for these four cities and for Oakland. In all other cities with new rail systems, rail mode split was under 1 percent. (Note that while a 0.0-percent mode split is reported for the streetcar mode in Los Angeles, the Metro Blue Line did not report significant revenue-service until 1991.) Bus mode split was substantially greater in San Francisco than in any other city (13.6 percent; next highest were Chicago and Pittsburgh, at 7.2 and 7.7 percent).

#### Table A31: Time Leaving for Work

Percent of workers leaving for work is given by half-hour time period for intervals between 5:30 and 9:30 AM. The original data show the number of workers leaving by 15-minute time intervals during this period and by half-hour or hour intervals for the rest of the day. However, the data for each pair of 15-minute periods correspond closely, with the second 15 minutes of every half-hour showing a considerably smaller numbers of workers leaving. (This is probably due to the tendency of work to start on the half-hour or hour combined with a typical 20 to 30 minute journey time.) The rank of each half-hour within this period is also given. Sample cumulative departure curves for 15-minute intervals during the morning peak are shown for four cities in Figure 2.

7:00 to 7:29 was the peak half hour for workers leaving in all but one city; 7:30 to 7:59 was second and 8:00 to 8:29 was third. In each region, between 14 and 19 percent of all workers left home during the peak half-hour. Percent of total workers leaving in the two and three peak half-hours (not necessarily consecutive) are also given. Between 40 and 48 percent of all workers left during the three peak half-hours, that is, between 7:00 and 8:29 or between 6:30 and 7:59 (in all but one city).

To examine the degree of peak spreading, "peaking factors" were calculated. Peaking factors were calculated for the peak half-hour and for the peak hour. The peaking factors are defined here as the ratio of worker-leaving "flow" (workers leaving per unit time) for the peak half-hour to the peak three half-hours, and for the peak hour to the peak three hours. For example, if 16.0 percent of workers left in the peak half-hour, and 44.2 percent left in the peak three half-hours, the ratio of 0.5-hr. flow to 1.5-hr. flow would be  $(3 * 16.0) / 44.2 = 1.09$ . The 0.5-to-1.5-hour peaking factor ranged from 1.00 in San Francisco (almost no peaking) to 1.22 in Houston (substantial peaking). The 1-to-3-hour peaking factor ranged from 1.25 in San Diego to 1.42 in Portland.

Peaking factors, as well as the percent of all workers leaving in the peak half-hour, hour, and 1.5 hours, are plotted in Figure 1. The results give conflicting evidence on the peaking tendency of flows. For example, San Francisco and Boston showed almost no short-term (half-hour) peaking and moderate one-hour peaking, but were among the highest in terms of percent of all workers leaving in the peak hour and 1.5-hour periods.

(Note that Boston had the greatest percentage of *all* workers leaving in the total morning period, 5:30 to 9:30 AM). Los Angeles showed a relatively high degree of half-hour peaking, but had the lowest percentage of total workers leaving in the peak hour and 1.5 hours.

#### Table A32: Hours Worked vs. Mode to Work

This table gives the percent of total workers who worked a given number of hours per week, as well as the percent of all workers using each mode who worked the given hours per week. While the census presents data in five hours-worked categories (less than 15, 15-20, 21-34, 35-40, and more than 40), data here are collapsed into three categories: less than 35 (part-time), 35-40 (full-time), and more than 40 ("over-time").

Also presented is the ratio of percent working the given hours/week, by mode, to the percent working the given hours/week for all modes. This "corrects" the hours/week by mode for overall differences in percent working hours/week. A ratio greater than 1 indicates that workers working the given hours/week were more likely than the average worker to use the given mode. An unweighted average of ratios across the 16 cities is also presented for each category. Tables C and D give detailed information by type of public transit.

Overall, about one-fifth of all workers worked less than 35 hours per week, one-half worked 35-40 hours, and one-quarter to one-third worked over 40 hours (these ratios varied among cities within a range of about 10 percent). Buffalo had the highest percentage of part-time workers (25.8) and Houston the lowest (16.1).

Relative to other hours worked, workers working full time (35-40 hours per week) were more likely to carpool, with a ratio of percent carpooling to total percent working 35-40 hours per week of 1.05-1.13. Workers working less than 35 hours were slightly less likely to carpool (average ratio 0.97) and workers working more than 40 hours were also somewhat less likely (average ratio 0.86). Public transit commuters were more likely to be part-time or full-time workers (average ratios of 1.18 and 1.16) rather than over-time workers (0.61). Some exceptions include Boston, Chicago, Philadelphia, and Oakland, where public transit commuters are less likely to work part-time (ratios of 0.86-0.92) and somewhat more likely to work 35-40 hours or more. When disaggregated by type of public transit, bus users showed a definite tendency to work part-time or full-time but not over-time. Streetcar and subway commuters, however, showed a greater tendency to work full-time and (in some cases) over-time. Railroad commuters also showed a strong tendency to work at least full-time.

Commuters bicycling or walking were much more likely to be part-time workers (average ratio 1.93; 26-52 percent of bicyclists/walkers worked part-time, as opposed to 16-26 percent of all workers). However, San Francisco and San Diego had unusually high proportions of bicyclists/walkers who worked more than 40 hours/week. People who worked at home were substantially more likely to work part-time (average ratio

1.93) but were also somewhat more likely to work over-time (1.05) rather than a standard 35-40 hours (0.59). San Diego, however, had an unusually high proportion of work-at-homers working long hours.

#### Table A33: Mode to Work vs. Earnings of Worker

Workers were divided into five categories, according to level of earnings, and the percent using the given mode was reported for each category (workers who reported no earnings were not included in this data set). Table B gives the ratio of percent using mode by earnings category to the total percent using mode (of all workers with earnings). A ratio greater than one indicates that workers in that earnings category were more likely to take the given mode than the average worker. Mode splits for all workers and for the lowest and highest earnings categories are presented graphically by mode.

As expected, the tendency to drive alone increased with earnings. San Francisco clearly showed the lowest tendency to drive alone and Detroit the highest across income categories. Except in these two cities, between 50 and 70 percent of workers earning less than \$10,000 drove alone, while between 70 and 90 percent of workers earning more than \$50,000 drove alone. At earnings over \$30,000 the tendency to drive alone was nearly constant. Carpooling was highest for those earning under \$20,000 and declined thereafter. Houston, Los Angeles, and Miami showed unusually high carpool rates among low-earning workers: 18.6 to 20 percent for the lowest earnings category. San Francisco, Oakland, Pittsburgh, and Sacramento showed the highest rates of carpooling among the highest-earning workers, about 10 percent each.

As expected, overall public transit use fell off rapidly as earnings increased. The rate of fall-off, however, differed drastically among cities. Oakland and Chicago reported nearly equivalent public transit use rates for the lowest and highest earnings categories. Sacramento reported the lowest public transit use (3 percent) in the under-\$10,000 category and the second-lowest overall public transit use. Los Angeles and San Francisco showed the greatest differences in public transit use between low-earning and high-earning workers: the percentage declined from 13.4 percent to 0.7 percent in Los Angeles and from 24.0 to 10.7 percent in San Francisco (public transit use in San Francisco was still second only to Chicago among the highest-earning workers).

An even more interesting picture emerges when data are disaggregated by type of public transit. (Cities in Figures 4, 4a, 4b, and 4c are all sorted in the same order for easier comparison). Ranked by increasing public transit use, the cities did not follow the same relationship in increasing bus use. Cities with heavily used rail systems—Oakland, Boston, Philadelphia, Chicago, and San Francisco—did not show significantly higher bus use than most other cities (with the exception of San Francisco). In fact, Pittsburgh was second only to San Francisco in bus mode share, with 7.7 percent. Los Angeles showed the second-highest bus use among the lowest-earning workers; Houston and Pittsburgh were second only to San Francisco in the highest-earning



category, at about 3 percent each. Even Boston showed only a 6 percent bus mode share in the lowest-earning category.

For the streetcar/subway modes, the strong relationship between mode use and earnings disappeared (Figure 4b). Streetcar/subway use generally peaked in the middle-earnings categories, and in a few cities (Cleveland, Miami, and Pittsburgh, and Oakland) was highest for the highest-earnings workers. Nevertheless, in absolute terms, the streetcar/subway mode split was never very large: between 3 and 6 percent in Boston, Oakland, San Francisco, Chicago, and Philadelphia, and under 1 percent in all other cities. Railroad mode share was over 1 percent only in Chicago (3.8 percent), Philadelphia (2.1), and Boston (1.3), and was under 0.2 percent in all other cities except San Francisco, San Jose, and Oakland. Railroad use showed a strong tendency to *increase* with earnings; nearly 10 percent of workers in Chicago with earnings over \$50,000 commuted by rail.

Like bus use, walking and bicycling also fell off drastically—and consistently—with earnings. Mode splits ranged from 4.8 percent (Detroit) to 13.6 percent (Boston) for those earning less than \$10,000 but from only 0.4 percent (Detroit) to 3.8 percent (San Francisco) for those earning over \$50,000. The work-at-home category showed somewhat of a dichotomy; "mode" splits tended to be greatest for the lowest-earnings category and second-greatest for the highest category. San Diego showed the highest percentage of workers working at home, 4.7 percent. For other cities, the percentage ranged from 1.7 (Detroit) to 3.6 (Oakland). Overall, west-coast cities showed the highest percentage of workers working at home, while the industrial cities of the northeast and midwest showed the lowest.

#### Table A36: Time Leaving for Work vs. Mode of Travel

Table A shows the percent of workers using each mode in each time interval, for five time intervals: 5:30-6:29 AM, 6:30-7:29 AM, 7:30-8:29 AM, 8:30-9:29 AM, and 9:30-5:30 AM. The CTPP also gives data for the 9:30 to 10:30 AM time period, but the percent of workers in this category is small. Time intervals are grouped by mode, and total mode share for all workers is also presented. Table B shows the ratio of percent using mode in the given time period to total percent using mode. A ratio greater than 1 indicates that workers in that time period were more likely to use the given mode than the average worker across all time periods. Unweighted averages of these ratios across all 16 cities are also given for each time period and mode.

Overall, carpoolers tend to leave earlier in the morning; for the earliest time period (5:30 to 6:29), the ratio of percent carpooling to total percent carpooling ranged from 1.09 to 1.42. This ratio fell below 1 for nearly all cities after 7:30 AM. Public transit usage followed a nearly identical pattern, with the average ratio declining from 1.23 (5:30 to 6:29) to 0.73 (8:30 to 9:29). Houston, Los Angeles, Miami, and San Jose showed particularly strong trends toward early transit usage. San Francisco and Boston, however, did not exhibit such a trend. Streetcar and subway use tended to peak during the second time period (6:30 to 7:29) in most cities,

although San Diego and San Jose still exhibited strong first-period peaking and Boston and Philadelphia peaked during the third period (7:30 to 8:29). Very few workers who commuted via railroad left home after 8:30 AM.

Walkers and bicyclists showed a distinct tendency to leave later in the morning; the average ratio increased from 0.52 (5:30-6:29 AM) to 1.67 (9:30 AM - 5:30 AM). People who commuted via "other" modes were less likely to leave during the morning peak hour, with mode usage lowest between 7:30 and 8:29 AM.

#### Table A37: Travel Time to Work by Mode

This table gives the 20th, 50th, and 80th percentile travel times to work, for all workers and for workers according to mode. Percentiles are interpreted in the following way: X percent of workers had a travel time less than the Xth percentile travel time. The 50th percentile travel time is the same as the median travel time (50 percent of workers had a travel time less than the median). Percentiles are derived from the original data, which give the number of workers with a travel time within each of fifteen time intervals. These intervals are (in minutes): less than 5, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-74, 75-89, and 90 or more. Due to the tendency of people to round times to the nearest five or ten minutes, computed percentiles may be underestimated in some cities and overestimated in others. For example, percentiles between 25 and 32.5 minutes are probably underestimated, while percentiles between 32.5 and 40 minutes are probably overestimated (see separate discussion at the end of this section).

Mode shares are presented for each city for comparison. Note that these mode shares, unlike shares given in some tables, do not include workers working at home. Travel time percentiles are also presented graphically for the various modes. On the graphs, cities are ranked from left to right by increasing median travel time. The vertical scale is kept constant across all modes for comparability.

For metropolitan area residents, median travel times ranged from a low of 19.8 minutes (Buffalo) to a high of 26.8 minutes (Chicago). No city except Chicago had a median travel time greater than 25 minutes.<sup>7</sup> 80th percentile travel times ranged from 31.2 to 46.9 minutes, and cities seemed to fall into two general categories based on their 80th percentile travel time. Cities with longer "long" commutes included Boston, Philadelphia, San Francisco, Los Angeles, Oakland, Houston, and Chicago, with 80th percentile travel times over 40 minutes (Boston was 38.9). All other cities had 80th percentile times less than 35 minutes.<sup>8</sup> Oakland and Chicago were the longest, at over 45 minutes.

The median travel time for workers driving alone did not exceed 25 minutes in any city, while the 80th percentile approached 40 minutes in only four (Los Angeles, Houston, Chicago, and Oakland). Median times

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<sup>7</sup>As a side note, median travel times are, when averaged across cities, approximately the same as those reported in the 1980 census, although individual cities have reported increases or decreases on the order of one to two minutes (see Porter and Deakin, *ibid.*).

<sup>8</sup>Note, however, that the "clean break" observed between the two groups of cities is probably more a function of the previously-mentioned anomalies due to rounding than of any clear distinction between the two groups.

for carpoolers were slightly higher, with most cities between 22 and 25 minutes but four cities (again, Los Angeles, Houston, Chicago, and Oakland) approaching or greater than 30. For these four cities, 80th percentile carpool travel times exceeded 45 minutes. For this table only, travel times are presented by size of the carpool (Tables 3a-3c). As the size of the carpool increased, so did travel time.

Travel times for transit users showed substantially more variation, ranging from 32.1 minutes (Buffalo) to 47.3 minutes (Oakland). Median travel times were highest (over 44 minutes) in San Jose, Houston, Chicago, and Oakland; travel times were about 40 minutes in Los Angeles, Detroit, and Philadelphia and were close to 35 minutes in most other cities. 80th percentile travel times also varied dramatically. Travel times were in the 50-minute range in seven cities, about 60 minutes in one (Philadelphia), and over 64 minutes in eight cities (San Diego, Miami, Los Angeles, Detroit, San Jose, Houston, Chicago, and Oakland). Even the 20th percentile travel time exceeded 30 minutes in two cities: Chicago and Oakland.

Travel times tended to be somewhat higher for streetcar/subway users than for bus users. Median streetcar/subway travel times exceeded 40 minutes in all but six cities (San Francisco and Boston were the exception among cities with a large rail mode split) while median bus travel times were under 35 minutes in all but five cities. The extremes were Houston, with a 45.8-minute median bus travel time, and Oakland, with a 51.8-minute median streetcar/subway travel time. Railroad users had very long travel times, with a median time exceeding 60 minutes in four cities (Oakland, San Francisco, Chicago, and San Jose).

Bicyclists and walkers tended to make very short journeys; the median time fell between 10 and 15 minutes in all cities and the 80th percentile time never exceeded 25 minutes. San Francisco had the longest bicycle/walk travel times.

#### Tables A41, A43: Vehicle Occupancy

The average number of workers per vehicle for residents of the metropolitan area showed little variation among cities, ranging from 1.06 (Detroit) to 1.11 (Los Angeles, San Francisco, and Miami). The average number of workers per carpool varied only slightly more, between 2.12 (Cleveland) and 2.27 (Oakland).

#### Table A45: Household Income by Mode to Work

Table A gives the 20th, 50th, and 80 percentile household incomes, for all workers and for workers by mode to work. (Again, 20 percent of all workers have a household income less than the 20th percentile income.) Percentiles are derived from the numbers of workers in 25 income ranges. Table B gives the ratio of income percentile for each mode to the same income percentile for all workers. A ratio greater than 1 indicates that workers using that mode tended to have higher household incomes than the average worker. An unweighted average across all 16 cities is also calculated.

Table C presents the information in a different form: workers are divided into five household income categories and the percent using each mode is given for each category. The five categories include: less than \$17,500; \$17,500 to \$34,999; \$35,000 to \$49,999; \$50,000 to \$74,999; and \$75,000 or more. Distributions of workers by household income category are shown in Figure 1. Table D gives the ratio of percent using mode in each income category to the total percent using each mode. A ratio greater than 1 indicates that workers in a given income category were more likely than the average worker to use that mode.

(Note that Table A45 presents household income data for *workers*, not for *households*. Table A45 should not be used to make inferences about income distributions among households. No-worker households are not included; also, higher-income households would be oversampled since higher income households tend to have multiple workers.)

Figure 2 shows the median income of bus and streetcar/subway users compared to the median household income for all workers. Figures 3-6 show the percent of workers using each mode for all incomes and for the lowest and highest income categories.

The data for this table lead to conclusions similar to those obtained from Table A33, earnings of worker vs. mode to work. As expected, public transit users and bicyclists/walkers tended to have lower incomes than the average worker. The average ratios of median income by mode to total median income were 0.73 and 0.70 respectively, ranging from 0.56 to 0.90 for public transit and 0.56 to 0.78 for bicyclists/walkers. Average ratios were even lower for the 20th percentile income (0.66 and 0.60) and somewhat higher for the 80th percentile income (0.79 and 0.78). Relative incomes of public transit users were lowest in Detroit and highest in Oakland. Examined by type of public transit, median incomes for streetcar/subway users were slightly higher than average in Cleveland, Miami, Oakland, Pittsburgh, Sacramento, and San Jose, and were between \$5,000 and \$15,000 higher than the median incomes of bus users in every city. Median incomes of railroad users were about 20 percent higher than for the average worker.

Carpoolers had incomes only slightly lower than average. Median income ratios ranged from 0.87 (Houston) to 1.04 (San Francisco). People who drove alone had slightly higher incomes. People who worked at home again showed somewhat of a dichotomy. Median incomes were right on the average, but 20th percentile incomes were about 10 percent below average and 80th percentile incomes 10-20 percent above average. Workers using "other" modes were also somewhat below average.

Grouping workers by household income level led to further conclusions. Low-income workers were substantially less likely to drive alone; for households with incomes less than \$17,500, the ratio of percent driving alone to total percent driving alone ranged from 0.7 to 0.9. Absolute mode share for this category ranged from 40.4 percent (San Francisco) to 67.5 percent (Detroit). The propensity to drive alone increased greatly at incomes over \$17,500, with an average ratio of 0.94 for the \$17,500 to \$34,999 category. Carpooling was slightly more common in the lower to middle-income ranges. It was least common for the highest (over

\$75,000) range, with an average ratio of 0.88. However, four cities (Oakland, Pittsburgh, Sacramento, and San Francisco) had ratios greater than 0.95 for this income range.

As expected, public transit usage was substantially greater for the lowest-income ranges; on the average, workers with household incomes less than \$17,500 were more than twice as likely to use public transit than the average worker. Absolute mode shares ranged from 4.1 percent (Sacramento) to 26.6 percent (Chicago). For workers over \$75,000, absolute transit mode shares remained above 10 percent in only two cities: San Francisco and Chicago. Four other cities (Boston, Oakland, Philadelphia, and Pittsburgh) had shares between 5 and 10 percent. Once again, streetcar/subway use showed considerably less tendency to drop off with income than did bus use, and actually increased with income in a number of cities, most notably Miami, Oakland, and Pittsburgh. Railroad use increased rather substantially with income.

Bicyclists and walkers exhibited trends similar to bus users. Mode shares ranged from 6.0 percent (Detroit and Houston) to 14.4 percent (San Francisco) for the under-\$17,500 category, but from only 1.0 percent to 3.8 percent for the over-\$75,000 category. Workers in both the lowest and highest income categories were more likely than average to work at home, while those in the middle were less likely.

Comparing Tables A45 and A33, worker earnings seemed to be a somewhat better predictor of carpooling and working at home than did total household income; for both modes there was more variation in mode split across worker earning categories than across household income categories. However, the results for bicycling and walking were mixed, and public transit use seemed to be predicted somewhat better by household income than by worker earnings (see Figures 4 of Tables A45 and A33). Particularly for the streetcar/subway mode, the results based on household income were not always parallel to those based on individual earnings. For example, in Boston, Chicago, and Philadelphia, streetcar/subway use peaked in the middle ranges of worker earnings but in the lowest range of household income. This may suggest that workers using the streetcar/subway tend to have moderate or higher-paying jobs but are members of households predominantly supported by one income. The above conclusions are somewhat tenuous, particularly since the proportions of workers in each of the five earnings categories were different than those in the five income categories (see Figures 1 of Tables A33 and A45).

Final observations: even the lowest-income workers in Sacramento were not likely to take public transit, while high-income workers in Oakland were almost as likely as the average worker to take public transit. Detroit showed the highest incidence of driving alone for all income levels, while San Francisco showed the lowest.

#### Table A48: Mode to Work vs. Vehicles Available

The definition of vehicles available is the same as in Table A20, "vehicles available vs. household income." Workers are divided into four vehicle availability categories: none, one, two, and three-or-more.

(The original data include seven categories of vehicle availability.) The percent of workers using each mode is given for each vehicle availability category. Table B gives the ratio of mode share by vehicle category to total mode share. Vehicle availability for all workers is plotted in Figure 1. Vehicle availability by mode is also plotted graphically (figures 2-5).

As expected, workers with no vehicles were considerably less likely to drive alone and workers with one vehicle were somewhat less likely (average ratios of mode share to total mode share were 0.33 and 0.88, respectively). However, very few workers had no vehicles available in the household (the percentage ranged from 2.0 in San Jose to 9.2 in San Francisco). Interestingly, a nearly constant 1 percent of all workers in each city reported having no vehicles available but driving alone to work. The propensity to drive alone stayed nearly constant once two or more vehicles were available in the household. It was also relatively constant across cities, with the drive-alone mode share for three-or-more-vehicle households ranging between 75 and 85 percent for all cities except San Francisco (71.1 percent) and Detroit (87.7 percent).

Carpooling was most common among workers in one-vehicle households; the average ratio of mode share to total carpool mode share was 1.23. Relative propensity to carpool, however, varied considerably among zero-vehicle households (see Figure 3). For most, the ratio fell between 0.8 and 1.2. San Francisco, however, showed an unusually low ratio (0.44, or 5.4 percent) while Cleveland, Detroit, and Houston showed unusually high ratios (1.41, 1.42, and 1.72, respectively). Carpool mode share for no-vehicle households in Houston was 20 percent; it was greater than about 15 percent in Cleveland, Detroit, Miami, Sacramento, and San Diego. San Francisco was the only city in which workers in two and three-or-more-vehicle household were more likely than average to carpool.

Public transit commuters, as expected, were much more likely to own no vehicles or one vehicle. Absolute mode share for no-vehicle households ranged from 17.4 percent (Sacramento) to 57.7 percent (Chicago). All cities except Sacramento, San Jose, Detroit, San Diego, and Houston had mode shares of over 35 percent in this category. Mode shares for one-vehicle households ranged from 3.8 percent to 25.0 percent. For households with two vehicles, only two cities, Chicago and San Francisco, had transit mode shares greater than 10 percent, with Philadelphia, Oakland, and Boston falling between 5 and 10 percent.

When disaggregated by type of public transit, however, only San Francisco showed a significant tendency (over 5 percent) for workers with two or more vehicles to use the bus. Among one-vehicle households, only Pittsburgh, Chicago, and San Francisco had bus mode shares over 10 percent. Boston had the highest streetcar/subway mode shares among one-vehicle households (9.2 percent) while Oakland had the highest share for two and three-or-more-vehicle households (4.8 and 3.1 percent, respectively). As noted previously, the significant differences in public transit use among Philadelphia, Boston, Oakland, and Chicago and other cities appear to come from subway/streetcar and railroad use rather than bus use. The greatest

railroad mode shares came from one- and two-vehicle households in Philadelphia, Boston, and Chicago; however, no consistent ordering of railroad mode shares by vehicles available was noted across cities.

Bicyclists and walkers showed trends similar to public transit users. Mode shares for no-vehicle households ranged from 10.8 percent (Detroit) to 25.8 percent (Sacramento) but declined precipitously once a vehicle was available (always under 10 percent for 1-vehicle households and under 4 percent for 2-or-more vehicle households). Users of "other" modes were also much more likely to have no vehicles available. People who worked at home showed no strong tendencies toward vehicle ownership.

Some rather speculative observations about mode use in general: very few people in any income or auto-ownership category use transit in Sacramento or San Jose. However, Sacramentans are unusually likely to walk or bike if no vehicles are available<sup>9</sup>, and residents of Portland and Boston are almost as likely. Residents of Detroit, San Diego, Buffalo, Houston, and Miami will take transit but only if no alternatives are available; usage drops off particularly precipitously once income rises and/or a vehicle becomes available. Residents of Chicago, Detroit, and Cleveland are particularly unlikely to walk or bike even if no vehicle is available. Residents of Detroit and Houston, and to some extent Cleveland, tend to carpool if no vehicles are available.

## B. Workers in the Central City

### Table B7: Mode to Work

Table B7 is arranged in a manner similar to table A30, presenting mode shares, absolute mode use, and relative rankings for workers in the central city. As expected, considerably fewer workers drove alone and more took public transit or walked compared to metropolitan area residents as a whole. The percent of workers driving alone ranged from 38.3 percent in San Francisco to 78.3 percent in San Jose. Carpooling rates were similar, 10 to 16 percent. "Other" modes again accounted for under 2 percent in all cities except for San Francisco (2.8 percent; probably due to ferry commuters). A smaller proportion of central city residents worked at home than for the entire metropolitan area. Walking exceeded 8 percent in Boston and Philadelphia, but was less than 2 percent in San Jose. Bicycling, again, was less than 1 percent except in Sacramento.

Public transit use was considerably greater in most central cities than for the metropolitan area; over 30 percent of workers in Boston, Chicago, and San Francisco took public transit (Philadelphia was close at 28.9 percent). Pittsburgh also showed high transit use (21.3 percent). All other cities were under 15 percent, and Sacramento, San Diego, and San Jose still showed the lowest public transit ridership, under 5 percent. Looking at the individual modes, San Francisco, Pittsburgh, Chicago, and Philadelphia each showed bus ridership over 15 percent (Pittsburgh had nearly the same mode split as San Francisco). Streetcar/subway mode share was

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<sup>9</sup>Note that the Sacramento MSA includes Davis, a bicycle-oriented university town with a population of roughly 45,000.

almost 15 percent in Boston and also substantial (between 5 and 10 percent) in San Francisco, Chicago, Philadelphia, and Oakland. Railroad use was over 5 percent in Boston, Chicago, and Philadelphia.

#### Table B8: Time Arriving at Work

Statistics similar to those in Table A31, time leaving for work, are presented here for central city workers. Figure 2 shows cumulative arrival curves for four cities; unlike departure times, reported arrivals do not seem to be clustered in alternating 15-minute intervals. (This may seem strange at first, but it is probably due to the fact that many workers who start work on the hour or half-hour actually attempt to arrive a few minutes early).

Not surprisingly, the peak period for arrivals was between 7:30 and 7:59 for most cities (recall that the peak departure period was 7:00 to 7:29 AM). A maximum of 19 percent of all workers (Portland and Sacramento) arrived in the peak half-hour, while nearly 50 percent of workers in Boston, Houston, and Sacramento arrived in the peak three half-hours. One-hour peaking (compared to the maximum three-hour volume) was least pronounced in Los Angeles and San Diego and most pronounced in Buffalo.

#### Table B10: Earnings of Workers by Mode

Data for Table B10 are presented in a similar manner to Table A33 (earnings of workers living in metropolitan area). However, B10 shows considerably more variation in mode split among cities, reflecting the influence of transit modes in some of the central cities. Less than 50 percent of central-city workers in San Francisco, Boston, Chicago, and Philadelphia drove alone; Pittsburgh was next lowest at about 55 percent. All other cities showed drive-alone mode splits very close to overall mode splits for the metropolitan area. This time, however, San Jose—not Detroit—showed the highest percentage of drive-alone commuters (79.1 percent).

Carpooling was slightly higher for central city workers than for workers in the metropolitan area. Boston was lowest, at 10.8 percent, and Sacramento highest at 15.8 percent. Carpoolers were most likely to fall in the second-lowest earnings category (\$10,000 to \$19,999) and least likely to fall in the highest category. Carpooling in Boston and San Francisco did not show a tendency to decline with earnings; carpooling declined most strongly with earnings in Houston, although once again Houston showed the highest carpooling rate among the lowest-earning group of workers.

Only in Chicago was the highest-income group of commuters slightly more likely than average to take public transit. This can be explained by looking at the modes in detail: the railroad mode share was a substantial 22.8 percent for workers earning more than \$50,000, compared to just under 10 percent for all workers. The tendency of railroad ridership to increase markedly with earnings held true for the other cities with major rail systems.



Bus use was highest in Pittsburgh and San Francisco at about 20 percent, although in all cities bus use declined significantly with income. San Jose, San Diego, and Sacramento had bus mode splits of under 5 percent. Most other cities fell in the 5 to 10 percent range, with Philadelphia and Chicago at about 15 percent. Streetcar/subway use was highest in Boston but declined markedly for workers earning over \$30,000. Chicago and Philadelphia showed income trends similar to Boston. In San Francisco, streetcar/subway use was lowest for the lowest-earning workers and showed little fall-off above \$20,000. Oakland showed a slight tendency to peak at middle earnings. Miami, Cleveland, and Pittsburgh showed relatively high streetcar/subway use among higher-earning workers.

Finally, walk/bicycle mode shares were higher in the central city than for the region as a whole, ranging from 2.2 percent (Houston) to 9.0 percent (Philadelphia). Work-at-home "mode" split topped 3 percent only in Oakland and San Diego. Again, the lowest-earning workers tended to work at home the most (about 7 percent in Oakland and San Diego). Workers earning over \$50,000, however, were more likely than average to work at home in Los Angeles.

#### Tables B14, B16: Vehicle Occupancy

Vehicle occupancy varied only slightly more for workers in the central city than for metropolitan area residents. Workers per vehicle ranged from 1.08 to 1.13 for all cities except San Francisco (1.19). For the other fifteen cities, workers per carpool averaged 2.12 (Cleveland) to 2.24 (Los Angeles); San Francisco averaged 2.37.

#### Table B18: Time Arriving at Work vs. Mode of Travel

Mode use data showed somewhat different trends for time arriving at work for central city workers, compared to time leaving for work by metropolitan area residents (Table A36). Workers arriving during off-peak hours showed somewhat greater tendencies to drive alone. The difference was more pronounced in cities with lower overall drive-alone mode splits. For example, in Boston 60.3 percent of workers arriving between 5:30 and 6:29 AM drove alone, compared to 37.6 percent between 8:30 and 9:29 AM and 45.6 percent overall. Similar mode shifts took place in Chicago, Philadelphia, San Francisco, and, to a lesser extent, Pittsburgh. However, in most other cities the tendency to drive alone showed little variation by time of day. This shift is probably due primarily to the attempt to avoid peak-hour congestion by taking public transit, particularly rail. In the off-peak hours, particularly the early morning, driving is relatively more attractive, as transit service is less frequent and surface congestion is less severe.

This observation is verified by changes in public transit mode use by time of day. Public transit use peaks strongly in the previously-mentioned cities for workers arriving between 7:30 and 9:29 AM and also peaks during this period for most other cities. This peaking was particularly pronounced for streetcar/subway users but was not evident for bus users in cities with lower bus mode splits. (Note that the time lag between

workers leaving and arriving is one reason why public transit use peaks earlier for metropolitan area residents leaving home than for central city workers arriving at work.) Absolute public transit mode share exceeded 40 percent for at least one peak-hour period for workers in Boston, Chicago, and San Francisco; streetcar/subway mode share approached 25 percent in Boston between 8:30 and 9:29 AM. Finally, in cities with commuter railroads, arrivals peaked between 7:30 and 8:29, with Chicago showing a 15.8 percent railroad mode split in this time period.

Carpoolers showed a definite tendency to arrive earlier in the morning, with arrivals peaking between 6:30 and 7:29 AM in most cities. Carpooling mode split ranged from 14 to 22 percent in this time period but only from 8 to 15 percent for workers arriving between 8:30 and 9:29 AM. Bicycling and walking increased substantially toward the middle of the day. In no city did more than 6 percent of workers arriving 5:30 to 6:29 bicycle or walk, while between 4 and 15 percent of workers arriving 9:30 AM to 5:30 AM bicycled or walked. Mode use in this time period exceeded 10 percent in Boston, Buffalo, Philadelphia, Pittsburgh, and San Francisco. "Other" mode use also tended to be lower during peak commute hours in most cities.

#### Table B19: Travel Time to Work by Mode

Table B19 gives information in a format similar to Table A37, for workers who worked in the central city. Travel times were always higher for workers in the central city than for residents of the metropolitan area as a whole.

For all workers, the median travel time ranged from 22.0 minutes (Buffalo) to 33.1 minutes (Chicago). Travel times were again slightly lower for workers driving alone, slightly higher for carpoolers, and considerably higher for public transit users.

### III. ADDENDUM: CALCULATION OF TRAVEL TIME PERCENTILES

Due to the way in which travel time data is reported in the census, the standard method of calculating travel time percentiles, including the median travel time, may systematically overestimate the "true" percentile by about two minutes and may lead to "random" variations among cities of roughly  $\pm 3$  minutes. The systematic overestimation holds for all percentile calculations up to about 60 minutes (percentiles beyond this point would be rough estimates anyway because the time intervals become larger). The amount of "random" variation is not really random; it depends on the location of the estimated percentile and can be predicted with some accuracy based on this location.

In order to explain this phenomenon, some background must be given on how the census reports travel times and computes percentiles. First, respondents are asked to write down their estimated travel time to work (in minutes). The census then groups travel times into 5-minute increments: less than 5, 5 to 9, 10 to 14, etc. and gives the number of respondents in each interval. The median is computed by constructing a cumulative distribution of worker travel times based on these intervals (percent less than 10 minutes, less than 15 minutes, etc.). A linear interpolation is made between the two cumulative times which bound the 50th percentile worker. Other percentiles can be computed in a similar manner.

The first possible source of error is that many people would be expected to round their travel time to the nearest 5 minutes. Since this puts most people at the *bottom* of each category, the computed median will exceed the actual median (this assumes that people's reported travel times are not *systematically* greater or less than their actual travel times). If everyone rounded to the nearest 5 minutes, the median would overestimate the "true" median by about 2.5 minutes. However, since this bias would be constant across all populations, relative travel times would still be the same and travel time differences—between cities, over time, etc.—could still be compared accurately.

Plotting a histogram of reported travel times by intervals reveals a much more interesting situation. Large spikes exist in the 30-34, 45-59, and 60-74 minute ranges, while relatively few people report travel times between 25-29, 35-39, or 55-59 minutes (Figure i). Since there is no logical physical explanation why actual travel times should cluster around 30, 45, or 60 minutes, it is apparent that most people with travel times greater than about 20 minutes round to the nearest 10 or 15 minute interval, particularly if it falls on the half hour. (This lends particular support to the assertion that most people at the very least round to the nearest 5 minutes, even at short travel times).

To evaluate the magnitude of error which this may cause, the author applied an arbitrary correction, allocating some of the 30-34 and 45-49 minute intervals to their two neighboring categories in order to obtain a smooth distribution of travel times, and allocating some of the 60-74 minute interval to the 55-59 minute interval. Since the true distribution is unknown, smoothing was done visually, so the corrections are somewhat arbitrary.

To show how this correction could change the computed percentiles, a cumulative travel-time curve was plotted for the "uncorrected" and "corrected" data (Figure ii). The data for public transit users in Boston illustrate this point: by interpolating along the "corrected" curve, the 50th percentile travel time is computed as 37.8 minutes, nearly 3 minutes *greater* than the "uncorrected" median.

Some general conclusions can be drawn. First, the cumulative percent curve is probably fairly accurate up to 25 minutes. The "reported" curve then dips below the smoothed curve for a maximum difference (overestimation) at 30 minutes, then crosses the smoothed curve for a maximum difference (underestimation) at 35 minutes. The curves again cross at 40 minutes, overestimation occurs to a lesser extent at 45 minutes, underestimation occurs at 50 minutes, and the curves once again meet at 55 minutes. While the pattern of under- and over-estimation should be the same for all populations, the exact amounts will differ depending on the reported and assumed distributions.

These observations ignore the previously-mentioned systematic overestimation of 2-2.5 minutes due to rounding to the nearest 5 minutes. While the two effects will interact to some degree, an approximation of this effect can be obtained by shifting the cumulative travel-time curve to the left by about 2 minutes.

A rough guide to the overall correction factors can now be given (Table i).

**Table i. Approximate Errors in Travel Time Percentiles and Medians Due to Rounding of Reported Travel Times**

If travel time percentile, calculated from reported data, falls in range:	Potential error due to 30, 45, and 60-minute rounding: (+ signifies overestimation)	Potential overall error, including 5-minute rounding tendency:
0-25 min	0	up to +2.5 min
25-32.5 min	up to +3 min (max at 30)	up to +5.5 min (at 30)
32.5-40 min	up to -3 min (max at 35)	+2.5 or less (~0 at 35)
40-47.5 min	up to +2 min? (max at 45)	up to +4.5 min? (at 45)
47.5-55 min	up to -2 min? (max at 50)	+2.5 or less (~0 at 50)
55-75 min	up to +5 min? (max at 60)	up to 7-8 min? (at 60)

Figure i. Reported Work-Trip Travel Times, Workers Using Public Transit

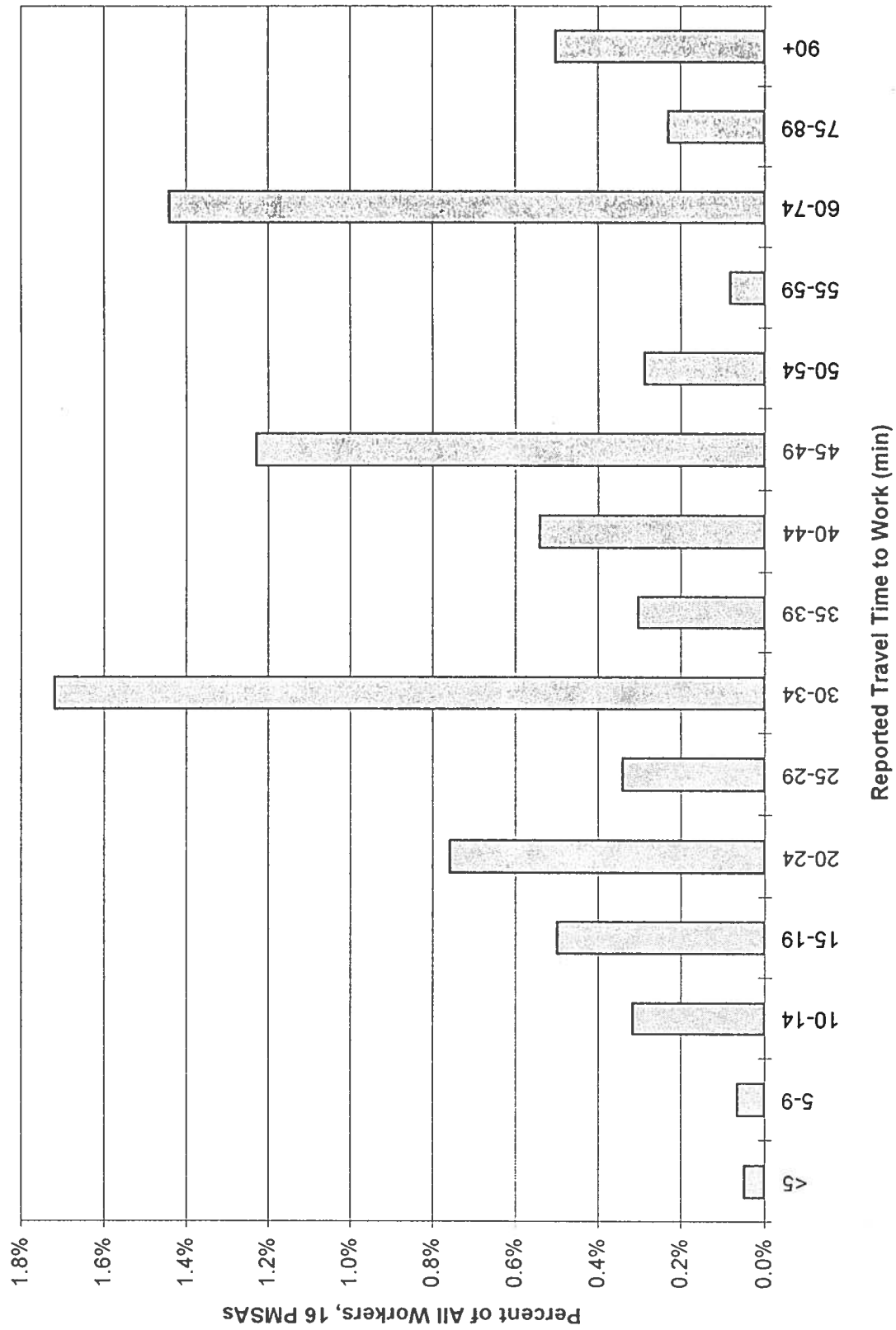
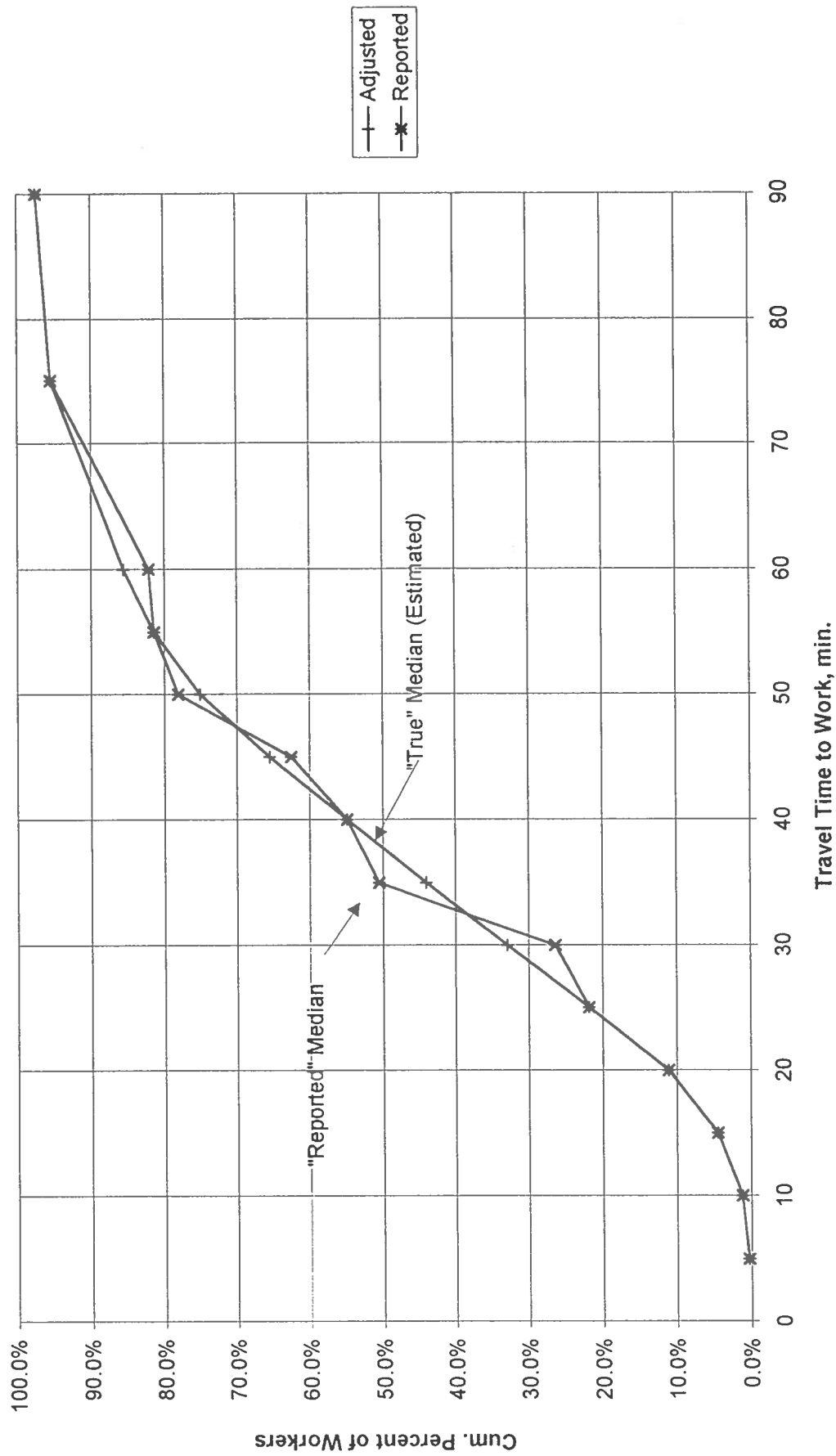


Figure ii. Reported and Adjusted Travel Time, All Public Transit Users (16 Metropolitan Areas)





1990 Census Data

BASIC URBAN AREA STATISTICS

3a. Density (Persons/Sq. Km.)

2a. Central City Population and Workers

1a. Metropolitan Area Population

MSA/ PMSA	Population (1990)	Total Residents who Worked	Proportion of Residents who Worked	Percent Change in Pop., 1980-1990	City	Population of Central City	Workers in Central City	Ratio of Workers to Residents	Region	Central City (CC)	Urbanized Area (UZA)
Boston*	3,783,817	1,929,963	0.51	3.3%	Boston	574,283	487,653	0.87	Boston	4,579	1,202
Buffalo	968,532	432,883	0.45	-4.6%	Buffalo	328,123	191,769	0.58	Buffalo	3,119	1,291
Chicago*	7,332,926	3,522,084	0.48	2.3%	Chicago	2,783,726	1,386,205	0.50	Chicago	4,730	1,655
Cleveland	1,831,122	823,684	0.45	-3.6%	Cleveland	505,616	331,956	0.66	Cleveland	2,535	1,019
Detroit	4,382,299	1,931,153	0.44	-2.4%	Detroit	1,027,974	366,424	0.36	Detroit	2,861	1,275
Houston	3,323,312	1,584,849	0.48	20.7%	Houston	1,630,672	1,133,393	0.70	Houston	1,166	952
Los Angeles	8,863,164	4,115,248	0.46	18.5%	Los Angeles	3,485,398	1,844,338	0.53	Los Angeles	2,867	2,240
Miami	1,937,094	887,995	0.46	19.2%	Miami	358,548	342,841	0.96	Miami	3,891	2,098
Oakland	2,082,914	1,034,364	0.50	18.2%	Oakland	372,242	177,810	0.48	Oakland	2,564	--
Philadelphia	4,856,881	2,280,559	0.47	3.0%	Philadelphia	1,585,577	761,244	0.48	Philadelphia	4,530	1,400
Pittsburgh	2,056,705	881,624	0.43	-7.3%	Pittsburgh	369,879	305,351	0.83	Pittsburgh	2,567	833
Portland <sup>1</sup>	1,477,895	724,532	0.49	13.9%	Portland	437,398	337,701	0.77	Portland	1,355	1,166
Sacramento	1,481,102	685,945	0.46	34.7%	Sacramento	369,365	269,891	0.73	Sacramento	1,481	1,269
San Diego	2,498,016	1,230,446	0.49	34.2%	San Diego	1,110,549	681,218	0.61	San Diego <sup>2</sup>	1,518	1,314
San Francisco	1,603,678	853,948	0.53	7.7%	San Francisco	723,959	567,112	0.78	San Francisco <sup>3</sup>	5,985	1,603
San Jose	1,497,577	796,605	0.53	15.6%	San Jose	782,225	334,630	0.43	San Jose	1,763	1,637

3b. Rank by Density

2b. Rank by Central City Population and Workers

1b. Rank by Metropolitan Area Population

MSA/ PMSA	Population (1990)	Total Residents who Worked	Proportion of Residents who Worked	Percent Change in Pop., 1980-1990	City	Population of Central City	Workers in Central City	Ratio of Workers to Residents	Region	Central City (CC)	Urbanized Area (UZA)
Boston*	5	5	3	10	Boston	9	7	2	Boston	3	11
Buffalo	16	16	14	15	Buffalo	16	15	10	Buffalo	6	8
Chicago*	2	2	7	12	Chicago	2	2	12	Chicago	2	3
Cleveland	11	12	13	14	Cleveland	10	12	8	Cleveland	11	13
Detroit	4	4	15	13	Detroit	6	8	16	Detroit	8	9
Houston	6	6	8	3	Houston	3	3	7	Houston	16	14
Los Angeles	1	1	10	5	Los Angeles	1	1	11	Los Angeles	7	1
Miami	10	9	12	4	Miami	15	9	1	Miami	5	2
Oakland	8	8	4	6	Oakland	12	16	14	Oakland	10	--
Philadelphia	3	3	9	11	Philadelphia	4	4	13	Philadelphia	4	6
Pittsburgh	9	10	16	16	Pittsburgh	13	13	3	Pittsburgh	9	15
Portland <sup>1</sup>	15	14	6	8	Portland	11	10	5	Portland	15	12
Sacramento	14	15	11	1	Sacramento	14	14	6	Sacramento	14	10
San Diego	7	7	5	2	San Diego	5	5	9	San Diego <sup>2</sup>	13	7
San Francisco	12	11	1	9	San Francisco	8	6	4	San Francisco <sup>3</sup>	1	5
San Jose	13	13	2	7	San Jose	7	11	15	San Jose	12	4

<sup>1</sup>Census definitions of the Portland PMSA appear to vary depending on the source; some include Clark Co., Washington while others do not. Clark Co. is included in this compendium; data for the Portland PMSA may therefore differ from that found in other sources, including other data compendia published for this project.

<sup>2</sup>Includes only urbanized area of central city.

<sup>3</sup>UZA density is for San Francisco-Oakland UZA.



VEHICLES AVAILABLE VS. HOUSEHOLD SIZE

1. All households

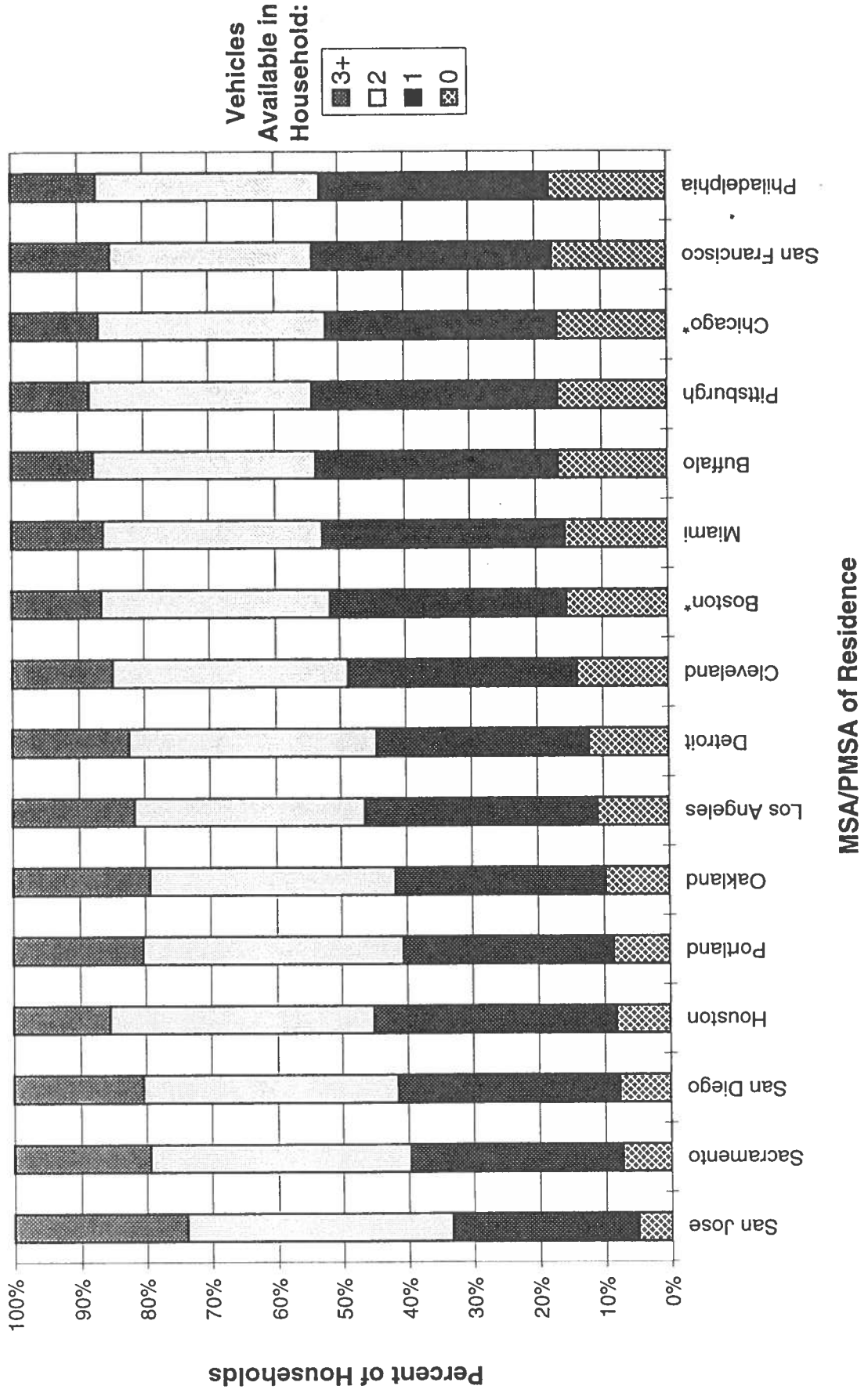
MSA/PMSA of Residence	2. 1-person households										
	No Vehicles Available	1 Vehicle Available	2 Vehicles Available	3+ Vehicles Available	0 or 1 Vehicles Available		1 Vehicle Available	2+ Vehicles Available	3+ person households		
Boston*	15.4%	36.1%	35.1%	13.5%	51.4%	60.9%	4.7%	34.4%	26.2%	30.5%	43.3%
Buffalo	16.5%	37.0%	34.1%	12.4%	53.5%	59.2%	6.7%	34.1%	27.7%	31.2%	41.1%
Chicago*	16.6%	35.3%	34.9%	13.2%	51.9%	58.9%	6.4%	34.7%	25.4%	28.8%	45.9%
Cleveland	13.9%	34.9%	36.0%	15.2%	48.8%	62.4%	8.7%	28.9%	27.6%	31.1%	41.3%
Detroit	12.1%	32.3%	37.8%	17.7%	44.5%	64.5%	10.1%	25.5%	24.1%	30.1%	45.7%
Houston	8.2%	36.9%	40.3%	14.6%	45.1%	74.5%	10.4%	15.1%	24.7%	27.9%	47.4%
Los Angeles	10.9%	35.4%	35.2%	18.5%	46.3%	67.8%	11.2%	21.0%	24.8%	27.8%	47.4%
Miami	15.6%	37.0%	33.6%	13.8%	52.5%	59.9%	6.3%	33.8%	24.7%	29.0%	46.4%
Oakland	9.8%	32.0%	37.5%	20.8%	41.7%	65.5%	13.1%	21.4%	24.9%	32.3%	42.8%
Philadelphia	17.8%	35.0%	34.4%	12.8%	52.8%	57.6%	6.2%	36.3%	25.1%	29.9%	45.0%
Pittsburgh	16.6%	37.5%	34.1%	11.8%	54.1%	56.5%	6.7%	36.8%	27.8%	32.5%	39.7%
Portland	8.6%	31.9%	39.8%	19.7%	40.5%	63.4%	13.5%	23.1%	26.0%	33.8%	40.2%
Sacramento	7.4%	32.2%	39.8%	20.6%	39.6%	67.3%	14.6%	18.0%	23.8%	33.8%	42.4%
San Diego	7.7%	33.7%	39.0%	19.6%	41.5%	70.0%	12.1%	17.9%	22.8%	33.6%	43.6%
San Francisco	17.4%	36.6%	31.0%	15.0%	54.0%	58.5%	8.3%	33.1%	32.2%	32.3%	35.5%
San Jose	5.1%	28.1%	40.6%	26.1%	33.3%	71.0%	15.7%	13.3%	21.6%	31.3%	47.0%

MSA/PMSA of Residence	2. 1-person households										
	No Vehicles Available	1 Vehicle Available	2 Vehicles Available	3+ Vehicles Available	0 or 1 Vehicles Available		1 Vehicle Available	2+ Vehicles Available	3+ person households		
Boston*	15.4%	36.1%	35.1%	13.5%	51.4%	60.9%	4.7%	34.4%	26.2%	30.5%	43.3%
Buffalo	16.5%	37.0%	34.1%	12.4%	53.5%	59.2%	6.7%	34.1%	27.7%	31.2%	41.1%
Chicago*	16.6%	35.3%	34.9%	13.2%	51.9%	58.9%	6.4%	34.7%	25.4%	28.8%	45.9%
Cleveland	13.9%	34.9%	36.0%	15.2%	48.8%	62.4%	8.7%	28.9%	27.6%	31.1%	41.3%
Detroit	12.1%	32.3%	37.8%	17.7%	44.5%	64.5%	10.1%	25.5%	24.1%	30.1%	45.7%
Houston	8.2%	36.9%	40.3%	14.6%	45.1%	74.5%	10.4%	15.1%	24.7%	27.9%	47.4%
Los Angeles	10.9%	35.4%	35.2%	18.5%	46.3%	67.8%	11.2%	21.0%	24.8%	27.8%	47.4%
Miami	15.6%	37.0%	33.6%	13.8%	52.5%	59.9%	6.3%	33.8%	24.7%	29.0%	46.4%
Oakland	9.8%	32.0%	37.5%	20.8%	41.7%	65.5%	13.1%	21.4%	24.9%	32.3%	42.8%
Philadelphia	17.8%	35.0%	34.4%	12.8%	52.8%	57.6%	6.2%	36.3%	25.1%	29.9%	45.0%
Pittsburgh	16.6%	37.5%	34.1%	11.8%	54.1%	56.5%	6.7%	36.8%	27.8%	32.5%	39.7%
Portland	8.6%	31.9%	39.8%	19.7%	40.5%	63.4%	13.5%	23.1%	26.0%	33.8%	40.2%
Sacramento	7.4%	32.2%	39.8%	20.6%	39.6%	67.3%	14.6%	18.0%	23.8%	33.8%	42.4%
San Diego	7.7%	33.7%	39.0%	19.6%	41.5%	70.0%	12.1%	17.9%	22.8%	33.6%	43.6%
San Francisco	17.4%	36.6%	31.0%	15.0%	54.0%	58.5%	8.3%	33.1%	32.2%	32.3%	35.5%
San Jose	5.1%	28.1%	40.6%	26.1%	33.3%	71.0%	15.7%	13.3%	21.6%	31.3%	47.0%

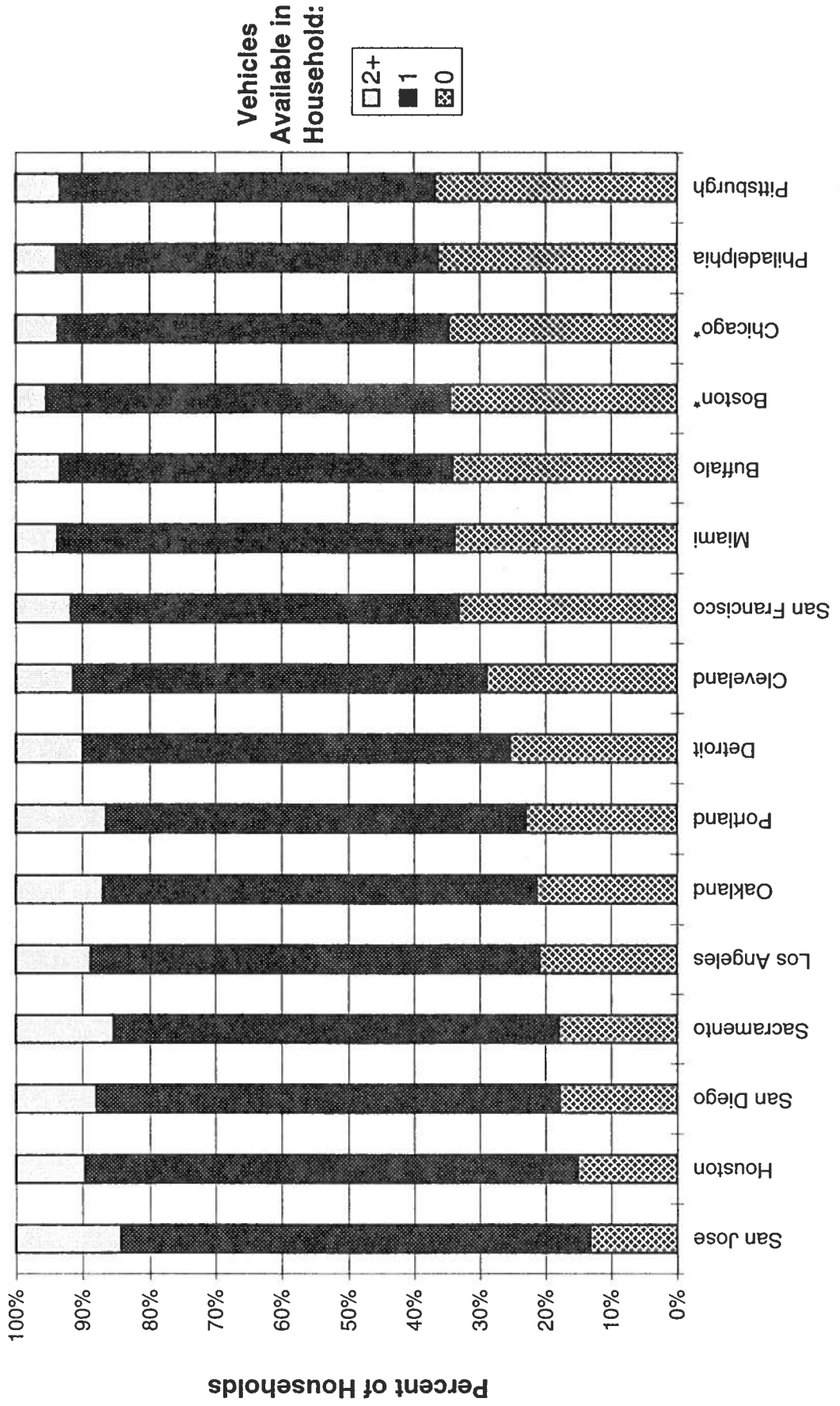
3. 2-person households

MSA/PMSA of Residence	4. 3+ person households										
	No Vehicles Available	1 Vehicle Available	2 Vehicles Available	3+ Vehicles Available	0 or 1 Vehicles Available		1 Vehicle Available	2 Vehicles Available	3+ person households		
Boston*	10.5%	37.4%	47.5%	4.7%	47.8%	20.1%	27.5%	7.3%	27.5%	27.4%	27.4%
Buffalo	10.9%	39.5%	44.0%	5.7%	50.4%	20.1%	25.1%	9.0%	25.1%	29.1%	29.1%
Chicago*	10.8%	36.1%	46.5%	6.5%	47.0%	21.7%	24.2%	10.3%	24.2%	32.0%	32.0%
Cleveland	8.3%	32.9%	49.5%	9.2%	41.3%	18.0%	29.0%	8.0%	29.0%	26.0%	26.0%
Detroit	7.7%	29.9%	52.8%	9.5%	37.7%	16.9%	31.5%	8.0%	31.5%	24.9%	24.9%
Houston	5.7%	28.5%	56.6%	9.1%	34.3%	22.3%	28.3%	6.0%	28.3%	28.3%	28.3%
Los Angeles	7.2%	28.1%	53.2%	11.5%	35.3%	22.7%	30.5%	7.8%	31.3%	30.5%	30.5%
Miami	12.3%	38.5%	43.8%	5.4%	50.8%	23.8%	26.1%	7.9%	26.1%	31.8%	31.8%
Oakland	6.3%	26.0%	52.3%	15.4%	32.3%	16.9%	35.7%	5.6%	35.7%	22.5%	22.5%
Philadelphia	12.3%	36.1%	45.5%	6.1%	48.4%	21.6%	24.0%	11.1%	24.0%	32.8%	32.8%
Pittsburgh	10.4%	40.6%	42.5%	6.5%	51.0%	21.6%	23.6%	7.5%	23.6%	29.1%	29.1%
Portland	4.3%	25.8%	53.4%	16.5%	30.2%	16.6%	33.5%	2.9%	33.5%	19.5%	19.5%
Sacramento	4.2%	24.8%	54.5%	16.4%	29.1%	18.3%	34.1%	4.1%	34.1%	22.3%	22.3%
San Diego	4.4%	27.6%	54.6%	13.3%	32.1%	19.4%	33.5%	5.0%	33.5%	24.5%	24.5%
San Francisco	11.3%	31.6%	46.4%	10.8%	42.9%	21.3%	31.2%	8.6%	31.2%	29.9%	29.9%
San Jose	3.2%	20.9%	58.6%	17.3%	24.1%	13.2%	42.8%	2.7%	42.8%	16.0%	16.0%

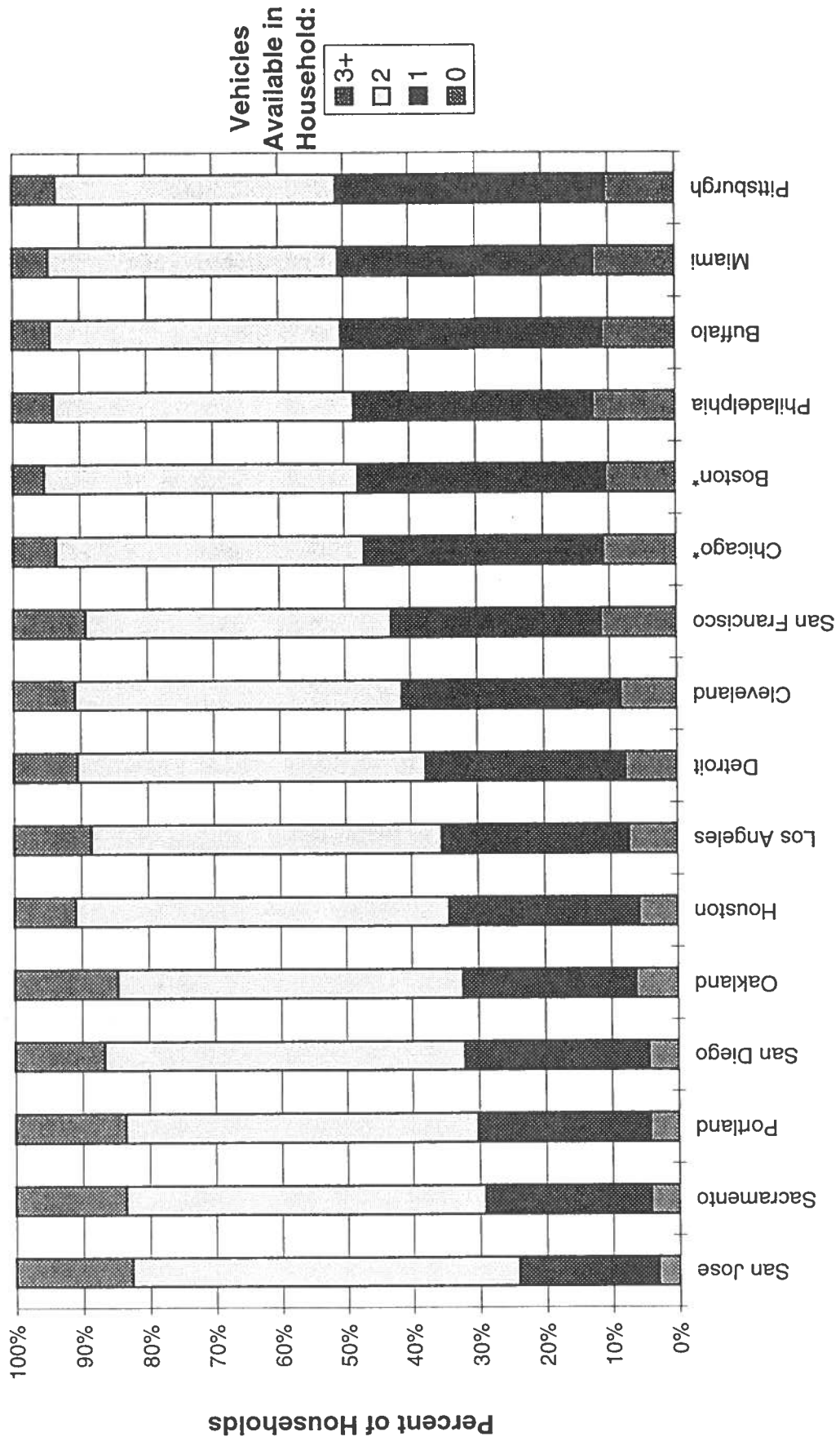
**Fig. 1. Vehicle Availability: All Households**  
 (Ranked by percent with no vehicles)



**Fig. 2. Vehicle Availability: One-Person Households**  
 (Ranked by percent with no vehicles)

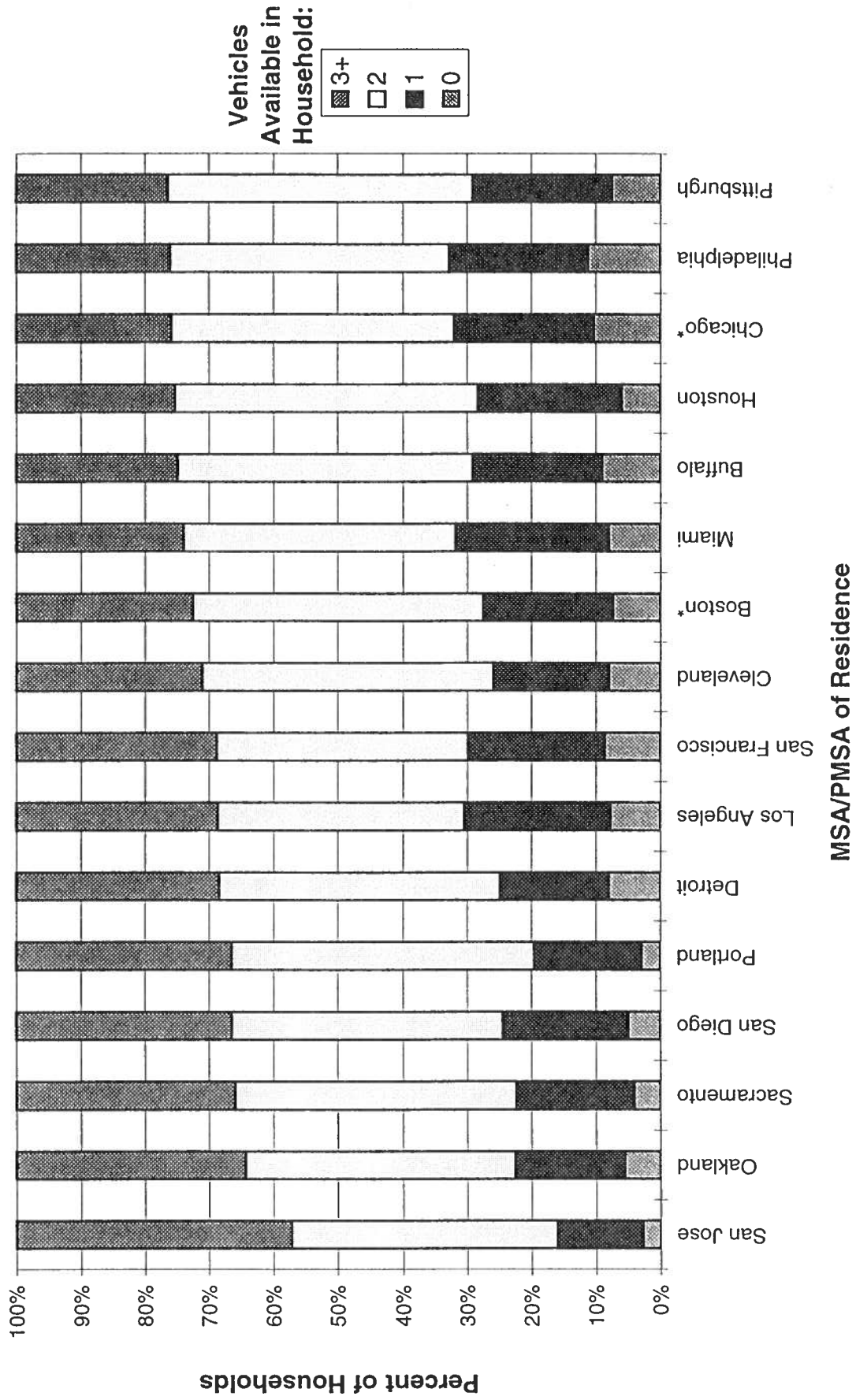


**Fig. 3. Vehicle Availability: Two-Person Households**  
 (Ranked by percent with 0 or 1 vehicles)



MSA/PMSA of Residence

**Fig. 4. Vehicle Availability: Three-or-More-Person Households**  
 (Ranked by percent with 3+ vehicles)



**VEHICLES AVAILABLE VS. WORKERS IN HOUSEHOLD**

2. No-worker households												
MSA/ PMSA of Residence	No Vehicles Available		0 or 1 Vehicles Available		2 Vehicles Available		3+ Vehicles Available		1 Vehicle Available		2+ Vehicles Available	
	Available	%	Available	%	Available	%	Available	%	Available	%	Available	%
Boston*	15.4%	36.1%	13.5%	51.4%	35.1%	37.8%	17.7%	44.5%	47.5%	49.1%	39.4%	47.5%
Buffalo	16.5%	37.0%	12.4%	53.5%	34.1%	37.0%	14.6%	45.1%	49.1%	49.1%	37.4%	49.1%
Chicago*	16.6%	35.3%	13.2%	51.9%	34.9%	34.9%	13.2%	44.1%	44.1%	44.1%	42.3%	44.1%
Cleveland	13.9%	34.9%	15.2%	48.8%	36.0%	36.0%	15.2%	48.8%	47.2%	47.2%	35.0%	47.2%
Detroit	12.1%	32.3%	17.7%	44.5%	37.8%	37.8%	17.7%	44.5%	48.1%	48.1%	32.2%	48.1%
Houston	8.2%	36.9%	40.3%	45.1%	40.3%	40.3%	14.6%	45.1%	50.0%	50.0%	24.5%	50.0%
Los Angeles	10.9%	35.4%	18.5%	46.3%	35.2%	35.2%	18.5%	46.3%	47.5%	47.5%	29.4%	47.5%
Miami	15.6%	37.0%	13.8%	52.5%	33.6%	33.6%	13.8%	52.5%	45.5%	45.5%	41.2%	45.5%
Oakland	9.8%	32.0%	20.8%	41.7%	37.5%	37.5%	20.8%	41.7%	45.7%	45.7%	28.1%	45.7%
Philadelphia	17.8%	35.0%	12.8%	52.8%	34.4%	34.4%	12.8%	52.8%	44.4%	44.4%	42.1%	44.4%
Pittsburgh	16.6%	37.5%	11.8%	54.1%	34.1%	34.1%	11.8%	54.1%	47.6%	47.6%	36.7%	47.6%
Portland	8.6%	31.9%	19.7%	40.5%	39.8%	39.8%	19.7%	40.5%	45.7%	45.7%	23.7%	45.7%
Sacramento	7.4%	32.2%	20.6%	39.6%	39.8%	39.8%	20.6%	39.6%	47.2%	47.2%	20.9%	47.2%
San Diego	7.7%	33.7%	19.6%	41.5%	39.0%	39.0%	19.6%	41.5%	49.7%	49.7%	21.4%	49.7%
San Francisco	17.4%	36.6%	31.0%	54.0%	31.0%	31.0%	15.0%	54.0%	42.5%	42.5%	38.4%	42.5%
San Jose	5.1%	28.1%	40.6%	33.3%	40.6%	40.6%	26.1%	33.3%	47.8%	47.8%	20.1%	47.8%

6. Workers in Household: Percent of All Households														
MSA/ PMSA of Residence	No-worker households		1-worker households		2-worker households		3+ worker households		1-worker households		2-worker households		3+ worker households	
	Available	%	Available	%	Available	%	Available	%	Available	%	Available	%	Available	%
Boston*	23.3%	23.3%	34.5%	34.5%	31.5%	31.5%	10.7%	10.7%	23.3%	23.3%	34.5%	34.5%	10.7%	10.7%
Buffalo	31.6%	31.6%	33.9%	33.9%	26.6%	26.6%	7.8%	7.8%	31.6%	31.6%	33.9%	33.9%	7.8%	7.8%
Chicago*	22.2%	22.2%	37.3%	37.3%	31.1%	31.1%	9.4%	9.4%	22.2%	22.2%	37.3%	37.3%	9.4%	9.4%
Cleveland	29.1%	29.1%	36.3%	36.3%	27.6%	27.6%	7.0%	7.0%	29.1%	29.1%	36.3%	36.3%	7.0%	7.0%
Detroit	27.9%	27.9%	36.1%	36.1%	28.0%	28.0%	8.0%	8.0%	27.9%	27.9%	36.1%	36.1%	8.0%	8.0%
Houston	16.6%	16.6%	44.2%	44.2%	32.2%	32.2%	7.0%	7.0%	16.6%	16.6%	44.2%	44.2%	7.0%	7.0%
Los Angeles	21.2%	21.2%	38.2%	38.2%	29.6%	29.6%	10.9%	10.9%	21.2%	21.2%	38.2%	38.2%	10.9%	10.9%
Miami	24.8%	24.8%	36.4%	36.4%	29.4%	29.4%	9.5%	9.5%	24.8%	24.8%	36.4%	36.4%	9.5%	9.5%
Oakland	22.0%	22.0%	37.0%	37.0%	32.9%	32.9%	8.1%	8.1%	22.0%	22.0%	37.0%	37.0%	8.1%	8.1%
Philadelphia	24.9%	24.9%	36.0%	36.0%	30.1%	30.1%	8.9%	8.9%	24.9%	24.9%	36.0%	36.0%	8.9%	8.9%
Pittsburgh	33.4%	33.4%	35.0%	35.0%	25.4%	25.4%	6.2%	6.2%	33.4%	33.4%	35.0%	35.0%	6.2%	6.2%
Portland	23.2%	23.2%	37.3%	37.3%	32.9%	32.9%	6.6%	6.6%	23.2%	23.2%	37.3%	37.3%	6.6%	6.6%
Sacramento	24.9%	24.9%	36.8%	36.8%	31.7%	31.7%	6.6%	6.6%	24.9%	24.9%	36.8%	36.8%	6.6%	6.6%
San Diego	22.5%	22.5%	36.2%	36.2%	32.5%	32.5%	8.7%	8.7%	22.5%	22.5%	36.2%	36.2%	8.7%	8.7%
San Francisco	22.7%	22.7%	37.8%	37.8%	30.3%	30.3%	9.2%	9.2%	22.7%	22.7%	37.8%	37.8%	9.2%	9.2%
San Jose	15.6%	15.6%	36.1%	36.1%	36.2%	36.2%	12.2%	12.2%	15.6%	15.6%	36.1%	36.1%	12.2%	12.2%

**3. 1-worker households**

MSA/ PMSA of Residence	No Vehicles Available		0 or 1 Vehicles Available		2 Vehicles Available		3+ Vehicles Available		1 Vehicle Available		2 Vehicles Available		3+ Vehicles Available	
	Available	%	Available	%	Available	%	Available	%	Available	%	Available	%	Available	%
Boston*	12.8%	50.8%	5.7%	63.6%	30.7%	50.8%	10.6%	50.2%	20.2%	16.9%	4.4%	20.2%	24.7%	13.6%
Buffalo	10.9%	48.0%	7.0%	58.8%	34.2%	58.8%	7.7%	58.8%	18.9%	20.0%	3.1%	18.9%	20.0%	11.1%
Chicago*	14.7%	48.6%	6.2%	63.3%	30.5%	63.3%	10.4%	57.8%	20.1%	24.6%	4.5%	20.1%	24.6%	15.8%
Cleveland	8.3%	47.4%	9.1%	55.7%	35.2%	55.7%	9.1%	55.7%	12.9%	14.9%	2.0%	12.9%	14.9%	7.4%
Detroit	6.9%	43.3%	10.6%	50.2%	39.1%	50.2%	10.6%	50.2%	10.2%	12.2%	2.0%	10.2%	12.2%	6.9%
Houston	7.0%	51.8%	7.7%	58.8%	33.5%	58.8%	7.7%	58.8%	15.3%	17.8%	2.5%	15.3%	17.8%	14.5%
Los Angeles	8.0%	49.8%	10.4%	57.8%	31.7%	57.8%	10.4%	57.8%	16.5%	20.1%	3.6%	16.5%	20.1%	17.7%
Miami	10.8%	52.4%	6.7%	63.2%	30.1%	63.2%	6.7%	63.2%	19.1%	23.0%	3.9%	19.1%	23.0%	14.1%
Oakland	7.3%	46.4%	12.5%	53.7%	33.8%	53.7%	12.5%	53.7%	12.7%	14.8%	2.1%	12.7%	14.8%	9.4%
Philadelphia	14.7%	47.3%	6.4%	62.0%	31.7%	62.0%	6.4%	62.0%	19.4%	24.6%	5.3%	19.4%	24.6%	16.2%
Pittsburgh	10.0%	47.0%	7.9%	57.0%	35.1%	57.0%	7.9%	57.0%	17.9%	20.7%	2.7%	17.9%	20.7%	12.0%
Portland	6.7%	44.9%	12.9%	51.7%	35.4%	51.7%	12.9%	51.7%	12.5%	14.1%	1.6%	12.5%	14.1%	7.5%
Sacramento	4.6%	45.1%	13.8%	49.7%	36.4%	49.7%	13.8%	49.7%	10.7%	12.2%	1.4%	10.7%	12.2%	7.2%
San Diego	5.8%	47.7%	11.6%	53.4%	35.0%	53.4%	11.6%	53.4%	14.1%	16.1%	2.0%	14.1%	16.1%	9.9%
San Francisco	16.3%	49.9%	8.2%	66.2%	25.6%	66.2%	8.2%	66.2%	22.0%	28.2%	6.2%	22.0%	28.2%	22.1%
San Jose	3.7%	45.5%	14.1%	49.1%	36.8%	49.1%	14.1%	49.1%	9.9%	11.2%	1.2%	9.9%	11.2%	7.6%

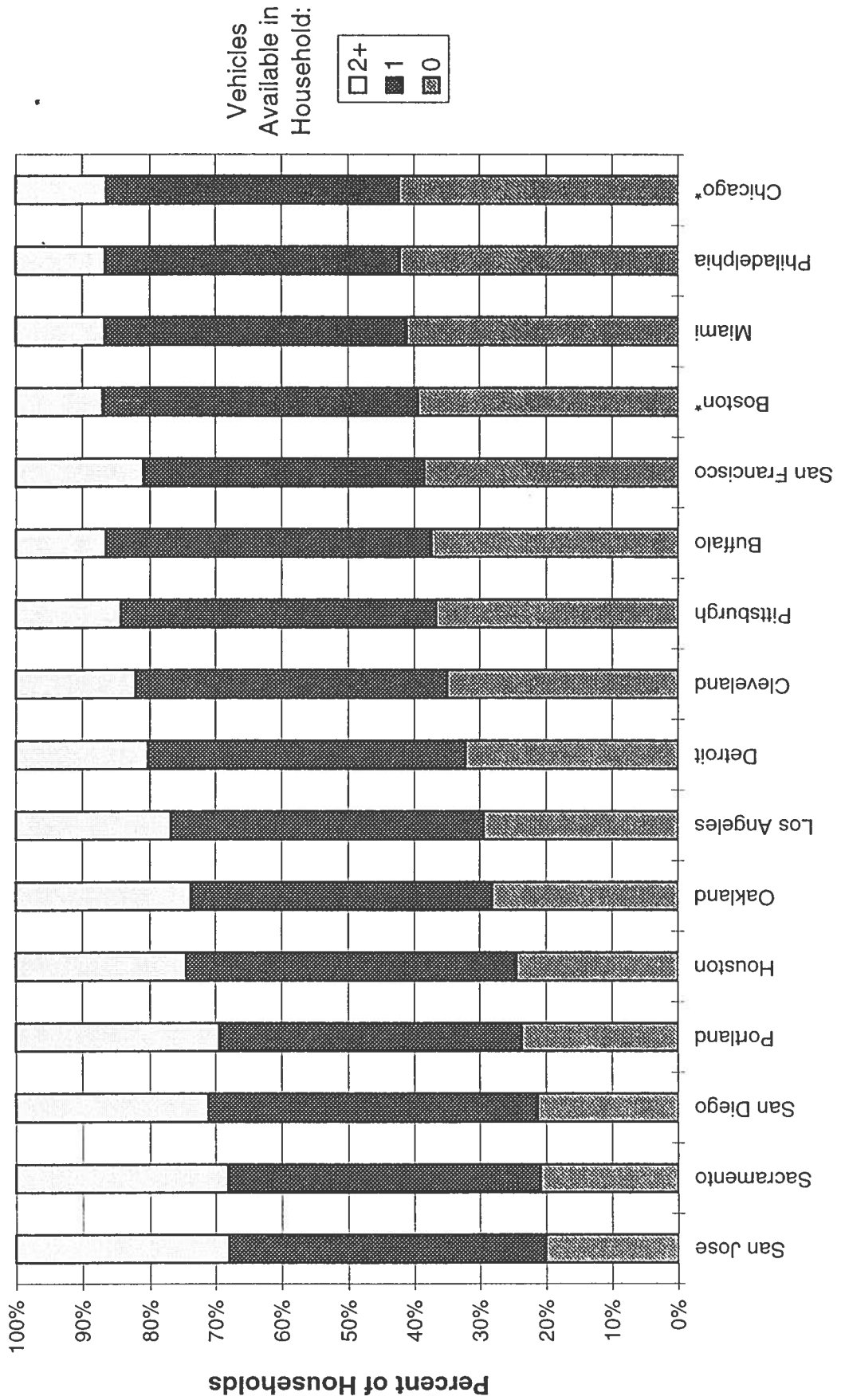
**4. 2-worker households**

MSA/ PMSA of Residence	No Vehicles Available		0 or 1 Vehicles Available		2 Vehicles Available		3+ Vehicles Available		1 Vehicle Available		2 Vehicles Available		3+ Vehicles Available	
	Available	%	Available	%	Available	%	Available	%	Available	%	Available	%	Available	%
Boston*	3.5%	10.2%	14.9%	60.4%	30.7%	60.4%	14.9%	60.4%	20.2%	17.3%	4.4%	20.2%	24.7%	13.6%
Buffalo	2.7%	8.4%	7.0%	62.7%	34.2%	62.7%	7.0%	62.7%	16.9%	20.0%	3.1%	16.9%	20.0%	11.1%
Chicago*	3.8%	12.0%	6.2%	59.0%	30.5%	59.0%	6.2%	59.0%	20.1%	24.6%	4.5%	20.1%	24.6%	15.8%
Cleveland	1.6%	5.8%	9.1%	62.0%	35.2%	62.0%	9.1%	62.0%	12.9%	14.9%	2.0%	12.9%	14.9%	7.4%
Detroit	1.8%	5.1%	10.6%	62.4%	39.1%	62.4%	10.6%	62.4%	10.2%	12.2%	2.0%	10.2%	12.2%	6.9%
Houston	3.1%	11.4%	7.7%	62.2%	33.5%	62.2%	7.7%	62.2%	15.3%	17.8%	2.5%	15.3%	17.8%	14.5%
Los Angeles	5.0%	12.7%	10.4%	55.7%	31.7%	55.7%	10.4%	55.7%	16.5%	20.1%	3.6%	16.5%	20.1%	17.7%
Miami	3.3%	10.9%	6.7%	59.2%	30.1%	59.2%	6.7%	59.2%	19.1%	23.0%	3.9%	19.1%	23.0%	14.1%
Oakland	2.2%	7.2%	12.5%	56.5%	33.8%	56.5%	12.5%	56.5%	12.7%	14.8%	2.1%	12.7%	14.8%	9.4%
Philadelphia	4.6%	11.6%	6.4%	60.5%	31.7%	60.5%	6.4%	60.5%	19.4%	24.6%	5.3%	19.4%	24.6%	16.2%
Pittsburgh	2.5%	9.5%	7.9%	60.5%	35.1%	60.5%	7.9%	60.5%	17.9%	20.7%	2.7%	17.9%	20.7%	12.0%
Portland	1.3%	6.2%	12.9%	58.7%	35.4%	58.7%	12.9%	58.7%	12.5%	14.1%	1.6%	12.5%	14.1%	7.5%
Sacramento	2.2%	7.2%	17.8%	59.2%	36.4%	59.2%	17.8%	59.2%	10.7%	12.2%	1.4%	10.7%	12.2%	7.2%
San Diego	4.6%	11.6%	16.4%	58.9%	35.0%	58.9%	16.4%	58.9%	14.1%	16.1%	2.0%	14.1%	16.1%	9.9%
San Francisco	5.0%	12.7%	8.2%	66.4%	25.6%	66.4%	8.2%	66.4%	22.0%	28.2%	6.2%	22.0%	28.2%	22.1%
San Jose	1.3%	6.2%	14.1%	57.8%	36.8%	57.8%	14.1%	57.8%	9.9%	11.2%	1.2%	9.9%	11.2%	7.6%

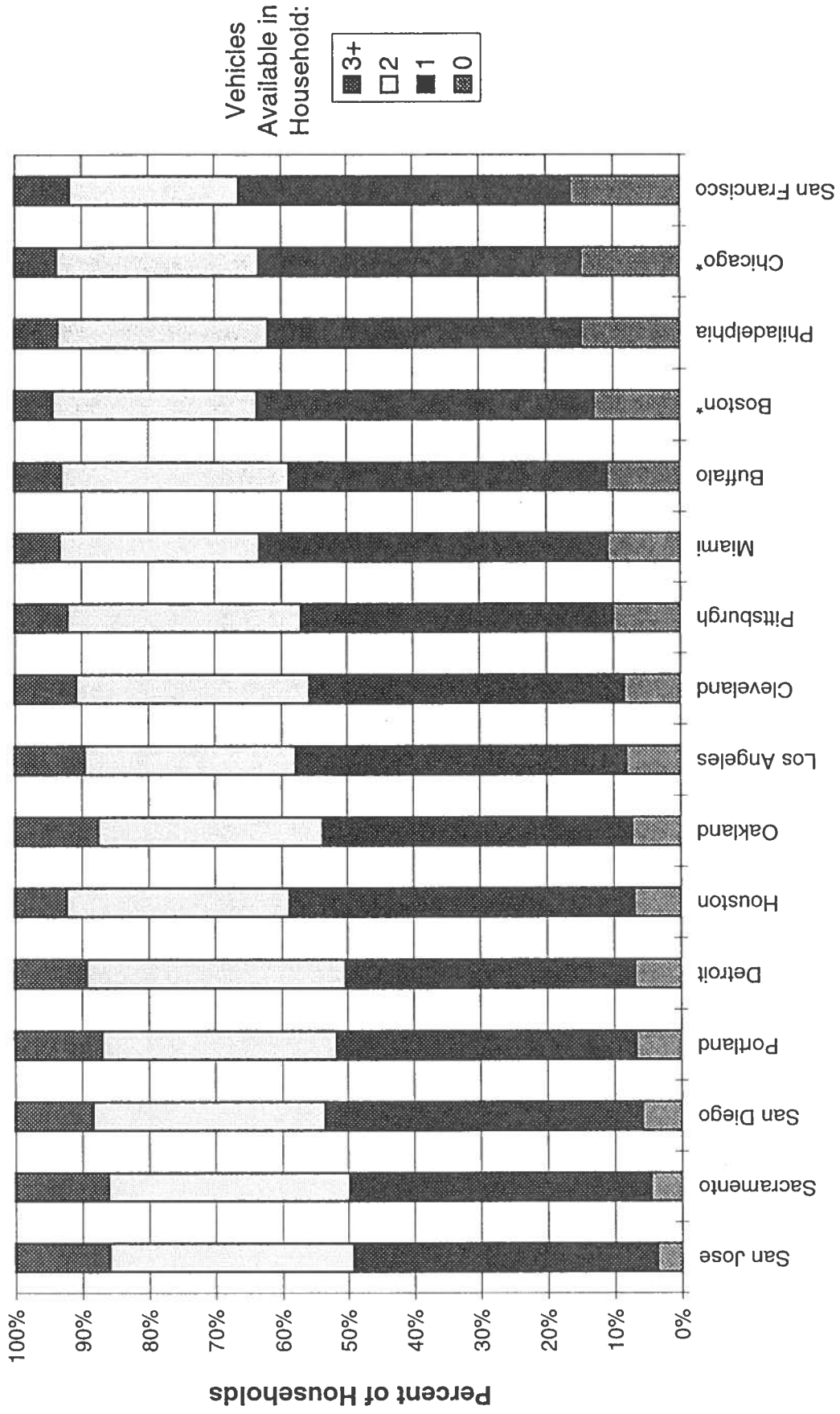
**5. 3+ worker households**

MSA/ PMSA of Residence	No Vehicles Available		0 or 1 Vehicles Available		2 Vehicles Available		3+ Vehicles Available		1 Vehicle Available		2 Vehicles Available		3+ Vehicles Available	
	Available	%	Available	%	Available	%	Available	%	Available	%	Available	%	Available	%
Boston*	3.5%	10.2%	14.9%	60.4%	30.7%	60.4%	14.9%	60.4%	20.2%	17.3%	4.4%	20.2%	24.7%	13.6%
Buffalo	2.7%	8.4%	7.0%	62.7%	34.2%	62.7%	7.0%	62.7%	16.9%	20.0%	3.1%	16.9%	20.0%	11.1%
Chicago*	3.8%	12.0%	6.2%	59.0%	30.5%	59.0%	6.2%	59.0%	20.1%	24.6%	4.5%	20.1%	24.6%	15.8%
Cleveland	1.6%	5.8%	9.1%	62.0%	35.2%	62.0%	9.1%	62.0%	12.9%	14.9%	2.0%	12.9%	14.9%	7.4%
Detroit	1.8%	5.1%	10.6%	62.4%	39.1%	62.4%	10.6%	62.4%	10.2%	12.2%	2.0%	10.2%	12.2%	6.9%
Houston	3.1%	11.4%	7.7%	62.2%	33.5%	62.2%	7.7%	62.2%	15.3%	17.8%	2.5%	15.3%	17.8%	14.5%
Los Angeles	5.0%	12.7%	10.4%	55.7%	31.7%	55.7%	10.4%	55.7%	16.5%	20.1%	3.6%	16.5%	20.1%	17.7%
Miami	3.3%	10.9%	6.7%	59.2%	30.1%	59.2%	6.7%	59.2%	19.1%	23.0%	3.9%	19.1%	23.0%	14.1%
Oakland	2.2%	7.2%	12.5%	56.5%	33.8%	56.5%	12.5%	56.5%	12.7%	14.8%	2.1%	12.7%	14.8%	9.4%
Philadelphia	4.6%	11.6%	6.4%	60.5%	31.7%	60.5%	6.4%	60.5%	19.4%	24.6%	5.3%	19.4%	24.6%	16.2%
Pittsburgh	2.5%	9.5%	7.9%	60.5%	35.1%	60.5%	7.9%	60.5%	17.9%	20.7%	2.7%	17.9%	20.7%	12.0%
Portland	1.3%	6.2%	12.9%	58.7%	35.4%	58.7%	12.9%	58.7%	12.5%	14.1%	1.6%	12.5%	14.1%	7.5%
Sacramento	2.2%	7.2%	17.8%	59.2%	36.4%	59.2%	17.8%	59.2%	10.7%	12.2%	1.4%	10.7%	12.2%	7.2%
San Diego	4.6%	11.6%	16.4%	58.9%	35.0%	58.9%	16.4%	58.9%	14.1%	16.1%	2.0%	14.1%	16.1%	9.9%
San Francisco	5.0%	12.7%	8.2%	66.4%	25.6%	66.4%	8.2%	66.4%	22.0%	28.2%	6.2%	22.0%	28.2%	22.1%
San Jose	1.3%	6.2%	14.1%	57.8%	36.8%	57.8%	14.1%	57.8%	9.9%	11.2%	1.2%	9.9%	11.2%	7.6%

**Fig. 1. Vehicle Availability: No-Worker Households**  
 (Ranked by percent with no vehicles)



**Fig. 2. Vehicle Availability: One-Worker Households**  
 (Ranked by percent with no vehicles)

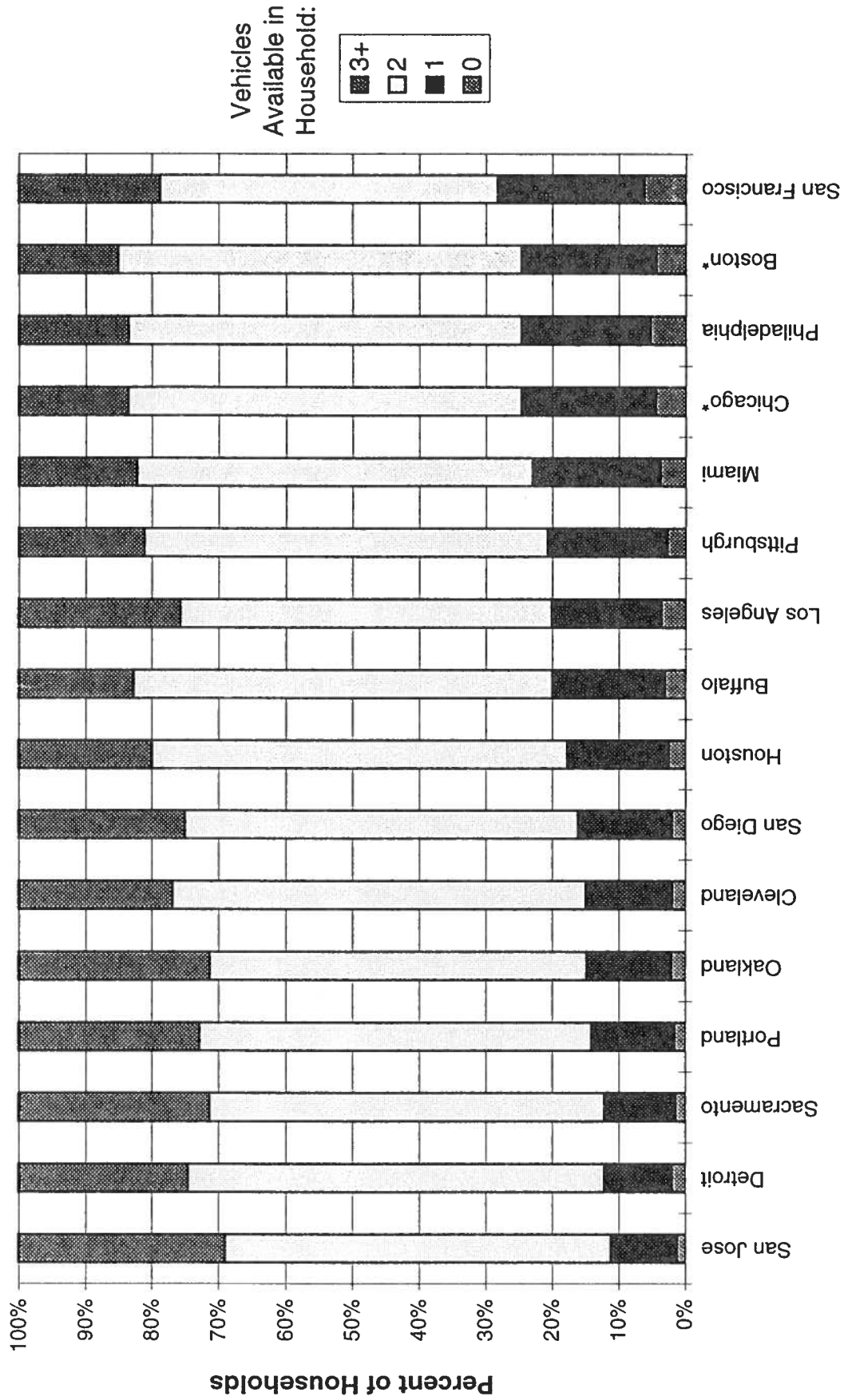


MSA/PMSA of Residence



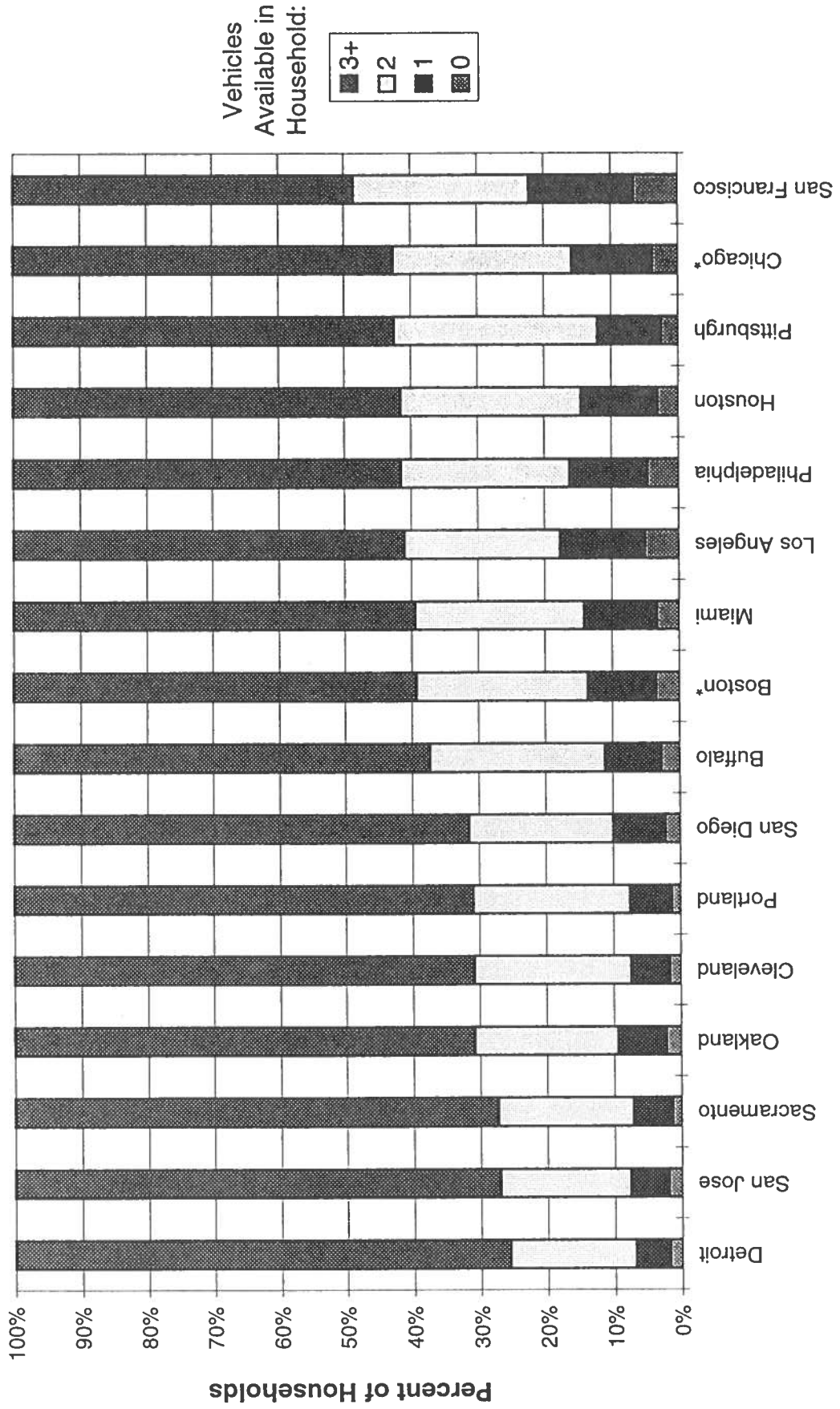
**Fig. 3. Vehicle Availability: Two-Worker Households**

(Ranked by percent with 0 or 1 vehicles)



MSA/PMSA of Residence

**Fig. 4. Vehicle Availability: Three-or-More-Worker Households**  
 (Ranked by percent with 3+ vehicles)



MSA/PMSA of Residence

**VEHICLES AVAILABLE IN HOUSEHOLD VS. HOUSEHOLD INCOME**

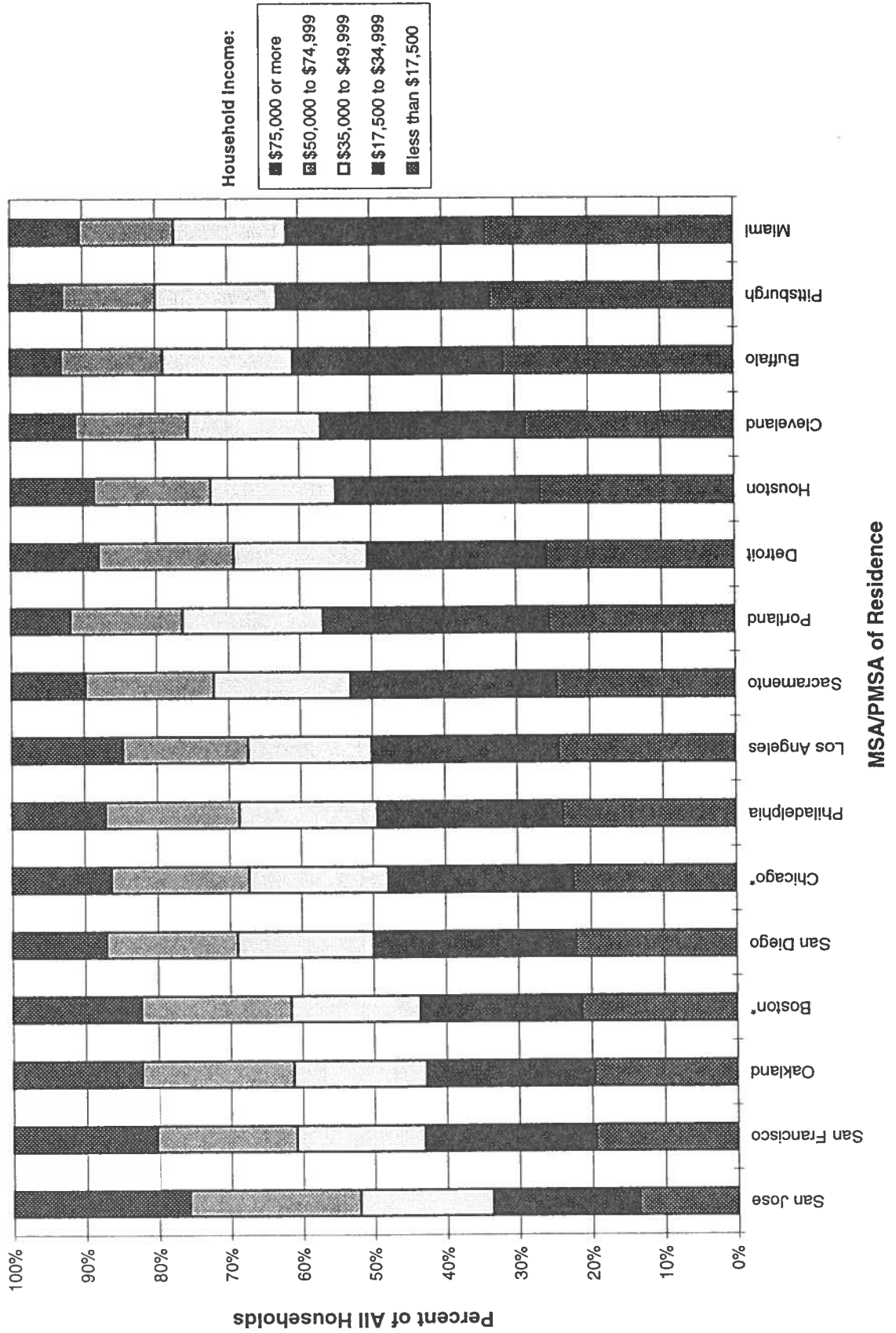
**1. Households: Income less than \$17,500**      **2. Households: Income \$17,500 to \$34,999**      **3. Households: Income \$35,000 to \$49,999**

MSA/ PMSA of Residence	1. Households: Income less than \$17,500				2. Households: Income \$17,500 to \$34,999				3. Households: Income \$35,000 to \$49,999				
	0 Vehicles	1 Vehicle	2 Vehicles	3+ Vehicles	0 Vehicles	1 Vehicle	2 Vehicles	3+ Vehicles	0 Vehicles	1 Vehicle	2 Vehicles	3+ Vehicles	0-1 Vehicle
Boston*	46.1%	44.8%	7.7%	1.4%	15.4%	55.9%	24.7%	4.0%	6.1%	39.4%	45.0%	9.5%	45.5%
Buffalo	42.7%	46.5%	9.3%	1.6%	7.7%	50.9%	34.7%	6.6%	2.7%	26.6%	54.4%	16.3%	29.3%
Chicago*	48.3%	41.9%	8.3%	1.6%	15.0%	53.8%	26.4%	4.8%	5.9%	34.1%	48.2%	11.8%	40.0%
Cleveland	39.2%	47.6%	11.0%	2.2%	7.0%	49.3%	35.3%	8.4%	2.3%	25.4%	53.2%	19.1%	27.7%
Detroit	37.4%	48.2%	11.9%	2.4%	6.4%	48.1%	36.9%	8.6%	2.7%	26.5%	52.9%	18.0%	29.2%
Houston	23.7%	55.4%	17.5%	3.4%	4.8%	50.2%	36.9%	8.0%	1.7%	26.9%	54.2%	17.2%	28.6%
Los Angeles	31.3%	49.9%	15.0%	3.7%	8.7%	49.9%	31.8%	9.6%	3.5%	33.0%	44.8%	18.8%	36.5%
Miami	36.3%	46.4%	14.3%	3.0%	8.4%	46.7%	34.8%	10.1%	3.3%	29.8%	48.1%	18.8%	33.1%
Oakland	34.0%	48.8%	13.5%	3.7%	9.1%	51.2%	30.6%	9.1%	3.0%	31.9%	46.1%	19.0%	34.9%
Philadelphia	49.5%	40.9%	8.1%	1.4%	15.8%	53.0%	26.7%	4.5%	6.2%	35.2%	48.0%	10.6%	41.5%
Pittsburgh	40.3%	46.2%	11.4%	2.1%	8.2%	48.6%	35.8%	7.4%	2.8%	28.3%	52.2%	16.8%	31.1%
Portland	25.8%	51.3%	18.0%	4.9%	5.0%	41.1%	40.4%	13.5%	1.5%	19.5%	53.5%	25.6%	21.0%
Sacramento	22.9%	52.7%	19.0%	5.4%	4.4%	42.8%	39.7%	13.1%	1.7%	23.1%	51.6%	23.6%	24.8%
San Diego	25.2%	53.1%	17.2%	4.5%	5.3%	47.8%	36.8%	10.1%	2.0%	26.7%	50.7%	20.6%	28.7%
San Francisco	47.8%	40.0%	9.8%	2.5%	21.2%	51.4%	21.9%	5.5%	9.6%	44.0%	34.0%	12.4%	53.5%
San Jose	24.2%	51.6%	18.9%	5.3%	5.5%	49.3%	34.5%	10.7%	2.1%	32.1%	45.5%	20.3%	34.2%

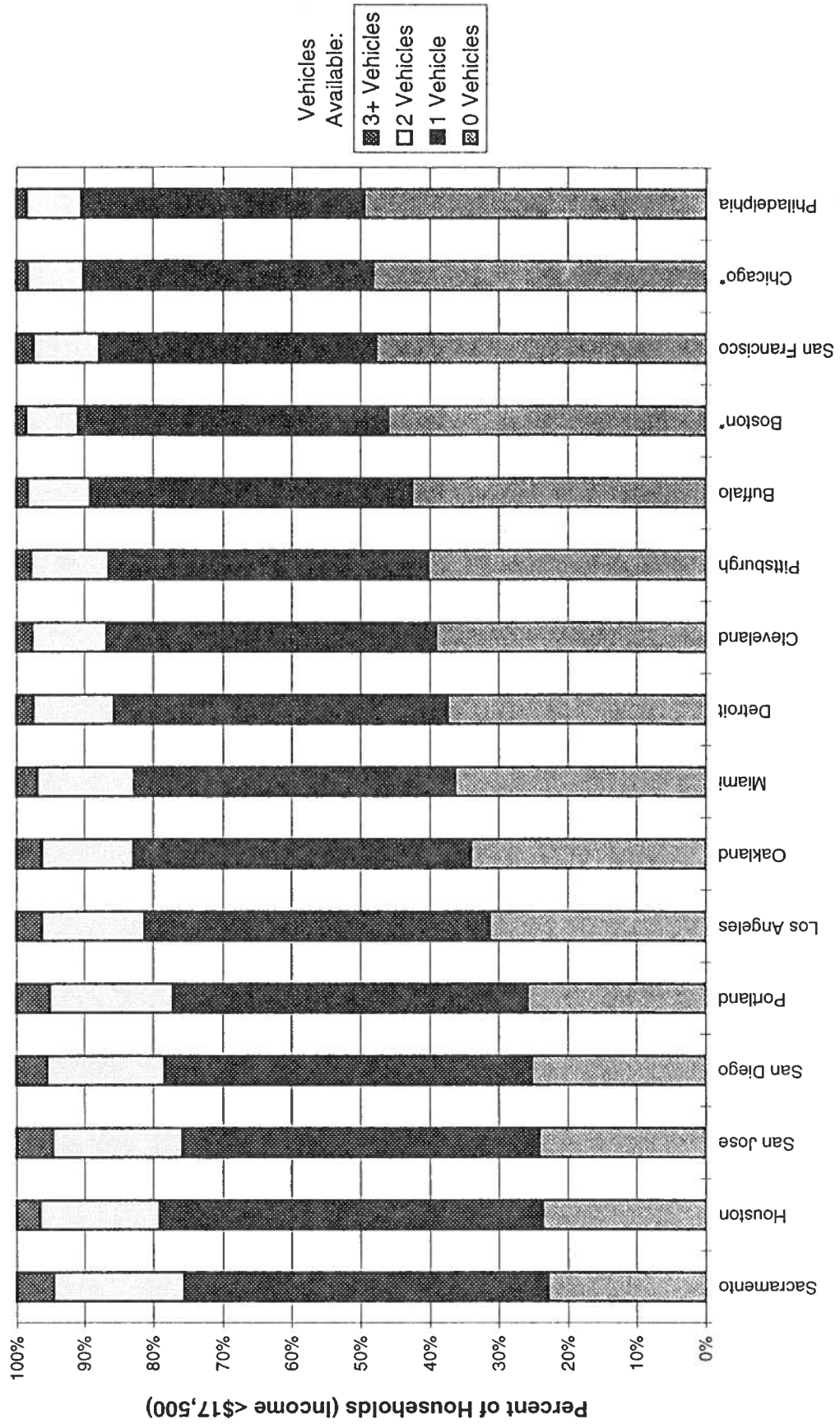
**4. Households: Income \$50,000 to \$74,999**      **5. Households: Income \$75,000 or more**

MSA/ PMSA of Residence	4. Households: Income \$50,000 to \$74,999				5. Households: Income \$75,000 or more			
	0 Vehicles	1 Vehicle	2 Vehicles	3+ Vehicles	0 Vehicles	1 Vehicle	2 Vehicles	3+ Vehicles
Boston*	3.2%	22.9%	54.0%	19.9%	1.9%	12.6%	48.9%	36.6%
Buffalo	1.8%	14.0%	54.3%	30.0%	1.3%	9.0%	50.1%	39.6%
Chicago*	3.1%	19.3%	54.5%	23.2%	2.0%	14.0%	48.2%	35.8%
Cleveland	1.2%	12.3%	54.5%	32.0%	0.8%	7.8%	50.4%	41.1%
Detroit	1.4%	12.1%	54.2%	32.3%	0.9%	6.5%	46.7%	45.9%
Houston	0.9%	13.9%	58.7%	26.5%	0.5%	8.7%	55.0%	35.8%
Los Angeles	1.7%	18.2%	49.5%	30.6%	1.0%	10.1%	45.9%	42.9%
Miami	2.1%	17.7%	51.8%	28.4%	1.5%	13.5%	50.2%	34.8%
Oakland	1.4%	15.5%	51.8%	31.3%	0.8%	8.0%	47.0%	44.2%
Philadelphia	3.2%	18.9%	55.1%	22.8%	1.8%	11.0%	47.8%	39.4%
Pittsburgh	1.3%	16.1%	55.2%	27.4%	1.1%	11.6%	52.4%	34.9%
Portland	0.8%	10.1%	52.4%	36.7%	0.6%	7.3%	49.1%	43.0%
Sacramento	0.9%	11.0%	51.7%	36.3%	0.6%	7.1%	46.9%	45.3%
San Diego	1.0%	13.6%	51.6%	33.7%	0.8%	8.8%	46.0%	44.4%
San Francisco	4.9%	28.4%	44.9%	21.8%	2.1%	17.2%	46.6%	34.1%
San Jose	1.0%	15.5%	50.7%	32.8%	0.6%	6.8%	44.1%	48.5%

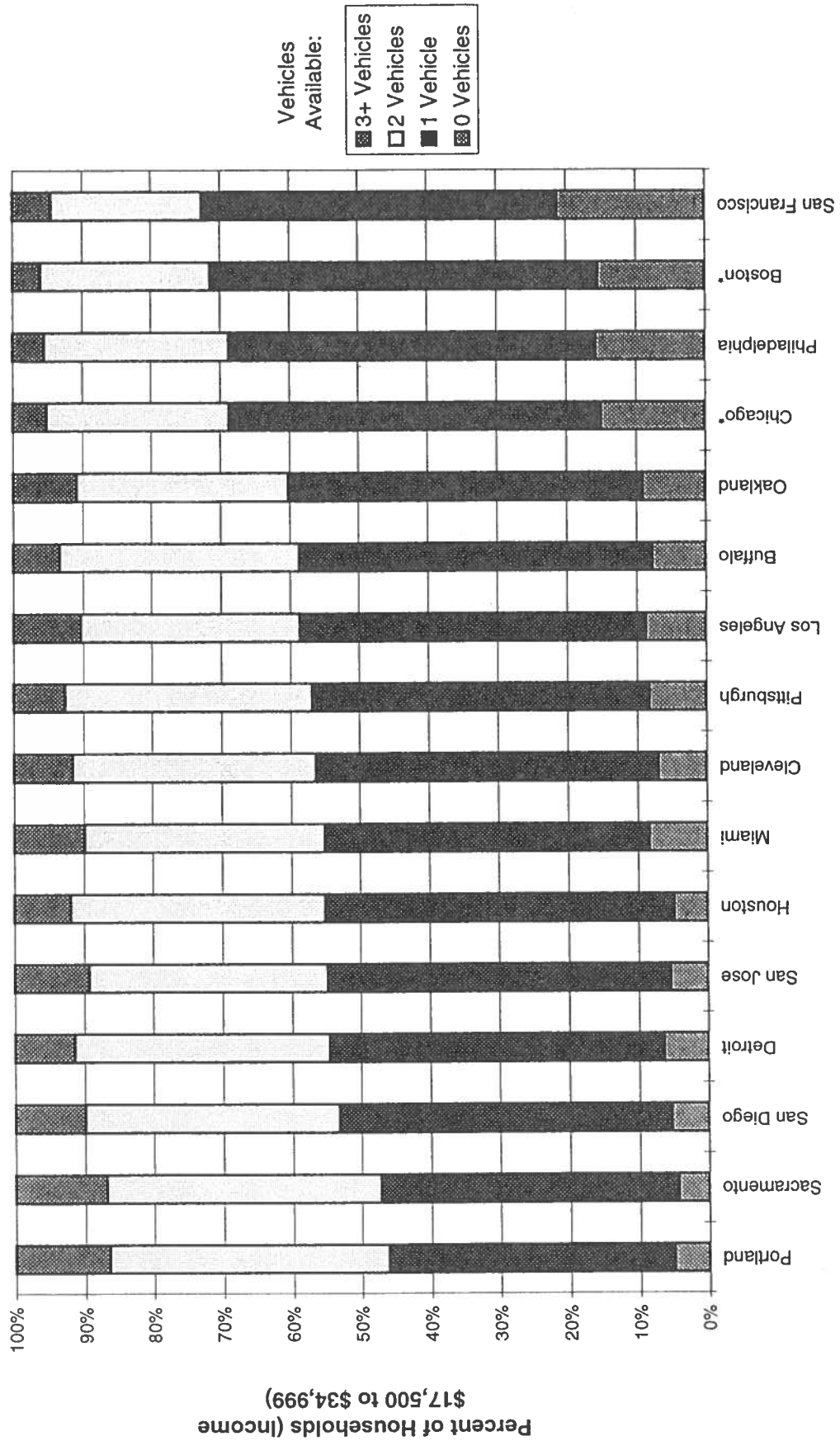
**Fig. 1. Household Income of Households**  
 (Sorted by percent less than \$17,500)



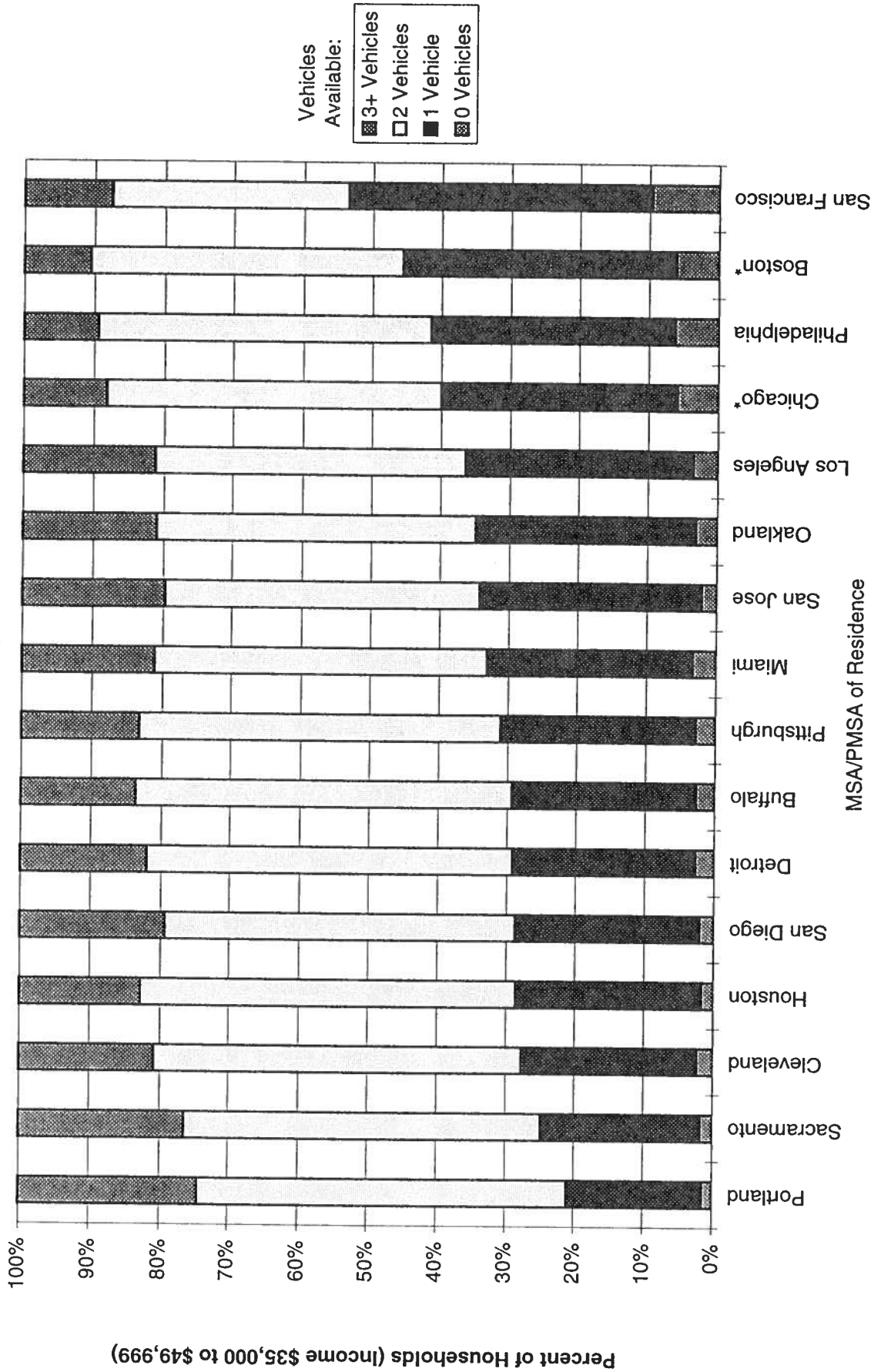
**Fig. 2. Vehicles Available vs. Household Income: Household Income < \$17,500**  
 (Sorted by 0 Vehicles Available)



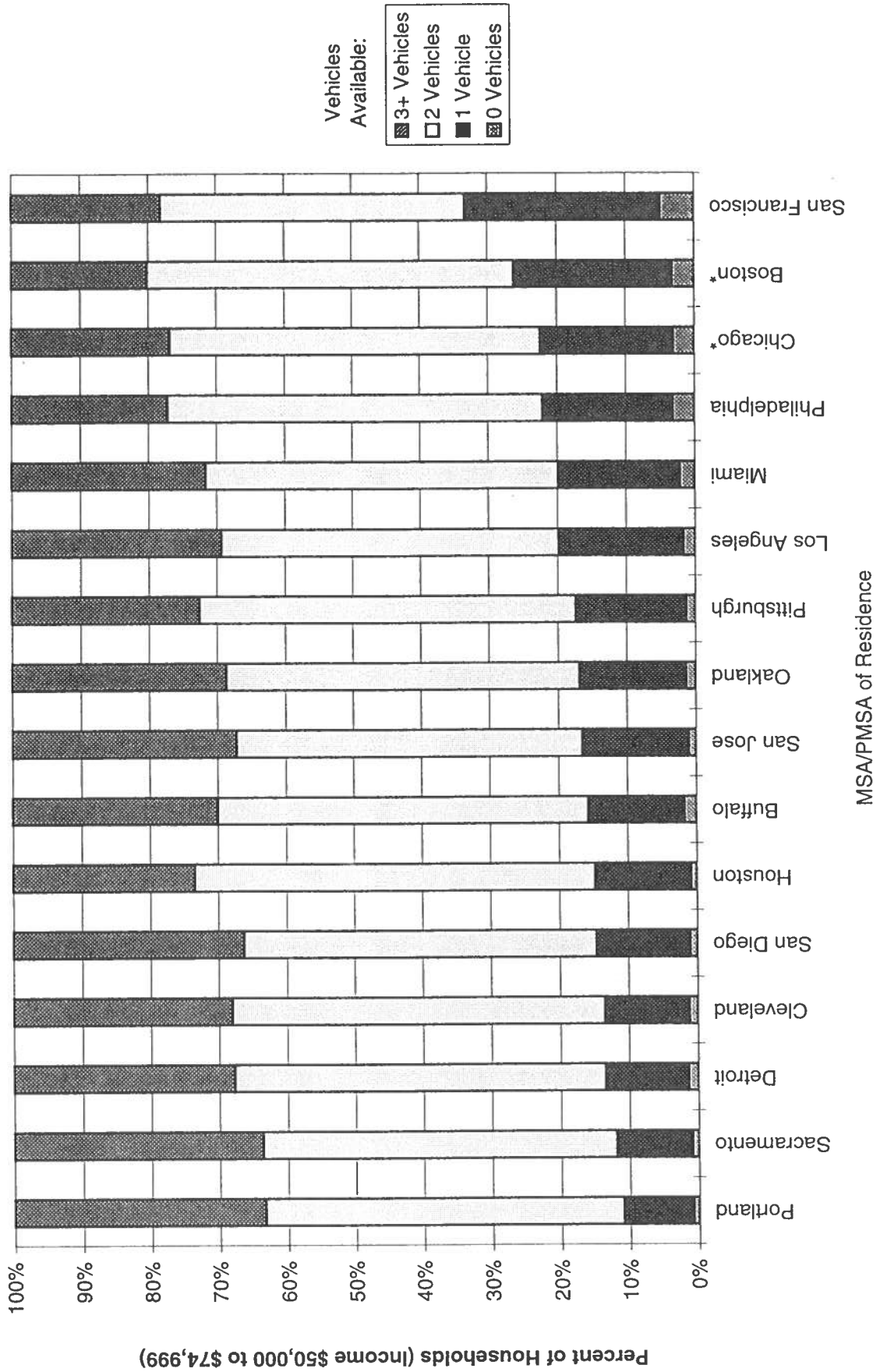
**Fig. 3. Vehicles Available vs. Household Income:**  
**Household Income \$17,500 - \$34,999**  
 (Sorted by 0 or 1 Vehicles Available)



**Fig. 4. Vehicles Available vs. Household Income:**  
**Household Income \$35,000 to \$49,999**  
 (Sorted by 0 or 1 Vehicles Available)

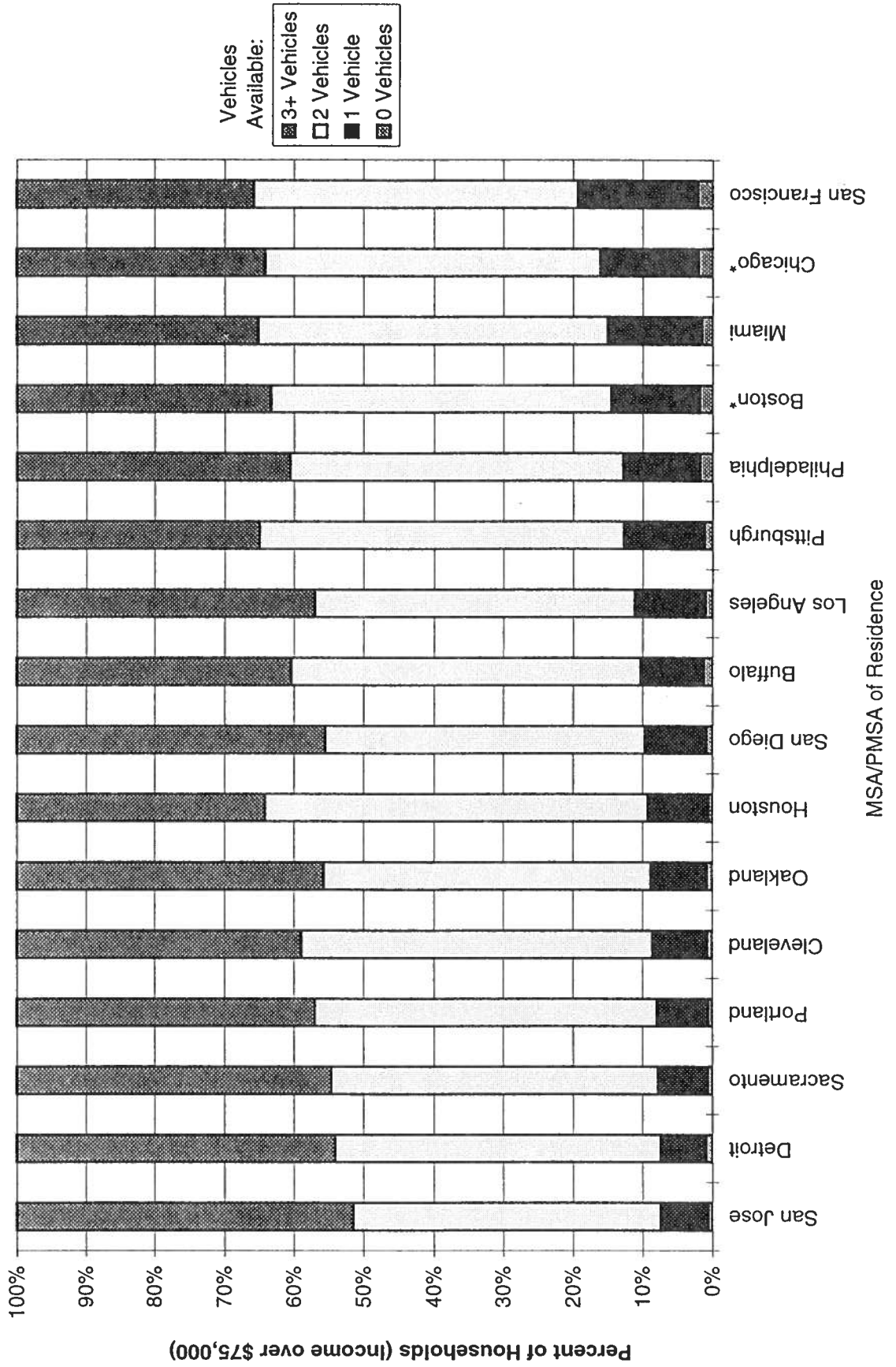


**Fig. 5. Vehicles Available vs. Household Income:**  
**Household Income \$50,000 to \$74,999**  
 (Sorted by 0 or 1 Vehicles Available)

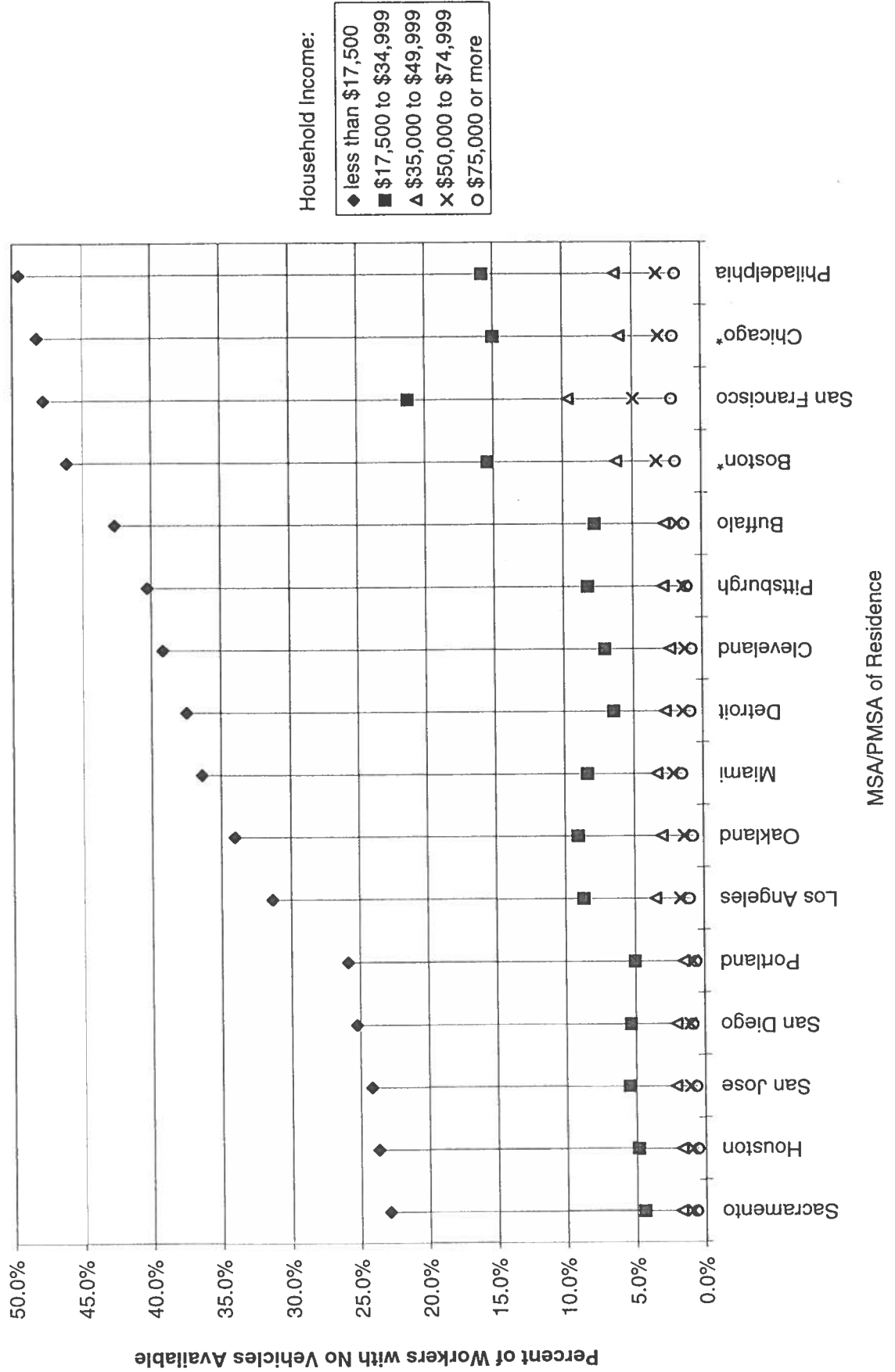




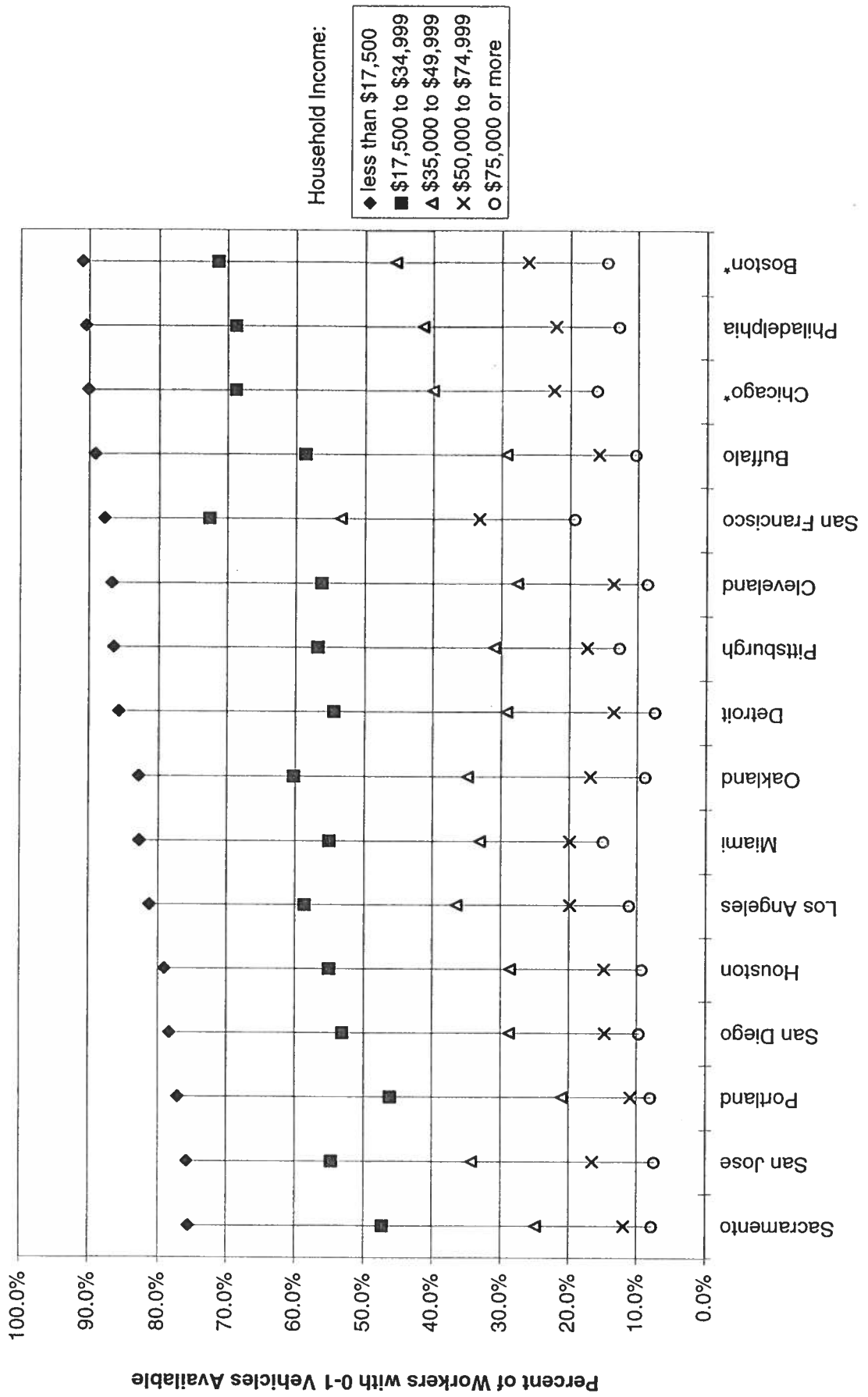
**Fig. 6. Vehicles Available vs. Household Income:**  
**Household Income over \$75,000**  
 (Sorted by 0 or 1 Vehicles Available)



**Fig. 7. Vehicle Availability vs. Household Income: No Vehicles**  
 (Sorted by Income <\$17,500)



**Fig. 8. Vehicle Availability vs. Household Income: 0-1 Vehicles**  
 (Sorted by Income <\$17,500)



## DIFFERENCES IN MODE USE BY GENDER

(Detailed, by Type of Public Transit)

1. Percent Female of Total Workers Using Mode

MSA/PMSA of Residence	Drove Alone				Public Transit			Bicycle/Walk			Worked at Home			Streetcar/Subway		Railroad <sup>1</sup>
	All Modes	Carpool	Transit	Walk	Other	Home	Bus	Subway	Railroad							
Boston*	47.6%	49.9%	56.3%	51.0%	45.9%	57.3%	60.2%	55.7%	45.8%							
Buffalo	46.9%	51.9%	61.8%	51.2%	42.4%	53.7%	63.1%	49.0%								
Chicago*	45.4%	47.8%	53.2%	47.6%	42.5%	55.5%	59.1%	50.2%	44.4%							
Cleveland	46.5%	52.2%	60.2%	50.0%	39.8%	55.4%	61.6%	48.2%	52.0%							
Detroit	45.3%	48.8%	54.3%	46.7%	43.8%	61.3%	54.4%	40.3%								
Houston	43.3%	44.6%	56.1%	39.1%	32.2%	58.2%	56.3%	31.8%								
Los Angeles	43.0%	43.8%	53.0%	42.8%	30.3%	52.8%	53.1%	41.4%	37.5%							
Miami	45.7%	50.0%	59.3%	46.4%	42.7%	54.0%	60.2%	56.2%	46.3%							
Oakland	45.5%	46.6%	51.9%	43.5%	35.2%	47.6%	56.0%	49.5%	40.2%							
Philadelphia	46.3%	47.6%	56.3%	49.7%	38.0%	51.6%	60.8%	56.1%	43.0%							
Pittsburgh	45.7%	47.9%	62.4%	50.8%	37.2%	54.0%	63.3%	52.2%								
Portland	45.0%	46.0%	57.0%	41.8%	26.0%	58.1%	56.8%	57.5%	62.8%							
Sacramento	45.8%	46.4%	56.7%	40.7%	27.3%	60.2%	57.6%	50.6%	62.8%							
San Diego	41.5%	41.9%	48.1%	27.2%	20.3%	38.9%	48.6%	45.2%	22.3%							
San Francisco	45.6%	48.5%	54.4%	43.8%	33.5%	50.5%	56.6%	50.4%	41.3%							
San Jose	43.2%	45.9%	42.0%	39.3%	26.8%	59.3%	42.7%	32.9%	39.8%							

2. Ratio: Percent Female Using Mode to Percent Female of All Workers<sup>2</sup>

MSA/PMSA of Residence	Drove Alone				Public Transit			Bicycle/Walk			Worked at Home			Streetcar/Subway		Railroad
	All Modes	Carpool	Transit	Walk	Other	Home	Bus	Subway	Railroad							
Boston*	0.95	1.05	1.18	1.07	0.97	1.21	1.26	1.17	0.96							
Buffalo	0.95	1.11	1.32	1.09	0.90	1.15	1.35	1.05								
Chicago*	0.94	1.05	1.17	1.05	0.93	1.22	1.30	1.11	0.98							
Cleveland	0.95	1.12	1.30	1.08	0.86	1.19	1.32	1.04	1.12							
Detroit	0.98	1.08	1.20	1.03	0.97	1.35	1.20	0.89								
Houston	0.98	1.03	1.30	0.90	0.74	1.34	1.30	0.73								
Los Angeles	0.97	1.02	1.23	1.00	0.70	1.23	1.23	0.96	0.87							
Miami	0.95	1.09	1.30	1.01	0.93	1.18	1.32	1.23	1.01							
Oakland	0.98	1.02	1.14	0.96	0.77	1.05	1.23	1.09	0.88							
Philadelphia	0.95	1.03	1.22	1.07	0.82	1.12	1.31	1.21	0.93							
Pittsburgh	0.94	1.05	1.36	1.11	0.81	1.18	1.38	1.14								
Portland	0.97	1.02	1.27	0.93	0.58	1.29	1.26	1.28	1.40							
Sacramento	0.99	1.01	1.24	0.89	0.60	1.31	1.26	1.10	1.37							
San Diego	1.03	1.01	1.16	0.66	0.49	0.94	1.17	1.09	0.54							
San Francisco	0.93	1.06	1.19	0.96	0.73	1.11	1.24	1.10	0.91							
San Jose	0.99	1.06	0.97	0.91	0.62	1.37	0.99	0.76	0.92							
Unweighted Average	0.97	1.05	1.22	0.98	0.78	1.20	1.26	1.06	0.99							

<sup>1</sup>Data omitted for Buffalo, Detroit, Houston, and Pittsburgh due to negligible railroad ridership (see Table A30).<sup>2</sup>EXAMPLE: 45.2 percent of workers in Boston who drove alone were female, while 47.6 percent of all workers in Boston were female, for a ratio of 0.95.

MODE TO WORK

A. MODE USE: PERCENT OF WORKERS USING MODE

MSA/PMSA of Residence	Public Transit:							Worked at			Walk/Bicycle:		
	Drove Alone	Carpool	Public Transit	Walk/Bicycle	Other	Home	Streetcar	Subway	Railroad	Walk	Bicycle		
Boston*	68.9%	10.2%	11.3%	6.2%	0.9%	2.5%	0.9%	4.7%	1.3%	5.8%	0.4%		
Buffalo	76.3%	11.4%	5.2%	4.6%	0.7%	1.9%	0.0%	0.5%	0.0%	4.4%	0.2%		
Chicago*	66.3%	11.9%	14.3%	4.3%	0.9%	2.1%	0.1%	3.3%	3.7%	4.1%	0.2%		
Cleveland	77.7%	10.5%	6.1%	3.0%	0.6%	2.0%	0.2%	0.4%	0.1%	2.9%	0.1%		
Detroit	83.4%	10.1%	2.3%	2.0%	0.6%	1.6%	0.0%	0.0%	0.0%	1.9%	0.1%		
Houston	75.7%	14.6%	4.0%	2.5%	1.1%	2.1%	0.0%	0.0%	0.0%	2.3%	0.3%		
Los Angeles	70.1%	15.5%	6.4%	3.9%	1.3%	2.7%	0.0%	0.0%	0.0%	3.3%	0.6%		
Miami	72.4%	15.6%	5.7%	3.0%	1.3%	2.0%	0.0%	0.7%	0.1%	2.5%	0.5%		
Oakland	68.6%	13.2%	9.0%	4.1%	1.4%	3.7%	0.1%	4.7%	0.4%	3.1%	1.0%		
Philadelphia	67.8%	11.9%	11.5%	5.8%	0.8%	2.3%	0.4%	2.7%	2.1%	5.4%	0.3%		
Pittsburgh	70.7%	12.9%	8.4%	5.3%	0.6%	2.1%	0.5%	0.2%	0.0%	5.1%	0.1%		
Portland	73.8%	12.3%	5.4%	3.9%	0.9%	3.8%	0.2%	0.1%	0.1%	3.3%	0.6%		
Sacramento	75.2%	13.7%	2.4%	4.5%	1.1%	3.1%	0.3%	0.1%	0.1%	2.7%	1.8%		
San Diego	70.9%	13.8%	3.2%	5.4%	1.8%	5.0%	0.2%	0.0%	0.0%	4.5%	0.9%		
San Francisco	56.3%	12.2%	19.0%	6.7%	1.9%	3.8%	1.5%	3.0%	0.8%	5.9%	0.8%		
San Jose	77.7%	12.3%	2.9%	3.5%	1.0%	2.5%	0.0%	0.1%	0.4%	2.1%	1.5%		

B. MODE USE: ABSOLUTE NUMBER OF WORKERS USING MODE

MSA/PMSA of Residence	Public Transit:							Worked at			Walk/Bicycle:		
	Drove Alone	Carpool	Public Transit	Walk/Bicycle	Other	Home	Streetcar	Subway	Railroad	Walk	Bicycle		
Boston*	1,328,894	197,726	218,175	119,915	17,425	47,828	17,213	90,054	25,497	111,300	8,615		
Buffalo	330,113	49,174	22,537	19,900	3,107	8,052	143	2,025	32	18,995	905		
Chicago*	2,335,385	420,833	505,302	152,763	32,587	75,224	3,404	117,511	129,993	145,137	7,626		
Cleveland	640,252	86,436	50,504	25,069	5,016	16,407	1,720	2,899	488	24,147	922		
Detroit	1,609,792	195,425	43,803	38,648	11,653	31,832	303	146	69	36,429	2,219		
Houston	1,200,072	231,772	63,304	39,892	16,867	32,942	128	278	63	35,672	4,220		
Los Angeles	2,884,615	639,570	265,029	159,893	53,344	112,797	1,320	574	403	133,927	25,966		
Miami	642,669	138,328	50,818	26,717	11,373	18,091	340	6,359	1,155	22,454	4,263		
Oakland	709,529	136,261	93,556	42,359	14,120	38,539	758	48,660	3,944	32,507	9,852		
Philadelphia	1,545,143	271,619	263,149	131,394	17,209	52,045	9,748	62,076	47,324	124,054	7,340		
Pittsburgh	623,150	114,093	74,230	46,368	5,697	18,086	4,335	1,899	18	45,310	1,058		
Portland	534,543	88,975	38,837	28,134	6,737	27,306	1,518	396	645	23,725	4,409		
Sacramento	515,966	93,834	16,150	30,841	7,816	21,338	2,068	658	973	18,401	12,440		
San Diego	872,325	169,326	39,376	66,534	21,600	61,285	2,543	143	373	55,749	10,785		
San Francisco	481,119	104,564	162,191	57,366	16,535	32,173	116,425	25,981	7,178	50,208	7,158		
San Jose	618,995	98,163	23,425	28,184	7,852	19,986	373	420	3,194	16,509	11,675		

**MODE TO WORK**

**A. MODE USE: RANK BY PERCENT OF WORKERS USING MODE**

MSA/PMSA of Residence	Public Transit:										Walk/Bicycle:	
	Drove Alone	Carpool	Public Transit	Walk/Bicycle	Other	Worked at Home	Bus	Streetcar	Subway	Railroad	Walk	Bicycle
Boston*	12	15	4	2	11	8	10	2	2	3	2	9
Buffalo	4	13	11	6	13	15	9	13	7	13	6	13
Chicago*	15	11	2	8	10	10	3	9	3	1	7	12
Cleveland	2	14	8	13	15	14	6	7	8	10	11	16
Detroit	1	16	16	16	16	16	15	15	16	15	16	15
Houston	5	3	12	15	7	11	11	16	13	14	14	11
Los Angeles	11	2	7	10	4	6	4	14	14	12	9	6
Miami	8	1	9	14	5	13	8	12	6	8	13	8
Oakland	13	6	5	9	3	4	12	10	1	6	10	3
Philadelphia	14	12	3	3	12	9	5	4	5	2	3	10
Pittsburgh	10	7	6	5	14	12	2	3	9	16	4	14
Portland	7	9	10	11	9	2	7	6	11	9	8	7
Sacramento	6	5	15	7	6	5	16	5	10	7	12	1
San Diego	9	4	13	4	2	1	13	8	15	11	5	4
San Francisco	16	10	1	1	1	3	1	1	4	4	1	5
San Jose	3	8	14	12	8	7	14	11	12	5	15	2

**B. MODE USE: RANK BY ABSOLUTE NUMBER OF WORKERS USING MODE**

MSA/PMSA of Residence	Public Transit:										Walk/Bicycle:	
	Drove Alone	Carpool	Public Transit	Walk/Bicycle	Other	Worked at Home	Bus	Streetcar	Subway	Railroad	Walk	Bicycle
Boston*	5	5	4	4	4	5	5	1	2	3	4	6
Buffalo	16	16	15	16	16	16	14	15	8	15	14	16
Chicago*	2	2	1	2	2	2	2	5	1	1	1	7
Cleveland	10	15	10	15	15	15	8	8	7	10	11	15
Detroit	3	6	11	10	9	9	9	14	15	13	8	13
Houston	6	4	8	9	6	7	7	16	14	14	9	12
Los Angeles	1	1	2	1	1	1	1	10	11	11	2	1
Miami	9	8	9	14	10	13	10	13	6	7	13	11
Oakland	8	9	6	8	8	6	11	11	4	5	10	5
Philadelphia	4	3	3	3	5	4	3	3	3	2	3	8
Pittsburgh	11	10	7	7	14	14	6	4	9	16	7	14
Portland	13	14	13	13	13	10	13	9	13	9	12	10
Sacramento	14	13	16	11	12	11	16	7	10	8	15	2
San Diego	7	7	12	5	3	3	12	6	16	12	5	4
San Francisco	15	11	5	6	7	8	4	2	5	4	6	9
San Jose	12	12	14	12	11	12	15	12	12	6	16	3

**TIME LEAVING HOME FOR WORK**

**1. Percent of All Workers Leaving by Half-Hour Time Period**

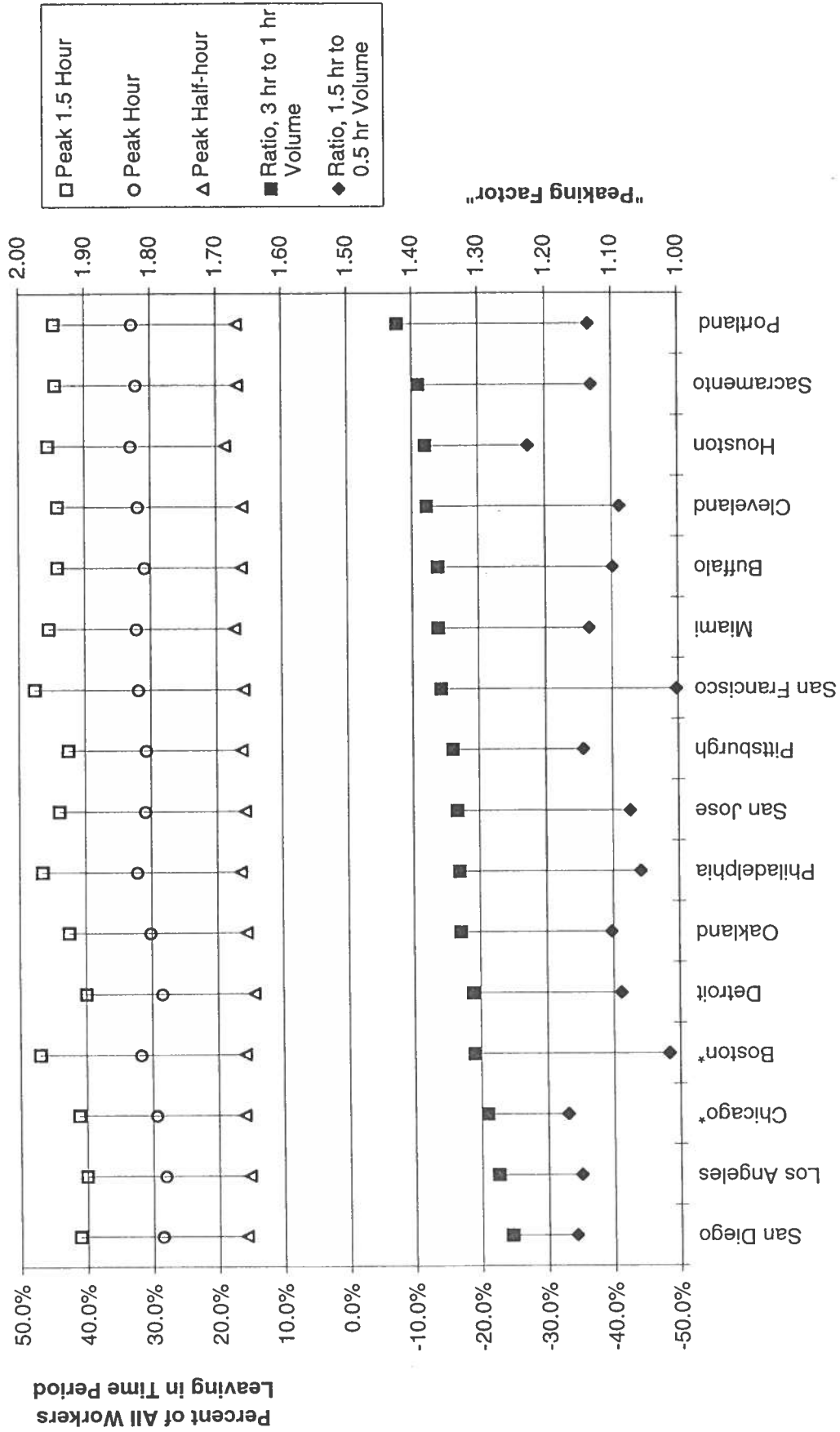
MSA/ PMSA of Residence	3. Percent of All Workers Leaving in...											
	5:30 to 5:59 AM	6:00 to 6:29 AM	6:30 to 6:59 AM	7:00 to 7:29 AM	7:30 to 7:59 AM	8:00 to 8:29 AM	8:30 to 8:59 AM	9:00 to 9:29 AM	Total, 5:30 to 9:29 AM	Peak Half-Hour	Peak 2 Half-Hours	Peak 3 Half-Hours
Boston*	2.7%	7.4%	10.3%	15.9%	15.3%	15.8%	7.9%	4.7%	79.9%	15.9%	31.7%	47.0%
Buffalo	2.5%	6.4%	10.1%	14.7%	16.2%	13.3%	7.3%	4.2%	74.6%	16.2%	30.8%	44.1%
Chicago*	4.4%	10.3%	11.5%	16.0%	13.3%	11.7%	5.4%	3.8%	76.5%	16.0%	29.4%	41.1%
Cleveland	3.4%	7.8%	11.1%	16.0%	15.8%	12.3%	6.2%	4.2%	76.9%	16.0%	31.8%	44.2%
Detroit	4.2%	8.1%	10.9%	14.5%	13.9%	11.5%	6.0%	4.1%	73.3%	14.5%	28.4%	39.9%
Houston	4.4%	10.9%	12.7%	18.6%	14.3%	10.5%	4.4%	3.8%	79.7%	18.6%	32.8%	45.6%
Los Angeles	4.9%	9.8%	10.6%	15.3%	12.7%	12.0%	5.6%	5.2%	76.1%	15.3%	28.0%	40.0%
Miami	2.6%	8.2%	10.1%	17.2%	13.5%	14.8%	6.8%	5.9%	79.2%	17.2%	32.0%	45.5%
Oakland	4.6%	9.2%	10.6%	15.6%	14.5%	12.4%	5.6%	4.9%	77.4%	15.6%	30.1%	42.5%
Philadelphia	2.8%	7.8%	10.8%	16.4%	15.6%	14.5%	7.2%	4.3%	79.3%	16.4%	32.0%	46.5%
Pittsburgh	3.3%	8.3%	11.7%	16.2%	14.4%	11.9%	6.1%	4.3%	76.2%	16.2%	30.7%	42.5%
Portland	3.9%	8.7%	11.9%	16.9%	15.8%	10.8%	4.9%	3.7%	76.6%	16.9%	32.7%	44.6%
Sacramento	4.1%	8.9%	12.4%	16.7%	15.3%	10.9%	4.9%	4.0%	77.4%	16.7%	32.1%	44.5%
San Diego	5.6%	11.2%	12.7%	15.8%	12.5%	10.3%	4.9%	4.2%	77.3%	15.8%	28.5%	41.1%
San Francisco	2.7%	6.2%	8.8%	15.9%	15.8%	15.9%	7.6%	5.8%	78.7%	15.9%	31.8%	47.6%
San Jose	4.4%	8.5%	10.4%	15.7%	15.1%	13.1%	6.6%	5.0%	78.8%	15.7%	30.8%	43.9%

**2. Rank of Time Period by Percent Leaving**

MSA/ PMSA of Residence	4. "Peaking Factor" <sup>1</sup>											
	5:30 to 5:59 AM	6:00 to 6:29 AM	6:30 to 6:59 AM	7:00 to 7:29 AM	7:30 to 7:59 AM	8:00 to 8:29 AM	8:30 to 8:59 AM	9:00 to 9:29 AM	0.5-hr vol. / 1.5-hr vol.	1-hr vol. / 3-hr vol.		
Boston*	8	6	4	1	3	2	5	7	1.02	1.31		
Buffalo	8	6	4	2	1	3	5	7	1.10	1.36		
Chicago*	7	5	4	1	2	3	6	8	1.17	1.29		
Cleveland	8	5	4	1	2	3	6	7	1.09	1.38		
Detroit	7	5	4	1	2	3	6	8	1.09	1.31		
Houston	7	4	3	1	2	5	6	8	1.22	1.38		
Los Angeles	8	5	4	1	2	3	6	7	1.15	1.27		
Miami	8	5	4	1	3	2	6	7	1.13	1.36		
Oakland	8	5	4	1	2	3	6	7	1.10	1.33		
Philadelphia	8	5	4	1	2	3	6	7	1.06	1.33		
Pittsburgh	8	5	4	1	2	3	6	7	1.14	1.34		
Portland	7	5	3	1	2	4	6	8	1.13	1.42		
Sacramento	7	5	3	1	2	4	6	8	1.13	1.39		
San Diego	6	4	2	1	3	5	7	8	1.16	1.25		
San Francisco	8	6	4	1	3	2	5	7	1.00	1.36		
San Jose	8	5	4	1	2	3	6	7	1.07	1.33		

<sup>1</sup>The "Peaking Factor" is defined as the ratio of the number of workers leaving per unit time in the peak time interval (0.5 hr, 1 hr, etc.) to the number of workers leaving per unit time in the three greatest time intervals (peak three half-hours, hours, etc.). For example, for Boston, (3 x 15.9%)/47.0% = 1.02.

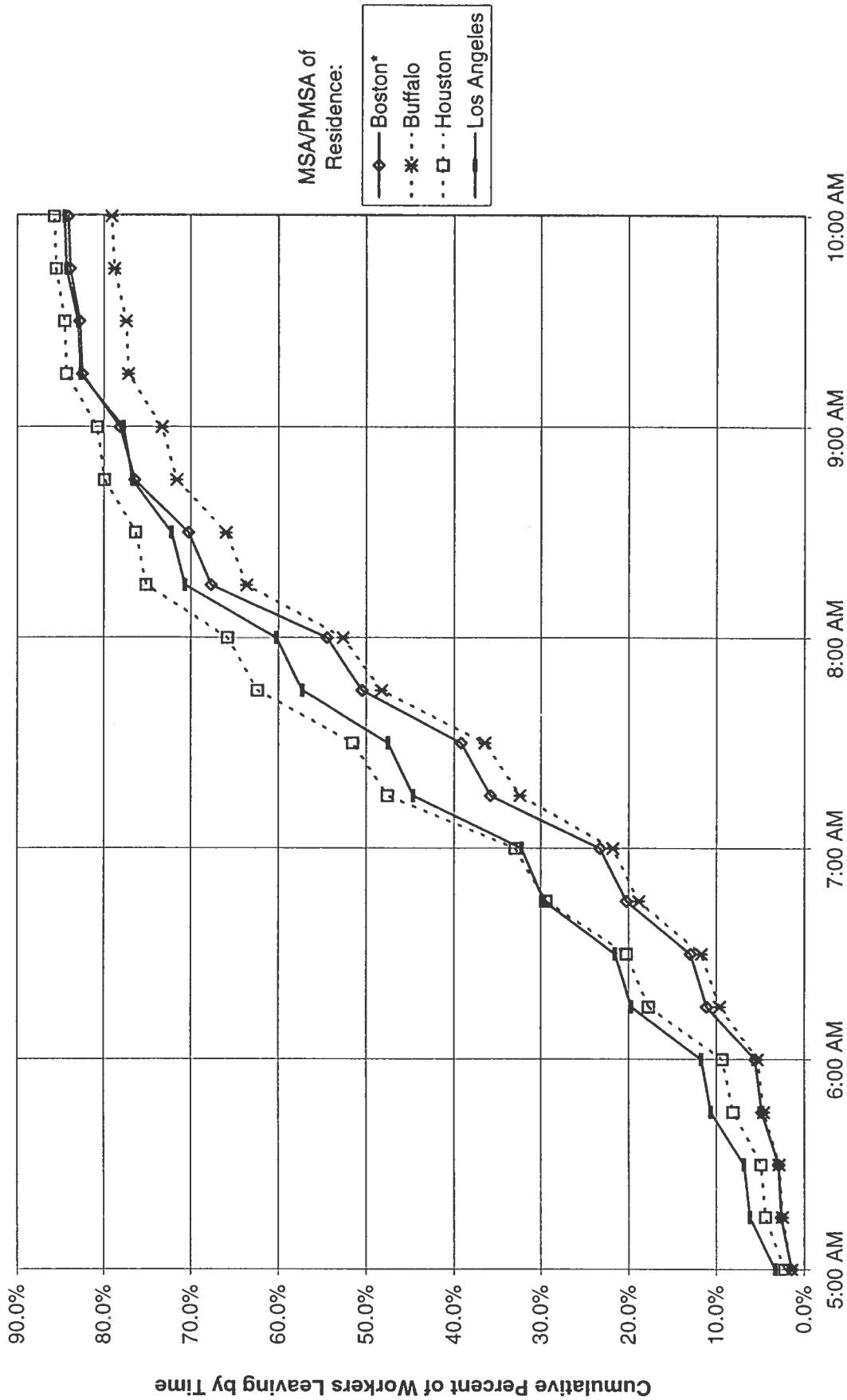
**Fig. 1. Measures of Peak-Spreading, Workers Leaving for Work**



NOTE: See text for explanation of "Peaking Factor".



**Fig. 2. Cumulative Worker Departures, Selected Cities**



HOURS WORKED VS. MODE TO WORK

A. PERCENT OF ALL WORKERS USING GIVEN MODE WHO WORKED GIVEN HOURS/WEEK:<sup>1</sup>

MSA/ PMSA of Residence	1. Working less than 35 hours/week					2. Working 35-40 hours/week					3. Working more than 40 hours/week							
	All Modes	Drove alone	Carpool	Public Transit	Bicycle/Walk	Worked at home	All Modes	Drove alone	Carpool	Public Transit	Bicycle/Walk	Worked at home	All Modes	Drove alone	Carpool	Public Transit	Bicycle/Walk	Other
Boston*	23.5%	21.3%	23.5%	20.2%	44.5%	23.1%	42.2%	53.1%	56.9%	34.8%	28.9%	28.3%	30.5%	23.4%	23.0%	20.7%	27.3%	28.9%
Buffalo	25.8%	23.1%	24.8%	35.0%	52.0%	40.8%	44.2%	54.2%	60.0%	32.2%	30.1%	25.7%	28.0%	21.0%	12.0%	15.9%	22.6%	25.7%
Chicago*	19.4%	18.3%	18.1%	16.8%	36.6%	21.8%	40.7%	56.1%	60.0%	37.8%	30.1%	30.5%	33.3%	25.7%	23.2%	25.6%	33.1%	29.2%
Cleveland	20.9%	18.6%	22.6%	23.9%	49.1%	34.5%	44.6%	51.2%	59.1%	31.8%	28.5%	31.3%	33.8%	26.1%	17.0%	19.1%	24.3%	26.9%
Detroit	21.2%	19.3%	24.1%	32.5%	47.1%	33.8%	45.0%	49.0%	54.1%	31.7%	26.2%	32.5%	34.1%	26.8%	13.4%	21.2%	25.3%	28.8%
Houston	16.1%	14.1%	18.4%	21.5%	32.7%	24.8%	36.2%	53.4%	58.1%	44.0%	33.0%	33.8%	36.0%	28.2%	20.4%	23.3%	32.5%	30.8%
Los Angeles	18.5%	17.0%	16.4%	22.8%	35.1%	22.1%	36.1%	60.5%	64.6%	46.6%	34.6%	26.6%	29.1%	23.1%	12.7%	18.3%	24.6%	29.3%
Miami	17.5%	15.4%	18.0%	25.4%	33.5%	23.3%	37.4%	57.9%	60.5%	48.3%	37.4%	27.1%	29.3%	24.0%	14.1%	18.2%	24.2%	25.2%
Oakland	21.0%	19.7%	17.4%	19.4%	44.2%	21.9%	34.9%	56.6%	58.0%	36.3%	26.5%	28.1%	29.2%	26.0%	22.6%	19.5%	27.2%	38.6%
Philadelphia	21.0%	19.1%	20.6%	19.3%	38.7%	27.8%	40.4%	54.6%	61.7%	38.2%	28.1%	28.9%	31.8%	24.8%	19.0%	23.1%	27.9%	31.5%
Pittsburgh	22.8%	20.4%	22.0%	22.5%	48.3%	34.2%	43.5%	54.5%	59.2%	34.2%	27.2%	27.5%	30.0%	23.4%	18.5%	17.6%	27.6%	29.3%
Portland	21.5%	19.7%	20.4%	25.4%	37.5%	24.7%	38.8%	50.7%	55.1%	38.4%	28.7%	27.5%	33.1%	28.9%	19.4%	24.1%	32.3%	29.6%
Sacramento	22.3%	20.8%	19.5%	25.1%	40.6%	24.2%	40.9%	57.7%	60.6%	39.6%	29.3%	26.7%	28.1%	22.7%	14.3%	19.8%	26.5%	29.8%
San Diego	20.8%	19.7%	18.9%	29.9%	26.2%	23.2%	27.9%	53.8%	53.5%	38.2%	25.2%	31.4%	31.3%	27.3%	16.6%	35.6%	37.4%	46.9%
San Francisco	20.9%	19.6%	17.8%	21.2%	27.0%	19.7%	39.4%	56.9%	58.4%	46.2%	31.3%	27.7%	30.4%	25.3%	20.4%	26.9%	34.8%	29.3%
San Jose	18.6%	16.7%	16.9%	26.5%	45.1%	20.1%	41.0%	58.8%	56.0%	35.1%	30.6%	28.7%	30.2%	24.3%	17.5%	19.6%	29.6%	28.4%
Average (unweighted)		0.91	0.97	1.18	1.93	1.28	1.92	1.00	1.10	0.76	0.59	0.86	1.07	0.86	0.61	0.75	0.98	1.06

B. RATIO: PERCENT OF WORKERS USING MODE TO PERCENT USING ALL MODES:<sup>2</sup>

MSA/ PMSA of Residence	1. working less than 35 hours/week					2. Working 35-40 hours/week					3. Working more than 40 hours/week							
	Drove alone	Carpool	Public Transit	Bicycle/Walk	Worked at home	Drove alone	Carpool	Public Transit	Bicycle/Walk	Worked at home	Drove alone	Carpool	Public Transit	Bicycle/Walk	Other	Worked at home		
Boston*	0.91	1.00	0.86	1.90	1.24	1.80	1.00	1.10	1.18	0.72	0.60	0.90	1.08	0.83	0.81	0.73	0.96	1.02
Buffalo	0.90	0.96	1.36	2.02	1.58	1.72	1.01	1.12	1.09	0.66	0.62	0.76	1.09	0.82	0.47	0.62	0.88	1.00
Chicago*	0.94	0.94	0.87	1.89	1.13	2.10	0.97	1.12	1.20	0.75	0.60	0.90	1.09	0.84	0.76	0.84	1.08	0.96
Cleveland	0.89	1.08	1.14	2.35	1.65	2.13	1.00	1.07	1.24	0.66	0.60	0.86	1.08	0.84	0.54	0.61	0.78	0.86
Detroit	0.91	1.14	1.53	2.23	1.60	2.13	1.01	1.06	1.17	0.68	0.56	0.88	1.05	0.83	0.41	0.65	0.78	0.89
Houston	0.88	1.14	1.34	2.03	1.54	2.25	0.99	1.06	1.16	0.88	0.66	0.85	1.07	0.84	0.61	0.69	0.96	0.91
Los Angeles	0.91	0.88	1.23	1.89	1.19	1.95	0.98	1.10	1.18	0.85	0.63	0.97	1.09	0.87	0.48	0.69	0.82	1.10
Miami	0.88	1.03	1.46	1.92	1.33	2.15	1.00	1.05	1.09	0.87	0.68	0.95	1.08	0.89	0.52	0.67	0.89	0.93
Oakland	0.94	0.83	0.93	2.11	1.04	1.67	1.00	1.11	1.14	0.71	0.52	1.00	1.04	0.92	0.80	0.69	0.97	1.37
Philadelphia	0.91	0.98	0.92	1.84	1.33	1.93	0.98	1.09	1.23	0.76	0.56	0.88	1.10	0.86	0.66	0.80	0.97	1.09
Pittsburgh	0.89	0.97	0.99	2.12	1.50	1.91	1.00	1.10	1.19	0.69	0.55	0.77	1.09	0.85	0.67	0.64	1.00	1.07
Portland	0.91	0.95	1.18	1.74	1.14	1.80	1.00	1.08	1.17	0.82	0.61	0.92	1.05	0.92	0.62	0.76	1.03	1.03
Sacramento	0.93	0.88	1.13	1.82	1.09	1.84	1.00	1.13	1.19	0.78	0.57	0.97	1.05	0.85	0.54	0.74	0.99	1.12
San Diego	0.95	0.91	1.44	1.26	1.12	1.34	1.02	1.12	1.12	0.80	0.53	0.82	1.00	0.87	0.53	0.74	1.19	1.50
San Francisco	0.94	0.85	1.02	1.29	0.94	1.88	0.97	1.11	1.13	0.90	0.61	0.88	1.10	0.91	0.74	0.97	1.26	1.06
San Jose	0.89	0.91	1.42	2.42	1.08	2.20	1.01	1.12	1.06	0.67	0.58	0.95	1.05	0.85	0.61	0.69	1.03	0.99
Average (unweighted)		0.91	0.97	1.18	1.93	1.28	1.92	1.00	1.10	0.76	0.59	0.86	1.07	0.86	0.61	0.75	0.98	1.06

<sup>1</sup>EXAMPLE: Of all workers using public transit in Boston, 20.2 percent worked less than 35 hours per week.

<sup>2</sup>EXAMPLE: In Boston, 20.2% of transit users worked less than 35 hours/week, while 23.5% of all workers worked less than 35 hours/week, for a ratio of 0.86. See text for discussion.

HOURS WORKED VS. MODE TO WORK

C. PERCENT OF ALL WORKERS USING GIVEN MODE WHO WORKED GIVEN HOURS/WEEK (By Type of Public Transit)

MSA/ PMSA of Residence	1. Working less than 35 hours/week				2. Working 35-40 hours/week				3. Working more than 40 hours/week						
	All Modes	Public Transit	Bus	Streetcar /Subway	Railroad	All Modes	Public Transit	Bus	Streetcar /Subway	Railroad	All Modes	Public Transit	Bus	Streetcar /Subway	Railroad
Boston*	23.5%	20.2%	26.1%	18.2%	8.4%	48.3%	56.9%	56.9%	56.5%	58.6%	28.3%	23.0%	17.1%	25.2%	33.0%
Buffalo	25.8%	35.0%	35.9%	27.3%	0.0%	48.5%	52.9%	53.1%	50.8%	100.0%	25.7%	12.0%	11.0%	21.9%	0.0%
Chicago*	19.4%	16.8%	22.9%	14.6%	6.8%	50.1%	60.0%	60.4%	59.6%	59.4%	30.5%	23.2%	16.6%	25.8%	33.8%
Cleveland	20.9%	23.9%	25.2%	12.6%	9.2%	47.8%	59.1%	59.6%	54.7%	61.5%	31.3%	17.0%	15.3%	32.7%	29.3%
Detroit	21.2%	32.5%	32.4%	35.0%	36.2%	46.4%	54.1%	54.3%	40.5%	26.1%	32.5%	13.4%	13.2%	24.5%	37.7%
Houston	16.1%	21.5%	21.5%	22.7%	17.5%	50.2%	58.1%	58.2%	42.1%	54.0%	33.8%	20.4%	20.3%	35.2%	28.6%
Los Angeles	18.5%	22.8%	22.8%	24.1%	13.9%	54.8%	64.6%	64.7%	51.6%	53.6%	26.6%	12.7%	12.5%	24.3%	32.5%
Miami	17.5%	25.4%	27.7%	13.1%	12.2%	55.4%	60.5%	60.0%	63.4%	63.9%	27.1%	14.1%	12.3%	23.5%	23.9%
Oakland	21.0%	19.4%	29.4%	12.3%	8.2%	51.0%	58.0%	56.3%	59.0%	62.8%	28.1%	22.6%	14.4%	28.7%	29.0%
Philadelphia	21.0%	19.3%	23.8%	17.0%	9.2%	50.1%	61.7%	62.3%	63.4%	57.4%	28.9%	19.0%	13.8%	19.7%	33.4%
Pittsburgh	22.8%	22.5%	23.3%	14.2%	0.0%	49.7%	59.2%	59.6%	54.7%	61.1%	27.5%	18.3%	17.1%	31.2%	38.9%
Portland	21.5%	25.4%	26.1%	16.9%	13.0%	47.0%	55.1%	54.6%	62.5%	64.2%	31.5%	19.4%	19.3%	20.6%	22.8%
Sacramento	22.3%	25.1%	28.3%	13.5%	16.0%	51.0%	60.6%	57.7%	72.3%	65.1%	26.7%	14.3%	14.0%	14.2%	18.9%
San Diego	20.9%	29.9%	31.1%	14.9%	24.1%	47.9%	53.5%	53.3%	56.9%	42.4%	31.4%	16.6%	15.6%	28.2%	33.5%
San Francisco	20.9%	21.2%	23.5%	16.9%	8.6%	51.4%	58.4%	58.1%	59.2%	58.1%	27.7%	20.4%	18.4%	23.9%	33.3%
San Jose	18.6%	26.5%	29.9%	17.7%	7.8%	52.7%	56.0%	55.4%	45.1%	62.3%	28.7%	17.5%	14.7%	37.2%	29.9%

D. RATIO: PERCENT OF WORKERS USING MODE TO PERCENT USING ALL MODES (By Type of Public Transit)

MSA/ PMSA of Residence	1. Working less than 35 hours/week				2. Working 35-40 hours/week				3. Working more than 40 hours/week			
	Public Transit	Bus	Streetcar /Subway	Railroad	Public Transit	Bus	Streetcar /Subway	Railroad	Public Transit	Bus	Streetcar /Subway	Railroad
Boston*	0.86	1.11	0.78	0.36	1.18	1.18	1.17	1.21	0.81	0.60	0.89	1.17
Buffalo	1.36	1.39	1.06	0.00	1.09	1.09	1.05	2.06	0.47	0.43	0.85	0.00
Chicago*	0.87	1.19	0.75	0.35	1.20	1.21	1.19	1.19	0.76	0.55	0.85	1.11
Cleveland	1.14	1.20	0.60	0.44	1.24	1.25	1.14	1.29	0.54	0.49	1.05	0.94
Detroit	1.53	1.53	1.65	1.71	1.17	1.17	0.87	0.56	0.41	0.41	0.75	1.16
Houston	1.34	1.34	1.41	1.09	1.16	1.16	0.84	1.08	0.61	0.60	1.04	0.85
Los Angeles	1.23	1.18	1.30	0.75	1.18	1.18	0.94	0.98	0.48	0.47	0.91	1.22
Miami	1.46	1.59	0.75	0.70	1.09	1.08	1.14	1.15	0.52	0.45	0.87	0.88
Oakland	0.93	1.40	0.59	0.39	1.14	1.10	1.16	1.23	0.80	0.51	1.02	1.03
Philadelphia	0.92	1.14	0.81	0.44	1.23	1.24	1.26	1.15	0.66	0.48	0.68	1.15
Pittsburgh	0.99	1.02	0.62	0.00	1.19	1.20	1.10	1.23	0.67	0.62	1.14	1.42
Portland	1.18	1.21	0.79	0.60	1.17	1.16	1.33	1.37	0.62	0.61	0.65	0.72
Sacramento	1.13	1.27	0.61	0.72	1.19	1.13	1.42	1.28	0.54	0.52	0.53	0.71
San Diego	1.44	1.50	0.72	1.16	1.12	1.11	1.19	0.88	0.53	0.50	0.90	1.07
San Francisco	1.02	1.12	0.81	0.41	1.13	1.13	1.15	1.13	0.74	0.67	0.86	1.20
San Jose	1.42	1.61	0.95	0.42	1.06	1.05	0.86	1.18	0.61	0.51	1.30	1.04
Average (unweighted)	1.18	1.30	0.89	0.60	1.16	1.15	1.11	1.19	0.61	0.53	0.89	0.98

MODE TO WORK VS. EARNINGS OF WORKER

A. PERCENT OF WORKERS USING MODE, BY LEVEL OF EARNINGS

MSA/PMSA of Residence	1. Drove Alone					2. Carpool					3. Public Transit							
	All Workers <sup>1</sup>	Less than \$10,000 and over	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	All Workers <sup>1</sup>	Less than \$10,000 and over	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	All Workers <sup>1</sup>	Less than \$10,000 and over	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	\$50,000 and over		
Boston*	69.2%	57.0%	63.5%	70.6%	77.8%	79.1%	10.2%	11.7%	12.6%	10.4%	8.4%	6.6%	11.2%	11.7%	13.7%	12.7%	9.0%	7.7%
Buffalo	76.8%	66.2%	74.1%	81.7%	86.5%	88.3%	11.3%	12.1%	13.1%	11.5%	9.0%	6.8%	5.0%	7.7%	6.8%	3.3%	1.9%	1.2%
Chicago*	66.9%	56.0%	62.0%	70.1%	75.8%	73.5%	11.8%	13.8%	14.9%	11.6%	9.4%	6.5%	14.2%	15.3%	16.1%	14.0%	11.3%	14.1%
Cleveland	78.2%	66.4%	75.5%	81.9%	86.9%	87.7%	10.4%	12.6%	12.1%	10.1%	8.0%	6.3%	6.0%	8.5%	7.9%	5.4%	2.8%	2.5%
Detroit	83.9%	73.6%	81.4%	86.5%	89.3%	92.4%	10.0%	13.0%	11.8%	9.5%	8.3%	5.2%	2.1%	4.3%	2.8%	1.7%	0.8%	0.3%
Houston	76.5%	62.2%	73.5%	81.9%	85.7%	86.7%	14.3%	20.0%	17.0%	12.6%	9.7%	7.4%	3.9%	6.5%	4.3%	2.8%	2.1%	2.8%
Los Angeles	71.1%	53.1%	65.6%	77.9%	83.0%	85.8%	15.3%	18.6%	19.0%	14.5%	11.5%	8.5%	6.1%	13.4%	7.8%	3.2%	1.6%	0.7%
Miami	73.2%	59.2%	72.0%	80.6%	84.9%	86.8%	15.3%	19.3%	17.4%	13.3%	10.2%	7.0%	5.5%	10.4%	5.4%	2.9%	2.0%	1.6%
Oakland	69.1%	58.3%	65.6%	71.4%	74.6%	74.9%	13.1%	13.3%	14.3%	13.5%	12.7%	10.9%	9.0%	9.8%	8.9%	9.2%	8.1%	9.1%
Philadelphia	68.3%	55.9%	62.7%	71.2%	78.2%	78.7%	11.8%	13.4%	13.8%	12.1%	10.1%	7.2%	11.4%	13.1%	14.8%	11.4%	7.7%	8.1%
Pittsburgh	71.2%	61.8%	68.7%	74.9%	79.7%	81.5%	12.9%	13.6%	13.8%	13.0%	11.8%	9.7%	8.4%	9.3%	11.0%	8.1%	5.4%	4.4%
Portland	74.3%	62.0%	72.3%	79.5%	83.1%	84.4%	12.1%	14.0%	13.8%	11.6%	10.0%	7.5%	5.3%	7.9%	6.6%	4.4%	2.8%	1.7%
Sacramento	75.9%	66.4%	74.3%	79.4%	80.4%	82.3%	13.5%	14.0%	14.5%	13.9%	12.9%	9.9%	2.3%	3.0%	2.7%	2.3%	1.8%	1.2%
San Diego	71.6%	57.0%	66.6%	78.7%	83.2%	85.0%	13.6%	15.2%	16.2%	13.1%	10.9%	8.1%	3.1%	6.0%	3.6%	2.0%	1.1%	0.7%
San Francisco	56.9%	44.4%	49.4%	56.9%	65.5%	69.7%	12.2%	12.5%	13.5%	12.9%	11.5%	9.7%	18.8%	24.0%	23.0%	20.6%	14.7%	10.4%
San Jose	78.4%	63.4%	73.1%	81.6%	84.4%	87.0%	12.1%	14.6%	16.0%	12.5%	10.5%	6.8%	2.8%	5.7%	3.9%	1.9%	1.6%	1.4%
Average (Unweighted)	0.83	0.95	1.05	1.12	1.14	1.14	1.16	1.17	1.17	0.99	0.83	0.62	1.52	1.22	0.84	0.58	0.50	

B. RATIO OF PERCENT USING MODE (IN EARNINGS CATEGORY) TO TOTAL PERCENT USING MODE<sup>2</sup>

MSA/PMSA of Residence	1. Drove Alone					2. Carpool					3. Public Transit				
	Less than \$10,000 and over	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	\$50,000 and over	Less than \$10,000 and over	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	\$50,000 and over	Less than \$10,000 and over	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	\$50,000 and over
Boston*	0.82	0.92	1.02	1.12	1.14	1.15	1.24	1.03	0.82	0.65	1.04	1.22	1.13	0.80	0.69
Buffalo	0.86	0.96	1.06	1.13	1.15	1.08	1.16	1.02	0.79	0.60	1.53	1.35	0.66	0.38	0.24
Chicago*	0.84	0.93	1.05	1.13	1.10	1.17	1.26	0.98	0.80	0.55	1.08	1.14	0.99	0.80	0.99
Cleveland	0.85	0.96	1.05	1.11	1.12	1.21	1.16	0.97	0.76	0.61	1.43	1.33	0.90	0.48	0.43
Detroit	0.88	0.97	1.03	1.06	1.10	1.30	1.18	0.95	0.83	0.52	1.99	1.33	0.78	0.38	0.14
Houston	0.81	0.96	1.07	1.12	1.13	1.40	1.19	0.88	0.68	0.51	1.68	1.09	0.71	0.54	0.73
Los Angeles	0.75	0.92	1.10	1.17	1.21	1.22	1.25	0.95	0.76	0.56	2.22	1.28	0.52	0.27	0.11
Miami	0.81	0.98	1.10	1.16	1.18	1.26	1.14	0.87	0.66	0.46	1.91	0.98	0.53	0.37	0.29
Oakland	0.84	0.95	1.03	1.08	1.08	1.02	1.10	1.04	0.98	0.83	1.09	1.00	1.03	0.91	1.01
Philadelphia	0.82	0.92	1.04	1.14	1.15	1.13	1.17	1.02	0.85	0.61	1.15	1.30	1.00	0.67	0.71
Pittsburgh	0.87	0.97	1.05	1.12	1.15	1.05	1.07	1.01	0.91	0.75	1.11	1.31	0.97	0.64	0.52
Portland	0.83	0.97	1.07	1.12	1.14	1.15	1.14	0.95	0.82	0.62	1.48	1.24	0.83	0.52	0.32
Sacramento	0.88	0.98	1.05	1.06	1.09	1.04	1.08	1.03	0.96	0.74	1.29	1.13	0.98	0.78	0.53
San Diego	0.80	0.93	1.10	1.16	1.19	1.12	1.19	0.96	0.81	0.60	1.93	1.17	0.64	0.35	0.22
San Francisco	0.78	0.87	1.00	1.15	1.22	1.03	1.11	1.06	0.94	0.80	1.27	1.22	1.09	0.78	0.55
San Jose	0.81	0.93	1.04	1.08	1.11	1.21	1.33	1.03	0.87	0.57	2.04	1.39	0.68	0.56	0.51
Average (Unweighted)	0.83	0.95	1.05	1.12	1.14	1.16	1.17	0.99	0.83	0.62	1.52	1.22	0.84	0.58	0.50

<sup>1</sup>Includes only workers with earnings

<sup>2</sup>EXAMPLE: 57.0 percent of workers in the Boston metropolitan area who earned less than \$10,000 drove alone, compared to 69.2 percent of all workers, for a ratio of 0.82.



MODE TO WORK VS. EARNINGS OF WORKER

A. PERCENT OF WORKERS USING MODE, BY LEVEL OF EARNINGS

MSA/PMSA of Residence	7. Public Transit: Bus					8. Public Transit: Streetcar/Subway					9. Public Transit: Railroad					
	All	Less than \$10,000	\$10,000 to \$20,000	\$20,000 to \$30,000	\$30,000 to \$50,000 and over	All	Less than \$10,000	\$10,000 to \$20,000	\$20,000 to \$30,000	\$30,000 to \$50,000 and over	All	Less than \$10,000	\$10,000 to \$20,000	\$20,000 to \$30,000	\$30,000 to \$50,000 and over	
	Workers <sup>1</sup>	\$10,000	\$19,999	\$29,999	\$49,999 and over	Workers <sup>1</sup>	\$10,000	\$19,999	\$29,999	\$49,999 and over	Workers <sup>1</sup>	\$10,000	\$19,999	\$29,999	\$49,999 and over	
Boston*	4.3%	5.8%	6.4%	4.6%	1.5%	5.6%	5.4%	6.5%	6.7%	4.7%	1.34%	0.48%	0.82%	1.44%	1.76%	2.60%
Buffalo	4.5%	7.3%	6.2%	2.9%	1.4%	0.5%	0.4%	0.6%	0.5%	0.2%	3.76%	1.12%	2.02%	3.90%	5.07%	9.53%
Chicago*	7.0%	11.1%	10.1%	6.1%	2.0%	3.4%	3.1%	4.0%	4.1%	3.0%	0.06%	0.05%	0.05%	0.06%	0.05%	0.12%
Cleveland	5.4%	8.2%	7.3%	4.7%	1.4%	0.6%	0.3%	0.6%	0.6%	0.5%	0.06%	0.05%	0.05%	0.06%	0.05%	0.12%
Detroit	2.1%	4.2%	2.8%	1.6%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Houston	3.9%	6.5%	4.2%	2.7%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.01%	0.01%	0.01%	0.00%	0.01%	0.01%
Los Angeles	6.0%	13.4%	7.7%	3.1%	1.6%	0.0%	0.1%	0.0%	0.0%	0.0%	0.13%	0.09%	0.14%	0.14%	0.18%	0.09%
Miami	4.6%	9.8%	4.7%	1.7%	0.4%	0.8%	0.6%	0.5%	1.0%	1.1%	0.13%	0.09%	0.21%	0.41%	0.51%	0.75%
Oakland	3.7%	7.0%	4.9%	3.2%	1.7%	4.8%	2.7%	3.8%	5.6%	6.6%	0.38%	0.09%	0.21%	0.41%	0.51%	0.75%
Philadelphia	6.1%	9.3%	9.7%	5.3%	2.4%	3.1%	2.9%	4.0%	3.8%	2.5%	2.11%	0.83%	1.18%	2.23%	2.72%	5.25%
Pittsburgh	7.7%	8.8%	10.3%	7.3%	4.6%	0.7%	0.5%	0.7%	0.8%	1.3%	0.09%	0.06%	0.09%	0.12%	0.09%	0.09%
Portland	5.0%	7.5%	6.1%	4.0%	2.5%	0.3%	0.3%	0.3%	0.3%	0.2%	0.09%	0.06%	0.09%	0.12%	0.09%	0.09%
Sacramento	1.8%	2.7%	2.1%	1.6%	0.7%	0.4%	0.2%	0.4%	0.5%	0.4%	0.15%	0.08%	0.16%	0.16%	0.16%	0.12%
San Diego	2.8%	5.7%	3.3%	1.7%	0.9%	0.2%	0.2%	0.2%	0.3%	0.2%	0.03%	0.01%	0.02%	0.02%	0.05%	0.12%
San Francisco	13.4%	20.0%	17.6%	13.6%	8.8%	4.6%	3.5%	4.9%	6.1%	4.7%	0.86%	0.41%	0.52%	0.83%	1.24%	1.35%
San Jose	2.3%	5.5%	3.5%	1.4%	0.7%	0.1%	0.1%	0.1%	0.1%	0.1%	0.41%	0.18%	0.30%	0.37%	0.50%	0.65%

B. RATIO OF PERCENT USING MODE (IN EARNINGS CATEGORY) TO TOTAL PERCENT USING MODE

MSA/PMSA of Residence	7. Public Transit: Bus					8. Public Transit: Streetcar/Subway					9. Public Transit: Railroad				
	Less than \$10,000	\$10,000 to \$20,000	\$20,000 to \$30,000	\$30,000 to \$50,000 and over	Less than \$10,000	\$10,000 to \$20,000	\$20,000 to \$30,000	\$30,000 to \$50,000 and over	Less than \$10,000	\$10,000 to \$20,000	\$20,000 to \$30,000	\$30,000 to \$50,000 and over			
	\$10,000	\$19,999	\$29,999	\$49,999 and over	\$10,000	\$19,999	\$29,999	\$49,999 and over	\$10,000	\$19,999	\$29,999	\$49,999 and over			
Boston*	1.34	1.48	1.06	0.58	0.35	0.98	1.17	1.21	0.85	0.65	0.36	0.61	1.07	1.31	1.94
Buffalo	1.61	1.36	0.63	0.30	0.22	0.85	1.23	1.01	1.09	0.40	0.30	0.54	1.04	1.35	2.54
Chicago*	1.59	1.44	0.87	0.47	0.29	0.90	1.17	1.18	0.87	0.73	0.81	0.89	1.04	0.90	1.98
Cleveland	1.53	1.35	0.88	0.42	0.27	0.55	1.11	1.10	0.93	1.77	0.81	0.89	1.04	0.90	1.98
Detroit	2.00	1.34	0.78	0.38	0.14	1.86	0.88	1.12	0.41	0.66	0.36	0.61	1.07	1.31	1.95
Houston	1.68	1.10	0.71	0.54	0.72	1.32	0.85	0.38	0.99	1.89	1.27	1.29	0.54	0.56	1.37
Los Angeles	2.22	1.28	0.52	0.26	0.11	1.72	1.09	0.59	0.71	0.60	0.72	1.08	1.07	1.38	0.69
Miami	2.13	1.03	0.37	0.15	0.09	0.75	0.67	1.36	1.46	1.43	0.24	0.55	1.07	1.31	1.95
Oakland	1.86	1.32	0.86	0.39	0.46	0.56	0.78	1.15	1.16	1.37	0.39	0.56	1.05	1.29	2.48
Philadelphia	1.53	1.58	0.87	0.39	0.19	0.92	1.26	1.22	0.80	0.53	0.63	1.06	1.33	1.00	1.04
Pittsburgh	1.15	1.35	0.95	0.60	0.40	0.65	0.94	1.19	1.04	1.86	0.56	1.11	1.25	1.13	0.86
Portland	1.51	1.24	0.81	0.51	0.30	1.19	1.28	1.03	0.61	0.31	0.32	0.62	1.44	1.44	3.90
Sacramento	1.52	1.15	0.91	0.66	0.39	0.52	1.07	1.20	1.19	1.02	0.47	0.61	0.97	1.44	1.58
San Diego	2.01	1.18	0.58	0.31	0.18	1.13	1.11	1.34	0.71	0.25	0.45	0.75	0.92	1.23	1.61
San Francisco	1.49	1.31	1.02	0.65	0.45	0.78	1.07	1.33	1.03	0.64	0.45	0.75	0.92	1.23	1.61
San Jose	2.37	1.52	0.63	0.43	0.28	0.90	1.15	0.91	0.87	1.23	0.54	0.80	1.00	1.20	1.83
Average (Unweighted)	1.72	1.31	0.78	0.45	0.30	0.97	1.05	1.08	0.92	0.96	0.54	0.80	1.00	1.20	1.83

<sup>1</sup>Includes only workers with earnings

C. Worker Earnings, All Workers With Earnings

MSA/PMSA of Residence	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999	\$50,000 and over
Boston*	19.3%	21.4%	22.9%	24.2%	12.2%
Buffalo	27.6%	26.5%	19.8%	19.8%	6.4%
Chicago*	20.5%	24.4%	21.2%	23.0%	11.0%
Cleveland	23.0%	26.1%	20.9%	21.2%	8.8%
Detroit	22.5%	22.3%	18.1%	24.9%	12.2%
Houston	23.2%	25.5%	20.8%	19.9%	10.7%
Los Angeles	22.8%	25.4%	19.1%	21.0%	11.7%
Miami	26.9%	31.5%	19.0%	15.4%	7.3%
Oakland	18.5%	20.5%	20.7%	26.1%	14.2%
Philadelphia	20.5%	24.5%	22.1%	22.5%	10.4%
Pittsburgh	27.0%	26.5%	19.5%	19.2%	7.8%
Portland	24.7%	26.8%	21.2%	20.0%	7.4%
Sacramento	22.2%	24.7%	21.1%	23.2%	8.9%
San Diego	23.9%	27.6%	19.5%	19.6%	9.3%
San Francisco	18.3%	22.1%	21.2%	23.8%	14.6%
San Jose	17.6%	19.6%	19.8%	26.2%	16.8%

Figure 1. Worker Earnings, All Workers

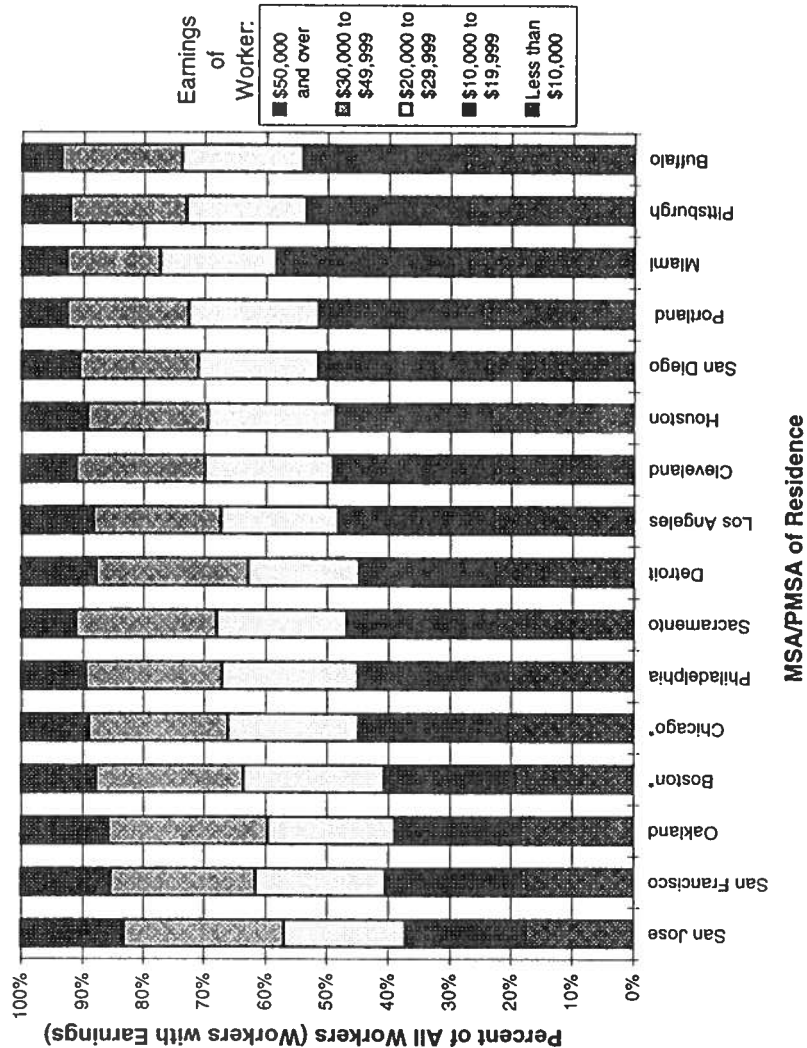


Fig. 2. Worker Earnings vs. Percent Using Mode: Drove Alone

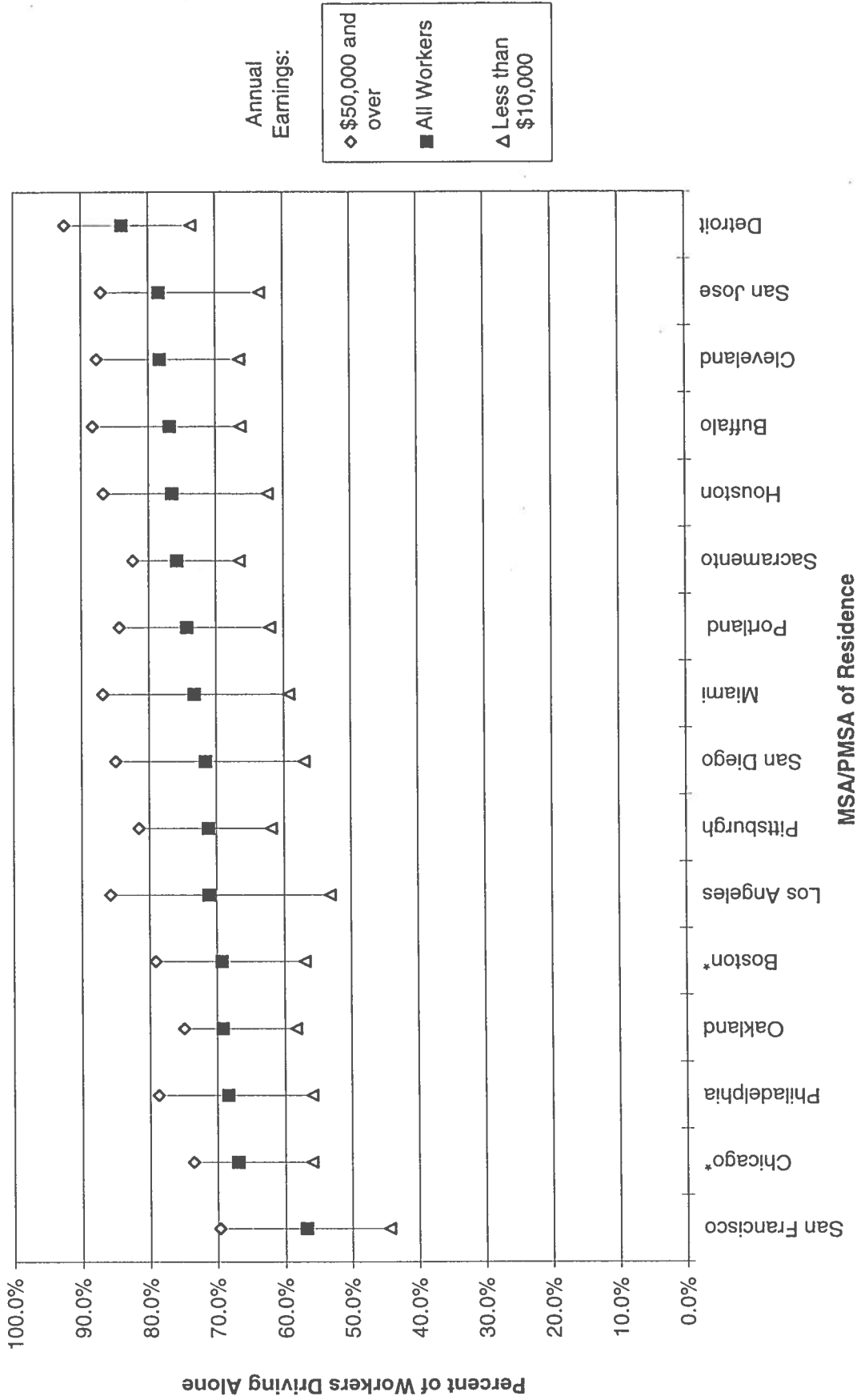




Fig. 3. Worker Earnings vs. Percent Using Mode: Carpool

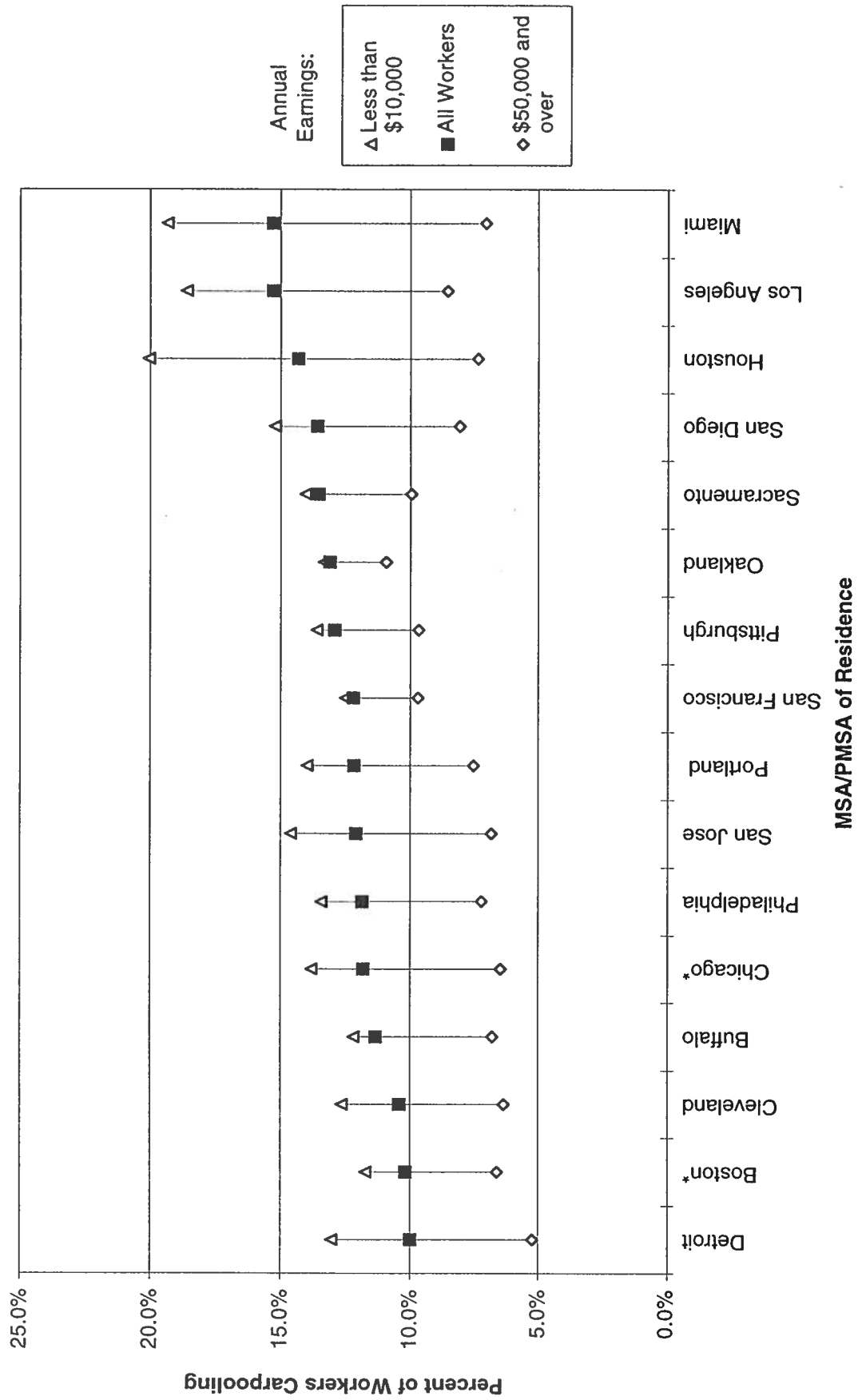
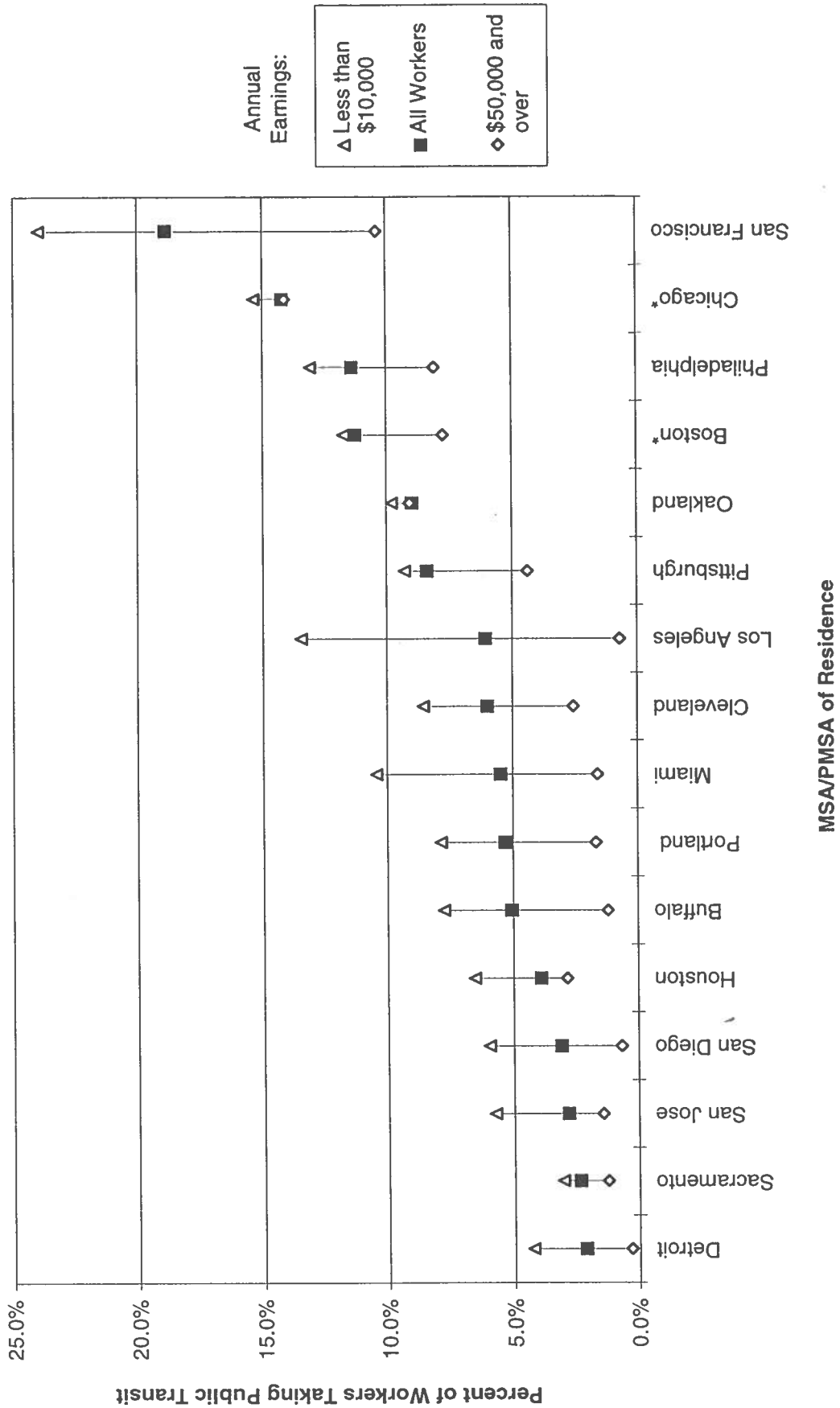
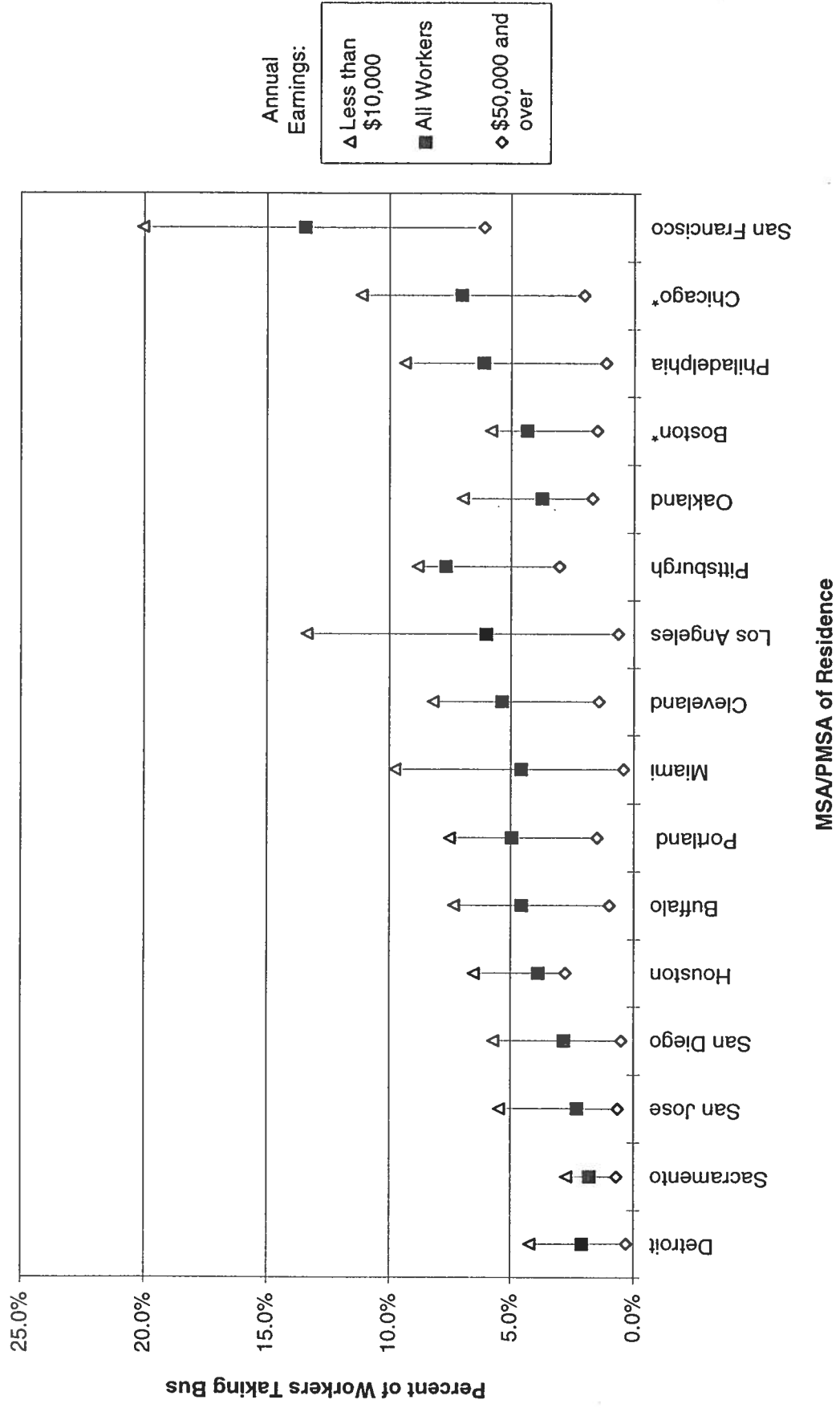


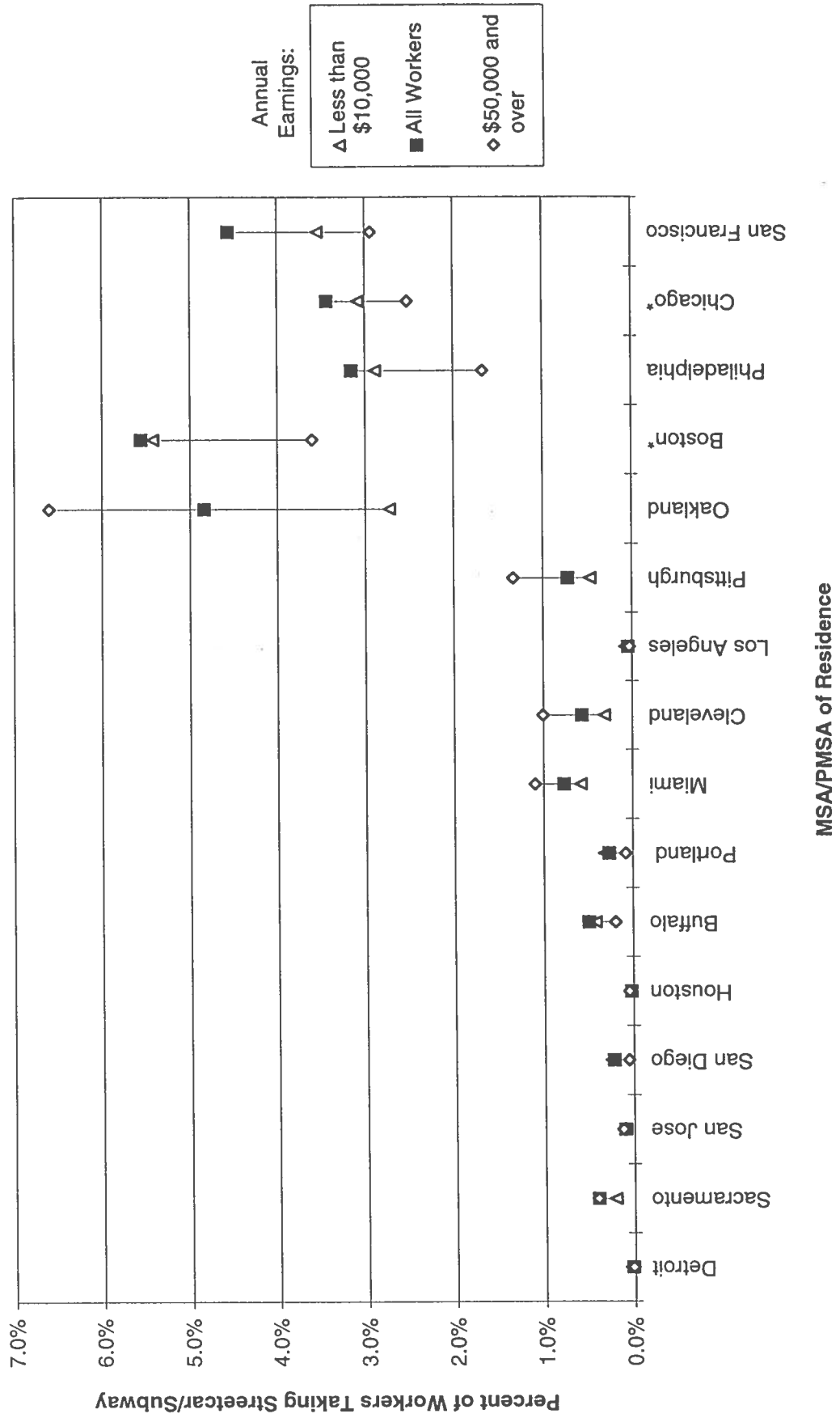
Fig. 4. Worker Earnings vs. Percent Using Mode: Public Transit



**Fig. 4a. Worker Earnings vs. Percent Using Mode: Bus**  
 (Sorted by Percent of Workers Using Public Transit)



**Fig. 4b. Worker Earnings vs. Percent Using Mode: Streetcar/Subway**  
 (Sorted by Percent of Workers Using Public Transit)



**Fig. 4c. Worker Earnings vs. Percent Using Mode: Railroad**  
 (Sorted by Percent of Workers Using Public Transit)

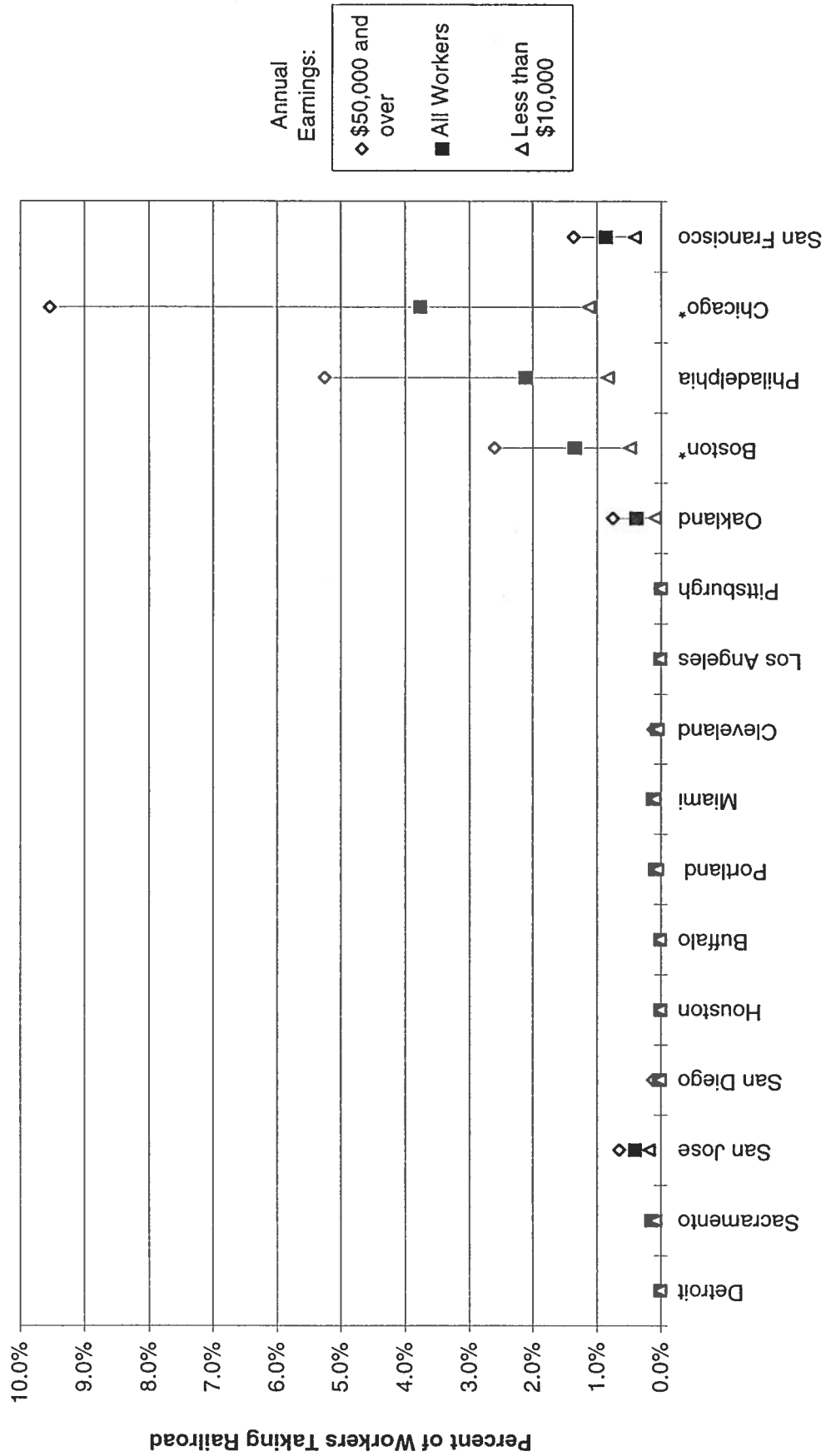


Fig. 5. Worker Earnings vs. Percent Using Mode: Walk/Bicycle

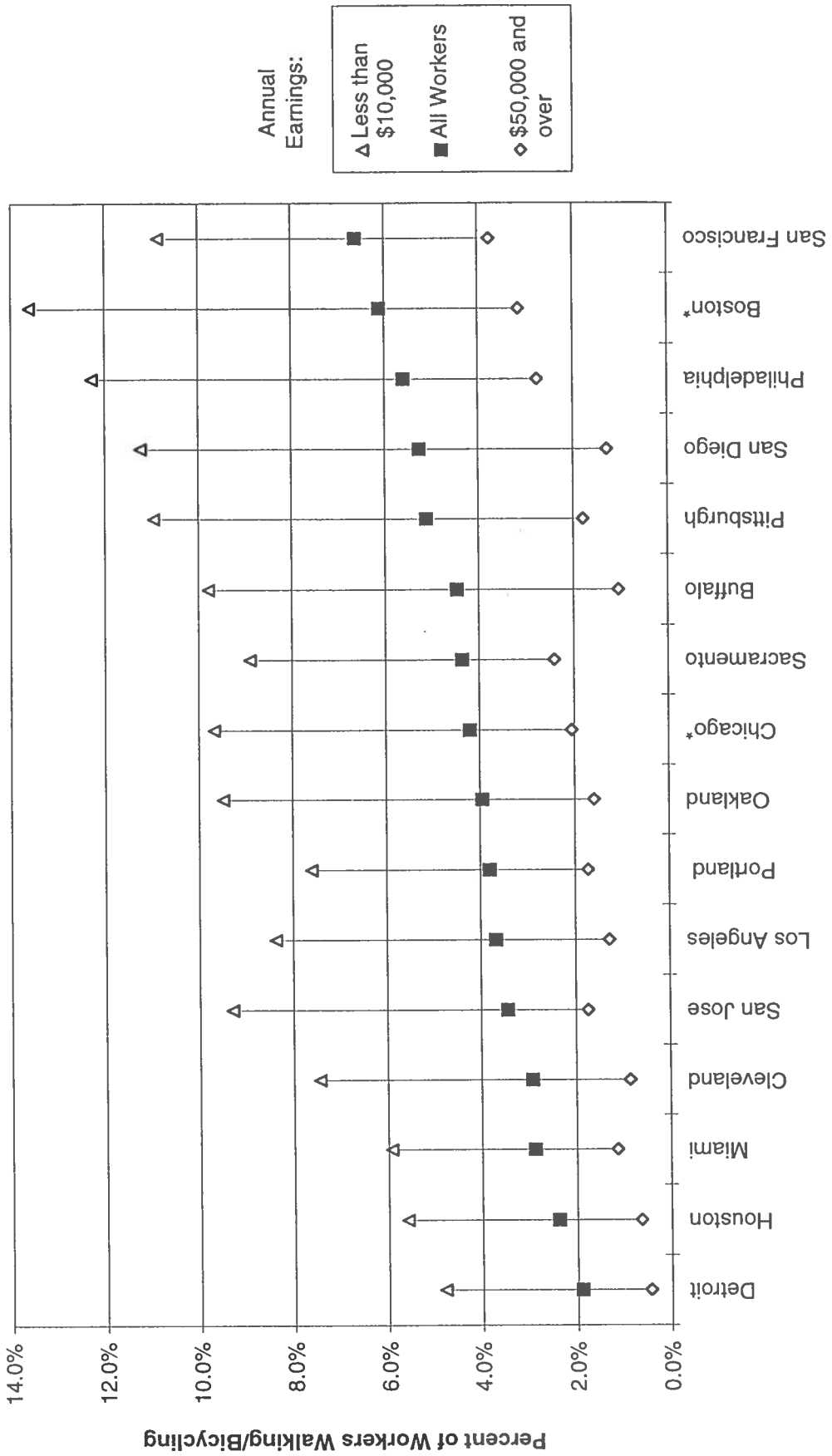
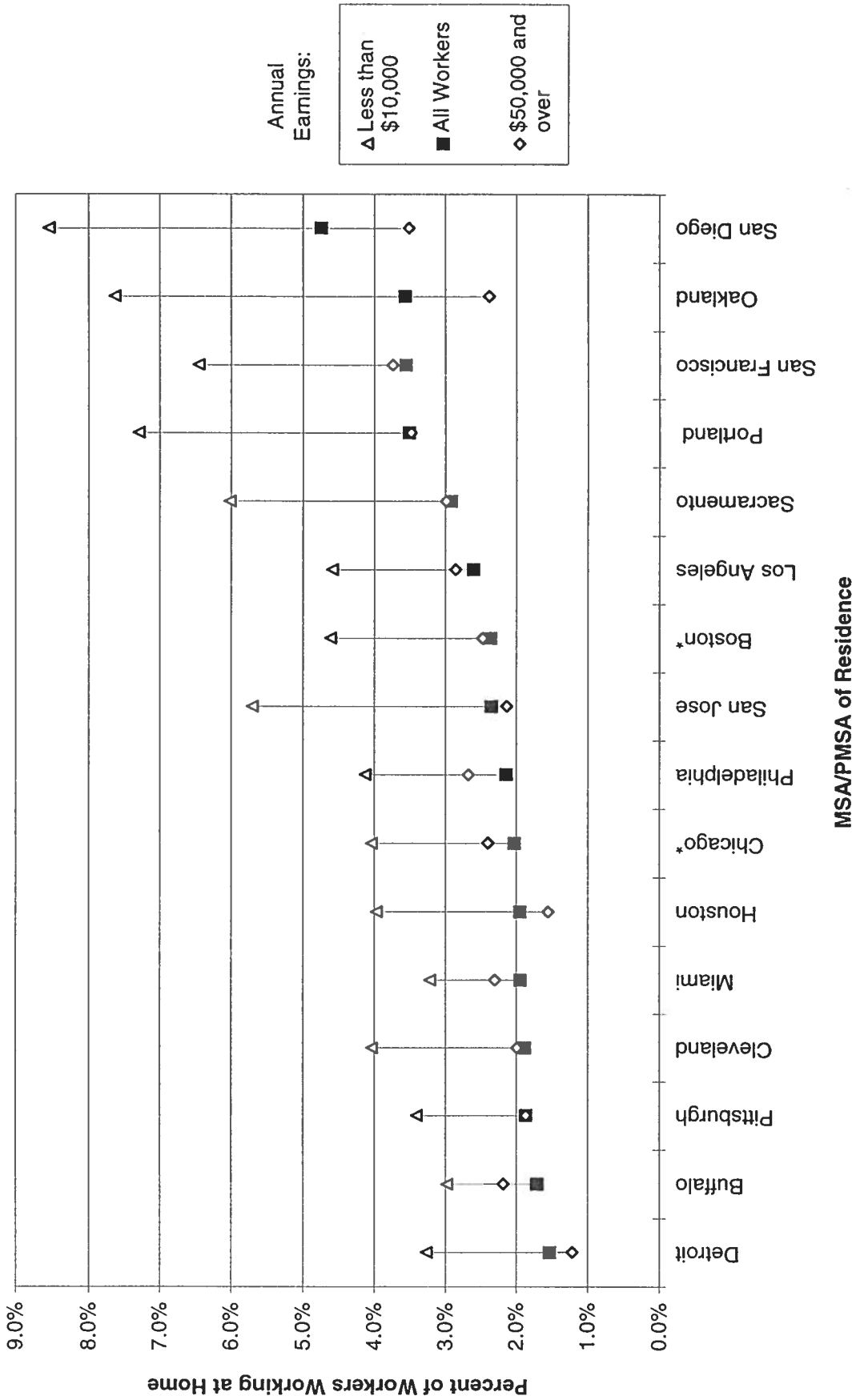


Fig. 6. Worker Earnings vs. Percent Using Mode: Work at Home



1990 CTPP Data: Table A36 TIME LEAVING FOR WORK VS. MODE OF TRAVEL

A. PERCENT OF WORKERS USING MODE BY TIME LEAVING HOME

MSA/ PMSA of Residence	1. Drove Alone												2. Carpool												3. Public Transit											
	All				5:30 AM - 6:30 AM				7:30 AM - 8:30 AM				8:30 AM - 9:30 AM				All				5:30 AM - 6:30 AM				7:30 AM - 8:30 AM				8:30 AM - 9:30 AM							
	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM								
Boston*	70.6%	70.3%	71.5%	71.7%	71.2%	67.6%	71.2%	10.5%	14.4%	12.5%	9.2%	6.9%	10.2%	11.3%	11.7%	11.3%	11.6%	5.3%	6.8%	6.2%	11.7%	13.4%	10.9%	10.9%	9.2%	4.8%	4.4%	4.4%								
Buffalo	77.7%	77.3%	77.1%	79.5%	78.0%	76.2%	78.0%	11.6%	12.6%	13.6%	11.6%	9.9%	9.9%	6.2%	6.8%	6.2%	5.3%	6.8%	6.2%	11.7%	13.4%	10.9%	10.9%	9.2%	4.8%	4.4%	4.4%									
Chicago*	67.8%	65.0%	62.9%	70.3%	72.0%	67.0%	72.0%	12.2%	16.3%	12.9%	9.7%	8.7%	12.9%	14.7%	15.4%	17.8%	14.7%	15.4%	17.8%	15.0%	15.4%	17.8%	15.0%	10.0%	11.9%	10.0%	11.9%									
Cleveland	79.3%	77.5%	77.8%	82.3%	81.9%	77.2%	81.9%	10.7%	12.5%	12.3%	9.5%	8.5%	10.6%	6.3%	7.7%	7.9%	6.3%	7.7%	7.9%	5.3%	7.9%	5.3%	4.3%	5.6%	4.3%	5.6%										
Detroit	84.8%	83.9%	85.4%	87.1%	86.9%	81.5%	86.9%	10.3%	12.1%	10.7%	8.9%	7.6%	11.5%	2.3%	2.5%	2.3%	2.3%	2.5%	2.3%	1.9%	2.3%	1.9%	2.0%	2.7%	2.0%	2.7%										
Houston	77.3%	73.6%	76.9%	81.8%	80.9%	74.0%	80.9%	14.9%	18.2%	16.4%	12.2%	11.2%	15.1%	4.1%	6.1%	4.5%	4.1%	6.1%	4.5%	2.4%	4.5%	2.4%	2.3%	4.7%	2.3%	4.7%										
Los Angeles	72.1%	65.7%	69.8%	76.6%	78.9%	70.7%	78.9%	16.0%	21.2%	18.4%	13.6%	10.8%	14.9%	6.6%	9.3%	7.5%	6.6%	9.3%	7.5%	4.9%	7.5%	4.9%	4.3%	6.7%	4.3%	6.7%										
Miami	73.9%	68.4%	71.4%	77.0%	79.0%	72.6%	79.0%	15.9%	19.4%	18.7%	15.1%	12.5%	13.5%	5.8%	8.6%	6.4%	5.8%	8.6%	6.4%	3.9%	6.4%	3.9%	3.9%	6.7%	3.9%	6.7%										
Oakland	71.3%	65.7%	67.9%	74.5%	76.1%	72.4%	76.1%	13.7%	19.4%	15.8%	12.0%	9.1%	11.8%	9.4%	11.5%	12.5%	9.4%	11.5%	12.5%	8.4%	11.5%	8.4%	6.1%	7.2%	6.1%	7.2%										
Philadelphia	69.3%	66.0%	69.2%	71.0%	73.1%	66.7%	73.1%	12.2%	15.9%	14.1%	11.1%	8.6%	11.3%	11.8%	14.4%	12.8%	11.8%	14.4%	12.8%	12.0%	14.4%	12.0%	8.5%	10.7%	8.5%	10.7%										
Pittsburgh	72.2%	71.8%	70.4%	73.9%	75.4%	71.1%	75.4%	13.2%	15.6%	15.7%	12.4%	10.1%	11.4%	8.6%	9.5%	10.6%	8.6%	9.5%	10.6%	8.5%	10.6%	8.5%	6.2%	7.0%	6.2%	7.0%										
Portland	76.7%	74.0%	74.3%	80.0%	78.9%	75.1%	78.9%	12.8%	16.1%	15.0%	10.9%	9.5%	11.6%	5.6%	6.3%	6.6%	5.6%	6.3%	6.6%	4.7%	6.6%	4.7%	4.4%	5.4%	4.4%	5.4%										
Sacramento	77.6%	74.7%	75.5%	80.5%	79.3%	78.1%	79.3%	14.1%	18.6%	17.5%	12.0%	9.6%	11.4%	2.4%	2.8%	3.4%	2.4%	2.8%	3.4%	1.9%	2.8%	1.9%	1.8%	1.9%	1.8%											
San Diego	74.6%	68.3%	73.9%	81.0%	81.1%	71.2%	81.1%	14.5%	19.6%	16.3%	11.6%	9.5%	13.3%	3.4%	4.2%	3.4%	3.4%	4.2%	3.4%	2.5%	3.4%	2.5%	2.7%	3.9%	2.7%	3.9%										
San Francisco	58.5%	59.7%	55.3%	58.8%	61.4%	59.6%	61.4%	12.7%	14.9%	15.3%	13.0%	9.8%	10.3%	19.7%	22.9%	19.8%	19.7%	22.9%	19.8%	1.7%	19.8%	1.7%	1.7%	17.0%	1.7%	17.0%										
San Jose	79.7%	74.0%	79.0%	84.0%	83.7%	76.2%	83.7%	12.6%	17.8%	14.8%	10.4%	8.6%	12.1%	3.0%	5.2%	3.3%	3.0%	5.2%	3.3%	1.7%	3.3%	1.7%	1.7%	3.8%	1.7%	3.8%										
Average (Unweighted)	0.96	0.98	0.98	1.04	1.05	0.98	1.04	1.27	1.15	1.15	0.88	0.73	0.93	1.23	1.16	0.86	1.23	1.16	0.86	0.73	0.86	0.73	0.86	0.73	0.97	0.73	0.97									

B. RATIO: PERCENT LEAVING HOME IN TIME PERIOD (BY MODE) TO TOTAL PERCENT USING MODE<sup>1</sup>

MSA/ PMSA of Residence	1. Drove Alone												2. Carpool												3. Public Transit											
	All				5:30 AM - 6:30 AM				7:30 AM - 8:30 AM				8:30 AM - 9:30 AM				All				5:30 AM - 6:30 AM				7:30 AM - 8:30 AM				8:30 AM - 9:30 AM							
	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM	Workers	6:29 AM	7:29 AM	8:29 AM								
Boston*	1.00	1.01	1.01	1.01	1.01	0.96	1.01	1.37	1.19	1.08	0.88	0.66	0.87	0.97	1.01	1.16	0.97	1.28	1.16	0.92	1.01	1.16	0.92	0.83	0.91	0.83	0.91									
Buffalo	0.99	0.99	0.99	1.02	1.00	0.98	1.00	1.09	1.18	1.01	0.85	0.86	0.86	1.05	1.22	1.03	1.05	1.05	1.22	1.03	0.68	1.03	0.68	0.81	0.81	0.81										
Chicago*	0.96	0.93	0.93	1.04	1.08	0.99	1.04	1.34	1.05	0.80	0.71	1.06	0.99	1.23	1.27	0.85	1.23	1.27	0.85	0.69	0.90	1.23	0.85	0.69	0.90											
Cleveland	0.98	0.98	0.98	1.04	1.03	0.97	1.04	1.16	1.15	0.88	0.79	0.99	0.99	1.41	1.14	0.75	1.41	1.14	0.75	0.66	1.02	1.14	0.75	0.66	1.02											
Detroit	0.99	1.01	1.01	1.03	1.03	0.96	1.03	1.17	1.04	0.86	0.74	1.11	1.11	1.48	1.10	0.76	1.48	1.10	0.76	0.66	1.15	1.10	0.76	0.66	1.15											
Houston	0.95	0.99	0.99	1.06	1.05	0.96	1.05	1.22	1.10	0.82	0.75	1.01	0.86	1.22	1.33	0.90	1.22	1.33	0.90	0.65	0.77	1.33	0.90	0.65	0.77											
Los Angeles	0.91	0.97	0.97	1.06	1.09	0.98	1.06	1.33	1.15	0.85	0.68	0.94	0.86	1.10	1.23	0.99	1.10	1.23	0.99	0.72	0.81	1.23	0.99	0.72	0.81											
Miami	0.93	0.97	0.97	1.04	1.07	0.98	1.04	1.22	1.18	0.95	0.79	0.85	0.91	1.13	1.18	0.84	1.13	1.18	0.84	0.79	0.97	1.13	0.84	0.79	0.97											
Oakland	0.92	0.95	0.95	1.05	1.07	1.02	1.05	1.42	1.16	0.88	0.67	0.86	0.81	1.15	1.38	0.78	1.15	1.38	0.78	0.75	0.78	1.38	0.78	0.75	0.78											
Philadelphia	0.95	1.00	1.00	1.02	1.05	0.96	1.02	1.30	1.16	0.91	0.71	0.93	0.92	1.24	1.00	0.74	1.24	1.00	0.74	0.81	1.24	1.00	0.74	0.81												
Pittsburgh	0.99	0.98	0.98	1.02	1.04	0.99	1.02	1.18	1.19	0.94	0.77	0.86	0.86	0.97	1.16	1.00	0.97	1.16	1.00	0.86	0.91	1.16	1.00	0.86	0.91											
Portland	0.97	0.97	0.97	1.04	1.03	0.98	1.04	1.26	1.17	0.85	0.74	0.91	0.91	1.71	1.11	0.56	1.71	1.11	0.56	0.55	1.71	1.11	0.56	0.55												
Sacramento	0.96	0.97	0.97	1.04	1.02	1.01	1.04	1.32	1.24	0.85	0.68	0.81	0.81	1.24	1.00	0.74	1.24	1.00	0.74	0.81	1.24	1.00	0.74	0.81												
San Diego	0.92	0.99	0.99	1.09	1.09	0.95	1.09	1.17	1.20	0.82	0.68	0.96	0.96	1.41	1.17	1.11	1.41	1.17	1.11	0.55	1.41	1.17	1.11	0.55												
San Francisco	1.02	0.95	0.95	1.00	1.05	1.02	1.00	1.41	1.17	0.82	0.68	0.96	0.96	1.27	1.15	0.88	1.27	1.15	0.88	0.73	1.27	1.15	0.88	0.73												
San Jose	0.93	0.99	0.99	1.05	1.05	0.96	1.05	1.41	1.17	0.82	0.68	0.96	0.96	1.27	1.15	0.88	1.27	1.15	0.88	0.73	1.27	1.15	0.88	0.73												
Average (Unweighted)	0.96	0.98	0.98	1.04	1.05	0.98	1.04	1.27	1.15	0.88	0.73	0.93	0.93	1.23	1.16	0.86	1.23	1.16	0.86	0.73	0.86	0.73	0.86	0.73												

<sup>1</sup>Example: In Boston, 14.4% of workers leaving 5:30-6:29 carpooled, compared to 10.5% of all workers, for a ratio of 1.37.



A. PERCENT OF WORKERS USING MODE BY TIME LEAVING HOME

MSA/PMSA of Residence	4. Bicycle/Walk														5. Other				
	All	5:30 AM - 6:30 AM	6:30 AM - 7:30 AM	7:30 AM - 8:30 AM	8:30 AM - 9:30 AM	9:30 AM - 10:30 AM	10:30 AM - 11:30 AM	11:30 AM - 12:30 PM	12:30 PM - 1:30 PM	1:30 PM - 2:30 PM	2:30 PM - 3:30 PM	3:30 PM - 4:30 PM	4:30 PM - 5:30 PM	5:30 PM - 6:30 PM	6:30 PM - 7:30 PM	7:30 PM - 8:30 PM	8:30 PM - 9:30 PM	All	Workers
	6:29 AM	7:29 AM	8:29 AM	9:29 AM	10:29 AM	11:29 AM	12:29 PM	1:29 PM	2:29 PM	3:29 PM	4:29 PM	5:29 PM	6:29 PM	7:29 PM	8:29 PM	9:29 PM	10:29 PM	0.9%	0.7%
Boston*	6.4%	3.0%	3.3%	5.1%	10.2%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%	0.9%	0.7%
Buffalo	4.7%	2.5%	2.5%	3.5%	6.8%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	0.7%	0.9%
Chicago*	4.4%	2.3%	2.7%	4.2%	7.2%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	0.9%	1.0%
Cleveland	3.1%	1.6%	1.4%	2.5%	4.6%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	0.6%	0.8%
Detroit	2.0%	1.0%	1.1%	1.7%	3.0%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	0.6%	0.6%
Houston	2.6%	1.1%	1.4%	2.7%	4.7%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	1.1%	1.0%
Los Angeles	4.0%	2.3%	3.0%	3.8%	4.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	1.3%	1.5%
Miami	3.1%	1.8%	2.1%	2.5%	3.6%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	1.3%	1.7%
Oakland	4.3%	1.7%	2.2%	3.9%	7.6%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	1.4%	1.8%
Philadelphia	5.9%	2.6%	3.2%	5.3%	9.0%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	0.8%	1.1%
Pittsburgh	5.4%	2.5%	2.8%	4.7%	7.6%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	0.7%	0.7%
Portland	4.0%	2.4%	2.4%	3.8%	6.3%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	1.0%	1.2%
Sacramento	4.6%	2.5%	2.6%	4.7%	8.4%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	1.2%	1.5%
San Diego	5.7%	5.0%	4.9%	3.7%	5.6%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	1.8%	2.9%
San Francisco	7.0%	3.9%	4.4%	6.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	2.0%	2.3%
San Jose	3.6%	1.7%	1.9%	3.2%	5.4%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	1.0%	1.3%

B. RATIO: PERCENT LEAVING HOME IN TIME PERIOD (BY MODE) TO TOTAL PERCENT USING MODE

MSA/PMSA of Residence	4. Bicycle/Walk														5. Other				
	All	5:30 AM - 6:30 AM	6:30 AM - 7:30 AM	7:30 AM - 8:30 AM	8:30 AM - 9:30 AM	9:30 AM - 10:30 AM	10:30 AM - 11:30 AM	11:30 AM - 12:30 PM	12:30 PM - 1:30 PM	1:30 PM - 2:30 PM	2:30 PM - 3:30 PM	3:30 PM - 4:30 PM	4:30 PM - 5:30 PM	5:30 PM - 6:30 PM	6:30 PM - 7:30 PM	7:30 PM - 8:30 PM	8:30 PM - 9:30 PM	All	Workers
	6:29 AM	7:29 AM	8:29 AM	9:29 AM	10:29 AM	11:29 AM	12:29 PM	1:29 PM	2:29 PM	3:29 PM	4:29 PM	5:29 PM	6:29 PM	7:29 PM	8:29 PM	9:29 PM	10:29 PM	1.22	1.22
Boston*	0.47	0.52	0.52	0.79	1.61	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.22	1.05
Buffalo	0.52	0.53	0.74	1.46	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.18	0.88
Chicago*	0.53	0.60	0.95	1.63	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.01	0.88
Cleveland	0.53	0.45	0.82	1.48	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.03	0.93
Detroit	0.47	0.55	0.85	1.47	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.03	0.73
Houston	0.44	0.55	1.05	1.82	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	0.96	0.72
Los Angeles	0.59	0.76	0.96	1.20	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.09	0.95
Miami	0.59	0.69	0.80	1.18	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.33	0.99
Oakland	0.39	0.52	0.92	1.78	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.26	1.09
Philadelphia	0.45	0.54	0.89	1.53	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.36	0.92
Pittsburgh	0.47	0.52	0.88	1.42	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	0.99	0.82
Portland	0.60	0.60	0.95	1.55	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.27	0.80
Sacramento	0.54	0.56	1.01	1.80	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.25	0.84
San Diego	0.88	0.86	0.66	0.99	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.58	0.84
San Francisco	0.56	0.63	0.98	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.13	1.04
San Jose	0.48	0.51	0.87	1.48	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.28	0.99
Average (Unweighted)	0.53	0.59	0.88	1.49	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.19	0.90



TRAVEL TIME TO WORK BY MODE

1. All Modes

MSA/ PMSA of Residence	Travel Time Percentiles (min.) <sup>1</sup>			Percent Using Mode <sup>2</sup>			
	20th	50th (median)	80th	20th	50th (median)	80th	
Boston*	12.1	22.4	38.9	12.0	21.6	34.9	70.6%
Buffalo	11.3	19.8	31.2	11.5	19.6	30.5	77.7%
Chicago*	13.9	26.8	46.5	13.4	24.0	41.7	67.8%
Cleveland	12.9	22.2	33.9	12.9	21.7	33.1	79.3%
Detroit	13.0	22.6	34.8	13.2	22.5	34.5	84.8%
Houston	14.2	24.4	41.9	14.3	24.0	39.1	77.3%
Los Angeles	14.1	24.2	42.2	14.0	23.7	39.8	72.1%
Miami	14.7	23.9	35.0	14.9	23.6	34.5	73.9%
Oakland	13.4	24.2	45.4	12.8	22.4	39.8	71.3%
Philadelphia	12.6	23.0	40.6	12.5	22.1	35.4	69.3%
Pittsburgh	11.8	21.4	34.6	11.8	20.7	33.7	72.2%
Portland	11.9	20.8	33.0	12.0	20.3	32.0	76.7%
Sacramento	11.8	20.6	33.1	12.0	20.4	32.5	77.6%
San Diego	12.4	21.2	33.4	12.9	21.2	32.9	74.6%
San Francisco	14.1	24.0	41.3	13.1	21.8	34.6	58.5%
San Jose	13.3	22.1	34.1	13.5	21.9	33.6	79.7%

2. Drove Alone

MSA/ PMSA of Residence	Travel Time Percentiles (min.)			Percent Using Mode <sup>2</sup>			
	20th	50th (median)	80th	20th	50th (median)	80th	
Boston*	12.6	22.7	40.3	12.6	22.7	40.3	10.5%
Buffalo	12.0	20.3	32.0	12.0	20.3	32.0	11.6%
Chicago*	15.2	29.6	46.6	15.2	29.6	46.6	12.2%
Cleveland	13.7	22.9	34.4	13.7	22.9	34.4	10.7%
Detroit	13.9	23.5	38.7	13.9	23.5	38.7	10.3%
Houston	15.6	28.4	45.6	15.6	28.4	45.6	14.9%
Los Angeles	15.5	26.9	45.0	15.5	26.9	45.0	16.0%
Miami	15.2	24.5	37.2	15.2	24.5	37.2	15.9%
Oakland	16.3	31.1	48.3	16.3	31.1	48.3	13.7%
Philadelphia	13.5	23.7	41.1	13.5	23.7	41.1	12.2%
Pittsburgh	13.1	22.9	39.3	13.1	22.9	39.3	13.2%
Portland	13.6	22.7	34.5	13.6	22.7	34.5	12.8%
Sacramento	13.6	23.1	35.6	13.6	23.1	35.6	14.1%
San Diego	14.2	23.3	34.6	14.2	23.3	34.6	14.5%
San Francisco	15.8	24.8	41.0	15.8	24.8	41.0	12.7%
San Jose	15.2	24.2	39.8	15.2	24.2	39.8	12.6%

3. Carpool

4. Public Transit

MSA/ PMSA of Residence	Travel Time Percentiles (min.)			Percent Using Mode <sup>2</sup>			
	20th	50th (median)	80th	20th	50th (median)	80th	
Boston*	24.2	34.9	53.0	6.0	12.4	20.3	6.4%
Buffalo	20.6	32.1	47.0	<5	10.1	19.1	4.7%
Chicago*	30.7	46.7	70.0	5.7	11.0	19.2	4.4%
Cleveland	24.4	35.5	52.9	<5	9.9	18.6	3.1%
Detroit	23.8	38.8	65.5	<5	9.9	18.8	2.0%
Houston	26.6	45.7	68.8	<5	10.3	20.1	2.6%
Los Angeles	23.3	38.6	67.7	6.7	13.5	23.3	4.0%
Miami	22.0	34.6	64.6	6.6	12.7	21.8	3.1%
Oakland	31.1	47.3	69.5	6.4	13.4	22.7	4.3%
Philadelphia	24.4	40.3	61.6	5.5	11.9	20.5	5.9%
Pittsburgh	22.3	33.6	49.3	5.2	10.6	19.3	5.4%
Portland	21.9	33.9	50.1	<5	10.0	20.3	4.0%
Sacramento	20.9	34.1	53.9	5.9	12.4	21.2	4.6%
San Diego	21.1	34.4	65.3	5.4	10.1	19.3	5.7%
San Francisco	24.3	34.3	51.1	7.2	14.7	24.1	7.0%
San Jose	23.0	44.5	72.1	6.1	12.1	21.5	3.6%

5. Walk/ Bicycle

MSA/ PMSA of Residence	Travel Time Percentiles (min.)			Percent Using Mode <sup>2</sup>			
	20th	50th (median)	80th	20th	50th (median)	80th	
Boston*	10.1	18.3	41.4	10.1	18.3	41.4	0.9%
Buffalo	9.1	17.3	31.1	9.1	17.3	31.1	0.7%
Chicago*	11.3	19.5	38.6	11.3	19.5	38.6	0.9%
Cleveland	10.2	19.2	33.6	10.2	19.2	33.6	0.6%
Detroit	10.2	19.0	32.8	10.2	19.0	32.8	0.6%
Houston	11.4	21.3	36.2	11.4	21.3	36.2	1.1%
Los Angeles	11.5	20.4	34.0	11.5	20.4	34.0	1.3%
Miami	12.5	22.7	34.9	12.5	22.7	34.9	1.3%
Oakland	12.0	24.8	49.6	12.0	24.8	49.6	1.4%
Philadelphia	9.9	17.7	33.5	9.9	17.7	33.5	0.8%
Pittsburgh	9.3	17.5	32.9	9.3	17.5	32.9	0.7%
Portland	10.9	19.4	36.2	10.9	19.4	36.2	1.0%
Sacramento	9.9	19.4	33.1	9.9	19.4	33.1	1.2%
San Diego	10.4	20.0	33.6	10.4	20.0	33.6	1.8%
San Francisco	12.2	22.1	48.9	12.2	22.1	48.9	2.0%
San Jose	11.6	19.6	33.1	11.6	19.6	33.1	1.0%

6. Other

<sup>1</sup>Computed percentiles may vary non-systematically from actual values; see text for a discussion.  
<sup>2</sup>Percent of all workers not working at home.

### TRAVEL TIME TO WORK BY MODE

3c. Carpool: 4-or-more-person carpool

MSA/ PMSA of Residence	3a. Carpool: 2-person carpool				3b. Carpool: 3-person carpool				3c. Carpool: 4-or-more-person carpool			
	Travel Time Percentiles (min.) <sup>1</sup>				Travel Time Percentiles (min.)				Travel Time Percentiles (min.)			
	20th	50th (median)	80th	Percent Using Mode <sup>2</sup>	20th	50th (median)	80th	Percent Using Mode <sup>2</sup>	20th	50th (median)	80th	Percent Using Mode <sup>2</sup>
Boston*	12.2	21.8	37.0	8.7%	14.2	25.0	45.5	1.1%	16.6	32.1	57.6	0.8%
Buffalo	11.8	19.8	31.2	9.9%	13.9	23.0	34.6	1.2%	14.6	24.5	47.2	0.5%
Chicago*	14.6	27.2	45.5	9.6%	17.3	31.6	48.5	1.6%	19.9	33.5	53.2	1.0%
Cleveland	13.4	22.5	34.0	9.2%	15.6	24.9	37.9	1.0%	16.3	29.5	47.7	0.5%
Detroit	13.4	22.9	35.8	8.7%	16.2	28.2	44.9	1.1%	17.5	31.8	49.5	0.6%
Houston	15.2	26.0	43.8	11.5%	16.3	30.8	47.3	2.0%	18.5	33.1	52.0	1.4%
Los Angeles	15.1	25.0	42.7	12.1%	16.4	30.1	46.4	2.3%	17.9	32.4	52.9	1.5%
Miami	15.0	24.1	35.0	12.6%	16.1	27.0	42.7	2.0%	16.3	30.0	46.4	1.3%
Oakland	15.2	27.9	46.5	9.9%	20.6	34.6	49.8	2.5%	20.8	43.2	64.9	1.3%
Philadelphia	13.0	23.0	38.5	9.8%	15.5	27.7	45.5	1.5%	16.5	31.8	48.9	0.9%
Pittsburgh	12.6	22.0	35.2	10.9%	15.9	29.6	46.6	1.5%	17.7	33.1	53.8	0.7%
Portland	13.4	22.3	34.1	10.6%	15.2	24.8	41.8	1.4%	15.0	27.0	46.4	0.7%
Sacramento	13.5	22.6	34.6	11.6%	14.3	24.5	38.2	1.6%	15.9	31.3	53.6	0.9%
San Diego	14.0	23.0	34.4	11.7%	15.4	24.4	36.4	1.8%	15.6	26.1	40.7	0.9%
San Francisco	15.4	24.0	37.6	9.9%	16.9	29.4	44.1	1.8%	18.9	32.6	49.9	1.0%
San Jose	15.0	23.8	37.3	10.4%	16.7	27.5	43.9	1.5%	15.3	30.9	49.8	0.7%

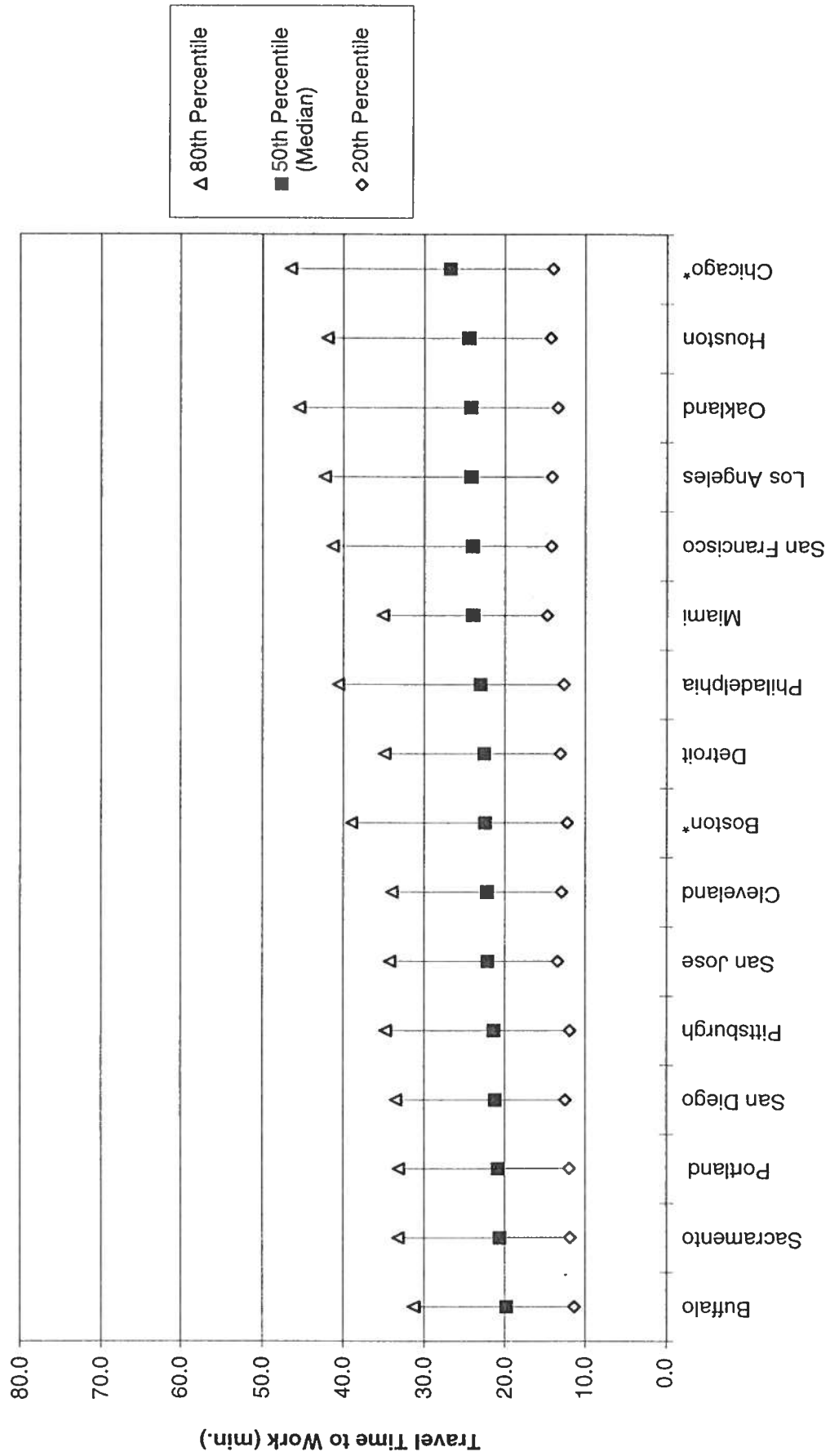
4b. Public Transit: Streetcar/Subway

MSA/ PMSA of Residence	4a. Public Transit: Bus				4b. Public Transit: Streetcar/Subway				4c. Public Transit: Railroad			
	Travel Time Percentiles (min.)				Travel Time Percentiles (min.)				Travel Time Percentiles (min.)			
	20th	50th (median)	80th	Percent Using Mode <sup>2</sup>	20th	50th (median)	80th	Percent Using Mode <sup>2</sup>	20th	50th (median)	80th	Percent Using Mode <sup>2</sup>
Boston*	21.0	33.0	49.3	4.5%	26.1	35.0	49.3	5.7%	35.1	52.0	72.8	1.4%
Buffalo	20.3	32.0	47.2	4.8%	23.7	33.0	46.1	0.5%	16.3	18.3	72.0	0.0%
Chicago*	24.8	40.6	65.1	7.4%	30.8	45.2	65.0	3.5%	44.8	64.1	82.1	3.8%
Cleveland	24.0	34.9	52.9	5.6%	30.0	39.9	52.5	0.6%	32.0	46.2	62.2	0.1%
Detroit	23.9	39.0	65.6	2.3%	18.7	32.9	53.1	0.0%	24.3	32.6	64.4	0.0%
Houston	26.9	45.8	68.8	4.0%	19.3	31.7	54.6	0.0%	18.9	38.9	65.7	0.0%
Los Angeles	23.4	38.8	67.7	6.6%	18.4	32.3	60.0	0.0%	17.8	32.6	66.3	0.0%
Miami	21.2	34.1	64.8	4.9%	30.1	44.9	62.5	0.8%	23.0	42.5	67.9	0.1%
Oakland	23.0	34.9	61.7	4.0%	37.3	51.8	72.3	5.0%	44.2	62.9	74.8	0.4%
Philadelphia	22.2	34.4	58.2	6.5%	28.3	41.0	54.5	3.2%	31.8	48.1	68.5	2.1%
Pittsburgh	22.0	33.3	49.0	7.9%	26.5	41.1	57.4	0.7%	50.8	52.4	53.9	0.0%
Portland	21.6	33.6	49.8	5.2%	26.1	42.8	60.4	0.3%	31.7	46.1	61.9	0.1%
Sacramento	19.6	33.1	52.8	1.9%	27.6	41.0	56.7	0.4%	30.9	45.2	62.7	0.1%
San Diego	20.8	34.1	65.1	3.1%	26.8	44.0	62.8	0.2%	15.0	69.4	>90	0.0%
San Francisco	23.7	33.8	49.6	14.2%	24.8	34.6	49.2	4.7%	42.9	63.2	76.2	0.9%
San Jose	22.2	39.7	67.1	2.5%	20.6	45.8	62.1	0.1%	45.4	74.7	>90	0.4%

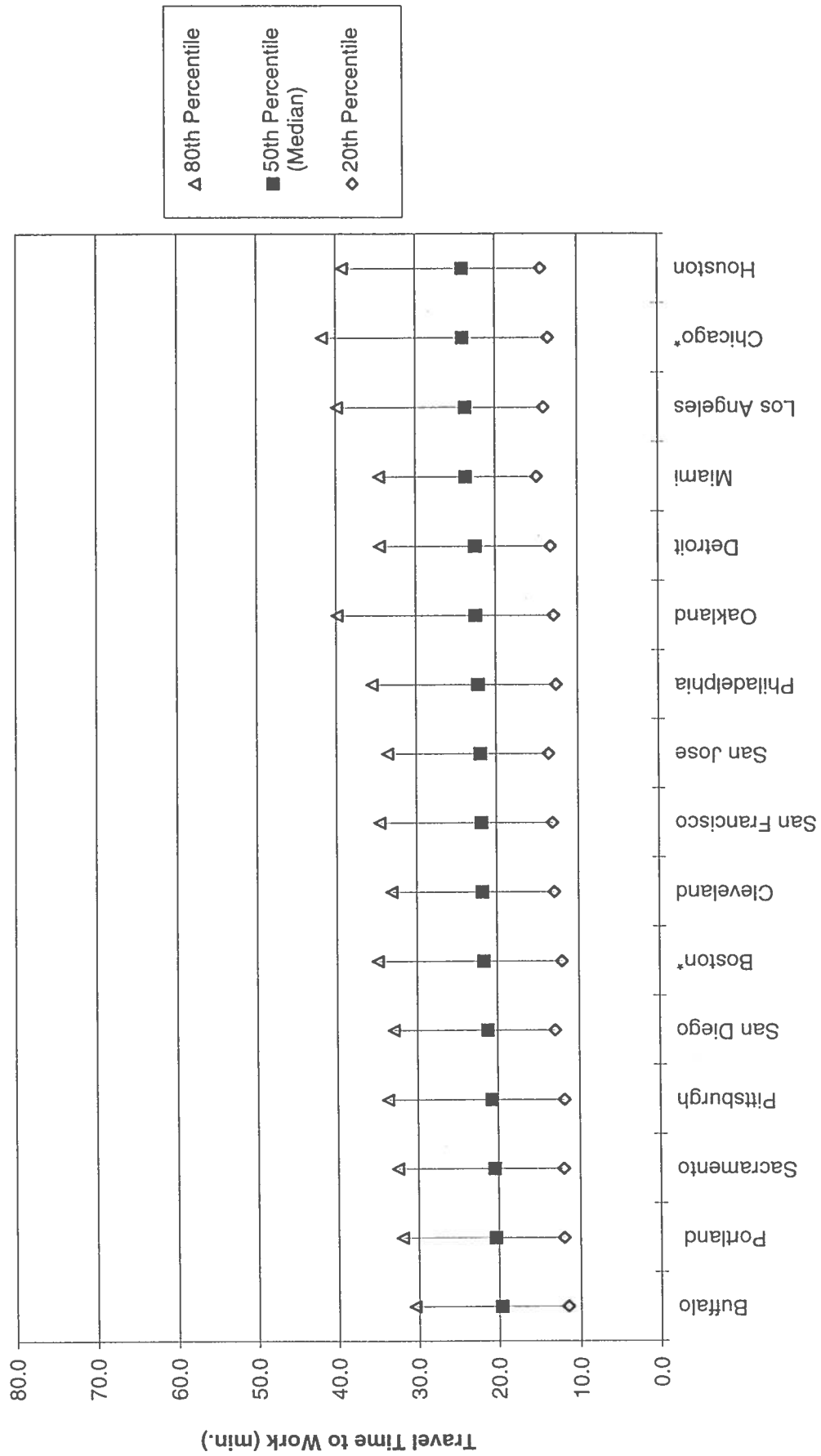
<sup>1</sup>Computed percentiles may vary non-systematically from actual values; see text for a discussion.

<sup>2</sup>Percent of all workers not working at home.

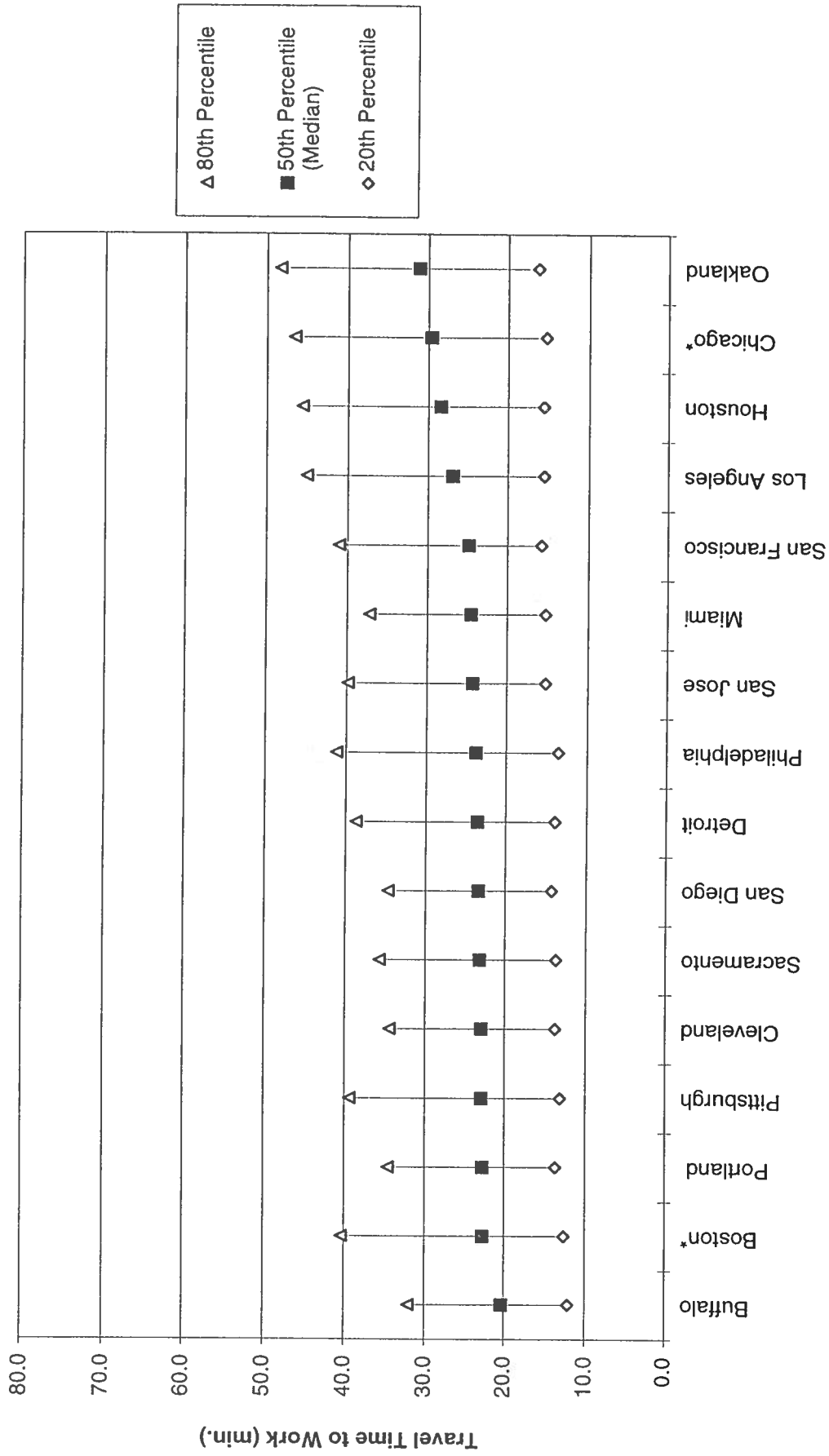
**Fig. 1. Travel Time to Work: All Modes**  
(Sorted by median travel time)



**Fig. 2. Travel Time to Work by Mode: Drove Alone**  
(Sorted by median travel time)

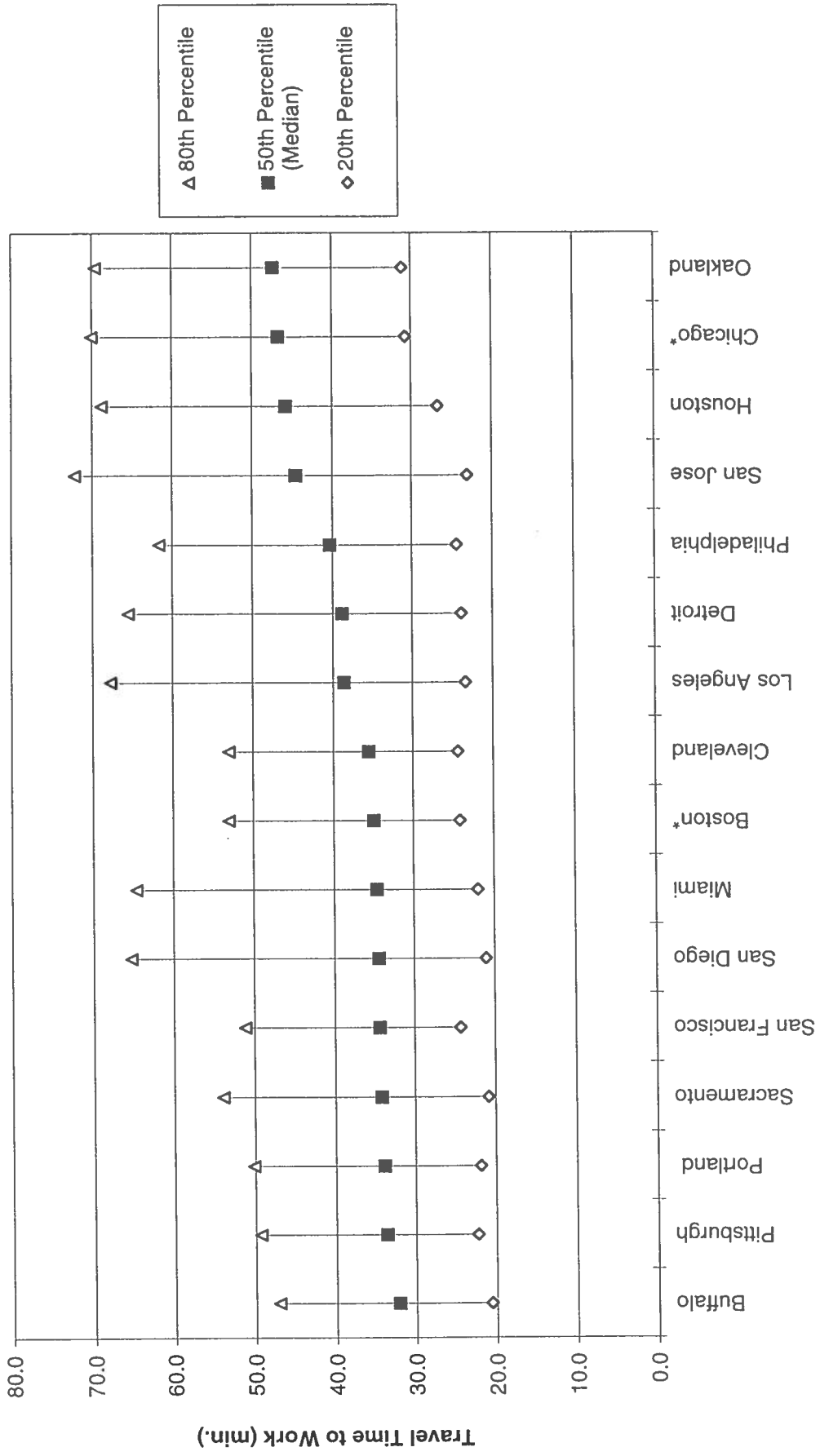


**Fig. 3. Travel Time to Work by Mode: Carpool**  
(Sorted by median travel time)



MSA/PMSA of Residence

**Fig. 4. Travel Time to Work by Mode: Public Transit**  
(Sorted by median travel time)

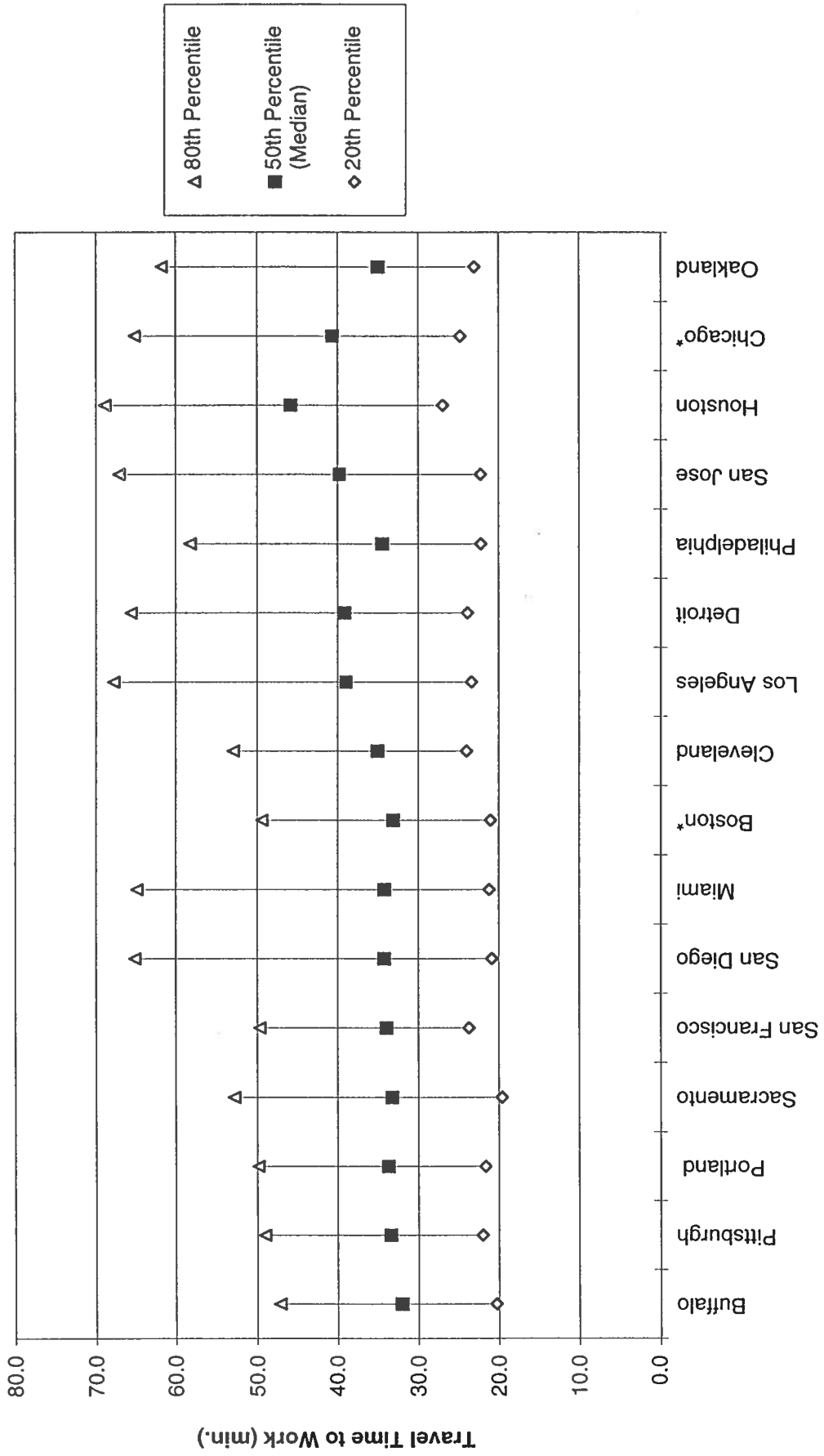


MSA/PMSA of Residence

NOTE: "True" percentiles may vary non-systematically among cities (see text for discussion)

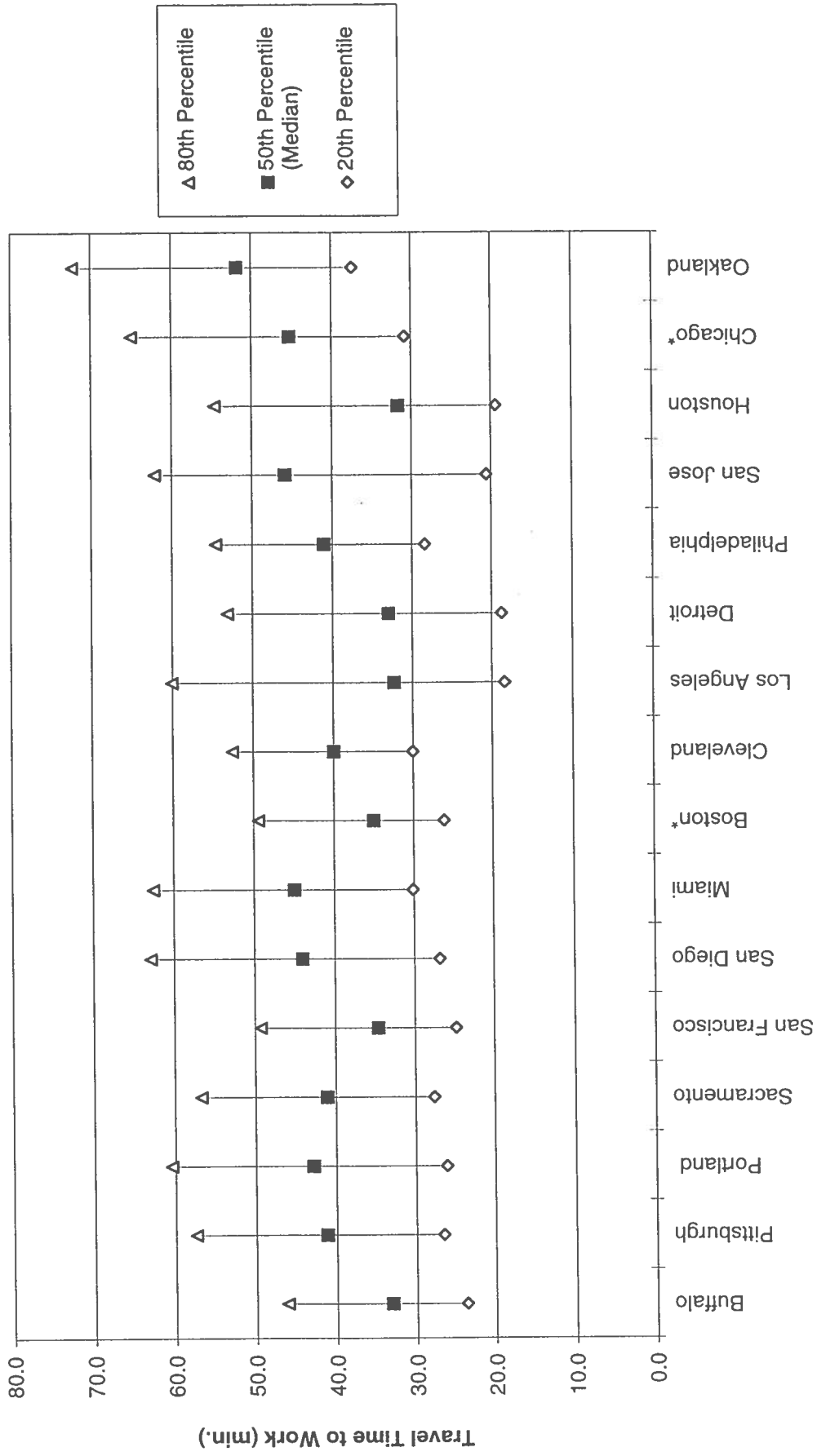


**Fig. 4a. Travel Time to Work by Mode: Bus**  
 (Sorted by median travel time for all public transit users)



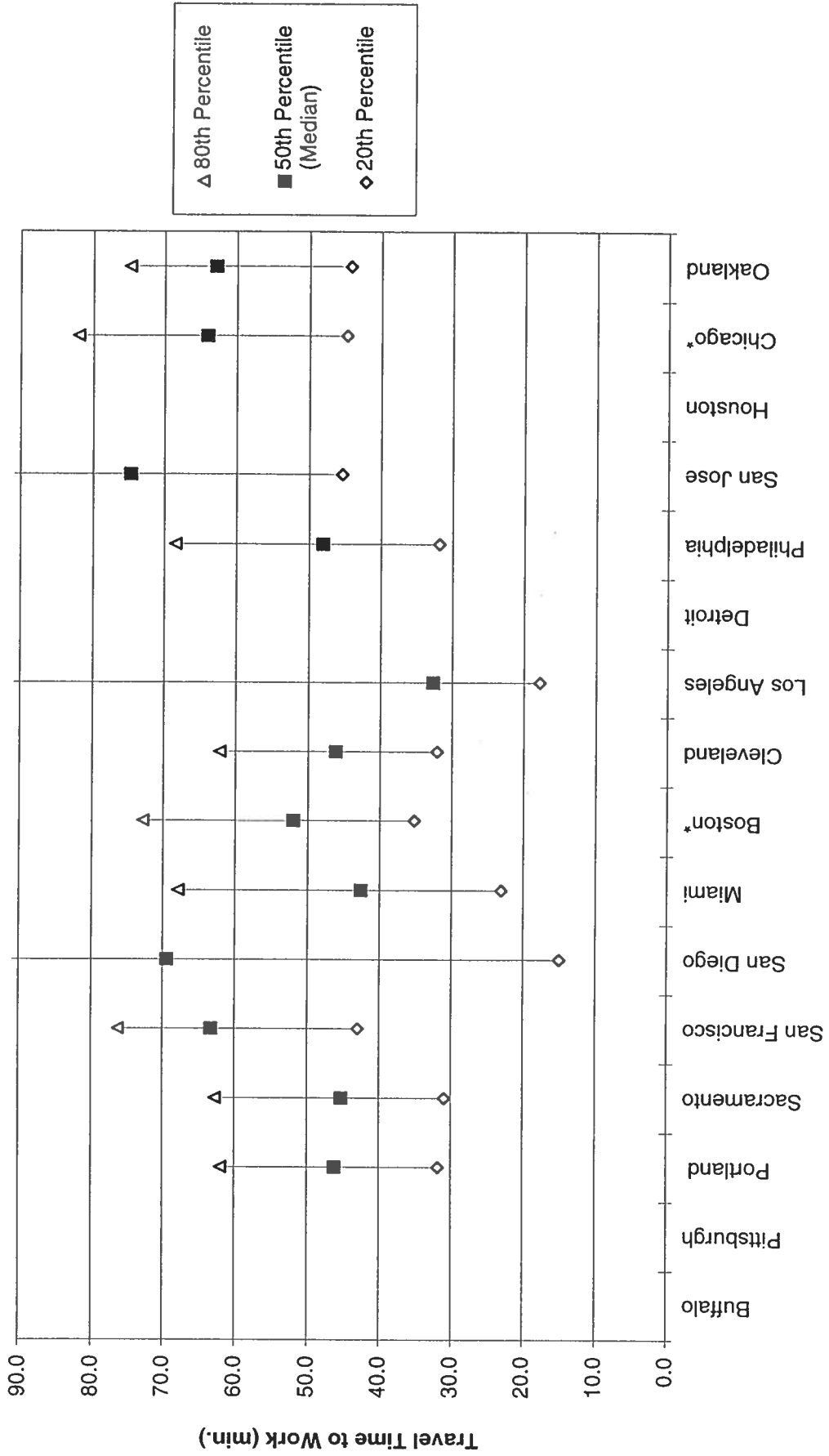
MSA/PMSA of Residence

**Fig. 4b. Travel Time to Work by Mode: Streetcar/Subway**  
 (Sorted by median travel time for all public transit users)

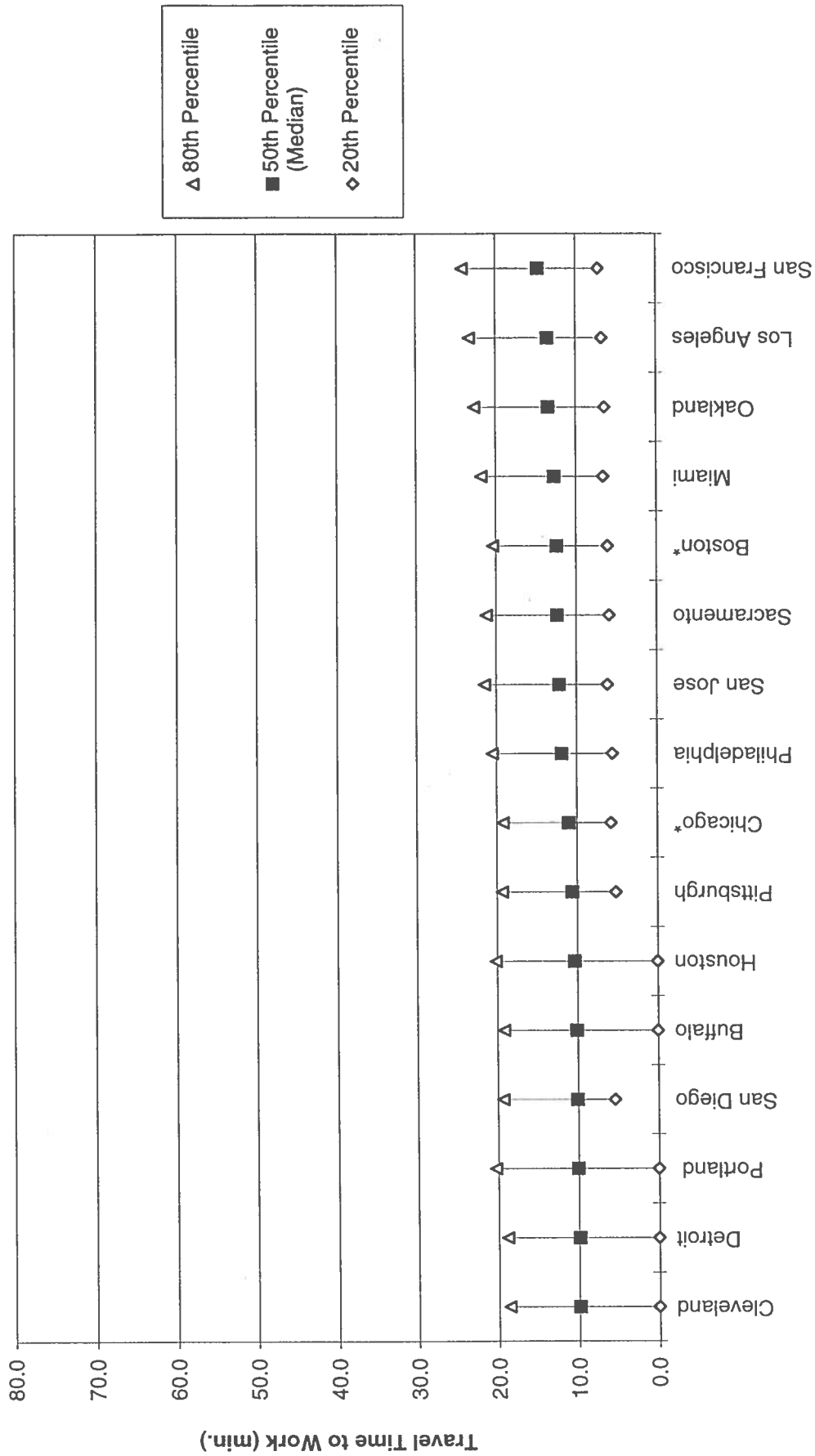


MSA/PMSA of Residence

**Fig. 4c. Travel Time to Work by Mode: Railroad**  
 (Sorted by median travel time for all public transit users)



**Fig. 5. Travel Time to Work by Mode: Walk/Bicycle**  
(Sorted by median travel time)



VEHICLE OCCUPANCY: JOURNEY TO WORK

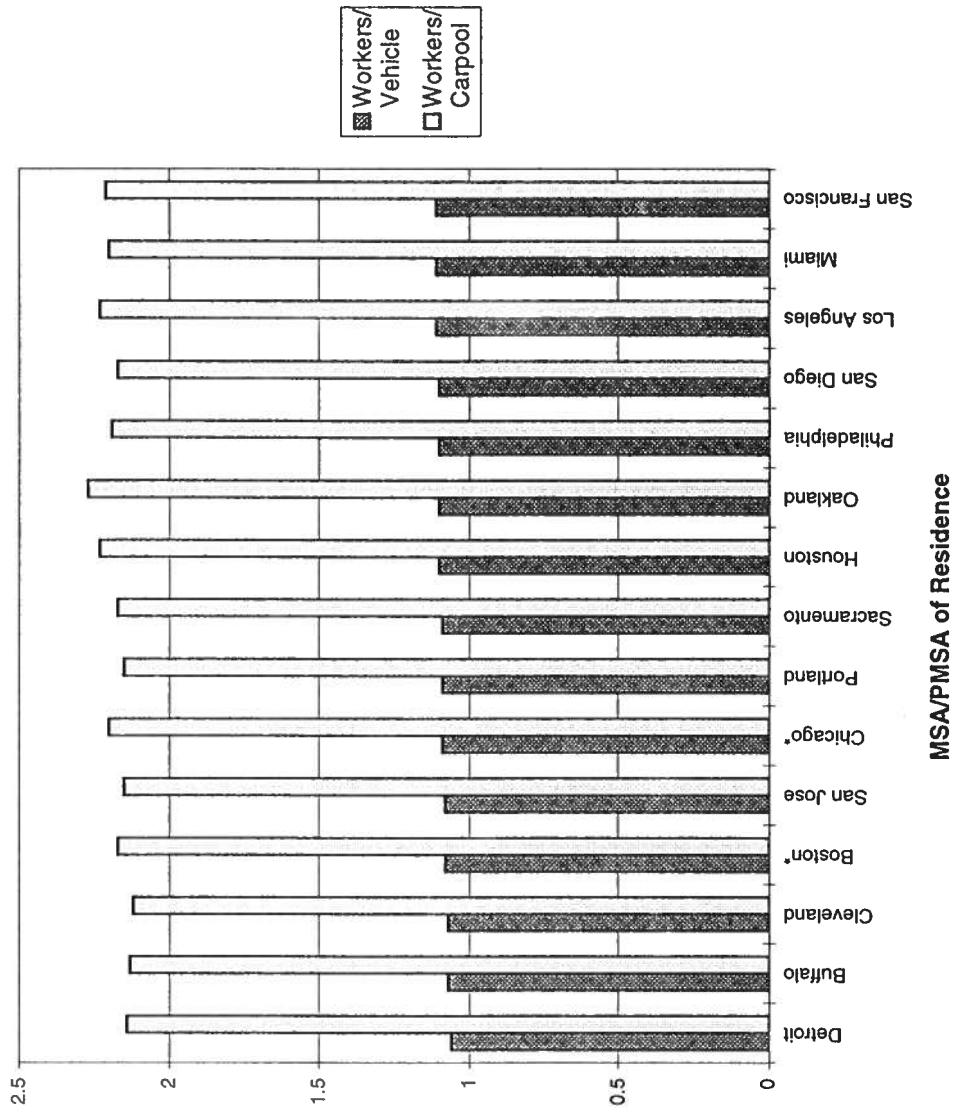
1. Vehicle Occupancy

MSA/ PMSA of Residence	Workers/ Vehicle	Workers/ Carpool
Boston*	1.07	2.17
Buffalo	1.08	2.13
Chicago*	1.09	2.20
Cleveland	1.07	2.12
Detroit	1.06	2.14
Houston	1.10	2.23
Los Angeles	1.11	2.23
Miami	1.11	2.20
Oakland	1.10	2.27
Philadelphia	1.10	2.19
Pittsburgh	N/A	N/A
Portland	1.09	2.15
Sacramento	1.09	2.17
San Diego	1.10	2.17
San Francisco	1.11	2.21
San Jose	1.08	2.15

2. Vehicle Occupancy: Rank

MSA/ PMSA of Residence	Workers/ Vehicle	Workers/ Carpool
Boston*	11	8
Buffalo	13	14
Chicago*	8	5
Cleveland	13	15
Detroit	15	13
Houston	4	2
Los Angeles	1	2
Miami	1	5
Oakland	4	1
Philadelphia	4	7
Pittsburgh	N/A	N/A
Portland	8	11
Sacramento	8	8
San Diego	4	8
San Francisco	1	4
San Jose	11	11

Figure 1. Average Vehicle Occupancy, Journey to Work



HOUSEHOLD INCOME VS. MODE TO WORK

A. HOUSEHOLD INCOME PERCENTILES BY MODE OF TRAVEL TO WORK

(By Type of Public Transit)

1. 50th Percentile (Median) Income (\$)

MSA/ PMSA of Residence	1. 50th Percentile (Median) Income (\$)									
	All Modes	Drove Alone	Carpool	Public Transit	Walk/ Bicycle	Other	Worked at Home	Bus	Streetcar/ Subway	Railroad
Boston*	55,577	58,180	53,592	47,010	43,341	49,584	57,483	42,335	46,529	66,424
Buffalo	41,857	43,482	41,158	26,466	30,626	32,281	39,472	24,913	36,364	
Chicago*	48,920	51,411	46,110	41,288	37,273	42,765	51,065	32,344	40,616	63,416
Cleveland	43,621	45,220	42,016	30,873	33,230	36,801	42,379	29,615	44,813	48,500
Detroit	49,534	51,108	44,436	27,654	33,787	37,107	47,389	27,488	33,259	
Houston	40,508	42,642	35,328	26,852	22,699	30,806	40,884	26,807	34,231	
Los Angeles	46,602	50,424	43,135	28,503	32,448	39,802	51,170	28,434	37,813	40,917
Miami	38,037	40,912	34,548	23,262	23,184	29,338	40,158	21,039	43,428	37,666
Oakland	53,977	55,451	54,397	48,326	36,227	48,252	53,219	37,212	56,087	65,570
Philadelphia	49,101	51,825	47,282	39,731	36,643	41,031	51,430	33,633	41,063	60,503
Pittsburgh	39,791	41,165	40,028	32,633	28,259	30,773	38,393	31,784	46,132	
Portland	40,264	41,677	39,521	29,842	27,973	36,895	36,834	29,298	34,523	41,881
Sacramento	44,270	45,477	44,410	34,825	29,007	37,512	42,713	31,491	45,197	45,283
San Diego	45,186	47,239	41,371	29,118	30,525	37,665	46,028	28,339	34,566	69,695
San Francisco	53,759	56,242	55,934	44,893	37,634	54,416	55,316	42,021	50,301	62,686
San Jose	59,906	61,684	56,889	45,264	44,622	53,587	58,928	41,616	64,563	66,217

B. RATIO: INCOME PERCENTILE (MODE) TO INCOME PERCENTILE (ALL MODES)<sup>1</sup>

(By Type of Public Transit)

1. 50th Percentile (Median) Income

MSA/ PMSA of Residence	1. 50th Percentile (Median) Income									
	Drove Alone	Carpool	Public Transit	Walk/ Bicycle	Other	Worked at Home	Bus	Streetcar/ Subway	Railroad	
Boston*	1.05	0.96	0.85	0.78	0.89	1.03	0.76	0.84	1.20	
Buffalo	1.04	0.98	0.63	0.73	0.77	0.94	0.60	0.87		
Chicago*	1.05	0.94	0.84	0.76	0.87	1.04	0.66	0.83	1.30	
Cleveland	1.04	0.96	0.71	0.76	0.84	0.97	0.68	1.03	1.11	
Detroit	1.03	0.90	0.56	0.68	0.75	0.96	0.55	0.67		
Houston	1.05	0.87	0.66	0.56	0.76	1.01	0.66	0.85		
Los Angeles	1.08	0.93	0.61	0.70	0.85	1.10	0.61	0.81	0.88	
Miami	1.08	0.91	0.61	0.61	0.77	1.06	0.55	1.14	0.99	
Oakland	1.03	1.01	0.90	0.67	0.89	0.99	0.69	1.04	1.21	
Philadelphia	1.06	0.96	0.81	0.75	0.84	1.05	0.68	0.84	1.23	
Pittsburgh	1.03	1.01	0.82	0.71	0.77	0.96	0.80	1.16		
Portland	1.04	0.98	0.74	0.69	0.92	0.91	0.73	0.86	1.04	
Sacramento	1.03	1.00	0.79	0.66	0.85	0.96	0.71	1.02	1.02	
San Diego	1.05	0.92	0.64	0.68	0.83	1.02	0.63	0.76	1.54	
San Francisco	1.08	1.04	0.84	0.70	1.01	1.03	0.78	0.94	1.17	
San Jose	1.03	0.95	0.76	0.74	0.89	0.98	0.69	1.08	1.11	
Average (unweighted)	1.05	0.96	0.74	0.70	0.85	1.00	0.67	0.92	1.15	

<sup>1</sup>EXAMPLE: For Boston, the ratio of the median income of public transit users to the median income of all workers is \$47,010/\$55,577 = 0.85.

HOUSEHOLD INCOME VS. MODE TO WORK

A. HOUSEHOLD INCOME PERCENTILES BY MODE OF TRAVEL TO WORK

2. 20th Percentile Income (\$)

(By Type of Public Transit)

MSA/ PMSA of Residence	2. 20th Percentile Income (\$)									
	All Modes	Drove Alone	Carpool	Public Transit	Walk/ Bicycle	Other	Worked at Home	Bus	Streetcar/ Subway	Railroad
Boston*	32,599	35,656	31,656	25,489	21,824	23,925	30,745	22,198	25,816	41,725
Buffalo	24,589	26,555	24,592	14,515	17,075	19,830	17,075	12,005	23,081	
Chicago*	28,540	31,486	26,965	21,301	18,653	21,577	27,279	17,001	22,103	39,640
Cleveland	25,800	27,544	24,738	15,713	16,417	17,937	21,799	15,145	25,467	22,479
Detroit	28,994	30,803	24,898	12,371	14,865	16,976	25,007	12,314	22,618	
Houston	21,141	23,102	18,628	12,241	10,630	15,260	18,395	12,218	14,885	
Los Angeles	25,122	27,661	24,059	15,120	16,136	20,109	23,794	15,096	18,043	17,547
Miami	19,934	22,048	18,590	11,151	11,149	13,616	18,309	10,361	24,056	20,754
Oakland	30,828	32,559	31,178	25,040	17,320	24,047	27,974	18,480	31,807	40,596
Philadelphia	29,025	31,840	28,401	21,038	18,519	21,645	27,006	17,465	22,913	36,458
Pittsburgh	22,894	24,795	23,363	16,915	13,395	14,976	19,033	16,421	25,073	
Portland	23,170	25,020	22,816	15,395	13,083	20,274	19,811	15,105	22,245	21,087
Sacramento	24,977	26,204	24,974	18,302	14,149	19,102	22,638	17,041	25,418	25,409
San Diego	25,130	26,930	23,248	15,280	15,788	21,068	22,929	14,878	21,041	42,970
San Francisco	30,125	33,706	32,145	24,632	19,615	29,366	27,111	22,817	28,373	36,247
San Jose	35,208	36,736	33,407	22,541	21,859	30,354	31,468	20,828	32,583	39,171

B. RATIO: INCOME PERCENTILE (MODE) TO INCOME PERCENTILE (ALL MODES)

2. 20th Percentile Income

(By Type of Public Transit)

MSA/ PMSA of Residence	2. 20th Percentile Income									
	Drove Alone	Carpool	Public Transit	Walk/ Bicycle	Other	Worked at Home	Bus	Streetcar/ Subway	Railroad	
Boston*	1.09	0.97	0.78	0.67	0.73	0.94	0.68	0.79	1.28	
Buffalo	1.08	1.00	0.51	0.59	0.69	0.81	0.49	0.94		
Chicago*	1.10	0.94	0.75	0.65	0.76	0.96	0.60	0.77	1.39	
Cleveland	1.07	0.96	0.61	0.64	0.70	0.84	0.59	0.99	0.87	
Detroit	1.06	0.86	0.43	0.51	0.59	0.86	0.42	0.78		
Houston	1.09	0.88	0.58	0.50	0.72	0.87	0.58	0.70		
Los Angeles	1.10	0.96	0.60	0.64	0.80	0.95	0.60	0.72	0.70	
Miami	1.11	0.93	0.56	0.56	0.68	0.92	0.52	1.21	1.04	
Oakland	1.06	1.01	0.81	0.56	0.78	0.91	0.60	1.03	1.32	
Philadelphia	1.10	0.98	0.72	0.64	0.75	0.93	0.60	0.79	1.26	
Pittsburgh	1.08	1.02	0.74	0.59	0.65	0.83	0.60	1.10		
Portland	1.08	0.98	0.66	0.56	0.88	0.86	0.65	0.96	0.91	
Sacramento	1.05	1.00	0.73	0.57	0.76	0.91	0.68	1.02	1.02	
San Diego	1.07	0.93	0.61	0.63	0.84	0.91	0.59	0.84	1.71	
San Francisco	1.12	1.07	0.82	0.65	0.97	0.90	0.76	0.94	1.20	
San Jose	1.04	0.95	0.64	0.62	0.86	0.89	0.59	0.93	1.11	
Average (unweighted)	1.08	0.97	0.66	0.60	0.76	0.89	0.60	0.91	1.15	

HOUSEHOLD INCOME VS. MODE TO WORK

A. HOUSEHOLD INCOME PERCENTILES BY MODE OF TRAVEL TO WORK

3. 80th Percentile Income (\$)

(By Type of Public Transit)

MSA/ PMSA of Residence	All Modes				Public Transit			Worked at Home			Streetcar/ Subway		Railroad
	Drove Alone	Carpool	Public Transit	Walk/ Bicycle	Other	Home	Other	Home	Bus	Subway	Railroad		
Boston*	89,346	91,630	84,555	77,824	76,006	87,197	102,595	70,530	77,071	98,737			
Buffalo	65,907	67,445	64,516	48,931	53,865	55,085	72,183	47,536	60,490				
Chicago*	77,613	80,539	72,425	71,703	66,757	81,908	92,206	56,188	68,457	98,344			
Cleveland	69,335	70,717	67,326	53,792	57,107	63,286	75,958	51,614	74,462	72,433			
Detroit	77,454	79,403	71,864	50,434	59,389	69,244	84,394	50,332	59,733				
Houston	68,933	71,108	60,292	53,152	45,016	56,953	76,972	52,981	70,034				
Los Angeles	80,363	85,420	72,207	49,727	58,652	70,244	102,393	49,552	69,279	78,246			
Miami	66,336	69,544	59,083	42,814	45,358	54,572	81,167	37,498	77,514	61,696			
Oakland	86,699	88,008	85,727	81,973	66,925	80,054	95,301	66,003	89,916	96,262			
Philadelphia	77,573	81,438	73,662	66,488	64,850	71,017	92,632	55,034	66,373	94,840			
Pittsburgh	64,025	65,549	63,666	55,253	50,380	59,518	70,806	53,668	72,974				
Portland	64,118	65,788	62,226	50,779	50,901	63,290	64,879	50,253	55,293	59,271			
Sacramento	70,213	70,994	70,313	59,245	53,435	62,024	74,509	56,025	70,833	63,343			
San Diego	73,392	75,654	68,128	52,451	54,320	64,503	84,760	51,507	57,993	98,929			
San Francisco	91,013	95,884	91,170	74,227	68,694	93,886	108,574	71,210	81,025	99,075			
San Jose	94,320	95,671	89,633	75,329	78,577	88,893	102,557	69,997	97,689	98,193			

B. RATIO: INCOME PERCENTILE (MODE) TO INCOME PERCENTILE (ALL MODES)

3. 80th Percentile Income

(By Type of Public Transit)

MSA/ PMSA of Residence	All Modes				Public Transit			Worked at Home			Streetcar/ Subway		Railroad
	Drove Alone	Carpool	Public Transit	Walk/ Bicycle	Other	Home	Other	Home	Bus	Subway	Railroad		
Boston*	1.03	0.95	0.87	0.85	0.98	1.15	0.79	0.86	1.11				
Buffalo	1.02	0.98	0.74	0.82	0.84	1.10	0.72	0.92					
Chicago*	1.04	0.93	0.92	0.86	1.06	1.19	0.72	0.88	1.27				
Cleveland	1.02	0.97	0.78	0.82	0.91	1.10	0.74	1.07	1.04				
Detroit	1.03	0.93	0.65	0.77	0.89	1.09	0.65	0.77					
Houston	1.03	0.87	0.77	0.65	0.83	1.12	0.77	1.02					
Los Angeles	1.06	0.90	0.62	0.73	0.87	1.27	0.62	0.86	0.97				
Miami	1.05	0.89	0.65	0.68	0.82	1.22	0.57	1.17	0.93				
Oakland	1.02	0.99	0.95	0.77	0.92	1.10	0.76	1.04	1.11				
Philadelphia	1.05	0.95	0.86	0.84	0.92	1.19	0.71	0.86	1.22				
Pittsburgh	1.02	0.99	0.86	0.79	0.93	1.11	0.84	1.14					
Portland	1.03	0.97	0.79	0.79	0.99	1.01	0.78	0.86	0.92				
Sacramento	1.01	1.00	0.84	0.76	0.88	1.06	0.80	1.01	0.90				
San Diego	1.03	0.93	0.71	0.74	0.88	1.15	0.70	0.79	1.35				
San Francisco	1.05	1.00	0.82	0.75	1.03	1.19	0.78	0.89	1.09				
San Jose	1.01	0.95	0.80	0.83	0.94	1.09	0.74	1.04	1.04				
Average (unweighted)	1.03	0.95	0.79	0.78	0.92	1.13	0.73	0.95	1.08				



**WORK-TRIP MODE SPLIT BY HOUSEHOLD INCOME LEVEL**

**C. PERCENT OF WORKERS USING MODE, BY HOUSEHOLD INCOME LEVEL<sup>1</sup>**

MSA/ PMSA of Residence	1. Drove Alone				2. Carpool				3. Public Transit											
	All Incomes	Less than \$17,500	\$17,500 to \$35,000	\$35,000 to \$50,000	All Incomes	Less than \$17,500	\$17,500 to \$35,000	\$35,000 to \$50,000	All Incomes	Less than \$17,500	\$17,500 to \$35,000	\$35,000 to \$50,000	\$50,000 to \$75,000 or more							
		\$17,500	\$34,999	\$49,999	\$74,999	\$17,500	\$34,999	\$49,999	\$74,999	\$17,500	\$34,999	\$49,999	\$74,999	more						
Boston*	69.8%	51.4%	62.1%	69.5%	73.0%	75.0%	70.0%	75.0%	10.3%	10.5%	11.0%	10.9%	10.6%	9.2%	11.3%	19.6%	15.7%	11.6%	9.8%	8.4%
Buffalo	76.3%	59.4%	74.2%	80.3%	81.3%	81.7%	81.3%	81.7%	11.4%	10.7%	12.2%	11.1%	11.3%	10.9%	5.2%	15.5%	6.1%	3.5%	3.0%	1.8%
Chicago*	66.8%	46.9%	60.7%	68.9%	71.7%	71.8%	68.9%	71.8%	12.0%	13.1%	13.5%	12.5%	11.7%	10.0%	14.4%	26.6%	18.0%	12.7%	11.5%	11.9%
Cleveland	77.7%	62.4%	75.2%	80.1%	81.8%	83.3%	81.8%	83.3%	10.5%	11.6%	11.1%	10.5%	10.3%	9.2%	6.1%	15.3%	7.9%	4.8%	4.0%	2.8%
Detroit	83.4%	67.5%	79.2%	84.5%	86.9%	87.7%	86.9%	87.7%	10.1%	13.7%	12.3%	10.0%	9.1%	8.2%	2.3%	8.7%	3.5%	1.8%	1.1%	0.7%
Houston	75.7%	62.7%	72.9%	77.9%	81.8%	82.6%	81.8%	82.6%	14.6%	18.0%	16.9%	14.5%	12.4%	10.5%	4.0%	8.7%	4.5%	3.0%	2.4%	2.5%
Los Angeles	70.1%	55.7%	64.0%	70.2%	75.4%	79.4%	75.4%	79.4%	15.5%	16.1%	17.7%	16.9%	15.3%	12.4%	6.4%	15.5%	9.9%	6.1%	3.8%	1.9%
Miami	72.4%	59.4%	69.3%	75.9%	79.0%	81.4%	79.0%	81.4%	15.6%	17.0%	17.7%	15.6%	14.1%	11.5%	5.7%	12.8%	6.8%	3.9%	2.8%	2.1%
Oakland	68.6%	56.0%	65.4%	70.6%	72.2%	72.2%	70.6%	72.2%	13.2%	12.3%	13.2%	13.2%	13.2%	13.1%	9.0%	14.1%	11.3%	8.6%	7.8%	8.0%
Philadelphia	67.8%	47.9%	61.7%	69.5%	72.9%	75.2%	72.9%	75.2%	11.9%	12.0%	12.8%	12.4%	12.0%	10.5%	11.5%	23.1%	15.5%	11.1%	9.2%	7.5%
Pittsburgh	70.7%	59.3%	70.4%	75.0%	75.4%	76.4%	75.0%	76.4%	12.9%	12.2%	13.1%	12.8%	13.4%	12.3%	8.4%	13.7%	8.9%	6.7%	6.4%	5.0%
Portland	74.2%	61.5%	71.6%	77.0%	78.4%	79.2%	78.4%	79.2%	12.2%	12.1%	13.0%	12.1%	12.3%	10.7%	5.3%	11.0%	6.5%	4.4%	3.6%	2.4%
Sacramento	75.2%	65.2%	73.5%	77.4%	78.5%	78.2%	78.5%	78.2%	13.7%	13.6%	13.6%	13.3%	14.1%	13.5%	2.4%	4.1%	3.0%	2.1%	1.8%	1.4%
San Diego	70.9%	62.1%	69.3%	75.3%	78.1%	81.0%	78.1%	81.0%	13.8%	15.5%	16.2%	14.3%	13.6%	10.6%	3.2%	7.8%	4.4%	2.7%	1.9%	1.2%
San Francisco	56.3%	40.4%	48.4%	55.6%	59.6%	64.9%	59.6%	64.9%	12.2%	9.9%	11.4%	12.4%	13.2%	12.6%	19.0%	28.1%	25.1%	20.4%	17.8%	12.7%
San Jose	77.7%	64.2%	73.6%	77.3%	79.6%	82.0%	79.6%	82.0%	12.3%	14.0%	13.5%	13.1%	12.7%	11.0%	2.9%	7.6%	4.5%	3.1%	2.4%	1.7%
Unweighted Average	0.80	0.94	1.03	1.06	1.09	1.09	1.06	1.09	1.05	1.08	1.02	1.02	0.99	0.88	2.20	1.30	0.87	0.70	0.55	

**D. RATIO: PERCENT USING MODE (BY INCOME LEVEL) TO PERCENT USING MODE (ALL INCOMES)2**

MSA/ PMSA of Residence	1. Drove Alone				2. Carpool				3. Public Transit										
	All Incomes	Less than \$17,500	\$17,500 to \$35,000	\$35,000 to \$50,000	All Incomes	Less than \$17,500	\$17,500 to \$35,000	\$35,000 to \$50,000	All Incomes	Less than \$17,500	\$17,500 to \$35,000	\$35,000 to \$50,000	\$50,000 to \$75,000 or more						
		\$17,500	\$34,999	\$49,999	\$74,999	\$17,500	\$34,999	\$49,999	\$74,999	\$17,500	\$34,999	\$49,999	\$74,999	more					
Boston*	0.74	0.89	1.00	1.05	1.07	1.07	1.05	1.07	1.02	1.07	1.06	1.03	0.89	1.73	1.39	1.03	0.87	0.74	0.74
Buffalo	0.78	0.97	1.05	1.07	1.07	1.07	1.07	1.07	0.94	1.08	0.98	1.00	0.96	2.98	1.18	0.67	0.58	0.35	0.35
Chicago*	0.70	0.91	1.03	1.07	1.07	1.07	1.07	1.07	1.09	1.12	1.04	0.98	0.83	1.85	1.25	0.88	0.80	0.83	0.83
Cleveland	0.80	0.97	1.03	1.05	1.05	1.07	1.05	1.07	1.10	1.05	1.00	0.98	0.88	2.49	1.29	0.79	0.65	0.45	0.45
Detroit	0.81	0.95	1.01	1.04	1.05	1.05	1.04	1.05	1.35	1.21	0.99	0.90	0.81	3.85	1.53	0.79	0.47	0.33	0.33
Houston	0.83	0.96	1.03	1.08	1.09	1.09	1.08	1.09	1.23	1.16	0.99	0.85	0.72	2.17	1.11	0.74	0.59	0.61	0.61
Los Angeles	0.79	0.91	1.00	1.08	1.13	1.13	1.08	1.13	1.04	1.14	1.09	0.99	0.80	2.41	1.53	0.94	0.56	0.29	0.29
Miami	0.82	0.96	1.05	1.09	1.12	1.12	1.09	1.12	1.09	1.14	1.00	0.90	0.74	2.24	1.18	0.68	0.49	0.37	0.37
Oakland	0.82	0.95	1.03	1.05	1.05	1.05	1.05	1.05	0.93	1.00	1.00	1.05	1.00	1.56	1.24	0.95	0.87	0.89	0.89
Philadelphia	0.71	0.91	1.03	1.08	1.11	1.11	1.08	1.11	1.00	1.08	1.04	1.01	0.88	2.00	1.35	0.96	0.80	0.65	0.65
Pittsburgh	0.84	1.00	1.06	1.07	1.08	1.08	1.07	1.08	0.94	1.01	0.99	1.03	0.95	1.63	1.05	0.79	0.60	0.60	0.60
Portland	0.83	0.96	1.04	1.06	1.07	1.07	1.06	1.07	0.99	1.06	0.99	1.01	0.88	2.06	1.21	0.82	0.67	0.46	0.46
Sacramento	0.87	0.98	1.03	1.04	1.04	1.04	1.04	1.04	0.99	1.00	0.97	1.03	0.99	1.74	1.26	0.89	0.76	0.59	0.59
San Diego	0.88	0.98	1.06	1.10	1.14	1.14	1.10	1.14	1.13	1.18	1.04	0.99	0.77	2.43	1.38	0.83	0.60	0.37	0.37
San Francisco	0.72	0.86	0.99	1.06	1.15	1.15	1.06	1.15	0.80	0.93	1.01	1.08	1.03	1.48	1.32	1.07	0.94	0.67	0.67
San Jose	0.83	0.95	0.99	1.02	1.06	1.06	1.02	1.06	1.14	1.09	1.06	1.03	0.89	2.57	1.55	1.05	0.83	0.59	0.59
Unweighted Average	0.80	0.94	1.03	1.06	1.09	1.09	1.06	1.09	1.05	1.08	1.02	0.99	0.88	2.20	1.30	0.87	0.70	0.55	

<sup>1</sup>EXAMPLE: Of workers in Boston with household incomes less than \$17,500, 51.4 percent drove alone.

<sup>2</sup>EXAMPLE: In Boston, 51.4% of workers with household incomes less than \$17,500 drove alone, while 68.9% of all workers drove alone, for a ratio of 0.74.

**WORK-TRIP MODE SPLIT BY HOUSEHOLD INCOME LEVEL**

**C. PERCENT OF WORKERS USING MODE, BY HOUSEHOLD INCOME LEVEL**

MSA/ PMSA of Residence	4. Walk/Bicycle					5. Other					6. Work at Home								
	All Incomes	Less than \$17,500	\$17,500 to \$34,999	\$34,999 to \$49,999	\$49,999 to \$74,999	\$74,999 more	All Incomes	Less than \$17,500	\$17,500 to \$34,999	\$34,999 to \$49,999	\$49,999 to \$74,999	\$74,999 more	All Incomes	Less than \$17,500	\$17,500 to \$34,999	\$34,999 to \$49,999	\$49,999 to \$74,999	\$74,999 more	
Boston*	5.3%	13.0%	7.8%	5.1%	4.0%	3.8%	0.9%	2.0%	1.1%	0.8%	0.7%	0.8%	2.4%	3.5%	2.3%	2.1%	1.9%	1.9%	2.9%
Buffalo	4.6%	10.2%	4.8%	3.1%	2.5%	2.6%	0.7%	1.4%	0.9%	0.6%	0.5%	0.8%	1.9%	2.8%	1.8%	1.4%	1.4%	1.4%	2.6%
Chicago*	3.8%	8.9%	4.9%	3.4%	2.6%	2.6%	0.9%	1.7%	1.0%	0.8%	0.7%	0.8%	2.1%	2.8%	1.8%	1.8%	1.8%	1.8%	2.7%
Cleveland	3.0%	6.4%	3.4%	2.4%	1.8%	1.7%	0.6%	1.2%	0.7%	0.5%	0.4%	0.4%	2.0%	3.1%	1.8%	1.6%	1.6%	1.6%	2.6%
Detroit	2.0%	6.0%	2.6%	1.7%	1.2%	1.0%	0.6%	1.6%	0.8%	0.5%	0.4%	0.5%	1.6%	2.5%	1.7%	1.5%	1.3%	1.3%	1.9%
Houston	2.5%	6.0%	2.8%	1.8%	1.0%	0.9%	1.1%	1.9%	1.1%	1.0%	0.6%	0.8%	2.1%	2.7%	1.7%	1.8%	1.8%	1.8%	2.7%
Los Angeles	3.9%	7.7%	4.8%	3.5%	2.4%	1.8%	1.3%	1.9%	1.5%	1.3%	1.1%	1.0%	2.7%	3.2%	2.1%	2.1%	2.1%	2.1%	3.6%
Miami	3.0%	6.4%	3.1%	1.9%	1.4%	1.1%	1.3%	2.1%	1.4%	1.0%	0.9%	0.8%	2.0%	2.3%	1.7%	1.6%	1.6%	1.6%	3.0%
Oakland	4.1%	10.8%	5.8%	3.4%	2.5%	2.1%	1.4%	2.3%	1.6%	1.3%	1.2%	1.1%	3.7%	4.5%	2.7%	2.9%	2.4%	2.4%	3.4%
Philadelphia	5.8%	12.8%	7.1%	4.5%	3.5%	3.3%	0.8%	1.3%	0.9%	0.7%	0.5%	0.6%	2.3%	2.9%	2.0%	1.9%	1.9%	1.9%	2.9%
Pittsburgh	5.3%	10.7%	5.1%	3.6%	2.7%	2.8%	0.6%	1.3%	0.7%	0.5%	0.4%	0.7%	2.1%	2.9%	1.8%	1.5%	1.5%	1.8%	2.8%
Portland	3.6%	8.9%	4.2%	2.4%	2.0%	2.4%	0.9%	1.2%	1.0%	0.8%	0.7%	1.0%	3.7%	5.3%	3.8%	3.3%	3.0%	3.0%	4.3%
Sacramento	4.5%	11.4%	5.5%	3.2%	2.3%	2.3%	1.1%	1.9%	1.2%	1.1%	0.9%	0.8%	3.1%	3.9%	3.2%	2.9%	2.5%	2.5%	3.8%
San Diego	5.4%	8.1%	4.8%	3.0%	2.1%	1.6%	1.8%	2.3%	2.1%	1.8%	1.3%	1.2%	5.0%	4.2%	3.1%	2.8%	2.8%	4.4%	4.4%
San Francisco	6.7%	14.4%	9.7%	6.7%	4.5%	3.6%	1.9%	2.2%	1.9%	1.8%	1.9%	2.0%	3.8%	5.0%	3.4%	3.2%	3.0%	3.0%	4.3%
San Jose	3.5%	8.8%	4.6%	3.2%	2.3%	1.9%	1.0%	1.5%	1.2%	1.0%	0.9%	0.8%	2.5%	3.9%	2.6%	2.4%	2.1%	2.1%	2.6%

**D. RATIO: PERCENT USING MODE (BY INCOME LEVEL) TO PERCENT USING MODE (ALL INCOMES)**

MSA/ PMSA of Residence	4. Walk/Bicycle					5. Other					6. Work at Home								
	All Incomes	Less than \$17,500	\$17,500 to \$34,999	\$34,999 to \$49,999	\$49,999 to \$74,999	\$74,999 more	All Incomes	Less than \$17,500	\$17,500 to \$34,999	\$34,999 to \$49,999	\$49,999 to \$74,999	\$74,999 more	All Incomes	Less than \$17,500	\$17,500 to \$34,999	\$34,999 to \$49,999	\$49,999 to \$74,999	\$74,999 more	
Boston*	2.45	1.48	0.96	0.75	0.71	0.71	2.22	1.18	0.90	0.81	0.91	0.91	1.46	0.96	0.88	0.82	0.82	0.82	1.20
Buffalo	2.21	1.05	0.68	0.55	0.56	0.56	1.93	1.21	0.79	0.66	0.67	0.67	1.53	0.94	0.74	0.76	0.76	0.76	1.38
Chicago*	2.37	1.31	0.90	0.70	0.68	0.68	1.88	1.14	0.85	0.72	1.06	1.06	1.33	0.88	0.88	0.85	0.85	0.85	1.32
Cleveland	2.11	1.10	0.79	0.59	0.56	0.56	2.01	1.09	0.83	0.80	0.72	0.72	1.56	0.89	0.83	0.81	0.81	0.81	1.31
Detroit	2.99	1.31	0.86	0.61	0.51	0.51	2.65	1.28	0.83	0.64	0.76	0.76	1.49	1.01	0.93	0.77	0.77	0.77	1.13
Houston	2.41	1.10	0.70	0.40	0.37	0.37	1.76	1.08	0.92	0.61	0.75	0.75	1.28	0.83	0.88	0.85	0.85	0.85	1.32
Los Angeles	1.98	1.25	0.89	0.63	0.47	0.47	1.47	1.14	1.02	0.86	0.73	0.73	1.15	0.78	0.76	0.77	0.77	0.77	1.31
Miami	2.13	1.04	0.64	0.48	0.37	0.37	1.65	1.09	0.81	0.71	0.66	0.66	1.12	0.83	0.77	0.89	0.89	0.89	1.49
Oakland	2.63	1.41	0.82	0.60	0.51	0.51	1.69	1.16	0.98	0.89	0.84	0.84	1.20	0.73	0.77	0.65	0.65	0.65	0.90
Philadelphia	2.22	1.23	0.79	0.61	0.56	0.56	1.77	1.21	0.91	0.71	0.77	0.77	1.28	0.87	0.82	0.82	0.82	0.82	1.28
Pittsburgh	2.03	0.97	0.68	0.51	0.54	0.54	1.99	1.08	0.75	0.56	1.05	1.05	1.42	0.89	0.73	0.88	0.88	0.88	1.36
Portland	2.47	1.16	0.68	0.56	0.66	0.66	1.33	1.10	0.91	0.78	1.05	1.05	1.41	1.03	0.88	0.81	0.81	0.81	1.15
Sacramento	2.53	1.22	0.72	0.52	0.51	0.51	1.88	1.10	0.97	0.78	0.73	0.73	1.25	1.02	0.92	0.82	0.82	0.82	1.23
San Diego	1.50	0.89	0.56	0.39	0.30	0.30	1.63	1.19	1.05	0.74	0.68	0.68	0.84	0.63	0.57	0.59	0.59	0.59	0.88
San Francisco	1.44	1.00	0.68	0.50	0.53	0.53	1.15	1.00	0.94	0.96	1.02	1.02	1.32	0.91	0.84	0.79	0.79	0.79	1.14
San Jose	2.48	1.30	0.89	0.65	0.54	0.54	1.57	1.20	1.05	0.89	0.84	0.84	1.55	1.04	0.94	0.84	0.84	0.84	1.02
Unweighted Average	2.29	1.20	0.79	0.58	0.53	0.53	1.75	1.14	0.91	0.76	0.83	0.83	1.32	0.89	0.82	0.79	0.79	0.79	1.21

WORK-TRIP MODE SPLIT BY HOUSEHOLD INCOME LEVEL

C. PERCENT OF WORKERS USING MODE, BY HOUSEHOLD INCOME LEVEL

7. Public Transit: Bus

MSA/PMSA of Residence	Less than \$17,500 to \$35,000 to \$50,000 to \$75,000 or more				
	All Incomes	\$17,500	\$34,999	\$49,999	\$74,999
Boston*	4.4%	10.0%	6.9%	4.7%	3.6%
Buffalo	4.6%	14.8%	5.5%	3.1%	2.6%
Chicago*	7.2%	19.7%	11.3%	6.5%	4.5%
Cleveland	5.5%	14.6%	7.3%	4.3%	3.4%
Detroit	2.2%	8.7%	3.4%	1.8%	1.1%
Houston	4.0%	8.6%	4.5%	3.0%	2.3%
Los Angeles	6.4%	15.4%	9.8%	6.0%	3.6%
Miami	4.8%	12.1%	6.0%	3.0%	1.8%
Oakland	3.9%	10.2%	6.1%	3.7%	2.7%
Philadelphia	6.4%	17.2%	9.8%	6.3%	4.1%
Pittsburgh	7.7%	13.2%	8.3%	6.1%	5.6%
Portland	5.0%	10.6%	6.1%	4.0%	3.2%
Sacramento	1.8%	3.6%	2.5%	1.5%	1.2%
San Diego	2.9%	7.5%	4.1%	2.4%	1.7%
San Francisco	13.5%	23.4%	19.2%	14.7%	12.0%
San Jose	2.4%	7.3%	4.1%	2.7%	1.9%

8. Public Transit: Streetcar/Subway

MSA/PMSA of Residence	Less than \$17,500 to \$35,000 to \$50,000 to \$75,000 or more				
	All Incomes	\$17,500	\$34,999	\$49,999	\$74,999
Boston*	5.54%	8.98%	7.99%	5.82%	4.74%
Buffalo	0.50%	0.66%	0.61%	0.43%	0.44%
Chicago*	3.44%	5.70%	4.52%	3.34%	2.79%
Cleveland	0.56%	0.63%	0.58%	0.53%	0.45%
Detroit	0.02%	0.04%	0.05%	0.02%	0.01%
Houston	0.03%	0.05%	0.02%	0.01%	0.03%
Los Angeles	0.05%	0.08%	0.05%	0.05%	0.04%
Miami	0.76%	0.59%	0.62%	0.78%	0.80%
Oakland	4.84%	3.70%	4.94%	4.55%	4.72%
Philadelphia	3.17%	4.78%	4.33%	3.21%	2.78%
Pittsburgh	0.71%	0.52%	0.56%	0.53%	0.80%
Portland	0.26%	0.36%	0.32%	0.25%	0.17%
Sacramento	0.40%	0.36%	0.38%	0.41%	0.41%
San Diego	0.23%	0.33%	0.34%	0.24%	0.15%
San Francisco	4.55%	4.30%	5.27%	4.92%	4.83%
San Jose	0.09%	0.04%	0.12%	0.07%	0.09%

9. Public Transit: Railroad

MSA/PMSA of Residence	Less than \$17,500 to \$35,000 to \$50,000 to \$75,000 or more				
	All Incomes	\$17,500	\$34,999	\$49,999	\$74,999
Boston*	1.34%	0.56%	0.86%	1.09%	1.46%
Buffalo	3.72%	1.26%	2.19%	2.88%	4.23%
Chicago*	0.06%	0.03%	0.06%	0.05%	0.07%
Detroit	0.01%	0.02%	0.01%	0.01%	0.01%
Houston	0.13%	0.13%	0.13%	0.13%	0.18%
Los Angeles	0.39%	0.22%	0.23%	0.32%	0.43%
Miami	2.10%	1.15%	1.43%	1.61%	2.35%
Oakland	0.09%	0.08%	0.07%	0.12%	0.11%
Philadelphia	0.14%	0.17%	0.11%	0.19%	0.15%
Pittsburgh	0.03%	0.00%	0.01%	0.04%	0.02%
Portland	0.84%	0.49%	0.63%	0.78%	0.90%
Sacramento	0.41%	0.28%	0.34%	0.30%	0.45%
San Diego	0.14%	0.17%	0.11%	0.19%	0.15%
San Francisco	0.03%	0.00%	0.01%	0.04%	0.02%
San Jose	0.84%	0.49%	0.63%	0.78%	0.90%

D. RATIO: PERCENT USING MODE (BY INCOME LEVEL) TO PERCENT USING MODE (ALL INCOMES)

7. Public Transit: Bus

MSA/PMSA of Residence	Less than \$17,500 to \$35,000 to \$50,000 to \$75,000 or more			
	\$17,500	\$34,999	\$49,999	\$74,999
Boston*	2.26	1.55	1.06	0.81
Buffalo	3.20	1.19	0.66	0.55
Chicago*	2.72	1.56	0.89	0.62
Cleveland	2.68	1.34	0.78	0.63
Detroit	3.90	1.53	0.80	0.47
Houston	2.18	1.12	0.75	0.59
Los Angeles	2.42	1.54	0.94	0.56
Miami	2.49	1.25	0.62	0.38
Oakland	2.64	1.57	0.97	0.70
Philadelphia	2.70	1.54	0.99	0.64
Pittsburgh	1.70	1.07	0.79	0.72
Portland	2.12	1.22	0.80	0.65
Sacramento	1.99	1.38	0.84	0.69
San Diego	2.57	1.41	0.82	0.60
San Francisco	1.72	1.42	1.08	0.89
San Jose	3.04	1.71	1.14	0.80
Unweighted Average	2.52	1.40	0.87	0.64

8. Public Transit: Streetcar/Subway

MSA/PMSA of Residence	Less than \$17,500 to \$35,000 to \$50,000 to \$75,000 or more			
	\$17,500	\$34,999	\$49,999	\$74,999
Boston*	1.62	1.44	1.05	0.86
Buffalo	1.30	1.20	0.85	0.86
Chicago*	1.66	1.32	0.97	0.81
Cleveland	1.12	1.03	0.94	0.81
Detroit	1.76	1.99	0.90	0.40
Houston	2.08	0.76	0.27	1.10
Los Angeles	1.79	1.12	0.98	0.82
Miami	0.79	0.82	1.03	1.06
Oakland	0.76	1.02	0.94	0.98
Philadelphia	1.51	1.37	1.01	0.88
Pittsburgh	0.74	0.79	0.75	1.13
Portland	1.36	1.21	0.94	0.80
Sacramento	0.90	0.96	1.04	1.03
San Diego	1.42	1.46	1.04	0.63
San Francisco	0.95	1.08	1.06	0.80
San Jose	0.41	1.27	0.78	1.01
Unweighted Average	1.26	1.18	0.91	0.89

9. Public Transit: Railroad

MSA/PMSA of Residence	Less than \$17,500 to \$35,000 to \$50,000 to \$75,000 or more			
	\$17,500	\$34,999	\$49,999	\$74,999
Boston*	0.42	0.64	0.82	1.09
Buffalo	0.34	0.59	0.77	1.14
Chicago*	0.54	1.08	0.81	1.23
Detroit	1.86	1.08	0.77	0.76
Houston	0.57	1.02	0.97	1.41
Los Angeles	0.55	0.68	0.77	1.12
Miami	0.88	0.81	1.33	1.20
Oakland	1.18	0.76	1.33	1.03
Philadelphia	0.11	0.25	1.35	0.70
Pittsburgh	0.58	0.74	0.93	1.07
Portland	0.69	0.84	0.73	1.10
Sacramento	0.72	0.76	0.95	1.08
San Diego	0.72	0.76	0.95	1.08
San Francisco	0.72	0.76	0.95	1.08
San Jose	0.72	0.76	0.95	1.08
Unweighted Average	0.72	0.76	0.95	1.08

HOUSEHOLD INCOME VS. MODE TO WORK

1990 CTPP Data: Table A45

E. Household Income of Workers, All Modes

MSA/PMSEA of Residence	Less than \$17,500	\$17,500 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 or more
Boston*	5.8%	16.7%	19.9%	28.8%	28.8%
Buffalo	10.5%	27.2%	25.1%	24.4%	12.9%
Chicago*	7.7%	21.2%	22.5%	27.3%	21.2%
Cleveland	9.5%	25.3%	24.7%	25.2%	15.3%
Detroit	7.9%	20.4%	22.3%	28.1%	21.2%
Houston	14.7%	27.0%	21.0%	21.9%	15.5%
Los Angeles	10.6%	23.3%	20.0%	23.6%	22.4%
Miami	16.5%	28.7%	20.8%	19.6%	14.4%
Oakland	7.0%	17.9%	19.7%	28.4%	26.9%
Philadelphia	7.4%	20.9%	22.9%	27.6%	21.2%
Pittsburgh	12.2%	29.1%	24.4%	22.0%	12.2%
Portland	11.8%	28.7%	24.6%	22.8%	12.1%
Sacramento	10.5%	25.0%	22.8%	25.8%	15.9%
San Diego	10.3%	24.6%	21.7%	24.8%	18.6%
San Francisco	7.2%	19.1%	19.1%	25.7%	28.9%
San Jose	5.0%	14.8%	17.9%	28.6%	33.7%

Figure 1. Household Income, All Workers

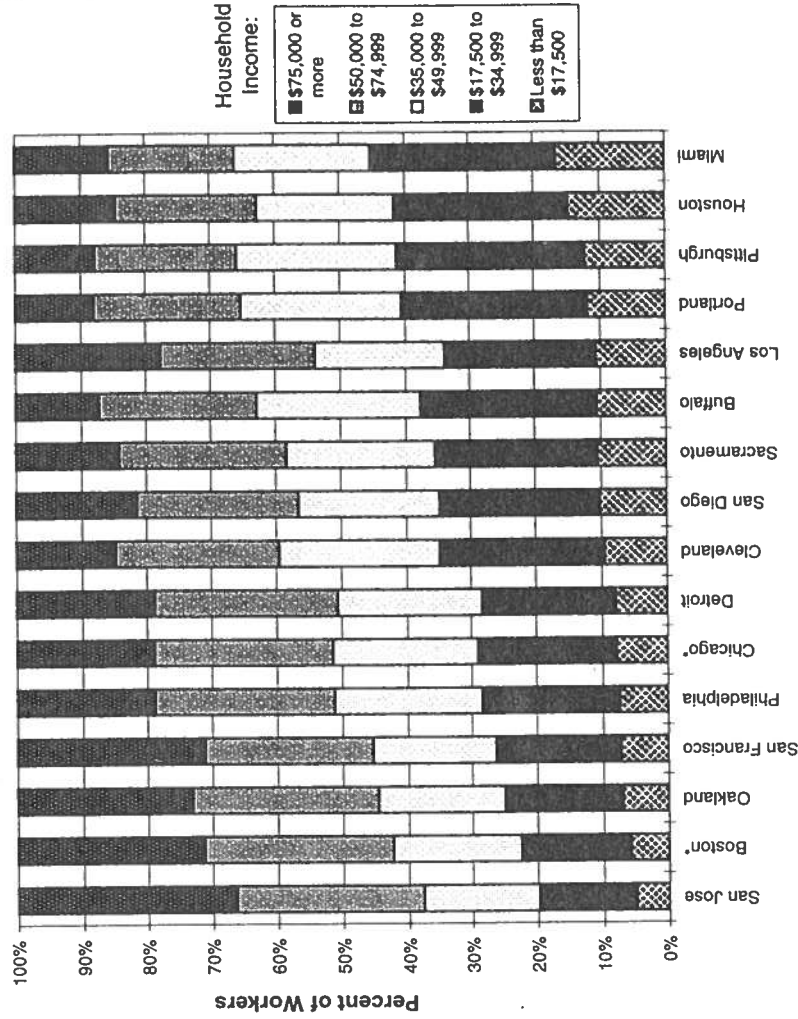


Fig. 2. Household Income: Workers Using Public Transit vs. All Workers

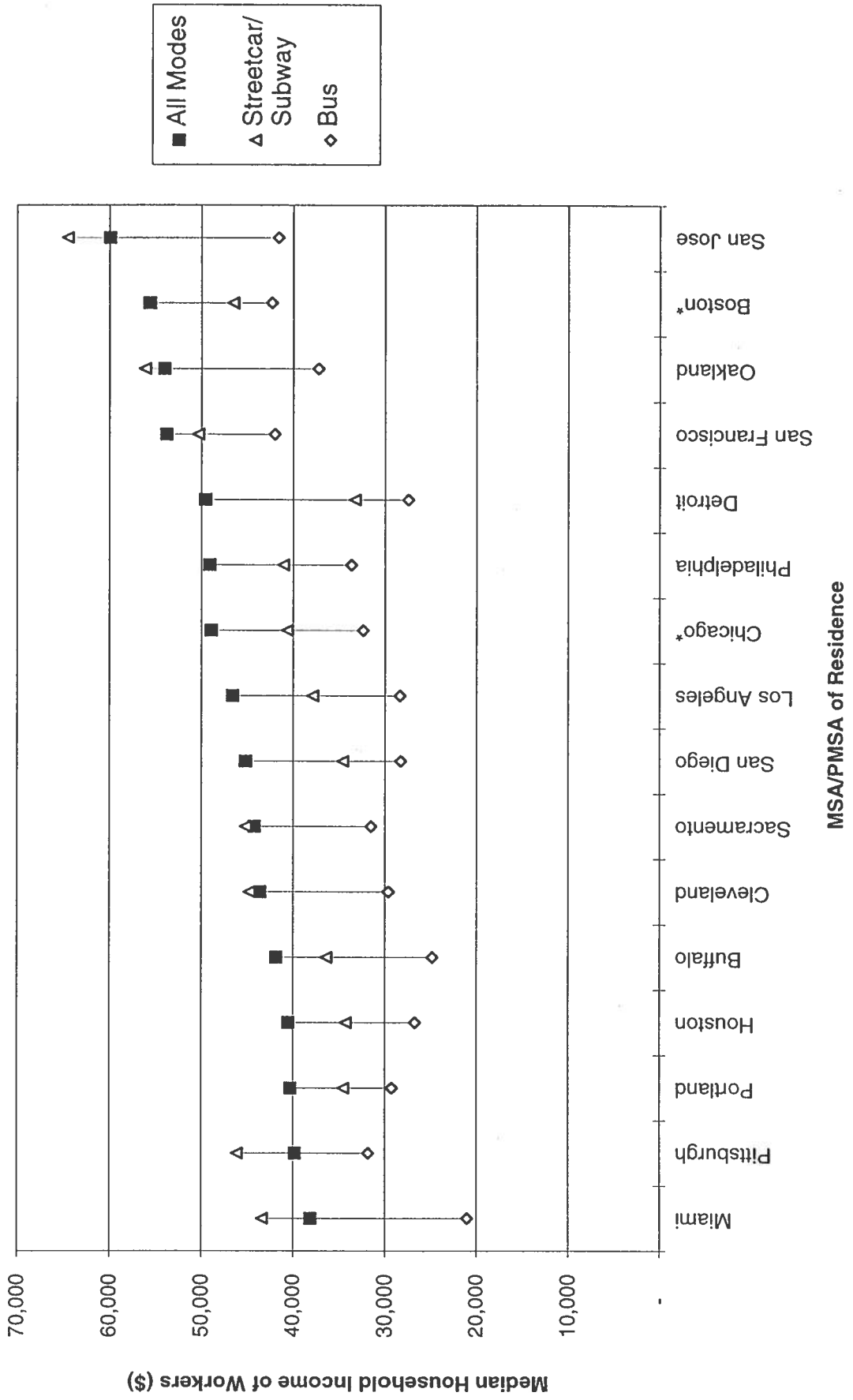


Fig. 3. Workers Driving Alone vs. Household Income

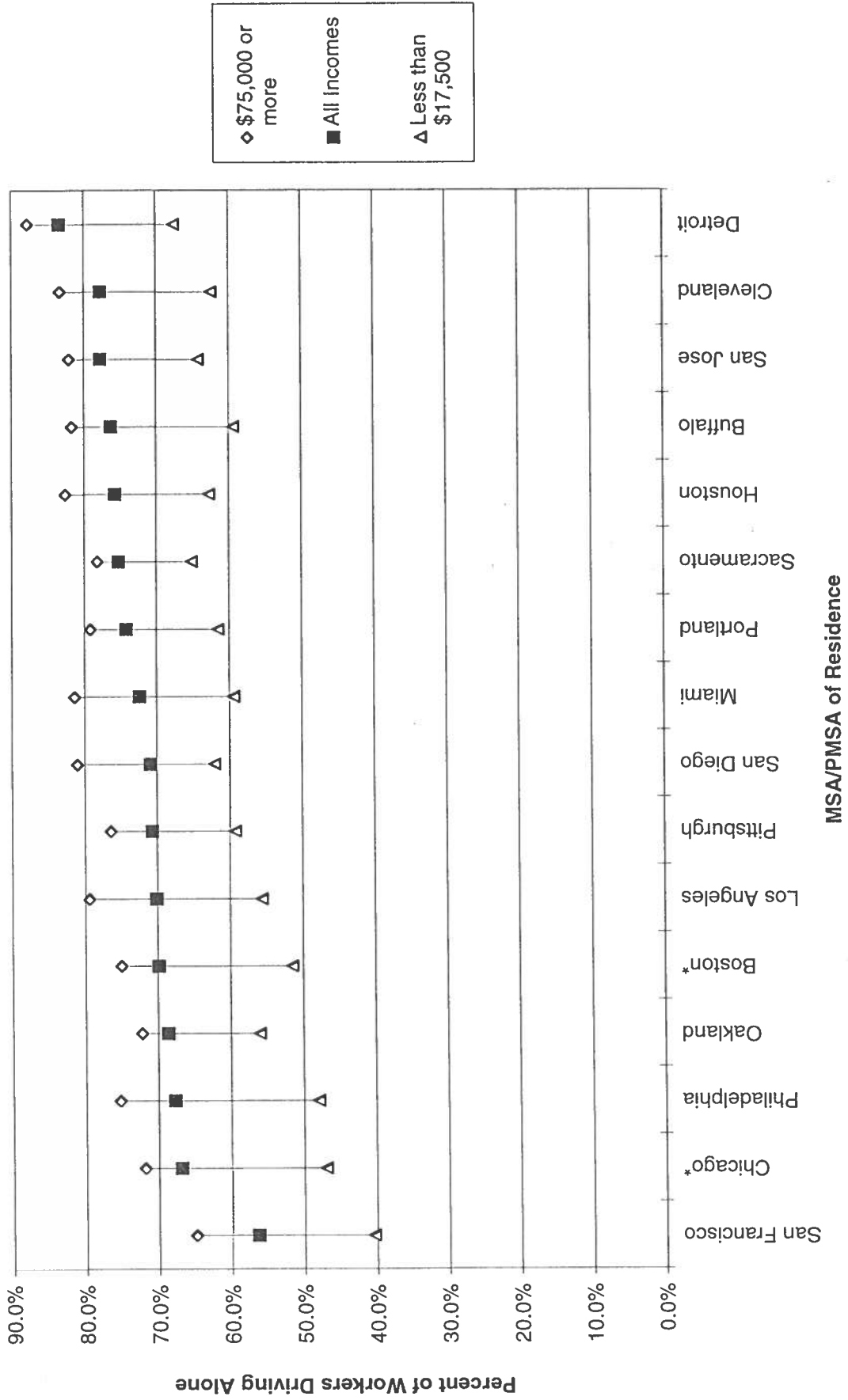
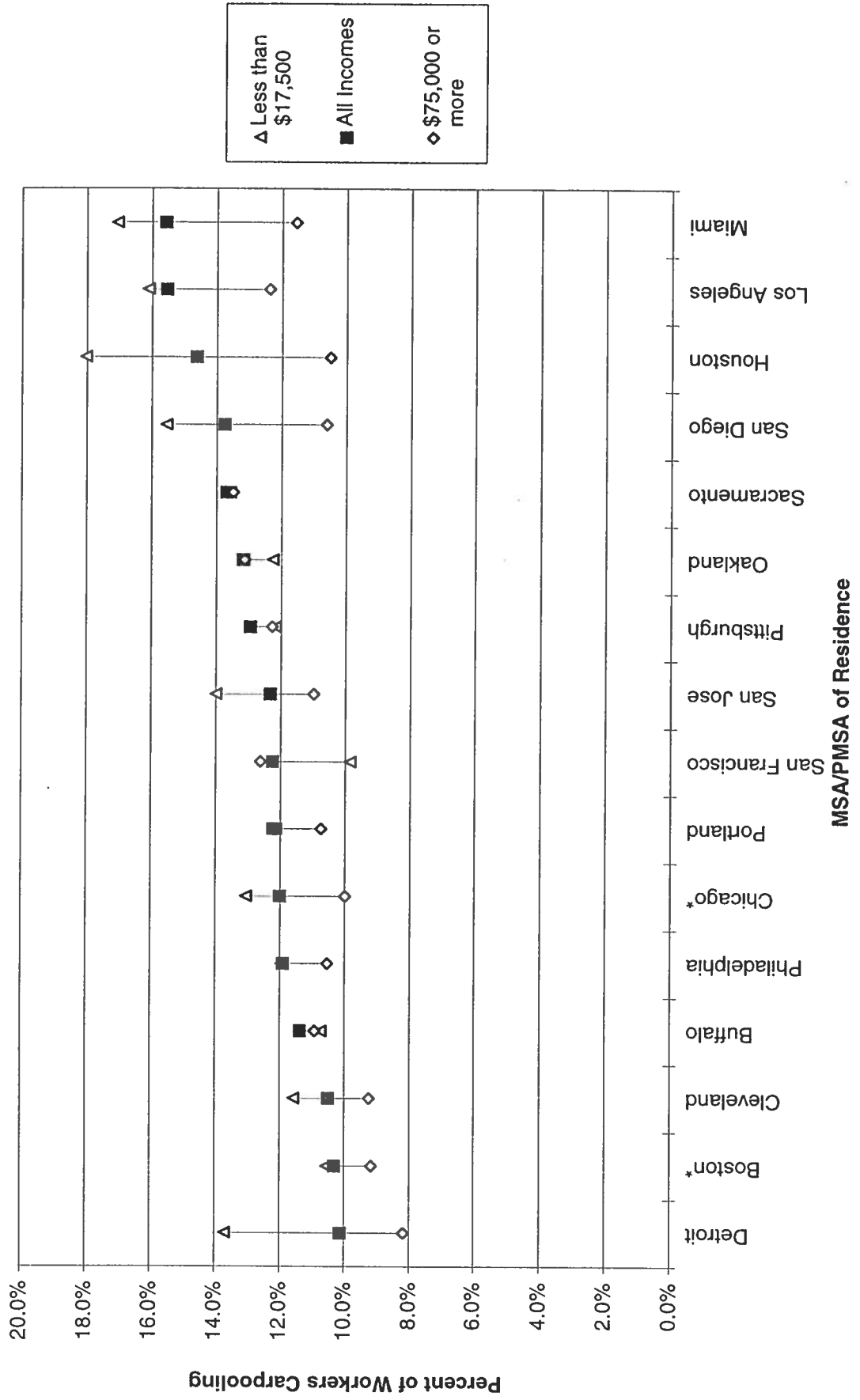
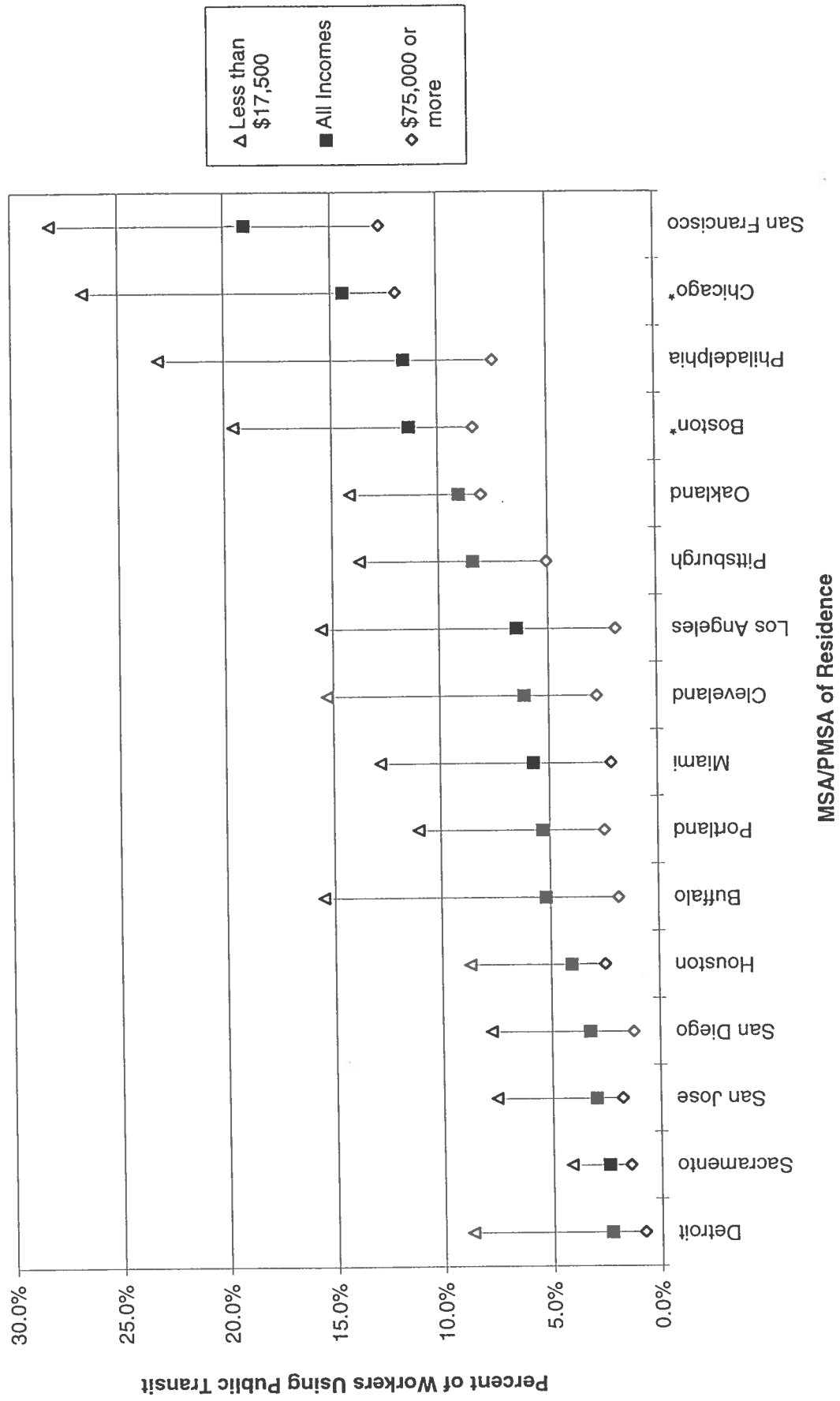


Fig. 4. Workers Carpooling vs. Household Income

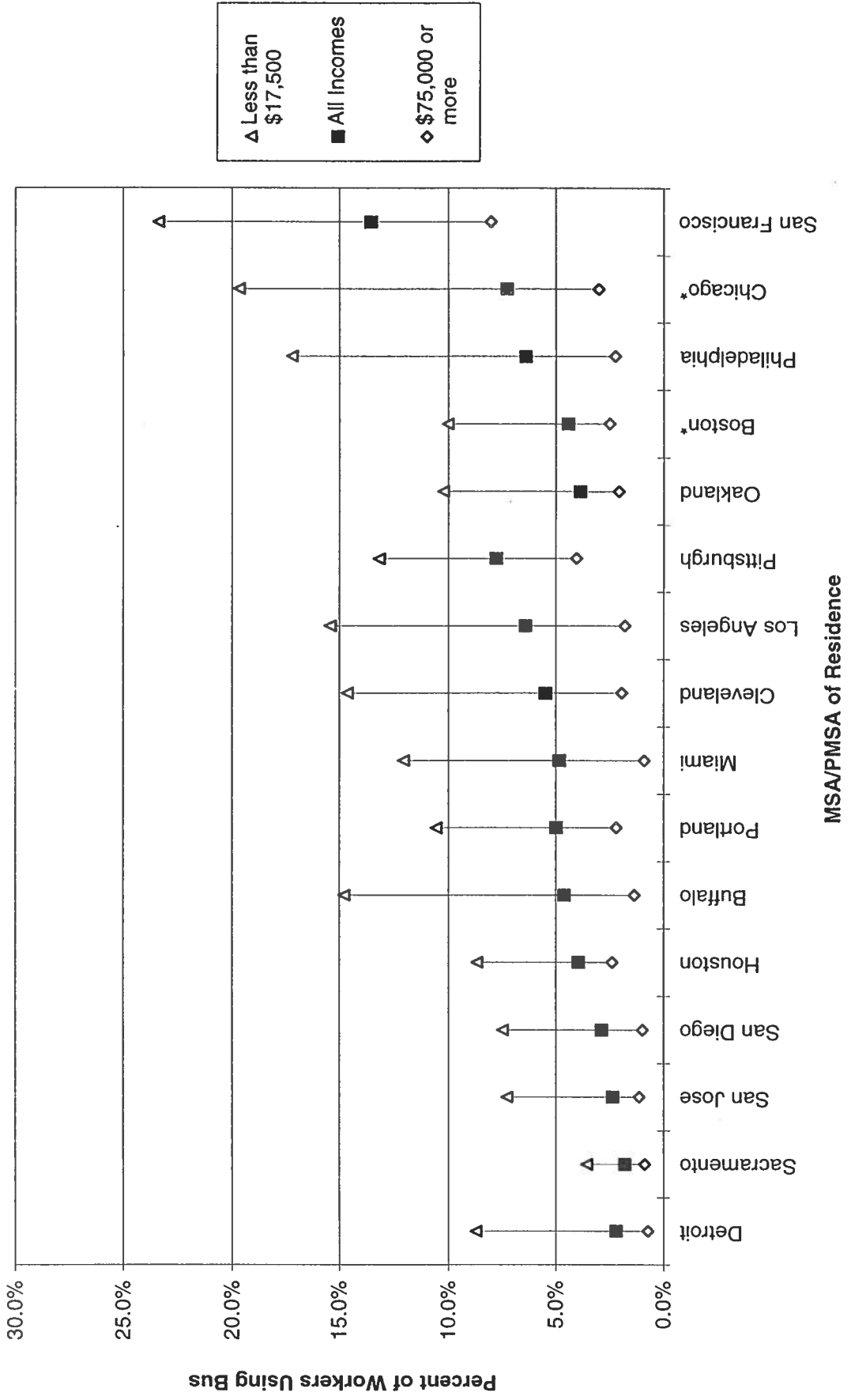


**Fig 5. Public Transit Use vs. Household Income**  
(Sorted by All Incomes)





**Fig. 5a. Bus Use vs. Household Income**  
 (Sorted by percent using public transit, all incomes)



**Fig. 5b. Streetcar/Subway Use vs. Household Income**  
 (Sorted by percent using public transit; all incomes)



**Fig. 5c. Railroad Use vs. Household Income**  
 (Sorted by percent using public transit, all incomes)

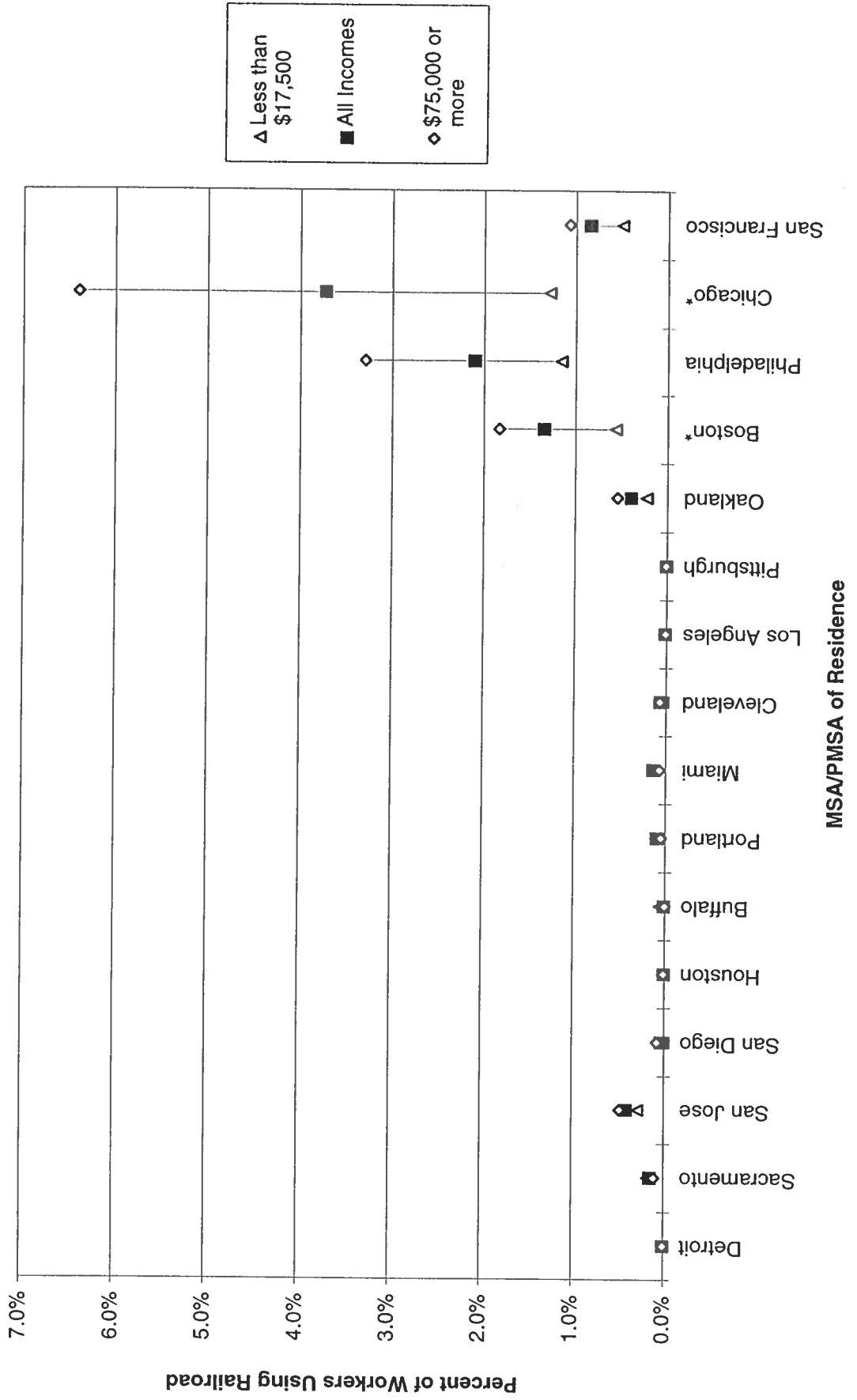
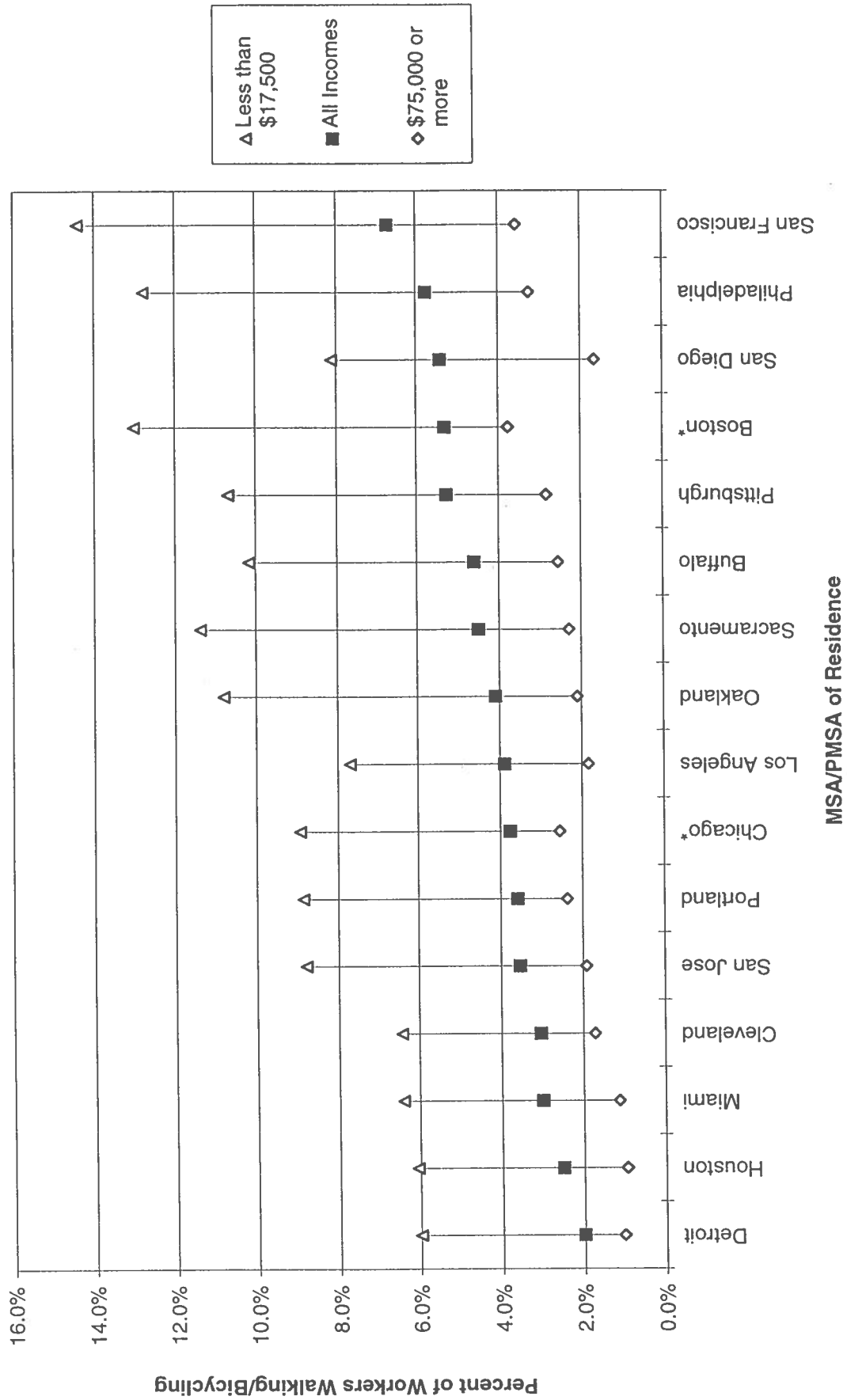


Fig. 6. Walking/Bicycling vs. Household Income



VEHICLES AVAILABLE VS. MODE TO WORK

A. PERCENT USING MODE BY VEHICLES AVAILABLE

MSA/PMSA of Residence	1. Drove Alone				2. Carpool				3. Public Transit				
	All workers	No vehicles	1 vehicle	2+ vehicles	All workers	No vehicles	1 vehicle	2+ vehicles	All workers	No vehicles	1 vehicle	2+ vehicles	3+ vehicles
Boston*	69.8%	17.5%	57.7%	78.2%	10.3%	9.9%	13.5%	9.2%	11.3%	44.9%	17.3%	6.6%	4.8%
Buffalo	76.9%	25.6%	68.4%	83.3%	11.4%	13.0%	15.4%	10.1%	5.1%	38.1%	7.5%	2.0%	1.5%
Chicago*	66.8%	14.5%	55.7%	79.0%	12.0%	11.4%	15.6%	10.6%	14.4%	56.1%	20.0%	8.6%	5.8%
Cleveland	78.1%	25.2%	70.2%	82.6%	10.5%	14.9%	13.0%	9.7%	6.1%	42.7%	9.9%	3.4%	2.3%
Detroit	83.5%	39.0%	76.5%	86.7%	10.1%	18.0%	13.8%	9.0%	2.3%	26.5%	4.0%	0.9%	0.5%
Houston	75.9%	26.6%	70.1%	80.9%	14.6%	20.6%	18.4%	12.8%	4.0%	29.8%	5.0%	2.3%	1.6%
Los Angeles	70.5%	23.2%	63.4%	76.0%	15.6%	13.5%	18.0%	14.7%	6.4%	42.9%	9.1%	3.1%	2.2%
Miami	72.7%	23.9%	65.2%	79.0%	15.6%	16.5%	20.0%	13.9%	5.7%	38.0%	7.0%	2.7%	2.1%
Oakland	69.6%	25.1%	60.6%	72.7%	13.3%	11.5%	14.8%	13.0%	9.1%	38.8%	13.5%	7.5%	5.0%
Philadelphia	68.4%	16.2%	57.9%	77.6%	11.9%	11.3%	15.3%	10.7%	11.6%	49.5%	16.5%	6.2%	3.6%
Pittsburgh	71.3%	18.6%	62.2%	77.8%	13.0%	12.2%	15.4%	12.4%	8.5%	44.2%	12.7%	4.7%	3.2%
Portland	74.2%	22.7%	65.2%	78.2%	12.2%	10.8%	15.1%	11.6%	5.3%	37.8%	8.9%	3.4%	2.3%
Sacramento	75.5%	33.3%	68.8%	77.7%	13.6%	16.6%	15.4%	12.7%	2.3%	17.4%	3.8%	1.7%	1.2%
San Diego	74.2%	27.7%	65.3%	78.4%	14.0%	15.5%	17.9%	12.8%	3.2%	29.9%	5.1%	1.6%	1.3%
San Francisco	56.8%	10.3%	47.7%	65.8%	12.3%	5.4%	12.9%	12.9%	18.9%	56.2%	25.0%	12.4%	8.1%
San Jose	78.3%	43.5%	70.8%	80.5%	12.4%	13.0%	14.4%	11.7%	2.9%	23.2%	5.3%	2.0%	1.7%
Unweighted Average	0.33	0.88	1.08	1.11	1.06	1.23	0.93	0.92	6.48	1.51	0.57	0.40	

B. RATIO: PERCENT OF WORKERS USING MODE (BY VEHICLES AVAILABLE) TO PERCENT OF ALL WORKERS USING MODE<sup>1</sup>

MSA/PMSA of Residence	1. Drove Alone				2. Carpool				3. Public Transit			
	No vehicles	1 vehicle	2+ vehicles	3+ vehicles	No vehicles	1 vehicle	2+ vehicles	3+ vehicles	No vehicles	1 vehicle	2+ vehicles	3+ vehicles
Boston*	0.25	0.83	1.12	1.16	0.96	1.31	0.89	0.88	3.97	1.53	0.59	0.43
Buffalo	0.33	0.89	1.08	1.10	1.14	1.35	0.88	0.84	7.41	1.46	0.39	0.30
Chicago*	0.22	0.83	1.13	1.18	0.95	1.30	0.88	0.90	3.90	1.39	0.60	0.40
Cleveland	0.32	0.90	1.06	1.08	1.42	1.24	0.92	0.88	7.03	1.63	0.55	0.38
Detroit	0.47	0.92	1.04	1.05	1.78	1.37	0.89	0.85	11.78	1.77	0.40	0.23
Houston	0.35	0.92	1.07	1.08	1.41	1.26	0.87	0.88	7.47	1.25	0.57	0.39
Los Angeles	0.33	0.90	1.08	1.10	0.86	1.15	0.94	0.97	6.66	1.41	0.48	0.35
Miami	0.33	0.90	1.09	1.11	1.06	1.28	0.90	0.86	6.64	1.23	0.48	0.36
Oakland	0.36	0.87	1.05	1.09	0.86	1.11	0.98	0.97	4.27	1.48	0.83	0.55
Philadelphia	0.24	0.85	1.13	1.17	0.95	1.28	0.90	0.90	4.26	1.42	0.54	0.31
Pittsburgh	0.26	0.87	1.09	1.12	0.94	1.18	0.95	0.90	5.23	1.51	0.56	0.38
Portland	0.31	0.88	1.05	1.08	0.89	1.23	0.95	0.93	7.10	1.67	0.64	0.44
Sacramento	0.44	0.91	1.03	1.06	1.21	1.13	0.98	0.93	7.47	1.64	0.71	0.52
San Diego	0.37	0.88	1.06	1.07	1.10	1.27	0.91	0.92	9.47	1.61	0.51	0.42
San Francisco	0.18	0.84	1.16	1.25	0.44	1.05	1.05	1.08	2.97	1.32	0.65	0.43
San Jose	0.56	0.90	1.03	1.04	1.05	1.17	0.95	0.98	8.05	1.83	0.70	0.58
Unweighted Average	0.33	0.88	1.08	1.11	1.06	1.23	0.93	0.92	6.48	1.51	0.57	0.40

<sup>1</sup>EXAMPLE: In Boston, 17.5% of workers with no vehicles available drove alone, compared to 69.8% of all workers, for a ratio of 0.25.

VEHICLES AVAILABLE VS. MODE TO WORK

A. PERCENT USING MODE BY VEHICLES AVAILABLE

MSA/ PMSA of Residence	4. Walk/Bicycle				5. Other				6. Worked at Home						
	All workers	No vehicles	1 vehicle	2+ vehicles	3+ vehicles	All workers	No vehicles	1 vehicle	2+ vehicles	3+ vehicles	All workers	No vehicles	1 vehicle	2+ vehicles	3+ vehicles
Boston*	5.3%	22.7%	8.2%	2.7%	2.5%	0.9%	3.2%	1.1%	0.6%	0.6%	2.4%	1.8%	2.3%	2.7%	2.1%
Buffalo	4.1%	18.9%	5.8%	2.4%	2.4%	0.7%	2.9%	0.9%	0.5%	0.5%	1.8%	1.6%	2.1%	1.7%	1.7%
Chicago*	3.8%	12.9%	5.5%	2.1%	2.0%	0.9%	3.3%	1.3%	0.5%	0.5%	2.1%	1.8%	1.9%	2.3%	2.0%
Cleveland	2.8%	11.8%	4.2%	1.9%	1.8%	0.6%	3.1%	0.8%	0.4%	0.4%	2.0%	2.2%	1.9%	2.1%	1.8%
Detroit	1.9%	10.8%	3.3%	1.3%	1.1%	0.6%	3.9%	0.9%	0.4%	0.4%	1.6%	1.8%	1.5%	1.7%	1.5%
Houston	2.4%	16.0%	3.3%	1.2%	1.1%	1.1%	4.7%	1.4%	0.7%	0.7%	2.1%	2.2%	1.8%	2.1%	2.2%
Los Angeles	3.6%	14.9%	5.2%	2.4%	1.9%	1.3%	3.4%	1.7%	1.0%	1.0%	2.6%	2.2%	2.6%	2.7%	2.3%
Miami	2.8%	14.7%	4.0%	1.5%	1.1%	1.3%	4.4%	1.6%	0.9%	0.8%	2.0%	2.5%	2.1%	2.0%	1.7%
Oakland	3.7%	18.6%	6.2%	2.5%	2.1%	1.4%	3.6%	1.8%	1.1%	1.1%	3.0%	2.3%	3.1%	3.1%	2.8%
Philadelphia	5.1%	19.3%	7.5%	2.6%	2.4%	0.7%	2.0%	0.9%	0.5%	0.5%	2.2%	1.6%	2.0%	2.3%	2.3%
Pittsburgh	4.7%	20.8%	7.1%	2.6%	2.5%	0.6%	2.3%	0.9%	0.4%	0.5%	2.0%	1.9%	1.8%	2.0%	2.1%
Portland	3.6%	23.1%	5.8%	2.2%	2.1%	0.9%	2.6%	1.2%	0.8%	0.8%	3.7%	2.9%	3.8%	3.8%	3.6%
Sacramento	4.3%	25.8%	7.4%	3.1%	2.4%	1.1%	4.1%	1.6%	0.9%	0.9%	3.1%	2.7%	2.9%	3.3%	2.9%
San Diego	3.5%	17.9%	6.0%	2.3%	2.0%	1.7%	5.0%	2.5%	1.4%	1.2%	3.4%	4.0%	3.2%	3.5%	3.2%
San Francisco	6.4%	21.2%	8.7%	3.4%	2.6%	1.9%	3.7%	2.2%	1.6%	1.4%	3.6%	3.1%	3.6%	3.9%	3.5%
San Jose	3.0%	14.1%	5.8%	2.3%	1.9%	1.0%	3.2%	1.2%	0.8%	0.9%	2.5%	2.9%	2.4%	2.7%	2.2%

B. RATIO: PERCENT OF WORKERS USING MODE (BY VEHICLES AVAILABLE) TO PERCENT OF ALL WORKERS USING MODE

MSA/ PMSA of Residence	4. Walk/Bicycle				5. Other				6. Worked at Home			
	No vehicles	1 vehicle	2+ vehicles	3+ vehicles	No vehicles	1 vehicle	2+ vehicles	3+ vehicles	No vehicles	1 vehicle	2+ vehicles	3+ vehicles
Boston*	4.28	1.54	0.51	0.48	3.62	1.22	0.68	0.67	0.76	0.96	1.14	0.87
Buffalo	4.58	1.40	0.59	0.59	4.20	1.22	0.69	0.67	0.88	1.16	0.96	0.94
Chicago*	3.44	1.46	0.57	0.52	3.58	1.38	0.56	0.59	0.88	0.94	1.08	0.95
Cleveland	4.27	1.51	0.68	0.65	5.21	1.29	0.65	0.74	1.15	0.98	1.06	0.90
Detroit	5.55	1.68	0.66	0.58	6.55	1.53	0.63	0.60	1.10	0.93	1.06	0.94
Houston	6.73	1.39	0.52	0.47	4.49	1.34	0.66	0.65	1.08	0.90	1.03	1.04
Los Angeles	4.7	1.44	0.67	0.52	2.65	1.29	0.79	0.75	0.85	1.02	1.07	0.91
Miami	5.26	1.42	0.52	0.40	3.47	1.28	0.69	0.65	1.27	1.08	0.99	0.88
Oakland	5.01	1.67	0.66	0.56	2.62	1.35	0.84	0.80	0.79	1.04	1.05	0.94
Philadelphia	3.78	1.46	0.51	0.47	2.78	1.23	0.66	0.77	0.75	0.90	1.07	1.07
Pittsburgh	6.44	1.51	0.56	0.54	3.56	1.33	0.66	0.74	0.94	0.92	1.02	1.06
Portland	6.44	1.62	0.62	0.58	2.85	1.26	0.84	0.87	0.77	1.02	1.02	0.97
Sacramento	6.04	1.74	0.72	0.55	3.67	1.44	0.82	0.79	0.88	0.95	1.07	0.94
San Diego	5.13	1.73	0.65	0.56	2.95	1.48	0.82	0.72	1.18	0.96	1.05	0.95
San Francisco	3.33	1.36	0.54	0.41	1.92	1.16	0.81	0.75	0.86	0.99	1.07	0.97
San Jose	4.72	1.95	0.76	0.63	3.35	1.28	0.85	0.92	1.18	0.98	1.10	0.89
Unweighted Average	4.82	1.55	0.61	0.53	3.59	1.32	0.73	0.73	0.96	0.98	1.05	0.95

VEHICLES AVAILABLE VS. MODE TO WORK

A. PERCENT USING MODE BY VEHICLES AVAILABLE

MSA/ PMSA of Residence	7. Public Transit: Bus				8. Public Transit: Streetcar/Subway				9. Public Transit: Railroad				
	All workers	No vehicles	1 vehicle	2+ vehicles	All workers	No vehicles	1 vehicle	2+ vehicles	All workers	No vehicles	1 vehicle	2+ vehicles	3+ vehicles
Boston*	4.4%	22.3%	6.6%	2.2%	5.5%	21.7%	9.2%	3.0%	1.3%	1.0%	1.5%	1.5%	1.0%
Buffalo	4.6%	36.9%	6.6%	1.6%	0.5%	1.1%	0.9%	0.4%	0.0%	0.1%	0.0%	0.0%	0.0%
Chicago*	7.2%	41.3%	10.3%	2.6%	3.4%	12.9%	5.6%	1.8%	3.7%	1.9%	4.1%	4.2%	2.9%
Cleveland	5.5%	41.1%	8.9%	2.8%	0.6%	1.5%	0.9%	0.5%	0.1%	0.1%	0.1%	0.1%	0.0%
Detroit	2.2%	26.4%	3.9%	0.9%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Houston	4.0%	29.7%	5.0%	2.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Los Angeles	6.4%	42.7%	9.0%	3.0%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Miami	4.8%	36.6%	5.9%	1.9%	0.8%	1.1%	0.9%	0.7%	0.1%	0.3%	0.2%	0.1%	0.1%
Oakland	3.9%	29.2%	6.3%	2.3%	4.8%	9.3%	6.8%	4.8%	0.4%	0.4%	0.4%	0.4%	0.3%
Philadelphia	6.4%	36.0%	9.2%	2.1%	3.2%	11.4%	4.8%	1.9%	2.1%	2.1%	2.5%	2.2%	1.4%
Pittsburgh	7.7%	43.0%	11.8%	4.1%	0.7%	1.2%	1.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Portland	5.0%	37.0%	8.4%	3.1%	0.3%	0.7%	0.4%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%
Sacramento	1.8%	16.4%	3.0%	1.1%	0.4%	0.7%	0.6%	0.4%	0.1%	0.3%	0.2%	0.1%	0.1%
San Diego	2.9%	28.7%	4.7%	1.4%	0.2%	1.1%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
San Francisco	13.5%	45.1%	17.7%	8.0%	4.5%	10.2%	6.4%	3.5%	0.8%	0.9%	0.8%	0.9%	0.7%
San Jose	2.4%	22.2%	4.6%	1.5%	0.1%	0.4%	0.1%	0.1%	0.4%	0.6%	0.6%	0.4%	0.3%

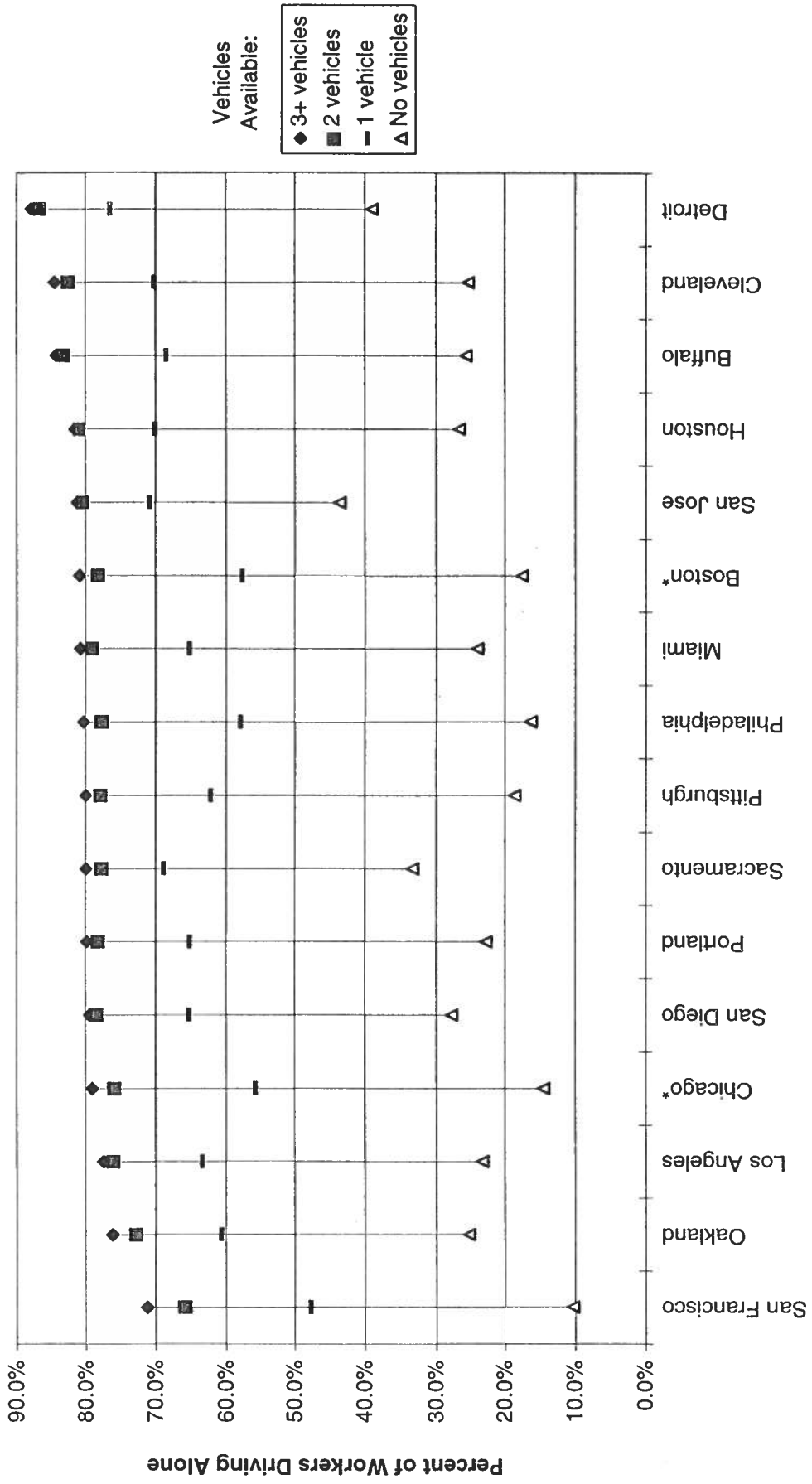
B. RATIO: PERCENT OF WORKERS USING MODE (BY VEHICLES AVAILABLE) TO PERCENT OF ALL WORKERS USING MODE

MSA/ PMSA of Residence	7. Public Transit: Bus				8. Public Transit: Streetcar/Subway				9. Public Transit: Railroad			
	No vehicles	1 vehicle	2+ vehicles	3+ vehicles	No vehicles	1 vehicle	2+ vehicles	3+ vehicles	No vehicles	1 vehicle	2+ vehicles	3+ vehicles
Boston*	5.03	1.49	0.49	0.36	3.91	1.65	0.54	0.41	0.73	1.15	1.10	0.74
Buffalo	7.98	1.43	0.35	0.27	2.15	1.72	0.72	0.56				
Chicago*	5.71	1.42	0.36	0.25	3.74	1.63	0.53	0.31	0.52	1.10	1.14	0.79
Cleveland	7.54	1.62	0.52	0.36	2.63	1.64	0.85	0.51	1.45	1.65	0.89	0.60
Detroit	11.85	1.77	0.39	0.23	7.40	1.71	0.61	0.43				
Houston	7.49	1.25	0.57	0.39	5.44	0.71	0.85	0.83				
Los Angeles	6.69	1.41	0.48	0.35	4.53	1.26	0.76	0.48	1.22	1.35	0.88	0.83
Miami	7.56	1.23	0.40	0.29	1.47	1.23	0.91	0.80	2.49	1.21	0.92	0.58
Oakland	7.53	1.62	0.59	0.41	1.92	1.40	1.00	0.64	1.03	1.16	1.10	0.77
Philadelphia	5.67	1.44	0.34	0.18	3.59	1.52	0.59	0.33	1.02	1.17	1.07	0.69
Pittsburgh	5.55	1.52	0.53	0.36	1.68	1.38	0.91	0.61				
Portland	7.43	1.69	0.62	0.43	2.59	1.45	0.99	0.54	1.59	1.52	0.97	0.62
Sacramento	9.15	1.67	0.64	0.48	1.69	1.54	0.95	0.67	2.29	1.52	0.99	0.60
San Diego	9.91	1.64	0.48	0.39	4.92	1.43	0.74	0.67	1.52	0.77	0.96	1.16
San Francisco	3.33	1.31	0.59	0.40	2.25	1.41	0.77	0.42	1.06	1.00	1.10	0.82
San Jose	9.30	1.92	0.63	0.55	4.72	1.25	1.02	0.68	1.43	1.43	1.05	0.73
Unweighted Average	7.36	1.53	0.50	0.36	3.42	1.43	0.80	0.56	1.36	1.25	1.01	0.74

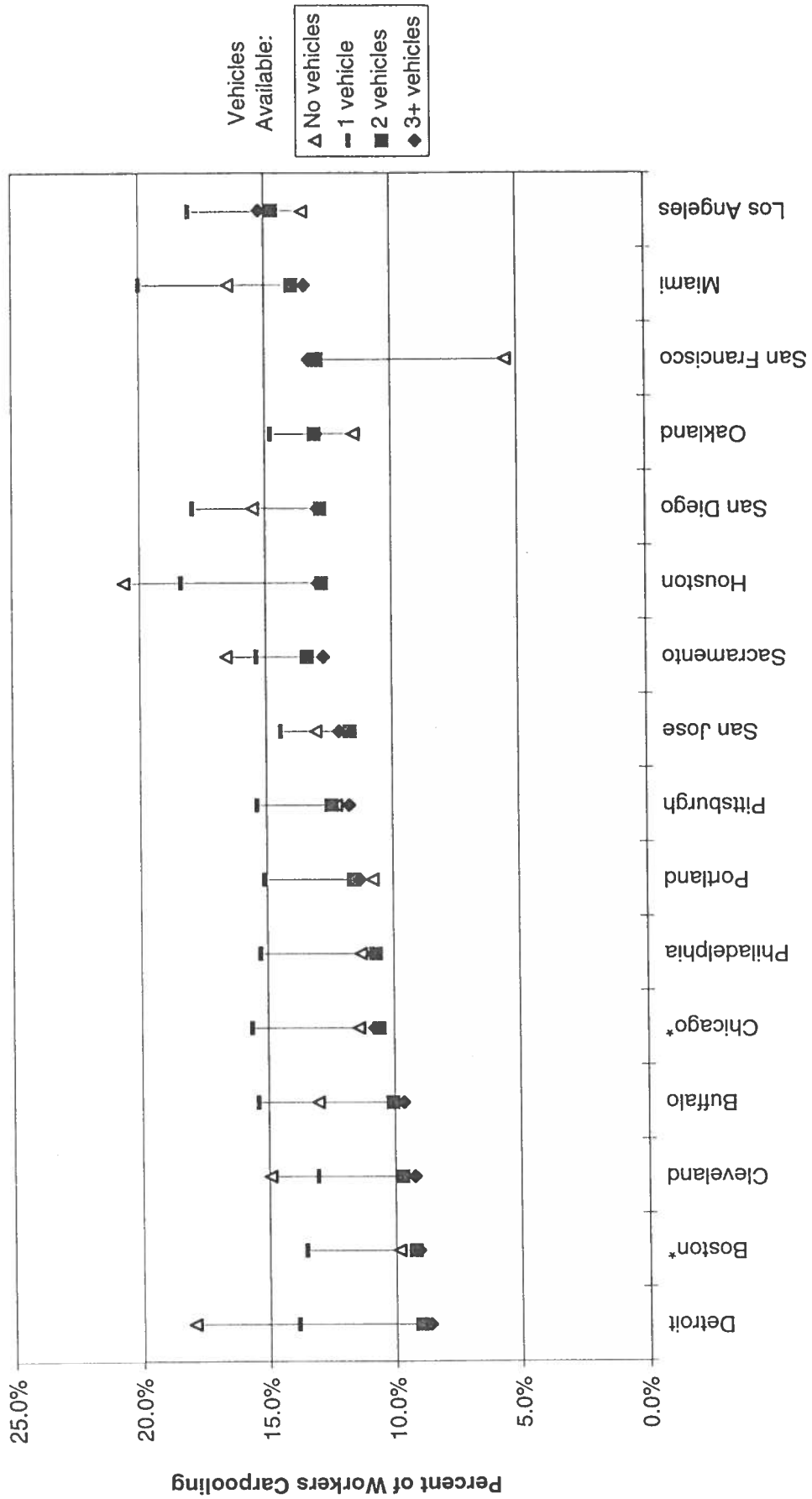




**Fig. 2. Vehicles Available vs. Mode to Work: Drove Alone**  
(ranked by 3+ vehicles)

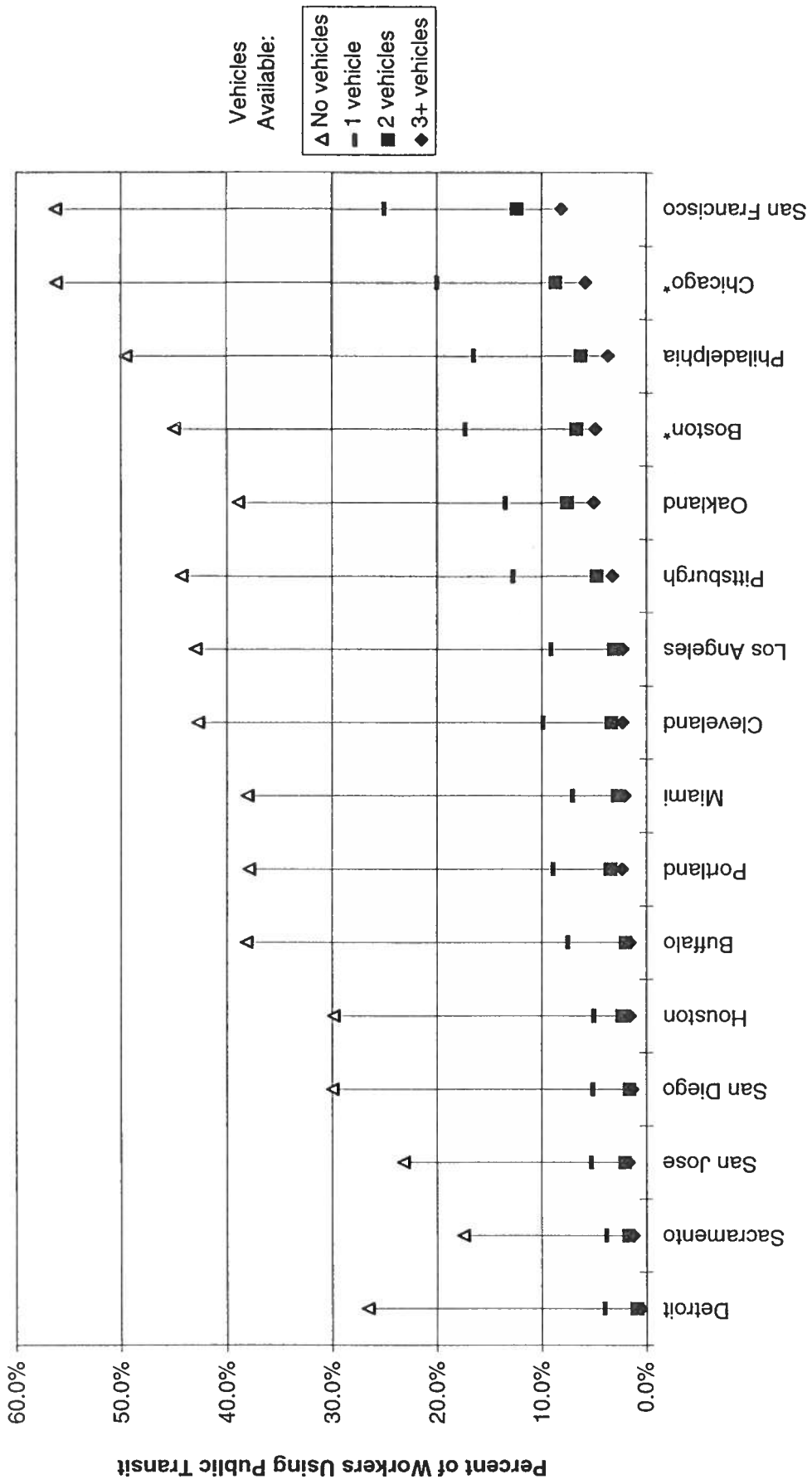


**Fig. 3. Vehicles Available vs. Mode to Work: Carpool**  
(ranked by 3+ vehicles)



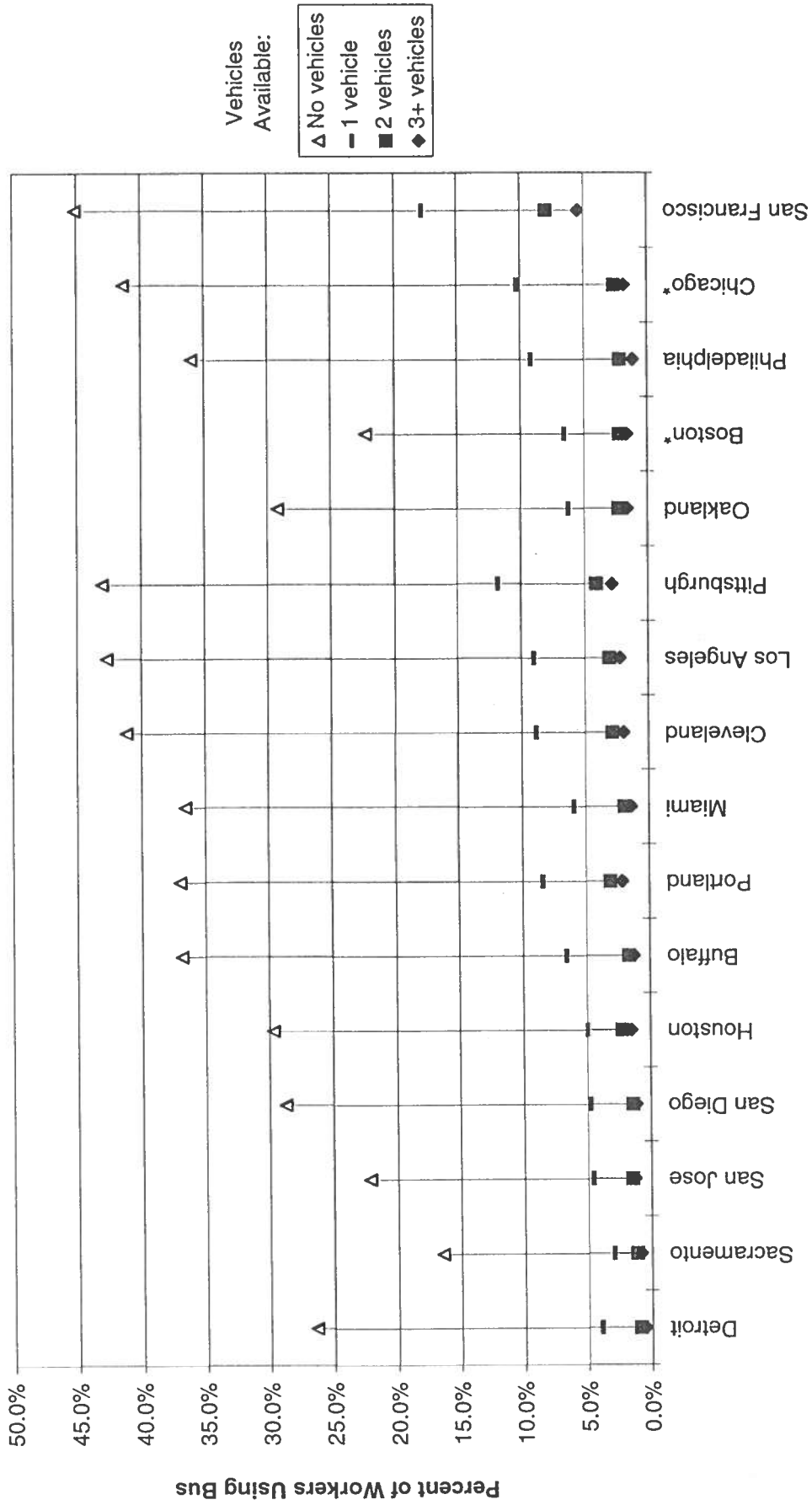
MSA/PMSA of Residence

**Fig. 4. Vehicles Available vs. Mode to Work: Public Transit**  
 (Ranked by percent with 3+ vehicles using public transit)



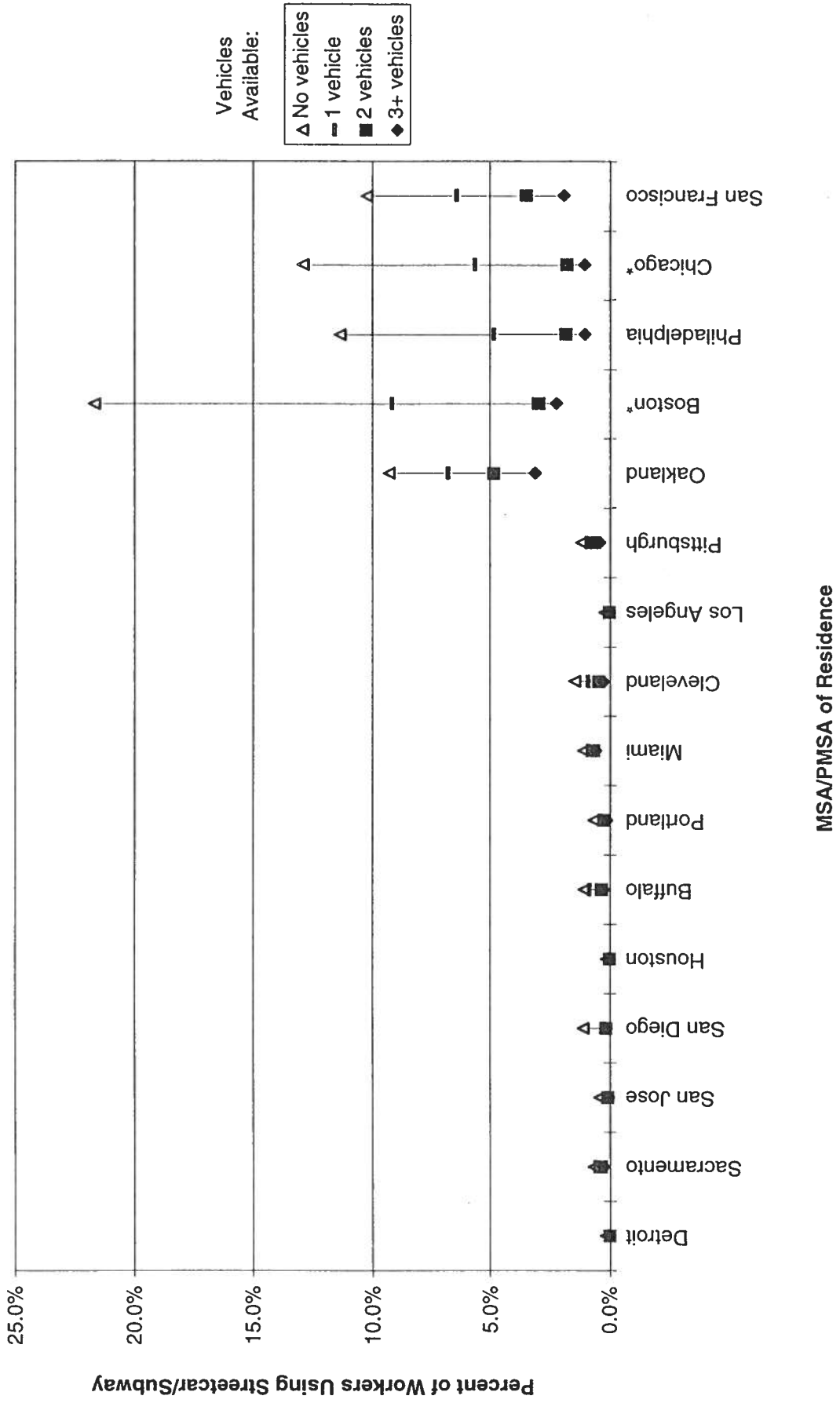
MSA/PMSA of Residence

**Fig. 4a. Vehicles Available vs. Mode to Work: Bus**  
 (Ranked by percent with 3+ vehicles using public transit)

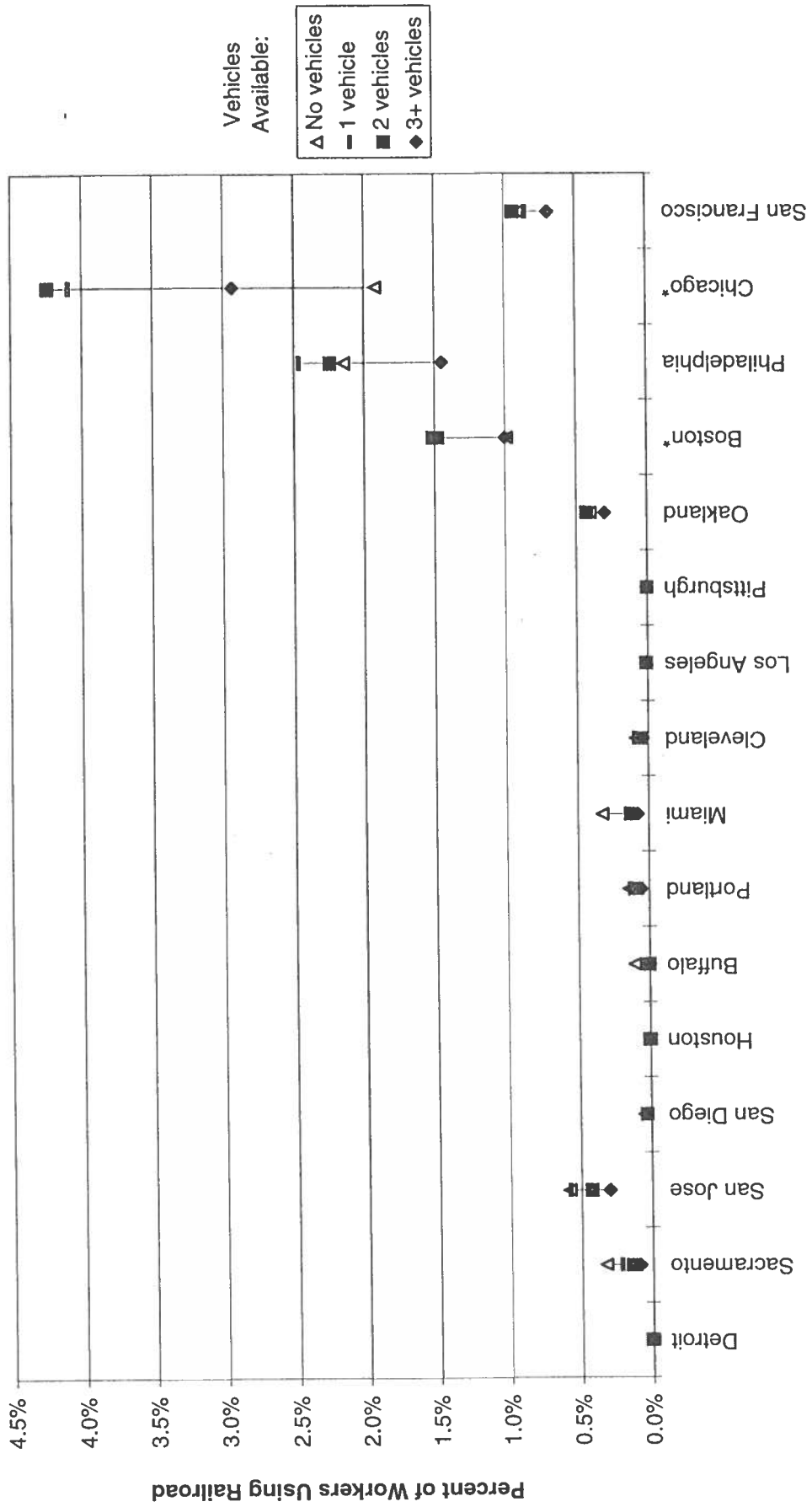


MSA/PMSA of Residence

**Fig. 4b. Vehicles Available vs. Mode to Work: Streetcar/Subway**  
 (Ranked by percent with 3+ vehicles using public transit)

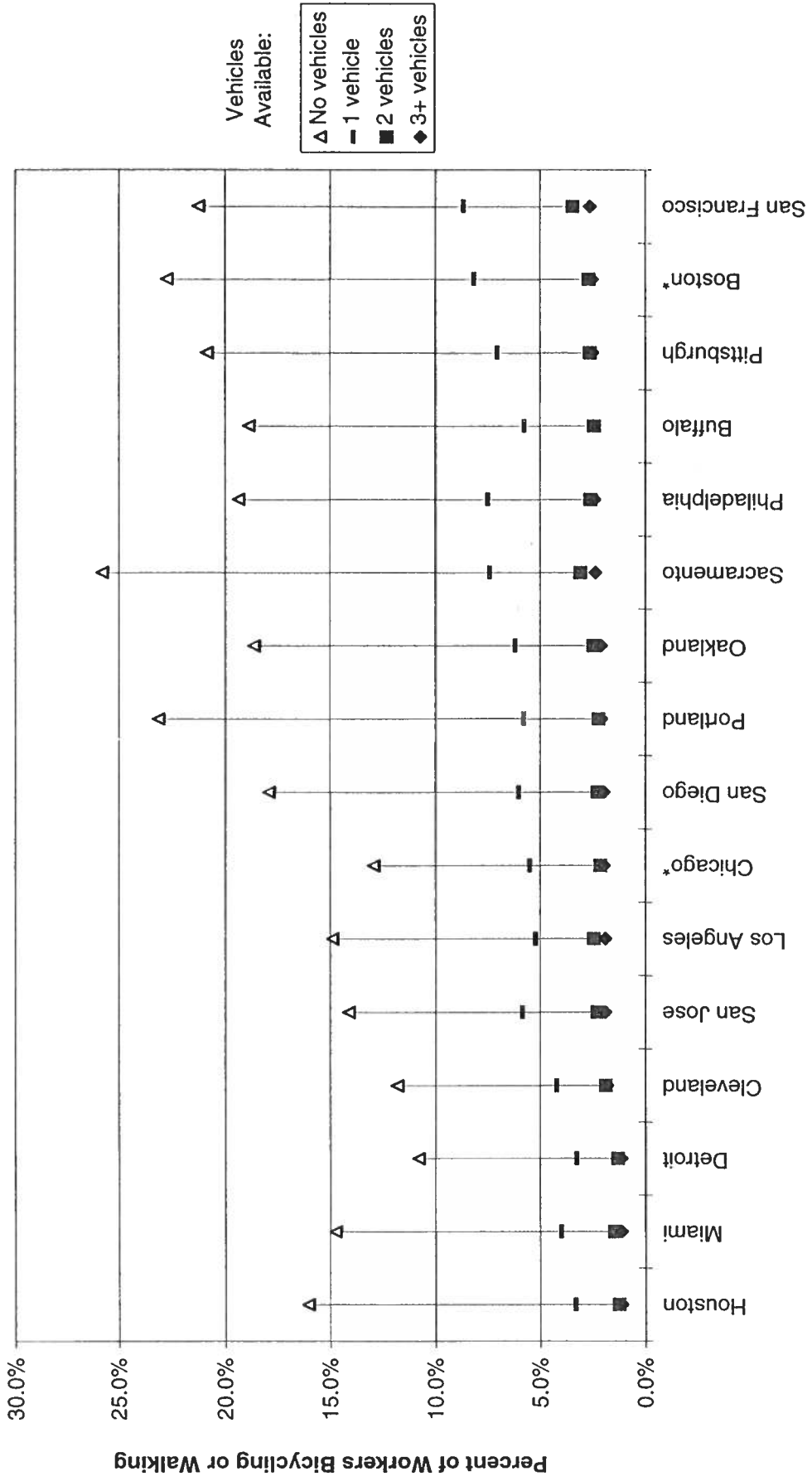


**Fig. 4c. Vehicles Available vs. Mode to Work: Railroad**  
 (Ranked by percent with 3+ vehicles using public transit)



MSA/PMSA of Residence

**Fig. 5. Vehicles Available vs. Mode to Work: Walk/Bicycle**  
 (ranked by 3+ vehicles)



MSA/PMSA of Residence

MODE TO WORK

A. MODE USE: PERCENT OF WORKERS USING MODE

City of Work	Public Transit:						Worked at			Walk/Bicycle:		
	Drove Alone	Carpool	Public Transit	Walk/ Bicycle	Other	Home	Bus	Streetcar	Subway	Railroad	Walk	Bicycle
Boston	45.0%	10.8%	33.0%	8.8%	1.2%	1.3%	11.0%	2.7%	14.2%	5.1%	8.2%	0.6%
Buffalo	69.0%	13.0%	10.0%	6.1%	0.8%	1.0%	9.0%	0.1%	0.9%	0.0%	5.9%	0.2%
Chicago	46.4%	12.4%	32.7%	5.7%	1.4%	1.4%	15.5%	0.2%	7.7%	9.2%	5.4%	0.2%
Cleveland	70.8%	12.7%	12.2%	3.0%	0.7%	0.6%	10.7%	0.5%	0.8%	0.1%	2.9%	0.1%
Detroit	73.4%	13.6%	8.1%	2.9%	1.0%	0.9%	8.0%	0.1%	0.0%	0.0%	2.8%	0.1%
Houston	74.9%	14.8%	5.4%	2.4%	1.1%	1.4%	5.4%	0.0%	0.0%	0.0%	2.1%	0.2%
Los Angeles	67.4%	15.6%	9.0%	3.9%	1.3%	2.7%	8.9%	0.0%	0.0%	0.0%	3.5%	0.5%
Miami	71.6%	15.8%	7.7%	2.7%	1.3%	0.8%	5.9%	0.0%	1.4%	0.3%	2.3%	0.5%
Oakland	64.7%	13.2%	12.6%	4.8%	1.3%	3.3%	7.3%	0.1%	4.9%	0.3%	4.3%	0.5%
Philadelphia	47.1%	12.5%	28.9%	9.2%	0.8%	1.5%	15.0%	1.1%	7.6%	5.2%	8.7%	0.5%
Pittsburgh	55.0%	15.2%	21.5%	6.8%	0.6%	0.9%	19.6%	1.3%	0.6%	0.0%	6.6%	0.2%
Portland	69.6%	13.3%	9.6%	4.4%	1.0%	2.1%	9.0%	0.4%	0.1%	0.2%	3.6%	0.7%
Sacramento	73.1%	16.1%	4.5%	3.9%	1.0%	1.4%	3.3%	0.7%	0.2%	0.3%	2.3%	1.6%
San Diego	72.5%	13.4%	3.8%	5.0%	1.6%	3.8%	3.5%	0.3%	0.0%	0.0%	4.0%	0.9%
San Francisco	38.3%	14.8%	34.1%	7.5%	2.8%	2.6%	20.4%	2.3%	9.9%	1.6%	6.8%	0.7%
San Jose	78.3%	12.8%	3.1%	2.6%	0.9%	2.3%	2.9%	0.1%	0.0%	0.1%	1.9%	0.7%

B. MODE USE: ABSOLUTE NUMBER OF WORKERS USING MODE

City of Work	Public Transit:						Worked at			Walk/Bicycle:		
	Drove Alone	Carpool	Public Transit	Walk/ Bicycle	Other	Home	Bus	Streetcar	Subway	Railroad	Walk	Bicycle
Boston	223,905	53,789	164,139	43,709	5,856	6,255	54,729	13,402	70,784	25,224	40,838	2,871
Buffalo	132,253	24,958	19,242	11,777	1,547	1,992	17,245	143	1,821	33	11,321	456
Chicago	643,873	171,632	452,869	78,337	19,505	19,989	214,926	2,931	107,424	127,588	75,221	3,116
Cleveland	235,155	42,309	40,350	9,834	2,211	2,097	35,485	1,590	2,797	478	9,502	332
Detroit	269,033	49,898	29,763	10,518	3,783	3,429	29,479	193	91	-	10,240	278
Houston	849,304	168,198	61,481	27,016	11,958	15,436	61,169	117	160	35	24,223	2,793
Los Angeles	1,242,777	288,336	165,900	72,735	24,125	50,463	164,188	805	194	713	63,953	8,782
Miami	245,436	54,252	26,396	9,399	4,541	2,817	20,334	167	4,940	955	7,847	1,552
Oakland	115,123	23,448	22,454	8,606	2,337	5,842	12,950	193	8,736	575	7,647	959
Philadelphia	358,883	94,909	220,132	69,829	5,788	11,703	114,026	8,574	57,621	39,911	66,173	3,656
Pittsburgh	167,953	46,363	65,624	20,848	1,877	2,686	59,910	3,996	1,692	26	20,169	679
Portland	235,013	44,998	32,526	14,698	3,223	7,243	30,240	1,327	365	594	12,169	2,529
Sacramento	197,165	43,403	12,210	10,573	2,695	3,845	8,876	1,913	526	895	6,142	4,431
San Diego	493,704	91,056	25,839	33,747	11,136	25,736	23,660	2,060	59	60	27,363	6,384
San Francisco	217,048	83,847	193,636	42,302	15,800	14,479	115,555	12,774	56,263	9,044	38,481	3,821
San Jose	261,865	42,944	10,301	8,762	3,010	7,748	9,576	225	120	380	6,398	2,364



MODE TO WORK

A. MODE USE: RANK BY PERCENT OF WORKERS USING MODE

City of Work	Drove Alone	Carpool	Public Transit	Walk/		Other	Worked at Home	Public Transit:				Walk/Bicycle:	
				Bicycle	Bicycle			Bus	Streetcar	Subway	Railroad	Walk	Bicycle
Boston	15	16	2	2	2	7	11	5	1	1	3	2	6
Buffalo	9	11	8	5	13	13	12	7	11	7	12	5	12
Chicago	14	15	3	6	3	8	8	3	9	3	1	6	13
Cleveland	7	13	7	12	15	16	16	6	6	8	9	11	15
Detroit	3	7	11	13	9	13	13	10	13	13	16	12	16
Houston	2	5	13	16	8	10	10	13	16	14	15	15	11
Los Angeles	10	3	10	10	6	3	3	9	15	15	11	10	9
Miami	6	2	12	14	4	15	15	12	14	6	7	13	10
Oakland	11	10	6	8	5	2	2	11	10	5	6	7	7
Philadelphia	13	14	4	1	14	7	7	4	4	4	2	1	8
Pittsburgh	12	4	5	4	16	14	14	2	3	9	14	4	14
Portland	8	9	9	9	11	6	6	8	7	11	8	9	3
Sacramento	4	1	14	11	10	9	9	15	5	10	5	14	1
San Diego	5	8	15	7	2	1	1	14	8	16	13	8	2
San Francisco	16	6	1	3	1	4	4	1	2	2	4	3	5
San Jose	1	12	16	15	12	5	5	16	12	12	10	16	4

B. MODE USE: RANK BY ABSOLUTE NUMBER OF WORKERS USING MODE

City of Work	Drove Alone	Carpool	Public Transit	Walk/		Other	Worked at Home	Public Transit:				Walk/Bicycle:	
				Bicycle	Bicycle			Bus	Streetcar	Subway	Railroad	Walk	Bicycle
Boston	11	8	5	4	6	9	9	7	1	2	3	4	7
Buffalo	15	15	14	10	16	16	16	13	15	8	14	10	14
Chicago	3	2	1	1	2	3	3	1	5	1	1	1	6
Cleveland	9	14	8	13	14	15	15	8	8	7	10	12	15
Detroit	6	9	10	12	9	12	12	10	12	15	16	11	16
Houston	2	3	7	7	4	4	4	5	16	13	13	7	8
Los Angeles	1	1	4	2	1	1	1	2	10	12	7	3	1
Miami	8	7	11	14	8	13	13	12	14	6	5	13	11
Oakland	16	16	13	16	13	10	10	14	12	5	9	14	12
Philadelphia	5	4	2	3	7	6	6	4	3	3	2	2	5
Pittsburgh	14	10	6	8	15	14	14	6	4	9	15	8	13
Portland	10	11	9	9	10	8	8	9	9	11	8	9	9
Sacramento	13	12	15	11	12	11	11	16	7	10	6	16	3
San Diego	4	5	12	6	5	2	2	11	6	16	12	6	2
San Francisco	12	6	3	5	3	5	5	3	2	4	4	5	4
San Jose	7	13	16	15	11	7	7	15	11	14	11	15	10

1990 CTPP Data: Table B08

**TIME ARRIVING AT WORK**

**3. Percent of All Workers Arriving in...**

**1. Percent of All Workers Arriving by Half-Hour Time Period**

City of Work	5:30 to 5:59 AM	6:00 to 6:29 AM	6:30 to 6:59 AM	7:00 to 7:29 AM	7:30 to 7:59 AM	8:00 to 8:29 AM	8:30 to 8:59 AM	9:00 to 9:29 AM	Total, 5:30 to 9:29 AM	Peak Half-Hour	Peak 2 Half-Hours	Peak 3 Half-Hours
Boston	2.0%	3.9%	7.8%	10.5%	15.3%	17.3%	15.0%	7.9%	79.6%	17.3%	32.5%	47.5%
Buffalo	2.0%	3.4%	9.9%	11.7%	17.8%	16.6%	10.6%	5.1%	78.0%	17.8%	34.4%	46.1%
Chicago	3.1%	5.3%	9.9%	11.2%	15.8%	15.5%	11.1%	5.5%	77.3%	15.8%	31.3%	42.5%
Cleveland	3.0%	5.1%	11.4%	13.2%	18.1%	15.1%	8.9%	4.6%	79.4%	18.1%	33.2%	46.3%
Detroit	3.4%	5.1%	10.0%	12.1%	16.8%	14.1%	9.3%	4.9%	75.7%	16.8%	30.9%	43.0%
Houston	2.7%	5.7%	11.4%	15.0%	18.8%	14.4%	8.1%	4.6%	80.7%	18.8%	33.8%	48.2%
Los Angeles	3.6%	5.7%	9.6%	12.1%	14.7%	14.0%	10.0%	6.9%	76.6%	14.7%	28.8%	40.9%
Miami	1.8%	4.2%	8.5%	12.7%	16.1%	16.2%	12.0%	7.2%	78.7%	16.2%	32.2%	44.9%
Oakland	2.8%	4.9%	9.3%	11.3%	15.7%	16.6%	10.0%	6.1%	76.7%	16.6%	32.2%	43.5%
Philadelphia	1.9%	4.0%	9.2%	11.3%	16.2%	16.5%	13.2%	6.3%	78.8%	16.5%	32.7%	46.0%
Pittsburgh	2.2%	4.8%	10.0%	13.1%	17.7%	16.0%	9.9%	5.0%	78.7%	17.7%	33.8%	46.9%
Portland	3.0%	5.5%	10.9%	13.8%	19.0%	14.0%	7.4%	4.1%	77.5%	19.0%	32.9%	46.7%
Sacramento	3.3%	5.5%	11.7%	15.0%	19.3%	14.9%	6.9%	3.9%	80.4%	19.3%	34.3%	49.2%
San Diego	4.1%	7.5%	12.1%	14.5%	15.7%	12.8%	7.3%	4.7%	78.5%	15.7%	30.2%	42.9%
San Francisco	2.2%	4.2%	7.4%	11.4%	16.4%	17.2%	12.5%	7.2%	78.5%	17.2%	33.6%	46.1%
San Jose	N/A											

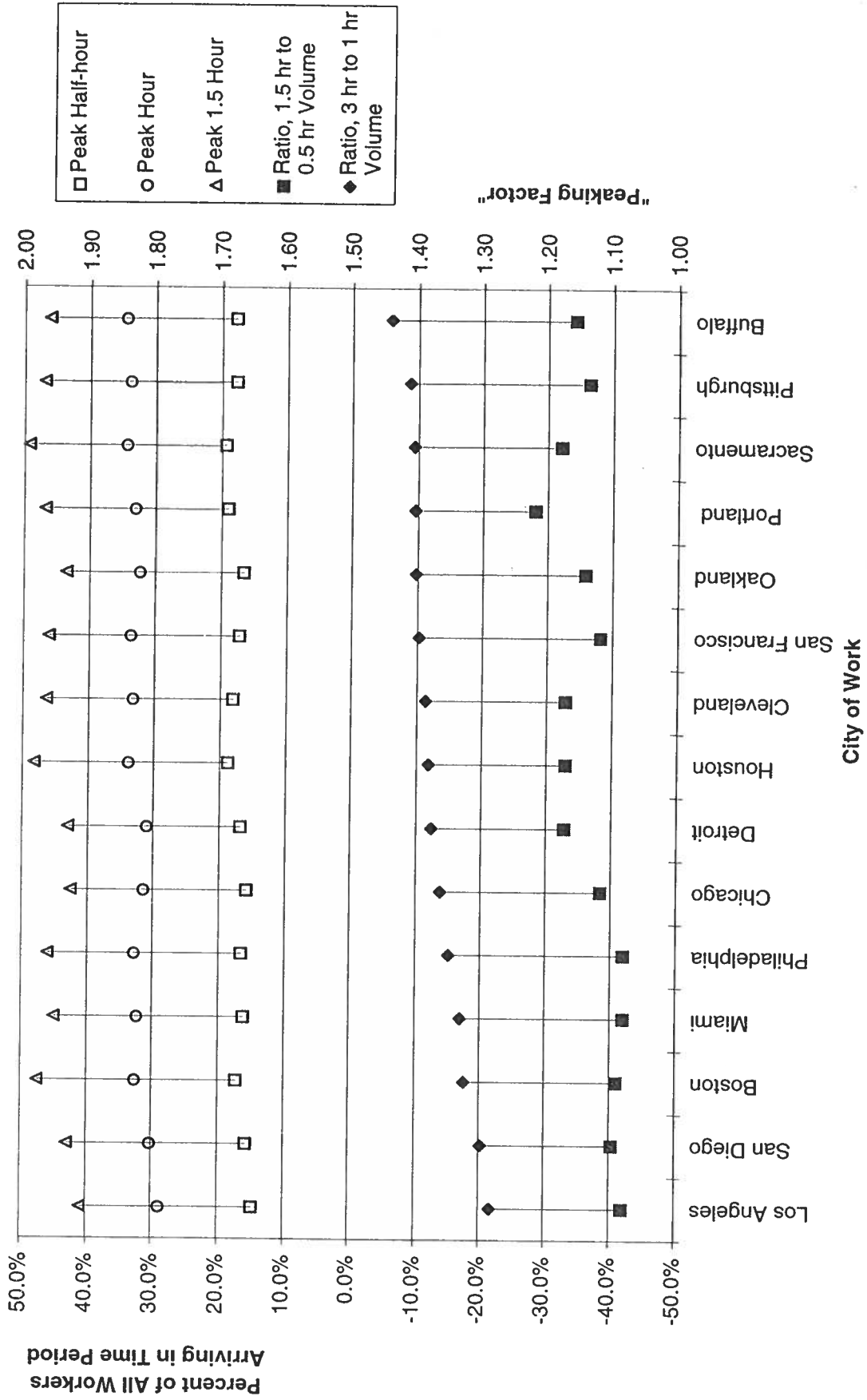
**4. "Peaking Factor"<sup>1</sup>**

**2. Rank of Time Period by Percent Arriving**

City of Work	5:30 to 5:59 AM	6:00 to 6:29 AM	6:30 to 6:59 AM	7:00 to 7:29 AM	7:30 to 7:59 AM	8:00 to 8:29 AM	8:30 to 8:59 AM	9:00 to 9:29 AM	0.5-hr vol. / 1.5-hr vol.	1-hr vol. / 3-hr vol.
Boston	9	7	6	4	2	1	3	5	1.09	1.32
Buffalo	8	7	5	3	1	2	4	6	1.16	1.44
Chicago	8	7	5	3	1	2	4	6	1.12	1.36
Cleveland	8	6	4	3	1	2	5	7	1.17	1.39
Detroit	8	6	4	3	1	2	5	7	1.17	1.38
Houston	8	6	4	2	1	3	5	7	1.17	1.38
Los Angeles	8	7	5	3	1	2	4	6	1.08	1.28
Miami	10	7	5	3	2	1	4	6	1.08	1.33
Oakland	8	7	5	3	2	1	4	6	1.14	1.40
Philadelphia	9	7	5	4	2	1	3	6	1.08	1.35
Pittsburgh	9	7	4	3	1	2	5	6	1.14	1.41
Portland	8	6	4	3	1	2	5	7	1.22	1.40
Sacramento	8	6	4	2	1	3	5	7	1.18	1.41
San Diego	8	5	4	2	1	3	6	7	1.10	1.30
San Francisco	10	7	5	4	2	1	3	6	1.12	1.40
San Jose										

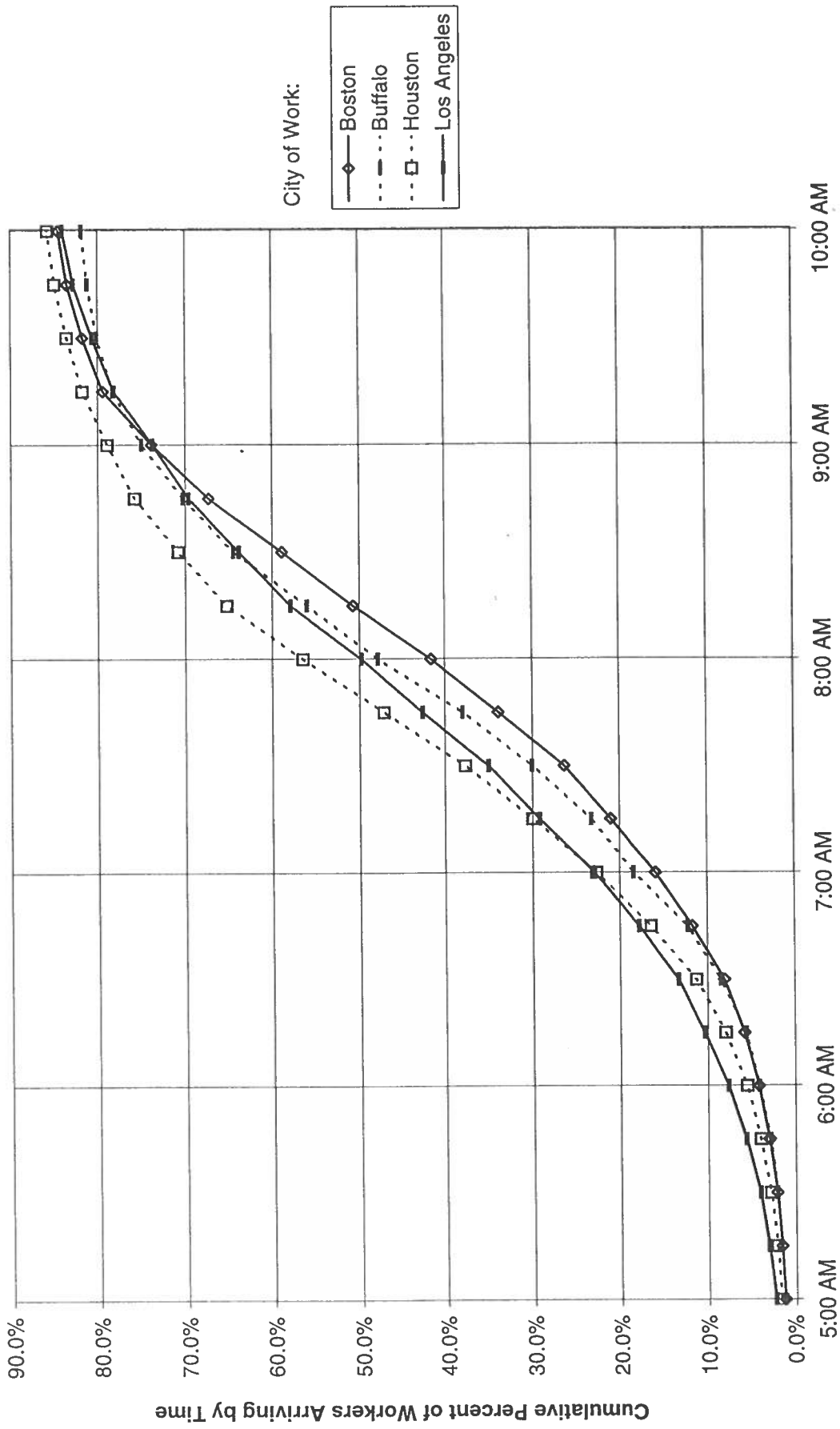
<sup>1</sup>The "Peaking Factor" is defined as the ratio of the number of workers arriving per unit time in the peak time interval (0.5 hr, 1 hr, etc.) to the number of workers arriving per unit time in the three greatest time intervals (peak three half-hours, hours, etc.). For example, for Boston, (3 x 17.3%)/47.5% = 1.09.

Fig. 1. Measures of Peak-Spreading, Workers Arriving at Work



NOTE: See text for explanation of "Peaking Factor".

Fig. 2. Cumulative Worker Arrivals, Selected Cities



MODE TO WORK VS. EARNINGS OF WORKER

A. PERCENT OF WORKERS USING MODE, BY LEVEL OF EARNINGS

City of Work	1. Drove Alone					2. Carpool					3. Public Transit										
	All Workers <sup>1</sup>					All Workers <sup>1</sup>					All Workers <sup>1</sup>										
	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999	\$50,000 and over	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999	\$50,000 and over	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999	\$50,000 and over						
Boston	45.2%	29.1%	36.5%	42.8%	55.5%	58.2%	10.8%	9.4%	11.2%	11.6%	11.0%	10.1%	11.0%	11.0%	10.1%	32.9%	37.2%	39.8%	37.6%	26.8%	23.1%
Buffalo	69.6%	50.9%	64.5%	77.0%	83.5%	87.0%	13.0%	13.1%	15.8%	13.5%	10.2%	8.1%	9.7%	17.0%	12.8%	9.7%	12.8%	6.0%	3.9%	2.6%	3.4%
Chicago	46.9%	34.3%	41.7%	49.3%	57.8%	50.3%	12.3%	12.8%	14.8%	12.5%	11.0%	8.3%	32.6%	36.7%	35.0%	32.6%	36.7%	35.0%	32.6%	26.6%	33.4%
Cleveland	71.4%	55.1%	64.5%	74.4%	82.4%	83.7%	12.7%	14.1%	15.3%	13.1%	10.2%	8.1%	11.9%	18.9%	16.2%	10.7%	18.9%	16.2%	10.7%	5.9%	6.0%
Detroit	74.2%	54.5%	67.3%	77.2%	84.8%	89.0%	13.6%	17.2%	16.6%	13.9%	10.7%	7.7%	7.7%	16.4%	10.9%	16.4%	10.9%	6.3%	2.9%	1.5%	1.5%
Houston	75.6%	59.5%	72.4%	80.9%	85.2%	86.4%	14.5%	20.8%	17.3%	13.0%	9.9%	7.6%	5.3%	9.5%	5.7%	3.7%	9.5%	3.7%	2.9%	3.7%	3.7%
Los Angeles	68.5%	47.6%	62.0%	75.2%	81.1%	84.7%	15.4%	18.1%	19.0%	15.3%	12.8%	9.1%	8.5%	18.9%	11.3%	4.9%	8.5%	11.3%	4.9%	2.5%	1.1%
Miami	72.4%	58.6%	70.8%	78.2%	83.7%	86.1%	15.5%	18.9%	17.7%	14.8%	10.7%	8.1%	7.4%	13.4%	7.3%	4.7%	7.4%	7.3%	4.7%	3.5%	2.9%
Oakland	65.4%	46.9%	56.4%	68.9%	74.4%	78.5%	13.1%	13.5%	15.4%	13.4%	12.4%	9.7%	12.3%	19.7%	14.7%	11.6%	19.7%	14.7%	8.7%	6.7%	6.7%
Philadelphia	47.6%	33.1%	38.7%	49.3%	62.0%	60.8%	12.4%	11.6%	13.3%	13.6%	12.3%	9.6%	28.8%	32.8%	36.2%	29.4%	32.8%	36.2%	29.4%	19.9%	21.5%
Pittsburgh	55.4%	39.6%	49.2%	59.0%	68.6%	72.9%	15.2%	13.0%	16.6%	16.8%	14.6%	13.5%	21.3%	26.7%	27.4%	20.4%	21.3%	26.7%	27.4%	13.8%	10.0%
Portland	69.9%	55.9%	65.5%	74.5%	83.7%	83.7%	13.3%	13.6%	15.2%	13.5%	11.8%	9.0%	9.6%	14.6%	12.2%	8.1%	9.6%	14.6%	12.2%	5.2%	3.3%
Sacramento	73.5%	66.2%	71.9%	74.7%	76.1%	81.1%	15.8%	15.4%	16.3%	16.9%	16.0%	12.5%	4.5%	5.5%	5.3%	4.6%	4.5%	5.3%	4.6%	3.8%	2.4%
San Diego	73.1%	57.6%	67.4%	79.0%	83.8%	86.0%	13.2%	14.5%	16.0%	13.2%	10.8%	8.2%	3.7%	7.2%	4.7%	2.6%	3.7%	7.2%	4.7%	1.4%	0.7%
San Francisco	38.5%	28.2%	32.7%	36.9%	44.9%	48.5%	14.8%	12.0%	14.4%	15.9%	16.1%	14.5%	34.1%	39.9%	37.3%	36.8%	34.1%	39.9%	37.3%	36.8%	30.2%
San Jose	79.1%	64.7%	73.4%	82.5%	85.9%	88.7%	12.5%	15.3%	16.4%	12.4%	10.4%	7.4%	2.9%	6.5%	4.4%	1.9%	2.9%	6.5%	4.4%	1.2%	0.8%
Average (Unweighted)	0.75	0.90	1.05	1.17	1.20	1.20	1.07	1.15	1.03	0.88	0.70	0.70	1.60	1.24	0.85	0.58	1.60	1.24	0.85	0.58	0.49

B. RATIO OF PERCENT USING MODE (IN EARNINGS CATEGORY) TO TOTAL PERCENT USING MODE<sup>2</sup>

City of Work	1. Drove Alone					2. Carpool					3. Public Transit				
	All Workers <sup>1</sup>					All Workers <sup>1</sup>					All Workers <sup>1</sup>				
	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999	\$50,000 and over	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999	\$50,000 and over	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999	\$50,000 and over
Boston	0.64	0.81	0.95	1.23	1.29	0.87	1.03	1.07	1.02	0.94	1.13	1.21	1.14	0.81	0.70
Buffalo	0.73	0.93	1.11	1.20	1.25	1.04	1.22	1.04	0.79	0.62	1.75	1.32	0.62	0.40	0.26
Chicago	0.73	0.89	1.05	1.23	1.07	1.00	1.20	1.02	0.90	0.67	1.13	1.07	1.00	0.82	1.03
Cleveland	0.77	0.90	1.04	1.15	1.17	1.11	1.21	1.03	0.80	0.64	1.58	1.36	0.90	0.49	0.51
Detroit	0.73	0.91	1.04	1.14	1.20	1.27	1.23	1.03	0.79	0.57	2.13	1.42	0.82	0.37	0.19
Houston	0.79	0.96	1.07	1.13	1.14	1.43	1.19	0.89	0.68	0.53	1.80	1.07	0.70	0.56	0.69
Los Angeles	0.70	0.91	1.10	1.18	1.24	1.17	1.23	0.99	0.83	0.59	2.22	1.32	0.58	0.30	0.13
Miami	0.81	0.98	1.08	1.16	1.19	1.22	1.14	0.95	0.69	0.52	1.81	0.99	0.63	0.48	0.39
Oakland	0.72	0.89	1.05	1.14	1.20	1.03	1.17	1.02	0.94	0.74	1.60	1.19	0.94	0.71	0.55
Philadelphia	0.70	0.81	1.03	1.30	1.28	0.93	1.07	1.09	0.99	0.77	1.14	1.26	1.02	0.69	0.75
Pittsburgh	0.71	0.89	1.06	1.24	1.31	0.86	1.10	1.11	0.96	0.89	1.25	1.29	0.96	0.64	0.47
Portland	0.80	0.94	1.07	1.14	1.20	1.03	1.15	1.02	0.89	0.68	1.52	1.27	0.84	0.54	0.35
Sacramento	0.90	0.98	1.02	1.04	1.10	0.97	1.03	1.07	1.01	0.79	1.21	1.17	1.02	0.85	0.54
San Diego	0.79	0.92	1.08	1.15	1.18	1.10	1.21	1.00	0.82	0.62	1.94	1.27	0.71	0.39	0.20
San Francisco	0.73	0.85	0.96	1.17	1.26	0.81	0.97	1.07	1.09	0.98	1.17	1.09	1.08	0.78	0.78
San Jose	0.82	0.93	1.04	1.09	1.12	1.23	1.31	1.00	0.83	0.59	2.23	1.51	0.64	0.40	0.28
Average (Unweighted)	0.75	0.90	1.05	1.17	1.20	1.07	1.15	1.03	0.88	0.70	1.60	1.24	0.85	0.58	0.49

<sup>1</sup>Includes only workers with earnings

<sup>2</sup>EXAMPLE: 29.1 percent of workers in the Boston metropolitan area who earned less than \$10,000 drove alone, compared to 45.2 percent of all workers, for a ratio of 0.64.

MODE TO WORK VS. EARNINGS OF WORKER

A. PERCENT OF WORKERS USING MODE, BY LEVEL OF EARNINGS

City of Work	4. Walk/Bicycle										5. Other										6. Work at Home																							
	All Workers <sup>1</sup>		Less than \$10,000		\$10,000 to \$19,999		\$20,000 to \$29,999		\$30,000 to \$49,999		\$50,000 and over		All Workers <sup>1</sup>		Less than \$10,000		\$10,000 to \$19,999		\$20,000 to \$29,999		\$30,000 to \$49,999		\$50,000 and over		All Workers <sup>1</sup>		Less than \$10,000		\$10,000 to \$19,999		\$20,000 to \$29,999		\$30,000 to \$49,999		\$50,000 and over									
	8.7%	20.4%	9.8%	6.5%	4.9%	5.9%	1.2%	1.3%	1.2%	0.8%	1.0%	1.9%	1.2%	1.3%	1.2%	0.9%	0.9%	1.2%	0.8%	1.0%	1.0%	1.9%	1.2%	1.3%	1.2%	1.3%	1.2%	0.9%	0.9%	1.2%	0.8%	1.0%	1.9%	1.2%	1.3%	1.2%	0.8%	1.0%						
Boston	8.7%	20.4%	9.8%	6.5%	4.9%	5.9%	1.2%	1.3%	1.2%	0.8%	1.0%	1.9%	1.2%	1.3%	1.2%	0.9%	0.9%	1.2%	0.8%	1.0%	1.0%	1.9%	1.2%	1.3%	1.2%	1.3%	1.2%	0.9%	0.9%	1.2%	0.8%	1.0%	1.9%	1.2%	1.3%	1.2%	0.8%	1.0%						
Buffalo	6.0%	15.8%	5.2%	2.5%	1.7%	1.0%	0.8%	1.4%	0.9%	0.4%	0.6%	0.6%	0.9%	1.4%	0.9%	0.4%	0.3%	0.9%	0.4%	0.3%	0.6%	0.6%	0.6%	0.9%	1.9%	0.9%	0.9%	0.6%	0.7%	0.6%	0.5%	0.7%	0.6%	0.5%	0.7%	0.6%	0.7%	0.6%	0.7%					
Chicago	5.5%	12.0%	6.0%	3.6%	2.7%	3.7%	1.4%	1.4%	1.2%	1.1%	1.2%	2.9%	1.4%	1.4%	1.2%	1.1%	1.1%	1.2%	1.1%	0.9%	0.9%	2.9%	1.4%	1.4%	1.2%	1.4%	1.3%	0.9%	0.9%	1.4%	0.9%	0.9%	1.4%	0.9%	0.9%	1.4%	0.9%	0.9%	1.3%	0.9%				
Cleveland	2.8%	9.0%	2.8%	1.1%	0.9%	1.0%	0.6%	1.0%	0.7%	0.4%	0.9%	0.4%	0.6%	1.0%	0.7%	0.4%	0.4%	0.7%	0.4%	0.3%	0.9%	0.4%	0.9%	0.6%	1.9%	0.6%	0.5%	0.6%	0.3%	0.1%	0.3%	0.1%	0.3%	0.1%	0.3%	0.1%	0.3%	0.1%	0.3%	0.1%	0.3%			
Detroit	2.7%	8.0%	2.9%	1.3%	0.8%	0.5%	1.0%	1.0%	1.3%	0.8%	0.5%	1.0%	1.3%	1.0%	1.0%	0.7%	0.7%	1.0%	0.8%	0.8%	1.0%	0.4%	0.9%	0.8%	2.3%	0.8%	0.5%	0.4%	0.2%	0.4%	0.2%	0.4%	0.2%	0.4%	0.2%	0.4%	0.2%	0.4%	0.2%	0.4%	0.2%	0.4%		
Houston	2.2%	5.7%	2.5%	0.9%	0.6%	0.5%	1.0%	1.7%	1.0%	0.7%	0.7%	1.0%	1.0%	1.7%	1.0%	0.7%	0.7%	1.0%	0.7%	0.7%	1.0%	0.7%	1.0%	1.0%	2.8%	1.3%	1.2%	0.7%	0.9%	0.7%	0.8%	1.2%	0.7%	0.9%	1.2%	0.7%	0.9%	1.2%	0.7%	0.9%	1.2%	0.7%		
Los Angeles	3.7%	9.1%	4.1%	1.9%	1.1%	1.1%	1.3%	1.9%	1.4%	1.0%	1.3%	0.9%	1.4%	1.3%	1.9%	1.4%	1.0%	1.3%	0.9%	0.9%	1.4%	0.9%	1.1%	1.1%	4.4%	2.6%	2.3%	1.8%	1.5%	3.0%	1.5%	3.0%	1.8%	1.5%	3.0%	1.8%	1.5%	3.0%	1.8%	1.5%	3.0%	1.8%	1.5%	
Miami	2.6%	5.8%	2.4%	1.0%	0.7%	1.0%	1.2%	1.9%	1.2%	0.8%	0.9%	1.1%	1.2%	1.9%	1.2%	0.8%	0.9%	1.1%	0.8%	0.8%	1.1%	0.8%	1.1%	1.1%	1.5%	1.2%	0.9%	0.5%	0.8%	1.7%	2.8%	1.7%	2.8%	1.5%	3.5%	1.7%	2.8%	1.5%	3.5%	1.7%	2.8%	1.5%		
Oakland	4.6%	11.2%	6.4%	3.1%	1.7%	1.3%	1.3%	1.5%	1.5%	1.2%	1.2%	1.0%	1.5%	1.5%	1.2%	1.2%	1.0%	1.2%	1.2%	1.0%	1.2%	1.0%	1.1%	1.0%	7.2%	3.2%	3.5%	1.9%	1.7%	2.8%	3.2%	1.9%	1.7%	2.8%	3.2%	1.9%	1.7%	2.8%	3.2%	1.9%	1.7%	2.8%	3.2%	1.9%
Philadelphia	9.0%	18.7%	9.3%	6.2%	4.7%	6.2%	0.7%	0.9%	0.8%	0.7%	0.6%	0.6%	0.9%	0.8%	0.7%	0.6%	0.6%	0.9%	0.8%	0.7%	0.6%	0.6%	0.6%	0.6%	2.9%	1.4%	1.7%	0.9%	0.6%	1.1%	0.9%	0.6%	1.1%	0.9%	0.6%	1.1%	0.9%	0.6%	1.1%	0.9%	0.6%	1.1%	0.9%	
Pittsburgh	6.7%	18.0%	5.5%	2.8%	2.3%	2.4%	0.6%	0.9%	0.5%	0.5%	0.7%	0.7%	0.5%	0.5%	0.5%	0.5%	0.7%	0.5%	0.5%	0.7%	0.5%	0.7%	0.5%	0.7%	1.8%	0.8%	0.7%	0.5%	0.3%	0.5%	0.8%	0.5%	0.3%	0.5%	0.8%	0.5%	0.3%	0.5%	0.8%	0.5%	0.3%	0.5%	0.8%	0.5%
Portland	4.3%	9.4%	4.5%	2.4%	1.8%	1.6%	0.9%	1.4%	0.8%	0.7%	0.8%	1.1%	0.9%	1.4%	0.8%	0.7%	0.8%	1.1%	0.8%	0.7%	0.8%	1.1%	0.8%	1.1%	5.0%	2.0%	1.7%	0.9%	0.8%	1.4%	2.0%	0.9%	0.8%	1.4%	2.0%	0.9%	0.8%	1.4%	2.0%	0.9%	0.8%	1.4%	2.0%	0.9%
Sacramento	3.8%	7.9%	4.1%	2.2%	2.7%	2.1%	1.0%	1.6%	1.1%	0.7%	0.8%	0.9%	1.1%	1.6%	1.1%	0.7%	0.8%	0.9%	1.1%	0.7%	0.8%	0.9%	1.1%	1.1%	3.4%	1.3%	1.2%	0.7%	1.0%	1.7%	1.3%	1.2%	0.7%	1.0%	1.7%	1.3%	1.2%	0.7%	1.0%	1.7%	1.3%	1.2%	0.7%	1.0%
San Diego	4.8%	11.7%	5.4%	2.2%	1.2%	1.4%	1.6%	2.2%	1.8%	1.3%	1.3%	1.4%	2.2%	1.8%	1.3%	1.3%	1.4%	2.2%	1.8%	1.3%	1.3%	1.4%	1.4%	4.1%	3.6%	4.7%	1.7%	1.4%	2.3%	3.6%	1.7%	1.4%	2.3%	3.6%	1.7%	1.4%	2.3%	3.6%	1.7%	1.4%	2.3%	3.6%	1.7%	
San Francisco	7.4%	12.8%	10.3%	6.3%	4.4%	4.3%	2.8%	2.1%	2.6%	2.6%	2.8%	4.1%	2.6%	2.6%	2.6%	2.8%	4.1%	2.6%	2.6%	2.8%	4.1%	2.6%	2.8%	4.9%	2.4%	2.7%	1.6%	1.6%	2.0%	2.4%	1.6%	1.6%	2.0%	2.4%	1.6%	1.6%	2.0%	2.4%	1.6%	1.6%	2.0%	2.4%	1.6%	
San Jose	2.5%	6.8%	2.8%	1.4%	0.9%	0.7%	0.9%	1.5%	1.1%	0.5%	0.7%	0.7%	1.5%	1.1%	0.5%	0.7%	0.7%	1.5%	1.1%	0.5%	0.7%	0.7%	0.7%	5.3%	2.2%	2.0%	1.3%	1.0%	1.7%	2.2%	1.3%	1.0%	1.7%	2.2%	1.3%	1.0%	1.7%	2.2%	1.3%	1.0%	1.7%	2.2%	1.3%	1.0%

B. RATIO OF PERCENT USING MODE (IN EARNINGS CATEGORY) TO TOTAL PERCENT USING MODE

City of Work	4. Walk/Bicycle										5. Other										6. Work at Home																							
	All Workers <sup>1</sup>		Less than \$10,000		\$10,000 to \$19,999		\$20,000 to \$29,999		\$30,000 to \$49,999		\$50,000 and over		All Workers <sup>1</sup>		Less than \$10,000		\$10,000 to \$19,999		\$20,000 to \$29,999		\$30,000 to \$49,999		\$50,000 and over		All Workers <sup>1</sup>		Less than \$10,000		\$10,000 to \$19,999		\$20,000 to \$29,999		\$30,000 to \$49,999		\$50,000 and over									
	2.35	2.64	1.13	0.74	0.56	0.68	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89				
Boston	2.35	2.64	1.13	0.74	0.56	0.68	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89	1.59	1.12	0.99	0.69	0.89				
Buffalo	2.64	0.87	0.42	0.29	0.16	0.16	1.84	1.17	0.59	0.36	0.81	1.84	1.17	0.59	0.36	0.81	1.84	1.17	0.59	0.36	0.81	1.84	1.17	0.59	0.36	0.81	1.84	1.17	0.59	0.36	0.81	1.84	1.17	0.59	0.36	0.81	1.84	1.17	0.59	0.36	0.81			
Chicago	2.19	1.09	0.65	0.49	0.68	0.68	1.02	0.85	0.81	0.79	2.10	1.02	0.85	0.81	0.79	2.10	1.02	0.85	0.81	0.79	2.10	1.02	0.85	0.81	0.79	2.10	1.02	0.85	0.81	0.79	2.10	1.02	0.85	0.81	0.79	2.10	1.02	0.85	0.81	0.79	2.10	1.02	0.85	0.81
Cleveland	3.19	1.00	0.40	0.33	0.37	0.37	1.67	1.05	0.62	0.72	1.36	1.67	1.05	0.62	0.72	1.36	1.67	1.05	0.62	0.72	1.36	1.67	1.05	0.62	0.72	1.36	1.67	1.05	0.62	0.72	1.36	1.67	1.05	0.62	0.72	1.36	1.67	1.05	0.62	0.72	1.36	1.67	1.05	
Detroit	2.98	1.09	0.50	0.32	0.20	0.20	1.63	1.27	0.85	0.50	0.96	1.63	1.27	0.85	0.50	0.96	1.63	1.27	0.85	0.50	0.96	1.63	1.27	0.85	0.50	0.96	1.63	1.27	0.85	0.50	0.96	1.63	1.27	0.85	0.50	0.96	1.63	1.27	0.85	0.50	0.96	1.63	1.27	0.85
Houston	2.55	1.13	0.42	0.25	0.21	0.21	1.64	0.97	0.73	0.68	0.94	1.64	0.97	0.73	0.68	0.94	1.64	0.97	0.73	0.68	0.94	1.64	0.97	0.73	0.68	0.94	1.64	0.97	0.73	0.68	0.94	1.64	0.97	0.73	0.68	0.94	1.64	0.97	0.73	0.68	0.94	1.64	0.97	0.73
Los Angeles	2.43	1.09	0.50	0.30	0.31	0.31	1.49	1.13	0.76	0.73	0.74	1.49	1.13	0.76	0.73	0.74	1.49	1.13	0.76	0.73	0.74	1.49	1.13	0.76	0.73	0.74	1.49	1.13	0.76	0.73	0.74	1.49	1.13	0.76	0.73	0.74	1.49	1.13	0.76	0.73	0.74	1.49	1.13	0.76
Miami	2.21	0.91	0.38	0.27	0.39	0.39	1.51	0.95	0.65	0.74	0.88	1.51	0.95	0.65	0.74	0.88	1.51	0.95	0.65	0.74	0.88	1.51	0.95	0.65	0.74	0.88	1.51	0.95	0.65	0.74	0.88	1.51	0.95	0.65	0.74	0.88	1.51	0.95	0.65	0.74	0.88	1.51	0.95	
Oakland	2.42	1.39	0.67	0.36	0.28	0.28	1.17	1.07	0.92	0.92	0.78	1.17	1.07	0.92	0.92	0.78	1.17	1.07	0.92	0.92	0.78	1.17	1.07	0.92	0.92	0.78	1.17	1.07	0.92	0.92	0.78	1.17	1.07	0.92	0.92	0.78	1.17	1.07	0.92	0.92	0.78	1.17	1.07	0.92
Philadelphia	2.07	1.04	0.69	0.52	0.69	0.69	1.27	1.07	0.90	0.76	1.10	1																																

MODE TO WORK VS. EARNINGS OF WORKER

A. PERCENT OF WORKERS USING MODE, BY LEVEL OF EARNINGS

7. Public Transit: Bus

City of Work	7. Public Transit: Bus					8. Public Transit: Streetcar/Subway					9. Public Transit: Railroad						
	All Workers <sup>1</sup>	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	All Workers <sup>1</sup>	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	All Workers <sup>1</sup>	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over		
Boston	10.8%	15.1%	16.3%	12.1%	6.8%	4.4%	17.0%	20.0%	20.3%	13.7%	9.8%	5.16%	2.14%	3.17%	5.10%	6.27%	8.90%
Buffalo	8.7%	15.9%	11.6%	5.1%	2.8%	2.1%	1.0%	1.0%	0.9%	1.0%	0.4%	9.43%	3.01%	4.92%	9.61%	12.29%	22.78%
Chicago	15.1%	25.8%	21.2%	13.6%	7.4%	4.7%	8.0%	7.9%	8.0%	6.9%	5.9%	0.14%	0.17%	0.12%	0.14%	0.11%	0.27%
Cleveland	10.4%	17.8%	14.7%	9.2%	4.7%	3.4%	1.3%	0.9%	1.4%	1.1%	2.4%	0.04%	0.02%	0.03%	0.03%	0.03%	0.07%
Detroit	7.6%	16.3%	10.9%	6.2%	2.8%	1.4%	0.1%	0.1%	0.1%	0.0%	0.1%	0.33%	0.18%	0.17%	0.38%	0.39%	0.59%
Houston	5.3%	9.5%	5.6%	3.7%	2.9%	3.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.18%	1.81%	2.73%	5.78%	7.09%	13.92%
Los Angeles	8.4%	18.8%	11.2%	4.9%	2.5%	1.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.04%	0.02%	0.03%	0.03%	0.03%	0.07%
Miami	5.6%	12.3%	6.0%	2.1%	0.9%	0.6%	1.5%	1.0%	2.2%	2.0%	2.0%	0.27%	0.14%	0.25%	0.35%	0.43%	0.28%
Oakland	6.9%	15.7%	10.1%	5.0%	2.7%	1.7%	5.1%	3.9%	4.5%	5.6%	4.5%	0.33%	0.18%	0.17%	0.38%	0.39%	0.59%
Philadelphia	14.6%	22.5%	22.7%	13.1%	6.0%	2.8%	8.8%	8.4%	10.8%	10.5%	6.9%	5.38%	1.81%	2.73%	5.78%	7.09%	13.92%
Pittsburgh	19.4%	25.3%	25.7%	18.3%	11.9%	7.1%	1.9%	1.4%	1.7%	1.9%	2.9%	0.18%	0.11%	0.19%	0.24%	0.17%	0.15%
Portland	8.9%	13.9%	11.4%	7.3%	4.7%	3.0%	0.5%	0.7%	0.5%	0.3%	0.2%	0.18%	0.11%	0.19%	0.24%	0.17%	0.15%
Sacramento	3.3%	4.7%	3.9%	3.2%	2.5%	1.4%	0.9%	0.6%	1.0%	1.0%	0.8%	0.34%	0.21%	0.42%	0.42%	0.33%	0.23%
San Diego	3.4%	6.8%	4.3%	2.2%	1.2%	0.7%	0.3%	0.4%	0.3%	0.2%	0.1%	0.01%	0.00%	0.02%	0.01%	0.00%	0.00%
San Francisco	20.2%	31.0%	25.8%	20.8%	14.2%	10.5%	12.3%	8.4%	10.7%	14.4%	13.2%	1.63%	0.53%	0.75%	1.49%	2.31%	2.98%
San Jose	2.7%	6.2%	4.1%	1.7%	1.0%	0.6%	0.1%	0.2%	0.1%	0.0%	0.1%	0.12%	0.08%	0.15%	0.04%	0.16%	0.14%

8. Public Transit: Streetcar/Subway

9. Public Transit: Railroad

B. RATIO OF PERCENT USING MODE (IN EARNINGS CATEGORY) TO TOTAL PERCENT USING MODE

7. Public Transit: Bus

City of Work	7. Public Transit: Bus					8. Public Transit: Streetcar/Subway					9. Public Transit: Railroad				
	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	\$50,000 and over	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	\$50,000 and over	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999 and over	\$50,000 and over
Boston	1.40	1.50	1.12	0.63	0.41	1.18	1.20	1.20	0.81	0.58	0.42	0.62	0.99	1.22	1.73
Buffalo	1.83	1.33	0.59	0.33	0.24	1.00	1.19	0.90	1.03	0.43	0.32	0.52	1.02	1.30	2.42
Chicago	1.71	1.40	0.90	0.49	0.31	0.98	1.11	1.17	0.86	0.74	1.19	0.84	0.94	0.75	1.88
Cleveland	1.71	1.41	0.88	0.45	0.33	0.67	1.09	0.99	0.85	1.76	1.19	0.84	0.94	0.75	1.88
Detroit	2.13	1.43	0.82	0.37	0.18	1.97	0.81	1.05	0.40	1.17	0.65	1.07	1.36	0.95	0.83
Houston	1.80	1.07	0.71	0.55	0.69	1.99	1.30	0.35	0.53	0.54	0.61	1.24	1.22	0.98	0.87
Los Angeles	2.23	1.32	0.58	0.29	0.12	1.87	1.33	0.67	0.52	0.21	0.54	0.81	0.90	1.20	1.92
Miami	2.19	1.08	0.38	0.16	0.10	0.65	0.68	1.46	1.45	1.33	0.50	0.93	1.28	1.59	1.02
Oakland	2.26	1.45	0.72	0.39	0.24	0.77	0.88	1.23	1.11	0.88	0.54	0.53	1.16	1.20	1.80
Philadelphia	1.54	1.55	0.90	0.41	0.19	0.96	1.23	1.20	0.78	0.55	0.34	0.51	1.07	1.32	2.59
Pittsburgh	1.30	1.32	0.94	0.61	0.37	0.76	0.90	1.14	1.00	1.52	0.34	0.51	1.07	1.32	2.59
Portland	1.55	1.27	0.82	0.53	0.34	1.30	1.30	1.01	0.55	0.33	0.65	1.07	1.36	0.95	0.83
Sacramento	1.44	1.18	0.96	0.76	0.44	0.63	1.11	1.15	1.09	0.85	0.61	1.24	1.22	0.98	0.87
San Diego	2.02	1.28	0.65	0.36	0.20	1.16	1.18	1.38	0.64	0.20	0.31	2.19	0.97	0.71	0.00
San Francisco	1.54	1.28	1.03	0.71	0.52	0.68	0.87	1.17	1.11	1.07	0.32	0.46	0.92	1.42	1.83
San Jose	2.32	1.53	0.65	0.36	0.21	1.62	1.24	0.84	0.44	1.10	0.69	1.26	0.36	1.38	1.20
Average (Unweighted)	1.81	1.34	0.79	0.46	0.31	1.14	1.09	1.06	0.82	0.83	0.54	0.91	1.02	1.17	1.49

8. Public Transit: Streetcar/Subway

9. Public Transit: Railroad

<sup>1</sup>Includes only workers with earnings

C. Worker Earnings, All Workers With Earnings

City of Work	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$49,999	\$50,000 and over
Boston	14.7%	19.9%	23.8%	26.7%	14.8%
Buffalo	22.5%	28.0%	22.2%	20.9%	6.5%
Chicago	17.8%	24.8%	21.9%	24.0%	11.5%
Cleveland	16.6%	26.4%	23.5%	24.1%	9.4%
Detroit	18.3%	22.2%	20.7%	27.9%	11.0%
Houston	21.3%	25.7%	21.3%	20.1%	11.5%
Los Angeles	22.1%	24.3%	18.5%	21.6%	13.5%
Miami	26.0%	30.4%	18.8%	16.5%	8.4%
Oakland	17.6%	21.3%	21.8%	27.5%	11.9%
Philadelphia	19.0%	25.1%	22.8%	23.2%	10.0%
Pittsburgh	21.2%	27.7%	21.0%	20.7%	9.4%
Portland	21.8%	26.6%	22.6%	21.3%	7.7%
Sacramento	18.5%	23.2%	23.3%	25.3%	9.7%
San Diego	21.2%	26.6%	20.7%	21.1%	10.4%
San Francisco	15.6%	21.2%	22.0%	25.5%	15.7%
San Jose	18.5%	20.6%	19.8%	26.1%	15.0%

Figure 1. Worker Earnings, All Workers

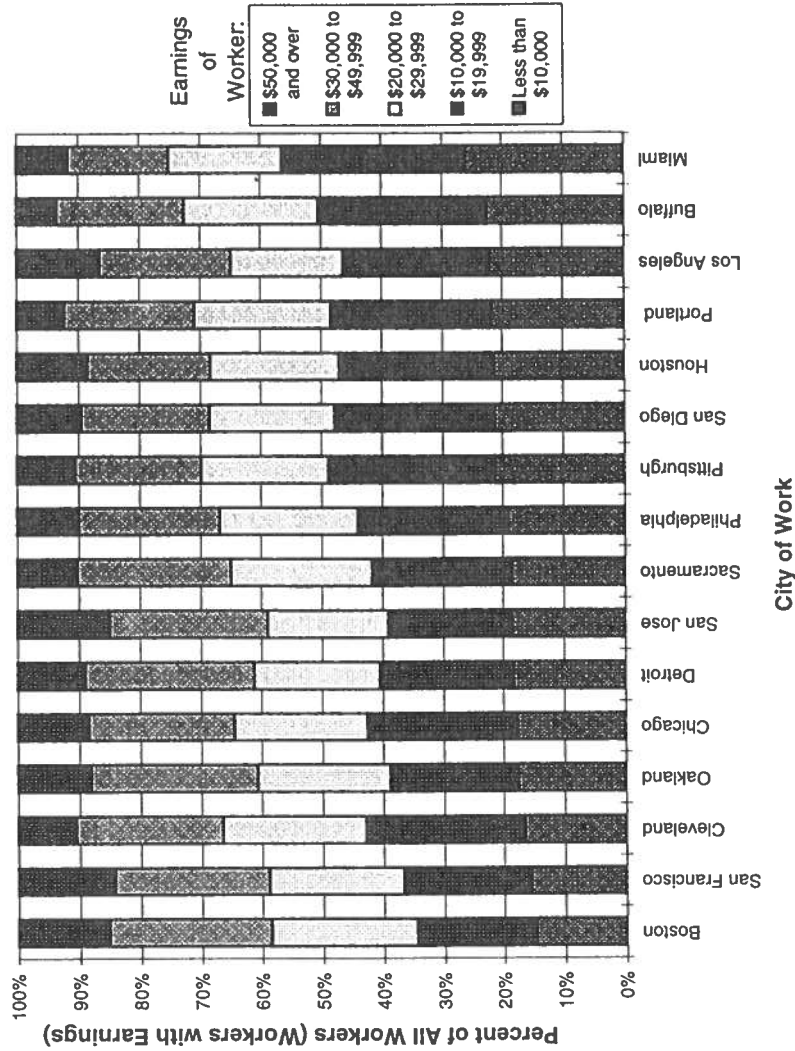




Fig. 2. Worker Earnings vs. Percent Using Mode: Drove Alone

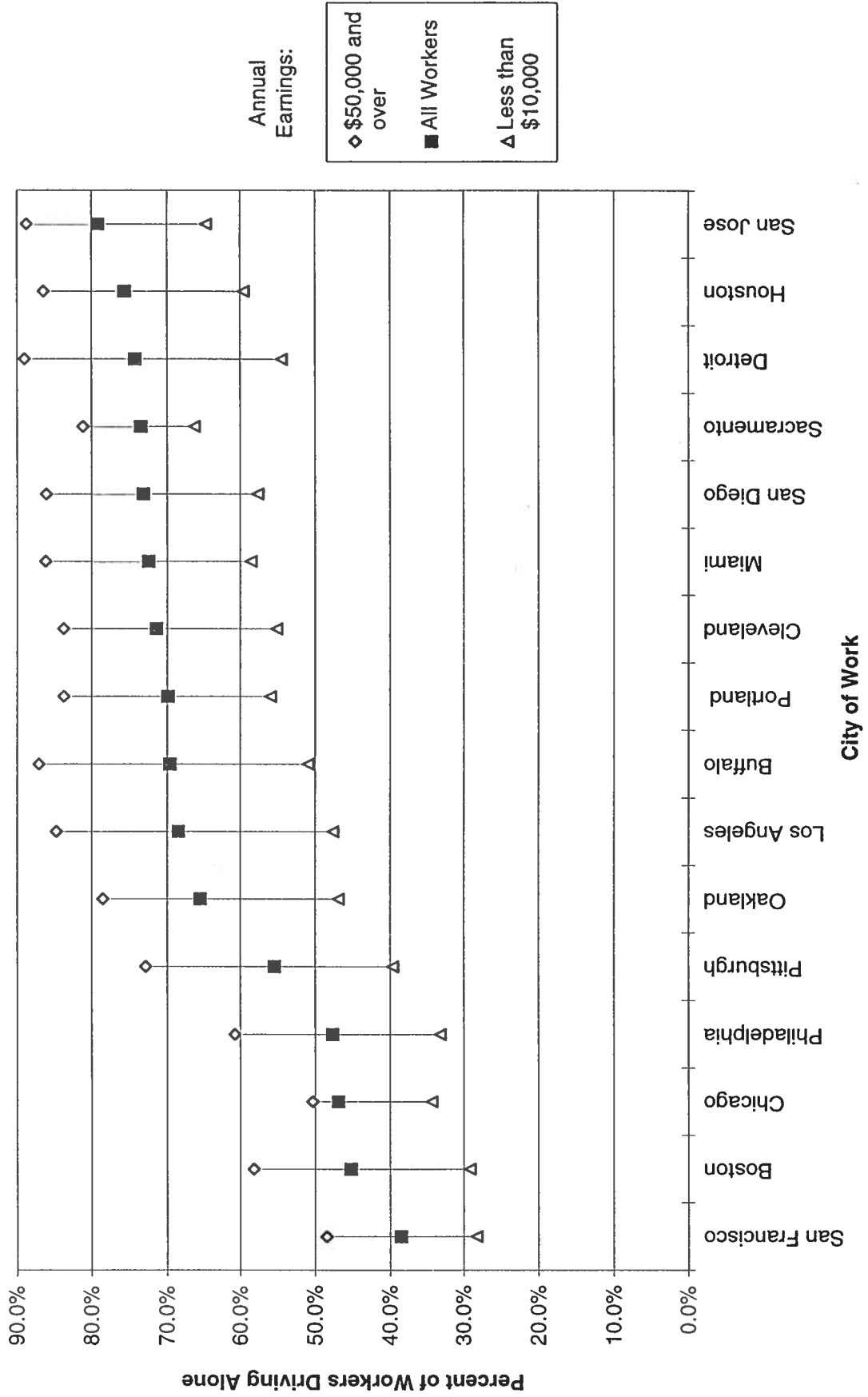


Fig. 3. Worker Earnings vs. Percent Using Mode: Carpool

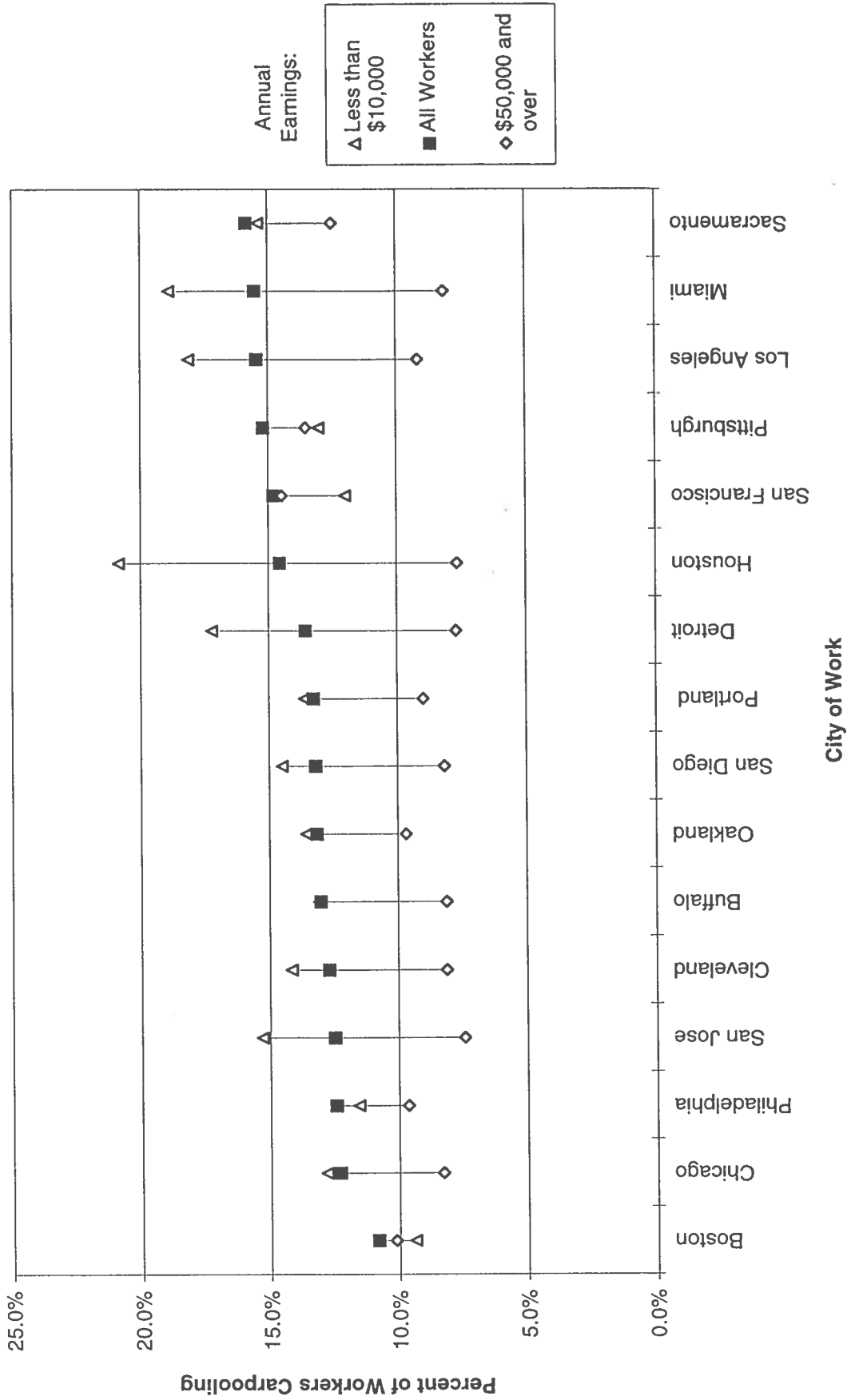
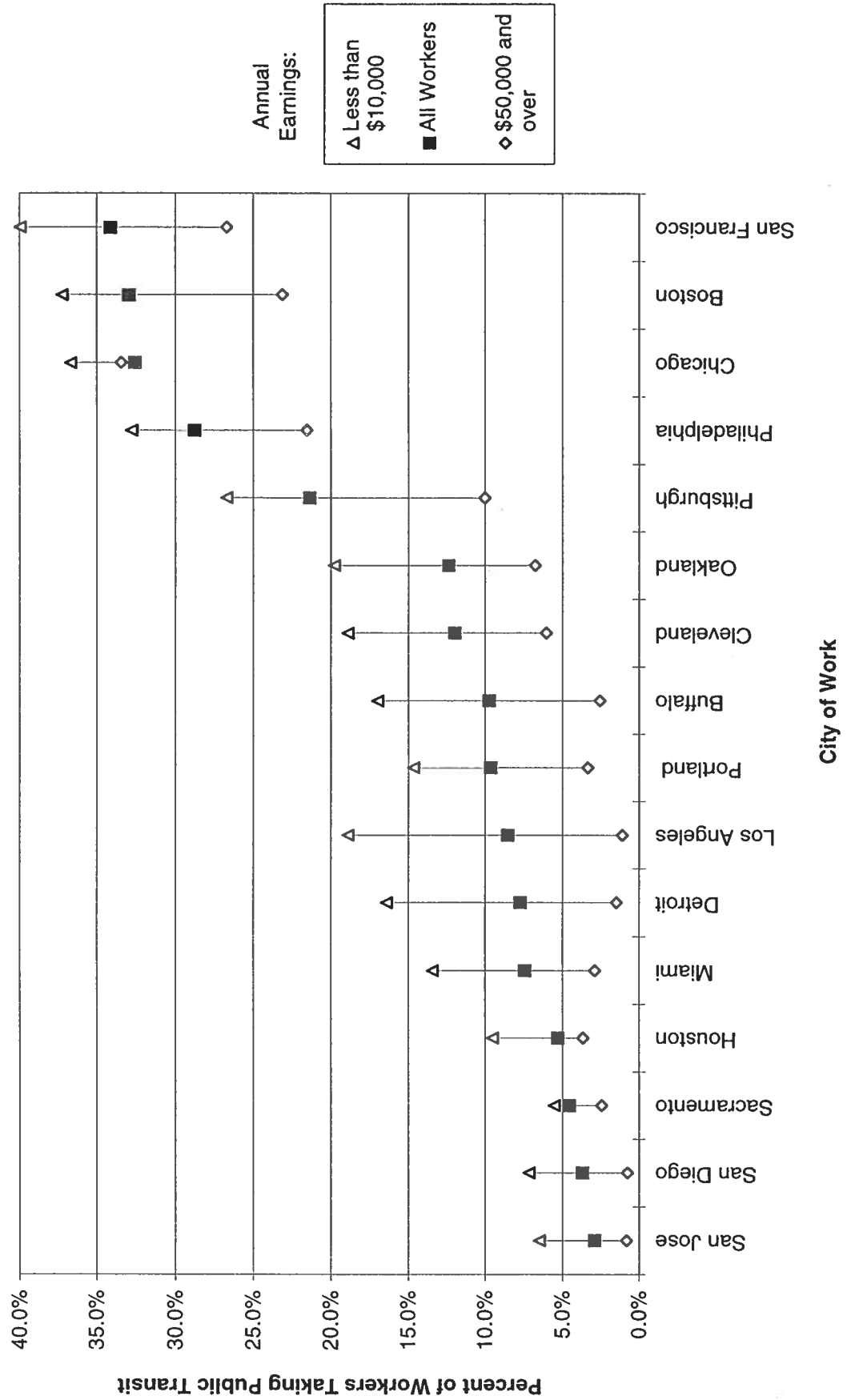
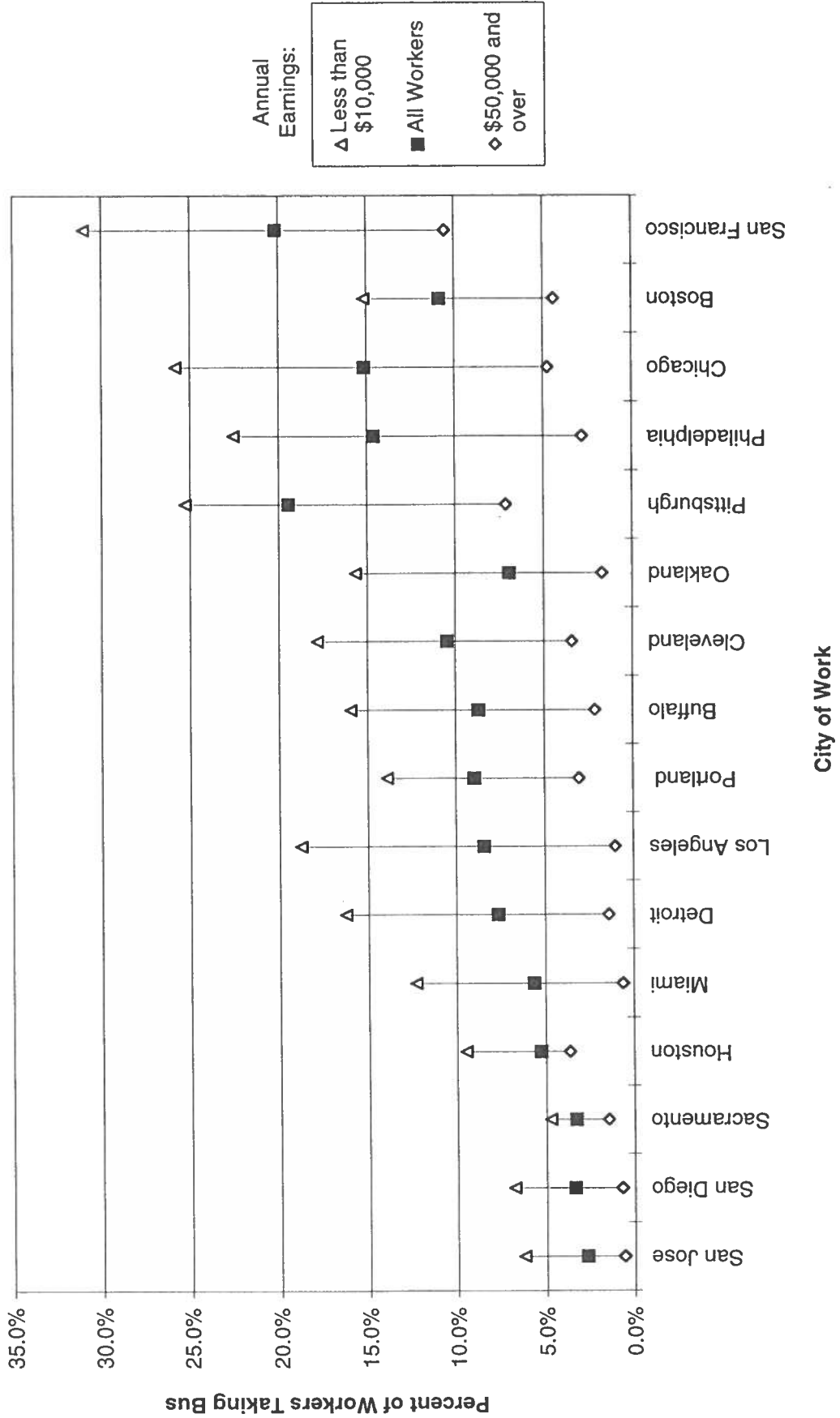


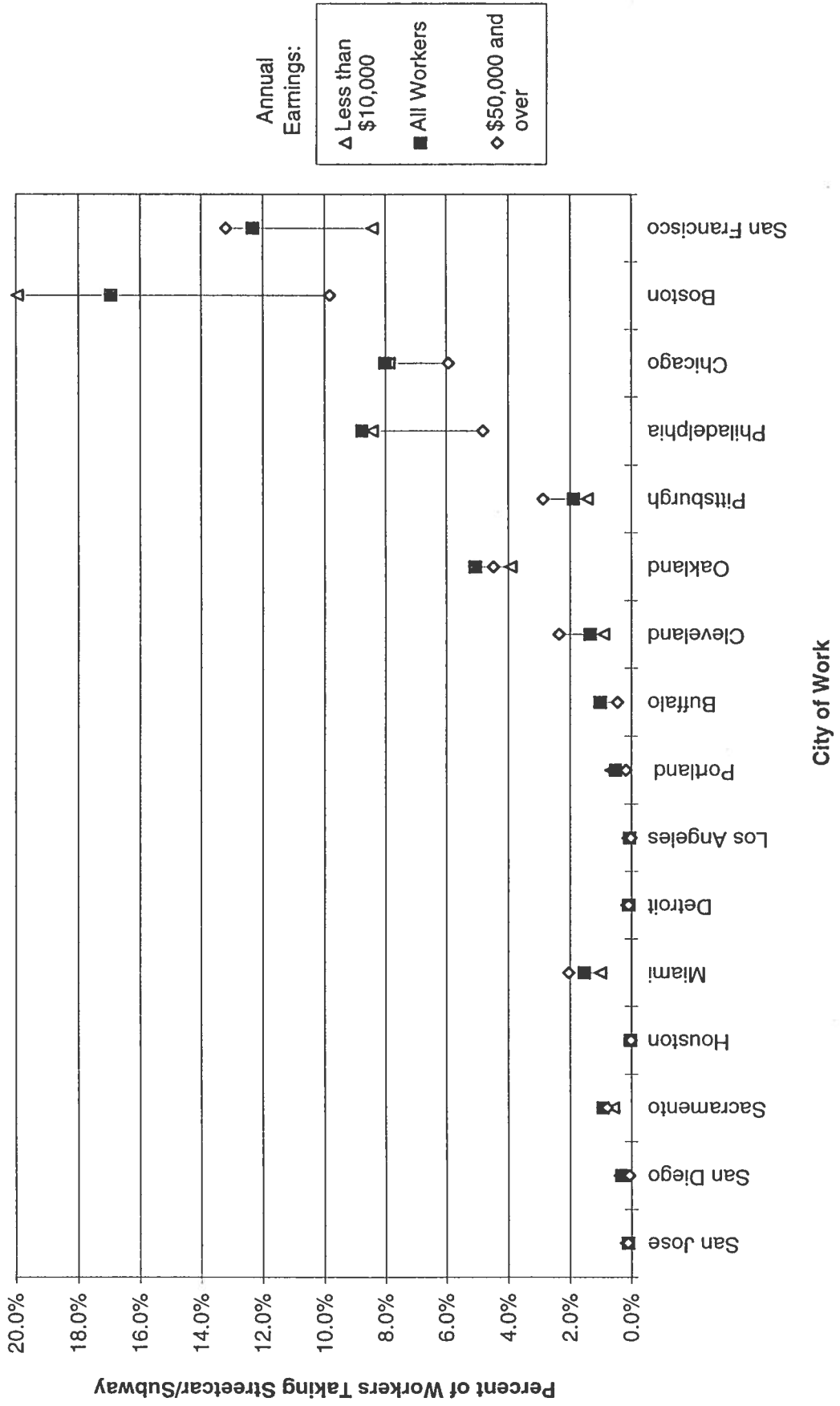
Fig. 4. Worker Earnings vs. Percent Using Mode: Public Transit



**Fig. 4a. Worker Earnings vs. Percent Using Mode: Bus**  
 (Sorted by Percent of Workers Using Public Transit)



**Fig. 4b. Worker Earnings vs. Percent Using Mode: Streetcar/Subway**  
 (Sorted by Percent of Workers Using Public Transit)



**Fig. 4c. Worker Earnings vs. Percent Using Mode: Railroad**  
 (Sorted by Percent of Workers Using Public Transit)

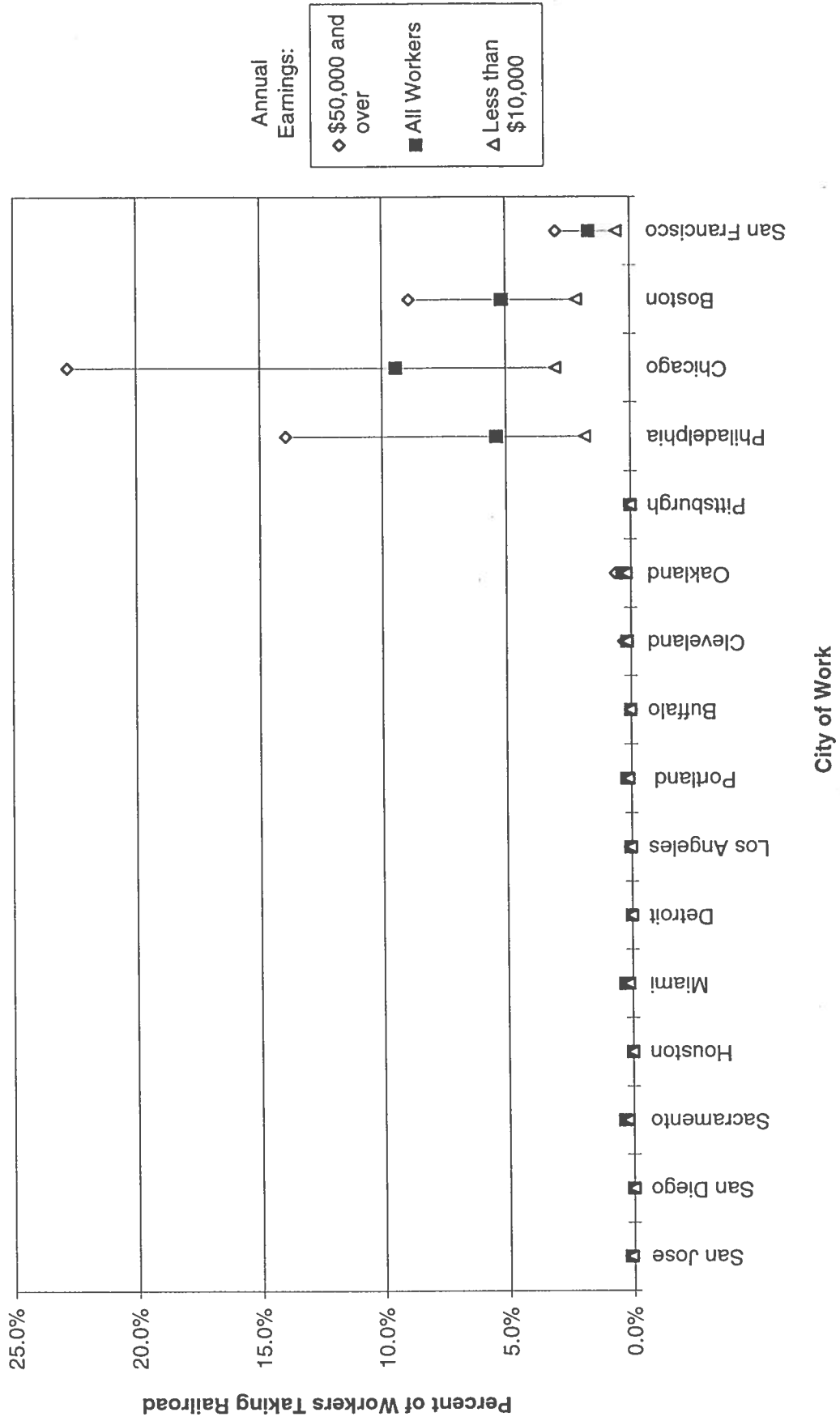


Fig. 5. Worker Earnings vs. Percent Using Mode: Walk/Bicycle

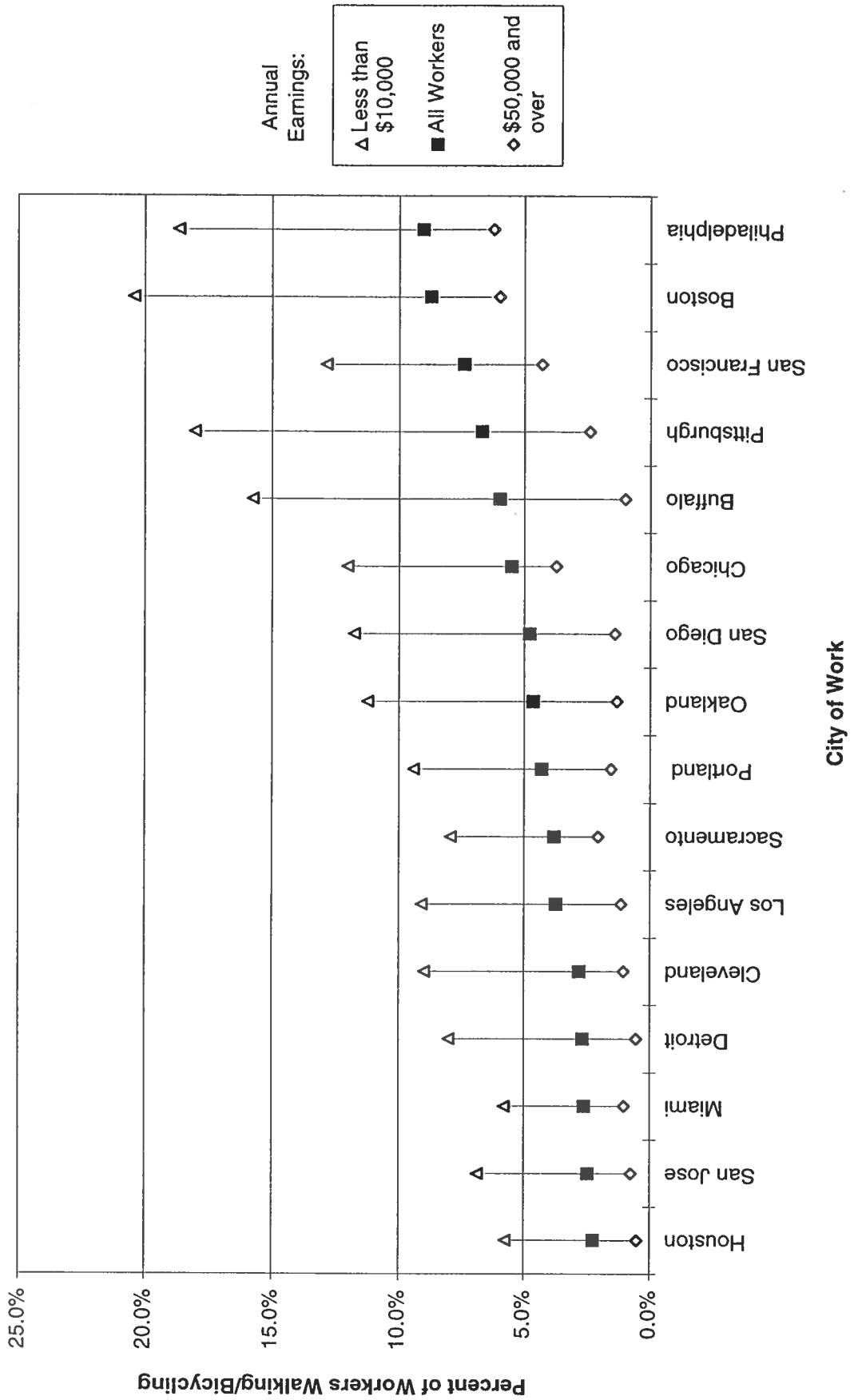
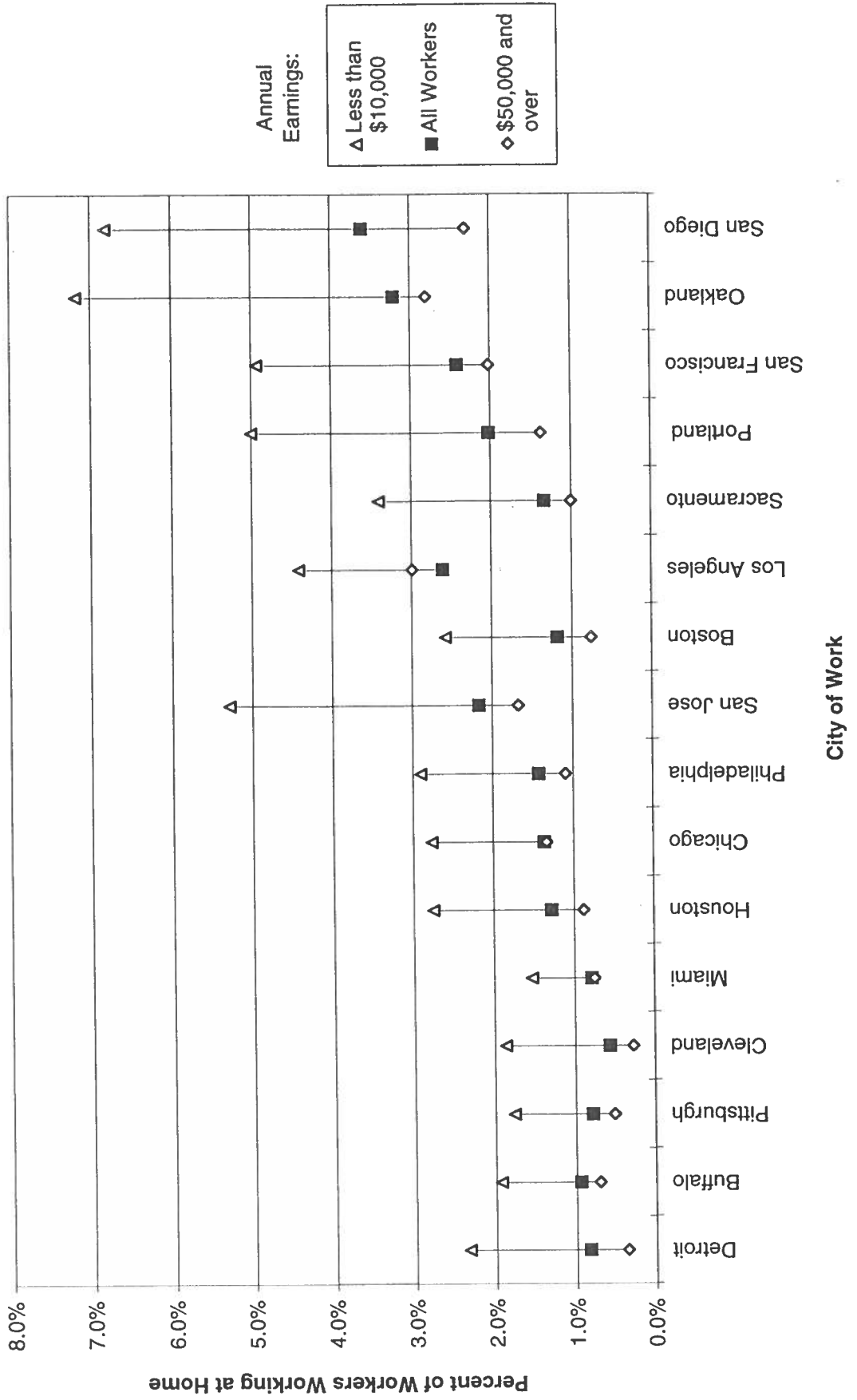


Fig. 6. Worker Earnings vs. Percent Using Mode: Work at Home





VEHICLE OCCUPANCY: JOURNEY TO WORK

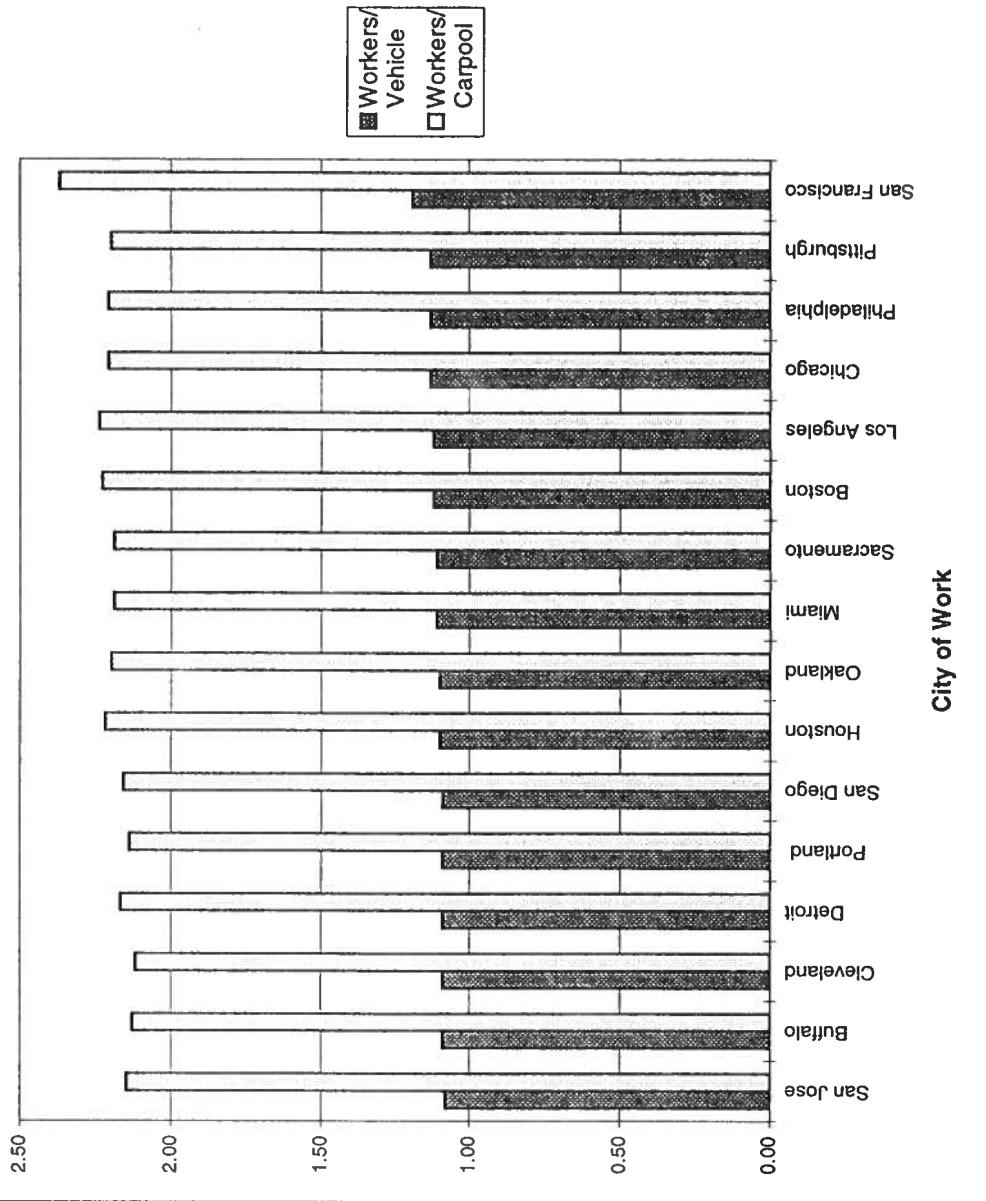
1. Vehicle Occupancy

City of Work	Workers/ Vehicle	Workers/ Carpool
Boston	1.12	2.23
Buffalo	1.09	2.13
Chicago	1.13	2.21
Cleveland	1.09	2.12
Detroit	1.09	2.17
Houston	1.10	2.22
Los Angeles	1.12	2.24
Miami	1.11	2.19
Oakland	1.10	2.20
Philadelphia	1.13	2.21
Pittsburgh	1.13	2.20
Portland	1.09	2.14
Sacramento	1.11	2.19
San Diego	1.09	2.16
San Francisco	1.19	2.37
San Jose	1.08	2.15

2. Vehicle Occupancy: Rank

City of Work	Workers/ Vehicle	Workers/ Carpool
Boston	5	3
Buffalo	11	15
Chicago	2	5
Cleveland	11	16
Detroit	11	11
Houston	9	4
Los Angeles	5	2
Miami	7	9
Oakland	9	7
Philadelphia	2	5
Pittsburgh	2	7
Portland	11	14
Sacramento	7	9
San Diego	11	12
San Francisco	1	1
San Jose	16	13

Figure 1. Average Vehicle Occupancy, Journey to Work



TIME ARRIVING AT WORK VS. MODE OF TRAVEL

A. PERCENT OF WORKERS USING MODE BY TIME ARRIVING AT WORK

City of Work	1. Drove Alone					2. Carpool					3. Public Transit												
	All	5:30 AM - 6:30 AM - 7:29 AM	6:30 AM - 7:30 AM - 8:29 AM	7:30 AM - 8:30 AM - 9:29 AM	9:30 AM - 5:30 AM	All	5:30 AM - 6:30 AM - 7:29 AM	6:30 AM - 7:30 AM - 8:29 AM	7:30 AM - 8:30 AM - 9:29 AM	9:30 AM - 5:30 AM	All	5:30 AM - 6:30 AM - 7:29 AM	6:30 AM - 7:30 AM - 8:29 AM	7:30 AM - 8:30 AM - 9:29 AM	9:30 AM - 5:30 AM								
Boston	45.6%	60.3%	52.2%	41.0%	37.6%	51.7%	67.5%	51.7%	66.7%	51.7%	10.9%	13.5%	14.4%	12.4%	8.3%	7.8%	33.4%	20.0%	26.7%	38.0%	42.6%	25.7%	
Buffalo	69.7%	75.2%	77.1%	70.1%	67.3%	66.7%	71.1%	70.1%	67.3%	66.7%	13.2%	11.2%	15.2%	14.9%	13.2%	8.9%	10.1%	8.4%	8.3%	11.0%	10.9%	10.6%	10.6%
Chicago	47.1%	55.5%	62.9%	40.9%	41.1%	54.2%	62.9%	40.9%	41.1%	54.2%	12.6%	16.8%	15.5%	12.1%	9.4%	11.2%	33.1%	22.1%	28.8%	41.1%	40.8%	24.6%	24.6%
Cleveland	71.3%	75.8%	77.8%	69.5%	70.7%	71.7%	77.8%	69.5%	70.7%	71.7%	12.8%	13.4%	14.4%	13.6%	10.8%	10.8%	12.2%	8.1%	11.2%	14.4%	13.6%	10.6%	10.6%
Detroit	74.1%	76.1%	85.4%	75.0%	75.0%	70.1%	85.4%	75.0%	75.0%	70.1%	13.7%	15.4%	14.6%	14.4%	11.4%	12.9%	8.2%	5.7%	7.0%	7.6%	9.5%	10.1%	10.1%
Houston	76.0%	75.9%	76.9%	77.8%	79.2%	72.8%	76.9%	77.8%	79.2%	72.8%	15.0%	16.0%	17.6%	14.2%	12.2%	14.5%	5.5%	5.4%	5.8%	5.2%	4.5%	6.3%	6.3%
Los Angeles	69.3%	67.7%	69.8%	69.8%	75.3%	70.2%	69.8%	69.8%	75.3%	70.2%	16.1%	19.7%	20.5%	16.1%	12.1%	13.3%	9.2%	7.9%	11.0%	9.6%	7.9%	8.7%	8.7%
Miami	72.2%	70.4%	71.4%	72.4%	75.1%	71.2%	71.4%	72.4%	75.1%	71.2%	16.0%	16.9%	18.2%	16.6%	14.6%	13.8%	7.8%	7.3%	7.3%	8.0%	6.9%	8.7%	8.7%
Oakland	66.9%	70.5%	67.9%	65.2%	66.5%	68.9%	67.9%	65.2%	66.5%	68.9%	13.6%	16.2%	16.2%	14.2%	11.6%	11.1%	13.1%	9.3%	12.0%	14.8%	14.7%	11.6%	11.6%
Philadelphia	47.9%	58.4%	69.2%	44.8%	42.7%	50.3%	69.2%	44.8%	42.7%	50.3%	12.7%	14.3%	16.8%	13.2%	10.6%	9.3%	29.4%	21.0%	24.2%	33.5%	34.4%	25.6%	25.6%
Pittsburgh	55.5%	64.3%	70.4%	50.6%	56.9%	56.8%	70.4%	50.6%	56.9%	56.8%	15.3%	14.4%	18.3%	18.3%	12.8%	9.4%	21.7%	16.9%	19.5%	26.4%	21.4%	18.4%	18.4%
Portland	70.9%	74.0%	74.3%	69.8%	70.6%	71.6%	74.3%	69.8%	70.6%	71.6%	13.6%	15.1%	16.2%	14.3%	11.3%	10.5%	9.9%	7.2%	9.2%	11.3%	11.0%	9.2%	9.2%
Sacramento	74.1%	76.1%	75.5%	73.0%	77.9%	78.5%	75.5%	73.0%	77.9%	78.5%	16.3%	17.8%	21.4%	16.8%	10.9%	11.0%	4.6%	2.0%	5.0%	5.8%	4.6%	3.1%	3.1%
San Diego	75.3%	71.2%	73.9%	79.2%	80.0%	71.4%	73.9%	79.2%	80.0%	71.4%	13.9%	17.0%	17.1%	12.8%	9.8%	12.0%	3.9%	3.3%	3.5%	4.1%	4.3%	4.4%	4.4%
San Francisco	39.3%	49.7%	55.3%	33.4%	36.7%	46.9%	55.3%	33.4%	36.7%	46.9%	15.2%	18.3%	20.3%	16.2%	12.5%	10.6%	35.0%	23.8%	31.3%	40.5%	39.1%	29.3%	29.3%
San Jose	80.1%	77.4%	79.0%	81.7%	83.6%	78.2%	79.0%	81.7%	83.6%	78.2%	13.1%	16.4%	15.5%	12.7%	10.7%	11.7%	3.2%	3.0%	3.2%	2.8%	2.7%	4.0%	4.0%

B. RATIO: PERCENT ARRIVING IN TIME PERIOD (BY MODE) TO TOTAL PERCENT USING MODE<sup>1</sup>

City of Work	1. Drove Alone					2. Carpool					3. Public Transit				
	5:30 AM - 6:30 AM - 7:29 AM	6:30 AM - 7:30 AM - 8:29 AM	7:30 AM - 8:30 AM - 9:29 AM	8:30 AM - 9:30 AM - 5:30 AM	9:30 AM - 5:30 AM	5:30 AM - 6:30 AM - 7:29 AM	6:30 AM - 7:30 AM - 8:29 AM	7:30 AM - 8:30 AM - 9:29 AM	8:30 AM - 9:30 AM - 5:30 AM	9:30 AM - 5:30 AM	5:30 AM - 6:30 AM - 7:29 AM	6:30 AM - 7:30 AM - 8:29 AM	7:30 AM - 8:30 AM - 9:29 AM	8:30 AM - 9:30 AM - 5:30 AM	9:30 AM - 5:30 AM
Boston	1.32	1.15	0.90	0.82	1.13	1.23	1.31	1.14	0.76	0.71	0.80	0.80	1.14	1.27	0.77
Buffalo	1.08	1.11	1.01	0.97	0.96	0.85	1.15	1.14	1.00	0.68	0.83	0.82	1.08	1.07	1.04
Chicago	1.18	1.33	0.87	0.87	1.15	1.34	1.24	0.96	0.75	0.89	0.87	0.87	1.24	1.23	0.74
Cleveland	1.06	1.09	0.97	0.99	1.01	1.04	1.12	1.06	0.84	0.84	0.66	0.92	1.18	1.11	0.87
Detroit	1.03	1.15	1.01	1.01	0.95	1.12	1.06	1.05	0.83	0.94	0.70	0.86	0.93	1.16	1.23
Houston	1.00	1.01	1.02	1.04	0.96	1.06	1.17	0.94	0.81	0.96	0.99	1.05	0.95	0.82	1.14
Los Angeles	0.98	1.01	1.01	1.09	1.01	1.23	1.28	1.00	0.75	0.83	0.86	1.19	1.03	0.85	0.94
Miami	0.98	0.99	1.00	1.04	0.99	1.06	1.14	1.04	0.91	0.87	0.94	0.94	1.03	0.89	1.12
Oakland	1.05	1.01	0.97	0.99	1.03	1.19	1.18	1.04	0.85	0.82	0.71	0.92	1.14	1.13	0.89
Philadelphia	1.22	1.44	0.94	0.89	1.05	1.13	1.33	1.04	0.83	0.73	0.71	0.83	1.14	1.17	0.87
Pittsburgh	1.16	1.27	0.91	1.03	1.02	0.94	1.20	1.19	0.84	0.61	0.78	0.90	1.22	0.98	0.85
Portland	1.04	1.05	0.98	0.99	1.01	1.11	1.19	1.05	0.83	0.77	0.72	0.93	1.14	1.11	0.92
Sacramento	1.03	1.02	0.99	1.05	1.06	1.09	1.31	1.03	0.67	0.67	0.43	1.09	1.26	1.01	0.68
San Diego	0.95	0.98	1.05	1.06	0.95	1.22	1.23	0.92	0.70	0.87	0.83	0.89	1.04	1.09	1.12
San Francisco	1.27	1.41	0.85	0.93	1.19	1.21	1.34	1.07	0.82	0.70	0.68	0.89	1.16	1.12	0.84
San Jose	0.97	0.99	1.02	1.04	0.98	1.25	1.18	0.97	0.81	0.89	0.96	1.01	0.90	0.84	1.26
Average (Unweighted)	1.08	1.13	0.97	0.99	1.03	1.13	1.21	1.04	0.81	0.80	0.75	0.93	1.10	1.06	0.95

<sup>1</sup>Example: In Boston, 13.5% of workers arriving between 5:30 and 6:29 carpooled, compared to 10.9% of all workers, for a ratio of 1.23.

TIME ARRIVING AT WORK VS. MODE OF TRAVEL

A. PERCENT OF WORKERS USING MODE BY TIME ARRIVING AT WORK

City of Work	5:30 AM - 6:30 AM		7:30 AM - 8:30 AM		8:30 AM - 9:30 AM		9:30 AM - 10:30 AM		10:30 AM - 11:30 AM		11:30 AM - 12:30 PM	
	All Workers	5:30 AM - 6:29 AM	All Workers	7:30 AM - 8:29 AM	All Workers	8:30 AM - 9:29 AM	All Workers	9:30 AM - 10:29 AM	All Workers	10:30 AM - 11:29 AM	All Workers	11:30 AM - 12:29 PM
Boston	8.9%	1.4%	5.6%	1.1%	2.2%	3.3%	5.2%	1.0%	1.4%	0.4%	0.7%	1.8%
Buffalo	6.2%	3.4%	2.5%	3.5%	7.7%	12.6%	12.6%	1.2%	1.8%	0.6%	0.5%	1.2%
Chicago	5.7%	4.0%	2.7%	4.8%	7.1%	8.2%	8.2%	1.4%	1.7%	0.8%	1.1%	1.7%
Cleveland	3.0%	2.2%	1.4%	2.0%	4.0%	5.8%	5.8%	0.7%	0.6%	0.4%	0.9%	1.1%
Detroit	2.9%	1.4%	1.1%	2.2%	3.3%	5.2%	5.2%	1.0%	1.4%	0.4%	0.7%	1.8%
Houston	2.4%	1.5%	1.4%	2.0%	3.1%	4.5%	4.5%	1.1%	1.2%	0.8%	0.9%	2.0%
Los Angeles	4.1%	2.8%	3.0%	3.6%	3.7%	6.0%	6.0%	1.3%	1.9%	1.3%	1.0%	1.8%
Miami	2.8%	3.4%	2.1%	2.0%	2.2%	4.5%	4.5%	1.3%	2.1%	1.3%	1.0%	1.8%
Oakland	5.0%	1.8%	2.2%	4.3%	6.1%	7.1%	7.1%	1.4%	2.2%	1.5%	1.4%	1.2%
Philadelphia	9.3%	5.2%	3.2%	8.0%	11.6%	13.8%	13.8%	0.8%	1.2%	0.7%	0.5%	0.9%
Pittsburgh	6.9%	3.7%	2.8%	4.1%	8.4%	14.5%	14.5%	0.6%	0.6%	0.5%	0.5%	0.9%
Portland	4.5%	2.8%	2.4%	3.9%	6.0%	7.4%	7.4%	1.0%	1.1%	0.8%	0.7%	1.4%
Sacramento	4.0%	2.7%	2.6%	3.7%	5.8%	5.9%	5.9%	1.0%	1.4%	1.0%	0.8%	1.5%
San Diego	5.1%	5.8%	4.9%	2.8%	5.1%	9.8%	9.8%	1.7%	3.0%	1.6%	1.1%	2.3%
San Francisco	7.7%	5.0%	4.4%	7.0%	8.9%	10.5%	10.5%	2.9%	3.1%	2.1%	2.8%	2.7%
San Jose	2.7%	2.0%	1.9%	2.0%	2.4%	4.9%	4.9%	0.9%	1.2%	1.0%	0.7%	1.2%

5. Other

4. Bicycle/Walk

B. RATIO: PERCENT ARRIVING IN TIME PERIOD (BY MODE) TO TOTAL PERCENT USING MODE

City of Work	5:30 AM - 6:30 AM		7:30 AM - 8:30 AM		8:30 AM - 9:30 AM		9:30 AM - 10:30 AM		10:30 AM - 11:30 AM		11:30 AM - 12:30 PM	
	All Workers	5:30 AM - 6:29 AM	All Workers	7:30 AM - 8:29 AM	All Workers	8:30 AM - 9:29 AM	All Workers	9:30 AM - 10:29 AM	All Workers	10:30 AM - 11:29 AM	All Workers	11:30 AM - 12:29 PM
Boston	0.51	0.63	0.84	1.19	1.53	1.38	0.94	0.99	0.86	0.99	0.86	1.11
Buffalo	0.55	0.40	0.57	1.24	2.03	2.19	0.79	0.58	1.22	1.22	1.45	1.45
Chicago	0.69	0.47	0.83	1.24	1.43	1.17	0.58	0.79	1.10	1.22	1.10	1.22
Cleveland	0.73	0.47	0.66	1.35	1.93	0.84	0.86	0.66	1.29	1.29	1.29	1.66
Detroit	0.49	0.38	0.78	1.13	1.80	1.32	0.43	0.66	0.69	0.66	0.69	1.68
Houston	0.63	0.58	0.81	1.28	1.87	1.10	0.73	0.73	0.88	0.88	0.88	1.83
Los Angeles	0.68	0.75	0.88	0.91	1.49	1.38	0.94	0.73	0.76	0.76	1.36	1.36
Miami	1.23	0.76	0.71	0.80	1.64	1.55	0.97	0.77	0.86	0.77	0.86	1.32
Oakland	0.37	0.45	0.87	1.23	1.43	1.59	1.14	1.03	0.75	1.03	0.75	0.88
Philadelphia	0.55	0.34	0.86	1.24	1.49	1.59	0.92	0.69	0.96	0.69	0.96	1.21
Pittsburgh	0.54	0.41	0.60	1.22	2.11	1.00	0.88	0.94	0.75	0.94	0.75	1.40
Portland	0.58	0.54	0.86	1.34	1.64	1.11	0.79	0.74	1.12	0.74	1.12	1.43
Sacramento	0.69	0.66	0.92	1.46	1.49	1.36	0.98	0.78	0.72	0.98	0.72	1.47
San Diego	1.08	0.95	0.55	0.99	1.90	1.74	0.91	0.62	0.55	0.62	0.55	1.37
San Francisco	0.65	0.57	0.92	1.16	1.37	1.09	0.73	1.00	1.00	1.00	1.00	0.95
San Jose	0.73	0.70	0.75	0.90	1.84	1.25	1.09	0.79	0.64	0.79	0.64	1.29
Average (Unweighted)	0.67	0.57	0.78	1.17	1.69	1.35	0.86	0.78	0.88	0.78	0.88	1.35

5. Other

4. Bicycle/Walk

1990 CTPP Data: Table B18 TIME ARRIVING AT WORK VS. MODE OF TRAVEL

A. PERCENT OF WORKERS USING MODE BY TIME ARRIVING AT WORK

City of Work	6. Public Transit: Bus										7. Public Transit: Streetcar/Subway										8. Public Transit: Railroad																			
	All		5:30 AM - 6:30 AM		7:30 AM - 8:30 AM		8:30 AM - 9:30 AM		9:30 AM - 5:30 AM		All		5:30 AM - 6:30 AM		7:30 AM - 8:30 AM		8:30 AM - 9:30 AM		9:30 AM - 5:30 AM		All		5:30 AM - 6:30 AM		7:30 AM - 8:30 AM		8:30 AM - 9:30 AM		9:30 AM - 5:30 AM											
	Workers	6:29 AM	7:29 AM	8:29 AM	9:29 AM	5:30 AM	Workers	6:29 AM	7:29 AM	8:29 AM	9:29 AM	5:30 AM	Workers	6:29 AM	7:29 AM	8:29 AM	9:29 AM	5:30 AM	Workers	6:29 AM	7:29 AM	8:29 AM	9:29 AM	5:30 AM	Workers	6:29 AM	7:29 AM	8:29 AM	9:29 AM	5:30 AM										
Boston	11.1%	8.0%	10.4%	11.4%	12.6%	10.6%	17.1%	9.3%	11.3%	18.4%	24.8%	14.0%	5.1%	2.8%	5.0%	8.1%	5.2%	1.0%	9.1%	8.2%	7.6%	13.9%	15.4%	17.7%	17.6%	8.1%	4.6%	5.8%	9.8%	12.4%	5.8%	9.3%	4.9%	9.1%	15.8%	10.7%	1.2%			
Buffalo	9.1%	8.2%	12.6%	13.9%	15.4%	17.7%	17.6%	8.1%	4.6%	5.8%	9.8%	12.4%	5.8%	9.3%	4.9%	9.1%	15.8%	10.7%	1.2%	9.1%	8.2%	7.6%	13.9%	15.4%	17.7%	17.6%	8.1%	4.6%	5.8%	9.8%	12.4%	5.8%	9.3%	4.9%	9.1%	15.8%	10.7%	1.2%		
Chicago	15.7%	12.6%	13.9%	15.4%	17.7%	17.6%	8.1%	4.6%	5.8%	9.8%	12.4%	5.8%	9.3%	4.9%	9.1%	15.8%	10.7%	1.2%	9.1%	8.2%	7.6%	13.9%	15.4%	17.7%	17.6%	8.1%	4.6%	5.8%	9.8%	12.4%	5.8%	9.3%	4.9%	9.1%	15.8%	10.7%	1.2%			
Cleveland	10.8%	7.5%	10.1%	12.2%	11.5%	9.9%	1.3%	0.5%	1.0%	1.9%	2.0%	0.6%	0.3%	0.0%	0.1%	0.3%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Detroit	8.1%	5.6%	7.0%	7.6%	9.4%	9.9%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Houston	5.5%	5.4%	5.7%	5.2%	4.5%	6.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Los Angeles	9.2%	7.8%	10.9%	9.4%	7.8%	8.6%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Miami	6.0%	6.1%	5.9%	5.6%	4.5%	8.0%	1.5%	0.7%	1.2%	2.1%	2.1%	0.6%	0.3%	0.5%	0.3%	0.5%	0.3%	0.2%	0.3%	0.5%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%		
Oakland	7.5%	6.2%	6.3%	7.4%	8.1%	8.8%	5.2%	2.7%	5.4%	7.0%	6.2%	2.6%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%		
Philadelphia	15.2%	14.0%	13.6%	14.2%	15.8%	18.2%	8.8%	4.9%	6.4%	10.9%	12.2%	5.9%	5.3%	2.0%	4.3%	8.4%	6.5%	1.5%	5.3%	2.0%	4.3%	8.4%	6.5%	1.5%	5.3%	2.0%	4.3%	8.4%	6.5%	1.5%	5.3%	2.0%	4.3%	8.4%	6.5%	1.5%	5.3%	2.0%	4.3%	8.4%
Pittsburgh	19.8%	15.9%	17.6%	23.6%	19.7%	17.5%	1.9%	1.0%	1.9%	2.8%	1.7%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
Portland	9.2%	6.7%	8.6%	10.3%	10.3%	8.8%	0.5%	0.5%	0.5%	0.7%	0.6%	0.3%	0.2%	0.0%	0.2%	0.3%	0.1%	0.0%	0.2%	0.0%	0.2%	0.3%	0.1%	0.0%	0.2%	0.0%	0.2%	0.3%	0.1%	0.0%	0.2%	0.0%	0.2%	0.3%	0.1%	0.0%	0.2%			
Sacramento	3.3%	1.2%	3.5%	4.1%	3.4%	2.7%	0.9%	0.7%	1.0%	1.2%	1.1%	0.3%	0.3%	0.0%	0.5%	0.4%	0.2%	0.1%	0.3%	0.0%	0.5%	0.4%	0.2%	0.1%	0.3%	0.0%	0.5%	0.4%	0.2%	0.1%	0.0%	0.2%	0.1%	0.0%	0.2%	0.1%				
San Diego	3.6%	2.8%	3.1%	3.7%	4.0%	4.3%	0.3%	0.5%	0.4%	0.3%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
San Francisco	20.9%	12.2%	16.7%	23.0%	23.5%	21.6%	12.5%	10.0%	12.6%	15.4%	14.0%	7.3%	1.6%	1.6%	2.0%	2.2%	1.6%	0.5%	1.6%	1.6%	2.0%	2.2%	1.6%	0.5%	1.6%	1.6%	2.0%	2.2%	1.6%	0.5%	1.6%	1.6%	2.0%	2.2%	1.6%	0.5%	1.6%			
San Jose	2.9%	2.9%	3.0%	2.5%	2.3%	3.8%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%			

B. RATIO: PERCENT ARRIVING IN TIME PERIOD (BY MODE) TO TOTAL PERCENT USING MODE

City of Work	6. Public Transit: Bus										7. Public Transit: Streetcar/Subway										8. Public Transit: Railroad									
	5:30 AM - 6:30 AM		7:30 AM - 8:30 AM		8:30 AM - 9:30 AM		9:30 AM - 5:30 AM		5:30 AM - 6:30 AM		7:30 AM - 8:30 AM		8:30 AM - 9:30 AM		9:30 AM - 5:30 AM		5:30 AM - 6:30 AM		7:30 AM - 8:30 AM		8:30 AM - 9:30 AM		9:30 AM - 5:30 AM							
	Workers	6:29 AM	7:29 AM	8:29 AM	9:29 AM	5:30 AM	Workers	6:29 AM	7:29 AM	8:29 AM	9:29 AM	5:30 AM	Workers	6:29 AM	7:29 AM	8:29 AM	9:29 AM	5:30 AM	Workers	6:29 AM	7:29 AM	8:29 AM	9:29 AM	5:30 AM						
Boston	0.71	0.93	1.03	1.03	1.13	0.96	0.55	0.66	1.07	1.45	0.82	0.54	0.54	0.97	1.59	1.02	0.20	0.71	0.93	1.03	1.03	1.13	0.96							
Buffalo	0.90	0.84	1.05	1.03	1.03	1.09	0.23	0.64	1.38	1.48	0.65	0.23	0.64	1.38	1.48	0.65	0.23	0.64	1.38	1.48	0.65	0.23	0.64							
Chicago	0.80	0.88	0.98	1.12	1.12	1.12	0.57	0.72	1.22	1.54	0.72	0.57	0.72	1.22	1.54	0.72	0.57	0.72	1.22	1.54	0.72	0.57	0.72							
Cleveland	0.70	0.94	1.14	1.07	1.07	0.92	0.38	0.78	1.46	1.48	0.45	0.38	0.78	1.46	1.48	0.45	0.38	0.78	1.46	1.48	0.45	0.38	0.78							
Detroit	0.70	0.86	0.93	1.16	1.16	1.22	0.87	0.85	0.63	1.09	1.61	0.87	0.85	0.63	1.09	1.61	0.87	0.85	0.63	1.09	1.61	0.87	0.85							
Houston	0.99	1.05	0.95	0.82	1.14	1.14	0.78	0.85	0.77	0.62	1.94	0.78	0.85	0.77	0.62	1.94	0.78	0.85	0.77	0.62	1.94	0.78	0.85							
Los Angeles	0.86	1.20	1.03	0.85	0.94	0.94	0.71	1.10	0.82	0.87	1.33	0.71	1.10	0.82	0.87	1.33	0.71	1.10	0.82	0.87	1.33	0.71	1.10							
Miami	1.02	0.98	0.94	0.75	1.33	1.33	0.48	0.80	1.39	1.42	0.37	0.48	0.80	1.39	1.42	0.37	0.48	0.80	1.39	1.42	0.37	0.48	0.80							
Oakland	0.83	0.84	0.98	1.08	1.08	1.17	0.52	1.04	1.35	1.20	0.51	0.52	1.04	1.35	1.20	0.51	0.52	1.04	1.35	1.20	0.51	0.52	1.04							
Philadelphia	0.92	0.89	0.93	1.04	1.04	1.20	0.56	0.73	1.24	1.38	0.67	0.56	0.73	1.24	1.38	0.67	0.56	0.73	1.24	1.38	0.67	0.56	0.73							
Pittsburgh	0.80	0.89	1.19	1.00	0.88	0.88	0.52	0.99	1.49	0.90	0.47	0.52	0.99	1.49	0.90	0.47	0.52	0.99	1.49	0.90	0.47	0.52	0.99							
Portland	0.72	0.93	1.12	1.12	1.12	0.96	0.91	0.91	1.29	1.19	0.82	0.91	0.91	1.29	1.19	0.82	0.91	0.91	1.29	1.19	0.82	0.91	0.91							
Sacramento	0.36	1.04	1.24	1.01	1.01	0.81	0.78	1.07	1.33	1.21	0.30	0.78	1.07	1.33	1.21	0.30	0.78	1.07	1.33	1.21	0.30	0.78	1.07							
San Diego	0.76	0.86	1.04	1.11	1.19	1.19	1.57	1.27	1.04	0.83	0.40	1.57	1.27	1.04	0.83	0.40	1.57	1.27	1.04	0.83	0.40	1.57	1.27							
San Francisco	0.58	0.80	1.10	1.13	1.03	1.03	0.80	1.01	1.23	1.12	0.58	0.80	1.01	1.23	1.12	0.58	0.80	1.01	1.23	1.12	0.58	0.80	1.01							
San Jose	0.99	1.03	0.87	0.80	1.30	1.30	0.71	1.00	1.00	1.11	1.04	0.71	1.00	1.00	1.11	1.04	0.71	1.00	1.00	1.11	1.04	0.71	1.00							
Unweighted Average	0.79	0.93	1.03	1.01	1.08	1.08	0.68	0.90	1.17	1.18	0.78	0.68	0.90	1.17	1.18	0.78	0.68	0.90	1.17	1.18	0.78	0.68	0.90							

TRAVEL TIME TO WORK BY MODE

1. All Modes

City of Work	Travel Time Percentiles (min.) <sup>1</sup>			Travel Time Percentiles (min.)			Travel Time Percentiles (min.)			Percent Using Mode <sup>2</sup>
	20th	50th (median)	80th	20th	50th (median)	80th	20th	50th (median)	80th	
Boston	17.8	31.9	48.9	17.5	30.7	47.6	18.1	31.8	49.9	10.9%
Buffalo	13.5	22.0	33.0	14.0	22.0	32.3	14.0	21.6	32.5	13.2%
Chicago	18.6	33.1	53.9	17.5	30.9	47.0	18.3	31.7	48.1	12.6%
Cleveland	16.9	27.1	40.2	16.8	25.6	36.3	17.0	27.0	39.6	12.8%
Detroit	16.6	26.3	40.6	16.9	25.8	38.1	16.4	24.8	39.2	13.7%
Houston	15.9	27.9	45.0	16.0	26.7	42.4	16.7	30.4	46.2	15.0%
Los Angeles	15.7	29.2	46.6	15.7	27.5	45.3	16.9	30.8	48.0	16.1%
Miami	16.3	27.8	42.2	16.4	26.8	40.1	16.3	28.5	42.7	16.0%
Oakland	14.8	24.6	44.0	14.5	23.4	39.5	16.3	27.3	46.8	13.6%
Philadelphia	16.4	30.6	47.1	16.1	27.6	42.7	16.9	30.0	44.6	12.7%
Pittsburgh	16.3	28.2	44.8	16.3	25.9	41.5	17.1	29.6	45.8	15.3%
Portland	14.5	23.1	34.4	14.5	22.5	33.3	15.6	24.0	35.0	13.6%
Sacramento	14.2	22.5	34.2	14.1	22.0	33.3	15.7	24.3	37.9	16.3%
San Diego	14.0	22.4	33.7	14.5	22.3	33.2	15.9	24.4	34.8	13.9%
San Francisco	18.1	32.0	49.7	16.3	27.1	45.9	19.8	33.0	51.4	15.2%
San Jose	14.4	22.9	34.9	14.5	22.7	34.4	15.5	24.3	42.5	13.1%

3. Carpool

2. Drove Alone

4. Public Transit

City of Work	Travel Time Percentiles (min.)			Travel Time Percentiles (min.)			Travel Time Percentiles (min.)			Percent Using Mode <sup>2</sup>
	20th	50th (median)	80th	20th	50th (median)	80th	20th	50th (median)	80th	
Boston	26.3	37.7	56.5	7.5	14.3	21.9	12.9	28.1	65.4	1.2%
Buffalo	20.8	32.1	46.7	5.6	11.1	19.8	9.3	16.5	27.1	0.8%
Chicago	30.9	46.9	70.2	6.5	12.3	20.2	11.8	19.6	42.0	1.4%
Cleveland	25.7	37.0	52.5	6.0	11.9	19.9	11.2	21.5	41.2	0.7%
Detroit	24.5	38.8	64.2	5.9	11.4	19.6	11.0	19.5	33.9	1.0%
Houston	27.5	45.9	68.8	5.1	11.1	21.1	11.8	22.3	42.1	1.1%
Los Angeles	24.3	39.0	67.4	7.0	13.8	23.0	11.8	22.1	38.9	1.3%
Miami	22.8	34.7	63.2	6.9	13.5	23.3	12.7	23.4	37.3	1.3%
Oakland	24.4	37.6	61.4	5.6	12.4	23.0	11.9	23.6	46.2	1.4%
Philadelphia	26.4	41.3	61.2	7.1	13.8	22.4	12.4	21.5	40.0	0.8%
Pittsburgh	23.0	33.9	49.5	6.7	12.9	21.8	11.8	20.4	44.2	0.6%
Portland	22.1	33.7	49.4	5.5	12.2	22.7	11.5	20.7	41.0	1.0%
Sacramento	23.4	35.5	54.9	7.0	14.6	24.4	11.5	21.4	34.4	1.0%
San Diego	22.2	34.8	65.5	5.9	10.9	19.7	11.1	20.4	33.2	1.7%
San Francisco	27.7	40.8	63.2	8.0	15.5	24.6	14.3	31.2	67.4	2.9%
San Jose	21.7	34.8	66.5	6.2	12.7	22.6	12.5	21.9	34.5	0.9%

6. Other

5. Walk/ Bicycle

<sup>1</sup>Computed percentiles may vary non-systematically from actual values; see text for a discussion.

<sup>2</sup>Percent of all workers not working at home.

TRAVEL TIME TO WORK BY MODE

3c. Carpool: 4-or-more-person carpool

City of Work	Travel Time Percentiles (min.)				Percent Using			
	20th	50th	80th	Mode <sup>1</sup>	20th	50th	80th	Mode <sup>1</sup>
Boston	17.6	31.2	48.7	8.6%	19.8	32.5	49.7	1.3%
Buffalo	13.9	21.4	32.1	11.2%	14.3	22.6	34.1	1.4%
Chicago	17.9	31.5	47.7	9.7%	19.7	32.3	48.8	1.8%
Cleveland	16.8	26.5	38.4	11.0%	18.1	29.6	42.7	1.2%
Detroit	16.2	24.4	36.6	11.2%	17.5	27.4	42.5	1.7%
Houston	16.3	29.4	45.4	11.7%	17.4	31.2	47.4	1.9%
Los Angeles	16.6	30.3	47.0	12.1%	17.9	31.4	48.6	2.4%
Miami	16.2	28.1	41.9	12.7%	17.2	30.1	45.4	2.0%
Oakland	16.0	24.9	45.1	10.7%	19.4	32.2	50.3	1.9%
Philadelphia	16.5	28.8	43.0	9.9%	18.3	31.0	46.1	1.8%
Pittsburgh	16.6	27.5	43.6	12.1%	18.2	31.2	47.3	2.1%
Portland	15.4	23.6	34.7	11.4%	16.6	26.8	39.9	1.5%
Sacramento	15.4	23.5	34.7	13.1%	16.5	28.2	41.0	2.0%
San Diego	15.6	24.1	34.6	11.4%	17.3	27.0	38.6	1.6%
San Francisco	18.0	30.8	47.6	9.8%	24.7	38.1	53.8	3.4%
San Jose	15.3	23.9	40.1	10.9%	17.5	29.0	45.9	1.6%

3b. Carpool: 3-person carpool

City of Work	Travel Time Percentiles (min.)				Percent Using			
	20th	50th	80th	Mode <sup>1</sup>	20th	50th	80th	Mode <sup>1</sup>
Boston	20.5	44.7	69.6	1.1%	20.5	44.7	69.6	1.1%
Buffalo	15.9	24.0	34.8	0.6%	15.9	24.0	34.8	0.6%
Chicago	20.1	33.0	56.0	1.0%	20.1	33.0	56.0	1.0%
Cleveland	19.0	32.0	52.2	0.6%	19.0	32.0	52.2	0.6%
Detroit	17.6	31.2	50.2	0.9%	17.6	31.2	50.2	0.9%
Houston	19.4	33.7	52.7	1.4%	19.4	33.7	52.7	1.4%
Los Angeles	18.9	33.4	63.6	1.5%	18.9	33.4	63.6	1.5%
Miami	15.8	29.5	46.2	1.3%	15.8	29.5	46.2	1.3%
Oakland	16.8	33.5	64.5	1.1%	16.8	33.5	64.5	1.1%
Philadelphia	19.9	32.7	49.4	1.0%	19.9	32.7	49.4	1.0%
Pittsburgh	23.1	43.7	66.0	1.2%	23.1	43.7	66.0	1.2%
Portland	18.4	30.5	49.2	0.7%	18.4	30.5	49.2	0.7%
Sacramento	21.7	34.3	59.1	1.2%	21.7	34.3	59.1	1.2%
San Diego	17.8	28.8	38.5	0.9%	17.8	28.8	38.5	0.9%
San Francisco	27.8	48.1	71.7	2.0%	27.8	48.1	71.7	2.0%
San Jose	16.6	31.2	53.0	0.7%	16.6	31.2	53.0	0.7%

4a. Public Transit: Bus

City of Work	Travel Time Percentiles (min.)				Percent Using			
	20th	50th	80th	Mode <sup>1</sup>	20th	50th	80th	Mode <sup>1</sup>
Boston	23.2	34.1	53.9	11.1%	26.1	34.8	48.8	17.1%
Buffalo	20.5	32.0	46.9	9.1%	23.4	32.8	45.7	1.0%
Chicago	25.5	40.7	64.4	15.7%	30.7	44.9	63.9	8.1%
Cleveland	25.1	36.3	52.4	10.8%	30.1	40.3	52.5	1.3%
Detroit	24.7	39.0	64.2	8.1%	14.8	30.0	52.0	0.1%
Houston	27.7	45.9	68.8	5.5%	18.7	31.9	60.2	0.0%
Los Angeles	24.3	39.1	67.3	9.2%	18.6	32.5	61.9	0.1%
Miami	21.7	33.9	63.2	6.0%	30.2	44.9	60.9	1.5%
Oakland	21.0	32.8	49.5	7.5%	32.2	45.7	65.4	5.2%
Philadelphia	23.1	34.6	54.3	15.2%	28.7	41.1	54.1	8.8%
Pittsburgh	22.8	33.7	49.2	19.8%	27.3	41.5	56.9	1.9%
Portland	21.8	33.4	49.0	9.2%	28.5	43.6	61.0	0.5%
Sacramento	22.3	34.1	53.9	3.3%	27.9	41.6	57.9	0.9%
San Diego	21.9	34.6	65.8	3.6%	26.8	45.1	60.7	0.3%
San Francisco	24.5	34.3	50.7	20.9%	31.0	45.8	67.1	12.5%
San Jose	21.7	34.6	65.3	2.9%	16.9	23.2	48.6	0.1%

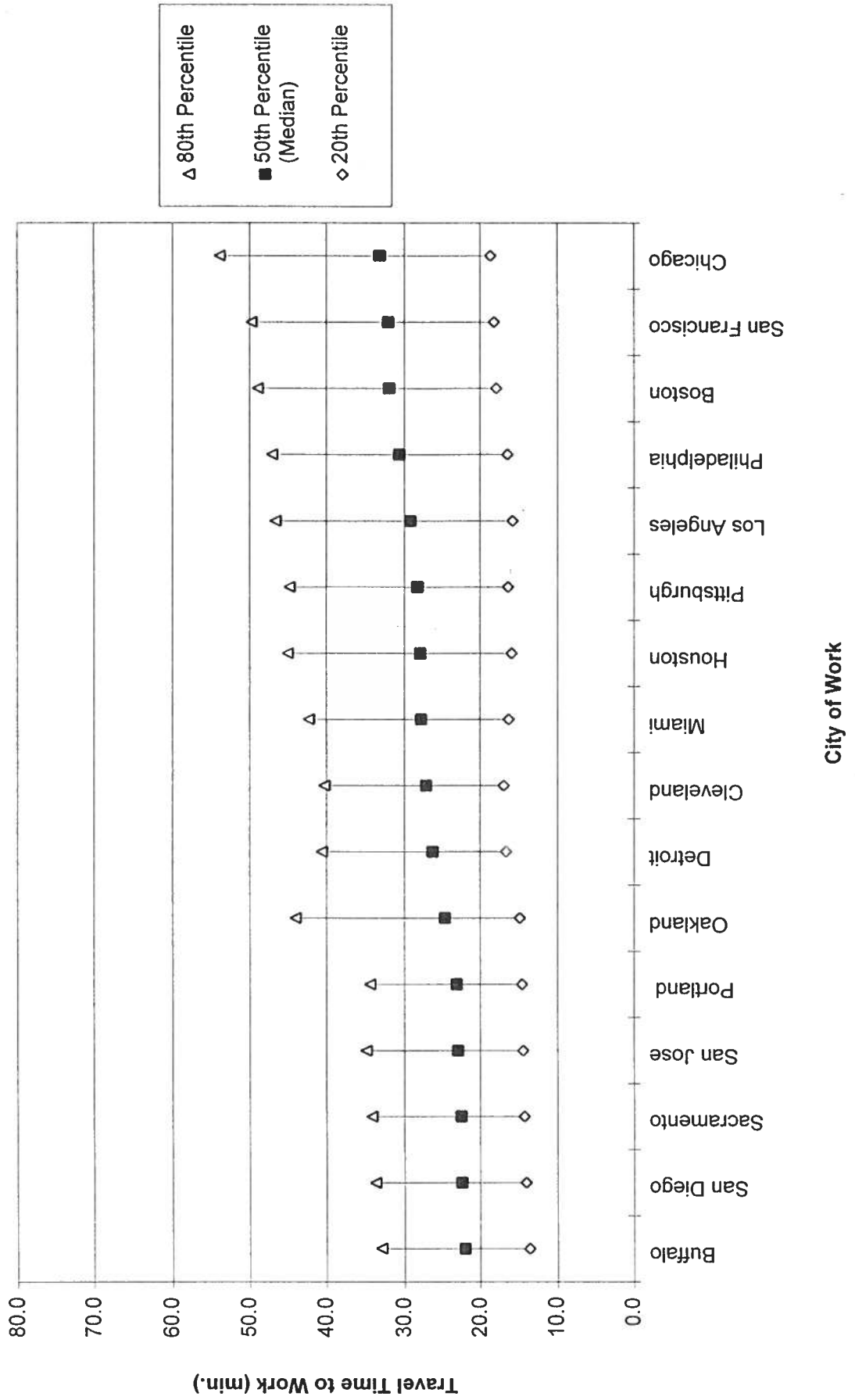
4b. Public Transit: Streetcar/Subway

City of Work	Travel Time Percentiles (min.)				Percent Using			
	20th	50th	80th	Mode <sup>1</sup>	20th	50th	80th	Mode <sup>1</sup>
Boston	36.3	53.8	74.0	5.1%	36.3	53.8	74.0	5.1%
Buffalo	45.4	64.7	83.4	9.3%	45.4	64.7	83.4	9.3%
Chicago	32.3	46.3	61.5	0.1%	32.3	46.3	61.5	0.1%
Cleveland	32.9	47.7	70.8	0.3%	32.9	47.7	70.8	0.3%
Detroit	19.5	68.4	>90	0.0%	19.5	68.4	>90	0.0%
Houston	26.0	47.6	71.3	0.3%	26.0	47.6	71.3	0.3%
Los Angeles	34.2	48.9	68.4	5.3%	34.2	48.9	68.4	5.3%
Miami	32.4	46.0	62.3	0.2%	32.4	46.0	62.3	0.2%
Oakland	31.5	45.2	61.4	0.3%	31.5	45.2	61.4	0.3%
Philadelphia	22.5	66.9	>90	0.0%	22.5	66.9	>90	0.0%
Pittsburgh	46.5	65.8	85.4	1.6%	46.5	65.8	85.4	1.6%
Portland	49.0	72.7	>90	0.1%	49.0	72.7	>90	0.1%
Sacramento	31.5	45.2	61.4	0.3%	31.5	45.2	61.4	0.3%
San Diego	22.5	66.9	>90	0.0%	22.5	66.9	>90	0.0%
San Francisco	46.5	65.8	85.4	1.6%	46.5	65.8	85.4	1.6%
San Jose	49.0	72.7	>90	0.1%	49.0	72.7	>90	0.1%

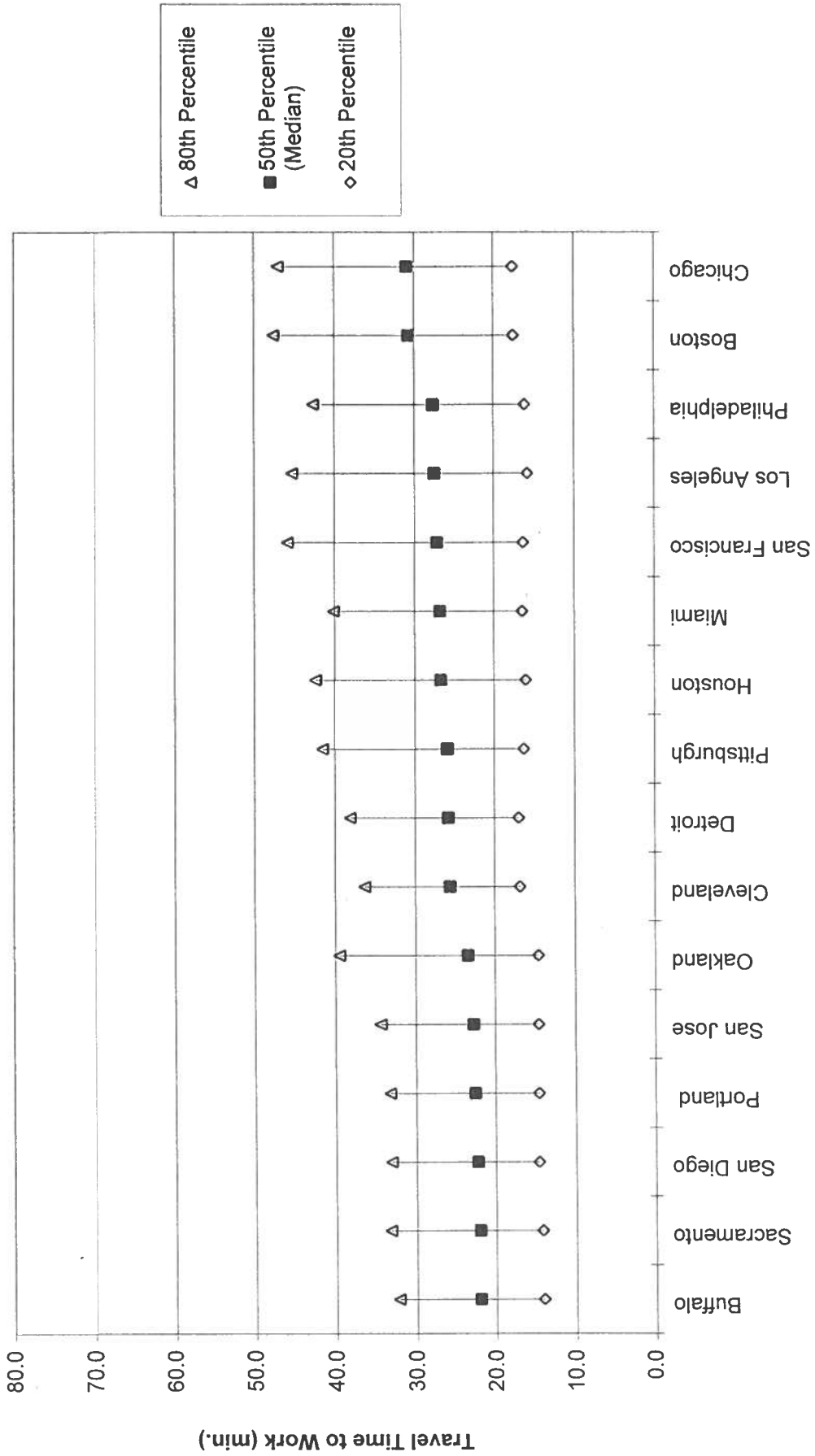
4c. Public Transit: Railroad

City of Work	Travel Time Percentiles (min.)				Percent Using			
	20th	50th	80th	Mode <sup>1</sup>	20th	50th	80th	Mode <sup>1</sup>
Boston	36.3	53.8	74.0	5.1%	36.3	53.8	74.0	5.1%
Buffalo	45.4	64.7	83.4	9.3%	45.4	64.7	83.4	9.3%
Chicago	32.3	46.3	61.5	0.1%	32.3	46.3	61.5	0.1%
Cleveland	32.9	47.7	70.8	0.3%	32.9	47.7	70.8	0.3%
Detroit	19.5	68.4	>90	0.0%	19.5	68.4	>90	0.0%
Houston	26.0	47.6	71.3	0.3%	26.0	47.6	71.3	0.3%
Los Angeles	34.2	48.9	68.4	5.3%	34.2	48.9	68.4	5.3%
Miami	32.4	46.0	62.3	0.2%	32.4	46.0	62.3	0.2%
Oakland	31.5	45.2	61.4	0.3%	31.5	45.2	61.4	0.3%
Philadelphia	22.5	66.9	>90	0.0%	22.5	66.9	>90	0.0%
Pittsburgh	46.5	65.8	85.4	1.6%	46.5	65.8	85.4	1.6%
Portland	49.0	72.7	>90	0.1%	49.0	72.7	>90	0.1%
Sacramento	31.5	45.2	61.4	0.3%	31.5	45.2	61.4	0.3%
San Diego	22.5	66.9	>90	0.0%	22.5	66.9	>90	0.0%
San Francisco	46.5	65.8	85.4	1.6%	46.5	65.8	85.4	1.6%
San Jose	49.0	72.7	>90	0.1%	49.0	72.7	>90	0.1%

**Fig. 1. Travel Time to Work: All Modes**  
(Sorted by median travel time)



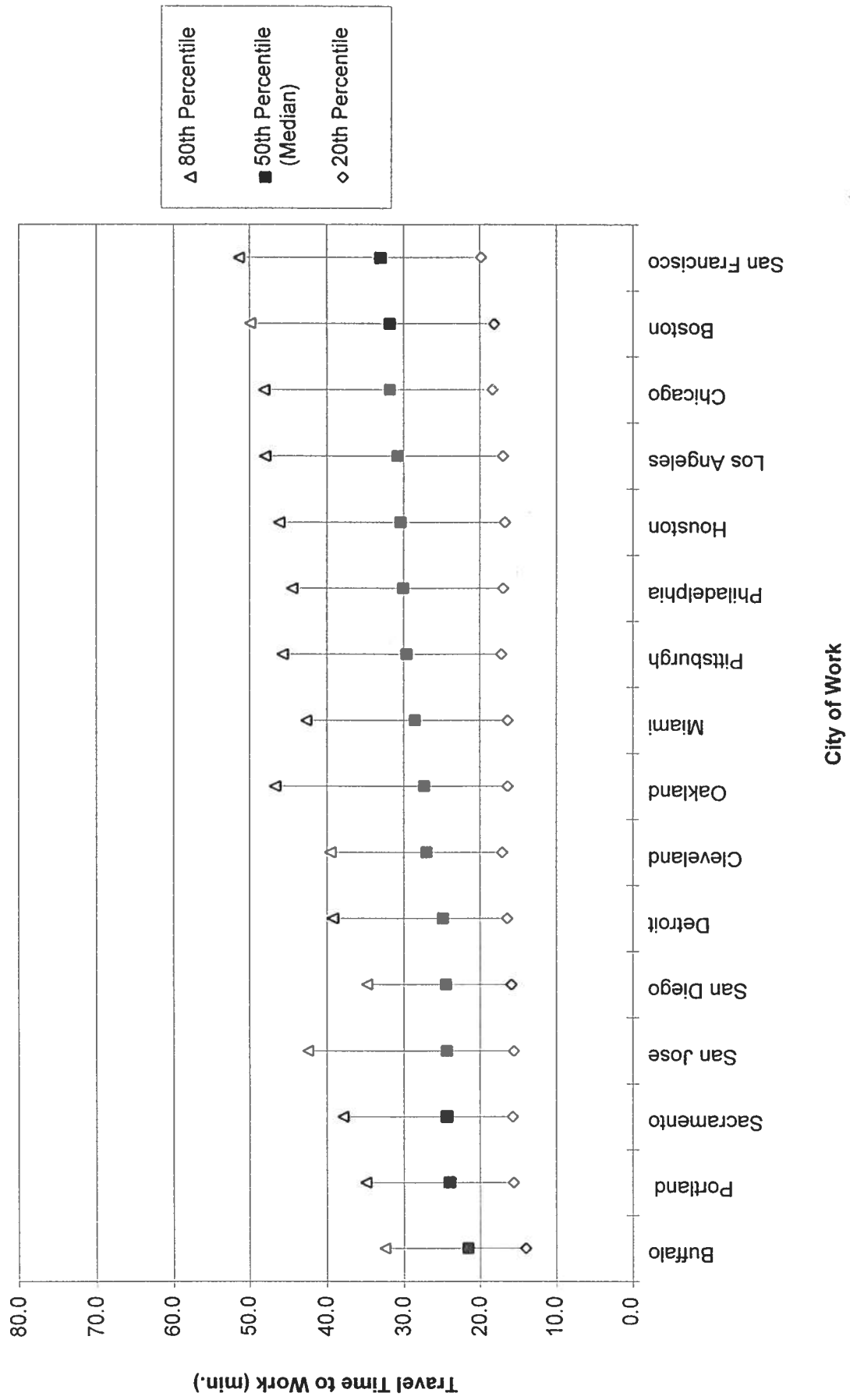
**Fig. 2. Travel Time to Work by Mode: Drove Alone**  
(Sorted by median travel time)



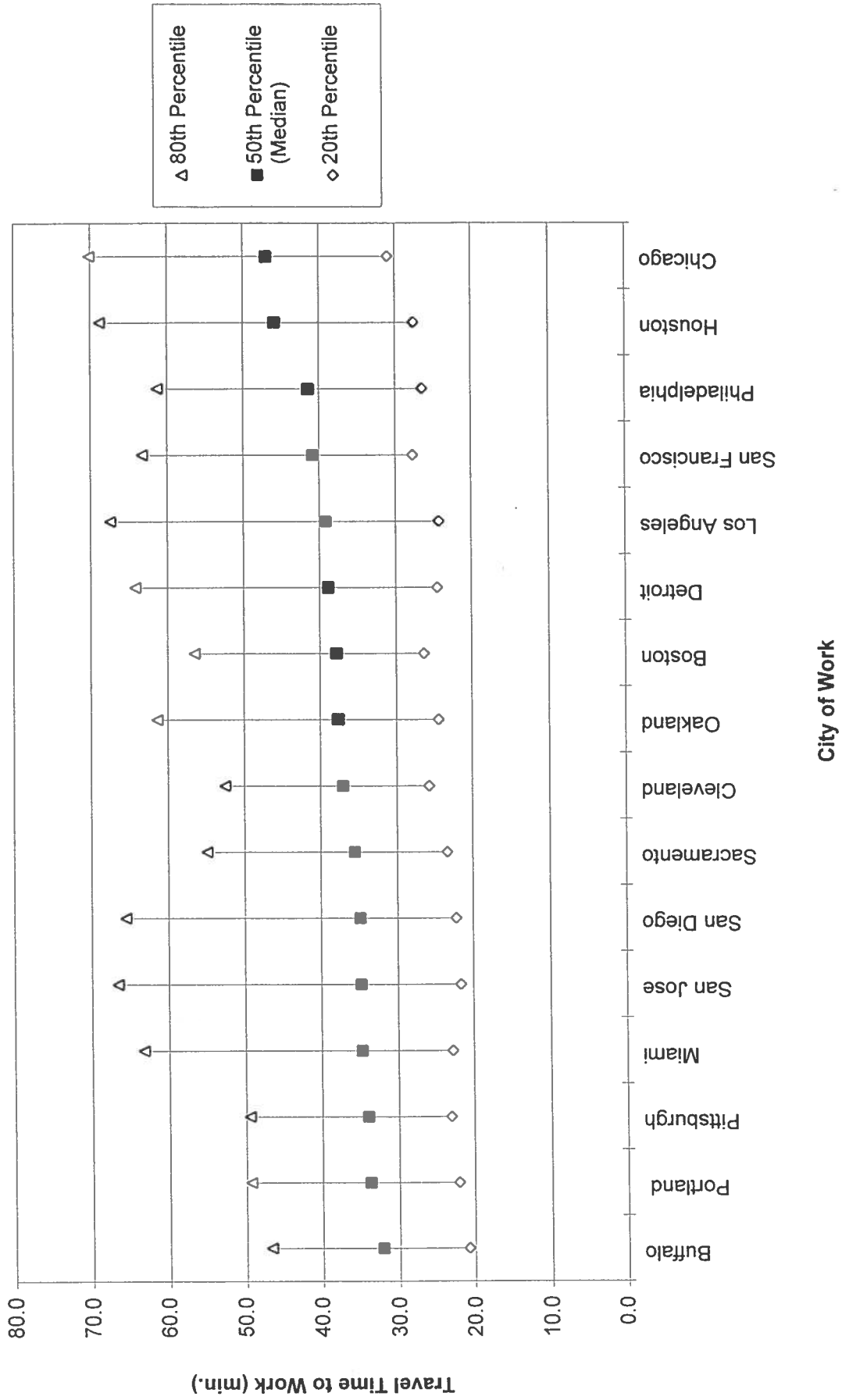
City of Work



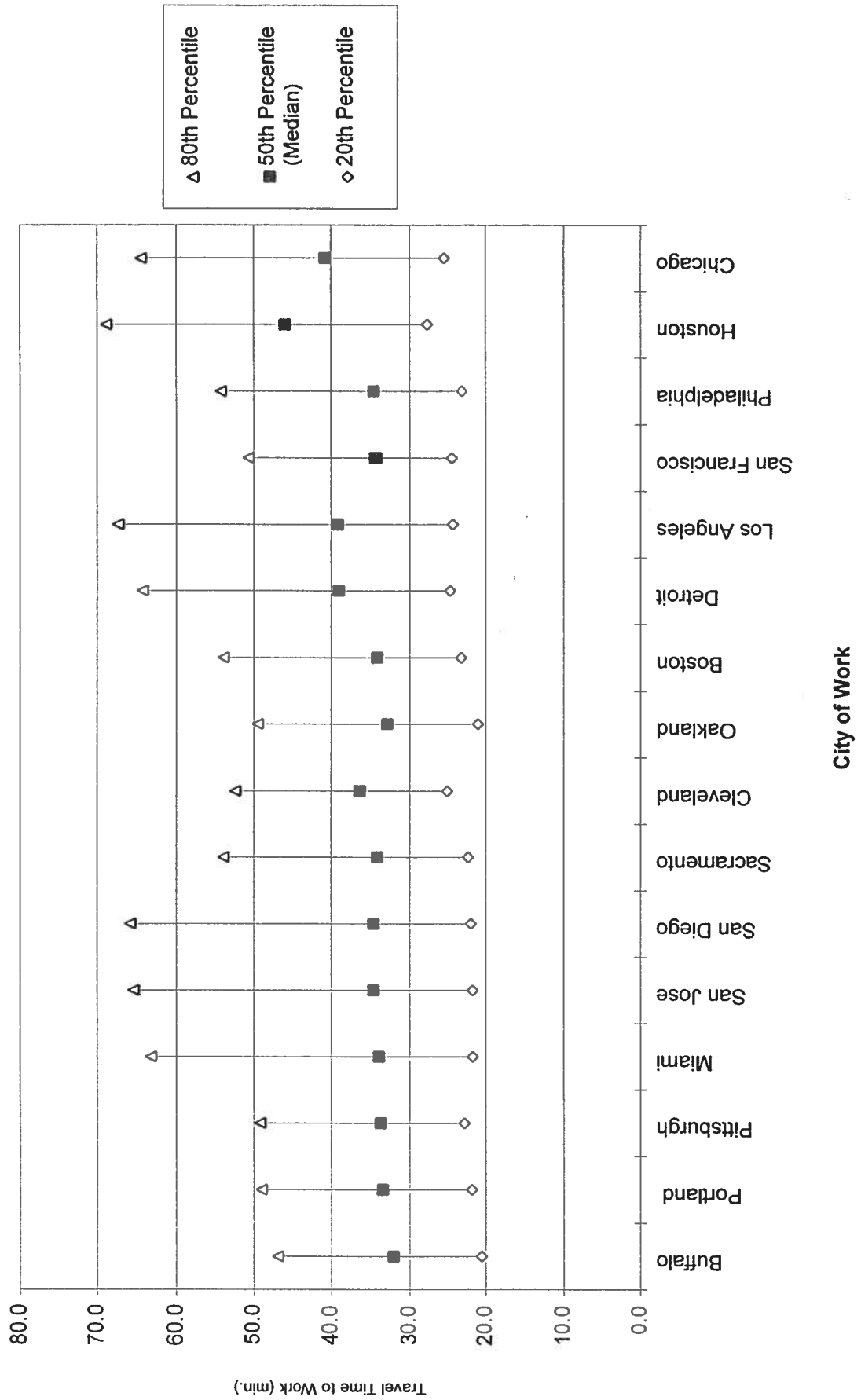
**Fig. 3. Travel Time to Work by Mode: Carpool**  
 (Sorted by median travel time)



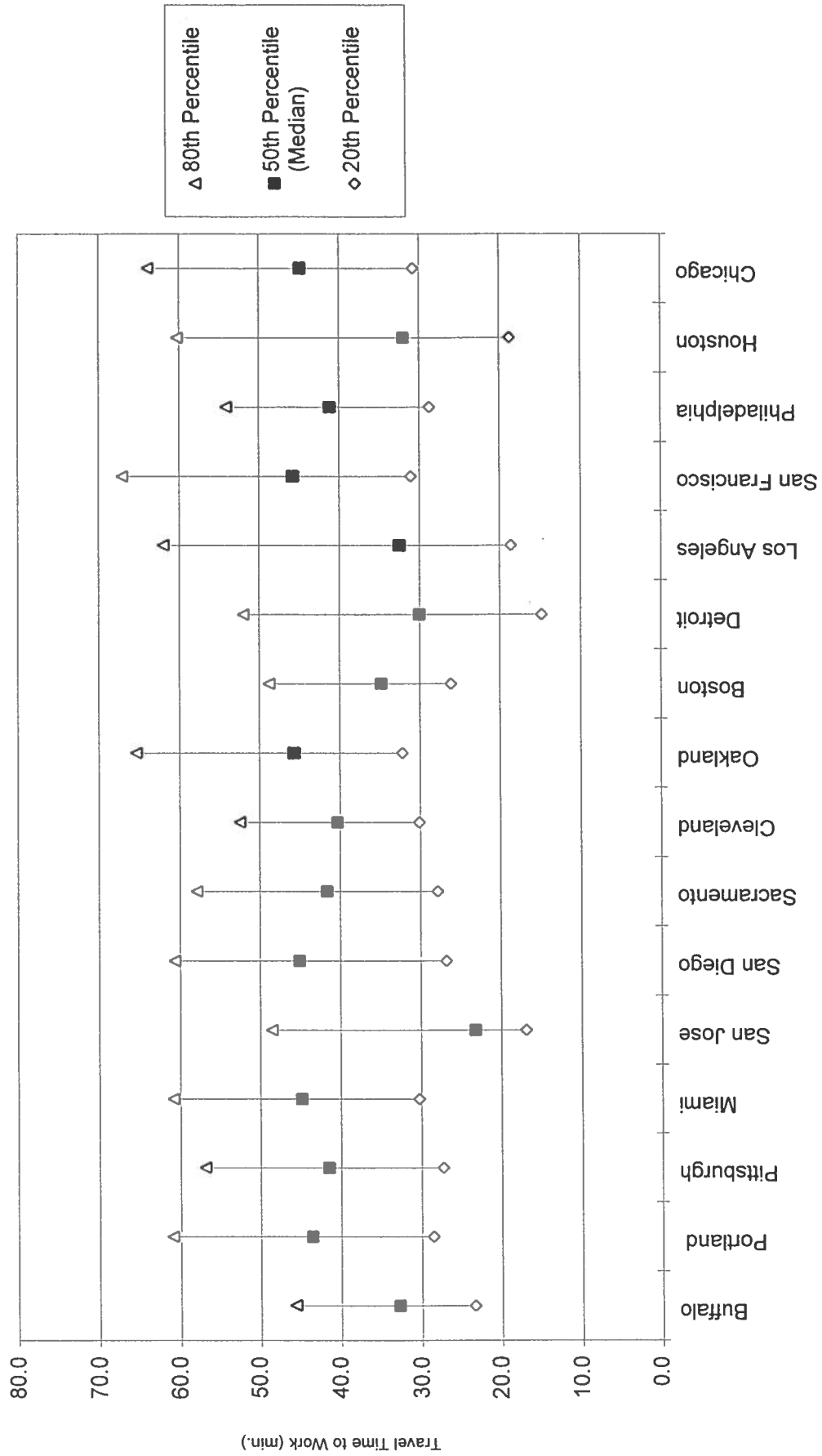
**Fig. 4. Travel Time to Work by Mode: Public Transit**  
(Sorted by median travel time)



**Fig. 4a. Travel Time to Work by Mode: Bus**  
 (Sorted by median travel time for all public transit users)

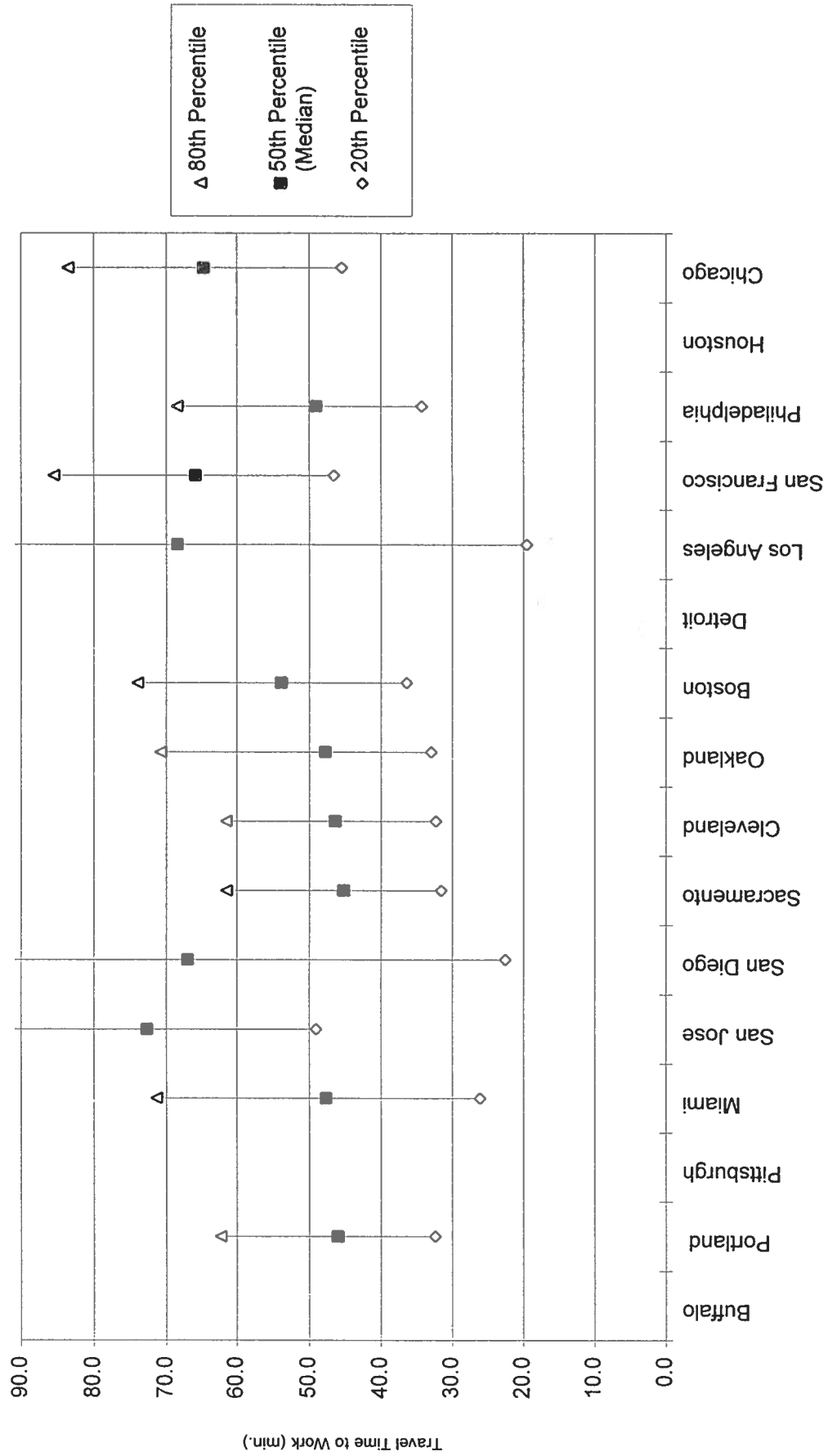


**Fig. 4b. Travel Time to Work by Mode: Streetcar/Subway**  
 (Sorted by median travel time for all public transit users)



City of Work

**Fig. 4c. Travel Time to Work by Mode: Railroad**  
 (Sorted by median travel time for all public transit users)



**Fig. 5. Travel Time to Work by Mode: Walk/Bicycle**  
(Sorted by median travel time)

